

AKENERJİ ELEKTRİK ÜRETİM A.Ş. - Water 2018

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W0. Introduction

W0.1

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

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

Akenerji operates at different levels of the electricity supply chain (generation, wholesale and retail) and is pursuing further opportunities to support its leading position through investments in the market. With more than 25 years of experience, Akenerji has maintained steady growth with a balanced portfolio. As of end of 2017, the company has total installed capacity of 1224 MW, which consists of 1 Natural Gas Combined Cycled Power Plant (NGCCPP) (904 MW), 7 Hydroelectric Power Plants (HPPs) (292 MW) and 1 Wind Power Plant (WPP) (28 MW). We have no thermal power plants operating with coal.

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

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 for 2016 and 2017.

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

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-EU0.1 a

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

Electricity generation

W-EU0.1 b

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

	Nameplate capacity (MW)	% of total nameplate capacity	Gross generation (MWh)
Coal – hard			
Lignite			
Oil			
Gas	904	74	5073366
Biomass			
Waste (non-biomass)			
Nuclear			
Geothermal			
Hydroelectric	292	24	555643
Wind	28	2	74128
Solar			
Other renewable			
Other non-renewable			
Total	1224	100	5703136

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 2017	December 31 2017

W0.3

(W0.3) Select the countries/regions 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 from water stressed areas	Not relevant	We do not have power plant at water stress areas.
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.

	% of sites/facilities/operations	Please explain
Produced water associated with your metals & mining sector activities - total volumes	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes	<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.
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. 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).
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 hydroelectric 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%	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%	Sediments collect behind dam when its loading.
Other, please specify	Please select	

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	9061	Higher	The total withdrawals is increased by 6 % in comparison to the last year. Because of increasing the electricity generation by 54% in comparison to the last year. If we compare the water withdrawal intensity for our electricity generation activities for 2017 is lower than 2016 which is 1,58 megaliter / GWh for 2017 and 2,32 megaliter / GWh for 2016.
Total discharges	8651	Higher	The total discharge is increased by 19% in comparison to the last year. Because of increasing the electricity generation by 54% in comparison to the last year. If we compare the water discharge intensity for our electricity generation activities the intensity for 2017 is lower than 2016 which is 1.51 megaliter / GWh for 2017 and 1.97 megaliter / GWh for 2016.
Total consumption	413	Lower	The total volume of water consumed is decreased by 68% in comparison to the last year. The reason for that decrease 99% of our consumption is from our Erzin NGCCPP which has decreased by 68% compared to 2016. Water is used for cooling purposes and consumption is decreased by 68%. We care about environment & try to minimize our water footprint.

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	0.09	Much lower	Fresh surface water withdrawals are much lower, because we used municipal supply source for Fekel, Himmetli and Gökkaya power plants instead of fresh surface water.
Brackish surface water/seawater	Relevant	9061	Higher	Seawater withdrawals are higher by 6% because of our power generation is decreased %54.
Groundwater – renewable	Relevant	3.26	Higher	Our groundwater-renewable withdrawal is higher 10% than last year. because we used groundwater renewable source for Fekell power plants instead of fresh surface water.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	We do not use non-renewable groundwater.
Produced water	Not relevant	<Not Applicable>	<Not Applicable>	We do not use produced water.
Third party sources	Relevant	3.5	Much higher	Third party sources withdrawals are much higher (increased 108%), because we used municipal supply source for Fekel, Himmetli and Gökkaya power plants instead of fresh surface water.

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	8647.61	Higher	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. There has been a increase by 19 % according to the last year.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	We do not discharge to groundwater.
Third-party destinations	Relevant	3.18	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 10% lower than the last year.

W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	76-99%	Higher	We reuse the sea water, reuse was 73% in 2016 and 83% in 2017.

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	Numerator: water aspect	Denominator: unit of production	Comparison with previous reporting year	Please explain
1.58	Total water withdrawn	Other, please specify (GWh)	Lower	Based on total water withdrawn intensity of our electricity generation activities is 1.58 Megaliters / GWh for 2017 and 2.32 Megaliters / GWh for 2016. 2017 intensity is lower than 2016.
0.07	Total water consumption	Other, please specify (GWh)	Much lower	Based on total water consumption intensity of our electricity generation activities is 0.07 Megaliters / GWh for 2017 and 0.35 Megaliters / GWh for 2016. 2017 intensity is much lower than 2016.

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 2017, 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 2017, a total of 2245 students and 121 teachers were reached by visiting the schools around Akenerji plants in Adana, Adiyaman and Bursa in 201, and finally, within the last 5 years, 6159 students and 350 teachers in total were trained.

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. The monitoring in 2017 was carried out within this scope.

W-EU3.1 a

(W-EU3.1 a) 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 in 2017 was carried out within this scope.

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
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) parametres in different periods in a year
Other, please specify (Seawater Quality Analysis)	We monitor these parametres: 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

Six-monthly or more frequently

How far into the future are risks considered?

>10 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

Supply 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**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**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. At the last 4 years 3.914 students & 229 teachers were trained at our HEPP Informative Meetings. 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 climate related risks. Akenerji Enterprise Risk Management (ERM) Procedure outlines ERM process and related roles and responsibilities in detail for identifying threats (risks) to Akenerji's success (downside) of reaching its targets, analyzing and managing risks by considering the possible opportunities for benefit (upside), both at a company level and asset level.

Akenerji Enterprise Risk Management is not the responsibility of a single business unit or an employee, but it is an integral part of the organizational structure.

Risk Identification: Risk identification is the critical first step of the risk management process. Relevant and up-to-date information is important in identifying risks. Any Akenerji employee with appropriate knowledge may be involved in identifying risks.

Following are taken into consideration while identifying circumstances that may negatively impact company activities: 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, findings of audits, etc.

Risk Responsible assigned for each Business Unit is responsible for identifying and describing risks as clear and transparent as possible.

The risks identified during the risk identification process are typically documented in a risk register, where risk name, short description, historical information (if any), root causes, related Business Unit(s), Risk Owner and Risk Responsible, impact and likelihood for gross and net risk assessment, current controls, risk response, planned activities are provided in the risk register in general.

Please see Annex 3 for the rest of our answer.

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

W4.1 a

(W4.1 a) 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.

W4.1 b

(W4.1 b) 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	

W4.1 c

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

Country/Region

Turkey

River basin

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

1-25

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/Region

Turkey

River basin

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

1-25

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/Region

Turkey

River basin

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

1-25

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/Region

Turkey

River basin

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

76-99

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/Region

Turkey

River basin

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/Region

Turkey

River basin

Other, please specify (Seyhan)

Type of risk

Physical

Primary risk driver

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

Potential financial impact

5000000

Explanation of financial impact

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

Primary response to risk

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

15000

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/Region

Turkey

River basin

Tigris & Euphrates

Type of risk

Physical

Primary risk driver

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

Potential financial impact

1000000

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

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

15000

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/Region

Turkey

River basin

Other, please specify (Susurluk)

Type of risk

Physical

Primary risk driver

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

More likely than not

Potential financial impact

3000000

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

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

15000

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/Region

Turkey

River basin

Other, please specify (Mediterranean)

Type of risk

Physical

Primary risk driver

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 stopage 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

About as likely as not

Potential financial impact

20000000

Explanation of financial impact

4 weeks power plant's stop plus the repair works would have avery high impact on Akenerji's revenues. Only considering the 4 weeks stop, could result in min. US\$ 20 million or more.

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/Region

Turkey

River basin

Other, please specify (Seyhan)

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

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

>6 years

Magnitude of potential financial impact

Medium-low

Likelihood

About as likely as not

Potential financial impact**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 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/Region

Turkey

River basin

Tigris & Euphrates

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

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

>6 years

Magnitude of potential financial impact

Low

Likelihood

About as likely as not

Potential financial impact**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 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/Region

Turkey

River basin

Other, please specify (Susurluk)

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

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

>6 years

Magnitude of potential financial impact

Medium

Likelihood

About as likely as not

Potential financial impact

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 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/Region

Turkey

River basin

Other, please specify (Mediterranean)

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

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

>6 years

Magnitude of potential financial impact

High

Likelihood

About as likely as not

Potential financial impact

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 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

Potential financial impact**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, total water accounting data and comparisons with the previous reporting year.****Facility reference number**

Facility 1

Facility name (optional)

Feke 1

Country/Region

Turkey

River basin

Other, please specify (Seyhan)

Latitude

37

Longitude

35

Primary power generation source for your electricity generation at this facility

Hydroelectric

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.43

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

0.43

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

0

Comparison of consumption with previous reporting year

About the same

Please explain

Water withdrawal in Feke1 HEPP is decreased by 25%. Water discharge in Feke1 HEPP is decreased by 25%. Water consumption is nearly the same with previous year.

Facility reference number

Facility 2

Facility name (optional)

Feke II

Country/Region

Turkey

River basin

Other, please specify (Seyhan)

Latitude

37

Longitude

35

Primary power generation source for your electricity generation at this facility

Hydroelectric

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.23

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

0.25

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

0.01

Comparison of consumption with previous reporting year

Much lower

Please explain

Water withdrawal is decreased by 66 %. Water discharge is decreased by 13%. Water consumption decreased by 104.6%.

Facility reference number

Facility 3

Facility name (optional)

Himmetli HEPP

Country/Region

Turkey

River basin

Other, please specify (Seyhan)

Latitude

37

Longitude

35

Primary power generation source for your electricity generation at this facility

Hydroelectric

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

1162

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

0.7

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

0.43

Comparison of consumption with previous reporting year

Much lower

Please explain

Water withdrawal is decreased by 20%. Water discharge is increased by 26%. Water consumption decreased by 48.1%.

Facility reference number

Facility 4

Facility name (optional)

Gökkaya HEPP

Country/Region

Turkey

River basin

Other, please specify (Seyhan)

Latitude

37

Longitude

36

Primary power generation source for your electricity generation at this facility

Hydroelectric

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.6

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

0.1

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

0.49

Comparison of consumption with previous reporting year

About the same

Please explain

Water withdrawal is decreased by 2%. Water discharge is decreased by 14%. Water consumption increased by 1%

Facility reference number

Facility 5

Facility name (optional)

Burç HEPP

Country/Region

Turkey

River basin

Tigris & Euphrates

Latitude

38

Longitude

38

Primary power generation source for your electricity generation at this facility

Hydroelectric

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.22

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

0.01

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

0.21

Comparison of consumption with previous reporting year

Lower

Please explain

Water withdrawal is increased by 2%. Water discharge is increased by 186%. Water consumption decreased by 1.2%

Facility reference number

Facility 6

Facility name (optional)

Bulam HEPP

Country/Region

Turkey

River basin

Tigris & Euphrates

Latitude

38

Longitude

38

Primary power generation source for your electricity generation at this facility

Hydroelectric

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0.08

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

0.08

Comparison of consumption with previous reporting year

Lower

Please explain

Water withdrawal is decreased by 5%. Water discharge is increased by 31%. Water consumption is decreased by 7.2%

Facility reference number

Facility 7

Facility name (optional)

Uluabat HEPP

Country/Region

Turkey

River basin

Other, please specify (Susurluk)

Latitude

40

Longitude

28

Primary power generation source for your electricity generation at this facility

Hydroelectric

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

2.75

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

0.19

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

2.56

Comparison of consumption with previous reporting year

Higher

Please explain

Water withdrawal is increased by 5%. Water discharge is decreased by 24%. Water consumption is increased by 8.3%

Facility reference number

Facility 8

Facility name (optional)

Erzin NGCCPP

Country/Region

Turkey

River basin

Other, please specify (Mediterranean River Basin)

Latitude

39

Longitude

37

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)

9061

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

8647.61

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

413

Comparison of consumption with previous reporting year

Lower

Please explain

Water withdrawal is increased by 6%. Water discharge is increased by 19%. Water consumption is decreased by 68%

Facility reference number

Facility 9

Facility name (optional)

Ayyıldız WPP

Country/Region

Turkey

River basin

Other, please specify (Susurluk)

Latitude

40

Longitude

27

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)

0.05

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

0.02

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

0.03

Comparison of consumption with previous reporting year

Lower

Please explain

Water withdrawal is decreased by 55%. Water discharge is decreased by 61%. Water consumption is decreased by 49.2%

Facility reference number

Facility 10

Facility name (optional)

Head Office (AKHAN)

Country/Region

Turkey

River basin

Other, please specify (Marmara River Basin)

Latitude

41

Longitude

28

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)

1.29

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

1.29

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

0

Comparison of consumption with previous reporting year

About the same

Please explain

Water withdrawal is decreased by 23%. Water discharge is decreased by 23%.

W5.1 a

(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.

Facility reference number

Facility 1

Facility name

Feke I

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

Brackish surface water/seawater

Groundwater - renewable

Groundwater - non-renewable

Produced water

Third party sources

0.43

Comment

Feke I HEPP uses only third party sources (municipal supply).

Facility reference number

Facility 2

Facility name

Feke II

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

Brackish surface water/seawater

Groundwater - renewable

0.23

Groundwater - non-renewable

Produced water

Third party sources

Comment

Feke II HEPP uses only ground water renewable.

Facility reference number

Facility 3

Facility name

Himmetli HEPP

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

Brackish surface water/seawater

Groundwater - renewable

Groundwater - non-renewable

Produced water

Third party sources

1.16

Comment

Himmetli HEPP uses only third party sources (municipal supply).

Facility reference number

Facility 4

Facility name

Gökkaya HEPP

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

Brackish surface water/seawater

Groundwater - renewable

Groundwater - non-renewable

Produced water

Third party sources

0.6

Comment

Gökkaya HEPP uses only third party sources (municipal supply).

Facility reference number

Facility 5

Facility name

Burç HEPP

Fresh surface water, including rainwater, water from wetlands, rivers and lakes**Brackish surface water/seawater****Groundwater - renewable**

0.22

Groundwater - non-renewable**Produced water****Third party sources****Comment**

Burç HEPP uses only renewable groundwater.

Facility reference number

Facility 6

Facility name

Bulam HEPP

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0.08

Brackish surface water/seawater**Groundwater - renewable****Groundwater - non-renewable****Produced water****Third party sources****Comment**

Bulam HEPP uses only fresh surface water.

Facility reference number

Facility 7

Facility name

Uluabat HEPP

Fresh surface water, including rainwater, water from wetlands, rivers and lakes**Brackish surface water/seawater****Groundwater - renewable**

2.62

Groundwater - non-renewable**Produced water****Third party sources****Comment**

Uluabat HEPP uses only renewable groundwater.

Facility reference number

Facility 8

Facility name

Erzin NGCCPP

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

Brackish surface water/seawater

9061

Groundwater - renewable

Groundwater - non-renewable

Produced water

Third party sources

Comment

Erzin NGCCPP uses seawater. Desalination system has established to minimize its environmental footprint.

Facility reference number

Facility 9

Facility name

Ayyıldız WPP

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

Brackish surface water/seawater

Groundwater - renewable

0.05

Groundwater - non-renewable

Produced water

Third party sources

Comment

Ayyıldız WPP uses only renewable groundwater.

Facility reference number

Facility 10

Facility name

Akhan Head Office

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

Brackish surface water/seawater

Groundwater - renewable

Groundwater - non-renewable

Produced water

Third party sources

1.29

Comment

Akhan Head Office uses municipal water supply.

W5.1 b

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

Facility reference number

Facility 1

Facility name

Feke I

Fresh surface water

Brackish surface water/Seawater

Groundwater**Third party destinations**

0.43

Comment

Wastewater in Feke I HEPP is sent to Municipal Wastewater Treatment Plant with septic tanks.

Facility reference number

Facility 2

Facility name

Feke II

Fresh surface water**Brackish surface water/Seawater****Groundwater****Third party destinations**

0.25

Comment

Wastewater in Feke II HEPP is sent to Municipal Wastewater Treatment Plant with septic tanks.

Facility reference number

Facility 3

Facility name

Himmetli HEPP

Fresh surface water**Brackish surface water/Seawater****Groundwater****Third party destinations**

0.7

Comment

Wastewater in Himmetli HEPP is sent to Municipal Wastewater Treatment Plant with septic tanks.

Facility reference number

Facility 4

Facility name

Gökkaya HEPP

Fresh surface water**Brackish surface water/Seawater****Groundwater****Third party destinations**

0.11

Comment

Wastewater in Gökkaya HEPP is sent to Municipal Wastewater Treatment Plant with septic tanks.

Facility reference number

Facility 5

Facility name

Burç HEPP

Fresh surface water**Brackish surface water/Seawater****Groundwater****Third party destinations**

0.01

Comment

Wastewater in Burç HEPP is sent to Municipal Wastewater Treatment Plant with septic tanks.

Facility reference number

Facility 6

Facility name

Bulam HEPP

Fresh surface water**Brackish surface water/Seawater****Groundwater****Third party destinations**

0.01

Comment

Wastewater in Bulam HEPP is sent to Municipal Wastewater Treatment Plant with septic tanks.

Facility reference number

Facility 7

Facility name

Uluabat HEPP

Fresh surface water**Brackish surface water/Seawater****Groundwater****Third party destinations**

0.19

Comment

Wastewater in Uluabat HEPP is sent to Municipal Wastewater Treatment Plant with septic tanks.

Facility reference number

Facility 8

Facility name

Erzin NGCCPP

Fresh surface water**Brackish surface water/Seawater**

8647.61

Groundwater**Third party destinations****Comment**

Water in Erzin NGCCPP is discharged to deep-sea with relevant environmental permit.

Facility reference number

Facility 9

Facility name

Ayyıldız WPP

Fresh surface water**Brackish surface water/Seawater****Groundwater****Third party destinations**

0.02

Comment

Wastewater in Ayyıldız WPP is sent to Municipal Wastewater Treatment Plant with septic tanks.

Facility reference number

Facility 10

Facility name

Akhan Head Office

Fresh surface water

Brackish surface water/Seawater

Groundwater

Third party destinations

1.29

Comment

Wastewater in AKHAN is sent to Municipal Wastewater Treatment Plant with sewage system.

W5.1c

(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

Facility reference number

Facility 7

Facility name

Erzin NGCCPP

% recycled or reused

76-99%

Comparison with previous reporting year

Higher

Please explain

Reuse is increased by 19 %

W5.1d

(W5.1d) 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?

Water withdrawals – volume by source

% verified

Not verified

What standard and methodology was used?

Water withdrawals – quality

% verified

Not verified

What standard and methodology was used?

Water discharges – total volumes

% verified

Not verified

What standard and methodology was used?

Water discharges – volume by destination

% verified

Not verified

What standard and methodology was used?

Water discharges – volume by treatment method

% verified

Not verified

What standard and methodology was used?

Water discharge quality – quality by standard effluent parameters

% verified

Not verified

What standard and methodology was used?

Water discharge quality – temperature

% verified

Not verified

What standard and methodology was used?

Water consumption – total volume

% verified

Not verified

What standard and methodology was used?

Water recycled/reused

% verified

Not verified

What standard and methodology was used?

W6. Governance

W6.1

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

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

W6.1 a

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

Scope	Content	Please explain

Row	Scope	Content	Please explain
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. 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) 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.
Please select	

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

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

Chief Executive Officer (CEO)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

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

Quarterly

Please explain

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

W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4

(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

Yes

W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a

(W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues?

	Who is entitled to benefit from these incentives?	Indicator for incentivized performance	Please explain
Monetary reward	Board/Executive board Other, please specify (All employees/ HSEQ Department)	Reduction of product water intensity Efficiency project or target – direct operations Behavior change related indicator Water-related community project	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.
Recognition (non-monetary)	Board/Executive board Other, please specify (Environment/Sustainability managers)	Reduction of product water intensity Efficiency project or target – direct operations Behavior change related indicator Water-related community project	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.
Other non-monetary reward	Please select	Please select	

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 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 (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. For the sake of informing the local communities living where the HPPs are, HPP informative presentations also including how clean energy is generated via Hydropower Plants were realized. Consequently, a total of 2245 students and 121 teachers were reached by visiting the schools around Akenerji plants in Adana, Adiyaman and Bursa in 201, and finally, within the last 5 years, 6159 students and 350 teachers in total were trained. Number of participants trained and number of informative meetings organized are of the measures of success.

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	Akenerji strategic plan is prepared for 5 years.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	Akenerji strategic plan is prepared for 5 years.
Financial planning	No, water-related issues not yet reviewed, but there are plans to do so in the next two years	<Not Applicable>	

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?

	Water-related CAPEX (+/- % change)	Anticipated forward trend for CAPEX (+/- % change)	Water-related OPEX (+/- % change)	Anticipated forward trend for OPEX (+/- % change)	Please explain
Row 1	374	83			

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	No plans for the next two years	Scenario analysis in the context of climate change is an entirely new exercise for most companies. There are no best practices or standards exist for most sectors. We believe that there will be more information and resources in upcoming 2 to 4 years, and best practices from different industries. Also these scenario analysis require well documented data and studies made related with the climate change and its effects for Turkey, and even region specific studies are required for to be used in scenario analysis. Although few studies performed for evaluating the effects of climate change in Turkey, more new studies should be performed, considering the very recently observed climate related weather events, etc. to make the most updated projections. Climate change is already being felt as changes to the local weather that effects to our renewables production and to our life we experience every day.

W7.4

(W7.4) Does your company use an internal price on water?**Row 1****Does your company use an internal price on water?**

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

Please explain**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.

W8.1 a**(W8.1 a) 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. Together with the trainings we realized this year, Consequently, a total of 2245 students and 121 teachers were reached by visiting the schools around Akenerji plants in Adana, Adiyaman and Bursa in 201, and finally, within the last 5 years, 6159 students and 350 teachers in total were trained. 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

2017

Start year

2018

Target year

2018

% achieved

0

Please explain

Trainings will give after September because schools open then.

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

2017

Start year

2018

Target year

2018

% achieved

0

Please explain

Trainings will give after September, we organize Local Community Awareness Training with the school trainings.

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

2016

Start year

2016

End year

2017

Progress

"Sustainability Training Programme" among Akenerji was completed. Sustainability Training Programme has given to C-Suite, directors, managers and all Sustainability team. The result of the sustainability report explained in a meeting to all employees.

W9. Linkages and trade-offs

W9.1

(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?

Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased GHG emissions

Description of linkage/tradeoff

Natural Gas Power Plants need considerable amount of water for cooling processes. In order not to cause water scarcity we operate a desalination system. Sea water treatment will be performed with reverse osmosis system and distributed to the plant for process and using water. Therefore, both our electricity consumption and our carbon footprint are increasing due to desalination system, but we are not causing water scarcity.

Policy or action

Electricity is a basic and a crucial need for development and living in modern life standards and Akenerji generates electricity. While doing so, we prefer cleaner technologies. However, we have to provide a base load for the grid and generate electricity continuously. To do so, we diversified our type of power plants. Erzin is a NGCCPP and it has a very high installed capacity in comparison to HEPPs, and even to some NGPPs. NGPPs need considerable amount of water for cooling processes. In order not to cause water scarcity, we operate a desalination system. The salt and minerals of Mediterranean Sea is removed by reverse osmosis system which operates with an average of 40,5 m3/hour flow. The desalinated water is used for irrigation, domestic use, fire prevention and process. Differently from classical treatment techniques, reverse osmosis systems include membrane filtration processes. It operates with high conductance and remove all kinds of undesired mineral from the water. Prior to reverse osmosis system, the usage of micro sieve and ultra-filtration system will abolish the usage of any colouring chemical related to special backwash. Therefore, both our electricity consumption and our carbon footprint are increasing due to desalination system, but we are not causing water scarcity.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

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

W11. 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 - Annual Report 2017

Annex 2 - Sustainability Report 2017

Annex 3 - Answer to 3.3d

[Annex 1 - AnnualReport2017_ENG.pdf](#)

[Annex 2-Sustainability Report 2017_ENG.PDF](#)

[Annex 3_Answer to 3.3d.pdf](#)

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

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

W11.2

(W11.2) 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

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

Please confirm below

I have read and accept the applicable Terms



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