

C0. Introduction

C0.1

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

Akenerji, a member of the Akkök Group of Companies, is one of the largest private electricity producers in Turkey in terms of both installed capacity and number of customers. The company was established in 1989 and formed a strategic equal partnership with one of the largest energy companies in Europe, ČEZ, in 2009. ČEZ joined other energy companies that declared their specific goals in the context of the Paris climate conference.

Akenerji operates at different levels of the electricity supply chain (generation, wholesale and retail) and is pursuing further opportunities to support its leading position through investments in the market. With 30 years of experience, Akenerji has maintained steady growth with a balanced portfolio. As of end of 2018, the company has total installed capacity of 1224 MW, which consists of 1 Natural Gas Combined Cycled Power Plant (NGCCPP) (904 MW), 7 Hydroelectric Power Plants (HPPs) (292 MW) and 1 Wind Power Plant (WPP) (28 MW). We have no thermal power plants operating with coal.

The mission of Akenerji is to make reliable and long-term contribution to Turkey’s energy needs by operating with a quality-focused approach at every stage of the energy sector value chain. Within the framework of this mission, in addition to natural gas-based generation, Akenerji also makes large-scale investments in renewable energy sources. Akenerji started to diversify the sources of its generation portfolio significantly starting in 2005, at which time the company’s installed power consisted solely of thermal power plants. In 2009, Akenerji launched its first wind energy generation plant, Ayyıldız WPP. Akenerji has been the first private company to invest in HPP in Turkey, when the Energy Market Regulatory Authority initiated its first tenders for private sector to build hydroelectric power plants. As of the end of 2018, total installed capacity from renewable energy resources is 320 MW with existing 7 HPPs and 1 WPP, which in total corresponds to 26 % of Akenerji’s total installed capacity. Akenerji is still investing in renewable, wind energy, by increasing its Ayyıldız WPP’s installed capacity by 88% in 2017.

Akenerji’s Sustainability Approach:

Every year, sustainability is integrated into increasing number of decision making mechanisms within the company. As a tool for managing and maintaining the efforts to reach sustainability, Akenerji gives importance to monitor quality performance in its services together with stakeholder engagement performance.

As a part of monitoring the environmental sustainability performance, Akenerji launched the “Carbon Management Project” which includes regular monitoring of the company’s GHG emissions. GHG inventory of Erzin Natural Gas Power Plant is monitored, reported and verified in ISO 14064 standard since 2016.

We benefit from a variety of dialogue platforms to learn about the sustainability expectations of our stakeholders including employees, customers, creditors, investors, regulatory bodies, suppliers, local communities, local authorities, society, and media as well as to give them information on these issues. The communication channels are integrated management systems, “We Are the Energy” Employee Suggestion System, Customer satisfaction surveys, Environmental Impact Assessment (EIA) reports, workshops/events etc. Moreover, Akenerji participates to CDP since 2010; prepares annual Environmental & OHS reports since 2010; and submits IFC Annual Environmental and Social Performance Monitoring Reports since 2010. As a part of our communication channels with our stakeholders, we also benefit from sustainability reports. Sustainability Report has been prepared in accordance with the GRI Standards: Core option principles taking United Nations Sustainable Development Goals into account. Since 2010, Akenerji has received certification for ISO 9001:2015 Quality, OHSAS 18001:2007 Occupational Health and Safety and the ISO 14001: 2015 Environment Management Systems. After abolishment of OHSAS 18001: 2007 standard and enactment of ISO 45001: 2018 standard, the revision efforts in the occupational health and safety management system have been initiated. We have been listed on “BIST Sustainability Index” which lists the companies that are traded at Borsa İstanbul and that have highest corporate sustainability performance ratings.

Moreover, as of 2015, CDP Water Program has been initiated in our country. We have been among the pioneer companies that started to report to the program in its initial year and conveyed our water management system. Carbon Disclosure Project (CDP) Turkey 2017 Water Leadership Award granted to us as the result of the steps we have taken as Akenerji about water.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2018	December 31 2018	Yes	3 years

C0.3

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

Turkey

C0.4

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

USD

C0.5

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(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Operational control

C-EU0.7

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(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.

Row 1

Electric utilities value chain

Electricity generation

Other divisions

Please select

C1. Governance

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C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Director on board	Board or individual/sub-set of the Board or other committee appointed by the Board Internal and external communication of sustainability performance is carried out through annual environmental and social performance monitoring reports for creditors, and management systems and annual sustainability reports, and they are reported to the Board of Directors via the Executive Board.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The management of the environmental and social elements in our operating power plants is under the responsibility of the Directorate of Environment, Quality, Occupational Health and Safety under Production Deputy Directorate General. The units responsible for the project undertake the management of the OSG and environmental performance during the period from the projecting phase to the commissioning of the plants. Key environmental and social performance data on our plants and project sites are reported to the Board of Directors. In addition, annual or periodic environmental and social performance monitoring reports and annual sustainability reports to financial institutions originating from signatories and contracts are also reported to the Board of Directors through the Executive Board.

**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
Risk committee	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Sustainability committee	Both assessing and managing climate-related risks and opportunities	Annually
Safety, Health, Environment and Quality committee	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Other, please specify (The Early Detection of Risk Committee)	Managing climate-related risks and opportunities	More frequently than quarterly

**C1.2a**

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

Akenerji has a holistic approach to sustainability, which integrates the environmental, economic and social dimensions of sustainability through the support of various departments. The ultimate responsibility is given to the highest level of decision making authority, and it is the board of directors.

In order to manage and report sustainability efforts and achievements in a more holistic manner, a Sustainability Committee was established within Akenerji in 2013. The business units represented at the Sustainability Committee are as follows:

- Health, Safety, Environment and Quality (Leader)
- Accounting and Tax Management
- Corporate Communications
- Energy Services
- Trade
- Natural Gas Supply and Trading
- Human Resources
- Legal Affairs
- Procurement
- Projects
- Strategic Planning and Risk Management

All climate change-related efforts and achievements at Akenerji are reported to the CEO. To manage these efforts, Akenerji has a Quality Project Team under the lead of the Health, Safety, Environment and Quality (HSEQ) department. The Quality Project Team consists of 11 employees including environmental engineers, health & safety specialists, and engineers and operators from the power plants.

The Quality Project Team has regular meetings to check the status of our efforts under ISO 9001 (Quality), ISO 14001 (Environment) and OHSAS 18001 / ISO 45001 (Health and Safety), and ISO 14064-1 Verification to ensure compliance with applicable environmental, health and safety regulations, to make gap analysis, and to plan for continuous improvements.

Our internal auditors were selected to have at least one person from each department, and they have been trained by an external consultancy firm to in order to improve and maintain HSEQ management systems. All departments accept responsibility for climate change and involve the risks and opportunities in their decision making processes, embed them into their sustainability targets. The coordination of efforts for dealing with the risk and opportunities of climate change are coordinated by the Health, Safety, Environment and Quality (HSEQ) department. In addition to internal trainings, to increase the number of our internal auditors and enlarge the internal audit team,

In our operating power plants, the Directorates of Health, Safety, Environment and Quality, that operate under the function of the Power Generation Directorate are responsible for the management of environmental sustainability efforts. Directorate of Health, Safety, Environment and Quality is responsible for the OHS and environmental performance throughout the process starting with project phase until the full operation of plants.

Internal and external communication of sustainability performance is carried out through annual environmental and social performance monitoring reports for creditors, and management systems and annual sustainability reports, and they are reported to the Board of Directors via the Executive Board.

In addition to the Sustainability Committee; the risks and opportunities are also evaluated and managed by The Early Detection of Risk Committee: The Committee was established under the supervision of the Akenerji Board of Directors. Members are appointed by the Board of Directors in accordance with the related legislation provisions. The Committee ensures that appropriate risk management processes and capabilities are in place in order to timely identify the risks which may danger the Company's existence, development and continuity, and does studies for to apply necessary preventive actions and to manage risks. The Early Detection of Risk Committee convenes bi-monthly and reports to the Board of Directors. Members are appointed by the Board of Directors in accordance with the related legislation provisions.

Risk Management Committee, while the risks are managed within the Framework of ERM, the Risk Management Committee was established to take quicker decisions and take immediate actions due to the changing conditions. The Committee members are composed of the General Manager, Deputy General Manager, Directors and Strategic Planning and Risk Manager. The Committee convenes on a monthly basis, and it is ensured that the necessary actions are taken by discussing the risks that the Company incurs/may incur.

### C1.3

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

Yes

### C1.3a

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

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

Board/Executive board

**Types of incentives**

Recognition (non-monetary)

**Activity incentivized**

Behavior change related indicator

**Comment**

Board of Directors has the ultimate responsibility about the overall sustainability performance of Akenerji. The pioneer role of Akenerji in Turkish energy sector could be realized with the vision of the Board.

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

Environment/Sustainability manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Other, please specify (Successful impl. of carbon management)

**Comment**

A performance based compensation is available for HSEQ Department staff based on the pre-determined targets. In terms of carbon management performance, (Emissions reduction project, Emissions reduction target, Energy reduction target, Efficiency target, Behavior change related indicator) Carbon Management Project is one of the key considerations for bonus determination for the Health, Safety, Environment and Quality (HSEQ) Manager and environmental engineer in the HSEQ Department.

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

All employees

**Types of incentives**

Monetary reward

**Activity incentivized**

Other, please specify (Projects)

**Comment**

All employees have personal performance indicators as well and are rewarded when they reached the target. All employees can suggest improvements to reduce the environmental footprint of the company through filling out questionnaires to be submitted to their supervisors and to HSEQ directly. There is an opportunity for the employees especially for the ones working at the power plants to receive monetary reward, in case their suggestions are considered to have a significant improvement in the company's environmental performance, and are implemented following the evaluation. Projects are about Emissions reduction, Energy reduction, Efficiency .

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

Board/Executive board

**Types of incentives**

Monetary reward

**Activity incentivized**

Other, please specify (Energy reduction and Efficiency target)

**Comment**

Board of Directors has the ultimate responsibility about the overall performance of Akenerji and bonus is delivered inline with the achievements of the targets at the year end. Particularly, achievement of energy reduction target and increase of efficiency are of important targets for the Board.

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

Environment/Sustainability manager

**Types of incentives**

Recognition (non-monetary)

**Activity incentivized**

Other, please specify (Behaviour change related indicator)

**Comment**

HSEQ Manager leads the Sustainability Team of Akenerji and encourages all employees for reduction of emissions, energy used and improvement of efficiency. Beyond achievement of KPIs and monetary rewards; recognition among Akenerji, Akkök Group, ČEZ Group, Turkish energy sector, and energy sector, and worldwide via energy, emission, sustainability dimensions have great importance especially for Environment & Sustainability Managers.

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## C2. Risks and opportunities

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### C2.1

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

	From (years)	To (years)	Comment
Short-term	0	2	Short term is 0-2 years
Medium-term	2	5	Medium-term is 2-5 years
Long-term	5	20	Long-term is 5-20 years

**C2.2**

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

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

**C2.2a**

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

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	Akenerji Enterprise Risk Management process provides a systematic method for effective decision-making and timely response to risks (including climate related risks) while establishing the context for identification, evaluation, response, reporting and monitoring of risks and opportunities. All Akenerji risks are reviewed and revised (if necessary) by related business unit risk responsables and shared with the Strategic Planning and Risk (SPR) Dept. The SPR Dept. reviews, consolidates and reports bi-monthly to the Risk Management Committee (RMC). Those which have net risk score 15 and more (Key Risks) are reported to the Early Detection of Risk Committee and Akenerji Board of Directors. The risks that are a priority (such as climate change related) for Akenerji are monitored closely on monthly RMC meetings.

**C2.2b**

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

Akenerji has an established Enterprise Risk Management (ERM) system to identify, assess and effectively manage the risks, including the climate related risks. Akenerji ERM Procedure outlines the process and related roles and responsibilities in detail for identifying threats (risks) to Akenerji's success (downside) of reaching its targets, analysing and managing risks by considering the possible opportunities for benefit (upside), both at a company level and asset level.

Risk Management at Akenerji is not the responsibility of a single business unit or an employee, but it is an integral part of the organizational structure. Parties who will take roles and responsibilities in Akenerji ERM process are; Board of Directors, Early Detection of Risk Committee, Risk Management Committee, Strategic Planning and Risk Department, Risk Owner, Business Unit Risk Responsible, etc.

Risk identification is the critical first step of the risk management process. Relevant and up-to-date information is important in identifying risks. Risk Responsible assigned for each Business Unit is responsible for identifying specific risks that would prevent their business units from achieving their stated objectives and describing them as clear and transparent as possible, and document them on functional based risk registers.

Followings are taken into consideration while identifying circumstances that may negatively impact company activities, including climate change related circumstances (drought, flood, etc.); Company's main business operations, strategic goals, physical environment, corporate culture, employees, 3rd parties, past experiences (losses or failures), external factors (environmental, economic, government policies and regulations for both Global and Turkey), technological developments, market developments, future forecasts, findings of audits, etc.

Risks and opportunities are typically assessed in terms of impact and likelihood. Risks are evaluated based on certain assumptions and criteria to define the risk level. In Akenerji, both gross (inherent) risk assessment and net (residual) risk assessment are realized.

Risk Level is a number that is the product of impact and likelihood values. Impact is a consequences if the risk occurred/was realised. In Akenerji, risk impact is assessed for 5 categories, Reputation, Compliance, Strategic, Operational and Financial. Likelihood is a probability of the risk occurring. Both impact and likelihood are scaled from 1 to 5, where 1 is the lowest.

The amount of expense or fall in revenue arising out of a climate change related events, disasters, change in market conditions, failure of a product, operational failure in power plants or other events, matters in defining the substantive financial impact to our business.

Risks at both the company level and asset level are prioritized according to net risk score and risk response options, accept-mitigate-avoid-transfer, are examined by taking into account Akenerji's risk appetite. Risks with net risk score 15 and more are called as Key Risks.

**C2.2c**

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Climate-related regulatory risks are included in Akenerji's ERM system. For example carbon emissions, which are the leading cause of global climate change. The Regulation Concerning Monitoring of Greenhouse Gas Emissions was issued by the Turkish Ministry of Environment and Urbanism (MoEU) and published in the Official Gazette on 25 April 2012. It is generally based on the United Nations Framework Convention on Climate Change and the Kyoto Protocol. The purpose of the Regulation is to set forth the principles and procedures for monitoring and reporting of greenhouse gases (GHG) arising from the facilities performing the activities listed in Annex 1 of the Regulation. Akenerji's natural gas CCGT power plant "Erzin" with 904 MW of installed capacity is subject to the Regulation as per Annex 1. Pursuant to Article 6 of the Regulation, operators of the Facilities shall monitor the GHG arising from their Facilities according to the principles set forth in the Regulation, and shall prepare a GHG monitoring plan for this purpose. The operators of the Facilities shall submit their monitoring plan to the Ministry of Environment for approval and registration. Furthermore, as per Article 7 of the Regulation, the operators of such Facilities shall submit an annual GHG report prepared in accordance with the monitoring plan to the MoEU for the GHG emissions observed in the previous calendar year. Both the GHG monitoring plans and the annual GHG reports shall be verified by accredited verification institutions before their submission to the MoEU. The "Greenhouse Gas Monitoring Plan" for the Erzin natural gas CCGT that was prepared within the scope of the Regulations was submitted to and approved by the MoEU. Greenhouse gas emission of Erzin power plant has been monitored and reported (verified by accreditors) monthly in conformity with the Greenhouse Gas Monitoring Plan approved by the Ministry. In Akenerji, the Department of Environment, Quality and OHS is responsible for managing the related processes, therefore the related risk. The related risk has been defined, assessed, continuously being monitored and reported within the framework of Akenerji ERM process through risk registers and other risk reports.
Emerging regulation	Relevant, always included	Since the Paris Agreement having entered into force, the global attention is on the implementation. The issue of carbon pricing has gained increased interest as a result of the global agreement. Which is also a subject for Turkey, since Turkey submitted its intended national determined contribution (INDC) in the run-up to the Paris conference pledging intended greenhouse gas (GHG) emissions reductions of up to 21% in 2030 as compared to a business as usual scenario. To support the formulation of Turkey's low carbon development policies, Turkey received a grant from the World Bank Partnership for Market Readiness (PMR). The projects are implemented by the Ministry of Environment and Urbanization (MoEU) through the Climate Change Department (CCD). 1st Phase of the Project completed, and now the project is at the 2nd Phase. Turkey is considering the use of market based instruments such as carbon pricing to reach its climate change mitigation targets as said in the Project's report "Roadmap for the Consideration of Establishment and Operation of a Greenhouse Gas Emissions Trading System in Turkey". Akenerji is closely monitoring the GHG emissions trading system, carbon pricing and other climate-change related regulatory developments through consultation with policy makers, attending related events and workshops, etc. Carbon pricing and such regulatory changes and their impacts on our business are considered in a separate CO2 scenario analysis. The related risk has been defined, assessed, continuously being monitored and reported within the framework of Akenerji ERM process through risk registers and other risk reports.
Technology	Relevant, always included	Akenerji considers technology in assessing especially strategic and operational risks within the Akenerji ERM process. The electric utility industry is a key player in climate change mitigation. Akenerji evaluates the existing technology of its power plants and closely monitor the technological developments in the market when analyzing options to mitigate GHG emissions by increased efficiency, fuel switching, GHG capture, etc. and considers adaptation strategies to changing climate conditions which could affect the power generation capacities of its power plants.
Legal	Relevant, always included	Electric utilities sector in Turkey is regulated by the rules created by government/local authorities which the utility companies must adhere to by law. Akenerji ERM system covers compliance assessment to legal risks arising from Akenerji's activities. There are number of regulative arrangements with regards to climate change related legal and regulatory framework, some are already in force (Regulation on the Monitoring of GHG Emissions, The Energy Efficiency Law No. 5627, etc.) and some in the pipeline/ at design stage. Akenerji strictly compliance with laws and regulations, committed to sustaining a strong management and control systems and strategies, closely follows the developments in regulatory environment and adapts its strategies accordingly.
Market	Relevant, always included	Climate change and therefore the low-carbon policies together with the developments in technology highly effecting the electricity market, the electricity prices, the electricity demand, customer and competitor behaviors. Akenerji considers climate change related market risks in its strategy and business plan. As an example, long-term electricity price forecasting study and strategic plan study is made every year. Scenario analysis made for commodity price, demand and supply forecasting. Climate change related government policies, customer behaviors, technological developments (ex: higher efficiency power plants, etc.) and other risks and/or opportunities are taken into consideration during scenario analysis.
Reputation	Relevant, always included	Climate change results in negative impacts to society in different ways. Reputation risk to Akenerji brand is assessed for any event including climate change related events (physical: flood, drought, etc. and transitional). As an example to mitigate flood risk impact to the society, we prioritize the safety and security of the local populations residing within the impact zones of our operations through awareness raising and preservation. This is an example to the actions we take with intentions to prevent and mitigate the environmental and social risks. Our company is committed to fulfill its responsibilities towards its customers, employees, suppliers and business partners, rivals, and the environment and the society.
Acute physical	Relevant, always included	The climate change is deriving severe weather events such as floods, droughts, temperatures well above the seasonal mean temperatures (heat-waves) etc. These events have a direct impact on Akenerji operations and may result in asset damages, operation cuts, reduced efficiency, etc. Akenerji considers acute physical events in risk assessment. Akenerji manages these risks by; –using tools for weather forecasting to predict hydrology to limit the economic and social damage caused by an increasing frequency and intensity of heavy rains, droughts, etc. –monitoring slope stability at some power plants to be able to mitigate erosion and possible damages to the power plant and/or surrounding environment as a result of heavy rains –managing via diversified energy portfolio (hydro, natural gas, wind PPs in different locations) etc.
Chronic physical	Relevant, always included	Akenerji considers also chronic physical events in risk assessment. For example water scarcity, reduced inflow due to reduced precipitation has negative effects on hydropower generation. Akenerji manages these risks by; –using tools for weather forecasting to predict hydrology to limit the economic loss... –use of historical water inflow data, etc. for modelling (forecasting) –managing via diversified energy portfolio (hydro, natural gas, wind PPs in different locations) etc.
Upstream	Relevant, always included	Upstream risks arising from Akenerji's suppliers are considered in Akenerji ERM system not only for supply of equipment, etc. also the supply of energy (electricity, gas, etc.).
Downstream	Relevant, always included	Downstream risks arising from electricity consumers are considered in Akenerji ERM system. For example; increased air temperature reduces carrying capacity of energy transfer/distribution lines which affects the delivery of energy transmission and also increases peak demand and total energy demand for cooling needs by end-users.

**C2.2d**

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

As previously said in C2.2 b, Akenerji ERM Procedure outlines the process and related roles and responsibilities in detail for identifying threats (risks) to Akenerji's success (downside) of reaching its targets, analysing and managing risks by considering the possible opportunities for benefit (upside), both at a company level and asset level.

Akenerji Enterprise Risk Management process provides a systematic method for effective decision-making and timely response to risks (including climate related risks).

The risks are documented on functional based risk registers are reviewed and updated bi-monthly for new, revised and obsolete risks/opportunities under the supervision of Business Unit as a part of the identification and management stage and shared with Strategic Planning & Risk Management Department. Importance is placed on covering the risks related to the key assumptions for core business activities and the strategy.

Risks at both the company level and asset level are prioritized regarding net risk score. Risks with net risk score higher than 15 are reported bimonthly (6 times a year) to Early Determination of Risk Committee and Board of Directors. Early Determination of Risk Committee meets at least 4 times a year where independent Board members are of its members.

In addition to this approach, those risks with a high impact value can be monitored more frequently even though the net risk score is lower than the determined threshold for reporting. Akenerji has a Risk Management Committee formed by CEO, Directors and SPR Manager. The Risk Management Committee meets on monthly basis to manage, monitor and coordinate the ERM process based on the risk appetite and ERM Procedure that are approved by the BoD. The risks that are a priority (such as climate change related) monitored closely on monthly RMC meetings and the strategy for dealing with those risks are discussed and identified during the meeting. The Committee approves and monitors the effectiveness and performance of all business units' methods of approaching, planning and processing risks and opportunities.

Case study-transitional risks: With regards to technological improvements which support for increasing the efficiency of the power plant and therefore support on lower-carbon strategy, Akenerji as being the 1st in Turkey, has signed an agreement with GE for Egemer's operations optimization. By this multi-year agreement, we deploy GE's Predix based Operations Optimization (OO) solutions for Egemer to improve thermal efficiency and performance. The software, calculates an optimum setting of plant-level cycle effectors in accordance with its current performance to minimize overall heat rate at the desired plant power output (partial load efficiency improvement up to 1%), and optimizes asset performance by applying machine learning analytics and controls at the edge, in the cloud, or anywhere in between.

Case study-physical risks: Akenerji has 7 hydroelectric power plants in operation. Climate change is a key driver for hydropower. It will cause increased variability of precipitation events which will result in more severe and frequent floods and droughts, seasonal offsets, changes in seasonality, etc. As an example to mitigate flood risk, Akenerji implemented a project for its four hydroelectric power plants located in Adana Region. We built masonry walls to provide slope stabilization where needed and removed sediment from river bed of tail water side of the dam. This action improved flood mitigation and also increased generation capacity of the power plants.

## **C2.3**

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

Yes

## **C2.3a**

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

#### **Identifier**

Risk 1

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

Direct operations

#### **Risk type**

Transition risk

#### **Primary climate-related risk driver**

Policy and legal: Increased pricing of GHG emissions

#### **Type of financial impact**

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

#### **Company- specific description**

Within the framework of approximation to UNFCCC; Turkey submitted its intended national determined contribution (INDC) in the run-up to the Paris conference pledging intended greenhouse gas (GHG) emissions reductions of up to 21% in 2030 as compared to a business as usual scenario. Two policies can be applied that deliver an explicit price on GHG emissions: a tax on GHG emissions and emissions trading. Turkey develops national emission reduction plan within the framework of EU-ETS Acquis approximation. If Turkey commits to make mitigation, carbon taxes may be introduced to energy intensive sector at the first attempt and this could adversely affect the operational costs of our thermal power plant. Turkey is also considering the use of market based instruments such as carbon pricing to reach its climate change mitigation targets. An emissions trading system (ETS), sets a limit (or cap) on greenhouse gas (GHG) emissions from installations covered by the system. Installations covered under the ETS need to surrender emissions allowance to cover the total volume of GHG emitted.

#### **Time horizon**

Long-term

#### **Likelihood**

Very likely

#### **Magnitude of impact**

High

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

Yes, an estimated range

#### **Potential financial impact figure (currency)**

<Not Applicable>

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

1281093

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

17914677

**Explanation of financial impact figure**

Carbon emission of Erzin natural gas power plant of Akenerji was 1,628,607 tonne CO<sub>2</sub>e in 2017, and 1,281,093 in 2018, which depends on the annual generation. If it is assumed that a carbon tax of 1 to 11 US\$/tCO<sub>2</sub>e is introduced to the Turkish market, total tax associated with overall emissions of Akenerji would be around from 1,281,093 to 17,914,677 US\$ for 2017. Therefore, the estimated negative financial impact could be around these values per annum, depending on the price for carbon tax and the annual produced carbon emission.

**Management method**

Akenerji closely monitors regulatory changes and seeks ways for adaption before any new regulations get into force. Akenerji is evaluating emission reduction possibilities for long term plans. The strategy may involve in (1) implementing higher efficiency gas turbines, (2) phasing out low efficiency/old natural gas power plant, (3) carbon sequestration and storage and/or (4) investing in renewable energy. (5) carbon offsets by Akenerji's renewable power generation

**Cost of management**

0

**Comment**

Until to the end of 2017, Akenerji has invested around a total of US\$ 700 mio. in renewable energy production. Akenerji's only thermal power plant of Erzin, which had a total investment cost of US\$ 900 mio., is equipped with high efficiency gas turbines (58%, F type) that is already satisfying European standards. Akenerji shut-down its low-efficiency old natural gas power plants. Currently, Akenerji doesn't have any specific cost for the management of this risk. Akenerji is evaluating the possible emission reduction actions to be taken within the long-term.

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**Identifier**

Risk 2

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

Direct operations

**Risk type**

Transition risk

**Primary climate-related risk driver**

Policy and legal: Enhanced emissions-reporting obligations

**Type of financial impact**

Increased costs and/or reduced demand for products and services resulting from fines and judgments

**Company- specific description**

Inline with the studies on National regulation regarding GHG emissions; a law put into force about Mandatory Carbon reporting in Turkey. (Turkish Regulation for Monitoring, Reporting and Verification of Greenhouse Gas Emissions – official journal 28.12.2014 dated and 29219 numbered.) The purpose of the Regulation is to set forth the principles and procedures for monitoring and reporting of greenhouse gases arising from the facilities performing the activities listed in Annex 1 of the Regulation, which are using energy intensively (Erzin natural gas power plant of Akenerji is covered under Annex 1). Pursuant to Article 6 of the Regulation, operators of the Facilities shall monitor the GHG arising from their Facilities according to the principles set forth in the Regulation, and shall prepare a GHG monitoring plan for this purpose. Furthermore, as per Article 7 of the Regulation, the operators of such Facilities shall submit an annual GHG report prepared in accordance with the monitoring plan to the Ministry of Environment by the end of each April for the GHG emissions observed in the previous calendar year. 1st reports submitted in April 2016. Any failure on reporting obligations results in penalty.

**Time horizon**

Short-term

**Likelihood**

Exceptionally unlikely

**Magnitude of impact**

Low

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

28000

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact figure**

As a negative financial impact; failure to meet obligations under the Regulation for Monitoring, Reporting and Verification of Greenhouse Gas Emissions could result in a penalty of up to US\$ 28,000 annually per applicable facility according to the regulation and at current rates.

**Management method**

Akenerji submitted its monitoring plan to the related Ministry. Since the Law for Carbon emissions reporting became mandatory in 2015, Akenerji submits an annual GHG report that is prepared in accordance with the monitoring plan to the Ministry of Environment for the GHG emissions observed in the previous calendar year. Both the GHG monitoring plans and the annual GHG reports are verified by accredited verification institutions before their submission to the Ministry of Environment.

**Cost of management**

814150

**Comment**

Akenerji has installed an emission monitoring system to its power plant of Erzin, which is producing electricity from natural gas, to meet with its GHG emissions reporting obligations. The cost of the system was US\$ 814,150. In addition, Akenerji has to procure services from an accredited verification institution each year to get its monitoring

plan and the report verified. As an additional to other operating costs, the cost of such services is ave. US\$ 8,500 per annum.

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**Identifier**

Risk 3

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

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

**Type of financial impact**

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

**Company- specific description**

Climate change is a key driver for hydropower. It will cause increased variability of precipitation events which will result in more severe and frequent floods and droughts, seasonal offsets, changes in seasonality, etc. In this risk, as a result of increase in average precipitation (increase in drought seasons) may cause reduced access to water for electricity generation for Akenerji's hydroelectric power plants.

**Time horizon**

Medium-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)**

38000000

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact figure**

Negative financial implications may change according to the magnitude of the drought, so the effect can not be clearly calculated. However, the revenue loss due to drought for the first 3 months of 2014 was roughly US\$ 38,000,000 when it was compared to the same period of the previous year. (Calculation is based on the differences in hydro generation values for the first three months of 2013 and 2014. The average market price for the first three months is used in the calculation.)

**Management method**

Energy is a vital source for the development of our country and to maintain the modern life style of human beings. Our prior goal is to provide continuous power supply on that purpose. For that reason, we diversify the electricity generation sources by investing in a state of art natural gas combined cycle power plant, which are considered as base load plants for security of supply. Besides, it provides electricity in high emission efficiency according to most of the natural gas power plants.

**Cost of management**

0

**Comment**

The management of this risk is currently a part of our daily business as we did evaluated within the short-term time horizon. Therefore, apart from the supporting tools for weather forecasting, which roughly has a cost of US\$ 15,000 pa, there is no other additional cost on top of the current OPEX. However, considering that the patterns are likely to change more in the future, Akenerji is studying the long-term affects of this risk on Akenerji's current assets, and looking for additional tools.

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**Identifier**

Risk 4

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

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

Chronic: Rising mean temperatures

**Type of financial impact**

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

**Company- specific description**

If summer heat is higher than expected, this would likely increase electricity demand, which would have an increasing effect on the electricity market prices. In such a case Akenerji may need to buy additional electricity from the market to cover its short position if any shortfall in renewables generation.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

High

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

8640000

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact figure**

If the difference between the market price and the contract of the customer is US\$ 10 per MWh, and Akenerji has a short position of 100 MW for a specific month (30-day), then costs would rise by US\$ 720,000/month., which makes US\$ 8,640,000/year. This figure could be used for estimated negative financial impact.

**Management method**

This can be overcome by planning the generation based on the weather forecasts and by diversifying the portfolio by investing in gas, hydro and wind in order to decrease the fuel price risk.

**Cost of management**

0

**Comment**

The management of this risk is currently a part of our daily business as we did evaluated within the short-term time horizon. Therefore, apart from the supporting tools for weather forecasting, which roughly has a cost of US\$ 15,000 pa, there is no other additional cost on top of the current OPEX. However, considering that the patterns are likely to change more in the future, Akenerji is studying the long-term affects of this risk on Akenerji's current assets.

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**Identifier**

Risk 5

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

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

Acute: Increased severity of extreme weather events such as cyclones and floods

**Type of financial impact**

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

**Company- specific description**

Storm, strong wind and strong rain due to climate change may have impacts on all power plants. As it is explained by the scientists, it is likely that in a warmer climate heavy rainfall will increase and be produced by fewer more intense events. This could lead to longer dry spells and a higher risk of floods. It can damage power generation units and distribution lines of Hydroelectric Power Plants (HEPPs). Coastal areas are highly dynamic: storms batter, sea levels rise, and land shifts. This already poses problems for the safety (flooding, loss of power, loss of communications, blockage of evacuation routes and equipment malfunction, etc.) of Erzin natural gas power plant, which located near by the sea.

**Time horizon**

Long-term

**Likelihood**

About as likely as 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)**

10000000

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact figure**

Financial implications have a broad scale of possibilities depending on the impact. Therefore, both the impact and its financial negative implication can differ according to the magnitude of the damage. In case of such event, heavy damage on power plants, power distribution lines, loss of power generation due to stopped operation, loss from the electricity sales from assets due to market prices, etc. shall be considered for the financial impact calculations. Although such a case study with exact figures doesn't exist, any cost of such event higher than US\$ 10 mio. can be considered as with high impact.

**Management method**

Since we can not have a direct control over the such events, Akenerji improves its emergency response capacities, include severe weather events in the insurance of our power plants, etc. Apart from that all our power plants are designed and built in accordance with the long-term historical data of such extreme weather events which is especially important for the dam design, etc. for hydroelectrci power plantsfor flooding. We have a diversified production mix., which are located in different regions of Turkey, which we believe it would diversify the risk.

**Cost of management**

0

**Comment**

Apart from the insurances, there are no other costs. The insurance cost for the extreme weather events cannot be separetly given than the full cost of the insurance. Therefore, the cost is taken as zero. We take precautions by evaluating weather forecasts and maximum flow expectations. Besides; continuous maintenance and

repairs are driven in the plants.

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## C2.4

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

Yes

### C2.4a

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

**Identifier**

Opp1

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

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Type of financial impact**

Increased revenue through demand for lower emissions products and services

**Company-specific description**

Turkey develops national emission reduction plan within the framework of EU-ETS Acquis approximation. If Turkey commits to make mitigation, sectoral emission reduction targets may be enforced with a cap system and carbon taxation will be applied. Akenerji's power plants producing renewable energy are in the Carbon registry. Currently, Turkey is in the global voluntary carbon market. The voluntary carbon market relates to transactions in carbon credits that fall outside the compliance schemes created under the Kyoto Protocol. Demand for carbon credits in this market is driven largely by companies that pursue voluntary greenhouse gas emissions targets and intend to demonstrate climate leadership within the industry. Since the market is voluntary, the demand for carbon offsetting, therefore the sale price of the carbon credits are very low. Cap system and/or carbon taxation will have an increasing effect on the demand and the prices. In this case, Akenerji's income from carbon offsetting activities will increase substantially.

**Time horizon**

Long-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)**

250000

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact figure**

If we consider that the current market prices of carbon credits double and Akenerji sells all its carbon credits produced for each year in the following year, we can expect more than US\$ 250,000 additional income on sale of renewables carbon certificates (assuming that Akenerji plants produces average per year 380,000 tCO<sub>2</sub>e VCS and 43,000 tCO<sub>2</sub>e Gold Standard).

**Strategy to realize opportunity**

We have been the first company to register to the National Carbon Registry (2011) that was launched by the Ministry of Environment and Urbanization to establish voluntary carbon markets and register ongoing projects. They are registered by Verified Carbon Standard (VCS and Gold Standard (GS). The carbon assets are sold to customers for offsetting their emissions.

**Cost to realize opportunity**

110000

**Comment**

Management cost mostly includes the verification and the issuance costs for the certificates. In such scenario as explained above, the cost of verification of 8 projects' generation and issuance cost of 380,000 tCO<sub>2</sub>e VCS and 43,000 tCO<sub>2</sub>e Gold Standard for each year, average US\$ 110,000 amounts to a total cost.

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**Identifier**

Opp2

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

Direct operations

**Opportunity type**

Energy source

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**Primary climate-related opportunity driver**

Participation in carbon market

**Type of financial impact**

Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon

**Company-specific description**

Within the framework of approximation to EU Aquis, Turkey considers integrating to EU ETS system. If so, Akenerji is already in the Carbon registry and it will have carbon allowances considering power generation from renewable sources. Akenerji can offset Erzin's emissions, which would reduce the additional cost that Akenerji is exposed to.

**Time horizon**

Long-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)**

4653000

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact figure**

It is not easy to calculate the potential upside financial impact. The amount could be clearer when the carbon taxation becomes more clear. However, if we consider that full year production of renewables will offset Erzin natural gas power plant's emissions, we can easily say that savings from US\$ 423,000 to US\$ 4,653,000 can be possible per annum, considering the total annual carbon certificates issued by Akenerji's renewables (carbon price from US\$ 1 to US\$ 11).

**Strategy to realize opportunity**

We have been the first company to register to the National Carbon Registry (2011) that was launched by the Ministry of Environment and Urbanization to establish voluntary carbon markets and register ongoing projects. They are registered by Verified Carbon Standard (VCS and Gold Standard (GS). The carbon assets are sold to customers for offsetting their emissions.

**Cost to realize opportunity**

110000

**Comment**

Management cost mostly includes the verification and the issuance costs for the certificates. In such scenario as explained above, the cost of verification of 8 projects' generation and issuance cost of 380,000 tCO<sub>2</sub>e VCS and 43,000 tCO<sub>2</sub>e Gold Standard for each year, average US\$ 110,000 amounts to a total cost.

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**Identifier**

Opp3

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

Customer

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Ability to diversify business activities

**Type of financial impact**

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

**Company-specific description**

Akenerji is providing energy services to its customers to reduce their electricity consumption which helps them to achieve their energy and environmental goals. Services includes such as energy analysis and audits, energy management, maintenance and operation, monitoring and evaluation of savings, etc. Turkey develops national emission reduction plan within the framework of EU-ETS Acquis approximation. If Turkey introduces carbon taxation and/or an emissions trading system (ETS), which sets a limit (or cap) on greenhouse gas (GHG) emissions from installations covered by the system of the companies, the importance of energy efficiency will rise considerably, which will have a positive impact on Akenerji's energy services business.

**Time horizon**

Long-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)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact figure**

Financial impact of the emission reduction precautions cannot be easily determined. We can only say that development of the energy management services sector will gain momentum in Turkey, which will in parallel support Akenerji to develop its Energy Management Services.

**Strategy to realize opportunity**

Akenerji is currently focused on developing its energy services and expanding the business by increasing the number of contracts awarded.

**Cost to realize opportunity**

0

**Comment**

Rather than OPEX cost of the related Business Unit, Akenerji doesn't have any additional costs arisen by these services.

**C2.5**

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

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	Rising mean temperature and reduced precipitation, therefore the reduced rainfall have a decreasing effect on the water inflow to Akenerji's hydroelectric power plants, which results in reduced electricity generation. and the electricity production is decreased in hydroelectric power plants.
Supply chain and/or value chain	Not yet impacted	Akenerji's energy services focused on reducing electricity consumption of its customers. As an opportunity, if Turkey introduces carbon taxation and/or an emissions trading system (ETS), which sets a limit (or cap) on greenhouse gas (GHG) emissions from installations covered by the system of the companies, the importance of energy efficiency will rise considerably, which will have a positive impact on Akenerji's energy services business. Energy efficiency will gain importance, this would positively affect potential customers to decide on applying energy efficiency projects.
Adaptation and mitigation activities	Impacted	Akenerji has installed an emission monitoring system to its power plant of Erzin, which is producing electricity from natural gas, to meet with its GHG emissions reporting obligations. The cost of the system was US\$ 814,150. In addition, Akenerji has to procure services from an accredited verification institution each year to get its monitoring plan and the report verified. As an additional to other operating costs, the cost of such services is ave. US\$ 8,500 per annum.
Investment in R&D	We have not identified any risks or opportunities	We do not have any investment in R&D activities.
Operations	Impacted for some suppliers, facilities, or product lines	Akenerji has installed an emission monitoring system to its power plant of Erzin, which is producing electricity from natural gas, to meet with its GHG emissions reporting obligations. The cost of the system was US\$ 814,150. In addition, Akenerji has to procure services from an accredited verification institution each year to get its monitoring plan and the report verified. As an additional to other operating costs, the cost of such services is ave. US\$ 8,500 per annum.
Other, please specify	We have not identified any risks or opportunities	

**C2.6**

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

	Relevance	Description
Revenues	Impacted for some suppliers, facilities, or product lines	Decrease in average precipitation: Revenue loss due to drought for the first 3 months of 2014 was roughly US\$ 38,000,000 when it was compared to the same period of the previous years.
Operating costs	Not yet impacted	Increased pricing of GHG emissions: If Turkey commits to make mitigation, carbon taxes may be introduced to energy intensive sector at the first attempt and this could adversely affect the operational costs of our thermal power plant, which is expected to increase operating costs in long-term.
Capital expenditures / capital allocation	Impacted for some suppliers, facilities, or product lines	Akenerji closed the low efficiency plants and invested in high efficiency CCGT plant (F class with 58% efficiency). Enhanced emissions-reporting obligations: Akenerji has installed an emission monitoring system to its power plant Erzin, which is producing electricity from natural gas, to meet with its GHG emissions reporting obligations. The cost of the system was US\$ 814,150.
Acquisitions and divestments	Impacted for some suppliers, facilities, or product lines	Akenerji closed the power plants with low energy and emission efficiency and invested in establishing a natural gas thermal power plant equipped with state of the art technology. For example; advanced technology control systems are used; its gas and steam turbines are able to run at the highest efficiency in their class.
Access to capital	We have not identified any risks or opportunities	We have not identified any risks or opportunities which have factored into the financial planning process of Akenerji.
Assets	Impacted for some suppliers, facilities, or product lines	Akenerji closed the power plants with low energy and emission efficiency and invested in establishing a natural gas thermal power plant equipped with state of the art technology. For example; advanced technology control systems are used; its gas and steam turbines are able to run at the highest efficiency in their class.
Liabilities	Not yet impacted	If carbon taxation is introduced financial impact to be considered as a new item under OPEX.
Other	We have not identified any risks or opportunities	

**C3. Business Strategy**

C3.1

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

Yes

C3.1a

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

Yes, qualitative

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

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

Yes

C3.1c

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

As an energy generating firm climate change is deeply integrated into our business strategy to mitigate the negative both direct and indirect effects of climate change. Our strategies and outcomes of these processes are as follows:

Akenerji has a holistic approach for sustainability, where climate change has its share as a source of risk and opportunity. Within the framework of Akenerji's mission; risks and opportunities sourced from climate change, are integrated in the business strategy in several ways. Akenerji has a long term (10 years) strategy which is supported by short and middle term (5 years) targets and strategies. We invest in renewable energy, monitor our operational performance continuously and improve the points where efficiency is the least satisfactory.

Quality Project Team under HSEQ leads the efforts of ensuring that the business strategy is influenced by climate change within Akenerji. The team implements projects to monitor GHG emissions both on corporate level and installation level, leads CDP participation and prepares external and internal reports to senior management and relevant departments.

The Strategic Planning and Risk Department considers environmental and climate change concerns in determining the company's energy portfolio. For short-term, Akenerji is focused on energy-efficient production and maintaining a position of sustainability leadership in the sector.

For the long-term, Akenerji seeks to stay ahead of expected regulations, which may include a possible cap and trade system or carbon tax for Turkey. This primarily involves further developing renewable capacity and gaining greater sophistication for management under regulations.

Please find the key strategic priorities of our business influenced by climate change adaptation and mitigation activities:

- a. Decreasing emissions and increasing operational efficiency: We do not have any coal thermal power plant. We have 1 Natural Gas Combined Cycled Power Plant, 7 Hydro and 1 Wind Power Plant. Akenerji seeks continuous improvement at all power plants to reduce costs and emissions. We closed the power plants with low energy and emission efficiency and invested in establishing a natural gas thermal power plant equipped with state of the art technology. For example; advanced technology control systems are used; its gas and steam turbines are able to run at the highest efficiency in their class. Besides; a team of experts continuously monitor the plant's chimney gas for carbon emissions data and keep it below thresholds mandated by EU environmental legislation. Therefore, the plant complies with the relevant EU Environmental Aquis beyond the Turkish Environmental legislation. We also took actions to increase the efficiency at HEPPs such as decreasing the friction and heat in the turbines. Turkey's National Contribution (INDC) plan is to reduce its emissions by 21% from 2030 BAU level by supporting the shift towards low carbon economy. As Akenerji, we closely follow the recent updates on climate change mitigation efforts made both nationally and globally. We support the Paris Agreement and its aim to limit global warming below 2°C and potentially keep it below 1.5°C.
- b. Tapping the growing market for green energy: Influenced by current and expected future actions to climate change of both consumers and regulators, Akenerji diversified its generation portfolio significantly starting from 2005. In 2005, the company's installed capacity consisted of only thermal power plants. With the aim of portfolio diversification, currently 26% of total installed power comes from renewable sources, both hydro and wind. Another Hydropower Plant is under construction in Kemah-Erzincan, which will have 198 MW of installed capacity. At the beginning of 2017, Ayıldız capacity extension project completed, and the installed capacity of the power plant increased from 15 to 28 MW. We also evaluate new investment opportunities in the renewable energy market.
- c. Capturing financial incentives associated with green energy: Influenced by the emergence of the voluntary market for emissions reduction, Akenerji is a pioneer in Turkey regarding certification of emission reductions and emissions trading. Akenerji has been the first company to take part in the National Carbon Registry when it was first established in 2011 in Turkey. Ayıldız has been registered in the Greenhouse Gas Reduction Project Register as the first project in the Register. Akenerji conducts carbon certification process for all its renewable energy projects. The company has been trading GS (Gold Standard) and VCS (Voluntary Carbon Standard) credits for several years, making it also possible for its customers to offset their own carbon emissions. Please see the attachment as an example for the use of Akenerji carbon credits on offsetting.
- d. Stakeholder engagement, capacity building and increasing public and employee awareness: To pioneer the sustainability in Turkey. Every year, all employees of Akenerji have trainings on environmental sustainability, sustainable energy and climate change. Also, over the recent years, Akenerji has been trying to increase awareness among its customers about energy efficiency and sustainable energy consumption through informative booklets and brochures.  
  
Through sustainability reports, and events such as "Stakeholder Analysis and Prioritization" workshop, we interact with our stakeholders and receive feedbacks from them in order to put Akenerji into sustainability track.
- e. Energy efficiency consulting services: Smart Electricity Solutions provided to our customers are of examples of indirect outcomes of our strategies. Akenerji ensures efficiency in customers' unit energy consumptions and supports sustainability and cost cutting works through its Energy Efficiency Consultancy services, which are involved in technical facility management and maintenance and repair services.  
  
Another solution for our customers is the installation of remote monitoring systems that allow them to monitor and manage their reactive energy consumption. Customers using this system avoid reactive energy consumption hence related monetary penalties and increase the efficiency of the use of electricity.
- f. Environmental sustainability projects: These projects aim at decreasing the environmental footprint of Akenerji. They include decreasing the impact of our hydroelectric projects with reservoirs on forests, recycling and reusing waste oil from power plants, phasing out some company cars that are used for commuting, and replacing them with service buses in order to decrease the company's Carbon footprint. And through the on-going Carbon Management Project, the company monitors, reports and discloses its CO2 emissions. Akenerji has received ISO 14064 certification.
- g) In 2018 Akenerji decided to start the process to obtain ISO 50001 Energy Management Systems Certification for all our power plants until the April 2020.

### C3.1d

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

Climate-related scenarios	Details
Other, please specify (A2 scenario of IPCC)	<p>The fifth assessment report of IPCC states that this change is extremely likely due to human activities. Based on different scenarios, climate scientists estimate increases between 1.5 and 4.5 oC by the end of the present century. Akenerji has 9 power plant located in Turkey (Adana, Adiyaman, Bursa, Balikesir, Hatay). And Turkey is one of the countries that could be profoundly affected by the climate change. Akenerji considers climate change impacts to sustain its activities and use climate scenario analysis to assess the impacts. Akenerji use A2 scenario of IPCC. Assessment of climate change impact studies for Turkey are generally based on the A2 scenario of IPCC and that is why we select this scenario. In addition the future climate analysis of Turkey based on CMIP3 simulation that was used in the fourth Assessment Report of IPCC. The projection involves the simulation of the ECHAM5 General Circulation Model. For the wind projections, the northwestern parts of Turkey have the highest wind potentials. It could be said that the wind potential in these areas will increase in the future. The wind speeds in the Marmara region and northwestern parts of Aegean region are projected to increase up to 15% by the mid-century (2041-2070) and up to 20% and more by the end of the century (2071-2099). On the other hand, the wind speeds are simulated to decrease in the eastern parts of Turkey. According to these projections our Ayyildiz power plant is located in Balikesir and As Akenerji, we continued to be one of the most prominent players in one of the most dynamic sectors of Turkey, the energy sector, again in 2018 with our 30-year experience and knowledge on sources, and we increased our total installed capacity to 1,224 MW and increased the share of renewable energy to 26% with the capacity increase in Ayyildiz Wind Power Plant. In 2016, the investment to increase the installed capacity of Ayyildiz WPP by 88% to reach 28.2 MW was finally completed. This capacity increase of 13.2 MW corresponds to the electricity requirement of 15,000 households and our Ayyildiz WPP has “Gold Standard” certificate within the scope of Greenhouse Emission Reduction. Turkey has a total of 35,000 MW hydraulic potential. The present installed power is about 20,000 MW, so it has 15,000 MW more potential to utilize. However, it becomes increasingly difficult to utilize this potential as the constructions of power plants meet with resistance from the public as they carry progressively more threats to the environment. The future climate change projections indicate reductions in water potentials of the major basins of Turkey, such as Euphrates and Tigris, which will adversely affect the power generation from hydraulic resources in the future. Although the fact that Akenerji also has a target for 2023 to invest on 198 MW renewable power plant. Kemah Dam and Hydroelectric Power Plant Kemah HEPP project has particular importance for our company because of the fact that it is the largest hydroelectric power plant in our portfolio with its installed capacity of 198 MW. The investment studies for the plant, with an anticipated electricity generation figure of 560 GWh per year, are still in progress and is foreseen to be commissioned in 2023.</p>
Nationally determined contributions (NDCs)	<p>Turkey’s National Contribution (INDC) plan is to reduce its emissions by 21% from 2030 BAU level by supporting the shift towards low carbon economy. To achieved this goal Turkey decided to obtain ISO 50001 energy management system certificate As Akenerji, we closely follow the recent updates on climate change mitigation efforts made both nationally and globally. In 2018, Akenerji decided to start the process to obtain ISO 50001 Energy Management Systems Certification for all our power plants until the end of April 2020. The National Energy Efficiency Action Plan to be implemented in the years 2017-2023 targeted 14% reduction of Turkey’s primary energy consumption in 2023. To this end, the plan encompasses a total of 55 actions in categories namely buildings and services, energy, transport, industry and technology and agriculture. It is envisaged that a cumulative 23.9 MTEP will be saved by 2023 with an investment of USD 10.9 billion. In this context, Akenerji Energy Services maintains its leading and innovative position in the sector with its services and business models, with productivity enhancing projects within the scope of Turkey’s Energy Efficiency Action Plan. In place already are plans to move the Company’s private sector projects that demonstrated high success in 2018 to the public sector as well in 2019, a result of the negotiations carried out with the Ministry of Energy. As Akenerji Energy Services, we continued to be the firm that secured highest rate of energy efficiency in the sector again in 2018 by achieving mean efficiency values of 35% in electrical energy and 55% in the natural gas through the projects we have executed since 2015. Also, we offer certified emission reduction certificates from international institutions that we obtain through our renewable energy investments to our customers who wish to have carbon neutral electricity. Hereby, we make contributions to the sustainability targets of our customers who are highly sensitive to the environment, and who intend to diminish or even “eliminate” their carbon footprint due to energy consumption etc.</p>

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

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

The fifth assessment report of IPCC states that this change is extremely likely due to human activities. Based on different scenarios, climate scientists estimate increases between 1.5 and 4.5 oC by the end of the present century. Akenerji has 9 power plant located in Turkey (Adana, Adiyaman, Bursa, Balikesir, Hatay). And Turkey is one of the countries that could be profoundly affected by the climate change. Akenerji considers climate change impacts to sustain its activities and use climate scenario analysis to assess the impacts. Akenerji use A2 scenario of IPCC. Assessment of climate change impact studies for Turkey are generally based on the A2 scenario of IPCC and that is why we select this scenario. In addition the future climate analysis of Turkey based on CMIP3 simulation that was used in the fourth Assessment Report of IPCC. The projection involves the simulation of the ECHAM5 General Circulation Model. For the wind projections, the northwestern parts of Turkey have the highest wind potentials. It could be said that the wind potential in these areas will increase in the future. The wind speeds in the Marmara region and northwestern parts of Aegean region are projected to increase up to 15% by the mid-century (2041-2070) and up to 20% and more by the end of the century (2071-2099). On the other hand, the wind speeds are simulated to decrease in the eastern parts of Turkey. According to these projections our Ayyildiz power plant is located in Balikesir and As Akenerji, we continued to be one of the most prominent players in one of the most dynamic sectors of Turkey, the energy sector, again in 2018 with our 30-year experience and knowledge on sources, and we increased our total installed capacity to 1,224 MW and increased the share of renewable energy to 26% with the capacity increase in Ayyildiz Wind Power Plant. In 2016, the investment to increase the installed capacity of Ayyildiz WPP by 88% to reach 28.2 MW was finally completed. This capacity increase of 13.2 MW corresponds to the electricity requirement of 15,000 households and our Ayyildiz WPP has “Gold Standard” certificate within the scope of Greenhouse Emission Reduction.

Turkey has a total of 35,000 MW hydraulic potential. The present installed power is about 20,000 MW, so it has 15,000 MW more potential to utilize. However, it becomes increasingly difficult to utilize this potential as the constructions of power plants meet with resistance from the public as they carry progressively more threats to the environment. The future climate change projections indicate reductions in water potentials of the major basins of Turkey, such as Euphrates and Tigris, which will adversely affect the power generation from hydraulic resources in the future. Although the fact that Akenerji also has a target for 2023 to invest on 198 MW renewable power plant. Kemah Dam and Hydroelectric Power Plant Kemah HEPP project has particular importance for our company because of the fact that it is the largest hydroelectric power plant in our portfolio with its installed capacity of 198 MW. The investment studies for the plant, with an anticipated electricity generation figure of 560 GWh per year, are still in progress and is foreseen to be commissioned in 2023.

Turkey’s National Contribution (INDC) plan is to reduce its emissions by 21% from 2030 BAU level by supporting the shift towards low carbon economy. To achieved this goal Turkey decided to obtain ISO 50001 energy management system certificate As Akenerji, we closely follow the recent updates on climate change mitigation efforts made both nationally and globally. In 2018, Akenerji decided to start the process to obtain ISO 50001 Energy Management Systems Certification for all our power plants until the end of April 2020.

The National Energy Efficiency Action Plan to be implemented in the years 2017-2023 targeted 14% reduction of Turkey’s primary energy consumption in 2023. To this end, the plan encompasses a total of 55 actions in categories namely buildings and services, energy, transport, industry and technology and agriculture. It is envisaged that a cumulative 23.9 MTEP will be saved by 2023 with an investment of USD 10.9 billion. In this context, Akenerji Energy Services maintains its leading and innovative position in the sector with its services and business models, with productivity enhancing projects within the scope of Turkey’s Energy Efficiency Action Plan. In place already are plans to move the Company’s private sector projects that demonstrated high success in 2018 to the public sector as well in 2019, a result of the negotiations carried out with the Ministry of Energy.

As Akenerji Energy Services, we continued to be the firm that secured highest rate of energy efficiency in the sector again in 2018 by achieving mean efficiency values of 35% in electrical energy and 55% in the natural gas through the projects we have executed since 2015.

**C4. Targets and performance**

## C4.1

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

Intensity target

## C4.1b

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

**Target reference number**

Int 2

**Scope**

Scope 1

**% emissions in Scope**

99

**Targeted % reduction from base year**

2

**Metric**

Metric tons CO<sub>2</sub>e per megawatt hour (MWh)\*

**Base year**

2017

**Start year**

2018

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

1628616

**Target year**

2018

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

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

**% of target achieved**

100

**Target status**

Expired

**Please explain**

Our target was to make this intensity target 0.3156 tCO<sub>2</sub>e/MWh or less in 2018 which means 2% decrease of emissions. Our emissions were 1,628,616 metric tons CO<sub>2</sub>e for Scope 1 in 2017 and 1,281,093 metric tons CO<sub>2</sub>e for Scope 1 in 2018. So we reduced our emissions 347.523 metric tons CO<sub>2</sub>e for Scope 1 in the comparison with the previous year. However, if we calculate our intensity which is 0,327 tCO<sub>2</sub>e/MWh which means 1.8% increase of emissions.

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

1.7

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

0

---

**Target reference number**

Int 1

**Scope**

Scope 1+2 (location-based)

**% emissions in Scope**

99.98

**Targeted % reduction from base year**

50

**Metric**

Metric tons CO<sub>2</sub>e per megawatt hour (MWh)\*

**Base year**

2017

**Start year**

2018

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

1635860

**Target year**

2035

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

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

**% of target achieved**

21

**Target status**

New

**Please explain**

In 2017, Scope 1+2 accounted for 1,635,860 tCO<sub>2</sub>e and in 2018, Scope 1+2 accounted for 1,290,948 tCO<sub>2</sub>e, it means we have achieved a 21 % reduction against the 2017 baseline.

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

21

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

0

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C4.2

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

**Target**

Energy productivity

**KPI – Metric numerator**

obtaining ISO 50001 certificate for 9 of 9 power plants

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

per power plant of Akenerji

**Base year**

2017

**Start year**

2019

**Target year**

2020

**KPI in baseline year**

0

**KPI in target year**

9

**% achieved in reporting year**

0

**Target Status**

New

**Please explain**

We started to work on it and in 2020 we will obtain certificates for 9 power plants

**Part of emissions target**

NA

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

No, it's not part of an overarching initiative

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**Target**

Renewable electricity production

**KPI – Metric numerator**

Renewable energy production capacity MW

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

Total energy production capacity MW

**Base year**

2015

**Start year**

2015

**Target year**

2020

**KPI in baseline year**

30

**KPI in target year**

36

**% achieved in reporting year**

0

**Target Status**

Underway

**Please explain**

We want to increase our renewable energy production capacity from %30 to %36. In 2015 our renewable energy production capacity was 388, and our Akocak HEPP is sold which has 81 MW capacity. For that reason; renewable electricity generation ratio is not increased at the first year and our capacity had become 307 MW. We increased Ayyıldız WPP capacity from 15 MW to 28 MW in 2017 and our renewable energy production capacity is 320 MW. Another Hydropower Plant is under construction in Kemah-Erzincan, which will have 198 MW of installed capacity.

**Part of emissions target**

NA

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

No, it's not part of an overarching initiative

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**C4.3**

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

Yes

### C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	1	223658
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	0	0
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 type**

Low-carbon energy installation

**Description of initiative**

Hydro

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

223658

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

0

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

**Payback period**

Please select

**Estimated lifetime of the initiative**

Please select

**Comment**

320 MW of our installed capacity is from renewable energy generation and we are investing on hydro. We aim to increase our renewable energy generation installed capacity to 518 MW. 198 MW of increase will come from Kemah HEPP.

### C4.3c

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

Method	Comment
Financial optimization calculations	Many emissions reduction activities, especially those related to energy efficiency, (for example, our automatic lighting controls) can have a strong ROI.
Compliance with regulatory requirements/standards	There are increasing numbers of regulations that Akenerji needs to comply with. We have to comply with current MRV Regulation in Turkey (enforced in 2014), which involves monitoring and reporting GHG emissions from our thermal power plant. Also, we are required by Turkish law to recycle waste oil from our power plants. Reporting and verification of the greenhouse gas emissions for years 2017 and 2018 under ISO 14064 was completed.
Employee engagement	Akenerji runs capacity building and awareness raising activities among the employees regarding environmental sustainability, climate change, energy efficiency and energy efficient office practices among all employees every year.
Internal incentives/recognition programs	Monetary based performance evaluations are available for relevant employees in charge of project development, project implementation and corporate environmental sustainability. Also, environmental improvement suggestion system is implemented among the employees, which allow them to have monetary awards for suggestions for increasing environmental performance of the company.
Dedicated budget for energy efficiency	Main source of both our overall and Scope 1 emissions are our Erzin NGCCPP. As Akenerji, we put great importance on energy and emission reduction activities. Therefore, we invested in establishing a state of art high efficient natural gas combined cycle power plant named as Erzin NGCCPP. Even though it has a state of art technology, we are continuously working to improve the efficiency.

### 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

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**(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**

Carbon-neutral Certifications: We offer internationally-approved emission reduction certifications to customers through our renewable energy investments. These certifications enable companies to become carbon-neutral in terms of the electricity they consume. This solution helps environmentally responsive companies that would like to mitigate or diminish to "zero" carbon footprints resulting from electricity consumption and other processes.

**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**

Other, please specify (Verified Carbon Standard (VCS and Gold))

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

0.01

**Comment**

We register certificates from the energy we generate from renewable sources. They are our low carbon products. We have been the first company to register to the National Carbon Registry (2011) that was launched by the Ministry of Environment and Urbanization to establish voluntary carbon markets and register ongoing projects. They are registered by Verified Carbon Standard (VCS and Gold Standard (GS)).

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## C-EU4.6

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**(C-EU4.6) Describe your organization's efforts to reduce methane emissions from your activities.**

Our methane emission sources are;

- LPG cylinder at kitchen to cook
- Gas detector enstrument
- Chromotograph calibration enstrument

As we look purchasing invoices to find the amount of the CH4 we used, we do not buy any CH4 sources so we do not use it in our power plants in 2018.

For example, we do not cook ourselves because we have a contract with the contractor food company. We have LPG in kitchen for emergency situations as the contractor firm could not manage to get meal.

## C5. Emissions methodology

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### C5.1

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

**Scope 1**

**Base year start**

January 1 2018

**Base year end**

December 31 2018

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

1290948

**Comment**

We are an electricity generation company which operates both thermal and renewable power plants. Our 99% of our overall emissions are sourced from Scope 1 emissions from thermal power plants.

**Scope 2 (location-based)**

**Base year start**

January 1 2018

**Base year end**

December 31 2018

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

9662

**Comment**

We use electricity from the grid, other than the electricity we generate.

**Scope 2 (market-based)**

**Base year start**

January 1 2018

**Base year end**

December 31 2018

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

0

**Comment**

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

**C5.2**

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

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

ISO 14064-1

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

**C6. Emissions data**

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**C6.1**

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

### Reporting year

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

1281286

#### Start date

January 1 2018

#### End date

December 31 2018

#### Comment

Greenhouse gas emissions generated from operations are presented in ton CO2 equivalent. Almost all of the Scope 1 greenhouse gas emissions are from natural gas burned in the natural gas power plant. In addition, diesel and gasoline fuels consumed by company rental-cars, and natural gas and fuel oil used for heating in the premises are causing Scope 1 emissions even in small quantities. The emission performance from Erzin NGCCPP, which is the only natural gas power plant operating in 2018 and which constitutes almost all of the Scope 1 emissions, is satisfactory. Our emissions were 1,628,616 metric tons CO2e for Scope 1 in 2017 and 1,281,093 metric tons CO2e for Scope 1 in 2018, because of decreasing the electricity generation by 15.7% in comparison to the last year. So we reduced our emissions 347.523 metric tons CO2e for Scope 1 in the comparison with the previous year. However, if we calculate our intensity which is 0,327 tCO2e/MWh which means 1.8% increase of emissions.

### Past year 1

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

1628865

#### Start date

January 1 2017

#### End date

December 31 2017

#### Comment

Greenhouse gas emissions generated from operations are presented in ton CO2 equivalent. Almost all of the Scope 1 greenhouse gas emissions are from natural gas burned in the natural gas power plant. In addition, diesel and gasoline fuels consumed by company rental-cars, and natural gas and fuel oil used for heating in the premises are causing Scope 1 emissions even in small quantities. The emission performance from Erzin NGCCPP, which is the only natural gas power plant operating in 2017 and which constitutes almost all of the Scope 1 emissions, is satisfactory. Despite the increase in the amount of emission compared to 2016 due to more hours of operation and gross electricity generation in 2017 than in 2016, there is a decrease in the amount of emission per unit electricity generation in 2017 compared to 2016. In 2016 0,34 tCO2 e/MWh and in 2017 0,32 tCO2 e/MWh.

### Past year 2

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

934839

#### Start date

January 1 2016

#### End date

December 31 2016

#### Comment

Our emission performance at Erzin NGCCPP, which was active in 2016 and constituted almost all of our Scope 1 emission, is satisfactory. When unit gross electricity generated per unit emission is considered, it can be concluded that our efficiency has improved. While in 2014, gross 2,325 kWh electricity was generated for 1 kg of CO2e emission, in 2016 this became 3,02 kWh. This concludes that we managed to have 30 % improvement of Scope 1 emissions efficiency at Erzin NGCCPP.

### Past year 3

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

1316374

#### Start date

January 1 2015

#### End date

December 31 2015

#### Comment

By September 2014, as Erzin NGCCPP became operational, non-renewable energy (natural gas) consumption increased, and this was reflected on Scope 1 values.

## C6.2

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

#### Row 1

##### Scope 2, location-based

We are reporting a Scope 2, location-based figure

##### Scope 2, market-based

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

#### Comment

We use electricity from the grid, other than the electricity we generate. Scope 2 emissions are derived from the electricity used in the Head Quarters in Istanbul and from the electricity purchased from the outside, which is consumed in the plants.

## C6.3

### (C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?

#### Reporting year

**Scope 2, location-based**

9662

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

<Not Applicable>

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

We use electricity from the grid, other than the electricity we generate. Scope 2 emissions are derived from the electricity used in the Head Quarters in Istanbul and from the electricity purchased from the outside, which is consumed in the plants. The increase in the Scope 2 emissions is resulting from the increase in the amount of electricity purchased in 2018 due to the low generation at Erzin natural gas plant.

#### Past year 1

**Scope 2, location-based**

6995

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

<Not Applicable>

**Start date**

January 1 2017

**End date**

December 31 2017

**Comment**

We use electricity from the grid, other than the electricity we generate. Scope 2 emissions are derived from the electricity used in the Head Quarters in Istanbul and from the electricity purchased from the outside, which is consumed in the plants. The decrease in the Scope 2 emissions is resulting from the decrease in the amount of electricity purchased in 2017 due to the high generation at Erzin natural gas plant.

#### Past year 2

**Scope 2, location-based**

14820

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

<Not Applicable>

**Start date**

January 1 2016

**End date**

December 31 2016

**Comment**

We use electricity from the grid, other than the electricity we generate. Scope 2 emissions are derived from the electricity used in the Head Quarters in Istanbul and from the electricity purchased from the outside, which is consumed in the plants. The increase in the Scope 2 emissions is resulting from the increase in the amount of electricity purchased in 2016 due to the low generation at Erzin natural gas plant.

#### Past year 3

**Scope 2, location-based**

13556

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

<Not Applicable>

**Start date**

January 1 2015

**End date**

December 31 2015

**Comment**

By September 2014, as Erzin NGCCPP became operational and According to 2016 Erzin natural gas plant work less than 2015. The decrease in the Scope 2 emissions is resulting from the decrease in the amount of electricity purchased in 2015

## C6.4

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

Yes

## C6.4a

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

**Source**

Fugitive refrigerant GHGs from cooling systems.

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

Emissions are relevant but not yet calculated

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

No emissions excluded

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

Emissions are not relevant

**Explain why this source is excluded**

We included the refrigerant GHGs from cooling systems at our Erzin NGCCPP. Emissions sourcing from refrigerants of cooling systems at our other premises are excluded for three reasons: (1) they are not likely to be a significant source of total scope 1 emissions (less than 1%), (2) there is no reliable method for accurate activity data, and (3) estimation of this source is considered inaccurate.

---

**Source**

Fugitive GHG emissions from fire extinguishers.

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

Emissions are relevant but not yet calculated

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

No emissions excluded

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

Emissions are not relevant

**Explain why this source is excluded**

We included the fugitive GHGs from fire extinguishers at our Erzin NGCCPP. Emissions sourcing from fire extinguishers at our other premises are excluded particularly for two reasons: (1) they are not likely to be a significant source of total scope 1 emissions (less than 1%), (2) there is inadequate work and budget source to gather.

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## C6.5

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

**Purchased goods and services**

**Evaluation status**

Relevant, not yet calculated

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

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

We wish to improve our system, however there is insufficient infrastructure and data in Turkey to calculate these emissions. Besides it needs extensive working hours to do so.

**Capital goods**

**Evaluation status**

Relevant, not yet calculated

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

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

Life Cycle Assessment is not extensively used in Turkey, therefore at the moment it is so difficult to calculate those emissions.

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

### Evaluation status

Relevant, calculated

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

209

### Emissions calculation methodology

At RMS, where the pressure of Natural Gas is regulated during NG supply to Erzin NGCCPP.

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

100

### Explanation

We are willing to enlarge and improve our GHG Inventory system, as a result of this we calculated the GHGs sourced from the RMS (Station to regulate the pressure of Natural Gas during NG supply to Erzin NGCCPP).

## Upstream transportation and distribution

### Evaluation status

Relevant, not yet calculated

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

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

We wish to improve our system, however there is insufficient infrastructure and data in Turkey to calculate these emissions. Besides it needs extensive working hours to do so.

## Waste generated in operations

### Evaluation status

Relevant, not yet calculated

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

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

We wish to improve our system, however there is insufficient infrastructure and data in Turkey to calculate these emissions. Besides it needs extensive working hours to do so.

## Business travel

### Evaluation status

Relevant, not yet calculated

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

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

We had calculated in 2016 but we could not calculate in 2017 and 2018 because it takes more time and the percentage is not likely to be a significant source of total emissions (less than 0.01%). But we wish to improve our system and we are willing to calculate these emissions in the next years.

## Employee commuting

### Evaluation status

Relevant, not yet calculated

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

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

We wish to improve our system and we are willing to calculate these emissions in the near future.

#### Upstream leased assets

##### Evaluation status

Not relevant, explanation provided

##### Metric tonnes CO2e

<Not Applicable>

##### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

##### Explanation

We do not have upstream leased assets in 2018.

#### Downstream transportation and distribution

##### Evaluation status

Relevant, not yet calculated

##### Metric tonnes CO2e

<Not Applicable>

##### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

##### Explanation

We wish to improve our system, however there is insufficient infrastructure and data in Turkey to calculate these emissions. Besides it needs extensive working hours to do so.

#### Processing of sold products

##### Evaluation status

Not relevant, explanation provided

##### Metric tonnes CO2e

<Not Applicable>

##### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

##### Explanation

Not relevant.

#### Use of sold products

##### Evaluation status

Not relevant, explanation provided

##### Metric tonnes CO2e

<Not Applicable>

##### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

##### Explanation

There is no use of sold products

#### End of life treatment of sold products

##### Evaluation status

Not relevant, explanation provided

##### Metric tonnes CO2e

<Not Applicable>

##### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

##### Explanation

There is no end of life treatment of sold products.

#### Downstream leased assets

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

We do not have downstream leased assets in 2018.

#### Franchises

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

We do not have franchises.

#### Investments

**Evaluation status**

Relevant, not yet calculated

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

We wish to improve our system, however there is insufficient infrastructure and data in Turkey to calculate these emissions. Besides it needs extensive working hours to do so.

#### Other (upstream)

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

We have no other upstream emissions.

#### Other (downstream)

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

We have no other downstream emissions.

---

## C6.7

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

No

**C6.10**

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

**Intensity figure**

0.27

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

1290948

**Metric denominator**

megawatt hour generated (MWh)

**Metric denominator: Unit total**

4804230

**Scope 2 figure used**

Location-based

**% change from previous year**

6.32

**Direction of change**

Decreased

**Reason for change**

Our emissions were 1,635,860 metric tons CO2e for Scope 1+2 in 2017 and 1,290,948 metric tons CO2e for Scope 1+2 in 2018, because of decreasing the electricity generation by 15.7% in comparison to the last year. So we reduced our emissions 344,912 metric tons CO2e which means 21 % for Scope 1+2 in the comparison with the previous year. Although, if we calculate our intensity which is 0,27 tCO2e/MWh in 2017 and 0,29 tCO2e/MWh in 2018 which means 6.32 % decreased in the comparison with the previous year.

**Intensity figure**

0.003

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

1290948

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

459692529

**Scope 2 figure used**

Location-based

**% change from previous year**

13

**Direction of change**

Decreased

**Reason for change**

Power plant's generation decreased by 15.7% in 2018 compared to 2017, which had an decreasing effect on the gross global combined Scope 1 and 2 emissions by 21%. The total revenue of Akenerji decreased by 9.8%. So, the intensity change is 13%.

**C7. Emissions breakdowns**

**C7.1**

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

Yes

**C7.1a**

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	1280077.49	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	717.14	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	491.7	IPCC Fourth Assessment Report (AR4 - 100 year)

## C-EU7.1b

**(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.**

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0.7	0	0	0.7	Fugitives releases : CO2
Combustion (Electric utilities)	1279929.87	715.01	0	1280644.8	combustion within the company's boundary : CO2 and CH4
Combustion (Gas utilities)	1279892.7	714	0	1280606.7	This figure includes our natural gas power plant Erzin NGCCPP.
Combustion (Other)	146.91	2.12	0	149.04	Vehicle-based combustion
Emissions not elsewhere classified	0	0	0	0	There is no other emissions.

## 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	1281286

## C7.3

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

- By facility
- By activity

## C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Erzin NGCCPP	1281093	36	36
Bulam HEPP	8.03	43	42
Burç HEPP	8.21	38	38
Feke 1 HEPP	4.18	37	35
Feke 2 HEPP	7.27	37	35
Gökkaya HEPP	3.29	37	36
Himmetli HEPP	20.96	37	35
Uluabat HEPP	20.24	40	28
Ayyıldız WPP	11.08	40	27
Akhan Head Office	30.34	41	28

## C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Combustion at Power Plants	1281132
Combustion at offices	0
Vehicle-based combustion	154
Fugitive gases	0.7

**(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	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	1281132	<Not Applicable>	Our 99% of our overall emissions are sourced from Scope 1 emissions from thermal power plant Erzin NGCCPP
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

**C7.5**

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Turkey	9662	0	20127.7	0

**C7.6**

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

By business division

**C7.6a**

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

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Electricity use at Plants (purchased from 3rd party)	9516	0
Electricity use in offices (purchase from 3rd parties)	145.3	0

**C7.9**

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

Decreased

**C7.9a**

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	455.91	Decreased	23.57	The decrease in the Scope 1+2 emissions is resulting from the decrease in the amount of electricity purchased in 2018 due to the high generation at renewable sources power plant.
Other emissions reduction activities	0	No change	0	We do not have other emissions reduction activities
Divestment	0	Please select	0	No divestments are made in 2018.
Acquisitions	0	No change	0	No acquisitions are made in 2018
Mergers	0	No change	0	No mergers are made in 2018
Change in output	344912	Decreased	26.7	Because of decreasing the electricity generation by 15.7% in comparison to the last year. So we reduced our emissions 344,912 metric tons CO2e for Scope 1 + 2 in the comparison with the previous year.
Change in methodology	0	No change	0	The same methodology (ISO 14064-1) has been used for three years.
Change in boundary	0	Please select	0	there is no change in boundary.
Change in physical operating conditions	0	No change	0	No change is resulted from change in physical operating conditions.
Unidentified	0	No change	0	There is no unidentified reason for change.
Other	0	No change	0	There is no unidentified reason for change.

## 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 95% but less than or equal to 100%

### C8.2

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

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

### C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	633.39	633.39
Consumption of purchased or acquired electricity	<Not Applicable>	0	20127.76	20127.76
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	1297	<Not Applicable>	1297
Total energy consumption	<Not Applicable>	1297	20761.2	22058.2

C8.2b

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

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

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

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

3919512

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

0

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

0

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

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Comment**

LHV is calculated from Power plant Gas Measurement Station Chromotograph Average Value for 2018

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**Fuels (excluding feedstocks)**

Diesel

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

527.5

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

0

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

0

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

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Comment**

LHV is used from the regulation.

---

**Fuels (excluding feedstocks)**

Motor Gasoline

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

105.89

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

0

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

0

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

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Comment**

LHV is used from the regulation.

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**C8.2d**

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

**Diesel**

**Emission factor**

74.1

**Unit**

kg CO2 per GJ

**Emission factor source**

IPCC 2006 Table 2.2.

**Comment**

This is IPCC 2006 Table 2.2 factor and we used it in our verification for ISO 14064

**Motor Gasoline**

**Emission factor**

69.3

**Unit**

kg CO2 per GJ

**Emission factor source**

IPCC 2006 Table 3.2.1

**Comment**

This is IPCC 2006 Table 3.2.1 factor and we used it in our verification for ISO 14064

**Natural Gas**

**Emission factor**

56.1

**Unit**

kg CO2 per GJ

**Emission factor source**

IPCC 2006 Table 2.2.

**Comment**

This is IPCC 2006 Table 2.2 factor and we used it in our verification for ISO 14064

**C8.2e**

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	4804238	1297.4	884726.51	1297.4
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

**C-EU8.2e**

**(C-EU8.2e) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.**

**Coal – hard**

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

We do not have operations with coal

**Lignite****Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

We do not have operations with lignite

**Oil****Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

We do not have operations with oil

**Gas****Nameplate capacity (MW)**

904

**Gross electricity generation (GWh)**

3919.5

**Net electricity generation (GWh)**

3833.4

**Absolute scope 1 emissions (metric tons CO2e)**

1281093

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

326.85

**Comment**

The emission performance from Erzin NGCCPP, which is the only natural gas power plant operating in 2018 and which constitutes almost all of the Scope 1 emissions, is satisfactory. Our emissions were 1,628,616 metric tons CO2e for Scope 1 in 2017 and 1,281,093 metric tons CO2e for Scope 1 in 2018, because of decreasing the electricity generation by 15.7% in comparison to the last year. So we reduced our emissions 347.523 metric tons CO2e for Scope 1 in the comparison with the previous year. However, if we calculate our intensity which is 0,327 tCO2e/MWh which means 1.8% increase of emissions.

**Biomass****Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

We do not have operations with biomass

**Waste (non-biomass)**

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

We do not have operations with waste (non-biomass)

**Nuclear**

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

We do not have operations with nuclear

**Geothermal**

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

We do not have operations with geothermal

**Hydroelectric**

**Nameplate capacity (MW)**

292

**Gross electricity generation (GWh)**

795.3

**Net electricity generation (GWh)**

782.5

**Absolute scope 1 emissions (metric tons CO2e)**

72.17

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0.09

**Comment**

Our Scope 1 emissions intensity was 0.2 in 2017 and is decreased 0.09 in 2018.

## Wind

### Nameplate capacity (MW)

28.2

### Gross electricity generation (GWh)

89.35

### Net electricity generation (GWh)

87.56

### Absolute scope 1 emissions (metric tons CO2e)

11.08

### Scope 1 emissions intensity (metric tons CO2e per GWh)

0.12

### Comment

Our Scope 1 emissions intensity was 0.2 in 2017 and is decreased 0.12 in 2018.

## Solar

### Nameplate capacity (MW)

0

### Gross electricity generation (GWh)

0

### Net electricity generation (GWh)

0

### Absolute scope 1 emissions (metric tons CO2e)

0

### Scope 1 emissions intensity (metric tons CO2e per GWh)

0

### Comment

We do not have operations with solar

## Other renewable

### Nameplate capacity (MW)

0

### Gross electricity generation (GWh)

0

### Net electricity generation (GWh)

0

### Absolute scope 1 emissions (metric tons CO2e)

0

### Scope 1 emissions intensity (metric tons CO2e per GWh)

0

### Comment

We do not have operations with other renewable

## Other non-renewable

### Nameplate capacity (MW)

0

### Gross electricity generation (GWh)

0

### Net electricity generation (GWh)

0

### Absolute scope 1 emissions (metric tons CO2e)

0

### Scope 1 emissions intensity (metric tons CO2e per GWh)

0

### Comment

We do not have operations with other non-renewable

**Total**

**Nameplate capacity (MW)**

1224

**Gross electricity generation (GWh)**

4804.2

**Net electricity generation (GWh)**

4703.5

**Absolute scope 1 emissions (metric tons CO2e)**

1281286

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

266.7

**Comment**

For all of our power plants our emissions were 1,628,865 metric tons CO2e for Scope 1 in 2017 and 1,281,286 metric tons CO2e for Scope 1 in 2018, because of decreasing the electricity generation by 15.7 % in comparison to the last year. So we reduced our emissions 347.579 metric tons CO2e for Scope 1 in the comparison with the previous year. If we calculate our intensity which is 0,266 tCO2e/MWh for all facilities.

**C8.2f**

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

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

No purchases or generation of low-carbon electricity, heat, steam or cooling accounted with a low-carbon emission factor

**Low-carbon technology type**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Comment**

We have no Scope-2 market-based figure.

**C-EU8.4**

**(C-EU8.4) Does your electric utility organization have a transmission and distribution business?**

No

**C9. Additional metrics**

**C9.1**

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

**C-EU9.5a**

**(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.**

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Hydroelectric		14	2019	Includes annual maintenance cost of the existing assets, risk mitigation measures at power plants, development costs for existing on-going projects, etc.
Gas		63	2019	Includes annual maintenance cost of the existing asset (equipment costs, etc.) etc.

**C-EU9.5b**

**(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).**

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Energy management services	Akenerji is providing energy services to its customers to reduce their energy consumption which helps them to achieve their energy and environmental goals. Services includes energy analysis and audits, energy management, maintenance and operation, monitoring and evaluation of savings, etc. Appropriate measures are taken for the on-going projects to promote and facilitate an efficient use of energy, no additional investment is required.	20000	0	2019

**C-CO9.6/C-EU9.6/C-OG9.6**

**(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.**

**Investment start date**

January 1 2017

**Investment end date**

December 31 2017

**Investment area**

Services

**Technology area**

Digital technology

**Investment maturity**

Small scale commercial deployment

**Investment figure**

0

**Low-carbon investment percentage**

0-20%

**Please explain**

Akenerji as being the 1st in Turkey, has signed an agreement with GE for Erzin's operations optimization. By this multi-year agreement, we deploy GE's Predix based Operations Optimization (OO) solutions for Erzin to improve thermal efficiency and performance (partial load efficiency improvement up to 1%). The software, calculates an optimum setting of plant-level cycle effectors in accordance with its current performance to minimize overall heat rate at the desired plant power output, and optimizes asset performance by applying machine learning analytics and controls at the edge, in the cloud, or anywhere in between. These advanced digital solutions provide us, at every level of operation, increased visibility and insights to our KPI focused analytics to help improve overall plant efficiency and performance (increase in output, fuel efficiency improvement, and outage reduction), while simultaneously meeting our compliance, regulatory and emission goals.

**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 and/or Scope 2 emissions and attach the relevant statements.**

**Scope**

Scope 1

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Reasonable assurance

**Attach the statement**

Akenerji\_ISO14064GHGVerificationReport\_2018-2.pdf

Akenerji\_ISO14064GHGVerificationReport\_2018-1.pdf

**Page/ section reference**

all pages

**Relevant standard**

ISO14064-3

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

100

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**Scope**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Reasonable assurance

**Attach the statement**

Akenerji\_ISO14064GHGVerificationReport\_2018-2.pdf

Akenerji\_ISO14064GHGVerificationReport\_2018-1.pdf

**Page/ section reference**

all pages

**Relevant standard**

ISO14064-3

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

84

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## C10.1b

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

**Scope**

Scope 3- at least one applicable category

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Attach the statement**

**Page/section reference**

all pages

**Relevant standard**

ISO14064-3

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## C10.2

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

In progress

## C11. Carbon pricing

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## C11.1

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

No, and we do not anticipate being regulated in the next three years

## C11.2

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

Yes

## C11.2a

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

#### Credit origination or credit purchase

Credit origination

#### Project type

Hydro

#### Project identification

Akocak is a run of river type hydroelectric power plant (HEPP) project located on Karadere River, in Trabzon province, in East Black sea region of Turkey. The purpose of the project is to generate energy from the running waters of Karadere River. The project has installed capacity of 78 MW.

#### Verified to which standard

VCS (Verified Carbon Standard)

#### Number of credits (metric tonnes CO2e)

1811

#### Number of credits (metric tonnes CO2e): Risk adjusted volume

1811

#### Credits cancelled

No

#### Purpose, e.g. compliance

Voluntary Offsetting

---

#### Credit origination or credit purchase

Credit origination

#### Project type

Hydro

#### Project identification

Uluabat HEPP and Cinarcik Dam Project is an integrated project located on the lower basin of Orhaneli Creek, one of the major branches of Mustafa Kemalpaşa River. It is built within the scope of Emet Orhaneli Project developed by General Directorate of DSI (State Hydraulic Works) for utilizing the water potential in Marmara Region and has two components. First component, Cinarcik Dam is built by DSI mainly for providing agricultural, industrial and drinking water for Bursa city whereas second component, Uluabat HEPP project has been awarded to Akenerji Elektrik Uretim A.S. for 49 years period after the bidding by the Turkish Energy Market Regulatory Authority (EMRA). Uluabat HEPP project has installed capacity of 100 MW.

#### Verified to which standard

VCS (Verified Carbon Standard)

#### Number of credits (metric tonnes CO2e)

23859

#### Number of credits (metric tonnes CO2e): Risk adjusted volume

23859

#### Credits cancelled

No

#### Purpose, e.g. compliance

Voluntary Offsetting

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## C11.3

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

No, and we do not currently anticipate doing so in the next two years

## C12. Engagement

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## C12.1

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

Yes, our customers

Yes, other partners in the value chain

## C12.1b

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

#### Type of engagement

Collaboration & innovation

#### Details of engagement

Other – please provide information in column 5

#### % of customers by number

100

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

0

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

Akenerji is providing energy services to its customers (retail-commercial) to reduce their electricity consumption which helps them to achieve their energy and environmental goals. Services includes such as energy analysis and audits, energy management, maintenance and operation, monitoring and evaluation of savings, etc. As Akenerji Energy Services, we visit target potential/existing commercial customers to provide information and so raise awareness about energy efficiency and try to get their interest on the matter . We see that there is a lack of knowledge among most of the energy consumers about the economic potential. We aim to increase the awareness and understanding of energy efficiency projects by explaining how they can benefit through cost-effective and easy-to-achieve non-technological measures in energy use. In return, while we support on reducing wasted energy consumption therefore the carbon emission, we benefit from improved revenue of Akenerji Energy Services business.

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

Our success measures; - Increased awareness and understanding of potential/existing Customers in energy efficiency - Achieved up to mean efficiency values of 35% in electrical energy and 55% in natural gas consumptions by energy management projects we have executed since 2015

## C12.1c

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

In locations where Akenerji power plants operate, we aim to raise awareness and provide information to local communities about our operations. Through our video training on electricity generation, environmental and OHS regulations, we inform contractors, visitors, or interns who come to visit our power plants. Under the scope of these campaigns, we paid visits to the schools in the vicinity of the plants in Adana, Adiyaman and Bursa, reaching to total of 1,721 students and 111 teachers in 2018. We explained operation of Burç and Bulam HEPPs active in Adiyaman; Uluabat HEPP active in Bursa, and Feke I, Feke II, Himmetli and Gökçaya HEPPs active in Adana. We managed to reach out to total of 7,880 students and 461 teachers through the awareness raising trainings conducted since 2013.

Number of participants trained and number of these informative meetings organized are of the measures of success.

## C12.3

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

Direct engagement with policy makers

Trade associations

Other

## C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support with minor exceptions	In line with the studies on National regulation regarding GHG emissions; a law put into force about Mandatory Carbon reporting in Turkey. As Akenerji, we supported the law with minor exceptions. According to law Carbon reporting became mandatory since 2015 and we fulfilled the requirements. The details of the implementation phase will be clarified until 2019 and the report mentioned above will be used as the base of implementation procedures.	We support the development of carbon cap trade schemes and mandatory carbon reporting in Turkey. We are open to put our best effort and accumulated experiences to contribute to these developments. We believe that ensuring a satisfying technical capacity at all levels including governmental units and verifiers has a crucial importance. The price of carbon credits has also vital importance to run the system (market) successfully and effectively.

## C12.3b

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### (C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

## C12.3c

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### (C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

#### Trade association

TUSIAD (Turkish Industry & Business Association)

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

Consistent

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

TÜSİAD is a voluntary based civil society organization established by Turkish industrialists and business owners in 1971 in order to represent the business world. TÜSİAD aims to contribute to the formation and development of a social order based on the adoption of the universal principles of human rights, freedom of thought, belief and action, a secular state of law, as well as the concepts of participatory democracy, a liberal economy, the rules and regulations of a competitive market economy and environmental sustainability. All of TÜSİAD's work is essentially carried out through committees made up of TÜSİAD members. TÜSİAD's positions are formed through the work of 11 committees and, 36 working groups under the umbrella of these committees, and special purpose ad-hoc "task force" groups, all of which meet regularly.

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

Akenerji, being a member of the Environment Working Group and Energy Working Group, takes part in the formation of the association's position. Environment & Energy Working Groups aims to contribute to embedding sustainable development principles and to the environmental protection and spreading out the principles of low carbon economy into the business practices. Akenerji actively attends the working group meetings, involves in preparation of reports, provides opinion on the existing legislation and required developments/changes towards the sustainable electricity sector, participates in commenting on draft regulations, etc. The output of the studies are shared with the related government organizations, public authorities, public, etc. As an example, Akenerji contributed in preparation of "Sustainable Energy for Sustainable Future" report prepared by the TÜSİAD Energy Group. The report includes detailed analysis, roadmap and 10 tangible policy proposals for ecological effectiveness, financial efficiency, global competitiveness, social progress of the energy sector. The report is publicly available: <https://tusiad.org/tr/yayinlar/raporlar/item/9978-surdurulebilir-gelecek-icin-surdurulebilir-enerji-raporu>

#### Trade association

SHURA Energy Transition Center Turkish Wind Energy Association (TÜREB)

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

Consistent

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

SHURA Energy Transition Center: Contributes to decarbonisation of the energy sector via an innovative energy transition platform. It caters to the need for a sustainable and broadly recognised platform for discussions on policy, technological, and economic aspects of the Turkey's energy sector. SHURA's mission is to support the debate on transition to a low-carbon Turkey's energy system through energy efficiency and renewable energy by fact-based analysis and best available data. Taking into account all relevant perspectives by a multitude of stakeholders, the center contributes to an enhanced understanding of the economic potential, technical feasibility and the relevant policy tools for this transition. SHURA Energy Transition Center is founded by Stichting European Climate Foundation (ECF), Agora Energiewende and Sabancı University (SU) Istanbul Policy Center (IPC). Turkish Wind Energy Association (TÜREB): It is a technical non-profit organization, which follows scientific and technical researches related to wind energy, aims at extensive use of this energy, collects and compiles technical info inline with this aim and performing widespread activities such as seminars, conferences and making publication for utilization of such info. Akenerji is also member of other associations Energy Trade Association (ETD), International Investor Associations (YASED), Wind Power and Hydropower Plants Businessmen's Association (RESSİAD), Hydro Energy Association (HESİAD).

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

Akenerji is a member of these associations. Participates in meetings and organizations to follow market developments (energy transition, tariffs, regulations, government policies, etc.), exchange of information, and be part of the development of the sector. Akenerji rises any point relevant to the concerns of these associations, debate and also convey it to policy makers.

## C12.3e

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

- In locations where Akenerji power plants operate, we aim to raise awareness and provide information to local communities about our operations. Through our video training on electricity generation, environmental and OHS regulations, we inform contractors, visitors, or interns who come to visit our power plants. We reached 7880 students and 461 teachers with our HEPP Informative Presentations tailor-made to inform the local communities on how clean energy is generated at these power plants. Number of participants trained and number of these informative meetings organized are of the measures of success.
- We closely follow legislative changes, give our comments on draft regulations etc. directly and/or through organizations mentioned in C12.3c.
- We build close relation with ministries, public authorities, local authorities and attend working groups as required.

## C12.3f

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

Overall Climate Change Strategy is executed and integrated into our overall strategy by Akenerji Management Committee with the approval of Board of Directors which has the top level responsibility in Akenerji's overall sustainability. The activities are developed and executed by the approval of the Board of Directors, based on company policies and strategical decisions on corporate sustainability.

As an electricity generating company in Turkey; the particular policy making and regulating authorities relevant with our business and climate change strategies are Ministry of Energy and Natural Resources, Energy Market Regulatory Authority (EPDK), Ministry of Environment and Urbanization. Therefore, for Direct Activities; we are frequently in touch with these policy makers and convey our propositions or feedbacks. Supporting the development of renewable energy generation, development on cap and trade schemes, mandatory carbon reporting are some of these examples also mentioned above. Top management of Akenerji and experts from relevant departments are attending the meetings held by decision making authorities and/or sending their opinions where necessary.

For indirect activities; Akenerji is a member of diversified business and sectoral associations as mentioned in C12.3c and C12.3e. TÜSİAD , SHURA, TÜREB, PETFORM, ETD are the most active ones to convey sectoral or industrial opinions to policy makers. Top management of Akenerji and experts from relevant departments are attending the meetings held by these associations and/or sending their opinions where necessary. Other associations and institutions Akenerji is member of and participates to their actions and activities are as follows:

World Energy Council Turkish National Committee (DEK-TMK)

Electricity Producers Association (EÜD)

Petroleum Platform Association (PETFORM)

Sabancı University İstanbul International Center for Energy and Climate (IICEC)

Association of Turkish Electricity Industry (TESAB)

Turkey Union of Chambers and Commodity Exchanges of Turkey (TOBB)

Turkish Investor Relations Society(TÜYİD)

Istanbul Minerals and Metals Exporters Association (IMMİB)

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## 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**

Complete

**Attach the document**

Akenerji\_Sustainability\_Report\_2018.pdf

**Page/Section reference**

please see "content" section at 3rd page.

**Content elements**

Governance

Strategy

Emissions figures

Emission targets

Other metrics

**Comment**

please visit our web site Akenerji Reports section <http://www.akenerji.com.tr/en/akenerji-reports>

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**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

Akenerji 2018\_Annual Report\_ENG.pdf

**Page/Section reference**

please see "content" section at 3rd page.

**Content elements**

Governance

Other, please specify (Energy Services, Carbon Management, Sustainability)

**Comment**

please visit our web site Akenerji Reports section <http://www.akenerji.com.tr/en/akenerji-reports>

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**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

Akkok\_Sustainability\_Report2017.pdf

**Page/Section reference**

page 16 / environment section

**Content elements**

Governance

Other, please specify (CDP participating, Akenergy Renewable Energy Investments)

**Comment**

Akenerji, the 50/50 joint venture between Akkök Holding, and Europe's leading power company, the CEZ Group Please see Akkök Holding's report which is named "AKKÖK HOLDING UNITED NATIONS GLOBAL COMPACT COMMUNICATION ON PROGRESS REPORT 2017"

[http://www.akkok.com.tr/en/Sustainability/Documents/Akkok\\_Sustainability\\_Report2017.pdf](http://www.akkok.com.tr/en/Sustainability/Documents/Akkok_Sustainability_Report2017.pdf) <http://www.akkok.com.tr/en/Sustainability/Pages/Reports.aspx>

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## C14. Signoff

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### C-FI

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

Annex 1 - Annual Report 2018  
Akenerji 2018\_Annual Report\_ENG.pdf

### C14.1

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

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

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms