



Water 2016 Information Request
AKENERJİ ELEKTRİK ÜRETİM A.Ş.

Module: Introduction

Page: W0. Introduction

W0.1

Introduction

Please give a general description and introduction to your organization.

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

Akenerji operates at different levels of the electricity supply chain (generation, wholesale and retail) and is pursuing further opportunities to support its leading position through investments in the market. With more than 25 years of experience, Akenerji has maintained steady growth with a balanced portfolio. As of end of 2015, the company has total installed capacity of 1292 MW, which consists of 1 Natural Gas Combined Cycled Power Plant (NGCCPP) (904 MW), 8 Hydroelectric Power Plants (HPPs) (373 MW) and 1 Wind Power Plant (WPP) (15 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 2015, total installed capacity from renewable energy resources is 388 MW with existing 8 HPPs and 1 WPP, which in total corresponds to 30 % 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. It is decided to monitor, report and verify the GHG inventory of Erzin Natural Gas Power Plant in ISO 14064 standard for 2016.

We benefit from a variety of dialogue platforms to learn about the sustainability expectations of our stakeholders including employees, customers, creditors, investors, regulatory bodies, suppliers, local communities, local authorities, society, and media as well as to give them information on these issues. The communication channels are Integrated management systems, "We Are the Energy" Employee Suggestion System, Customer satisfaction surveys, Environmental Impact Assessment (EIA) reports, workshops/events etc. Moreover, Akenerji participates to CDP since 2010; prepares annual Environmental & OHS reports since 2010; and submits IFC Annual Environmental and Social Performance Monitoring Reports since 2010. As a part of our communication channels with our stakeholders, we also benefit from sustainability reports. Akenerji published its Sustainability Report according to the Global Reporting Initiative's international reporting standard. We are proud to be the first energy company in Turkey to issue a Sustainability Report (for 2014 reporting period) based on GRI G4. Since 2010, Akenerji has received certification for ISO 9001:2008 Quality, OHSAS 18001:2007 Occupational Health and Safety and the ISO 14001: 2004 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. Akenerji has been the one and only energy company to participate in the CDP Turkey Water Program.

W0.2

Reporting year

Please state the start and end date of the year for which you are reporting data.

| Period for which data is reported |
|-----------------------------------|
| Thu 01 Jan 2015 - Thu 31 Dec 2015 |

W0.3

Reporting boundary

Please indicate the category that describes the reporting boundary for companies, entities, or groups for which water-related impacts are reported.

Companies, entities or groups over which operational control is exercised

W0.4

Exclusions

Are there any geographies, facilities or types of water inputs/outputs within this boundary which are not included in your disclosure?

Yes

W0.4a

Exclusions

Please report the exclusions in the following table

| Exclusion | Please explain why you have made the exclusion |
|---------------------------|---|
| Ayyıldız Wind Power Plant | Water risks are assessed for its all 10 power plants of Akenerji and we noticed that Wind Power Plant water risks are not important in comparison to other 8 Hydroelectric Power Plants and 1 Natural Gas Combined Cycle Power Plant. Wind farms and some other renewable energy technologies offer ready options for generating electricity with little or no water. |
| Akhan Head Office | Akenerji's headquarter is in the building where Akkök Group companies operates. The building is called as AKHAN and Akenerji has 2 floors in AKHAN. Akhan Head Office is excluded due to 2 reasons: 1) The water footprint of that office is negligible. 2) The operational control of the building is not on Akenerji. |
| Ankara Office | In Ankara, we have a small office, which have a very small water consumption and very limited environmental footprint. Therefore, the effect of Ankara Office is negligible. |

Further Information

Module: Current State

Page: W1. Context

W1.1

Please rate the importance (current and future) of water quality and water quantity to the success of your organization

| Water quality and quantity | Direct use importance rating | Indirect use importance rating | Please explain |
|---|------------------------------|--------------------------------|--|
| Sufficient amounts of good quality freshwater available for use | Vital for operations | 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. |

| Water quality and quantity | Direct use importance rating | Indirect use importance rating | Please explain |
|--|------------------------------|--------------------------------|---|
| Sufficient amounts of recycled, brackish and/or produced water available for use | Vital for operations | 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

For your total operations, please detail which of the following water aspects are regularly measured and monitored and provide an explanation as to why or why not

| Water aspect | % of sites/facilities/operations | Please explain |
|--|----------------------------------|---|
| Water withdrawals- total volumes | 76-100 | 100% of all water withdrawals are regularly measured and monitored at all sites. |
| Water withdrawals- volume by sources | 76-100 | 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. |
| Water discharges- total volumes | 76-100 | 100% of total volumes of water discharged 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- volume by destination | 76-100 | 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- volume by treatment method | 76-100 | 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 |

| Water aspect | % of sites/facilities/operations | Please explain |
|---|----------------------------------|--|
| | | 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 data- quality by standard effluent parameters | 76-100 | 99.99% 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 99.99% 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 0.01% by volume and source is domestic use. |
| Water consumption- total volume | 76-100 | 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%. |
| Facilities providing fully-functioning WASH services for all workers | 76-100 | 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 measured and monitored only 1 of 9 power plants for WASH services. |

W1.2a

Water withdrawals: for the reporting year, please provide total water withdrawal data by source, across your operations

| Source | Quantity (megaliters/year) | How does total water withdrawals for this source compare to the last reporting year? | Comment |
|---------------------------------|----------------------------|--|---|
| Fresh surface water | 3.74 | Much higher | Fresh surface water withdrawals seem higher, but it particularly sourcing from the improvements in the measurement system. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on measurements. |
| Brackish surface water/seawater | 11831.28 | Higher | Seawater is used by our Erzin NGCCPP which started its operations at Sep 30, 2014. Therefore, in 2014 it was in operation for 3 months, but it operated during the whole year of 2015. It is the reason of the increase. |
| Rainwater | 0 | Not applicable | We do not use rainwater. |
| Groundwater - renewable | 3.08 | Higher | Renewable groundwater withdrawals seem higher, but it particularly sourcing from the improvements in the measurement system. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. P.S.: We declared the renewable groundwater withdrawal at non-renewable groundwater at last year's reporting and we fixed it this year. |

| Source | Quantity (megaliters/year) | How does total water withdrawals for this source compare to the last reporting year? | Comment |
|--------------------------------------|----------------------------|--|--|
| Groundwater - non-renewable | 0 | Not applicable | We do not use non-renewable groundwater. P.S.: We declared the renewable groundwater withdrawal at non-renewable groundwater at last year's reporting and we fixed it this year. |
| Produced/process water | 0 | Not applicable | We do not use produced / process water. |
| Municipal supply | 0 | Not applicable | We do not use water from municipal supply. |
| Wastewater from another organization | 0 | Not applicable | We do not use wastewater from another organization. |
| Total | 11838.09 | Much higher | The total volume of water withdrawal is increased by 107% in comparison to the last year. Two particular reasons for that increase are as follows: 1) According to the reporting year figures; 99.9% of the withdrawals is sourced from our Erzin NGCCPP. While it operated all year long during 2015, it operated for 3 months in 2014. Therefore, there is a huge difference from that effect. 2) According to the importance we put on water management, we improved our measurement system. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |

W1.2b

Water discharges: for the reporting year, please provide total water discharge data by destination, across your operations

| Destination | Quantity (megaliters/year) | How does total water discharged to this destination compare to the last reporting year? | Comment |
|---|----------------------------|---|---|
| Fresh surface water | 0 | Not applicable | We do not discharge to fresh surface water. |
| Brackish surface water/seawater | 11583.06 | Much higher | We discharge the water to deep sea inline with the environmental permit at Erzin NGCCPP. According to the reporting year figures; 99.9% of the withdrawals is sourced from our Erzin NGCCPP. While it operated all year long during 2015, it operated for 3 months in 2014. Therefore, there is a huge difference from that effect. |
| Groundwater | 0 | Not applicable | We do not discharge to groundwater. |
| Municipal/industrial wastewater treatment plant | 1.33 | | In HEPPs; domestic wastewater is collected in septic tanks and transported with sewage trucks to municipal treatment plants. |
| Wastewater for another organization | 0 | Not applicable | We do not convey wastewater for another organization. |

| Destination | Quantity (megaliters/year) | How does total water discharged to this destination compare to the last reporting year? | Comment |
|-------------|----------------------------|---|---|
| Total | 11854.39 | Much higher | The total volume of water discharged is increased by 110% in comparison to the last year. The particular reason for that is the water discharges sourced from our Erzin NGCCPP. While it operated all year long during 2015, it operated for 3 months in 2014. According to the reporting year figures; 99.99% of our discharges is from Erzin NGCCPP, for that reason there is a huge difference from that effect. |

W1.2c

Water consumption: for the reporting year, please provide total water consumption data, across your operations

| Consumption (megaliters/year) | How does this consumption figure compare to the last reporting year? | Comment |
|-------------------------------|--|---|
| 253.70 | Higher | The total volume of water consumed is increased by 15% in comparison to the last year. 2 particular reasons for that increase are as follows: 1) According to the reporting year figures; 98% of our consumption is sourced from our Erzin NGCCPP. While it operated all year long during 2015, it operated for 3 months in 2014. Therefore, it has an effect on the increase in consumption. 2) According to the importance we put on water management, we improved our measurement system. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |

W1.3

Do you request your suppliers to report on their water use, risks and/or management?

No

W1.3b

Please choose the option that best explains why you do not request your suppliers to report on their water use, risks and/or management

| Primary reason | Please explain |
|--|---|
| Important but not an immediate business priority | Akenerji puts importance on both direct and indirect water management. Being the one and only CDP Turkey Water Programme participant from Turkish energy sector is one of the examples. At the first attempt, we are improving our internal systems, policies, assessments and strategies. In the future; we are willing to disseminate it through our value chain. |

W1.4

Has your organization experienced any detrimental impacts related to water in the reporting year?

No

Further Information

Module: Risk Assessment

Page: W2. Procedures and Requirements

W2.1

Does your organization undertake a water-related risk assessment?

Water risks are assessed

W2.2

Please select the options that best describe your procedures with regard to assessing water risks

| Risk assessment procedure | Coverage | Scale | Please explain |
|--|-------------------|----------------|--|
| Comprehensive company-wide risk assessment | Direct operations | All facilities | Akenerji has a holistic approach to sustainability, which integrates the environmental, economic and social dimensions of sustainability through the support of various departments. The ultimate responsibility is given to the highest level of decision making authority, and it is the Board of Directors. To maintain this; a Sustainability Committee was established within Akenerji in 2013. In addition to that, the risks and opportunities including Climate Change and Water Management related risks & opportunities are also evaluated and managed by the Risk Management Committee. The Committee |

| Risk assessment procedure | Coverage | Scale | Please explain |
|---------------------------|----------|-------|---|
| | | | members are General Manager, Deputy General Managers, Directors, and Strategic Planning and Risk Manager. The Committee convenes on a monthly basis, and it is ensured that the necessary actions are taken by discussing the risks that the company incurs currently or may incur in the future due to changing market conditions. Climate change risks such as drought, flood and landslide are assessed in each power plant and headquarters in a holistic approach. |

W2.3

Please state how frequently you undertake water risk assessments, what geographical scale and how far into the future you consider risks for each assessment

| Frequency | Geographic scale | How far into the future are risks considered? | Comment |
|--------------------------------|------------------|---|--|
| Six-monthly or more frequently | Facility | >6 years | Water related risks & opportunities are assessed/managed mainly by Sustainability Committee and Risk Management Committee (RMC). RMC convenes on a monthly basis and actions for existing or foreseen risks are tracked. Climate change risks such as drought, flood and landslide are assessed in each power plant and HQ in a holistic approach. During the evaluation of a new HEPP investment, projections are performed for more than 20 years according to the historical flow rates of the river basin. |

W2.4

Have you evaluated how water risks could affect the success (viability, constraints) of your organization's growth strategy?

Yes, evaluated over the next 10 years

W2.4a

Please explain how your organization evaluated the effects of water risks on the success (viability, constraints) of your organization's growth strategy?

Water is one of the most important assets of humanity and life. Electricity is a crucial need for economic development and living in modern life standards and we generate electricity. While doing so, we prefer cleaner technologies. In addition to that we have to provide a base load and continuous electricity generation. For that reason, we diversified our type of power plants.

While generating electricity, we utilize the different features of water. Erzin is a NGCCPP and it has a very high installed capacity when compared to HEPPs, and even to some natural gas plants. This plant 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 Erzin NGCCPP, we preferred to use the seawater in order to minimize our effect on environment. 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.

On the other hand, we operate 8 Hydroelectric Power Plants and we use the potential energy of water to generate electricity. It means that if there is not sufficient amount of water, we could not operate at HEPPs. Therefore, availability of water directly affects our electricity generation. Our production and growth strategy is fully depended on water. Precipitation regimes are also important for us.

Besides, our dams are very important tools for water management and to make use of water for third parties. Water in our dams could be used for irrigation, fishery, therefore it is also important for the economic development of both local community and the country.

W2.5

Please state the methods used to assess water risks

| Method | Please explain how these methods are used in your risk assessment |
|---|---|
| Internal company knowledge Regional government databases | Akenerji has a holistic approach to sustainability, which integrates the environmental, economic and social dimensions of sustainability through the support of various departments. The ultimate responsibility is given to the highest level of decision making authority, and it is the Board of Directors. To maintain this; a Sustainability Committee was established within Akenerji in 2013. All climate change-related efforts and achievements at Akenerji are reported to the CEO. To manage these efforts, Akenerji has a Quality Project Team under the lead of the Health, Safety, Environment and Quality (HSEQ) department. The Quality Project Team consists of 11 employees including environmental engineers, health & safety specialists, and engineers and operators from the power plants. The risks and opportunities including Climate Change and Water Management related risks & opportunities are also evaluated and managed by the Risk Management Committee. The Committee members are General Manager, Deputy General Managers, Directors, and Strategic Planning and Risk Manager. The Committee convenes on a monthly basis, and it is ensured that the necessary actions are taken by discussing the risks that the company incurs currently or may incur in the future due to changing market conditions. At company level; in order to manage the risks and opportunities rises by the impacts of climate change, both global and national risks are defined, and responsibilities to manage them are shared among different levels of decision making and implementation bodies within Akenerji. At asset level: risks are assessed and followed up under 5 main headings: Reputational, Compliance, Strategic, Operational, Financial. Risks associated with climate change are evaluated by related departments in its own risk registers. Climate change risks such as drought, flood and landslide are assessed in each power plant and headquarters in a holistic approach. In order to achieve a successful risk and opportunity assessment Akenerji uses diversified methods and systems. Akenerji is operating for more than 25 years and Akenerji uses its accumulated experiences, in other words its internal company knowledge to the largest extent. Besides, Akenerji receives professional consultancy services on sustainability, carbon and water reporting. In addition to them, Akenerji benefits from private and governmental information services such as weather forecast, river basin management plans. |

W2.6

Which of the following contextual issues are always factored into your organization's water risk assessments?

| Issues | Choose option | Please explain |
|--|--------------------|--|
| Current water availability and quality parameters at a local level | Relevant, included | 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). Similarly, HEPPs have certain KPIs to be met about water |

| Issues | Choose option | Please explain |
|---|----------------------------|---|
| | | management (Eg. environmental flow: the minimum amount of water to be released from dams). Therefore, we have special performance standards for each facility. |
| Current water regulatory frameworks and tariffs at a local level | Relevant, included | 1. For HEPPs; environmental flow is measured by output water monitoring stations hourly and daily, and they 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. |
| Current stakeholder conflicts concerning water resources at a local level | Relevant, 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. Consequently, 859 students & 46 teachers in Adana; 220 teachers & 15 students in Bursa were trained. Number of participants trained and number of informative meetings organized are of the measures of success. |
| Current implications of water on your key commodities/raw materials | Relevant, 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 your key commodities/raw materials is included to our risk assessment. |
| Current status of ecosystems and habitats at a local level | Relevant, 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. |
| Current river basin management plans | Relevant, included | 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. |
| Current access to fully-functioning WASH services for all employees | Relevant, included | Current access to fully-functioning WASH services for all employees are factored at our risk assessment. |
| Estimates of future changes in water availability at a local level | Relevant, included | 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. |
| Estimates of future potential regulatory changes at a local level | Relevant, not yet included | We are aware that Water Management regulation is subject to change in Turkey and we are planning to include the estimates of future potential regulatory changes at a local level. |
| Estimates of future potential stakeholder conflicts at a local level | Relevant, not yet included | We are eager to include the estimates of future potential stakeholder conflicts at a local level to our organizational risk assessment. |
| Estimates of future implications of water on your key commodities/raw materials | Relevant, included | 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. |

| Issues | Choose option | Please explain |
|---|------------------------------------|--|
| Estimates of future potential changes in the status of ecosystems and habitats at a local level | Relevant, not yet included | We are willing to include the estimates of future potential changes in the status of ecosystems and habitats at a local level to our organizational risk assessment. |
| Scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level | Relevant, not yet included | We are willing to include the scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level to our organizational risk assessment. |
| Scenario analysis of regulatory and/or tariff changes at a local level | Relevant, not yet included | We are willing to include the scenario analysis of regulatory and/or tariff changes at a local level to our organizational risk assessment. |
| Scenario analysis of stakeholder conflicts concerning water resources at a local level | Relevant, not yet included | We are willing to include the scenario analysis of stakeholder conflicts concerning water resources at a local level to our organizational risk assessment. |
| Scenario analysis of implications of water on your key commodities/raw materials | Relevant, not yet included | We are willing to include the scenario analysis of implications of water on your key commodities/raw materials to our organizational risk assessment. |
| Scenario analysis of potential changes in the status of ecosystems and habitats at a local level | Relevant, not yet included | We are willing to include the scenario analysis of potential changes in the status of ecosystems and habitats at a local level to our organizational risk assessment. |
| Other | Not relevant, explanation provided | There is no other factor. |

W2.7

Which of the following stakeholders are always factored into your organization's water risk assessments?

| Stakeholder | Choose option | Please explain |
|------------------------------------|------------------------------------|---|
| Customers | Relevant, included | Customers are always included into our risk assessments. |
| Employees | Relevant, included | Employees are one the most important assets of Akenerji and it is included into our risk assessments. |
| Investors | Relevant, 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, included | Local communities are factored at risk management. We are organizing HEPP Informative Meetings to manage it. |
| NGOs | Relevant, not yet included | We are willing to factor the NGOs more in depth at our risk assessments in the future. |
| Other water users at a local level | Not relevant, explanation provided | It is not relevant for us. |

| Stakeholder | Choose option | Please explain |
|--|------------------------------------|--|
| Regulators | Relevant, 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, 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 yet included | We are willing to factor the suppliers more in depth at our risk assessments in the future. |
| Water utilities/suppliers at a local level | Relevant, included | Akenerji is also a water supplier therefore the other suppliers are included at our risk assessments. |
| Other | Not relevant, explanation provided | There is no other factor. |

Further Information

Module: Implications

Page: W3. Water Risks

W3.1

Is your organization exposed to water risks, either current and/or future, that could generate a substantive change in your business, operations, revenue or expenditure?

Yes, direct operations only

W3.2

Please provide details as to how your organization defines substantive change in your business, operations, revenue or expenditure from water risk

Akenerji is an electricity generation and trading company and we are operating a NGCCPP, 8 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,

70% 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 8 HEPPs and we use the potential energy of water to generate electricity. If there isn't sufficient amount of water, we could not 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, 29% of our installed capacity with 373 MW is from HEPPs and considering the total generation capacity of hydroelectric power plants is approximately 1,1 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\$ 700,000,000 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\$ 900,000,000 has been invested in Erzin NGCCPP.

W3.2a

Please provide the number of facilities* per river basin exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure and the proportion this represents of total operations company-wide

| Country | River basin | Number of facilities exposed to water risk | Proportion of total operations (%) | Comment |
|---------|-----------------------------------|--|------------------------------------|--|
| Turkey | Other: Seyhan River Basin | 4 | 11-20 | 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. |
| Turkey | Tigris & Euphrates | 2 | 1-5 | 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. |
| Turkey | Other: Marmara River Basin | 1 | 6-10 | Uluabat Lake - Çınarcık Dam is in Marmara River Basin. Please hence that proportions of total operations are calculated according to the installed capacities of our power plants. |
| Turkey | Other: East Black Sea River Basin | 1 | 6-10 | Akocak HEPP is in East Black Sea River Basin. Please hence that proportions of total operations are calculated according to the installed capacities of our power plants. |
| Turkey | Other: Mediterranean River Basin | 1 | 61-70 | 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. |

W3.2b

Please provide the proportion of financial value that could be affected at river basin level associated with the facilities listed in W3.2a

| Country | River basin | Financial reporting metric | Proportion of chosen metric that could be affected within the river basin | Comment |
|---------|-----------------------------------|------------------------------|---|--|
| Turkey | Other: Seyhan River Basin | % global production capacity | 11-20 | 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. |
| Turkey | Tigris & Euphrates | % global production capacity | 1-5 | 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. |
| Turkey | Other: Marmara River Basin | % global production capacity | 6-10 | 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. |
| Turkey | Other: East Black Sea River Basin | % global production capacity | 6-10 | 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. |
| Turkey | Other: Mediterranean River Basin | % global production capacity | 61-70 | 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. |

W3.2c

Please list the inherent water risks that could generate a substantive change in your business, operations, revenue or expenditure, the potential impact to your direct operations and the strategies to mitigate them

| Country | River basin | Risk driver | Potential impact | Description of impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|---------------------------|---|----------------------|--|-----------|------------|---|--|---|---|
| Turkey | Other: Seyhan River Basin | Physical-Drought Physical-Flooding Regulatory-Regulatory uncertainty Reputational- Community opposition | Reduction in revenue | We are operating 4 HEPPs in that river basin. The potential impact of the drought could lead to disruption in electricity generation and even to closure of operations. This will lead to reduction in the revenue generated. The potential impact of the flood could cause detrimental effects at our power plants. It will lead to disruption in electricity generation and even to closure of operations. Consequently, this will lead to reduction in the revenue generated. | 1-3 years | Unlikely | Medium | Develop flood emergency plans Engagement with community Engagement with public policy makers Increased capital expenditure Strengthen links with local community | Until now, Akenerji has invested US\$ 700,000,000 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. | Until now, Akenerji has invested US\$ 700,000,000 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. |

| Country | River basin | Risk driver | Potential impact | Description of impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|--------------------|---|----------------------|--|-----------|------------|---|--|---|---|
| | | | | Water management regulation in Turkey is subject to change and the uncertainty about the implementation of new law could create a risk and impact. There could be community opposition to HEPPs and this could lead to disruption in electricity generation and even to closure of operations. Consequently, this will lead to reduction in the revenue generated. | | | | | | |
| Turkey | Tigris & Euphrates | Physical-Drought Physical-Flooding Regulatory-Regulatory uncertainty Reputational- Community opposition | Reduction in revenue | We are operating 2 HEPPs in that river basin. The potential impact of the drought could lead to disruption in electricity generation and even to closure | 1-3 years | Unlikely | Low | Develop flood emergency plans Engagement with community Engagement with public policy makers | Until now, Akenerji has invested US\$ 700,000,000 in renewable energy. The investment done to be prevented from detrimental | Until now, Akenerji has invested US\$ 700,000,000 in renewable energy. The investment done to be prevented from detrimental |

| Country | River basin | Risk driver | Potential impact | Description of impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-------------|-------------|------------------|--|-----------|------------|---|--|---|---|
| | | | | <p>of operations. This will lead to reduction in the revenue generated. The potential impact of the flood could cause detrimental effects at our power plants. It will lead to disruption in electricity generation and even to closure of operations. Consequently, this will lead to reduction in the revenue generated.</p> <p>Water management regulation in Turkey is subject to change and the uncertainty about the implementation of new law could create a risk and impact. There could be community opposition to HEPPs and this</p> | | | | Increased capital expenditure Strengthen links with local community | effects of the floods are in that figure, however it is not possible to separate the relevant amount spend on that purpose. | effects of the floods are in that figure, however it is not possible to separate the relevant amount spend on that purpose. |

| Country | River basin | Risk driver | Potential impact | Description of impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|----------------------------|---|----------------------|---|-----------|------------|---|--|---|---|
| | | | | could lead to disruption in electricity generation and even to closure of operations. Consequently, this will lead to reduction in the revenue generated. | | | | | | |
| Turkey | Other: Marmara River Basin | Physical-Drought Physical-Flooding Regulatory-Regulatory uncertainty Reputational- Community opposition | Reduction in revenue | We are operating 1 HEPP in that river basin. The potential impact of the drought could lead to disruption in electricity generation and even to closure of operations. This will lead to reduction in the revenue generated. The potential impact of the flood could cause detrimental effects at our power plant. It will lead to disruption in electricity generation and even to closure | 1-3 years | Unlikely | Low-medium | Develop flood emergency plans Engagement with community Engagement with public policy makers Increased capital expenditure Strengthen links with local community | Until now, Akenerji has invested US\$ 700,000,000 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. | Until now, Akenerji has invested US\$ 700,000,000 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. |

| Country | River basin | Risk driver | Potential impact | Description of impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-----------------------------------|--|----------------------|---|-----------|------------|---|---|--|--|
| | | | | of operations. Consequently, this will lead to reduction in the revenue generated. Water management regulation in Turkey is subject to change and the uncertainty about the implementation of new law could create a risk and impact. There could be community opposition to HEPPs and this could lead to disruption in electricity generation and even to closure of operations. Consequently, this will lead to reduction in the revenue generated. | | | | | | |
| Turkey | Other: East Black Sea River Basin | Physical-Drought Physical-Flooding Regulatory-Regulatory uncertainty | Reduction in revenue | We are operating 1 HEPP in that river basin. The potential impact | 1-3 years | Unlikely | Low-medium | Develop flood emergency plans Engagement | Until now, Akenerji has invested US\$ 700,000,000 in renewable | Until now, Akenerji has invested US\$ 700,000,000 in renewable |

| Country | River basin | Risk driver | Potential impact | Description of impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-------------|---------------------------------------|------------------|---|-----------|------------|---|---|--|--|
| | | Reputational- Community opposition | | of the drought could lead to disruption in electricity generation and even to closure of operations. This will lead to reduction in the revenue generated. The potential impact of the flood could cause detrimental effects at our power plant. It will lead to disruption in electricity generation and even to closure of operations. Consequently, this will lead to reduction in the revenue generated. Water management regulation in Turkey is subject to change and the uncertainty about the implementation of new law | | | | with community Engagement with public policy makers Increased capital expenditure Strengthen links with local community | 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. | 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. |

| Country | River basin | Risk driver | Potential impact | Description of impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|----------------------------------|---|----------------------|--|-----------|------------|---|---|---|---|
| | | | | could create a risk and impact. There could be community opposition to HEPPs and this could lead to disruption in electricity generation and even to closure of operations. Consequently, this will lead to reduction in the revenue generated. | | | | | | |
| Turkey | Other: Mediterranean River Basin | Physical-Flooding Regulatory-Increased difficulty in obtaining withdrawals/operations permit | Reduction in revenue | We are operating a NGCCPP in that river basin. The potential impact of the flood could cause detrimental effects at our power plant. It will lead to disruption in electricity generation and even to closure of operations. Consequently, this will lead to reduction in the revenue generated. | 1-3 years | Unlikely | High | Develop flood emergency plans Engagement with community Engagement with public policy makers Strengthen links with local community | Approximately US\$ 900,000,000 has been invested to establish our state of art Natural Gas Combined Cycle Power Plant with a desalination system that makes the use of seawater possible for the plant. | Approximately US\$ 900,000,000 has been invested to establish our state of art Natural Gas Combined Cycle Power Plant with a desalination system that makes the use of seawater possible for the plant. |

| Country | River basin | Risk driver | Potential impact | Description of impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-------------|-------------|------------------|--|-----------|------------|---|-------------------|----------------------------|-------------------------------|
| | | | | Water management regulation in Turkey is subject to change and the uncertainty about the implementation of law could create a risk and impact. | | | | | | |

W3.2f

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your supply chain that could generate a substantive change in your business, operations, revenue or expenditure

| Primary reason | Please explain |
|-------------------|---|
| Not yet evaluated | Akenerji puts importance on both direct and indirect water management. Being the one and only CDP Turkey Water Programme participant from Turkish energy sector is one of the examples. At the first attempt, we are improving our internal systems, policies, assessments and strategies. In the future; we are willing to disseminate it through our value chain. |

Further Information

W4.1

Does water present strategic, operational or market opportunities that substantively benefit/have the potential to benefit your organization?

Yes

W4.1a

Please describe the opportunities water presents to your organization and your strategies to realize them

| Country or region | Opportunity | Strategy to realize opportunity | Estimated timeframe | Please explain |
|-------------------|--|--|---------------------|--|
| Turkey | Carbon management Climate change adaptation Competitive advantage Cost savings Increased brand value | Akenerji put great importance on Climate Change Adaptation and Mitigation Activities. We are proud to be the first energy company in Turkey to issue a Sustainability Report (for 2014 reporting period) based on GRI G4. Since 2010, Akenerji has received certification for ISO 14001: 2004 Environment Management Systems. Moreover, as of 2015, Akenerji has been the one and only energy company to participate in the CDP Turkey Water Program. 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. In 2009, Akenerji launched its first wind energy generation plant, Ayyıldız WPP. In comparison to the other thermal electricity generation types such as lignite, coal, gas oil & fuel oil; Hydroelectric Power Plants have a cleaner technology and low cost advantage. | 1-3 years | Akenerji put great importance on Climate Change Adaptation and Mitigation Activities. In parallel to that, Akenerji has invested US\$ 700,000,000 in renewable energy until the end of 2015. |

Further Information

W5.1

Water withdrawals: for the reporting year, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

| Facility reference number | Country | River basin | Facility name | Total water withdrawals (megaliters/year) at this facility | How does the total water withdrawals at this facility compare to the last reporting year? | Please explain |
|---------------------------|---------|---------------------------|---------------|--|---|---|
| Facility 1 | Turkey | Other: Seyhan River Basin | FEKE I HEPP | 0.46 | Higher | Water withdrawals seem increased by 32%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |
| Facility 2 | Turkey | Other: Seyhan River Basin | FEKE II HEPP | 0.77 | Much higher | Water withdrawals seem increased by 100%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |
| Facility 3 | Turkey | Other: Seyhan River Basin | HİMMETLİ HEPP | 1.60 | Much higher | Water withdrawals seem increased by 143%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |
| Facility 4 | Turkey | Other: Seyhan River Basin | GÖKKAYA HEPP | 0.77 | Much higher | Water withdrawals seem increased by 190%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |

| Facility reference number | Country | River basin | Facility name | Total water withdrawals (megaliters/year) at this facility | How does the total water withdrawals at this facility compare to the last reporting year? | Please explain |
|---------------------------|---------|-----------------------------------|---------------|--|---|--|
| Facility 5 | Turkey | Tigris & Euphrates | BURÇ HEPP | 0.24 | Lower | Water withdrawals for 2015 is 1% lower than the last year. |
| Facility 6 | Turkey | Tigris & Euphrates | BULAM HEPP | 0.14 | Higher | Water withdrawals for 2015 increased by 10% in comparison to last year. |
| Facility 7 | Turkey | Other: Marmara River Basin | ULUABAT HEPP | 2.69 | Higher | Water withdrawals seem increased by 38%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |
| Facility 8 | Turkey | Other: East Black Sea River Basin | AKOCAK HEPP | 0.14 | Lower | Water withdrawals for 2015 decreased by 6% in comparison to last year. |
| Facility 9 | Turkey | Other: Mediterranean River Basin | ERZİN NGCCPP | 11831.28 | Higher | Water withdrawals seem increased by 107%, but Erzin NGCCPP started its operations on September 2014. Therefore, for the last year it operated for only 3 months, where it operated during whole year of 2015. |

Further Information

W5.1a

Water withdrawals: for the reporting year, please provide withdrawal data, in megaliters per year, for the water sources used for all facilities reported in W5.1

| Facility reference number | Fresh surface water | Brackish surface water/seawater | Rainwater | Groundwater (renewable) | Groundwater (non-renewable) | Produced/process water | Municipal water | Wastewater from another organization | Comment |
|---------------------------|---------------------|---------------------------------|-----------|-------------------------|-----------------------------|------------------------|-----------------|--------------------------------------|--|
| Facility 1 | 0.46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Feke I HEPP uses only fresh surface water. |
| Facility 2 | 0.77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Feke II HEPP uses only fresh surface water. |
| Facility 3 | 1.60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Himmetli HEPP uses only fresh surface water. |
| Facility 4 | 0.77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Gökkaya HEPP uses only fresh surface water. |
| Facility 5 | 0 | 0 | 0 | 0.24 | 0 | 0 | 0 | 0 | Burç HEPP uses only renewable groundwater. |
| Facility 6 | 0.14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Bulam HEPP uses only fresh surface water. |
| Facility 7 | 0 | 0 | 0 | 2.69 | 0 | 0 | 0 | 0 | Uluabat HEPP uses only renewable groundwater. |
| Facility 8 | 0 | 0 | 0 | 0.14 | 0 | 0 | 0 | 0 | Akocak HEPP uses only renewable groundwater. |
| Facility 9 | 0 | 11831.28 | 0 | 0 | 0 | 0 | 0 | 0 | Erzin NGCCPP uses seawater. Desalination system has established to minimize its environmental footprint. |

W5.2

Water discharge: for the reporting year, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

| Facility reference number | Total water discharged (megaliters/year) at this facility | How does the total water discharged at this facility compare to the last reporting year? | Please explain |
|---------------------------|---|--|---|
| Facility 1 | 0.27 | Much higher | Total water discharged was increased by 44%. |
| Facility 2 | 0.23 | Much lower | Total water discharged was decreased by 28%. |
| Facility 3 | 0.41 | Much lower | Total water discharged was decreased by 20%. |
| Facility 4 | 0.07 | Much lower | Total water discharged was decreased by 27%. |
| Facility 5 | 0.06 | About the same | Total water discharged was same. |
| Facility 6 | 0.06 | About the same | Total water discharged was same. |
| Facility 7 | 0.21 | Lower | Total water discharged was decreased by 8%. |
| Facility 8 | 0.03 | About the same | Total water discharged was same. |
| Facility 9 | 11583.06 | Much higher | Water discharged increased by 110%, but Erzin NGCCPP started its operations on September 2014. Therefore, for the last year it operated for only 3 months, where it operated during whole year of 2015. |

W5.2a

Water discharge: for the reporting year, please provide water discharge data, in megaliters per year, by destination for all facilities reported in W5.2

| Facility reference number | Fresh surface water | Municipal/industrial wastewater treatment plant | Seawater | Groundwater | Wastewater for another organization | Comment |
|---------------------------|---------------------|---|----------|-------------|-------------------------------------|---|
| Facility 1 | 0 | 0.27 | 0 | 0 | 0 | Wastewater is sent to Municipal Wastewater Treatment Plant with septic tanks. |
| Facility 2 | 0 | 0.23 | 0 | 0 | 0 | Wastewater is sent to Municipal Wastewater Treatment Plant with septic tanks. |
| Facility 3 | 0 | 0.41 | 0 | 0 | 0 | Wastewater is sent to Municipal Wastewater Treatment Plant with septic tanks. |
| Facility 4 | 0 | 0.07 | 0 | 0 | 0 | Wastewater is sent to Municipal Wastewater Treatment Plant with septic tanks. |

| Facility reference number | Fresh surface water | Municipal/industrial wastewater treatment plant | Seawater | Groundwater | Wastewater for another organization | Comment |
|---------------------------|---------------------|---|----------|-------------|-------------------------------------|---|
| Facility 5 | 0 | 0.06 | 0 | 0 | 0 | Wastewater is sent to Municipal Wastewater Treatment Plant with septic tanks. |
| Facility 6 | 0 | 0.06 | 0 | 0 | 0 | Wastewater is sent to Municipal Wastewater Treatment Plant with septic tanks. |
| Facility 7 | 0 | 0.21 | 0 | 0 | 0 | Wastewater is sent to Municipal Wastewater Treatment Plant with septic tanks. |
| Facility 8 | 0 | 0.03 | 0 | 0 | 0 | Wastewater is sent to Municipal Wastewater Treatment Plant with septic tanks. |
| Facility 9 | 0 | 0 | 11583.06 | 0 | 0 | Water is discharged to deepsea with relevant environmental permit. |

W5.3

Water consumption: for the reporting year, please provide water consumption data for all facilities reported in W3.2a

| Facility reference number | Consumption (megaliters/year) | How does this compare to the last reporting year? | Please explain |
|---------------------------|-------------------------------|---|--|
| Facility 1 | 0.19 | Higher | Water consumption seems to be increased by 17%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |
| Facility 2 | 0.54 | Much higher | Water consumption seems to be increased by 749%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |
| Facility 3 | 1.19 | Much higher | Water consumption seems to be increased by 685%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |

| Facility reference number | Consumption (megaliters/year) | How does this compare to the last reporting year? | Please explain |
|---------------------------|-------------------------------|---|--|
| Facility 4 | 0.70 | Much higher | Water consumption seems to be increased by 301%, but it particularly sourcing from the improvements in the measurement system. Last year was our first year of participation to CDP Turkey Water Programme. The figures of 2014 were more based on the assumptions and indirect calculations, but the figures of 2015 is more based on metering. |
| Facility 5 | 0.18 | Lower | Water consumption decreased by 1%. |
| Facility 6 | 0.08 | Higher | Water consumption increased by 17%. |
| Facility 7 | 2.49 | Much higher | Water consumption increased by 44%. |
| Facility 8 | 0.12 | Lower | Water consumption decreased by 7%. |
| Facility 9 | 248.22 | Higher | Water discharged increased by 14%, but Erzin NGCCPP started its operations on September 2014. Therefore, for the last year it operated for only 3 months, where it operated during whole year of 2015. |

W5.4

For all facilities reported in W3.2a what proportion of their water accounting data has been externally verified?

| Water aspect | % verification | What standard and methodology was used? |
|---|----------------|--|
| Water withdrawals- total volumes | Not verified | Metering, assumptions, extrapolations, and estimations are used. |
| Water withdrawals- volume by sources | Not verified | Metering, assumptions, extrapolations, and estimations are used. |
| Water discharges- total volumes | Not verified | Metering, assumptions, extrapolations, and estimations are used. |
| Water discharges- volume by destination | Not verified | Metering, assumptions, extrapolations, and estimations are used. |
| Water discharges- volume by treatment method | Not verified | Metering, assumptions, extrapolations, and estimations are used. |
| Water discharge quality data- quality by standard effluent parameters | Not verified | Metering, assumptions, extrapolations, and estimations are used. |
| Water consumption- total volume | Not verified | Metering, assumptions, extrapolations, and estimations are used. |

Further Information

W6.1

Who has the highest level of direct responsibility for water within your organization and how frequently are they briefed?

| Highest level of direct responsibility for water issues | Frequency of briefings on water issues | Comment |
|---|--|--|
| Board of individuals/Sub-set of the Board or other committee appointed by the Board | Scheduled - monthly | 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 |

W6.2

Is water management integrated into your business strategy?

Yes

W6.2a

Please choose the option(s) below that best explain how water has positively influenced your business strategy

| Influence of water on business strategy | Please explain |
|---|---|
| Greater regulator engagement | Turkey is in the process of approximation to European Union Water Management regulation and system. In that manner, a new law about water management had put into force. It is planned that the authority of the management of water will be gathered under the General Directorate of Water Management. According to the view of new regulation, there will be no unique procedures or limits for all around Turkey, evaluations are done locally and the management will be decentralized. Akenerji has both a natural gas power plant and hydropower plants in its portfolio. Akenerji's focus on water management will help to itself for better compliance on existing and upcoming regulations. |
| Publicly demonstrated our commitment to water | Akenerji was the one and only Turkish energy company participated to the CDP Turkey 2015 Water Programme. With its publicly published respond to CDP Turkey, Akenerji underlined its pioneering role in the sector. |

W6.2b

Please choose the option(s) below that best explains how water has negatively influenced your business strategy

| Influence of water on business strategy | Please explain |
|---|--|
| Closure of operations | Water is vital for our main scope, which is generation of electricity. We have both a natural gas power plant and hydropower plants in our portfolio. For NGPPs; considerable amount of water is vital for particularly cooling process. Besides, we could say that water is our raw material to generate electricity from our HPPs. Absence of sufficient amount of water means closure of operations for us. |

W6.3

Does your organization have a water policy that sets out clear goals and guidelines for action?

Yes

W6.3a

Please select the content that best describes your water policy (tick all that apply)

| Content | Please explain why this content is included |
|---|---|
| Publicly available Company-wide Select facilities only Performance standards for direct operations Incorporated within group environmental, sustainability or EHS policy Acknowledges the human right to water, sanitation and hygiene | Akenerji publishes its Sustainability Report in Global Reporting Initiative (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. 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. All the things mentioned above are incorporated within company environmental, sustainability, and EHS policies. 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, 859 students & 46 teachers in Adana; 220 teachers & 15 students in Bursa were trained. Number of participants trained and number of informative meetings organized are of the measures of success. |

W6.4

How does your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) during the most recent reporting year compare to the previous reporting year?

| Water CAPEX (+/- % change) | Water OPEX (+/- % change) | Motivation for these changes |
|----------------------------|---------------------------|---|
| | | We could not publicise this information due to our confidentiality procedure. |

Further Information

Attachments

https://www.cdp.net/sites/2016/12/21112/Water_2016/Shared_Documents/Attachments/Water2016/W6.GovernanceandStrategy/Akenerji_Answer_of_W6.3a_Water_Policy.docx

Page: W7. Compliance

W7.1

Was your organization subject to any penalties, fines and/or enforcement orders for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations in the reporting year?

No

Further Information

Page: W8. Targets and Initiatives

W8.1

Do you have any company wide targets (quantitative) or goals (qualitative) related to water?

Yes, goals only

W8.1b

Please describe any company wide qualitative goals (ongoing or reached completion during the reporting period) and your progress in achieving these

| Goal | Motivation | Description of goal | Progress |
|---|------------------------|--|---|
| Other: Providing Sustainability Training to employees | Brand value protection | 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. | We aim to initiate a "Sustainability Training Programme" among Akenerji until to the end of 2017. |

Further Information

Module: Linkages/Tradeoff

Page: W9. Managing trade-offs between water and other environmental issues

W9.1

Has your organization identified any linkages or trade-offs between water and other environmental issues in its value chain?

Yes

W9.1a

Please describe the linkages or trade-offs and the related management policy or action

| Environmental issues | Linkage or trade-off | Policy or action |
|---|----------------------|---|
| 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. | Trade-off | 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 |

| Environmental issues | Linkage or trade-off | Policy or action |
|----------------------|----------------------|--|
| | | 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. |

Further Information

Module: Sign Off

Page: Sign Off

W10.1

Please provide the following information for the person that has signed off (approved) your CDP water response

| Name | Job title | Corresponding job category |
|---------------|---|-------------------------------|
| Serhan GENCER | Deputy General Manager of Production / Chief Production Officer (COO) | Chief Operating Officer (COO) |

W10.2

Please select if your organization would like CDP to transfer your publicly disclosed response strategy from questions W1.4a, W3.2c and W3.2d to the CEO Water Mandate Water Action Hub.

Yes

Further Information

CDP: [D][-,][D2]