

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

Our company started its energy activities in 1989 affiliated with Akkök Group of Companies. Akenerji, which has been operating as a free electricity production company since 2005, became one of the leading companies in Turkey's energy sector as of the end of 2019. Akenerji, which is an example in the energy sector with more than 31 years of knowledge, with 1 natural gas combined cycle, 1 wind power plant and 7 hydroelectric power plants has created portfolio diversity in terms of source and geography. As of the end of 2019, 26% of our installed power, which is 1,224 MW, consists of renewable energy sources. All our active plants are administratively operating under the Production Directorate under the name of Akenerji Elektrik Üretim A.Ş., depending on Operations and Maintenance. All our plants except for Erzin Power Plant carry out electricity generation activities from renewable energy sources. 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 Climate Change program 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. ISO 50001:2018 Energy Management System studies have been started in all our power plants, energy consumption has been determined and targets have been determined to reduce consumption and make improvements by evaluating performance

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.

W-EU0.1a

(W-EU0.1a) Which activities in the electric utilities sector does your organization engage in?

Electricity generation

W-EU0.1b

(W-EU0.1b) For your electricity generation activities, provide details of your nameplate capacity and the generation for each technology.

	Nameplate capacity (MW)	% of total nameplate capacity	Gross electricity generation (GWh)
Coal – hard	0	0	0
Lignite	0	0	0
Oil	0	0	0
Gas	904	74	2821824
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	0	0	0
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	292	24	968255.76
Wind	28	2	86204.8
Solar	0	0	0
Marine	0	0	0
Other renewable	0	0	0
Other non-renewable	0	0	0
Total	1224	100	3876285.2

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1 2019	December 31 2019

W0.3

(W0.3) Select the countries/areas for which you will be supplying data.

Turkey

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

USD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Ankara Office	In Ankara, we have a very small office with only 4 employees, which have a very small water consumption and very limited environmental footprint. Therefore, the effect of Ankara Office is negligible.

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Neutral	For direct use; water is vital for our operations. Especially at Hydroelectric Power Plants (HEPP) electricity can be generated by means of water. The potential energy of water is transformed to mechanical energy so as to generate electricity. Therefore, availability of water (water quantity) is vital for our operations. Besides; we have a natural gas combined cycle power plant (NGCCPP) and significant volume of water is necessary for cooling purposes. The importance will be kept and increase in the future. For indirect use; water is used for WASH purposes by our contractors and sub-contractors currently and in the future.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Not very important	About direct use of water: Cooling, process and other usage water is provided from Mediterranean Sea in Erzin natural gas combined cycle power plant (NGCCPP). Significant amount of seawater is used for cooling purpose in condenser and discharged to the sea; small amount of this source is used for process and WASH water in the plant. Water quality and quantity are both important for these operations currently and in the future. Cooling water technology is recirculating or closed-loop systems, which reuse cooling water rather than immediately releasing it back to the sea. Such systems withdraw comparatively small amounts of water but lose most of it to evaporation. For indirect use; water is used for WASH purposes by our contractors and sub-contractors currently and in the future.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	100% of all water withdrawals are regularly measured and monitored at all sites.
Water withdrawals – volumes by source	100%	We have different types of power plants and 100% of water withdrawals are regularly measured and monitored: At our Erzin Natural Gas Combined Cycle Power Plant (NGCCPP) Cooling, process, WASH and other usage waters in Erzin NGCCPP is provided from Mediterranean Sea and we are monitoring water withdrawals. In HEPP's; potential energy of water is transformed into mechanical energy and this process electricity generates. Water withdrawals in all HEPPs are used only for domestic use (cooking, WC, etc., garden irrigation). We measure and monitor water withdrawals volume by sources at all sites.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector]	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	Not relevant	We do not need quality data, because we use only the potential energy of water is transformed to mechanical energy.
Water discharges – total volumes	100%	100% of total volumes of water discharged by destination is regularly measured and monitored at all sites. At Erzin NGCCPP wastewater is discharged into the Mediterranean Sea. One of the Erzin Plant's environmental permit's index is the monitoring of the deep-sea discharges. Therefore, we always measure and monitor this parameter. In HEPPs; domestic wastewater is collected in septic tanks and transported with sewage trucks to municipal treatment plants. Therefore, this parameter is measured and monitored. Therefore, this parameter is measured and monitored.
Water discharges – volumes by destination	100%	100% of total volumes of water discharged by destination is regularly measured and monitored at all sites. At Erzin NGCCPP wastewater is discharged into the Mediterranean Sea. One of the Erzin Plant's environmental permit's index is the monitoring of the deep-sea discharges. Therefore, we always measure and monitor this parameter. In HEPPs; domestic wastewater is collected in septic tanks and transported with sewage trucks to municipal treatment plants. Therefore, this parameter is measured and monitored.
Water discharges – volumes by treatment method	100%	100% of total volumes of water discharged by treatment method is regularly measured and monitored at all sites. At Erzin NGCCPP wastewater is discharged into the Mediterranean Sea. One of the Erzin Plant's environmental permit's index is the monitoring of the deep-sea discharges. Therefore, we regularly measure and monitor this parameter. In HEPPs; domestic wastewater is collected in septic tanks and transported with sewage trucks to municipal treatment plants. Therefore, this parameter is measured and monitored.
Water discharge quality – by standard effluent parameters	100%	99.98% of total volumes of water discharged is regularly measured and monitored by water quality by standard effluent parameters. As Erzin is a Natural Gas Combined Cycle Power Plant, it needs high amount of water for cooling process and for that reason 99.98% of our total volumes of water discharged sourced from Erzin NGCCPP. Erzin NGCCPP wastewater is discharged into the Mediterranean Sea. One of the Erzin Plant's environmental permit's index is the monitoring of the water quality by standard effluent parameters. Therefore, we regularly measure and monitor this parameter. In HEPPs; domestic wastewater is collected in septic tanks and transported with sewage trucks to municipal treatment plants. Therefore, waste water quality by standard effluent parameters is not monitored. But it is 0.02% by volume and source is domestic use.
Water discharge quality – temperature	76-99	Akenerji has both a NGPP and HEPPs in its portfolio. For Erzin NGCCPP, seawater is the source for withdrawal and discharge. In line with Erzin NGCCPP's environmental permit; the relevant KPIs should be measured, monitored and expected to be met in certain limits (Eg; monitoring the standard effluent parameters, temperature rise in water discharge).
Water consumption – total volume	100%	We regularly measure and monitor the 100% of our water withdrawals and discharges at all sites. Therefore, water consumption is regularly measured and monitored by 100%.
Water recycled/reused	76-99	Cooling water technology is recirculating or closed-loop systems, which reuse cooling water rather than immediately releasing it back to the sea.
The provision of fully-functioning, safely managed WASH services to all workers	76-99	In HEPPs; domestic wastewater is collected in septic tanks and transported with sewage trucks to municipal treatment plants. Therefore, this parameter is measured and monitored. For our Erzin NGCCPP; water for facilities providing fully-functioning WASH services for all workers is not measured separately. Therefore, water aspects could not regularly be measured and monitored only 1 of 7 power plants for WASH services.

W-EU1.2a

(W-EU1.2a) For your hydropower operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations measured and monitored	Please explain
Fulfilment of downstream environmental flows	100%	Akenerji analysed and monitored 100% of its hydro power plant flows in Turkey. Environmental flow which is the minimum amount of water that must be left in the riverbed along the penstock according to environmental regulations, it is monitored in online system by the ministry of environment and urbanization.
Sediment loading	100%	The potential accumulation of sediments upstream of the reservoir is regularly monitored as part of the operating standards used for hydroelectric power plants. Sediments collect behind dam when its loading. For example sediment collecting was completed at water intake structure for Himmetli HEPP and lake area cleaning for Feke I HEPP to increase water flow in 2018.
Other, please specify	Not relevant	NA

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	12417.8	About the same	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. The total withdrawals is increased by 2 % in comparison to the last year and it is about the same.
Total discharges	9940.44	About the same	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. The total discharge is decreasing 0,36 % in comparison to the last year and it is about the same.
Total consumption	2477.36	Higher	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. The total volume of water consumed is increased by 13 % in comparison to the last year.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	100%	This is our first year of measurement	WRI Aqueduct	We use WRI Aqueduct Water Risk Atlas tool to identify overall water risks, baseline water stress, projected change in water stress, flood occurrence, drought severity, groundwater stress, etc. By using the tool, we assessed the water stress risk level for each of our locations by entering their coordinates on the tool and identifying the basin they are located at. Feke 1, Feke 2, Himmetli, Gökkaya HEPP, Erzin NGCCPP and Head Office in Turkey are listed as having Extremely High Water Stress Levels >80% and withdrawn water level is %99.86 of our total withdrawn. Burç HEPP and Bulam HEPP are listed in Low Water Stress Levels >10% and withdrawn water level is %0.014 of our total withdrawn. Uluabat HEPP and Ayyıldız WPP are listed in High Water Stress Levels 40-80% and withdrawn water level is %0.13 of our total withdrawn. This is our first time of measurement.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	0.1	Higher	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. Fresh surface water withdrawals are increased by 17 % in comparison to the last year. Because of increasing the manpower.
Brackish surface water/Seawater	Relevant	12408	About the same	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. Seawater withdrawals are about the same by 2 % changing.
Groundwater – renewable	Relevant	4	Higher	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. Our groundwater-renewable withdrawal is higher 17 % than last year. Because of the high weather temperature in summer time, it is used for garden irrigation.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	We do not use non-renewable groundwater.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	We do not use produced water.
Third party sources	Relevant	6.11	Higher	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. Third party sources withdrawals are higher %13 Because of increasing the manpower.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Not relevant	<Not Applicable>	<Not Applicable>	We do not discharge to fresh surface water.
Brackish surface water/seawater	Relevant	9938	About the same	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. We discharge the water to deep sea in line with the environmental permit at Erzin NGCCPP. According to the reporting year figures; 99% of our withdrawal is sourced from our Erzin NGCCPP. It is about the same nearly decreasing 0.36% according to the last year.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	We do not discharge to groundwater.
Third-party destinations	Relevant	2.94	Higher	Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'. In HEPPs and Ayyıldız WPP; domestic wastewater is collected in septic tanks and transported with sewage trucks to municipal treatment plants. Head Office AKHAN also discharge to municipal wastewater treatment plant. Discharge is 14 % higher than the last year. Because of increasing the manpower.

W-EU1.3

(W-EU1.3) Do you calculate water intensity for your electricity generation activities?

Yes

W-EU1.3a

(W-EU1.3a) Provide the following intensity information associated with your electricity generation activities.

Water intensity value (m3)	Numerator: water aspect	Denominator	Comparison with previous reporting year	Please explain
3.2	Total water withdrawals	Other, please specify (GWh)	About the same	Based on total water withdrawn intensity of our electricity generation activities is 2.53 Megaliters / GWh for 2018 and 3.20 Megaliters / GWh for 2019. 2019 intensity is about the same and nearly change is 2%. Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.
0.64	Total water consumption	Other, please specify (GWh)	Higher	Based on total water consumption intensity of our electricity generation activities is 0.46 Megaliters / GWh for 2018 and 0.64 Megaliters / GWh for 2019. It is 13% higher than 2018. Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

W1.4

(W1.4) Do you engage with your value chain on water-related issues?

Yes, our customers or other value chain partners

W1.4c

(W1.4c) What is your organization's rationale and strategy for prioritizing engagements with customers or other partners in its value chain?

We included some terms and conditions about environmental and occupational health and safety to our general procurement agreement. In addition to that; we do not request our suppliers to report on their water use, risks and management at the moment, but some water relevant issues are evaluated during the supplier audits.

Raising Awareness of Local Communities:

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. In 2019, Akenerji has given trainings in Adiyaman, Adana and Bursa provinces where HEPPs are located, in order to raise awareness of the people of the region and to protect them from potential hazards with a management approach based on careful, sensitive and trustfulness. In these applications, brochures and posters about possible hazards and protection methods related to HEPPs have been prepared and distributed to public places within the neighborhood around hydroelectric power plants such as mukhtars, schools, municipalities, coffee houses and aviation facilities.

In order to raise awareness among the local people in the region where HEPP are located, HEPP Information Presentations describing the operation of hydroelectric power plants and the personal safety measures that students should take in their daily lives were held in November and December 2019 with 996 students, 53 teachers, 191 students and 19 teachers in Adiyaman and 70 students and 10 teachers in Bursa. Since 2013, a total of 9,137 students and 543 teachers have been provided with our information presentations.

Also, Akenerji is member of many associations and NGOs to engage indirectly with policy makers.

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

No

W3. Procedures

W-EU3.1

(W-EU3.1) How does your organization identify and classify potential water pollutants associated with your business activities in the electric utilities sector that could have a detrimental impact on water ecosystems or human health?

Waste water is discharged in accordance with the criteria and methods specified in the regulations. Except for Erzin NGCCPP, domestic wastewater is collected in cesspits in all power plants and withdrawn by the sewage trucks of the municipalities or authorized companies. Apart from these, antifreeze wastewater, turbine washing chemical wastewater which changes according to years is given to licensed disposal facilities according to the regulation. In Erzin Natural Gas Combined Cycle Power Plant, the waste water from the domestic wastewater treatment plant, cooling water bluff, industrial wastewater treatment plant, seawater reverse osmosis system is collected in a discharge pit and discharged within the parameter limit values of deep sea discharge. In addition, Akenerji has a remote wastewater monitoring station in the plant and the discharge water is monitored simultaneously by the Ministry of Environment and Urbanization.

In addition to all these; within the scope of environmental permission on Air Emission and Deep Sea Discharge, internal monitoring of wastewater is carried out by the authorized laboratory in compliance with legislation and the local authority is notified. In 2016, the approval of the 'Continuous Waste Water Monitoring Station' approval has been obtained from Ministry of Environment and Urbanization and internal monitoring and analysis are being carried out every week, cooling bluff water monitoring being extended to once in 3 months.

We are observing the legal processes by adopting necessary precautions as required during both the investment and operation phases as per the EIA regulation in order to minimize the probable negative impacts of the plants on the ecosystem. In every year, we have carried out the sea water quality measurements, which represent an ongoing liability under the scope of the EIA Commitments that we must fulfill for the entire operation phase of the plant, in June and December. In this manner, we will continue to monitor the requirements that the Plant must fulfill under the scope of the Environmental Legislation, as well as the impacts of the Plant on the environment. We have carried out the environmental monitoring studies as set out in the "Environment Impact Assessment Report" and the "International Environmental and Social Impact Assessment Report" for Erzin Plant, which have been executed so as to cover the pre-construction phase since March 2011, and accordingly we have performed analyses as required and reviewed and evaluated the outcomes thereof, and further conducted studies for determining the environmental and biological factors during this period as well as noise, air quality and water quality measurement in order to monitor the impacts arising from the construction activities. Moreover, in addition to the foregoing studies, we have drafted assessment reports and management and monitoring plans in order to provide guidance for the construction and operation phases.

W-EU3.1a

(W-EU3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants associated with your activities in the electric utilities sector on water ecosystems or human health.

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
Thermal pollution	temperature rise in water discharge is important.	Other, please specify (according to regulation)	In Erzin Natural Gas Combined Cycle Power Plant, the waste water from the domestic wastewater treatment plant, cooling water bluff, industrial wastewater treatment plant, seawater reverse osmosis system is collected in a discharge pit and discharged within the parameter limit values of deep sea discharge. In addition, Akenerji has a remote wastewater monitoring station in the plant and the discharge water is monitored simultaneously by the Ministry of Environment and Urbanization. In addition to all these; within the scope of environmental permission on Air Emission and Deep Sea Discharge, internal monitoring of wastewater is carried out by the authorized laboratory in compliance with legislation and the local authority is notified. In 2016, the approval of the 'Continuous Waste Water Monitoring Station' approval has been obtained from Ministry of Environment and Urbanization and internal monitoring and analysis are being carried out every week, cooling bluff water monitoring being extended to once in 3 months. The monitoring has been continued since 2017 within this scope.
Other, please specify (Waste (deep sea) water analyses)	We monitor deep sea water according to regulations for analyses total coliform on human friendly region, fecal coliform, floating matter, pH, temperature, colour and turbidity, suspended solids, dissolved oxygen, organic pollutants, crude petroleum and petroleum products, toxicity, heavy metals (Ni, Zn, Hg,Pb, Cr,...), radioactivity	Other, please specify (according to regulation)	According to Erzin's environmental permit, environmental law and regulations to perform analysis of waste water of Erzin Power Plant. We have to monitor sixty one (61) parameters in different periods in a year
Other, please specify (Seawater Quality Analysis)	We monitor these parameters: Oil And Grease, Fecal Coliform, Nh3, Suspended Solids, Dissolved Oxygen, Boi5, Ph, Saltiness, Total P, Total Coliform, Temperature	Other, please specify (according to regulation)	According to Erzin's environmental permit, environmental law and regulations to perform analysis of waste water of Erzin Power Plant. We have to monitor twice a year.

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Enterprise Risk Management
Databases

Tools and methods used

COSO Enterprise Risk Management Framework
ISO 31000 Risk Management Standard
Regional government databases

Comment

Akenerji has an established Enterprise Risk Management (ERM) system to identify, assess and effectively manage the risks, including the water 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.

Supply chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Enterprise Risk Management

Tools and methods used

COSO Enterprise Risk Management Framework
ISO 31000 Risk Management Standard

Comment

Other stages of the value chain

Coverage

None

Risk assessment procedure

<Not Applicable>

Frequency of assessment

<Not Applicable>

How far into the future are risks considered?

<Not Applicable>

Type of tools and methods used

<Not Applicable>

Tools and methods used

<Not Applicable>

Comment

we do not have other stages of the value chain

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Akenerji has hydroelectric power plants and a natural gas power plant, for whom the availability of water is very critical. The level of available water at catchment level is highly important for the productivity of the hydroelectric power plants. Saline water as cycling cooling water taken from the sea is used for Erzin natural gas power plant. Current river basin management plans are factored at our risk assessment. During the evaluation of a new investment on HEPPs; projections are performed according to the historical flow rates of the river basin and the weather forecasts.
Water quality at a basin/catchment level	Relevant, always included	Inline with Erzin NGCCPP's environmental permit; the relevant KPIs should be measured, monitored and expected to be met in certain limits (Eg; monitoring the standard effluent parameters, temperature rise in water discharge). Similarly, HEPPs have certain KPIs to be met about water management (Eg. environmental flow: the minimum amount of water to be released from dams). Therefore, we have special performance standards for each facility.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	It is included into our risk assessment. One of our management method of this risk is HEPP informative meetings. Akenerji aims to raise awareness and provide information to local communities about its operations. For the sake of informing the local communities living where the HEPPs are, HEPP informative presentations also including how clean energy is generated via Hydropower Plants were realized. With our awareness raising training courses performed as of 2013, we have reached a total of 9,137 students and 543 teachers. Number of participants trained and number of informative meetings organized are of the measures of success.
Implications of water on your key commodities/raw materials	Relevant, always included	While generating electricity, we utilize the different features of water. For Erzin NGCCPP is important for us and for our country to generate high amount of electricity continuously. Considerable amount of water is needed particularly for cooling purposes at natural gas power plants. For HEPPs, water is the raw material to generate electricity for us. For those reasons; current implications of water on our key commodities/raw materials are included to our risk assessment. Current river basin management plans are factored at our risk assessment. During the evaluation of a new investment on HEPPs; projections are performed according to the historical flow rates of the river basin and the weather forecasts.
Water-related regulatory frameworks	Relevant, always included	1. For HEPPs; environmental flow is measured by output water monitoring stations hourly and daily, and they are submitted to the General Directorate of State Hydraulic Works every six months. 2. For HEPPS, according to Protection of Wetlands Regulation Principles Applications, facilities which are located in Stream Protection Band have to own operation permits for two years. Therefore, the permit should be renewed by fully complying to law from the relevant Ministry. 3. Akenerji implements "The Regulation on Procedures and Principles Regarding the Signing of Water Usage Rights Agreement to make production in the Electricity Market". 4. Downstream Water Rights Reports are prepared for all HEPPs 5. Erzin NGCCPP has permission to use seawater. Every year Seawater usage fee is paid to Erzin prefecture. 6. Also wastewater analysis is carried out in accordance with environmental permit regularly.
Status of ecosystems and habitats	Relevant, always included	Current status of ecosystems and habitats at a local level is factored at our risk assessment. Especially for water discharges we measure and monitor many parameters.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Current access to fully-functioning WASH services for all employees are factored at our risk assessment
Other contextual issues, please specify	Not relevant, explanation provided	There is no other factor.

W3.3c

(W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Customers	Relevant, always included	Customers are always included in our risk assessments.
Employees	Relevant, always included	Employees are one the most important assets of Akenerji and it is included in our risk assessments.
Investors	Relevant, always included	Akenerji is a public company and also a private partnership company with Akkök Group and ČEZ a.s. from Czech Republic. Therefore, investors are factored at risk assessments.
Local communities	Relevant, always included	Local communities are factored at risk management. We are organizing HEPP Informative Meetings to manage it.
NGOs	Relevant, not included	We are willing to factor the NGOs more in depth at our risk assessments in the future.
Other water users at a basin/catchment level	Not relevant, explanation provided	It is not relevant for us. As a water supplier, we consider them in other stakeholder categories.
Regulators	Relevant, always included	Full compliance to laws and procedures is always to priority of Akenerji, for that reason, regulators are always factored into our risk assessments.
River basin management authorities	Relevant, always included	Full compliance to laws and procedures is always to priority of Akenerji, for that reason, river basin management authorities are always factored into our risk assessments.
Statutory special interest groups at a local level	Not relevant, explanation provided	There are no statutory special interest groups at a local level
Suppliers	Relevant, not included	We are willing to factor the suppliers more in depth at our risk assessments in the future.
Water utilities at a local level	Relevant, always included	We supply water to water utilities, therefore we closely interact. As a conclusion; we consider and factor them in our risk assessment.
Other stakeholder, please specify	Not relevant, explanation provided	There is no other factor.

W3.3d

(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

Akenerji has an established Enterprise Risk Management (ERM) system to identify, assess and effectively manage the risks, including the water 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 water related circumstances; 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 water scarcity, water quality, 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.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, both in direct operations and the rest of our value chain

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

Akenerji is an electricity generation and trading company and we are operating a NGCCPP, 7 HEPPs and a WPP. Particularly for natural gas and hydroelectric power plants, which generates 99% of our production, water risks could have significant effects on our business, operations, revenue, market value, and expenditures.

While generating electricity, we utilize the different features of water. Erzin NGCCPP is important for generating high amount of electricity continuously. For NGPPs; considerable amount of water is needed for cooling purposes. For Erzin NGCCPP, we preferred to use the seawater in order to minimize our effect on environment and also to minimize the water availability risk. We invested in a desalination facility to make the seawater appropriate for our use. For those reasons; availability of water in appropriate conditions is very crucial for our operations and growth strategy. Lack of sufficient water means disruption or closure of production and it has a huge opportunity cost. Hence, 73.9% of our installed capacity with 904 MW is from Erzin NGCCPP, which has a total generation capacity of approximately 7.4 TWh, (approximately 3% of total Turkey's overall electricity demand), the opportunity cost of not generating electricity due to water risk is huge.

On the other hand, we operate 7 HEPPs and we use the potential energy of water to generate electricity. If there isn't sufficient amount of water, we couldn't operate at HEPPs. Therefore, availability of water directly affects our electricity generation. Our production and growth strategy is fully depended on availability of water. Lack of sufficient water means disruption or closure of production and it has a huge opportunity cost. Hence, 23.9% of our installed capacity with 292 MW is from HEPPs and considering the total generation capacity of HEPPs is approximately 0,85 TWh, the revenue loss due to water risk is high.

We are aware that Akenerji is also open to physical water risks. Until now, Akenerji has invested US\$ 700 million in renewable energy. The investment done to be prevented from detrimental effects of the floods are in that figure, however it is not possible to separate the relevant amount spend on that purpose. Besides, approximately US\$ 900 million has been invested in Erzin NGCCPP. If we add company level risks like reputational risks, the cumulative effect of the risk could be huge.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	10	76-99	All of our power plants and head office water risks are exposed.

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

Country/Area & River basin

Turkey	Other, please specify (Seyhan)
--------	--------------------------------

Number of facilities exposed to water risk

4

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

1-25

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

11-20

Comment

Feke I, Feke II, Himmetli, Gökkaya HEPPs are built on Göksu River and they are in Seyhan River Basin. Please hence that proportions of total operations are calculated according to the installed capacities of our power plants. Our main business is to generate and trade electricity. The revenue generated from the electricity generation is correlated with the installed capacity of the power plant. Therefore, it is assumed that the proportion of financial value that could be affected at river basin level is correlated with the installed capacity

Country/Area & River basin

Turkey	Tigris & Euphrates
--------	--------------------

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

1-25

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

1-10

Comment

Burç HEPP is built on Burç Stream and Bulam HEPP is built on Bulam Stream. They are in Tigris & Euphrates River Basin. Please hence that proportions of total operations are calculated according to the installed capacities of our power plants. Our main business is to generate and trade electricity. The revenue generated from the electricity generation is correlated with the installed capacity of the power plant. Therefore, it is assumed that the proportion of financial value that could be affected at river basin level is correlated with the installed capacity.

Country/Area & River basin

Turkey	Other, please specify (Susurluk)
--------	----------------------------------

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

1-25

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

1-10

Comment

Uluabat Lake - Çınarcık Dam is in Susurluk River Basin. Ayyıldız Wind Power Plant is in Susurluk River Basin (As it is a Wind Power Plant its water footprint is negligible.) Please hence that proportions of total operations are calculated according to the installed capacities of our power plants. Our main business is to generate and trade electricity. The revenue generated from the electricity generation is correlated with the installed capacity of the power plant. Therefore, it is assumed that the proportion of financial value that could be affected at river basin level is correlated with the installed capacity.

Country/Area & River basin

Turkey	Other, please specify (Mediterranean)
--------	---------------------------------------

Number of facilities exposed to water risk

1

% company-wide facilities this represents

51-75

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

76-99

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

61-70

Comment

Erzin Natural Gas Combined Cycle Power Plant is in Mediterranean River Basin. Please hence that proportions of total operations are calculated according to the installed capacities of our power plants. Our main business is to generate and trade electricity. The revenue generated from the electricity generation is correlated with the installed capacity of the power plant. Therefore, it is assumed that the proportion of financial value that could be affected at river basin level is correlated with the installed capacity.

Country/Area & River basin

Turkey	Other, please specify (Marmara)
--------	---------------------------------

Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

Less than 1%

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Unknown

Comment

Istanbul AKHAN Head Office is in Marmara River Basin. Please hence that proportions of total operations are calculated according to the installed capacities of our power plants. Our main business is to generate and trade electricity. The revenue generated from the electricity generation is correlated with the installed capacity of the power plant. Therefore, it is assumed that the proportion of financial value that could be affected at river basin level is correlated with the installed capacity.

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Turkey	Other, please specify (Seyhan)
--------	--------------------------------

Type of risk & Primary risk driver

Physical	Drought
----------	---------

Primary potential impact

Reduced revenues from lower sales/output

Company-specific description

With the possibility of drought occurring specifically in the East Mediterranean of Turkey, which covers the Seyhan River Basin, Akenerji's four hydroelectric power plants Feke I, Feke II, Himmetli and Gokkaya located on this basin would face the risk of interrupted operation due to lowered/lack of water inflow. This could adversely affect the generation output.

Timeframe

4-6 years

Magnitude of potential impact

High

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

5000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

20% deviation in generation of these hydroelectric power plants located in Seyhan River Basin could lead to around US\$ 5 million loss on Akenerji's revenues.

Primary response to risk

Other, please specify (Water management incentives)

Description of response

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. We manage the water by adapting generation plan in accordance with the inflow data, weather forecasts and the water level on dams. We diversify the electricity generation sources located in different regions of Turkey. Weather related historical data and forecasts, such as temperature, precipitation, rainflow, snowfall, and also inflow data of Akenerji plants and the data taken from the related Authorities are used for generation forecasts. We are evaluating the potential use of weather derivatives as insurance instruments.

Cost of response

0

Explanation of cost of response

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.

Country/Area & River basin

Turkey	Tigris & Euphrates
--------	--------------------

Type of risk & Primary risk driver

Physical	Drought
----------	---------

Primary potential impact

Reduced revenues from lower sales/output

Company-specific description

With the possibility of drought occurring specifically in the South-East of Turkey, which covers the Tigris & Euphrates River Basin, Akenerji's two hydroelectric power plants Burç and Bulam located on this basin would face the risk of interrupted operation due to lowered/lack of water inflow. This could adversely affect the generation output.

Timeframe

4-6 years

Magnitude of potential impact

Medium

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

20% deviation in generation of these hydroelectric power plants located in Tigris & Euphrates River Basin could lead to min. more than US\$ 1 million loss on Akenerji's revenues.

Primary response to risk

Other, please specify (Water management incentives)

Description of response

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. We manage the water by adapting generation plan in accordance with the inflow data, weather forecasts and the water level on dams. We diversify the electricity generation sources located in different regions of Turkey. Weather related historical data and forecasts, such as temperature, precipitation, rainflow, snowfall, and also inflow data of Akenerji plants and the data taken from the related Authorities are used for generation forecasts. We are evaluating the potential use of weather derivatives as insurance instruments.

Cost of response

0

Explanation of cost of response

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.

Country/Area & River basin

Turkey	Other, please specify (Susurluk)
--------	----------------------------------

Type of risk & Primary risk driver

Physical	Drought
----------	---------

Primary potential impact

Reduced revenues from lower sales/output

Company-specific description

With the possibility of drought occurring specifically in the Marmara Region of Turkey, which covers the Susurluk River Basin, Akenerji's hydroelectric power plant Uluabat located on this basin would face the risk of interrupted operation due to lowered/lack of water inflow. This could adversely affect the generation output.

Timeframe

4-6 years

Magnitude of potential impact

High

Likelihood

About as likely as not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

20% deviation in generation of these hydroelectric power plant located in Susurluk River Basin could lead to minimum more than min. US\$ 3 million loss on Akenerji's revenues.

Primary response to risk

Other, please specify (Water management incentives)

Description of response

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. We manage the water by adapting generation plan in accordance with the inflow data, weather forecasts and the water level on dams. We diversify the electricity generation sources located in different regions of Turkey. Weather related historical data and forecasts, such as temperature, precipitation, rainflow, snowfall, and also inflow data of Akenerji plants and the data taken from the related Authorities are used for generation forecasts. We are evaluating the potential use of weather derivatives as insurance instruments.

Cost of response

0

Explanation of cost of response

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.

Country/Area & River basin

Turkey	Other, please specify (Mediterranean)
--------	---------------------------------------

Type of risk & Primary risk driver

Physical	Flooding
----------	----------

Primary potential impact

Reduced revenues from lower sales/output

Company-specific description

With the possibility of flooding occurred specifically in the location of Akenerji's natural gas power plant of Erzin, we could face the risk of interrupted operation due to flood, which causes stoppage of the power plant until the access water is discharged, and any damage on equipments caused by the flooding water is repaired.

Timeframe

More than 6 years

Magnitude of potential impact

High

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

5000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

2 weeks power plant's stop could create generation loss, market risk, repair works of damages, which altogether would have a high impact on Akenerji's revenues. Although it is not easy to give a specific figure, we can say that it could lead to around US\$ 5 million.

Primary response to risk

Develop flood emergency plans

Description of response

Akenerji develops flood emergency plans, assesses precipitation regimes; engages and strengthen links with community.

Cost of response

0

Explanation of cost of response

The management of this risk is currently a part of our daily business. Erzin power plant designed and built considering the possible floods, and the weather daily. We consider studying in the future on extreme weather events and their effects to our power plants.

W4.2a

(W4.2a) Provide details of risks identified within your value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Turkey	Other, please specify (Seyhan)
--------	--------------------------------

Stage of value chain

Supply chain

Type of risk & Primary risk driver

Physical	Flooding
----------	----------

Primary potential impact

Supply chain disruption

Company-specific description

If there is flooding, then our suppliers may face inadequate access to water sanitation and hygiene. Consequently, their employee well-being and health may be affected adversely and this may lead to disruption in their services or production. This may lead to decrease or disruption in production or services.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-low

Likelihood

About as likely as not

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

If we consider, supply for any equipment parts delayed for a maintenance period, which would have a delay on the maintenance schedule for 1 week, 1 week loss of generation would result in loss of revenue.

Primary response to risk

Supplier engagement	Other, please specify (Supplier diversification)
---------------------	--------------------------------------------------

Description of response

Engagement with suppliers, Supplier diversification, and also Supplier audits on OHSE. Akenerji develops and conducts sustainability strategies and policies. In line with its sustainability strategy, Akenerji manages the topic in its value chain as well. In 2015, Akenerji also started supplier audits and in 2016 rapidly increased the number of suppliers audited on Occupational Health & Safety and Environment. We also put effort to train and inform our suppliers. Supplier audits are performed by both from HQ employees and employees from our power plants.

Cost of response

0

Explanation of cost of response

The management of this risk is currently a part of our daily business at no additional cost on top of the current OPEX.

Country/Area & River basin

Turkey	Tigris & Euphrates
--------	--------------------

Stage of value chain

Supply chain

Type of risk & Primary risk driver

Physical	Flooding
----------	----------

Primary potential impact

Supply chain disruption

Company-specific description

If there is flooding, then our suppliers may face inadequate access to water sanitation and hygiene. Consequently, their employee well-being and health may be affected adversely and this may lead to disruption in their services or production. This may lead to decrease or disruption in production or services.

Timeframe

More than 6 years

Magnitude of potential impact

Low

Likelihood

About as likely as not

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

we do not have this figure

Primary response to risk

Supplier engagement	Other, please specify (Supplier diversification)
---------------------	--------------------------------------------------

Description of response

Engagement with suppliers, Supplier diversification, and also Supplier audits on OHSE. Akenerji develops and conducts sustainability strategies and policies. In line with its sustainability strategy, Akenerji manages the topic in its value chain as well. In 2015, Akenerji also started supplier audits and in 2016 rapidly increased the number of

suppliers audited on Occupational Health & Safety and Environment. We also put effort to train and inform our suppliers. Supplier audits are performed by both from HQ employees and employees from our power plants.

Cost of response

0

Explanation of cost of response

The management of this risk is currently a part of our daily business at no additional cost on top of the current OPEX.

Country/Area & River basin

Turkey	Other, please specify (Susurluk)
--------	----------------------------------

Stage of value chain

Supply chain

Type of risk & Primary risk driver

Physical	Flooding
----------	----------

Primary potential impact

Supply chain disruption

Company-specific description

If there is flooding, then our suppliers may face inadequate access to water sanitation and hygiene. Consequently, their employee well-being and health may be affected adversely and this may lead to disruption in their services or production. This may lead to decrease or disruption in production or services.

Timeframe

More than 6 years

Magnitude of potential impact

Medium

Likelihood

About as likely as not

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

we do not have this figure

Primary response to risk

Supplier engagement	Other, please specify (Supplier diversification)
---------------------	--------------------------------------------------

Description of response

Engagement with suppliers, Supplier diversification, and also Supplier audits on OHSE. Akenerji develops and conducts sustainability strategies and policies. In line with its sustainability strategy, Akenerji manages the topic in its value chain as well. In 2015, Akenerji also started supplier audits and in 2016 rapidly increased the number of suppliers audited on Occupational Health & Safety and Environment. We also put effort to train and inform our suppliers. Supplier audits are performed by both from HQ employees and employees from our power plants.

Cost of response

0

Explanation of cost of response

The management of this risk is currently a part of our daily business at no additional cost on top of the current OPEX.

Country/Area & River basin

Turkey	Other, please specify (Mediterranean)
--------	---------------------------------------

Stage of value chain

Supply chain

Type of risk & Primary risk driver

Physical	Flooding
----------	----------

Primary potential impact

Supply chain disruption

Company-specific description

If there is flooding, then our suppliers may face inadequate access to water sanitation and hygiene. Consequently, their employee well-being and health may be affected adversely and this may lead to disruption in their services or production. This may lead to decrease or disruption in production or services.

Timeframe

More than 6 years

Magnitude of potential impact

High

Likelihood

About as likely as not

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

we do not have this figure

Primary response to risk

Supplier engagement	Other, please specify (Supplier diversification)
---------------------	--------------------------------------------------

Description of response

Engagement with suppliers, Supplier diversification, and also Supplier audits on OHSE. Akenerji develops and conducts sustainability strategies and policies. In line with its sustainability strategy, Akenerji manages the topic in its value chain as well. In 2015, Akenerji also started supplier audits and in 2016 rapidly increased the number of suppliers audited on Occupational Health & Safety and Environment. We also put effort to train and inform our suppliers. Supplier audits are performed by both from HQ employees and employees from our power plants.

Cost of response

0

Explanation of cost of response

The management of this risk is currently a part of our daily business at no additional cost on top of the current OPEX.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Products and services

Primary water-related opportunity

Increased sales of existing products/services

Company-specific description & strategy to realize opportunity

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. Together with the rising extreme weather events, and energy cuts experienced as a result of these extreme events, importance of the use of energy will rise considerably, and the Government will support more energy efficiency projects and introduce new regulations/restrictions on the use of energy. This would have a positive impact on Akenerji's energy services business.

Estimated timeframe for realization

4 to 6 years

Magnitude of potential financial impact

Low-medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

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

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Feke 1 HEPP

Country/Area & River basin

Turkey	Other, please specify (Seyhan)
--------	--------------------------------

Latitude

37

Longitude

35

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

Hydropower

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.91

Comparison of total withdrawals with previous reporting year

Much higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0.91

Total water discharges at this facility (megaliters/year)

0.61

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0.61

Total water consumption at this facility (megaliters/year)

0.3

Comparison of total consumption with previous reporting year

Higher

Please explain

Water withdrawal in Feke1 HEPP is increased by 51 %. Water discharge in Feke1 HEPP is increased by 17 %. Water consumption is increased by 270 %. Because of the increasing is manpower. Measurements have been done by Governmental organization which is Adana Water and Sewerage Administration . Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

Facility reference number

Facility 2

Facility name (optional)

Feke II HEPP

Country/Area & River basin

Turkey	Other, please specify (Seyhan)
--------	--------------------------------

Latitude

37

Longitude

35

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

Hydropower

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.38

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0.38

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

0.13

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0.13

Total water consumption at this facility (megaliters/year)

0.25

Comparison of total consumption with previous reporting year

About the same

Please explain

Water withdrawal in Feke2 HEPP is decreased by 4 %. Water discharge in Feke2 HEPP is decreased by 13 %. Water consumption is increased by 2%. Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

Facility reference number

Facility 3

Facility name (optional)

Himmetli HEPP

Country/Area & River basin

Turkey	Other, please specify (Seyhan)
--------	--------------------------------

Latitude

37

Longitude

35

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

Hydropower

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

2

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

2

Total water discharges at this facility (megaliters/year)

0.7

Comparison of total discharges with previous reporting year

Much higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0.7

Total water consumption at this facility (megaliters/year)

1.3

Comparison of total consumption with previous reporting year

Lower

Please explain

Water withdrawal in Himmetli HEPP is decreased by 6 %. Water discharge in Himmetli HEPP is increased by 26 %. Water consumption is decreased by 17%. Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

Facility reference number

Facility 4

Facility name (optional)

Gökkaya HEPP

Country/Area & River basin

Turkey	Other, please specify (Seyhan)
--------	--------------------------------

Latitude

37

Longitude

35

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

Hydropower

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

1.02

Comparison of total withdrawals with previous reporting year

Much higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

1.02

Total water discharges at this facility (megaliters/year)

0.18

Comparison of total discharges with previous reporting year

Much higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0.18

Total water consumption at this facility (megaliters/year)

0.84

Comparison of total consumption with previous reporting year

Much higher

Please explain

Water withdrawal in Gökkaya HEPP is increased by 133 %. Water discharge in Gökkaya HEPP is increased by 150 %. Water consumption is increased by 129%. Because

of the increasing is manpower. Measurements have been done by Governmental organization which is Adana Water and Sewage Administration . Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

Facility reference number

Facility 5

Facility name (optional)

Burç HEPP

Country/Area & River basin

Turkey	Tigris & Euphrates
--------	--------------------

Latitude

38

Longitude

38

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

Hydropower

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.28

Comparison of total withdrawals with previous reporting year

Much higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0.28

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

0.01

Comparison of total discharges with previous reporting year

Much higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0.01

Total water consumption at this facility (megaliters/year)

0.27

Comparison of total consumption with previous reporting year

Higher

Please explain

Burç HEPP reported much higher total water withdrawal volume, much higher total discharge volume and higher total consumption volumes compared to the previous reporting year. Because of increasing water is local drought in summer time.

Facility reference number

Facility 6

Facility name (optional)

Bulam HEPP

Country/Area & River basin

Turkey	Tigris & Euphrates
--------	--------------------

Latitude

38

Longitude

38

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

Hydropower

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.1

Comparison of total withdrawals with previous reporting year

Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0.1

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

0.01

Comparison of total discharges with previous reporting year

Much higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0.01

Total water consumption at this facility (megaliters/year)

0.09

Comparison of total consumption with previous reporting year

About the same

Please explain

Bulam HEPP reported higher total water withdrawal volume, much higher total discharge volume and about the same total consumption volumes compared to the previous reporting year. Because of increasing manpower.

Facility reference number

Facility 7

Facility name (optional)

Uluabat HEPP

Country/Area & River basin

Turkey	Other, please specify (Susurluk)
--------	----------------------------------

Latitude

40

Longitude

28

Located in area with water stress

Please select

Primary power generation source for your electricity generation at this facility

Hydropower

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

3.23

Comparison of total withdrawals with previous reporting year

Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

3.23

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

0.15

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0.15

Total water consumption at this facility (megaliters/year)

3.08

Comparison of total consumption with previous reporting year

Higher

Please explain

Water withdrawal in Uluabat HEPP is increased by 17 %. Water discharge in Uluabat HEPP is decreased by 6 %. Water consumption is increased by 19%. Due to the drought of 2019 summer compared to the previous year, more water was needed for garden irrigation, so consumption has increased. In addition, manpower is increased because of the prolongation of maintenance time so the consumption has increased . Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

Facility reference number

Facility 8

Facility name (optional)

Erzin NGCCPP

Country/Area & River basin

Turkey	Other, please specify (Mediterranean River Basin)
--------	---------------------------------------------------

Latitude

39

Longitude

37

Located in area with water stress

Please select

Primary power generation source for your electricity generation at this facility

Gas

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

12408

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

12408

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

9937.51

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

9937.51

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

2470.08

Comparison of total consumption with previous reporting year

Higher

Please explain

Water withdrawal in Erzin NGCCPP is increased %2 and about the same . Water discharge in Erzin NGCCPP is about the same. Water consumption is increased by 13%. Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

Facility reference number

Facility 9

Facility name (optional)

Ayyıldız WPP

Country/Area & River basin

Turkey	Other, please specify (Susurluk)
--------	----------------------------------

Latitude

40

Longitude

27

Located in area with water stress

Please select

Primary power generation source for your electricity generation at this facility

Wind

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.12

Comparison of total withdrawals with previous reporting year

Much higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0.12

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

0.05

Comparison of total discharges with previous reporting year

Much higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0.05

Total water consumption at this facility (megaliters/year)

0.07

Comparison of total consumption with previous reporting year

About the same

Please explain

Water withdrawal in Ayyıldız WPP is increased by 71 %. Water discharge in Ayyıldız WPP is increased much higher. Water consumption is decreased by 2% and about the same. Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

Facility reference number

Facility 10

Facility name (optional)

Head Office (AKHAN)

Country/Area & River basin

Turkey	Other, please specify (Marmara River Basin)
--------	---------------------------------------------

Latitude

41

Longitude

28

Located in area with water stress

Please select

Primary power generation source for your electricity generation at this facility

Not applicable

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

2.18

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

2.18

Total water discharges at this facility (megaliters/year)

1.09

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

1.09

Total water consumption at this facility (megaliters/year)

1.09

Comparison of total consumption with previous reporting year

About the same

Please explain

Water withdrawal in Head Office is decreased by 2 %, about the same. Water discharge in Head Office is decreased by 2 %, about the same. Water consumption is decreased by 2% and about the same. Trend thresholds are applied consistently to all our businesses: anything under +/- 4% is "about the same", anything over +/- 4% is 'Higher'/'Lower' compared to the previous year, and anything +/-20% is 'Much higher'/'Much lower'.

W5.1a

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?

Water withdrawals – total volumes

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water withdrawals – volume by source

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water withdrawals – quality

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharges – total volumes

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharges – volume by destination

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharges – volume by treatment method

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharge quality – quality by standard effluent parameters

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharge quality – temperature

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water consumption – total volume

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water recycled/reused

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

	Scope	Content	Please explain
Row 1	Company-wide	Description of water-related performance standards for direct operations Reference to international standards and widely-recognized water initiatives Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change Other, please specify (Incorporated within group HSE)	Akenerji publishes its Sustainability Report in GRI standards, and made its sustainability policies publicly announced since 2013. Our policy is comply with all applicable water use laws and regulations, with the objective of advancing water resource management beyond compliance to create or protect value, including climate change, and continuously adapt strategies and plans to address these issues; engage local and other relevant stakeholders when addressing water issues including those related to operational changes, development of strategic plans. Besides, Akenerji has a company-wide risk & opportunity evaluation procedure also including water management dimension. Akenerji has both a NGPP and HPPs in its portfolio. For Erzin NGCCPP, seawater is the source for withdrawal and discharge. In line with Erzin NGCCPP's environmental permit; the relevant KPIs should be measured, monitored and expected to be met in certain limits (Eg; monitoring the standard effluent parameters, temperature rise in water discharge). Similarly, HEPPs have certain KPIs to be met about water management (environmental flow: the minimum amount of water to be released from dams). Akenerji aims to raise awareness and provide information to local communities about its operations. For the sake of informing the local communities living where the HPPs are, HPP informative presentations also including how clean energy is generated

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Director on board	In Akenerji's risk register water risks and opportunities are assessed and analysed in a quantitative way. Water quality does not affect Akenerji's electricity generation activities directly. Akenerji Risk Management Committee analyses all risks monthly. Key risks and opportunities are reported bimonthly to the Early Determination of Risk Committee and, then to the BoD. Key risks could include risks and opportunities related to water management and climate change associated impacts.

W6.2b

(W6.2b) Provide further details on the board’s oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Other, please specify (Scheduled - monthly)	Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Setting performance objectives	In Akenerji's risk register water risks and opportunities are assessed and analysed in a quantitative way. Water quality does not affect Akenerji's electricity generation activities directly. Akenerji Risk Management Committee analyses all risks monthly. Key risks and opportunities are reported bimonthly to the Early Determination of Risk Committee and, then to the BoD. Key risks could include risks and opportunities related to water management and climate change associated impacts.

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Risk committee

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

In Akenerji's risk register water risks and opportunities are assessed and analysed in a quantitative way. 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.

Name of the position(s) and/or committee(s)

Other, please specify (The Early Detection of Risk Committee)

Responsibility

Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

Quarterly and as important matters arise. In Akenerji's risk register water risks and opportunities are assessed and analysed in a quantitative way. Water quality does not affect Akenerji's electricity generation activities directly. Akenerji Risk Management Committee analyses all risks monthly. Key risks and opportunities are reported bimonthly to the Early Determination of Risk Committee and, then to the BoD. Key risks could include risks and opportunities related to water management and climate change associated impacts.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	please see at W6.4a

W6.4a

(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Board/Executive board Other, please specify (All employees/ HSEQ Departmant)	Improvements in efficiency - direct operations Implementation of water-related community project Other, please specify (Reduction of product water intensity, Behavior change related indicator,)	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 water related target and increase of efficiency are of important targets for the Board. A performance based compensation is available for HSEQ Department staff based on the pre-determined targets. In terms of water management performance, Water 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. 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.
Non-monetary reward	Board/Executive board Other, please specify (Environment/Sustainability managers)	Improvements in efficiency - direct operations Implementation of water-related community project Other, please specify (Reduction of product water intensity, Behavior change related indicator)	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. HSEQ Manager leads the Sustainability Team of Akenerji and encourages all employees for reduction of water intensity, efficiency project, water related community project. Beyond achievement of KPIs and monetary rewards; recognition among Akenerji, Akkök Group, ÇEZ Group, Turkish energy sector, and energy sector, and worldwide via energy, sustainability dimensions have great importance especially for Environment & Sustainability Managers.

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, direct engagement with policy makers

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

Akenerji publishes its Sustainability Report in GRI standards, and made its sustainability policies publicly announced since 2013. Besides, Akenerji has a company-wide risk & opportunity evaluation procedure also including water management dimension. Akenerji has both a NGPP and HPPs in its portfolio. For Erzin NGPP, seawater is the source for withdrawal and discharge. In line with Erzin NGPP's environmental permit; the relevant KPIs should be measured, monitored and expected to be met in certain limits (Eg; monitoring the standard effluent parameters, temperature rise in water discharge). Similarly, HEPPs have certain KPIs to be met about water management (Eg. environmental flow: the minimum amount of water to be released from dams). Akenerji aims to raise awareness and provide information to local communities about its operations. HPP informative presentations also including how clean energy is generated via HEPPs were realized. Consequently, within the scope of these training processes, we have reached a total of 1,257 students and 82 teachers by visiting the schools around our power plants in Adana, Adiyaman and Bursa in 2019, and since 2013, 9137 students and 543 teachers in total were trained. Number of participants trained and number of informative meetings organized are of the measures of success. Akenerji takes an active part in the environment and energy work groups established by TÜSIAD), endorsing the sectorial growth by fighting the climate change.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

Yes (you may attach the report - this is optional)

Akenerji Annual Report 2019.pdf

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	5-10	We identify and assess relevant near and long-term water issues in support of strategic planning, risk management, capital expenditures and business planning, including consideration of geographic water stressed regions, with a focus on ensuring the availability of water and its effective use.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	For the long term efficiency objectives defined by our company water related risks and planned investments are integrated
Financial planning	Yes, water-related issues are integrated	5-10	We have water efficiency plans for the long term and they require investments and added to financial planning.

W7.2

(W7.2) What is the trend in your organization’s water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

2000000

Anticipated forward trend for CAPEX (+/- % change)

2000000

Water-related OPEX (+/- % change)

0

Anticipated forward trend for OPEX (+/- % change)

0

Please explain

In relation to HEPP assets (operational&on-going projects), it covers annual maintenance cost of the existing assets, risk mitigation measures at power plants, development costs for existing on-going projects, etc.

W7.3

(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	Yes	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. Turkey has a total of 35,000 MW hydroelectricity potential. The present installed power is about 20,000 MW, so it has 15,000 MW more potential to utilize. 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. . 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.

W7.3a

(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?

Yes

W7.3b

(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization's response?

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	Nationally determined contributions (NDCs)	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.	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.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

Yes

Please explain

Akenerji has been paying, since 2013 , a tax called Financial Compensation for the Use of Sea Water Resources was charged for the use of the Mediterranean Sea water for Erzin NGCCPP. Also River Basin Hydrological Monitoring Assessment and Controlling Services fee based on annual generation of HEPPs is charged by State Hydraulic Works (DSI) on annual basis.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	The Performance Management System is a structure that aims to create a sense of shared corporate targets among individuals, thus strengthening the mutually shared corporate culture. Employees working within the system transparently see their personal contributions and the effects of these contributions in the corporate dimension. The output of the Performance Management System is channeled into the development planning, talent management, career and substitute planning, remuneration and rewarding processes of the Human Resources Department. Akenerji's Performance Management System is a process that aims to ensure that individuals adopt our corporate goals and that reinforces our common corporate culture.

W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number

Target 1

Category of target

Community engagement

Level

Company-wide

Primary motivation

Recommended sector best practice

Description of target

We are operating 7 HEPPs and we deliver HEPP Informative Meetings to local community. HEPP Informative Meetings", are one of the best examples of Akenerji's activities hand in hand with the society, we conveyed to the regional community living in the sphere of influence of our power plants, The content includes of environmental consciousness, how HEPPs operate and the personal safety. measures to be taken to be exempted from the detrimental effects of water. Consequently, within the scope of these training processes, we have reached a total of 1,257 students and 82 teachers by visiting the schools around our power plants in Adana, Adiyaman and Bursa in

2019, with our awareness raising training courses performed as of 2013, we have reached a total of 9,137 students and 543 teachers. We aim to organize a total of 7 trainings at the schools at each HEPP to raise awareness the students and the teachers about danger.

Quantitative metric

Other, please specify (total number of training)

Baseline year

2019

Start year

2020

Target year

2020

% of target achieved

0

Please explain

Planned for the last quarter of 2020

Target reference number

Target 2

Category of target

Community engagement

Level

Company-wide

Primary motivation

Recommended sector best practice

Description of target

We put importance to be engaged with the local community, especially where we operate in. Our target is to organize 3 Local Community Awareness Training in Adana, Adiyaman ve Bursa.

Quantitative metric

Other, please specify (total number of training)

Baseline year

2019

Start year

2020

Target year

2020

% of target achieved

0

Please explain

Planned for the last quarter of 2020

Target reference number

Target 3

Category of target

Community engagement

Level

Company-wide

Primary motivation

Recommended sector best practice

Description of target

We are operating 7 HEPPs and we deliver HEPP Informative Meetings to local community. HEPP Informative Meetings", are one of the best examples of Akenerji's activities hand in hand with the society, we conveyed to the regional community living in the sphere of influence of our power plants, The content includes of environmental consciousness, how HEPPs operate and the personal safety, measures to be taken to be exempted from the detrimental effects of water. Consequently, within the scope of these training processes, we have reached a total of 1,257 students and 82 teachers by visiting the schools around our power plants in Adana, Adiyaman and Bursa in 2019, with our awareness raising training courses performed as of 2013, we have reached a total of 9,137 students and 543 teachers.

Quantitative metric

Other, please specify (total number of training)

Baseline year

2018

Start year

2019

Target year

2019

% of target achieved

100

Please explain

we aimed to given 7 trainings and in 2019, we organized 9 trainings. 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. Within the scope of these training processes, we have reached a total of 1,257 students and 82 teachers by visiting the schools around our power plants in Adana, Adiyaman and Bursa in 2019. We have informed about the operation of Burç and Bulam HEPP operating in Adiyaman, Uluabat HEPP operating in Bursa and Feke I, Feke II, Himmetli and Gökkyaya HEPP operating in Adana. With our awareness raising training courses performed as of 2013, we have reached a total of 9,137 students and 543 teachers.

Target reference number

Target 4

Category of target

Community engagement

Level

Company-wide

Primary motivation

Recommended sector best practice

Description of target

We put importance to be engaged with the local community, especially where we operate in. Our target is to organize 3 Local Community Awareness Training in Adana, Adiyaman ve Bursa.

Quantitative metric

Other, please specify (total number of training)

Baseline year

2018

Start year

2019

Target year

2019

% of target achieved

100

Please explain

We aimed to given 3 trainings and we organized 4 Local Community Awareness Trainings.

Target reference number

Target 5

Category of target

Water pollution reduction

Level

Company-wide

Primary motivation

Brand value protection

Description of target

Distinguished goal of Zero Permit Non-Compliances. Akenerji Environment Policy commits the company to continually improving its environmental performance, preventing pollution and utilizing natural resources more efficiently.

Quantitative metric

Other, please specify (Number of Permit Non-Compliances)

Baseline year

2017

Start year

2018

Target year

2019

% of target achieved

100

Please explain

All of the power plants achieved the goal of zero permit non-compliances

Target reference number

Target 6

Category of target

Water pollution reduction

Level

Company-wide

Primary motivation

Brand value protection

Description of target

Zero Preventable Reportable Spills. Akenerji Environment Policy commits the company to continually improving its environmental performance, preventing pollution and

utilizing natural resources more efficiently.

Quantitative metric

Other, please specify (Number of Preventable Reportable Spills)

Baseline year

2017

Start year

2018

Target year

2019

% of target achieved

100

Please explain

6 of 9 power plants each had at least one preventable reportable spill event. Totally, 12 spill event were reported.

Target reference number

Target 7

Category of target

Water pollution reduction

Level

Site/facility

Primary motivation

Reduced environmental impact

Description of target

% of tests/samples compliant with legal standards for discharge water quality.

Quantitative metric

Other, please specify (% of tests/samples compliant with legal)

Baseline year

2019

Start year

2020

Target year

2020

% of target achieved

0

Please explain

This is a year-on-year rolling target that was active in 2019. All discharge tests and samples have been tested to be in line with national legal standards, meaning the % achievement rate was 100%. In Erzin NGCCPP, the waste water from the domestic wastewater treatment plant, cooling water bluff, industrial wastewater treatment plant, seawater reverse osmosis system is collected in a discharge pit and discharged within the parameter limit values of deep sea discharge. In addition, Akenerji has a remote wastewater monitoring station in the plant and the discharge water is monitored simultaneously by the Ministry of Environment and Urbanization. We monitor deep sea water according to regulations for analyses total coliform on human friendly region, fecal coliform, floating matter, pH, temperature, colour and turbidity, suspended solids, dissolved oxygen, organic pollutants, crude petroleum and petroleum products, toxicity, heavy metals (Ni, Zn, Hg, Pb, Cr,...), radioactivity.

Target reference number

Target 8

Category of target

Water, Sanitation and Hygiene (WASH) services in the workplace

Level

Company-wide

Primary motivation

Risk mitigation

Description of target

Akenerji commits to provide good quality water for its employees. Therefore, it is standard practice to provide the employees with safe-reliable drinking water, as safe drinking water is recognized as a basic human right and a cost effective measure of reducing disease (i.e., preventative medicine). This target covers % tests/samples to be fully compliant with legal standards for potable water.

Quantitative metric

Other, please specify (% of tests/samples compliant potable water)

Baseline year

2019

Start year

2020

Target year

2020

% of target achieved

0

Please explain

This is a year-on-year rolling target that was active in 2019. Our performance against this target was monitored monthly. All potable water tests results have been tested to be in line with legal standards for potable water, meaning the % achievement rate was 100%.

Target reference number

Target 9

Category of target

Watershed remediation and habitat restoration, ecosystem preservation

Level

Company-wide

Primary motivation

Water stewardship

Description of target

Our target is: zero complaints received regarding negative impact to third-party water quality or quantity.

Quantitative metric

Other, please specify (number of complaints)

Baseline year

2020

Start year

2020

Target year

2020

% of target achieved

0

Please explain

This is a year-on-year rolling target that was active in 2020. This is our first year for this target . There were no complaints in 2019, therefore 100% completion rate was determined for 2019.

W8.1b

(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.

Goal

Other, please specify (Providing Sustainability Training)

Level

Company-wide

Motivation

Brand value protection

Description of goal

Akenerji puts great importance on sustainability and development the capacity of its employees. We are aware that Climate Change Mitigation and Adaptation activities could bring us significant risks and opportunities as an electricity generating and trading company. In that sense, we aim to initiate a "Sustainability Training Programme" among Akenerji.

Baseline year

2019

Start year

2019

End year

2019

Progress

"Sustainability Training Programme" was realized among Akenerji .

Goal

Promotion of water data transparency

Level

Company-wide

Motivation

Recommended sector best practice

Description of goal

Development of the system to obtain more reliable data, (e.g. the accuracy of the flowmeters) in Erzin NGCCPP.

Baseline year

2018

Start year

2019

End year

2019

Progress

Collecting data system in Erzincan NGCCPP was considered with technical staff and decided to make some changes to improve the system. Decision was approved by CEO in Management Review meeting in 2019. Totalizer software was installed in July 2019, started monitoring data we had consistent data after using new totalizer software system since September 2019. We will have consistent data for 2020

Goal

Watershed remediation and habitat restoration, ecosystem preservation

Level

Business

Motivation

Water stewardship

Description of goal

Upgrading to ISO 9001 Quality and ISO 14001 Environment Management Systems 2015 versions.

Baseline year

2015

Start year

2015

End year

2019

Progress

Akenerji has been among the pioneer companies by upgrading to ISO 9001 Quality and ISO 14001 Environment Management Systems 2015 versions.

Goal

Engagement with public policy makers to advance sustainable water management and policies

Level

Company-wide

Motivation

Shared value

Description of goal

monitoring the wastewater and reporting the data to the the Provincial Directorate of Environment and Urbanisation's online environment information system to comply with all the water regulations

Baseline year

2017

Start year

2019

End year

2050

Progress

the wastewater datas were monitored for 2019 and reported to the the Provincial Directorate of Environment and Urbanisation's online environment information system, so we complied with all the water regulations

W9. Verification**W9.1****(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?**

No, we do not currently verify any other water information reported in our CDP disclosure

W10. Sign off**W-FI**

(W-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 - Akenerji Annual Report 2019

Annex 2 - Akenerji Sustainability Report 2019

Akenerji Annual Report 2019.pdf
AKENERJI SUSTAINABILITY REPORT 2019.pdf

W10.1

(W10.1) Provide details for the person that has signed off (approved) your CDP water response.

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

W10.2

(W10.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms