# TÜRK HAVACILIK VE UZAY SANAYİİ A.Ş. - Water Security 2022

## W0. Introduction

### W0.1

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

Turkish Aerospace (TUSAŞ – Türk Havacılık ve Uzay Sanayii A.Ş in Turkish and herein after called as Turkish Aerospace) is Türkiye's technology center for the development, modernization, manufacture, system integration and life-cycle support of the aviation and space industry systems.

Turkish Aerospace is an explorer company challenging the unknown to shape the future.

Being among the top hundred global players in aviation and space industry, Turkish Aerospace is organized under six strategic business centers depending on the projects, including:

Structural Group

Aircraft Group

Helicopter Group

Unmanned Aerial Vehicle (UAV) Systems Group

Space Systems Group,

National Combat Aircraft (NCA) Group

In addition, integrated logistics support is provided for all products designed/manufactured by Turkish Aerospace.

With approximately 14 billion TRY turnover in 2021, Turkish Aerospace continued to be at the top 100 aviation and space companies in the world. Located in Ankara, the production plant covers an area of 4 million square meters with an industrial facility of 650,000 square meters under its roof. The company has a modern aircraft facility furnished with high technology machinery and equipment that provide extensive manufacturing capabilities ranging from parts manufacturing to aircraft assembly, flight tests and delivery. Four new buildings-Turkish Fighter Engineering Building, the Composite Production Building, the Space Systems Engineering Center and Factory-Level Component Maintenance Repair Center that their construction works were started in 2021, were inaugurated in 2022.

As of 2021, Turkish Aerospace employs over 11424 workers, of whom 3809 are research and development staff, working in military and other research projects.

Turkish Aerospace collaborates with many prominent brands, organizations, and establishments from Boeing to Airbus, TRMOTOR to numerous universities.

The pandemic which was heavily influential for two last years, blocked activity in almost all fields around the world such as production, sales, services and aviation.

The company continued its production for global brands and its modernization programs, made number of deliveries, prepared aerial vehicles for their first flight.

In 2021 there was an increase in the national inventory as aerial vehicles, the development of many projects in the facilities as an aerospace base, certificate and awards. Turkish Aerospace was granted the "Supplier of the Year" award by Spirit, one of the world's prominent aerostructure manufacturers. "Supplier of The Year Award" in the Alliance Category was received from Boeing, for the quality of its products and its delivery performance. Turkish Aerospace took second place in the R&D 250, Companies with the Highest R&D Expenses in Türkiye. As Turkish Aerospace, in 2021 we made a total of 84 patent applications, 51 of which are national and 33 are international. We have completed the patent registration procedures of our 20 patent applications.

We are currently the first company among industrial establishments in Türkiye to receive the Basic Level Zero Waste Certificate issued by the Ministry of Environment, Urbanization and Climate Change.  Waste Management and Green Flag League Projects, won the "Golden Award" in the Waste Management category at the Green World Awards, where 500 projects competed and the world's best environmental practices were selected. Turkish Aerospace was awarded with the title of "Green World Ambassador" in the international arena.

The company reached ninth place in the research "Most Favorite Companies" in 2021. It ranked third in the "Best Employer Brand Management" in Engineering and Production Industries" category and continues to be among the "Best Employer Brands" in Europe. For its internal communication efforts and employer brand, Turkish Aerospace won the silver award at the Corporate Engagement Awards. The company is the first Turkish brand to receive such an award.

Turkish Aerospace has ISO 14001:2015 Certificate since 2018 and received the ISO 50001:2018 EMS Certificate in 2019. The company, which started the process of gathering greenhouse gas emissions data in the reporting year, finalized the third party verification and was awarded with ISO 14064:2018 with zero non-compliance in May, 2022. Turkish Aerospace is the first defense company being certified from an accredited international third party. With the investments prioritizing energy saving, the company continue contributing to its sustainable clean energy policy.

### 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 2021 | December 31 2021 |

## W0.3

**(W0.3) Select the countries/areas in which you operate.**

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?**

No

## W0.7

**(W0.7) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?**

| Indicate whether you are able to provide a unique identifier for your organization. | Provide your unique identifier |
|---|---|
| No | <Not Applicable> |

# 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 | Important | Important | In Turkish Aerospace, water is used in key manufacturing processes such as chemical surface application, cooling towers, laboratories, other WASH/ cafeteria services and green areas. In addition to the use of water in production, water is also used in the lodgings within the boundaries of the enterprise. Access to good quality and sufficient volume of water is important for direct and indirect operations. The operations are not water intensive. But a lack of good quality freshwater can have an appreciable impact on our direct and indirect operations, therefore it is rated as “important”<br>Reducing water usage during direct and indirect activities is in our short- term plans within the context of ISO 50001:2018, ISO 14001:2015 and other climate related environmental plans. Within two years we are planning to get ISO 14046 certification.<br>Some investments were performed as BAT after water related risk assessments.<br>The company realizes large purchases of materials and components that require good quality of water in the production phase.<br>For indirect uses water related qualitative and quantitative data will be collected from supply chain with key risk assessment phases. After this procedure, approved supplier revisions will be made in the short-term. |
| Sufficient amounts of recycled, brackish and/or produced water available for use | Important | Important | In the short-term there is no any urgent need, water generated from domestic water treatment of the facility is used for irrigation purpose.<br>This topic is rated as “important” for Turkish Aerospace and for its suppliers' performance. The reduction of fresh water use counter water stress risk is important for direct and indirect uses. Less waste water generation has a great importance to keep receiving water environment clean.<br>Water recovery unit’s systems are at the installation stage and planned for new processes/facilities. They will ensure zero liquid waste discharge from the facility<br>Considering water stress situation and drought risk in the region where Turkish Aerospace is located, water efficiency projects such as Zero Liquid Discharge (ZLD) applications and water automation systems (SCADA) and Digital Controllers, were considered in the facility investment plans. These applications have been continuing in 2021 and these are planned to be put in use within 2022-2023 In the med- term; different feasibility works for the recycle/reuse of the waste water will be in the concern of the company. This practice will also be an important criterion during supplier selection. |

## 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% | The total volume of water withdrawn for the facility located in Ankara Kahramankazan, is measured and monitored regularly.<br>100% of raw water used is withdrawn from two dams located in Sakarya Basin.<br>(DSI -State Hydraulic Works is responsible from the utilization of all country's water resources). The total volume of water withdrawn from the dams is brought to Turkish Aerospace with a 5 km pipeline.<br>Data is measured and systematized to prevent losses from the Water Distribution System. To realize this stage, 251 smart meters were installed in the internal water distribution network of Turkish Aerospace. The data collected from the meters is visualized in a SCADA system called XView. The measurements and monitoring of a total of 80 buildings, including the production buildings and lodging area, can be seen instantly through this integrated system, where data is kept for the evaluation of consumption trends and reduction target performance. |
| Water withdrawals – volumes by source | 100% | The volume of water withdrawn by source for the facility located in Ankara Kahramankazan, is measured and monitored regularly.<br>100% of water used is withdrawn from the dams located in Sakarya Basin.<br>(DSI -State Hydraulic Works is responsible from the utilization of all country's water resources.)<br>The raw water withdrawn from the dams is brought to Turkish Aerospace with a 5 km pipeline.<br>Data is measured and systematized to prevent losses from the Water Distribution System. To realize this stage, 251 smart meters were installed in the internal water distribution network of Turkish Aerospace. The data collected from the meters is visualized in a SCADA system called XView. The measurements and monitoring of a total of 80 buildings, including the production buildings and lodging area, can be seen instantly through this integrated system, where data is kept for the evaluation of consumption trends and reduction target performance. |
| Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector] | <Not Applicable> | <Not Applicable> |
| Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector] | <Not Applicable> | <Not Applicable> |
| Water withdrawals quality | 100% | The quality of water withdrawn for the facility located in Ankara, Kahramankazan is regularly measured and monitored. 100% of water used is withdrawn from the dams located in Sakarya Basin.<br>DSI reports and monitors the water quality of the dams in daily periods.<br>The water withdrawn from the dams is brought to Turkish Aerospace with a 5 km pipeline.<br>Raw water is treated in water treatment plant for drinking and utility purpose. The quality of treated water is controlled in the laboratories of the facility. The daily and monthly controlled parameters are:<br>pH, turbidity,total hardness, SS,color, free chlorine, M- Alkalinity, P-Alkalinity, Fe, Al, NH4, Cd, NO3, NO2, Cl2, Cl, SO4, Cr, Mn, Ni, Cu, O2, F, Zn, Coliform Bacteria.<br>Treatment plant's efficiency evaluation takes place every day. The parameters are under the control of Environment Management and Climate Change Unit. Utility and drinking water quality data is recorded into a corporate database. |
| Water discharges – total volumes | 100% | After being treated in the treatment plants, total volume of treated water is discharged into a stream as receiving river which is under the control of water authorities. Discharge parameters are within the scope of Water Pollution Control Regulation and controls are carried out by ASKİ (Ankara Municipality Waterworks) and Provincial Directorate of Environment.<br>Turkish Aerospace also measures and monitors total volume and the discharge parameter values internally.<br>Samples are taken from the wastewater treatment plant outlet once every 2 weeks by the accredited laboratory and analysis parameters are reported according to Water Pollution Control Regulation Table:18.2.<br>In addition, the parameters of the wastewater treatment plant are monitored daily.<br>Data is recorded into a corporate database. |
| Water discharges – volumes by destination | 100% | After being treated in the treatment plants, total volume of treated water is discharged into a stream as receiving river which is under the control of water authorities. Discharge parameters remain within the scope of Water Pollution Control Regulation and controls are carried out by ASKİ (Ankara Municipality Waterworks) and Provincial Directorate of Environment. Turkish Aerospace also measures and monitors total volume and the discharge parameter values internally. Samples are taken from the wastewater treatment plant outlet once every 2 weeks by the accredited laboratory and analysis parameters are reported according to Water Pollution Control Regulation Table:18.2.<br>In addition, the parameters of the wastewater treatment plant are monitored daily.<br>Data is recorded into a corporate database. |
| Water discharges – volumes by treatment method | 100% | Waste Water generated from Turkish Aerospace operations is pretreated in the industrial treatment plant where neutralization and settling process take place. It is directed to domestic waste water treatment plant where 100% of facility's discharge water is treated.<br>Volume by treatment method is measured and monitored within the scope of Water Pollution Control Regulation (Table 18.2) and controls are carried out by ASKİ (Ankara Municipality Waterworks) and /or Provincial Directorate of Environment. Turkish Aerospace also measures and monitors total volume by treatment method. Treatment plants' efficiency evaluation takes place every day. |
| Water discharge quality – by standard effluent parameters | 100% | Waste Water generated from Turkish Aerospace operations is pretreated in the industrial treatment plant where neutralization and settling process take place, than it is directed to domestic waste water treatment plant where 100% of facility's discharge water is treated.<br>Discharge parameters are measured and monitored within the scope of Water Pollution Control Regulation (Table 18.2) and controls are carried out by ASKİ (Ankara Municipality Waterworks) and Provincial Directorate of Environment.<br>Effluent Parameters: PO4, P, NH4, N, COD.<br>Turkish Aerospace also measures and monitors daily, standard effluent parameters internally in its laboratory.<br>Water discharge parameters are monitored by an accredited laboratory 2 times/ month.<br>Treatment plants' efficiency evaluation takes place every day. |
| Water discharge quality – temperature | 100% | It is not a relevant metric for Turkish Aerospace. It is at ambient temperature level. |
| Water consumption – total volume | 100% | For the purpose to assess consumption trends and reduction targets, water consumption is 100% measured as total volume.<br>In our reporting the term "water consumption" refers to "water withdrawal" which is defined as "the sum of all water drawn into the boundaries of the organization from all sources and not discharged to the same source as destination. |
| Water recycled/reused | 100% | A water recovery system "Degreasing Zero Liquid Discharge- ZLD system"<br>has been installed to purify and reuse the wastewater generated as a result of the process.<br>The water recovery system to be operated at the facility consists of activated carbon, deionization (anion-cation units), vacuum evaporator and reverse osmosis. The system will be activated in 2022.<br>The treated water of domestic treatment plant is stored and used in irrigation in case of need.<br>45% of domestic water treatment plant's effluent is used for irrigation purpose in 2021 |
| The provision of fully-functioning, safely managed WASH services to all workers | 100% | Turkish Aerospace provides safely managed WASH services to all workers.<br>In the facility WASH services are measured and monitored 100% to ensure the fully-functioning |

## 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 | 1065.8 | About the same | The total volume of water withdrawn for the facility located in Ankara Kahramankazan, is measured and monitored.<br>100% of raw water used is withdrawn from two dams located in Sakarya Basin.<br>(DSI -State Hydraulic Works is responsible for the utilization of all country's water resources). The total volume of water withdrawn from the dams is brought to Turkish Aerospace with a 5 km pipeline.<br>Data is measured and systematized to prevent losses from the Water Distribution System. To realize this stage, 251 smart meters were installed in the internal water distribution network of Turkish Aerospace. The data collected from the meters is visualized in a SCADA system called XView. The measurements and monitoring of a total of 80 buildings, including the production buildings and lodging area, can be seen instantly through this integrated system, where data is kept for the evaluation of consumption trends and reduction target performance.<br>The reporting year's figure is about the same as the previous year's<br>Our threshold definitions are as follows: 0% - 5% about the same 5%- 25% higher or lower over %25: much higher or lower. |
| Total discharges | 177.58 | Higher | Total volume of treated water is discharged into a stream as receiving river which is under the control of water authorities. Discharge parameters are within the scope of Water Pollution Control Regulation and controls are carried out by ASKİ (Ankara Municipality Waterworks) and Provincial Directorate of Environment.<br>Turkish Aerospace also measures and monitors total volume and the discharge parameter values internally.<br>Data is recorded and entered into the corporate system The analysis results are submitted to the MoEU&CC's online system<br>The reporting year's figure is higher than the previous year's one.<br>Our threshold definitions are as follows: 0% - 5% about the same 5%- 25% higher or lower over %25: much higher or lower. |
| Total consumption | 888.22 | About the same | We calculate the consumption figure using the formula Consumption(C) = Withdrawal(W) – Discharge(D)<br>The reporting year's figure is about the same as the previous year's.<br>Our threshold definitions are as follows: 0% - 5% about the same 5%- 25% higher or lower over %25: much higher or lower. |

## W1.2d

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

| | Withdrawals are from areas with water stress | % withdrawn from areas with water stress | Comparison with previous reporting year | Identification tool | Please explain |
|---|---|---|---|---|---|
| Row 1 | Yes | 100% | About the same | WRI Aqueduct | The WRI Aqueduct has been used for water stress areas identification. It is the recommended tool in the Technical Supplement: The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities published by TCFD and it enables to identify future water risks.<br>Türkiye is a water stress country according to the volume of water available per capita /year. The water related risks are assessed for Turkish Aerospace campus located in Sakarya basin. Other country/ region wide data of General Directorate of State Hydraulic Works- DSI<br>and ASKI Information from the official WEB page was studied. It is determined that the campus is established in water stressed areas.<br>According to Aqueduct Water Risk Atlas, Physical risk quantity in Sakarya Basin;<br>Water Stress is extremely high >80%<br>Water Depletion is med-high (25-50%)<br>Drought Risk is medium<br>The ground- water decline is low- medium (0-2 cm/year)<br>Physical Risk Quality: Untreated Connected Wastewater: Medium - High (60-90%) |

## 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 | Not relevant | <Not Applicable> | <Not Applicable> | In 2021,Turkish Aerospace did not withdrawn from fresh surface water, including rainwater, water from wetlands, rivers, and lakes therefore this source is not relevant. |
| Brackish surface water/Seawater | Not relevant | <Not Applicable> | <Not Applicable> | In 2021,Turkish Aerospace did not withdrawn from Brackish surface water/Seawater therefore this source is not relevant. |
| Groundwater – renewable | Not relevant | <Not Applicable> | <Not Applicable> | In 2021, Turkish Aerospace did not withdrawn from Groundwater – renewable therefore this source is not relevant |
| Groundwater – non-renewable | Not relevant | <Not Applicable> | <Not Applicable> | In 2021, Turkish Aerospace did not withdrawn from Groundwater –non renewable Therefore this source is not relevant |
| Produced/Entrained water | Not relevant | <Not Applicable> | <Not Applicable> | In 2021, Turkish Aerospace did not withdraw from Produced/Entrained water therefore this source is not relevant |
| Third party sources | Relevant | 1065.8 | About the same | 100% of raw water used is withdrawn from two dams located in Sakarya Basin.<br>(DSI -State Hydraulic Works is responsible for the utilization of all country's water resources and ASKI - Ankara Water and Sewerage Administration has been given the responsibility of water management). The total volume of water withdrawn from the dams is brought to Turkish Aerospace with a 5 km pipeline. Data is measured and systematized to prevent losses from the Water Distribution System. To realize this stage, 251 smart meters were installed in the internal water distribution network of Turkish Aerospace.<br>Our threshold definitions are as follows: 0% - 5% about the same 5%- 25% higher or lower over %25: much higher or lower. |

## 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 | Relevant | 177.58 | Higher | Waste Water generated from Turkish Aerospace operations is pre-treated in the industrial treatment plant where neutralization and settling process takes place, than it is directed to domestic waste water treatment plant where 100% of discharge water is treated, total volume of treated water is discharged into a stream as receiving river which is under the control of water authorities.<br>Discharge parameters remain within the scope of Water Pollution Control Regulation (Table 18.2) and legal controls are carried out by ASKI and Provincial Directorate of Environment.<br>Controlled effluent parameters: PO4,P,NH4,N,COD<br>Turkish Aerospace, also measures and monitors daily, standard effluent parameters internally in its laboratory.<br>Water discharge parameters are monitored by an accredited laboratory 2 times/ month.<br>Treatment plants' efficiency evaluation takes place every day.<br>Our threshold definitions: 0% - 5% about the same 5%- 25% higher or lower over %25: much higher or lower. |
| Brackish surface water/seawater | Not relevant | <Not Applicable> | <Not Applicable> | In 2021, Turkish Aerospace did not discharge to brackish surface water or seawater, therefore this destination is not relevant. |
| Groundwater | Not relevant | <Not Applicable> | <Not Applicable> | In 2021, Turkish Aerospace did not discharge to groundwater, therefore this destination is not relevant |
| Third-party destinations | Not relevant | <Not Applicable> | <Not Applicable> | In 2021, Turkish Aerospace did not discharge to third party destinations, therefore this destination is not relevant |

## W1.2j

### (W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

| | Relevance of treatment level to discharge | Volume (megaliters/year) | Comparison of treated volume with previous reporting year | % of your sites/facilities/operations this volume applies to | Please explain |
|---|---|---|---|---|---|
| Tertiary treatment | Not relevant | <Not Applicable> | <Not Applicable> | <Not Applicable> | Turkish Aerospace does not have a tertiary treatment plant. Waste Water generated from Turkish Aerospace's operations is pre-treated in the industrial treatment plant where neutralization and settling process take place, then it is directed to domestic waste water treatment plant where 100% of facility's discharge water is treated. |
| Secondary treatment | Relevant | 177.58 | Higher | 100% | Turkish Aerospace has secondary treatment in the domestic waste water treatment plant.<br>Waste Water generated from Turkish Aerospace's operations is pre-treated in the industrial treatment plant where neutralization and settling process take place, than it is directed to domestic waste water treatment plant where 100% of facility's discharge water is treated. Total volume of treated water is discharged into a stream as receiving river which is under the control of water authorities.<br>Discharge parameters are measured and monitored within the scope of Water Pollution Control Regulation (Table 18.2- fixed by the authority base on the discharge destination) and controls are carried out by ASKİ (Ankara Municipality Waterworks) and Provincial Directorate of Environment.<br>Standard Effluent Parameters: PO4,P,NH4,N,COD<br>Turkish Aerospace measures and monitors daily, standard effluent parameters internally, in its laboratory.<br>Water discharge parameters are monitored by an accredited laboratory 2 times/ month.<br>The analysis results are submitted to the MoEU&CC's online system<br>Treatment plants' efficiency evaluation takes place every day.<br>Our threshold definitions: 0% - 5% about the same 5%- 25% higher or lower over %25: much higher or lower. |
| Primary treatment only | Relevant | 60 | About the same | 100% | Waste Water generated from Turkish Aerospace's operations is pre-treated first in the industrial treatment plant where neutralization and settling process take place. The monitored parameters are: Acid, caustic, chrome and caustic sludge, coolant, acid sulfuric, metabisulfite, polymer.<br>The pre-treated waste water is directed to the domestic treatment plant when the parameters are in the intervals required for efficiency.<br>The pretreated water is directed to domestic waste water treatment plant where 100% of facility's discharge water is treated.<br>The efficiency of the primary and secondary treatment plants is monitored daily.<br>It is checked by an accredited laboratory.<br>Our threshold definitions: 0% - 5% about the same 5%- 25% higher or lower over %25: much higher or lower. |
| Discharge to the natural environment without treatment | Not relevant | <Not Applicable> | <Not Applicable> | <Not Applicable> | In 2021, Turkish Aerospace did not discharge to the natural environment without treatment therefore this destination is not relevant |
| Discharge to a third party without treatment | Not relevant | <Not Applicable> | <Not Applicable> | <Not Applicable> | In 2021, Turkish Aerospace did not discharge to the natural environment without treatment therefore this destination is not relevant |
| Other | Not relevant | <Not Applicable> | <Not Applicable> | <Not Applicable> | There is no operation that requires other treatment in Turkish Aerospace's facilities |

## W1.3

### (W1.3) Provide a figure for your organization's total water withdrawal efficiency.

| | Revenue | Total water withdrawal volume (megaliters) | Total water withdrawal efficiency | Anticipated forward trend |
|---|---|---|---|---|
| Row 1 | 1260000000 | 1065.8 | | It is anticipated that this efficiency will be improved by new investments such as Zero Liquid Discharge (ZLD) systems and digital control and monitoring of cooling water conditioning and water distribution system. |

## W1.4

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

Yes, our suppliers

Yes, our customers or other value chain partners

## W1.4a

**(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?**

**Row 1**

**% of suppliers by number**

1-25

**% of total procurement spend**

1-25

**Rationale for this coverage**

Turkish Aerospace's Water Policy, was updated and announced to all employees, tier 1 suppliers and other stakeholders in the reporting year. In the context of purchasing process, it has been decided by the sustainability committee / CEO to collect data on climate change/water related issues from the suppliers having key impact on purchasing issues.
In the context of Water Policy, the company acts on awareness-raising of its suppliers and other stakeholders.
In the second party audits, the compliance of the suppliers is executed.
Site Assessment audits were performed only for key suppliers.
The Supplier Assessment Questionnaire was applied to suppliers for collecting data on water & energy use and waste& wastewater management system.

**Impact of the engagement and measures of success**

The internal goal of success from supplier engagement is to increase supplier response rate and the ratio of acknowledgement of the Water Policy.
The suppliers' duty is to make continuous improvement in water & energy related consumption. Demands of the company from the suppliers to keep them in the approval list are:
* Legal compliance on all climate/ water related activities.
* Reduction of electricity / water / natural gas, other fuel etc. consumption
*Activation of existing environmental management systems, (Waste management practices, etc.) or certification of ISO 14001
*Participation of the training on Greenhouse Gas Emission inventory management. Next year the suppliers will be monitored and scored according to their replies. For the next two years, Turkish Aerospace will guide them to set targets on water and energy related actions.

**Comment**

This engagement could bring the opportunity for suppliers to confirm and improve their actions for preventing water-related risks.

## W1.4b

**(W1.4b) Provide details of any other water-related supplier engagement activity.**

**Type of engagement**

Onboarding & compliance

**Details of engagement**

Requirement to adhere to our code of conduct regarding water stewardship and management

**% of suppliers by number**

76-100

**% of total procurement spend**

76-100

**Rationale for the coverage of your engagement**

In the context of our Policy we request from our suppliers including local material and service providers, to confirm our procurement rules, including responsible use of natural resources such as water, and other raw materials.

**Impact of the engagement and measures of success**

Our measure of success is to engage with all of our supply chain and have their commitment to our procurement policies.
All strategic suppliers have committed to comply with our procurement policy, which enables the company to identify and manage supply chain-related water/ environmental risks and impact, so the necessary measures will be applied to improve supply chain performance.

**Comment**

This number will increase in the coming reporting period as the measure of success.

## W1.4c

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

Responsible water stewardship is material for Turkish Aerospace  covering all partners in the value chain.

Turkish Aerospace is the member of American Water Works Association which is an international non-profit, scientific and educational association founded to improve water quality and supply. In this context, the company has activities such as participating in training, webinars, giving opinions by participating in evaluation surveys.

Raising employee awareness in the use of water, and engaging with local communities where its operations take place is an important topic for Turkish Aerospace who is able to demonstrate its commitment that water should be evaluated within the scope of human rights.

Success is measured by increases in the number of employees involved to water consumption reduction activities and the attendance to the training. Next year the environment department will prepare videos on climate/ water related issues to all delegations visiting the campus.

Within the CDP Water Program, Turkish Aerospace planned to report transparently water based management in company-wide.  In the context of ISO 14001, we annually evaluate and update the expectations and needs of each representative group in our value chain. By this method the engagement is ensured with our value chain. We have numerous platforms where we publicly share all environment related activities especially water related parameters: Our website, Sustainability and Annual Reports, Supplier Sustainability Rating Reporting, Water Security, and Eco Vadis.

The company performed the inspection of IS/IT Industrial Supplier Assessment by Airbus without any non-conformity.

Turkish Aerospace was granted the "supplier of the year" award by Spirit, one of the world's prominent aerostructurer's manufacturers.

## 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

### 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.**

**Value chain stage**

Direct operations

**Coverage**

Full

**Risk assessment procedure**

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

**Frequency of assessment**

Annually

**How far into the future are risks considered?**

More than 6 years

**Type of tools and methods used**

Tools on the market
Enterprise risk management
International methodologies and standards

**Tools and methods used**

WRI Aqueduct
Enterprise Risk Management

**Contextual issues considered**
Water availability at a basin/catchment level
Water quality at a basin/catchment level
Implications of water on your key commodities/raw materials
Water regulatory frameworks
Access to fully-functioning, safely managed WASH services for all employees

**Stakeholders considered**
Customers
Employees
Investors
Local communities
NGOs
Regulators
Suppliers
Water utilities at a local level
Other water users at the basin/catchment level

**Comment**
The company has reviewed all operations via publicly available tools (WRI Aqueduct) to identify the current and future conditions of the basin in which the facility operates. Water availability and water quality at basin level was assessed in the frame of water regulatory works. In response to this analysis, it has been determined that reducing water use in operations, safely managed WASH services for all employees is material. Engagement with the employees are: Company water performance and water management approach sharing, information sharing about the water policy. Identification of global and local risks related with water. For our business it is very important to fully identify the risks at the operational level. Apart from the stated tools and methods, we also use a company specific risk management approach and also use ISO 14001 system while identifying and assessing water-related risks

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**Value chain stage**
Supply chain

**Coverage**
Full

**Risk assessment procedure**
Water risks are assessed as part of other company-wide risk assessment system

**Frequency of assessment**
Annually

**How far into the future are risks considered?**
More than 6 years

**Type of tools and methods used**
Tools on the market
Enterprise risk management
International methodologies and standards

**Tools and methods used**
WRI Aqueduct
Enterprise Risk Management
Environmental Impact Assessment
ISO 14001 Environmental Management Standard

**Contextual issues considered**
Water availability at a basin/catchment level
Water quality at a basin/catchment level
Implications of water on your key commodities/raw materials
Water regulatory frameworks
Access to fully-functioning, safely managed WASH services for all employees

**Stakeholders considered**
Employees
Local communities
NGOs
Regulators
Suppliers
Water utilities at a local level

**Comment**
The company has reviewed all operations via publicly available tools (WRI Aqueduct) identify the current and future conditions of the basin in which the critical suppliers are located. Related water regulatory frameworks are always in the concern of the company. Necessary tools and methods are always used to evaluate the related risks. Critical suppliers are selected based on their water intensive activities, they were asked to report water management through the questionnaire. 2 nd party environmental audits take place throughout the year.

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**Value chain stage**
Other stages of the value chain

**Coverage**
Partial

**Risk assessment procedure**
Water risks are assessed as part of other company-wide risk assessment system

**Frequency of assessment**
Annually

**How far into the future are risks considered?**

More than 6 years

**Type of tools and methods used**
Tools on the market
International methodologies and standards

**Tools and methods used**
WRI Aqueduct
Environmental Impact Assessment
ISO 14001 Environmental Management Standard

**Contextual issues considered**
Water availability at a basin/catchment level
Water quality at a basin/catchment level
Implications of water on your key commodities/raw materials
Water regulatory frameworks
Access to fully-functioning, safely managed WASH services for all employees

**Stakeholders considered**
Customers
Employees
Investors
Local communities
NGOs
Regulators
Suppliers
Water utilities at a local level
Other water users at the basin/catchment level

**Comment**
As part of other stages of our value chain, we conduct risk assessment covering water-related risks associated with customers and policy makers. We use company specific risk assessment process in line with ISO 14001 as well as conducting an analysis using WRI Aqueduct Assessment Tool. When there is capacity expansions and new investments, we also use environmental impact assessment.
Turkish Aerospace is the member of American Water Works Association (AWWA) which is an international non-profit, scientific and educational association founded to improve water quality and supply. In this context, the company has activities such as participating in training, webinars, giving opinions by participating in evaluation surveys

## W3.3b

**(W3.3b) 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.**

The assessment of risks which have potential to affect the corporate sustainability of the Company is integrated into decision mechanism. The identification, evaluation, and reporting of the risks take place with the risk reactions and the measures to be taken. The review and the improvement of Enterprise Risk Management process is regularly executed.

Corporate risks are determined as a result of strategic targets, regulations, senior management directives and presentations, process analyses, performance indicators, audit reports, process owner interviews, monitoring of global developments, risk assessment tools on the market and IPCC Climate Change Projections, literature research. The tools evaluate the value chain in terms of water basin water scarcity, water intensity of all operations, legal compliance, and relevant environmental management systems. These tools are well suited to the relevant global water issues of direct operations and other stages of the value chain, range of water risk types covered, and ability to monetize risk.

Our water assessment occurs annually and looks out past six years at water impacts. By using assessment outputs, we identify our value chain to engage further to mitigate identified water-related risks. We assess all our business divisions representing our own facility. In three years, we will expand the boundaries of our suppliers that constitute 90% of our production spend. For our suppliers, we assess site-level water risk exposure, water-intensity of the manufacturing operations and reduce impacts on local environments and communities. For our customer use phase, we use life-cycle assessment and other product water impact evaluation methodologies.

At company and asset level, water related risks include, water related laws and regulations, changes in weather conditions, water availability and water quality at basin/ catchment level , global competitiveness, employee related issues, potential threats of national security, changing customer demands and suppliers' profile.

Including both threats and opportunities, they are reported to the system by their description and definitions. Risk-related discussions take place, risk critical levels are calculated, response method and responsible persons are determined, control plans are created, control and follow-up are started. The company-wide audit division evaluates and reports whether the activities are functioning in an effective way. The ways to treat risks are managed in three categories: Acceptance: Accepting the existence of the risk but taking no action. Mitigation/Actualization: Taking action to prevent/actualize the risk. Transference: Transferring the responsibility to another company.

Sustainability Committee assess water related risks and reviews the impacts on targets at company level. The R&Os are studied in the context of the evaluation process with the Early Detection and Management of Risk Committee who finalizes all water related risk analysis and present the critical risks that are assessed to be of "Very High" importance to CEO/ Board according to the scoring methodology defined below. The Board decides on the financial measures to be applied and the Early Detection and Management of Risk Committee starts the action. An itemized implementation plan is done in the scope of ISO 14001:2015 for a detailed assessment and planning.
In 2021 the Environmental Management and Climate Change Unit initiated the assessment of water related risks, the information sharing and related studies have been realized with the collaboration of Energy Department, Risk Management Department and Sustainability Committee. Significant risks were reported to the Board of Directors after providing recommendations to the CEO. The R&Os are identified, assessed and managed within the scope of 8 risk classes corporately determined. All risks are classified by the risk assessment module as low, medium, high and very high according to their criticality levels. 193 environmental risks were identified in 2021. Acceptance methods were selected for 105 of them and control application methods were selected for 88 of them. Energy and environmental risk maturity levels were assessed for the first time in 2021. A measurement instruction was published on this subject. Worldwide developments under the influence of the pandemic were examined in the context of aerospace and defense industry processes, and corporate base important risks were explained in the " Turkish Aerospace, 2021 Risk Agenda Report" with comments and measures taken.

With the formulation and the review of short-med & long-term management strategy, transitional risks such as emerging regulation risks including water consumption reduction and zero discharge measures for 2021-2022 period, were presented to the EDMR Committee in the reporting year.

## W4. Risks and opportunities

### W4.1

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

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

### W4.1a

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

As per our Enterprise Risk Management Policy, we aim to contribute to corporate sustainability by proactively managing all kinds of opportunities and threats that we may encounter within the scope of the activities aiming to achieve our strategic goals. We define our risks in an integrated manner with our processes and create risk management strategies that are compliant with our strategic goals.

In our Enterprise Risk Management System there are 8 risk classes. Risk classes and responsible departments are:

· Enterprise Risks: *Enterprise Risk Management*

· Program Risks: *Program Management Team*

· Information Security Risks: *Security Working Group*

· Safety Risks: *Safety Management*

· Environmental Risks: *Environment and Climate Change Management*

· OHS Risks: *Occupational Health and Safety*

· Procurement Risks: *Related Procurement Dept.*

· Energy Risks: *Energy and Infrastructure Dept.*

Enterprise risks are categorized as Financial, Strategic/Compliance, Operational, Threat, Contract risks. Risks are scored by risk criticality levels. Risk criticality level is composed of risk impact value and likelihood value.  In all risks, impact value and likelihood value are scored according to attached risk tables.

If annual impact value is greater than %1 of the target endorsement value, the impact value is considered as very high, as substantive financial impact.

If the risk is related to more than one strategic target from the Strategic Plan and it is assumed to be solved in more than one week, the impact value is considered as very high.

In order to evaluate effectiveness of risk management activities, Risk Maturity Levels are measured by Enterprise Development Management and results are reported to the related departments. Quality of the risks, risk treatment options, risk criticality levels, risk mitigation plans, number of risks are considered while measuring the Risk Maturity Level. In addition, in order to increase the awareness and the risk monitoring levels, every three months risks and risk details are reported to the responsible and relevant managers.

The campus is located in water stress area. Water availability and quality would bring some risks in the med & long-term, in the region where we operate. We have committed to take water responsibly in our internal operations and engage with related communities of our value chain. We detected risks by using as physical risk analysis - WRI Aqueduct- and also internal knowledge of our facility and local watersheds.

Emerging regulatory water related issues, severe weather events or other labor force interruption are the main evaluation items of climate and water related risks. Emergency drills are in place and executed regularly.

Turkish Aerospace committed to conserve water by using it responsibly. The company will address water challenges internally within its own operations and externally in communities where it operates and throughout the supply chain.

In the med-term we will share our knowledge and in site practices about water use reduction and discharging activities of our main suppliers. The fixed commitment of our water policy orients us to lead them to water stewardship. The supplier risk assessment questionnaire will guide them to set targets and make improvements in water and energy related actions. The second party surveys will help to start the actions.

### W4.1b

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

| | Total number of facilities exposed to water risk | % company-wide facilities this represents | Comment |
|---|---|---|---|
| Row 1 | 1 | 100 | The facility and the lodges are totally under the company's operational control. |

## W4.1c

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

**Country/Area & River basin**

| | |
|---|---|
| Turkey | Sakarya |

**Number of facilities exposed to water risk**
1

**% company-wide facilities this represents**
100%

**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**
<Not Applicable>

**% company's global oil & gas production volume that could be affected by these facilities**
<Not Applicable>

**% company's total global revenue that could be affected**
1-10

**Comment**
The campus has the potential to be affected from Sakarya river basin risks.

## W4.2

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

**Country/Area & River basin**

| | |
|---|---|
| Turkey | Sakarya |

**Type of risk & Primary risk driver**

| | |
|---|---|
| Acute physical | Flood (coastal, fluvial, pluvial, groundwater) |

**Primary potential impact**
Disruption to workforce management and planning

**Company-specific description**
Base on the analysis on WRI, Water Risk Atlas Tool (annual temporal resolution /physical risk quantity and country rankings), Sakarya River Basin is exposed high risk of extreme weather events such as flooding.
The business continuity in the campus could be interrupted by the flooding damage, the health of the employees may be negatively impacted. The damages to facility buildings may occur physically.

**Timeframe**
1-3 years

**Magnitude of potential impact**
Medium-high

**Likelihood**
Likely

**Are you able to provide a potential financial impact figure?**
Yes, an estimated range

**Potential financial impact figure (currency)**
<Not Applicable>

**Potential financial impact figure - minimum (currency)**
4846154

**Potential financial impact figure - maximum (currency)**
24230769

**Explanation of financial impact**
The magnitude and frequency of the events determine the financial impact of this risk, financial impact provided here is determined min 1 day/ max 5 days business interruption risk assumption. The financial impact figure is after the sales or delivery figure of the impacted day. The financial implication of a daily shut-off, calculation for 1 day: (Revenues)1,260,000,000 USD / 260 (working days in 2021) =4,846,154 USD
Calculation result for 5 days is: 24,230,769 USD

**Primary response to risk**
Improve maintenance of infrastructure

**Description of response**
In occurrence case of natural disaster or significant hazard, business continuity management plan is used. Providing employee security and health, ensuring continuity in the activities, minimizing financial losses are material activities.

**Cost of response**
16296.6

**Explanation of cost of response**
The cost of the response is estimated based on risk management process which is controlled through the insurance system. The insurance is updated annually according to the size of the incidents. The flood emergency plans are improved. The cost is related with insurance premium value, covering only physical risk driver.

---

**Country/Area & River basin**

| | |
|---|---|
| Turkey | Sakarya |

**Type of risk & Primary risk driver**

| | |
|---|---|
| Acute physical | Other, please specify (Rupture in the pipeline) |

**Primary potential impact**
Reduction or disruption in production capacity

**Company-specific description**
The total volume of water withdrawn from the dams is brought to Turkish Aerospace with a 5 km pipeline. Data is measured and systematized monitoring takes place to prevent losses from the Water Distribution System. Against the damages that may occur in the pipeline during the transportation of water from the dams, the campus would run out of water for a period of 1 to 5 days. A water reserve should be kept for emergencies against the risk's exposure.

**Timeframe**
1-3 years

**Magnitude of potential impact**
Medium-high

**Likelihood**
More likely than not

**Are you able to provide a potential financial impact figure?**
Yes, an estimated range

**Potential financial impact figure (currency)**
<Not Applicable>

**Potential financial impact figure - minimum (currency)**
4846154

**Potential financial impact figure - maximum (currency)**
24230769

**Explanation of financial impact**
Financial impact explained is determined min 1 day/ max 5 days business interruption risk assumption.
The financial impact figure is calculated based on sales or delivery figure of the impacted day. The financial implication of a daily shut-off calculation for1 day:
(Revenues)1,260,000,000 USD / 260 (working days in 2021) =4,846,154 USD
calculation result for 5 days is: 24,230,769 USD

**Primary response to risk**
Adopt water efficiency, water reuse, recycling and conservation practices

**Description of response**
A water reserve should be kept for emergencies against the risk's exposure.

**Cost of response**
16296.6

**Explanation of cost of response**
The cost of the response is estimated based on risk management process which is controlled through the insurance system. The insurance is updated annually according to the size of the incidents. The flood emergency plans are assessed and improved. The cost is related with insurance premium value, covering only physical risk driver

---

**Country/Area & River basin**

| | |
|---|---|
| Turkey | Sakarya |

**Type of risk & Primary risk driver**

| | |
|---|---|
| Chronic physical | Water scarcity |

**Primary potential impact**
Reduction or disruption in production capacity

**Company-specific description**

Turkish Aerospace uses the WRI Aqueduct Country Rankings/Drought Risk tool to detect risks related to severe weather events/ drought affecting the basin. Ankara Region is located in an area which is exposed to the drought-risk (medium-high 0.6-0.8), according to Aqueduct Water Risk Atlas Employees health conditions could be affected from drought which intensifies water stress by negatively impacting people's health and productivity. This case may have severe impacts on business continuity. Drought impacts on society include a lot of social and health problems on human life which may bring employees' attendance problem to work.

**Timeframe**
1-3 years

**Magnitude of potential impact**
Medium-high

**Likelihood**
Likely

**Are you able to provide a potential financial impact figure?**
Yes, an estimated range

**Potential financial impact figure (currency)**
<Not Applicable>

**Potential financial impact figure - minimum (currency)**
4846154

**Potential financial impact figure - maximum (currency)**
24230769

**Explanation of financial impact**
Financial impact explained is determined min1 day/ max 5 days business interruption risk assumption.
The financial impact figure is calculated based on sales or delivery figure of the impacted day. The financial implication of a daily shut-off calculation for1 day:
(Revenues)1,260,000,000 USD / 260 (working days in 2021) =4,846,154 USD
calculation result for 5 days is: 24,230,769 USD

**Primary response to risk**
Amend the Business Continuity Plan

**Description of response**
Provide communication with employees on water stewardship at the workplace and at other local places. As an outcome, we are evaluating to implement smart water irrigation systems.

**Cost of response**
16296.6

**Explanation of cost of response**
The cost of the response is estimated based on risk management process which is controlled through the insurance system. The insurance is updated annually according to the size of the incidents. The emergency plans are improved. The cost is related with insurance premium value, covering only physical risk driver

## W4.2a

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

**Country/Area & River basin**

| | |
|---|---|
| Turkey | Sakarya |

**Stage of value chain**
Supply chain

**Type of risk & Primary risk driver**

| | |
|---|---|
| Chronic physical | Water scarcity |

**Primary potential impact**
Disruption to sales due to value chain dissruption

**Company-specific description**
Turkish Aerospace uses the WRI Aqueduct Country Rankings/Drought Risk tool to detect risks related to severe weather events/ drought affecting the supply chain. Our suppliers are located in water stress areas in the country. In case of any severe drought, the procurement risks appear as business interruption. For the short-term, supply chain procedures will be improved. The cross-check of supplier sites representing tier 1 suppliers of our spend is in the evaluation phase.

**Timeframe**
1-3 years

**Magnitude of potential impact**
Medium-high

**Likelihood**
Likely

**Are you able to provide a potential financial impact figure?**
No, we do not have this figure

**Potential financial impact figure (currency)**
<Not Applicable>

**Potential financial impact figure - minimum (currency)**
<Not Applicable>

**Potential financial impact figure - maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
The magnitude of financial impact is under evaluation. A range of social and environmental programs with suppliers, including water management is in the business plan of the company

**Primary response to risk**

| | |
|---|---|
| Supplier engagement | Develop supplier drought emergency plans |

**Description of response**
Supplier engagement
Promote investment in infrastructure and technologies for water saving, re-use and recycling among suppliers

**Cost of response**
0

**Explanation of cost of response**
There is no any direct cost of response for this action.

## 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**
Efficiency

**Primary water-related opportunity**
Improved water efficiency in operations

**Company-specific description & strategy to realize opportunity**
With the formulation and the review of short-med & long-term management strategy, transitional risks such as emerging regulation risks including water consumption reduction and zero discharge measures for 2021-2022 period, were assessed and presented to the EDMR Committee in the reporting year.
A water recovery system “Degreasing Zero Liquide Discharge- ZLD system” has been installed in, to purify and reuse the waste water generated as a result of the process. The water recovery system to be operated at the facility consists of activated carbon, deionization (anion-cation units), vacuum evaporator and reverse osmosis. The system will be activated in 2022.
This project can be expressed as one of the best available techniques in the plants producing air crafts. Turkish Aerospace, as a pioneer in aerospace industry in Türkiye and also other countries, is enthusiastic to save water to be heritage to our children and also well determined to sustain applying projects beyond the traditional applications. Considering water stress situation and drought risk in the region where Turkish Aerospace is located, water efficiency projects such as Zero Liquid Discharge (ZLD) applications and water automation systems (SCADA & Digital Controllers) were considered in the facility investment plans. These applications have been continuing in 2021 and these are planned to be put in use within 2022-2023

**Estimated timeframe for realization**
1 to 3 years

**Magnitude of potential financial impact**
Medium-high

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
4846154

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
The financial impact figure is calculated based on sales or delivery figure of the impacted day.
Calculation:(Revenues)1.26 billion USD /260 (working days in 2021) = 4,846,154 USD

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**Type of opportunity**
Efficiency

**Primary water-related opportunity**
Other, please specify ( Water recovery from sewage management, Resilience to future regulatory changes, Cost savings)

**Company-specific description & strategy to realize opportunity**
In order to reduce water consumption, the most essential step is water management. The foundation stone of water loss management and building a water balance can be seen as measurement and systematization of data that will represent the field. In order to accomplish this stage 251 smart meters are installed to the water distribution network of Turkish Aerospace. The gathered data from the meters are visualized in a SCADA system called XView. Measurements and monitoring of 80 buildings, including production and employee housing area, are instantly visible through this incorporated system. Built-in system also includes the location, working status and daily, monthly and annual graphs of each meter. Overall, this system allows to detect early on, any leakages or loss resulting from malfunctions and breakages of pipelines throughout the distribution network of Turkish Aerospace. In regards to water management, digital controllers are installed to cooling towers also. These controllers increase water efficiency by just-in-time chemical monitoring and control of cooling water which results in lower blow down activity. The blow down water saving for this project is approximately 40%. Also, by optimization with digital controllers, chemical consumption to condition cooling water is expected to decrease by 20%. The controllers are implemented in 8 locations in the Turkish Aerospace facility. The gathered data is stored in the server of enVision website where its monitored by the expert team of the System Assurance Center. The related alarms and problems for each controller are sent to the defined users by e-mail in a just-in-time manner.
This system was implemented in 2021

**Estimated timeframe for realization**
1 to 3 years

**Magnitude of potential financial impact**
High

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
472198.75

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
The digital monitoring of water distribution system will allow to detect any leakages resulting from malfunctions in the pipelines early-on and decrease the Non-Revenue-Water (NRW). By this just-in-time monitoring it is expected that water loss and leakages will drop 5% by early detection. Approximately 1.490.000 m³ of water is supplied to the network annually from the water treatment system to be used as drinking and utility water. 74.500 m³ will be saved on an annual basis.
Also from digital control blow down activity is expected to decrease by 40%. As a result, the water that is lost by blow down and directed to wastewater treatment plant will decrease. In 2021 the amount of water lost through blow down is approximately 7000 m³. So around 3000 m³ of water will be saved annually and this amount of water will not be a load for the treatment system.
Overall by the implementation of these water efficiency projects approximately 57,500 USD/year, will be saved.

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## W5. Facility-level water accounting

### W5.1

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

**Facility reference number**
Facility 1

**Facility name (optional)**
Kahramankazan

**Country/Area & River basin**

| | |
|---|---|
| Turkey | Sakarya |

**Latitude**
40.081491

**Longitude**
32.588543

**Located in area with water stress**
Yes

**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)**
1065.8

**Comparison of total withdrawals with previous reporting year**
About the same

**Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**
0

**Withdrawals from brackish surface water/seawater**
0

**Withdrawals from groundwater - renewable**
0

**Withdrawals from groundwater - non-renewable**
0

**Withdrawals from produced/entrained water**
0

**Withdrawals from third party sources**
1065.8

**Total water discharges at this facility (megaliters/year)**
177.58

**Comparison of total discharges with previous reporting year**
Higher

**Discharges to fresh surface water**
177.58

**Discharges to brackish surface water/seawater**
0

**Discharges to groundwater**
0

**Discharges to third party destinations**
0

**Total water consumption at this facility (megaliters/year)**
888.22

**Comparison of total consumption with previous reporting year**
About the same

**Please explain**
The reporting year's consumption figure is about the same as the previous year's figure.
It is anticipated that the efficiency will be improved by new investments such as Zero Liquid Discharge (ZLD) systems and digital control and monitoring of cooling water conditioning and water distribution system.
ISO 14046 certification is planed within two years.
Our threshold definitions are as follows: 0% - 5% about the same 5%- 25% higher or lower over %25: much higher or lower.

## W5.1a

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

### Water withdrawals – total volumes

#### % verified
76-100

#### Verification standard used
Turkish Aerospace's water withdrawals-total volumes have been verified by the third party during the GHG verification process, in the context of scope 3 emissions accounting of ISO 14064 Standard. In 2021 the data was crosschecked by water bills, as total volumes. ISO 14046 certification is planed within two years.

#### Please explain
<Not Applicable>

### Water withdrawals – volume by source

#### % verified
76-100

#### Verification standard used
Turkish Aerospace's water withdrawals-total volumes by source is always verified by third party/ accredited laboratory of the legal authority. In 2021 the data was crosschecked by water bills, as volume by source.
ISO 14046 certification is planed within two years.

#### Please explain
<Not Applicable>

### Water withdrawals – quality by standard water quality parameters

#### % verified
76-100

#### Verification standard used
ASKİ reports the water withdrawals quality in daily periods. In our activities, the dam water is used for all business divisions and offices. As a cross check of quality, the clean water is sampled and monitored periodically in our facility, in the context of WASH services

#### Please explain
<Not Applicable>

### Water discharges – total volumes

#### % verified
76-100

#### Verification standard used
In the context of scope 3 emissions accounting of ISO 14064 Standard, water use quantity and water discharge quantity was verified. For all business divisions and offices 100% of water uses and water discharge quantities are verified by the third party in 2021, the data was crosschecked by water bills.
ISO 14046 certification is planed within two years.

#### Please explain
<Not Applicable>

### Water discharges – volume by destination

#### % verified
76-100

#### Verification standard used
The total quantity was verified in the context of scope 3 emissions accounting of ISO 14064 Standard. The total water volume discharged to the surface water is under control. 100% of water uses and water discharge quantities are verified by the third party in 2021, the data was crosschecked by water bills.

#### Please explain
<Not Applicable>

### Water discharges – volume by final treatment level

#### % verified
76-100

#### Verification standard used
The volume by final treatment level is verified by the third party verification system of ASKI.

#### Please explain
<Not Applicable>

### Water discharges – quality by standard water quality parameters

#### % verified
76-100

#### Verification standard used
The third-party accredited laboratory verification is realized 2 times/ month.
ISO 14046 certification is planed within two years.

#### Please explain
<Not Applicable>

**Water consumption – total volume**

**% verified**
76-100

**Verification standard used**
In the context of scope 3 emissions, base on ISO 14064 Standard, the GHG verification process, water use quantity and water discharge quantity was verified by the third-party.
ISO 14046 certification is planed within two years.

**Please explain**
<Not Applicable>

## W6. Governance

### W6.1

**(W6.1) Does your organization have a water policy?**
Yes, we have a documented water policy that is publicly available

### W6.1a

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

| | Scope | Content | Please explain |
|---|---|---|---|
| Row 1 | Company-wide | Description of business dependency on water<br>Description of business impact on water<br>Description of water-related performance standards for direct operations<br>Description of water-related standards for procurement<br>Reference to international standards and widely-recognized water initiatives<br>Company water targets and goals<br>Commitment to align with public policy initiatives, such as the SDGs<br>Commitments beyond regulatory compliance<br>Commitment to water-related innovation<br>Commitment to stakeholder awareness and education<br>Commitment to water stewardship and/or collective action<br>Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace<br>Commitment to safely managed Water, Sanitation and Hygiene (WASH) in local communities<br>Acknowledgement of the human right to water and sanitation<br>Recognition of environmental linkages, for example, due to climate change | Our company-wide water policy is publicly available on our website. Our water policy is company-wide in scope, it reflects a commitment to global consistency in our approach to water security.<br>Selected items in the Content column are included in our Water Policy because they are critical as Sustainable Development Goals SDG 6,12 &13 ensuring clean water& sanitation, sustainable consumption and production patterns with climate action.<br>Its purpose is to make clear our commitment internally, and also publicly.It states the evaluation of the risks and opportunities related to water in all activities with a holistic approach, sets targets within the scope of sustainability and implements good practice examples and respects the human right to water and sanitation. It gives a description of our company's dependency on water to inform our stakeholders about the importance of managing this source and to motivate them to engage with our commitment to stewardship.<br>Water Policy is a part of our daily activities as well as our business processes. While our water policy statement itself focuses on our commitment to water stewardship and the principles guiding this commitment, we also provide public information on our water targets and goals on the website where our water strategy resides and each year, we publicly report on our progress toward those goals in our Sustainability Report.<br>American Water Works Association membership allows us to update and strengthen our water policy.<br>Attachments: Water Policy and 2021 Sustainability Report of Turkish Aerospace.<br>TURKISH AEROSPACE SUSTAINABILITY REPORT 2021.pdf<br>TURKISH AEROSPACE WATER POLICY.pdf |

### W6.2

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

### W6.2a

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

| Position of individual | Please explain |
|---|---|
| Chief Executive Officer (CEO) | The CEO who is a member of the Board has delegated the Vice President of Strategy & Affiliates Management on Sustainability topics including climate related ( carbon& water) issues. The Sustainability Committee carries out all these studies under the chairmanship of the Vice President informing the CEO who supports the board members' decision-making processes.<br>The members of the Board who have oversight on the review and assessment of sustainability topics, including carbon &water issues are responsible from the ESG performance of the Company.<br>The board considers water issues when reviewing and guiding the business strategy. There are Corporate Governance Committee, Early Detection and Management of Risk Committee (EDMR), the Board of Directors Audit Committee, where water risks & opportunities are reported to the Board<br>To support the Executive Committee for all water issues, the Sustainability Committee (SC) was established in 2021. Some members of the Executive Committee and other senior managers responsible from environmental topics are permanent members of the SC that meet quarterly to review the progress and take decisions on all matters related with the topics.<br>In 2021, it was decided to start the CDP program covering decarbonisation strategy with the assessment of water related risks and opportunities in the context TCFD recommendations. The ESG topics have been sharing quarterly with the CEO. |

## 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 | Scheduled - all meetings | Monitoring implementation and performance<br>Overseeing acquisitions and divestiture<br>Overseeing major capital expenditures<br>Providing employee incentives<br>Reviewing and guiding annual budgets<br>Reviewing and guiding business plans<br>Reviewing and guiding major plans of action<br>Reviewing and guiding risk management policies<br>Reviewing and guiding strategy<br>Reviewing and guiding corporate responsibility strategy<br>Reviewing innovation/R&D priorities<br>Setting performance objectives | The board considers climate-related (carbon-water) issues when reviewing and guiding the whole business strategy, plans, risk management policies, budget plans as well as setting organizational performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions and divestitures, as scheduled. The Vice President of Strategy & Affiliates Management, leads the Sustainability Committee, briefs the Executive Committee (EC) about climate related (carbon &water) implementation and performance.<br>The CEO supports the Board of Directors to oversee corporate strategy and the risk management policy by considering government relations and corporate sustainability program with global climate related issues. Turkish Aerospace's commitment to support the SDG 6,12 &13 are always in the concern of the Board. In 2021 the following decisions were carried out for addressing climate-water related risks and opportunities:<br>1-The Vice President of Strategy & Affiliates Management, has been assigned by the CEO to fulfill the sustainability management issues via "Sustainability Committee". The Sustainability, carbon &water metrics were determined and started to be monitored by Sustainability Monitoring Platform. The first Sustainability Report was published in May 2022. After the establishment of SC, achieving net zero GHG emissions across value chain by 2050 has been accelerated. The Board also made the decision to monitor and review the preparations of the transition action plan, by over-sighting all carbon/water related topics.<br>2- The Environmental Management Chief Unit was renamed as the Environmental Management and Climate Change Unit which will carry out the coordination, reporting and monitoring processes of all climate-related (carbon & water) issues.<br>3-The Environment Policy was revised and published as 'Environmental and Climate Change Policy'. Water Policy was published for the first time.<br>4- Water efficiency projects initiation such as Zero Liquid Discharge (ZLD) applications and water automation systems (SCADA) and Digital Controllers were started to be implemented in the facility investment plans, from the beginning of 2021<br>5- Focus on new process competencies with "Smart is the New Green Approach" has been kicked-off. |

## W6.2d

### (W6.2d) Does your organization have at least one board member with competence on water-related issues?

| | Board member(s) have competence on water-related issues | Criteria used to assess competence of board member(s) on water-related issues | Primary reason for no board-level competence on water-related issues | Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future |
|---|---|---|---|---|
| Row 1 | Yes | Having competence in different fields, is a sought-after feature as it supports decision-making processes. It is reasonable to have competence in material topics, such as energy and innovation in design, that has a great importance for aerospace business. Whole members are competent in different fields. Turkish Aerospace is equipped with the latest infrastructure, technology and know-how with the workers who are the explorers challenging the unknown to shape the future.<br>The organization has one board member with competence on climate-related issues, the board member can fulfill any plans to address board-level competence in the future. As an electrical engineer he was actively involved in waste disposal by energy-saving methods, turning buildings and industrial facilities in ecologic and energy efficient green buildings, as well as the establishment of the infrastructure of charging station and other water management related issues.<br>Competency Management<br>Competencies related to roles and competency details have been determined so that the knowledge level and competencies of the workers can be monitored throughout their careers within the framework of their expertise and developed by supporting them with related training.<br>In 2021, evaluation of the competence development of the managers was executed and organization of coaching activities for the managers, based on new development topics were determined by HR department | <Not Applicable> | <Not Applicable> |

## W6.3

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

**Name of the position(s) and/or committee(s)**
Chief Executive Officer (CEO)

**Responsibility**
Assessing future trends in water demand
Assessing water-related risks and opportunities
Managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**
More frequently than quarterly

**Please explain**
The CEO who is a member of the Board has delegated the Vice President of Strategy & Affiliates Management on sustainability issues, including climate related topics. The Sustainability Committee carries out all climate-related (carbon, water) studies under the chairmanship of the vice president informing the CEO who supports the board members' decision-making processes on related subjects. Strategic and climate related program management responsibility is assigned by Audit Committee and Early Detection and Management of Risk Committee (EDMR) for the purpose to undertake communication based integrated management of water risks & opportunities in the context of ESG.
Operational, strategic, financial and other carbon /water related risks are detected and managed by the risk representative who makes the coordination with EDMR Committee.

## W6.4

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

| | Provide incentives for management of water-related issues | Comment |
|---|---|---|
| Row 1 | Yes | An effective performance management process is monitored by setting individual targets in order to maintain the performance progress of the employees by increasing their contribution to the business. In the reporting year, an interim review processes were fulfilled quarterly. In accordance with the corporate and strategic goals, employees were evaluated with the participation of their first and second managers, based on success criteria that were revised in the sustainability strategy. It is recently confirmed that climate related (carbon & water) targets are embedded into executive remuneration system. The climate related targets are included in the senior management incentives. In 2021, evaluation of the competency development of the managers was executed and organization of coaching activities for the managers base on the development topics were determined. |

## W6.4a

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

| | Role(s) entitled to incentive | Performance indicator | Please explain |
|---|---|---|---|
| Monetary reward | Corporate executive team<br>Chief Executive Officer (CEO) | Reduction of water withdrawals<br>Reduction in consumption volumes<br>Improvements in efficiency - direct operations<br>Improvements in efficiency - supply chain<br>Improvements in efficiency - product-use | The EC members and the CEO have performance metrics aligned with the sustainability such as reducing water consumption and decreasing water discharge to the receiving river. It is recently confirmed that climate related (carbon & water) targets are embedded into executive remuneration system. The climate related targets are included in the senior management incentives. Performance against an individual's annual performance metrics directly impacts the results of her/his annual review, annual compensation and/or bonus |
| Non-monetary reward | Corporate executive team | Other, please specify (Awards on all water related improvements) | Various events are organized during the year<br>With the aim of reducing waste, increasing environmental awareness, Green Flag league which is a fun and competitive application was started on 05 June 2020, World Environment Day,<br>Within the scope of the league, the assessment of the employees is realized 4 times a year according to certain scoring criteria.<br>The departments which rank at the top three in scoring, are rewarded with an Environmental Achievement Certificate. Waste Management and Green Flag League Projects, won the "Golden Award" in the Waste Management category at the Green World Awards, where 500 projects competed and the world's best environmental practices were selected. Turkish Aerospace was awarded with the title of "Green World Ambassador" in the international arena |

## 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

Yes, trade associations

## 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?**

Monitoring of consistency of direct and indirect activities with overall water policy and commitments is ensured under the supervision of the CEO with the support of EM&CCU. Water Policy commitments are examined, then implemented by taking into account water related frameworks resource conservation guidance and global risk resiliency plans and other public commitments on water reduction, water related SDG goals and renewable energy use. Corporate capital planning, investment horizons and the useful life of major company assets are assessed quarterly in regular meetings.
The company follows internal and customer related requirements base on the European and International climate related policy developments on carbon and water management. There is an interactive communication process through related departments in the alignment phase. The compliance, environment and energy working groups are always in interaction with each other. The awareness raising of employees on water issues takes place to leverage corporate culture.
In case of any inconsistency with our policy and activities ad hoc meetings are organized depending on the nature and timing of the issue.

Related investigations and discussions are performed to resolve the problem.

With the leadership of the sustainability committee, the internal and external consistency is facilitated, monitored and communicated.

## W6.6

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

No, but we plan to do so in the next two years

# 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 | 11-15 | Our business objective is to drive growth by accelerating net zero climate transition and improving customer satisfaction. Water withdrawal and discharge reduction has a priority in our business plans.<br>Our strategic target is to reduce our carbon emissions by 55% in 2030 compared to 2021 and to specify our actions within the vision of becoming carbon-neutral by 2050. Within 2 years, a road map will be prepared by discussing the activities to be carried out in the relevant departments in terms of improvements, and the realizations will be periodically audited. The Board will perform the oversight.<br>Water strategy framework and risk assessment inform our long-term business planning and objectives. We started to practice a full review of our water strategy with participation from all business departments with a long-term horizon of >10 years. Water Supply reliability, water withdrawal reduction, water efficiency, compliance and financial ability for adequate water quantity and quality, local and social issues are reviewed for short, medium and long-term water-related time horizons. Key stakeholders confirm the water-related priorities for our operations, watersheds, and communities. |
| Strategy for achieving long-term objectives | Yes, water-related issues are integrated | 11-15 | Responsible use of water is a key issue for Turkish Aerospace business objective is to create long-term value by reducing the dependence on non-renewable materials and resources. In all our activities we want to ensure that our operations will not damage the community's access to fresh water.<br>The works we carry out to use our water resources efficiently are:<br>* To select suitable fixtures and equipment in new building projects, explore rainwater collection, treatment and use options, and evaluate wastewater recovery applications (grey-water systems).<br>* To prefer dry type industrial systems and equipment that do not require water consumption in our production activities.<br>* To implement on-site recovery systems (zero liquid discharge ZLD) to recover 85% of wastewater originating from our machinery, benches and equipment<br>*We prefer dry landscape applications to reduce the amount of water we use for irrigation.<br>* We provide the relevant irrigation water quality parameters of the wastewater we treat in our Domestic Wastewater Treatment Plant and prevent additional water consumption by using it in the irrigation processes of our gardens.<br>Within the framework of our water measurement and automation project, which we will complete in 2022, we plan to measure the water consumption in our production areas and in the region where our lodgings are located on a daily basis with the SCADA system.<br>In 2021, we decreased water consumption per capita by 8%, compared to the previous year. |
| Financial planning | Yes, water-related issues are integrated | 11-15 | Turkish Aerospace integrates its water withdrawal and discharge reduction objectives aligned with water risks into its long-term business financial planning by allocating funding needs around new manufacturing projects. For >10 years' time period, investments for water initiatives are identified and planned based on site buildings and growth, water cost, infrastructure needs, water recycling plants costs.<br>The types of financial impacts are evaluated and incorporated into Company Budget Forecast and Risk Assessments to align with our Technology Road-maps.<br>They are reviewed continuously to ensure successful execution. |

## W7.2

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

**Row 1**

**Water-related CAPEX (+/- % change)**
70

**Anticipated forward trend for CAPEX (+/- % change)**
-14

**Water-related OPEX (+/- % change)**
32

**Anticipated forward trend for OPEX (+/- % change)**
28

**Please explain**
In OPEX calculations; maintenance costs, water bills, chemicals used in treatment plants, wastewater analysis, electricity consumption, labor, treatment sludge disposal and environmental permit renewal (included in addition for 2021) were taken into account. There has been an increase in OPEX due to increases in water and electricity unit prices, in labor wages, exchange rate, disposal costs. An increase is expected for 2022.
In the 2021 CAPEX calculations, the investment costs of ZLD projects, the SCADA system and the costs of investments made for online monitoring, automation and digital monitoring systems in cooling towers are taken into account. Since all these investments took place in 2021, there has been a significant increase in CAPEX compared to 2020. Since the investment costs of cooling towers were completed in 2022, they were excluded from the scope. A decrease in the amount of CAPEX is expected as the majority of payments are made in 2021

## W7.3

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

| | Use of scenario analysis | Comment |
|---|---|---|
| Row 1 | Yes | The climate risk assessment approach was informed by the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and the Guidance for Applying Enterprise Risk Management to ESG related Risks. We use the WRI Aqueduct Tool to assess water risk for the facility. Physical risk analysis was a part of the climate change scenario report and included an analysis of water stress.<br>Water risks include risks such as water stress, flood and drought risk.<br>By using the same tool we will engage our tier 1 suppliers to set targets in water and energy related actions, in the next 5 years. |

## W7.3a

### (W7.3a) Provide details of the scenario analysis, what water-related outcomes were identified, and how they have influenced your organization's business strategy.

| | Type of scenario analysis used | Parameters, assumptions, analytical choices | Description of possible water-related outcomes | Influence on business strategy |
|---|---|---|---|---|
| Row 1 | Water-related<br>Climate-related<br>Socioeconomic | The key areas were assessed for impact and preparedness across 2025 and 2035 time horizons, for physical acute and chronic risks. The WRI Aqueduct tool was used. Assessment of physical, regulatory and reputation risk related to both water quantity and water quality for over operations and pipeline was fulfilled. | Water-related outcomes from our previously conducted scenario analysis include extreme weather events, droughts and water shortages due to water stress area. These events possibly could impact our production in the manufacturing site being located in a water-stressed area. The impacts include unavailability of water during droughts, inaccessibility to the manufacturing facility due to flooding from extreme weather conditions. | Our business objective is to drive growth by accelerating net zero climate transition and improving customer satisfaction. Water withdrawal and discharge reduction has a priority in our business plans. We developed our strategy to prioritize addressing our water use and community water issues in our water-stressed region. Within the framework of our water measurement and automation project, which we will complete in 2022, we plan to measure the water consumption in our production areas and in the region where our lodgings are located, on a daily basis with the SCADA system.<br>In 2021, we decreased water consumption per capita by 8%, compared to the previous year. |

## 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, but we are currently exploring water valuation practices

**Please explain**
Internal price on water will facilitate our company to factor water into its decision-making for a more clear picture of risk, leading better outcomes for the business and the environment.
The future energy management costs covers "true cost of water". With the carbon & water pricing approach the company will acknowledge the human health, environment and biodiversity topics associated with water scarcity and quality issues
into its water strategy and decision-making.

## W7.5

### (W7.5) Do you classify any of your current products and/or services as low water impact?

| | Products and/or services classified as low water impact | Definition used to classify low water impact | Primary reason for not classifying any of your current products and/or services as low water impact | Please explain |
|---|---|---|---|---|
| Row 1 | Yes | "Digital Control of Cooling Water Conditioning" and "Water Automation System" as Innovation Projects for Water Efficiency | <Not Applicable> | Cooling towers are industrial systems that are commonly used in Turkish Aerospace, to provide cooling water for heat ex changers, hot presses, autoclaves and compressors. Currently, the conditioning of cooling water is done manually by operators. Thus, the current operation contains within itself some inefficiencies and it is open to human error.<br>Digital control system called 3D TRASAR which is used for light industrial cooling water applications are implemented in order to optimize chemical dosing in cooling towers and eliminate manual operations. 3D TRASAR system will be applied to 46 cooling towers of Turkish Aviation. 34 of them are closed type and 12 of them are open type cooling towers. Near cooling towers will be combined via common collectors and by common pools and the required controller amount will be optimized and reduced by this method. |

## 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<br>Business level specific targets and/or goals<br>Site/facility specific targets and/or goals | Targets are monitored at the corporate level<br>Goals are monitored at the corporate level | The water targets and goals determined are aligned with our policies, sustainability approach and international management systems. They are monitored and regularly checked. The third party audits realize to check the efficiency and continuity of international and national compliance.<br>Environmental Management and Climate Change (EM&CCU)Unit and Sustainability Committee are responsible for all environmental management issues including water target and goals, in line with business R&O and business strategy.<br>The committee meets quarterly and monitors the current situation and the progress on targets and discuss company's water strategy, with next year's performance objectives<br>The company level water targets and goals are identified by Environmental Management and Climate Change Unit which ensures that the efforts comply with goals & targets. In the Environmental Performance Report the progress is reported base on water output. In line with the project's output, the company sets its water target for 2025.<br>In the scope of our risk adaptation plans, we have also set our 2025 target to increase the net zero liquid NZL performance in the production phase. |

## W8.1a

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

**Target reference number**
Target 1

**Category of target**
Monitoring of water use

**Level**
Site/facility

**Primary motivation**
Climate change adaptation and mitigation strategiess

**Description of target**
Increasing global temperatures are affecting negatively water access for people around the world, causing more severe droughts and floods. Climate change impacts the global water cycle by influencing the precipitation. It also leads to more severe weather events over time. Increasing global temperatures causes water to evaporate in larger amounts, which will bring drought and more frequent heavy, and intense rains in the coming years.
As Turkish Aerospace we are already monitoring our company wide water consumption. In order to monitor water consumption, determine water losses and build a sustainable water balance, we want to branch out the consumption in terms of all buildings and main processes.

**Quantitative metric**
% sites monitoring water consumption total volumes

**Baseline year**
2020

**Start year**
2021

**Target year**
2022

**% of target achieved**
80

**Please explain**
At the end of 2021, we implemented flow meters to %80 of facility buildings including lodging area and main processes. The gathered data from the meters are visualized in a SCADA system called XView. Measurements and monitoring of buildings, including production and employee housing area, are on line visible through this incorporated system. By 2022, we aim to install the flow meters to all buildings and main processes with a 100% of target.

---

**Target reference number**
Target 2

**Category of target**
Water discharge

**Level**
Company-wide

**Primary motivation**
Reduced environmental impact

**Description of target**
Our target is to reduce the water discharge arising from cooling towers in Turkish Aerospace. The aim is to reduce the blow down activity by %40. Our primary motivation is reducing our environmental impact. We are implementing digital controllers to condition cooling water of cooling towers to eliminate manual interventions and to optimize the system.

**Quantitative metric**
Other, please specify (% Reduction in blow down wastewater)

**Baseline year**
2021

**Start year**
2021

**Target year**
2023

**% of target achieved**
50

**Please explain**
Digital control system called 3D TRASAR which is used for light industrial cooling water applications are implemented in order to optimize chemical dosing in cooling towers and eliminate manual operations. 3D TRASAR system will be applied to 46 cooling towers of Turkish Aviation. Near cooling towers will be combined via common collectors and by common pools and the required controller amount will be optimized and reduced by this method. A total of 16 3D TRASAR controllers will be installed to control and monitor the cooling water. In 2021, 6982 $m^3$ of water was discharged directly to the wastewater treatment system by blow down valves of the cooling water systems. With the installed controllers the water efficiency will increase by just-in-time monitoring and control of cooling water which will result in lower blow down activity. The expected blow down water saving for this project is approximately 40%. Therefore, according to this assumption about 3000 $m^3$ of water will be saved.

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## W8.1b

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

**Goal**
Improve wastewater quality beyond compliance requirements

**Level**
Site/facility

**Motivation**
Reduced environmental impact

**Description of goal**
Improvements beyond legal obligations in wastewater treatment will give our company to improve our reuse of wastewater for irrigation purposes. Also adapting technologies for recycle/recovery of water in our industrial water consuming systems will improve our water efficiency. Overall, these improvements will allow us to decrease our water footprint in the long-term.

**Baseline year**
2016

**Start year**
2021

**End year**
2030

**Progress**
In Turkish Aerospace, the wastewater is treated beyond legal requirements and used for irrigation after disinfection. In 2016, reused wastewater is 58.390 $m^3$ which refers to 16% of the total treated wastewater. The goal is to increase reused wastewater in irrigation to decrease the water consumption. In 2021, this number increased to 143.284 $m^3$ which is 45% of the total treated wastewater. With the publication of our Water Policy in 2021, we declare our commitment to use water efficiently by adapting recycling/recovery practices in our activities. In regards to our policy, technologies such as zero liquid discharge and digital controllers are being implemented to our water consuming industrial systems. For example, Zero Liquid Discharge system has been installed to purify and reuse the wastewater generated. The recovery system consists of activated carbon, deionization, vacuum evaporator and reverse osmosis and will be activated in 2022. By this project 85% of wastewater generated in degreasing will be recovered. Also in 2021, digital controllers are installed to increase the efficiency of cooling water. By just-in-time chemical monitoring and control of cooling water the cycle time will increase, resulting in lower water loss by blow down (around 40%) and decrease in chemical consumption (around 20%). The controllers are implemented in 8 locations in the facility. The gathered data is stored in a server and monitored continuously.

## W9. Verification

### W9.1

**(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?**
No, but we are actively considering verifying within the next two years

## W10. Sign off

### W-FI

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

TURKISH AEROSPACE SUSTAINABILITY REPORT 2021

TURKISH AEROSPACE RISK PROCEDURE TABLES

TURKISH AEROSPACE ENVIRONMENTAL& CLIMATE CHANGE POLICY
TURKISH AEROSPACE RISK PROCEDURE TABLES.PDF
TURKISH AEROSPACE ENVIRONMENTAL& CLIMATE CHANGE POLICY.pdf
TURKISH AEROSPACE SUSTAINABILITY REPORT 2021.pdf

### W10.1

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

| | Job title | Corresponding job category |
|---|---|---|
| Row 1 | Environmental Management and Climate Change Unit Chief. | Other, please specify (Environmental Management and Climate Change Unit Chief) |

### W10.2

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

No

## Submit your response

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

| | I understand that my response will be shared with all requesting stakeholders | Response permission |
|---|---|---|
| Please select your submission options | Yes | Public |

**Please confirm below**

I have read and accept the applicable Terms