

Welcome to your CDP Water Security Questionnaire 2022

W0. Introduction

W0.1

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

Established in 1956, Tekfen Group of Companies operates in five business areas: Engineering&Contracting Group, Chemical Industry Group, Agricultural Production, Services&Investments. Tekfen Holding is the umbrella company for all of the firms and subsidiaries in the Tekfen Group. Its shares are traded in İstanbul Stock Exchange (Borsa İstanbul) and are quoted in BIST 30 Index. The Tekfen Group's founding partners have served as the originators, benefactors and directors of many environmental, educational, and social NGOs. Those roles kept people, social welfare, and environmental wellbeing at the focal point of the Tekfen Group's business culture and charitable activities since the very outset.

The Group has 39 companies and 13 subsidiaries. In 2021, the Group had USD 1.832 billion in revenues and assets of USD 1.896 billion. With 16,543 skilled employees (contractors included) and 66 years of experience, it is exemplary within the business world in terms of quality standards and ways of doing business.

Engineering&Contracting Group, with extensive experience especially in oil, gas and petrochemical facilities, provides turnkey-delivery EPC (Engineering, Procurement&Construction) projects and Design&Build solutions in such areas as pipelines, oil and gas terminals, tank farms, oil refineries, pumping and compressor stations, power plants, industrial facilities, highway and rail system projects, sports complexes, and infrastructure and superstructure projects. Engineering and Contracting Group has generated 50.5% of total turnover. In the reporting year, 13,308 employees worked in the Group.

As the flagship company of the Tekfen Contracting Group, Tekfen Construction is a solution partner preferred by leading employers around the world. Tekfen Construction is an internationally recognized leader of the Turkish contracting sector, operating in many countries. To date, it has completed over 550 projects, demonstrating its accumulated expertise. As of end of 2021, Tekfen Construction's active projects portfolio had a contract value (backlog) of USD 1,256 billion. In Engineering News-Record's 2021 list of the World's 250 biggest international contractors based on their 2020 operations, Tekfen Construction ranked 80th (2020 list: 65th).

Tekfen Engineering provides engineering design, procurement and project management services for group and non-group projects. Tekfen Engineering's human resources and their knowledge and experience as well as its use of innovative technology make it one of the leading firms in its sector in Turkey.

Tekfen Manufacturing provides engineering, manufacturing, and installation services related especially to the storage and process equipment needed in the oil, petrochemical, and chemical industries and by industrial facilities such as gas plants, iron & steel mills, and power stations.

Chemical Industry Group operates in Classic, Organic&Organomineral Fertiliser's production and distribution. Toros Agri has been at the service of Turkish agriculture for the last 40 years. In the Istanbul Chamber of Industry's 2021 list of the five hundred business concerns in Turkey, Toros Agri ranked in 56th place. In fertilisers, Toros Agri controls a 38% share of Turkey's total installed production capacity and in terms of overall output and market share, it is Turkey's biggest fertiliser producer. It has 1.214 dealers and authorized sales points throughout Turkey, enabling it to distribute its products to every corner of the country. Toros Agri, who introduced its first organo-mineral fertilisers to the market in 2017, considers its investments in the organic and organo-mineral segment not only from a commercial perspective but also as a contribution to the sustainability of the country's agriculture. Toros Agri carries out its production activities in this field through Gonen and Meram Renewable Energy. Chemical Industry Group has generated 44.4% of total turnover. In the reporting year, 1977 employees worked in the Group.

Agricultural Production Group operates in the production of agricultural inputs such as seeds, seedlings, and saplings and its fruit grower operations and they are carried out through Tekfen Agri, the group's agricultural research, production, and marketing company. Tekfen Agri - Agripark complex is one of only a very few high-tech agricultural R&D centres in Turkey. Exploiting Turkey's rich biodiversity, the centre engages in the production of disease-free seeds and seedlings using the plant tissue-culture method. Agricultural Production Group has generated 1.1% of total turnover. In the reporting year, 220 employees worked in the Group. Services Group operates in Terminal services, Free zone operations, insurance and facility management. Investment Group incorporates Tekfen Ventures' innovative entrepreneurship investments and holding activities. Services and Investment Groups have generated 4% of total turnover. In the reporting year, 318 employees worked in these two Groups.

W-CH0.1a

(W-CH0.1a) Which activities in the chemical sector does your organization engage in?

- Bulk inorganic chemicals
- Specialty organic chemicals

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.

Azerbaijan
Iraq
Kazakhstan
Qatar
Russian Federation
Saudi Arabia
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
Yes, an ISIN code	TRETKHO00012
Yes, a Ticker symbol	TKFEN on Borsa İstanbul

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Vital	<p>Good quality freshwater, is used intensively at Chemical Industry Group for mainly cooling of fertilizer plants, Agricultural Production Group for fresh fruit production, Engineering&Contracting Group for construction of big scale projects (mainly in hydro testing of piping equipment) & we also need freshwater to provide WASH services to all our employees.</p> <p>As part of our indirect operations, our suppliers & customers (especially farmers) require sufficient amounts of good quality fresh water for their operations. If there is a water scarcity, farmers can not grow their crops and in return this may curtail our fertilizer sales. Considering the share of Chemical Industry Operations in our overall revenue (44.4% for the reporting period) the importance of freshwater for our indirect operations is rated as vital as well. A lack of fresh water can have a considerable impact on both our direct&indirect operations hence the rating is “vital” for both. For example, our Engineering&Contracting Group has oil&gas construction projects which constitute around 33% of the overall project portfolio regarding contract value as of Dec, 2021. Fresh-water is vital for the oil&gas projects to perform the piping and equipment (e.g. pipelines, storage tanks) tests.</p> <p>For future scenarios, we considered IPCC RCP 4.5 as a realistic scenario for the impacts of climate change on precipitation patterns and projected change in water stress in Turkey. We also base our analyses on the “Climate Change Projections for Turkey” report published by Turkey’s General Directorate of Meteorology. According to the report, Turkey will face 2 to 3 degrees increase in mean temperature during 2013-2040 and up to 4 degrees in later periods. Reductions in mean precipitation are also expected. We consider these impacts especially significant in our Chemical Industry&Agricultural Production operations.</p> <p>Therefore, the importance rating for both our direct and indirect operations will remain the same in the future.</p>

<p>Sufficient amounts of recycled, brackish and/or produced water available for use</p>	<p>Important</p>	<p>Neutral</p>	<p>We use seawater in the Toros Agri Samsun Plant. Seawater is being used in the Sulphuric Acid Unit for cooling, production of demineralized water, and washing in the Phosphoric Acid Unit. 83.48 % of our total Holding-wide water withdrawal is from seawater used in our Samsun facility. If sufficient amounts of brackish water is not available, this will directly impact our production capacity, resulting in a financial impact as the Samsun Plant has 35,48% of Toros Agri's total fertilizer production capacity.</p> <p>Because of an increase in water stress, the reuse and recycle of wastewater is also important for Tekfen.</p> <p>Therefore, both brackish and recycled water is "important" for our direct operations. We don't consider the importance of current recycled water in our indirect operations to be as important as our direct operations as most needs in our value chain are met through freshwater. Therefore, we consider the impact on our indirect operations to be neutral currently.</p> <p>We foresee an increase along with our growth rate in the direct use of recycled water in the future, therefore direct use rating may become "vital" for us in the long term.</p> <p>From a quality perspective, the availability of a decent temperature and quality seawater is also important. In line with the climate change scenarios, if the seawater temperatures rise, we might need to further cool down the seawater used. Therefore, we can say that the quality of brackish water will remain important and can even increase the magnitude of impact and become vital in the future.</p> <p>Both our agricultural production suppliers and customers of the fertilizers need water either to produce or use our products (stone fruit and fertilizers respectively), it can be expected that, with the foreseen increase in water stress in Turkey, they may need to recycle water or withdraw recycled water at an increasing ratio in the future. Therefore,</p>
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			we consider the impact on our indirect operations to become important in the long-term.
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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%	<p>We monitor water withdrawals at all our operations. Our operations cover all our production facilities, offices, and project construction sites that we operate.</p> <p>Water withdrawals are therefore monitored at the operational level through monthly bills from suppliers in our commercial operations. As part of our production operations, we monitor our water withdrawals through both bills issued by our suppliers as well as internal water meter readings. Moreover, at Agricultural Production Group, we have an addition of fresh surface water withdrawal measured by pump flow rates and rainwater calculated using meteorological data (average precipitation rate mm per region was multiplied by the total area (m²) at relevant regions) and the UN Food and Agriculture Organisation's (FAO) method was used to calculate the effective rainfall by the plants annually. Water withdrawal volume is followed up and reported to Holding HSE Department monthly.</p>
Water withdrawals – volumes by source	100%	<p>We monitor water withdrawals at all our operations including their sources. Our operations cover all our production facilities, offices, and project construction sites.</p> <p>Water withdrawals from 3rd party sources are monitored at the operational level through monthly bills from suppliers.</p> <p>As part of our production operations, we monitor our water withdrawals through monthly bills issued by our suppliers as well as internal water meter readings per source (i.e. groundwater, seawater, etc).</p>

		<p>Moreover, at Agricultural Production Group, we have an addition of fresh surface water withdrawal measured by pump flow rates and rainwater calculated using meteorological data (average precipitation amount mm per region multiplied by the total area (m2) at relevant regions) and the UN FAO method was used to calculate the rainwater withdrawal annually. Our companies monitor their water withdrawal amounts and report them to the Holding HSE Department on a monthly basis.</p>
Water withdrawals quality	100%	<p>We monthly and/or more frequently monitor the quality of water, used for all of our operations. We periodically get samples and send them for microbiological and chemical analysis to accredited laboratories in the periods set by legal criteria and regulations (e.g. analysis are conducted in monthly and/ or bimonthly periods). Our Chemical Industry operations conduct internal lab analyses daily and weekly to make sure the water is at a certain quality to be used as process water. The parameters analyzed include but not limited to pH, conductivity, suspended solids, silisium, active chlorine, P2O5, etc.</p> <p>Therefore in 100% of our sites, the quality of the water withdrawals are monitored. However, we can only monitor the quality of water under our control, and although we include the rainfall in our volumetric calculations, we cannot monitor the quality of rainwater which represents 1.85% of our total withdrawal.</p>
Water discharges – total volumes	100%	<p>We monitor water discharges at all our operations. Our operations cover all our production facilities, offices, and project construction sites that we operate.</p> <p>Our water discharge volume is monitored in real-time due to regulatory requirements by sensors at our Samsun Plant (94.31 % of our Holding-wide water discharge for the reporting period), which has a continuous wastewater monitoring system that is directly connected to the Ministry of Environment and Urbanization's system. The discharge volume and quality parameters are monitored by legal authorities in real-time at our</p>

		<p>Samsun Plant.</p> <p>For all other facilities that supply water from third parties, the amount of water discharged is monitored via water bills as well as meter readings on a monthly basis.</p> <p>At Alanar Fruit orchards, 25% of the freshwater used for drip irrigation, was estimated as the discharge rate of the plants, since the plants can't absorb all the freshwater supplied.</p>
Water discharges – volumes by destination	100%	<p>We monitor volumes of water discharges by destination at all our operations. %100 of water discharges to sea is monitored at our fertilizer production plant located in Samsun in real-time due to regulatory requirements. The amount of water discharged from Samsun facility represent 94.31 % of our Holding-wide water discharge for the reporting period. For all other facilities that supply water from third parties, the amount of water discharged is monitored via water bills as well as meter readings on a monthly basis. At Alanar Fruit orchards, 25% of the freshwater used for drip irrigation, was estimated as the discharge rate of the plants as they cannot absorb all water supplied. Therefore, we measure/monitor/calculate all our water discharge per volume and destination.</p>
Water discharges – volumes by treatment method	100%	<p>We monitor volumes of water discharges by treatment method at all our operations. Our water discharge volume is monitored continuously at our fertilizer production plant located in Samsun in real-time by sensors due to regulatory requirements, and in Ceyhan and Mersin plants through monthly meter readings.</p> <p>For almost all activities we either use our own waste water treatment facilities or discharge directly to third parties' waste water treatment facilities. At Tekfen Agri's orchards, we discharge the irrigation water without any treatment to groundwater or surface water (1.58 % of Holding-wide total water discharge for the reporting period). As per expert statements, we calculate that 25% of irrigation water can't be absorbed by</p>

		<p>the plants and discharged to groundwater or surface water.</p> <p>Overall, we monitor/calculate/measure all our water discharge per treatment method at least monthly for each facility/project.</p>
Water discharge quality – by standard effluent parameters	100%	<p>Our 3 fertilizer plants (source of 95.63% of our total water discharge for the reporting period) have wastewater treatment units and water discharge quality is monitored as per the Turkish Water Pollution Control Regulation. The analyses are conducted on bi-monthly periods. The analyzed parameters are; BOD, Suspended Solids, Oil, and grease, P, Cr, Pb, CN, Cd, Fe, F, Cu, Hg, SO4, Total Kjeldahl Nitrates, TDF, COD, pH.</p> <p>Our Toros Agri Samsun Plant uses a considerable amount of seawater and the resulting discharge represents 94.31 % of the total water discharges in the reporting period.</p> <p>There is a Monitoring Station that monitors standard effluent parameters of wastewater in real-time and reports to the Ministry of Environment and Urbanisation in Samsun Plant. The real-time reports can be reached 24/7 via the web.</p> <p>We do not monitor the discharge water quality for Tekfen Agri orchard operations as they are directly discharged as a result of irrigation.</p>
Water discharge quality – temperature	100%	<p>Toros Agri Samsun Plant has water discharge measuring and monitoring station that monitors standard effluent parameters of wastewater continuously. The station is controlled and followed up by the Ministry of Environment, Urbanisation and Climate Change (MoEUCC) and determined water discharge quality parameters are monitored and recorded in real-time by the MoEUCC. One of the parameters being monitored continuously is the temperature of discharged water. Samsun Plant represents 94.31 % of the total water discharges reported Holding-wide in this reporting period.</p> <p>The majority of water is discharged to the sea. We do not monitor the discharge water temperature for Tekfen Agri orchard operations as</p>

		<p>they are directly discharged as a result of irrigation and the water temperature doesn't change.</p> <p>We also don't monitor the water temperature in our construction and other operations as this parameter is not relevant and the water temperature does not change in those operations.</p>
Water consumption – total volume	100%	<p>We calculate all of our water consumption volume. As stated in the above section we monitor our total water withdrawal volumes either continuously through meters or through monthly meter readings depending on type of facility. The discharge volumes are also monitored continuously through meter readings and/or through monthly water bills.</p> <p>Therefore, the water consumption in total volume is calculated using the formula $\text{Withdrawal (Total Volume)} - \text{Discharge (Total Volume)}$</p> <p>As part of our Tekfen Agri orchard agricultural practices, we calculate our rainwater consumption (plant rainwater intake/absorption) by using the UN FAO effective rainfall calculation using national (regional) rainfall data. As per regular irrigation practices, we estimated an average 25% plant water absorption rate based on expert opinion. Therefore, we monitor/calculate/measure 100% of our water consumption either annually (only rainwater) or monthly (for all other water sources).</p>
Water recycled/reused	100%	<p>We monitor the amount of water recycled/reused at all our facilities mostly via meters (monthly) where recycling/reusing takes place. We demineralize and reuse water in our Chemical Industry fertilizer production operations and monitor this data in real-time in one of the facilities, Samsun. The 82.5% of water recycling takes place at our 3 fertilizer production facilities. The remainder (17.5 %) of our water reusing activities take place as part of Tekfen Construction operations and the amount is measured via volume calculation based on water truck capacity.</p>
The provision of fully-functioning,	100%	<p>The Health and safety of our employees is our top priority which also is a result of Tekfen Holding's</p>

safely managed WASH services to all workers		materiality analysis conduct due to sustainability reporting. Therefore, all our employees/workers are provided with fully-functioning and safely managed WASH services at all times. Especially during the COVID-19 outbreak, this issue became an utmost priority for Tekfen Holding. The quality of drinking/ potable water provided is being monitored and analyzed monthly and bi-monthly periods to ensure compliance with regulatory limits.
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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	104,542.55	Lower	<p>We compile the data via meter readings&water bills in all operations except rainwater withdrawals for Tekfen Agri, which we calculate based on national meteorological data using UN FAO effective rainfall calculation formula.</p> <p>Reasons for change:</p> <ol style="list-style-type: none"> 87.14% of the total withdrawal is in our Toros Agri Samsun Plant, 83.48% of which is seawater. Seawater is used in the Sulphuric Acid Unit for cooling, production of demineralized water & washing in the Phosphoric Acid Unit. Seawater withdrawal decreased by 12.75% compared to 2020 due to a planned stop of the Sulphuric Acid unit, which lasted 33 days. The stop was for a maintenance activity involving a change in the catalyzer unit for this unit. The sulphuric acid production has also decreased by 8% due to this maintenance activity. Water withdrawal also decreased slightly in Ceyhan plant while increasing slightly in Mersin plant. Resulting in a total of 12.94% decrease in total withdrawals. In one of the projects of Tekfen Construction, micro tunnelling activity increased, resulting in a 0.93% increase in total water withdrawals. In the beginning of 2021, we have lost some

			<p>of the crops due to frost formation, which reduced the need for irrigation for some of our orchards. This decreased our total water withdrawals by 0.31%.</p> <p>As a result, our withdrawal volumes have decreased by 12.31%.</p> <p>We expect our future water withdrawals to increase because Samsun plant will work at full capacity in the upcoming year unless there is any major maintenance requirement.</p> <p>On the other hand, serious efforts are being made to reduce the amount of freshwater withdrawn which in long-term may result in a slight decrease of total withdrawal amounts.</p> <p>While classifying the magnitude of change from previous year data, we consider the change up to +/- 5% as "about the same", 5% to 20% as "higher/lower", and above 20% as "much higher/lower".</p> <p>As the decrease in withdrawal amounts were calculated to be 12.31% it is classified as "Lower".</p>
Total discharges	95,104	Lower	<p>We compile the water discharge data via real-time monitoring (Samsun Fertilizer Plant), meter readings and water bills (in all other operations). Additionally, only for Tekfen Agri orchards, we calculate plant water intake (and therefore the discharge) based on national meteorological data together with the UN FAO effective rainfall calculation formula.</p> <p>In 2021, 3 important developments affected the amount of water discharged:</p> <ol style="list-style-type: none"> 1. 92.90% of the total water discharge comes from the Toros Agri Samsun Plant. In 2021, discharge in Samsun plant decreased by 14.12% which translates as 13.57% decrease in total discharge volumes compared to 2020. This decrease was due to a planned stop of the Sulphuric Acid unit, which lasted 33 days. The stop was for a maintenance activity involving a change in the catalyzer part for this unit. The sulphuric acid production has also decreased by 8% due to this maintenance activity.

			<p>2. In one of the projects of Tekfen Construction, micro tunnelling activity increased, resulting in a 0.92% increase in discharge.</p> <p>3. In 2021 there was 20% more rain which resulted in a 4.30% increase in Tekfen Agri discharges. This increased our total water discharges by 0,06%</p> <p>As a result, our discharge volumes have decreased by 11.12%.</p> <p>We expect our future water discharges to increase because Samsun plant will work at full capacity in the upcoming year unless there is any major maintenance requirement.</p> <p>On the other hand, serious efforts are being made to reduce the amount of water discharged, which in the long-term may result in a slight decrease in total discharge amounts.</p> <p>While classifying the magnitude of change from previous year data, we consider the change up to +/- 5% as "about the same", 5% to 20% as "higher/lower", and above 20% as "much higher/lower". As the decrease in discharge amounts were calculated to be 11.12% it is classified as "Lower"</p>
Total consumption	9,438.56	Lower	<p>Our water consumption has decreased by 22.72%.</p> <p>In 2021, 3 important developments affected our water consumption amounts:</p> <p>1. Our fertilizer production plant in Samsun had a planned stop of the Sulphuric Acid unit, which lasted 33 days. The stop was for a maintenance activity involving a change in the catalyzer part for this unit. The sulphuric acid production has also decreased by 8% due to this maintenance activity.</p> <p>As a result water consumption in this plant has decreased by 62.74%. Which reflected as a 19.33% decrease in total consumption figures.</p> <p>2. In Tekfen Agri operations, the consumption figure decreased by 3.52%. We have lost some of the crops due to frost formation in the beginning of 2021, which reduced the need for</p>

			<p>irrigation for some of our orchards.</p> <p>3. In Tekfen construction operations micro tunnelling activities increased also resulting in an increase in consumption of about 0.97%. All of these changes resulted in a 22.72 % decrease in our total water consumption figure.</p> <p>To calculate total water consumed by our organization we use the water balance; Consumption (C) = Withdrawal (W) - Discharge (D).</p> <p>We expect our future water consumption level to increase in line with our agricultural business growth plans, and also Samsun plant will work at full capacity, so the consumption will be higher.</p> <p>While classifying the magnitude of change from previous year data, we consider the change up to +/- 5% as "about the same", 5% to 20% as "higher/lower", and above 20% as "much higher/lower".</p> <p>As the decrease in consumption amounts were calculated to be 22.72% it is classified as "Lower".</p>
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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	Please explain
Row 1	Yes	<p>We use the WRI Aqueduct Water Risk Atlas tool to identify overall water risks, baseline water stress, the projected change in water stress, flood occurrence, drought severity, groundwater stress in locations where our facilities/sites/ operations at.</p> <p>By using the tool, we assessed the Water Stress level for all of our locations by entering their coordinates on the tool and identifying the basin they are located at. Areas with High (40-80%) or Extremely High (>80%) Baseline Water Stress as evaluated by WRI Aqueduct are classified as Water-Stressed Areas.</p> <p>The water stress level is a very important data for us. Water stress measures the ratio of total water withdrawals to available renewable surface and groundwater supplies. (Water withdrawals include domestic, industrial, irrigation, and livestock consumptive and nonconsumptive uses.</p>

		<p>Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability.) And higher values indicate more competition among users. According to the tool, although most of our operations (53 out of 62 locations) are listed as having High (40-80%) to Extremely High (>80%) Water Stress Levels, volume-wise our withdrawal from areas with water stress have increased by 7.25% (From 12,222 ML in 2020 to 13,107 ML in 2021).</p> <p>Our total corporate-wide water withdrawals have decreased by 12.31% in comparison with the previous reporting period. In 2020 our water withdrawals from water-stressed areas made up 10.25% of our total water withdrawals. This year this value is up to 12.54%.</p> <p>There is one major reason for this increase:</p> <p>1. In one of the projects of Tekfen Construction, micro tunnelling activity increased, resulting in a 62% increase in water withdrawals from water stress areas for Tekfen construction (1,119 ML increase in withdrawal). Tekfen construction projects makes up 22.37% of total withdrawals from water stressed areas.</p> <p>In other operations there are also small changes but they are not significant enough to be reported in here. As a result of this analysis, we can say that our water withdrawals from water-stressed areas have increased by 7.25 % with respect to the previous reporting year.</p> <p>According to WRI Aqueduct Water Risk Atlas Tool, although our Samsun Plant is currently at a low-stress area, in the future analysis (2030), this plant will fall under “Extremely High Risk” category. Therefore, it is reported under W4.1a and W4.1b of this report.</p>
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W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	5,813.95	About the same	During the reporting year 65.74% of the fresh surface water is withdrawn by Toros Agri Samsun plant and used to produce steam. This volume was erroneously reported under 3rd parties in the previous reporting periods, but revised this year after the verification. 2020

				<p>data is also revised so the comparison is made with the correct figures. Remaining 33.77% of fresh surface water was used in Tekfen Agri orchards.</p> <p>Withdrawal from this source has increased by 2.33 which is classified as about the same.</p> <p>Withdrawals are measured with flow meters. Rain water constitutes 33.33% of total fresh water withdrawals for 2021 and the amount of rain water is estimated using meteorological data and UN FAO's effective rainfall calculation methods.</p> <p>Classification: +/- 5% about the same, 5%-20% higher/lower, >20% much higher/lower. 32.33% increase is classified as About the same. We expect this volume to remain about the same.</p>
Brackish surface water/Seawater	Relevant	87,273.34	Lower	<p>Brackish surface water/ seawater withdrawal has decreased by 14.84% (lower). We use seawater only in the Toros Agri Samsun Plant. Seawater is being used in the Sulphuric Acid Unit for cooling, production of demineralized water and washing in the Phosphoric Acid Unit.</p> <p>Seawater data is obtained via direct measurement. This decrease was due to a planned stop of the Sulphuric Acid unit, which lasted 33 days. The stop was for a maintenance activity involving</p>

				<p>a change in the catalyzer unit for this unit. The sulphuric acid production has also decreased by 8% due to this maintenance activity.</p> <p>While classifying the magnitude of change from previous year, we consider the change up to +/- 5% as "about the same", 5% to 20% as "higher/lower, and above 20% as much higher/lower. Therefore, a decrease of 14.84% is classified as "Lower".</p> <p>In the future we expect this value to be higher as the Samsun Plant will be fully operational.</p>
Groundwater – renewable	Relevant	10,104.93	About the same	<p>Renewable groundwater is used in Tekfen Construction Projects, Toros Agri Mersin & Ceyhan Facilities, Alanar Fruit orchards & is measured via meter readings or calculations by using pump flow rates. Our groundwater withdrawals increased by 1.60%</p> <p>Major reasons:</p> <ol style="list-style-type: none"> 1. In one of the projects of Tekfen Construction, micro tunnelling activity increased, resulting in 8.98% increase 2. Tekfen agri used less groundwater for the orchards mainly because frost events resulted in yield loss, also the rainfall amount was higher in 2021. This resulted in 8.40% decrease 3. Operations of Toros Agri 103.7 ML increase-1.04% <p>Overall our renewable groundwater withdrawal amounts increased by 1.60%.</p>

				<p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower. An increase of 1.6% is classified as "About the same". In line with the predicted growth on the orchards area, we expect the trend to be an increase in the future.</p>
Groundwater – non-renewable	Not relevant			<p>We do not use non-renewable groundwater in any of our operations. Therefore, water withdrawal from this source is currently not relevant for our business and will remain as not relevant in the future.</p>
Produced/Entrained water	Not relevant			<p>Tekfen Construction was contracted to build an oil pipeline by an oil drilling company. In this project produced water was used. But the project was finalized, hence there is no produced/entrained water use in 2021. Therefore, this water source become irrelevant for Tekfen Holding.</p>
Third party sources	Relevant	1,350.34	Much higher	<p>51.48% of water from 3rd parties is used in Tekfen Agri operations, 43.67% is used in Tekfen Construction and the remaining 4.85% is used in almost all of our operations. Compared to 2020, there is a 29.07% increase in withdrawals from 3rd parties. The reasons are:</p> <ul style="list-style-type: none"> • Increase in micro-tunneling activities in some projects of Tekfen Construction (23.96% increase). • Increase in water use in Tekfen Agri orchards (3.06% increase)

				<p>• Increase in operations of Tekfen Manufacturing (2.50% increase).</p> <p>All of the volumes of water withdrawn from third-party sources are sourced from direct measurements.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower. Therefore a 29.07% increase is classified as "Much Higher". We constantly launch water management initiatives, so we expect decrease in withdrawal from 3rd party sources in the future.</p>
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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	86.98	About the same	<p>Fresh surface water (fsw) discharge is present in Gonen Renewable Energy, Tekfen Construction and Tekfen Manufacturing. All of the volumes reported under this section are sourced from direct measurements.</p> <p>The discharge volume has decreased from 90.10 ML to 86.98 ML, which translates to a decrease of 3.47%, the major reason behind this decrease is decrease in discharge in Tekfen Manufacturing operations and the finalization of some projects of Tekfen Construction.</p> <p>Classification: +/-5% about the</p>

				<p>same, 5-20% higher/lower, >20% much higher/lower. As the discharge figure decreased by 3.47% we classify this decrease as “About the same”. We expect this amount to remain about the same in the future.</p>
Brackish surface water/seawater	Relevant	91,253.3	Lower	<p>We discharge to seawater in Samsun, Mersin & Ceyhan Plants and in 1 project of Tekfen Construction. In the 2021, 96.82% of discharges to seawater came from the operations in Samsun Plant, which uses seawater in the Sulphuric Acid Unit for cooling, production of demineralized water and washing in the Phosphoric Acid Unit. The data is obtained via real-time measurement.</p> <p>Discharge in Samsun Plant decreased by 13.5% which is due to a planned stop of the Sulphuric Acid unit. The stop was for a maintenance activity involving a change in the catalyzer for this unit. The sulphuric acid production has also decreased by 8%.</p> <p>In other locations there is some increase in discharge due to increase in operation volumes. In total the discharges to brackish surface water decreased by 12.65%.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower.</p> <p>A decrease of 12.65% is classified as “Lower”. This value is expected to increase in the future.</p>
Groundwater	Relevant	1,945.41	Much higher	<p>We mainly discharge to groundwater in Tekfen Agri, Tekfen Construction & Toros Agri. Discharge to groundwater (GW) has increased by 20.43% The main reason is the increase in</p>

				<p>Micro-Tunneling activities of Tekfen Construction which resulted in a 16.33% increase. The remaining 4.11% comes from increase in Tekfen Agri's discharge, which makes up 77.48% of the total discharge to GW.</p> <p>25% of the irrigation water used in the orchards is discharged to the GW without being used. Although we used less water due to loss of some crops in 2021, there was a 40% increase in rainwater due to increase in rainfall which resulted in a 4.11% increase in GW discharge.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower. An increase of 20.43% is classified as "Much Higher".</p> <p>We expect this amount to increase slightly in the future if we acquire new orchards or if Tekfen Construction has more projects where micro tunnelling or dust suppression is needed.</p>
Third-party destinations	Relevant	1,818.32	Much higher	<p>Discharge to 3rd parties have increased by 119.24%. We discharge to 3rd parties in almost all of our operations but 75.57% of our discharge to 3rd parties comes from Toros Agri operations. 3rd party discharge has increased considerably due to Samsun plant's change in discharge destination (112.89% increase). Remaining increase of 4.55% comes from Tekfen Construction projects.</p> <p>In 2021 Tekfen Construction mostly used 3rd parties (such as clients' waste water treatment plants-WWTP) for discharge due</p>

				<p>to Client's requests. In most projects, the wastewater is collected & sent to a nearby 3rd party WWTP. The volumes reported are obtained via direct measurement.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower. An increase of 119.24% is classified as "Much Higher".</p> <p>We expect this amount to remain about the same in the future.</p>
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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				<p>Tertiary treatment is the "treatment" process used to remove polluting agents, like nitrogen, phosphorus, heavy metals, toxic organic substances, etc., which can not be sufficiently removed via physical or biological treatment methods. However, the results of</p>

				<p>wastewater analysis in our plants, show that pollutants like ammonium nitrogen, nitrate, sulfate, phosphorus, copper, mercury, iron, cadmium, lead, chromium, etc. are always under the limits set in Table 19 of Water Pollution Control Regulation. As our analysis results are always under the legal limits, we do not require further treatment of our waste water.</p> <p>Although there is no need for advanced treatment, we have included an advanced waste water treatment and recovery plant in our investment plans in Toros Agri's Mersin plant. This investment is planned especially in order to recover the ammonia and nitrate in wastewater to be used as products and also to produce</p>
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					demineralized water.
Secondary treatment	Relevant	4,754.33	Much higher	21-30	<p>We have secondary treatment in one facility of Tekfen Manufacturing, 6 projects of Tekfen Construction and 7 facilities of Toros Agri. The treated volume has increased by 77.52%.</p> <p>For Tekfen Construction projects, which make up 43.58% of the reported volume, the wastewater treated is domestic sewage water. The discharge water is treated to be in line with the local legislation and/or IFC standards. Due to the inclusion of new projects the discharge volume has increased by 83.43%. 56.30% of the water volume reported in this section belongs to Toros Agri Facilities. The treatment volume increased by 73.79% as more water was used for process and domestic purposes</p>

					<p>during the reporting year. Water treated in these facilities are mainly domestic sewage water and process water. For domestic sewage water we have biological treatment, whereas for industrial process wastewater, we apply biological and chemical treatment in our facilities.</p> <p>The discharge water is treated to be in line with the local legislation in all Toros Agri Facilities which have a waste water treatment plant.</p> <p>We expect this value to fluctuate according to the project portfolio of Tekfen Construction.</p> <p>Classification: +/- 5% about the same, 5-20% higher/lower, >20% much higher/lower.</p> <p>Therefore 77.52% increase is classified as much higher.</p>
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<p>Primary treatment only</p>	<p>Relevant</p>	<p>88,350.87</p>	<p>Lower</p>	<p>1-10</p>	<p>We only have primary treatment in Toros Agri Samsun Plant, discharge volume of which makes up 92.89% of our total water discharges, this facility uses sea water for cooling purposes and prior to discharge to the sea, the seawater used is collected in ponds for sedimentation purposes. In the reporting period the treated water volume has decreased by 15.72% due to a planned stop of the Sulphuric Acid unit in Samsun Plant. The stop was for a maintenance activity involving a change in the catalyzer for this unit. The sulphuric acid production has also decreased by 8%. We can expect this value to increase as Samsun plant will be fully operational in the future. The discharge water is treated to be in line with the</p>
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					<p>local legislation. Classification: +/- 5% about the same, 5-20% higher/lower, >20% much higher/lower. 15.72% decrease is classified as "Lower"</p>
Discharge to the natural environment without treatment	Relevant	1,638.61	Higher	41-50	<p>We discharge to groundwater without treatment in the plantations of Tekfen Agri, in some projects of Tekfen Construction and some irrigation water is also discharged to ground water in some locations of Toros Agri. 25% of irrigation water was estimated as the discharge rate of the plantation since the plants can't absorb all the water. This year the discharge volume increased by 6.17%, The main reason behind this increase is the 40.63% increase in rainfall. In Tekfen Construction clean water which is used for dust suppression and</p>

					<p>irrigation is reported under this category. In every location where there is discharge to groundwater without treatment, we only use the water for irrigation purposes and we are using fresh surface water or water from 3rd parties irrigation, therefore we are in compliance with legal regulations and standards for discharge.</p> <p>Classification: +/- 5% about the same, 5-20% higher/lower, >20% much higher/lower. 44.19% decrease is classified as "Higher"</p>
Discharge to a third party without treatment	Relevant	360.19	Higher	81-90	<p>In headquarters, district offices and almost all of the permanent facilities of Tekfen Group Companies there is discharge to 3rd parties (i.e. domestic wastewater is usually discharged to municipality sewage system). Depending on the location the 3rd parties usually have secondary or</p>

					<p>tertiary treatment facilities.</p> <p>In the reporting period discharge to 3rd parties have increased by 10.41%. This increase was expected as 2020 was the year of covid crisis and some of our offices were closed during mandatory shut-downs. As we were not fully operational, we used less water in the offices and therefore we discharged less. In the future we expect this volume to remain about the same.</p> <p>Classification: +/- 5% about the same, 5-20% higher/lower, >20% much higher/lower.</p> <p>10.41% increase is classified as "Higher"</p>
Other	Not relevant				<p>We don't have any other type of treatment/discharge.</p>

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	1,831,900,000	104,542.55	17,523.0085740208	Total withdrawal efficiency is expected to be lower due to two reasons. 1. Our withdrawal volume will be higher in the future due to increased withdrawal from brackish surface water in Samsun Plant. In the reporting year there was a planned stop in Samsun Plant sulphuric acid unit. This stop lasted 33 days & as a result of this stop we withdrew less water. 2. As the Turkish currency is under stress, USD/TL rates are higher than expected. If this trend goes on our USD revenue also expected to decrease.

W-CH1.3

(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?

Yes

W-CH1.3a

(W-CH1.3a) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

Product type

Bulk inorganic chemicals

Product name

Ammonium Nitrate+ Calcium Ammonium Nitrate

Water intensity value (m3)

5.67

Numerator: water aspect

Freshwater withdrawals

Denominator

Ton

Comparison with previous reporting year

About the same

Please explain

AN + CAN fertilizers account for 36.51% of Toros Agri's total fertilizer production. For this reason, they are the fertilizers that have the most impact on our revenue compared to other fertilizer types. AN and CAN fertilizers are produced only in Mersin Plant.

Compared to the previous year, water density has increased by 2.03%.

We only use renewable groundwater in our Mersin Plant, therefore we are using "Total water withdrawal" as the water aspect (numerator) when calculating the water intensity. In the reporting period total AN+ CAN fertilizer production was 633,887 tonnes and total freshwater withdrawal was 3,591,214 m³. That means the water intensity of AN+CAN fertilizers is 5.67 m³/ton (3,591,214/ 633,887) in 2021. The water intensity was 5.55m³/ton in 2020.

In the reporting period, our CAN+AN production increased by 5.15% while our total fresh water withdrawal also increased by 7.29%.

The main reason behind this increase is the increased number of start-stops in the reporting period. During the starts the process uses more energy and water. Another reason is maintenance activities like water meter calibrations.

The metric is used within our organization to set the targets relating to water efficiency. We expect the water intensity of CAN and AN fertilizers to decrease in the medium term. The first steps have been taken for the investment in establishing a wastewater treatment and recycling unit in Mersin. We foresee a decrease in the amount of freshwater withdrawal when the project is completed.

While classifying the magnitude of change from previous year, we consider the change up to +/- 5% as "about the same", 5% to 20% as "higher/lower", and above 20% as "much higher/lower". Therefore, an increase of 2.03% is classified as "About the same". The water intensities for the other fertilizer types (e.g., DAP, NP, NPK, Organomineral, MAP etc.) are not yet monitored due to the complexity of operations. On the other hand, our short-term target is the installation of metering devices in the related production units which enable us to measure and monitor each units' water withdrawals. Therefore, we can calculate the other fertilizer types' water intensities accurately.

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

26-50

Rationale for this coverage

Tekfen Group of Companies work with numerous suppliers. All of our suppliers are expected to comply with Tekfen's Code of Conduct and their compliance is audited. From the water security point of view, the effects of our suppliers are not equal. 50.3% of Tekfen's total revenue is realized by the Engineering and Contracting Group and Tekfen Construction assesses the suppliers to be critical and non-critical. Tekfen Construction carries out Procurement and Supplier Management Strategies based on ethical and sustainability awareness. Tekfen conducts data-based supplier and procurement management, focusing on three principal components of sustainability in order to ensure real and long-term cooperation with its suppliers. Tekfen uses a cloud-based Supplier Management System (SMS) which is utilized to evaluate Tekfen's current suppliers. In 2021, Tekfen Construction has enhanced its ability of analyzing the supplier base by introducing advanced spend analysis method. The analysis runs an 80-20 Pareto Histogram on Procurement activities in total value & order frequency to clarify group of Strategic Suppliers. After the critical suppliers are identified using Pareto analysis, the cloud based online SMS is used to evaluate suppliers. Supplier Qualification is part of this evaluation process, where suppliers are requested to respond to multi-category questions, including water management issues which in turn impacts the supplier score card. In 2021 we have identified 36 critical suppliers, and our supplier assessment questionnaire was shared with all of them. 19 of our critical suppliers responded to the questionnaire, which made up 25.3% of Tekfen Construction's total procurement spend in the reporting period. Moreover, 85 suppliers were assessed by Tekfen Construction in 2021.

We engage our supplier through our Supply Chain Policy, Contracts, and Supplier Sustainability Assessment Questionnaire. Tekfen purchases goods/services from suppliers on the Approved Supplier List (ASL). Being on the ASL is one of the most important incentives for our suppliers.

Comment

In 2021, the Sustainable Procurement Working Group was established to lead sustainability works and ensure implementation of SDGs into procurement process according to Corporate Procurement Road Map. The Sustainable Supply Chain Policy was written and published by the Group & ISO 20400 Sustainable Procurement training was organized for HQ Procurement Department. As a next step we will define sustainability criteria for sample categories & implement them into approval process of purchase order.

W1.4b

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

Type of engagement

Incentivizing for improved water management and stewardship

Details of engagement

Water management and stewardship action is integrated into your supplier evaluation

% of suppliers by number

76-100

% of total procurement spend

76-100

Rationale for the coverage of your engagement

Our greatest challenge in responsible water stewardship, as well as our biggest opportunity, lies in addressing impacts within our supply chains.

Tekfen Holding's Supply Chain policy clearly states that we expect our suppliers and subcontractors to use natural resources efficiently, and take measures to reduce their carbon and water footprints by keeping track of their GHG emissions and water consumption.

In order to make sure that our suppliers are in line with our supply chain policy, we have a questionnaire that we ask our suppliers to fill out and the answers given in this questionnaire has an impact on the supplier selection process of Tekfen Construction.

We ask all our subcontractor candidates to reply this questionnaire, which include questions about their water monitoring practices, environmental management approach and their projects to reduce their water consumption. In our current supplier evaluation, we ask our suppliers under the "Manufacturer" category, whether they monitor their water data and have any projects to reduce water consumption. Their positive answers are reflected positively to their supplier score.

We also plan to conduct a Life Cycle Assessment study for 2 categories or suppliers in 2022.

We engage our supplier through our Supply Chain Policy, Contracts, and Supplier Sustainability Assessment Questionnaire. Tekfen purchases goods/services from suppliers on the Approved Supplier List (ASL). Being on the ASL is one of the most important incentives for our suppliers.

Impact of the engagement and measures of success

In the supplier evaluation, documents and information are collected in order to analyze the possible risks of the Supplier such as financial, HSE, corporate structure and geographical conditions. All titles combine in total to form a "Supplier Score".

As mentioned above the positive replies to water management questions, are reflected positively to the supplier scores. If the supplier scores are high enough the suppliers

have a chance to enter Tekfen's Approved Supplier List.

The supplier assessment questionnaire is sent to all candidate sub-contractors. Also, it is shared each year with existing critical suppliers, which are selected using an advanced spend analysis method. The analysis runs an 80-20 Pareto Histogram on Procurement activities in total value & order frequency to clarify group of Strategic Suppliers.

In 2021 we have identified 36 critical suppliers, and our supplier assessment questionnaire was shared with all of them. 19 of our critical suppliers responded to the questionnaire, which makes more than 50%. In the future we aim to increase this percentage as this is a success measure for us.

Comment

W1.4c

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

Toros Agri, engages with its dealers, sales points & farmers (customers) directly to increase awareness on the correct application of fertilizers. We are using several engagement methods that include:

- **Toros farmer app:** which was established by Toros Agri in 2016, is a 100% free farmer-friendly decision support app, which helps the farmers benefit from technological developments. By the end of 2021, the Toros Farmer app reached 19,417 active users
- 1 to 1 meetings with the distributors & authorized dealers
- **Toros Farmer Academy (TFA):** is a mobile education bus which was established in 2018 . In 2021 TFA has performed:
 - 5398 visits to distributors,
 - 7975 interviews with farmers,
 - 184 visits to agricultural institutions,
 - 20 meetings with farmers.
- **Toros Women Farmer's Credit** is a project initiated by Tekfen Foundation & Turkish Foundation for Waste Prevention to employ women entrepreneurs who want to set up their own agricultural operations but do not have the means to do so. Toros Agri's expert agricultural engineers provide free trainings on basic agriculture, health&safety. They also support the women farmers during&after production.

Toros Agri also engages and actively collaborates with universities as part of its R&D activities focusing on water-soluble fertilizer development with great potential to reduce water pollution & avoid excess water consumption. By engaging with universities, we aim to turn the know-how shared into new &more sustainable products positively affecting the whole value chain. This will enable multi-dimensional water related benefits once these products are commercialized in the medium to long term. Accordingly, we define the measure of success for these engagement/collaborations as commercialization of new, water-soluble fertilizers.

To measure the success, we consider the number of users of the Toros Farmer Application; meetings held with dealers; trainings, presentations and R&D projects completed.

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?

Yes, fines, enforcement orders or other penalties but none that are considered as significant

W2.2a

(W2.2a) Provide the total number and financial value of all water-related fines.

Row 1

Total number of fines

2

Total value of fines

29,986

% of total facilities/operations associated

1.61

Number of fines compared to previous reporting year

Higher

Comment

Our Gonen Renewable energy facility has faced two penal sanctions due to a problem in the waste water treatment plant. The total value of these fines are well-below our substantial impact threshold.

We have a total of 62 facilities and “% of total facilities” is calculated as $1/62=1.61\%$

W3. Procedures

W-CH3.1

(W-CH3.1) How does your organization identify and classify potential water pollutants associated with its activities in the chemical sector that could have a detrimental impact on water ecosystems or human health?

Details of our policies and processes to identify potential water pollutants:

Toros Agri, being the major company in our Chemical Industry Group, produces chemical fertilizers, which are sold to both domestic and international markets.

Toros Agri has sold 2 M tons of chemical fertilizers in 2021, 81% of which is sold to domestic markets. Toros Agri is one of the top fertilizer producers in Turkey with 24% market share.

All of the operations of Toros Agri are ISO 14001:2015 Environmental Management System and IFA (International Fertilizer Association) Protect & Sustain Certified. Within the scope of these standards, we have implemented water pollution control management system across our operations in the fertilizer production processes.

In accordance with our Water Policy and & Regulation on Prevention of Pollution, pollutants originating from chemical fertilizer production are determined, parameters related to the determined pollutants are monitored, measured & the results are analyzed.

In all of our fertilizer production facilities:

- The hazardous chemicals
- Their CAS codes,
- Max. amount of these chemicals in the facility,
- Hazardous substance categories,
- Measures to be taken against accidental spill,
- handling & storage conditions,
- major accident scenarios & preventive actions
- The ecotoxicological properties of these chemicals including acute toxicity, mobility, biodegradability, persistence & degradability, bioaccumulation potential have all been determined.

The Turkish Ministry of Environment & Urbanization (MoEU) has revised the Regulation on Classification, labelling & Packaging (CLP) of Dangerous Substances and Preparations which is also known as SEA regulation in Turkish. This regulation is aligned with EU CLP Regulation (1272/2008 EC) and is in force since 01.06.2016.

The regulation sets detailed rules& principles for chemical classification, labelling & packaging in Turkey & brings GHS concepts to Turkey. Similar to EU CLP regulation, it also requires manufacturers & importers to notify the classification & labeling of hazardous substances & mixtures to Turkish C&L Inventory ("C&L Notification").

There are wastewater treatment plants (WWTPs) in our fertilizer production facilities & these plants are operated within the framework of the legislation provisions. Our facilities have both domestic and industrial WWTPs.

On a monthly basis, an accredited company authorized by the MoEU, takes samples from the outlets of the both industrial and domestic Wastewater pools & conducts analyses to check the compatibility of the wastewater samples with the Water Pollution Control Regulation Tables 14.7 b and 21.1. We monitor the pH, nitrate nitrogen, ammonium nitrogen, suspended solids (SSM) & chemical oxygen demand (COD). In addition, our Samsun facility is connected to the Waste Water Monitoring Network of the MoEU. The pH, conductivity, dissolved oxygen, temperature and flow rate of the wastewater discharged into the sea are monitored continuously with this system.

In addition, there are groundwater observation wells in our phosphogypsum storage areas. We also take samples and perform analysis from these wells upon request of the Provincial Directorate of Environment and Urbanization.

Our pollution prevention plans identify, evaluate and monitor the products we handle & produce in our plants. Our policy is based on the principles of avoidance, reduction and mitigation, including waste minimization principle, and sets specific targets. This policy and plans are signed by the CEO and supported by the Group Companies' General Managers. Company specific pollution prevention procedures are developed by the Companies' HSE or Sustainability Management Departments and are annually reviewed and approved by the Group Companies' General Managers.

We categorize key substances as those that can have severe toxic and ecotoxic effects, have high persistence in the natural environment and have the potential to bioaccumulate.

Details on how we follow-up the established standards:

In order to ensure all of our facilities are in line with the identified requirements of the applied standards and regulations, we have daily controls performed by our Environmental Engineers, monthly audits performed by an environmental responsible, and annual audits performed by the Environmental Internal Auditors. On top of all these controls, Tekfen Holding Health, Safety, Environment and Quality Coordinatorship performs regular environmental audits at the production facilities.

Information on how our policies and processes vary across our value chain:

Although our environmental policies do not vary across our value chain, sometimes the discharge limits and the parameters to be analysed in discharged water may vary. For example the parameters determined by Turkish Ministry of Environment and Urbanization may differ from the parameter determined by IFC. In such a condition we always comply with the parameters that are stricter.

W-CH3.1a

(W-CH3.1a) Describe how your organization minimizes adverse impacts of potential water pollutants on water ecosystems or human health. Report up to ten potential pollutants associated with your activities in the chemical sector.

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
Phosphate Nitrogen	Direct operations	<p>These pollutants are related to Phosphoric Acid Unit and the other fertilizer production units.</p> <p>Phosphate will stimulate the growth of plankton and aquatic plants which provide food for fish. This may cause an increase in the fish population and improve the overall water quality. However, if an excess of phosphate enters the waterway, algae, and aquatic plants will grow wildly, choke up the waterway and use up large amounts of oxygen. This condition is known as eutrophication or over-fertilization of receiving waters. This rapid growth of aquatic vegetation eventually dies and as it decays it uses up oxygen. This process in turn causes the death of aquatic life because of the lowering of dissolved oxygen levels.</p> <p>Nitrogen is a common chemical element found in many molecules used in the chemical industry, e.g. ammonia, a building block of many chemical products (e.g.</p>	<p>Compliance with effluent quality standards</p> <p>Measures to prevent spillage, leaching, and leakages</p> <p>Other, please specify</p> <p>Compliance with standard operating procedures for control and production in facilities.</p> <p>Compliance with legal regulations.</p> <p>Periodic measurements performed online and/or by accredited companies. Planned and unplanned audits.</p>	<p>The best possible technologies are used in our Phosphoric Acid Unit and other fertilizer production units which are the sources of specified pollutants.</p> <p>It is not possible to use a different raw material at the production process. However, properties of the raw materials are inspected and controlled in every purchase order.</p> <p>The pollutant parameters of the discharged water are followed by the facility and the relevant public units, via samples taken both online and manually, against compliance with the limit values in the Water Pollution Control Regulation.</p> <p>There are instructions prepared for each production process and the possibility of going beyond these instructions is followed by automatic control systems and periodic inspections and audits.</p> <p>The discharge water is always tested and the measure of success is the compliance with regulatory limits. These tests are performed by</p>

		<p>plastics, fertilizer). As such, traces of Nitrogen are typically contained in chemical industry wastewater. Nitrogen levels in wastewater can be reduced biologically (De-Nitrification) to meet regulatory standards. High nitrogen concentrations in aquatic ecosystems raise the level of nutrients, can cause algal blooms and lead to oxygen depletion. This eutrophication process may pose a threat to biodiversity and diminish life in aquatic environments. Loss of biodiversity can cause spiraling negative effects on interconnected ecosystems, e.g. bird populations depending on fish for food.</p>		<p>either accredited laboratories and/or online measurement and monitoring system which is directly linked to Ministry of Environment and Urbanization. All kinds of hazardous chemicals are stored at impermeable bunded areas to prevent spillage and leakages to the ground. We also have targets like “% of tests/samples compliant with determined standards for effluent discharge” to ensure compliance with the discharge limits.</p>
pH	Direct operations	<p>Discharged water’s pH is important for the destination environment. If the discharge water is polluted with acidic or basic materials, the pH of the discharge water may change. The changes in the water pH have a negative impact on all living organisms in the water of the destination environment. If the pH of water is too</p>	<p>Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Other, please specify Compliance with standard operating procedures for control and production in facilities. Compliance with legal regulations. Periodic measurements performed online</p>	<p>Ocean/ sea acidification is already impacting many ocean/sea species, especially organisms like oysters and corals that make hard shells and skeletons by combining calcium and carbonate from seawater. Therefore, we measure and monitor pH of waste water before discharge to receiving environment. We issue</p>

		<p>high or too low, the aquatic organisms living within it will die. pH can also affect the solubility and toxicity of chemicals and heavy metals in the water. The majority of aquatic creatures prefer a pH range of 6.5-9.0, though some can live in water with pH levels outside of this range.</p>	<p>and/or by accredited companies. Planned and unplanned audits.</p>	<p>Environmental Monitoring Plans that describes all preventive measures against these kinds of environmental aspects. pH of the discharged water is followed by the facility and the relevant public units, via samples taken both online and manually, against compliance with the limit values in the Water Pollution Control Regulation. In our Samsun Plant there is a Monitoring Station that monitors standard effluent parameters including pH of wastewater in real-time and reports to the Ministry of Environment and Urbanisation. The real-time reports can be reached 24/7 via the web. There are instructions prepared for each production process and the possibility of going beyond these instructions is followed by automatic control systems and periodic controls. The discharged water is always tested and the measure of success is the compliance with regulatory limits. We also have targets like “% of tests/samples compliant with determined standards</p>
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				for effluent discharge” to ensure compliance with the discharge limits.
Temperature	Direct operations	<p>The temperature of water increases due to cooling water used in the facilities. The temperature of the wastewater is higher than that of the water supply.</p> <p>The temperature of the water is a very important parameter because of its effect on chemical reactions and reaction rates, aquatic life, and the suitability of the water for beneficial uses.</p> <p>Increased temperature, for example, can cause a change in the species of fish that can exist in the receiving water body. In addition, oxygen is less soluble in warm water than in cold water. The increase in the rate of biochemical reactions that accompanies an increase in temperature, combined with the decrease in the quantity of oxygen present in surface waters, can often cause serious depletion in dissolved oxygen concentrations in the summer months.</p>	<p>Compliance with effluent quality standards</p> <p>Measures to prevent spillage, leaching, and leakages</p> <p>Other, please specify</p> <p>Compliance with standard operating procedures for control and production in facilities.</p> <p>Compliance with legal regulations.</p> <p>Periodic measurements performed online and/or by accredited companies. Planned and unplanned audits.</p>	<p>The best possible technologies are used in our fertilizer and acid plants, which are the sources of the specified pollutants. For example, we have started to change our cooling process and air-cooled system started to be used instead of water-cooled systems.</p> <p>We issue Environmental Monitoring Plans that describes all preventive measures against these kinds of environmental aspects.</p> <p>In our Samsun Plant there is a Monitoring Station that monitors standard effluent parameters including temperature of wastewater in real-time and reports to the Ministry of Environment and Urbanisation. The real-time reports can be reached 24/7 via the web.</p> <p>The other pollutant parameters in the discharged water are followed by the facility and the relevant public units, via samples taken both online and</p>

				<p>manually, against compliance with the limit values in the Water Pollution Control Regulation.</p> <p>There are instructions prepared for each production process and the possibility of going beyond these instructions is followed by automatic control systems and periodic controls.</p> <p>The discharge water is always tested and the measure of success is the compliance with regulatory limits.</p> <p>We also have targets like “% of tests/samples compliant with determined standards for effluent discharge” to ensure compliance with the discharge limits.</p>
Cadmium	Direct operations	<p>Cadmium comes from the phosphate rock that is used in phosphoric acid production. Cadmium is a heavy metal with high toxicity. Cadmium is toxic at very low exposure levels and has acute and chronic effects on health and the environment. Cadmium is not degradable in nature and will thus, once released to the environment, stay in circulation. New</p>	<p>Compliance with effluent quality standards</p> <p>Measures to prevent spillage, leaching, and leakages</p> <p>Other, please specify</p> <p>Compliance with standard operating procedures for control and production in facilities.</p> <p>Compliance with legal regulations.</p> <p>Periodic measurements performed online and/or by accredited</p>	<p>The best possible technologies are used in our fertilizer and acid plants, which are the sources of the specified pollutants.</p> <p>It is not possible to use a different raw material to avoid these parameters. However, product properties in the raw materials are controlled in every order.</p> <p>The pollutant</p>

		<p>releases added to the already existing deposits of cadmium in the environment.</p> <p>Therefore Cadmium is a toxic material for all living organisms.</p>	<p>companies. Planned and unplanned audits</p>	<p>parameters in the discharged water are followed by the facility and the relevant public units, via samples taken both online and manually, against compliance with the limit values in the Water Pollution Control Regulation.</p> <p>There are instructions prepared for each production process and the possibility of going beyond these instructions is followed by automatic control systems and periodic controls.</p> <p>The discharge water is always tested and the measure of success is the compliance with regulatory limits.</p> <p>We also have targets like “% of tests/samples compliant with determined standards for effluent discharge” to ensure compliance with the discharge limits.</p>
Nitrate pollution	Product use	<p>Nitrogen from a variety of sources can make its way into groundwater and waterways. A certain level of nitrogen is naturally present in the environment and nitrate in low quantities are necessary nutrients. However, the high levels of nitrate found in</p>	<p>Providing best practices instructions on product use</p>	<p>We have launched the “Correct and Balanced Fertilizer Use Project” via which we aim to communicate with farmers on what can be achieved through correct use of fertilizers compared to their regular fertilizing methods. This</p>

		<p>major anthropogenic contributors such as agricultural runoff, nitrogen-based fertilizers, animal manure and sewage pose a problem. High concentrations of nutrients in the water table can cause drinking water to become toxic. Nitrate is one of the most common groundwater contaminants in rural areas.</p> <p>Nitrates related pollution is caused by the introduction of excessive amounts of nitrogen to surface and ground waters, mainly as a result of agricultural practices. About 50-70% of nitrogen input to water came from agriculture and nitrate pollution may increase in the coming years (medium-term).</p> <p>One of the leading agri-environmental indicators is the nitrate pollution of groundwater. Due to the wrong/over-application of fertilizers, along with environmental characteristics such as average temperature and precipitation as co-factors, there is a risk of nitrate pollution in groundwater sources that are likely to get</p>	<p>engagement has a number of benefits as it directly enables efficient use of water as well as avoiding the application of fertilizer, this also helps reduce water and land pollution.</p> <p>We are using several engagement methods that include:</p> <ul style="list-style-type: none"> • Toros farmer app • One-on-one meetings with the Toros Agri Ddistributors and authorized dealers • Presentations / Meetings / Joining Agricultural Expo's • Giving trainings to farmers <p>By the end of 2021, 19,417 members actively use the Toros farmer app. The number of users have increased by 15% when compared to 2020. In 2021, 5,398 visits to distributors across Turkey, 7,975 interviews with farmers, 184 visits to agricultural institutions and 20 meetings with farmers were made.</p> <p>All these above-mentioned awareness raising activities help us reduce the nitrate pollution that may be caused via excess use of our products. The continuous increase in these numbers</p>
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		<p>higher over the medium term.</p> <p>Based on the EU Directive, Turkey has a regulation in place for the Protection of Water Against Agricultural Nitrate Pollution. If the nitrate concentration levels get higher, there is a risk of compliance cost to be introduced as part of encouraging farmers and fertilizer producers to adopt sustainable agriculture practices.</p>		<p>compared to the previous year is an indicator of success for us.</p>
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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
- Supply chain
- Other stages of the value chain

Coverage

- Full

Risk assessment procedure

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

Frequency of assessment

- More than once a year

How far into the future are risks considered?

- More than 6 years

Type of tools and methods used

- Tools on the market
- Enterprise risk management
- International methodologies and standards
- Databases
- Other

Tools and methods used

- WRI Aqueduct
- WWF Water Risk Filter
- Enterprise Risk Management
- ISO 31000 Risk Management Standard
- IPCC Climate Change Projections
- ISO 14001 Environmental Management Standard
- Regional government databases
- Internal company methods
- External consultants

Contextual issues considered

- Water availability at a basin/catchment level
- Water quality at a basin/catchment level
- Stakeholder conflicts concerning water resources at a basin/catchment level
- Implications of water on your key commodities/raw materials
- Water regulatory frameworks
- Status of ecosystems and habitats
- 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

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.

For short-term water related risks at asset level, we use ISO 14001 Environmental Management System's risk management approach.

Medium- and long-term water related risks at Company and Holding levels are covered by Corporate Risk Management (CRM) which is parallel to ISO 31000 Risk Management Standard and COSO. CRM specifically classifies risks as strategic, operational, financial, compliance and reputational risks.

We use WRI Aqueduct, WWF Water Risk Filter and regional government databases to define risk probabilities and risk impact levels at medium and long term.

Direct operations:

The first step is to measure water data (withdrawal, discharge and consumption amounts) of each business facility. We utilize WRI-Aqueduct in order to ascertain fundamental information regarding the basins. The actual evaluations involve analyzing current and future water stress levels.

In our analysis sites that were evaluated as having a High (40-80%) or Extremely High (>80%) Baseline Water Stress while having total annual water withdrawal volumes over 1,000mL (excluding rainwater) were defined as High-Risk facility sites. We use water stress data which shows the baseline data as well as future projections. We obtain necessary data according to the different scenarios. We use 3 scenarios; the optimistic scenario (SSP2 RCP4.5), business as usual scenario (SSP2 RCP8.5), and pessimistic scenario (SSP3 RCP8.5). By using the water data obtained from WRI tools, the risks are identified and the risk score is determined.

Supply chain & other stages of the value chain:

To determine the risks in our value chain we also use WRI Aqueduct Water Risk Atlas. While assessing supplier-related water risks, we include all aspects of our value chain covering both current and possible future suppliers and try to enhance our way of monitoring their performance as well as implementing awareness raising activities to improve water management practices.

We also use WWF Water Risk Filter's Conflict Risk Scores to identify water related conflict risks as well as historical political conflicts due to competition over limited water resources.

How the outcomes are used:

All risk management operations including actions and status tracking are followed by Group Company Risk Departments with the help of HSE Departments when it comes to climate/water related risks.

Risks are graded based on a portfolio approach. Risk portfolio including risks with grades more than a certain threshold is reported to the BoD every two months. Therefore, these risks are also tracked by the BoD through Early Detection of Risks Committee who consolidates the risk assessments conducted by each Group Company Board and makes decisions on management actions.

Top management of each Group company uses risk management actively in decision making. CRM is integrated into main planning processes. Risks associated with important decisions are identified and graded. In addition, top management of companies make sure proper precautions are designed, applied and the process is run effectively. Tekfen Group Companies

do regular risk assessments in every 2 months and report to the Holding. Risk assessment of high-risk projects, activities, locations, tasks and operational areas are done more frequently.

Why each contextual issue is included:

During our water-related risk assessment we include each contextual issue because we implement an all-risk approach. Contextual issues like water availability, regulation, WASH Access and ecosystem protection are included in risk assessments for direct operations. Whereas other contextual issues like stakeholder conflicts and implication of water on key commodities are included in risk assessments for downstream and upstream value chains.

Why each stakeholder is included:

Tekfen implements an all-risk approach to risk assessment, which includes all the possible stakeholders. Customers are always included in our risk assessments especially for Toros Agri, as climate-triggered issues like water stress will directly impact farmers. Employees, shareholders and investors are always included in the risk assessments, as their suggestions and expectations help shape our future strategies. Local Communities, NGOs, Regulators, Suppliers, Water Utilities and Other Water Users are especially included while assessing the risks and opportunities in our upstream and downstream value chain.

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?

We consider substantive financial impact as additional cost or loss of revenue arising out of a disaster, change in market conditions, failure of a product, or similar events.

We consider substantive strategic impact as impacts on management, planning and important initiatives.

However, according to our Corporate Risk Management system, the effect of identified risk is assessed under 5 main impacts, namely:

- o Financial impact
- o Legal impact
- o Reputational impact
- o Operational impact, and
- o Strategic impact

The risk is assessed to have a substantive impact if:

- o Financially; if the risk impact is >5% EBITDA (singular impact, which equals to 4,110,950USD for the reporting period) or >2% of EBITDA (continuous impact, which equals to 2,055,475 USD). EBITDA for the reporting period is 82,219,000 USD.
- o Legally; due to legislative or contractual non-conformities medium level loss of business or fines (please see substantive financial impact definition above)
- o Reputational; risk poses critical level effects on our reputation. Very important negative effects on some stakeholders, very important stakeholder crisis. Continuous bad press on international media and important markets. Situation is critical and can not be kept under control.
- o Operationally; more than 10 days of disruption in operations, events reducing the performance of employees. For construction projects 10% difference in planned and realized progress of projects.
- o Strategically; Very important impact on strategic plans and their execution. Strategies need to be revised considerably.

If one of the above impacts is assessed to be the impact of any identified risk, the risk is automatically identified to have a substantive impact regardless of its probability of occurrence.

These definitions are applied to our direct operations and while assessing our value chain related risks, we use the reputational, operational and strategic impact definitions given above.

Good quality freshwater is especially vital for our direct operations and important for our value chain, that is why we use these substantive impact definitions on the assessment of our value chain related operations as well.

For risk assessments related to brackish surface water, we only include our direct operations because we only use sea water in our Samsun facility, and the use of brackish surface water in our value chain is not assessed to be of major importance.

Our monitoring process for assets and operations that could generate substantive change is as follows: We identify plants indicated as high (40-80%) or extremely high (> 80%) in terms of projected change in water stress (value in the year 2030 business as usual) results by using the WRI-Aqueduct Water Risk Atlas. Then we cross check whether these sites are considered strategic and/or if they account for more than >5% of EBITDA (singular impact) or >2% of EBITDA (continuous impact). If both criteria are met, then the risks faced by these plants can contribute to a substantive change in the business. In line with our company-wide risk assessment process, substantive risks/impacts with impact grades more than the above-mentioned thresholds are monitored and reported to the Board of Directors every two months for action determination.

We have used this method on a scenario analysis on our Toros Agri fertilizer plants. As an example to explain the process, our Mersin Plant is located in "Extremely High Risk (>80%)" area in terms of water stress that can affect the Tekfen Holding's EBITDA more the 2.5%

(continuous impact). So we have decided that Mersin Plant might have a substantial financial impact in the future.

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	3	1-25	<p>We consider our Agri-Industry operations to be exposed to water-related risks the most. In the analysis, we have used the WRI Aqueduct Water Risk Atlas Tool.</p> <p>We assess the strategic importance of the facilities together with their water stress levels (according WRI) in order to decide which facility shall be identified and monitored as a facility exposed to water risks. Strategic importance is determined by using the facility's contribution to the total Tekfen Holding Revenue and also share of the facility's withdrawal amounts in total holding withdrawals. If the facility's contribution to revenue is less than 1% it is not included in this list.</p> <p>Two of our fertilizer plants are facing Extremely High (Mersin Plant) and High (Ceyhan Plant) risk in terms of water stress.</p> <p>Samsun Plant's current risk rating is Low. However, as this plant is responsible for 87.14 % of our total water withdrawal and 94.31% of our total discharge for the reporting period, this plant is always assessed to have a potential of substantive impact. This plant is also rated as "Extremely High Risk" in future scenarios, and it also contributes more than 1% to holding revenues.</p> <p>In the previous year Tekfen Agri's Karaman facility was also included in this list however it's share in total holding revenues is less than 0.25% therefore it is no longer assessed to be a facility that is exposed to water risk for Tekfen Holding.</p> <p>At these facilities (especially Samsun), in the absence of an adequate amount of water, the production will directly be</p>

			<p>disrupted and the water need cannot be easily supplied from other sources as the amount is substantial. While this constitutes a small number of facilities (3 out of 62 in the reporting period), they represent approximately 40.30 % of our total global revenue.</p> <p>According to WRI Aqueduct Water Risk Atlas, most of our operations (53 out of 62 locations) are listed as having High to Extremely High water-stressed areas. However, the impact of these operations on Tekfen Holding is not assessed to be substantive, either because they comprise a very small percentage (below 1%) of our global revenue, or because they have a very small consumption figure with respect to our other operations.</p> <p>The contracting projects do not last longer than 3 years. Therefore, they are not reported as risky facilities.</p>
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W4.1c

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

Country/Area & River basin

Turkey
Other, please specify
Yesilirmak

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-10

Comment

This facility is our Toros Agri Samsun Fertilizer Plant. According to the WRI Aqueduct Water Risk Atlas tool Samsun Plant is classified as low-risk for Baseline Water-Stress but it is classified as Extremely High (>80%) in 2030 water stress. This facility is also responsible for 87.14 % of our total water withdrawal and 94.31% of our total discharge, therefore it is always assessed to have a potential of substantive impact.

Country/Area & River basin

Turkey
Other, please specify
Tarsus/Goksu

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

11-20

Comment

This facility is our Toros Agri Mersin Fertilizer Plant.

Country/Area & River basin

Turkey
Other, please specify
Ceyhan

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

11-20

Comment

This facility is our Toros Agri Ceyhan Fertilizer Plant.

W4.2

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

Country/Area & River basin

Turkey
Other, please specify
Ceyhan, Tarsus

Type of risk & Primary risk driver

Regulatory

Statutory water withdrawal limits/changes to water allocation

Primary potential impact

Closure of operations

Company-specific description

Toros Agri's Mersin and Ceyhan plants only withdraw water from groundwater resources. Currently there are no restrictions to the amount of water that can be used from the groundwater wells.

Both facilities depend highly on water for their production.

According to the analysis we have made using WRI aqueduct, Ceyhan is in a High Water Stress area and Mersin is in an Extremely High (>80%) water stress area. For future projections using business as usual scenario, for 2040 and 2040, both facilities are in Extremely High water stress.

In the long term, the water stress may be a big issue and regulation around water use may change, the government may impose withdrawal limits or even withdrawal bans especially in dry season, as the water may be prioritized for domestic use.

This may lead to closure of operations for certain periods.

Timeframe

4-6 years

Magnitude of potential impact

High

Likelihood

Very likely

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

10,000,000

Potential financial impact figure - maximum (currency)

25,000,000

Explanation of financial impact

In the long term, if the water stress becomes a big issue and if the government imposes withdrawal limits or even withdrawal bans especially in dry seasons our Ceyhan and Mersin facilities will not be able to work as they need fresh water for cooling and production.

Both facilities are located in Southern Parts of Turkey where summer is very hot and the dry season may last from June till the end of September. Between these months according to 1940-2021 meteorological data:

- Average amount of rain per month varies between a minimum of 7.5 mm (August) to a maximum of 12.1 mm (September) in Mersin
- For Ceyhan (Adana) average amount of rain per month varies between a minimum of 10.4 mm (August) to a maximum of 25.1 mm (September) in Mersin

The costs related to closure of operations for 1 month can be calculated by assumption for Mersin and Ceyhan plants.

Minimum potential financial impact is calculated as 1 month closure of operations in both plants. (approximately 10.00 million USD)

Maximum potential financial impact is calculated as 2 months closure of operations in Ceyhan and 3 months closure of operations in Mersin. (25 million)

Primary response to risk

Increase investment in new technology

Description of response

In the reporting period, we have conducted a number of projects to achieve higher water efficiency and maximize the water reuse/recycle rate in Both Ceyhan and Mersin facilities (asset level) in line with the vision stated in our Water Policy highlighting the alignment with international initiatives such as SDG 6. Both plants also have annual targets to reduce water withdrawals and to reach their targets they have a budget which can be used to invest in new technology.

In Toros Agri Mersin Plant we are implementing a new wastewater treatment and recovery plant which is planned to be operational in 2023. This plant aims to treat the wastewater recycling ammonia and nitrates from the wastewater and rehabilitating the existing demineralization unit in the plant. With this project we are planning to recycle 2.1 million USD worth of CAN/AN fertilizers per year and 171,430 m³ of water per annum. This recycling plant will also have zero discharge.

Cost of response

10,350,000

Explanation of cost of response

The new wastewater treatment and recovery plant investment which will be operational in 2023 will cost around USD 10,350,000.

Country/Area & River basin

Turkey

Other, please specify

Yesilirmak, Ceyhan, Tarsus, Marmara, Akarcay, Akdeniz, Gediz and various other basins in Turkey where agricultural activities takes place

Type of risk & Primary risk driver

Chronic physical
Declining water quality

Primary potential impact

Increased compliance costs

Company-specific description

Nitrogen from a variety of sources can make its way into groundwater and waterways. A certain level of nitrogen is naturally present in the environment and nitrates in low quantities are necessary nutrients. However, high levels of nitrate found in major anthropogenic contributors such as agricultural runoff, nitrogen-based fertilizers, animal manure and sewage pose a problem. High concentrations of nutrients in the water table can cause drinking water to become toxic. Nitrate is one of the most common groundwater contaminants in rural areas.

Nitrates related pollution is caused by the introduction of excessive amounts of nitrogen to surface and ground waters, mainly as a result of agricultural practices. About 50-70% of nitrogen input to water comes from agriculture and nitrate pollution may increase in the coming years (medium-term).

One of the leading agri-environmental indicators is the nitrate pollution of groundwater. Due to the wrong/over-application of fertilizers, along with environmental characteristics such as average temperature and precipitation as co-factors, there is a risk of nitrate pollution in groundwater sources which are likely to get higher over the medium term. Based on the EU Directive, Turkey has a regulation in place for the Protection of Water Against Agricultural Nitrate Pollution. If the nitrate concentration levels get higher, there is a risk of compliance cost to be introduced as part of encouraging farmers and fertilizer producers to adopt sustainable agriculture practices.

Fertilizer production we undertake as part of Toros Agri operations has a high stake in managing nitrate pollution. Therefore, if such a compliance cost is introduced, we may be faced with an additional cost per tonne of nitrogen-containing fertilizer products we produce, and as all of the fertilizers that we produce contain Nitrogen, this means we may face a compliance cost for all of the products of Toros Agri. This will increase our indirect operational costs.

Timeframe

More than 6 years

Magnitude of potential impact

High

Likelihood

About as likely as not

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

7,938,400

Potential financial impact figure - maximum (currency)

15,876,800

Explanation of financial impact

Toros Agri revenue covering the sales of fertilizers which contain Nitrogen (99.8% of all sales, 100% of Toros agri production contains Nitrogen) was 793.84 Million USD in 2021. Assuming a minimum of 1% and a maximum of 2% additional compliance cost applied to these products; we would face an additional cost between USD 7.94 to USD 15.88 million.

Primary response to risk

Engage with customers

Description of response

Supporting agriculture as the biggest privately-owned concern in its industry, Toros Agri not only feels a responsibility to provide farmers with high-quality fertilizers but also undertakes social responsibility projects focused on the development of Turkish agriculture in general and improving the living standards of those whose livelihood is farming in particular.

With the aim of preventing nitrate pollution as well as supporting sustainable agricultural practices, Toros Agri launched a Mobile Training Bus (Toros Farmer Academy) & Mobile Technical Team project in 2018 covering Turkey's predominantly agricultural regions and which has begun spreading the "4R" (the four "rights" of good fertilizer practices: the right source, the right rate, the right time, and the right place) practices/awareness among farmers. By doing so, we aim to prevent nitrate pollution of water at the very focal point, farming practices.

Toros Agri also has developed an application for the use of farmers. "Toros Farmer Smart Agriculture and Fertilization Application", which was developed by Toros Agri specifically for smart phones and tablets and offered to the farmers for free, is an agricultural decision support application that combines weather forecasting, soil and plant data and develops suggestions for the activities of farmers.

As part of our highest efforts to continuously work on developing new and more environmentally friendly products, we have invested in an R&D Center in Mersin as part of our fertilizer production practices. Within the scope of the project to develop fertilizers with controlled nitrogen release, it was aimed to reduce agricultural greenhouse gas emissions and reduce nitrate pollution in groundwater by making urea, NPK and Ultra Nitrogen fertilizers with slow release. Within the scope of this project, our product "Smart Urea" has been registered. We have also applied to TEYDEB 1501 for this project and the project was entitled to receive support from TÜBİTAK.

TÜBİTAK 1501 project - Development of Slow Release Urea Fertilizer for Reducing Greenhouse Gases and Nitrate Loss Caused by Washing and Field Efficiency Research studies are also carried out.

Cost of response

1,905,641

Explanation of cost of response

The cost of the response to this risk includes the cost of Toros Farmer App (around 10,000 USD) and the cost of technologies, analysis and implementation supports for agricultural activities, meetings, trainings, joining expos, etc. (around 285,000 USD)

The initial investment cost of R&D Center was USD 715,000, and R&D budget dedicated to the Center was USD 895,641 in the reporting period.

Total cost of response is calculated as: $10,000 + 285,000 + 715,000 + 895,641 = 1,905,641$ USD.

W4.2a

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

Country/Area & River basin

Turkey

Other, please specify

Yesilirmak, Ceyhan, Tarsus, Marmara, Akarcay, Akdeniz, Gediz and various other basins in Turkey

Stage of value chain

Use phase

Type of risk & Primary risk driver

Acute physical

Drought

Primary potential impact

Disruption to sales due to value chain disruption

Company-specific description

According to WRI Aqueduct Water Risk Atlas, projected change in water stress in 2030 (according to the optimistic scenario, SSP2 RCP 4.5) is high (40-80%) and extremely high (more than 80%) in many parts of Turkey. In addition, the majority of Turkey has a medium to high risk in terms of drought severity.

According to a report named "Changing Climate, Transforming Agriculture" published by Turkish Ministry of Agriculture and Forestry in 2021, water stress due to climate change will be a major problem for Agriculture.

Our country's meteorological and agricultural drought risk is increasing day by day. While the average temperature for many years was 14 degrees in the first 8 months in Turkey, the average temperature in the same period this year was 15.7 degrees. Droughts, which were once every 10 years before, will appear every 5-6 years from now on. Agriculture, which uses three quarters of our water, is one of the sectors that will be most affected by this process

As a result of increasing temperatures the agricultural lands would need more irrigation, which will result in depletion of water resources. Even if there is enough water to irrigate the crops, there is still a very high possibility that the plants will enter into heat stress resulting in a decrease in yield.

Therefore, Toros Agri's most important customers (farmers) will be affected severely because of water-related problems in the medium to long term. The impact on agriculture due to drought may result in a reduction of Toros Agri's sales in solid fertilizers.

Timeframe

More than 6 years

Magnitude of potential impact

High

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

40,650,000

Potential financial impact figure - maximum (currency)

81,304,000

Explanation of financial impact

Toros Agri fertilizer sales are USD 813.04 million based on 2021 figures. When we use WRI Aqueduct Water Risk Atlas, the projected change in water stress in 2030 compared to 2020 will be 1.4 to 2 times higher. That means farmers will be adversely affected. Some of the farmers may stop farming because of water-related problems.

The impact on the water stress on the farmers may result in a reduction of sales in solid fertilizers. Therefore, a 5%- 10% reduction (around USD 40.65 million- USD 81.3 million) in Toros Agri revenues were considered based on 2021 figures.

Primary response to risk

Direct operations
Develop new products and/or markets

Description of response

A Research and Development Center was established in Toros Agri. The aim is to develop new and innovative products that require less water and avoids water pollution.

Special fertilizers, developed by Toros Agri, are products that completely water-soluble and are being used in conjunction with modern irrigation techniques such as drip and rain irrigation. Drip irrigation is becoming more and more common due to the lack of enough water sources. Therefore we anticipate an increase in special fertilizer demand due to the increased adoption of modern irrigation techniques which will extend our existing market. Toros Agri considers them a high potential product group. We have increased special fertilizer sales by 61.2% with respect to 2020.

Cost of response

1,610,641

Explanation of cost of response

As part of our highest efforts to continuously work on developing new and more environmentally friendly products, we have invested in an R&D Center in Mersin as part of our fertilizer production practices. Having received its Ministry of Industry and Technology license in 2017, the Toros Agri Mersin Plant's R&D Center began working in the same year. 2018 was a year in which substantial progress was made by engaging in scientific efforts to meet the agricultural sector's demands and needs and giving priority to the development of new products that will help improve agricultural productivity. With 28 full time employees, the center's goals include developing new products that will further diversify Toros Agri's plant nutrients portfolio as well as addressing issues such as improving existing products, water-soluble fertilizers, developing production processes, optimization, production-related energy conservation, and reducing environmental impact.

Within the scope of the project to develop fertilizers with controlled nitrogen release, it was aimed to reduce agricultural greenhouse gas emissions and reduce nitrate pollution in groundwater by making urea, NPK and Ultra Nitrogen fertilizers with slow release. Within the scope of this project, our product "Smart Urea" has been registered. We have also applied to TEYDEB 1501 for this project and the project was entitled to receive support from TÜBİTAK.

TÜBİTAK 1501 project - Development of Slow Release Urea Fertilizer for Reducing Greenhouse Gases and Nitrate Loss Caused by Washing and Field Efficiency Research studies are also carried out.

In the reporting year, sales of these specialty fertilizers went up by 61.2 % with respect to 2020.

The total cost to realize opportunity covers the initial investment cost (USD 715,000) as well as the R&D budget dedicated to the Center (USD 895,641) in the reporting period.

W4.3

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

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

W4.3a

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

Type of opportunity

Products and services

Primary water-related opportunity

Sales of new products/services

Company-specific description & strategy to realize opportunity

An explanation of why this opportunity is considered strategic:

According to WRI Aqueduct Water Risk Atlas, the projected change in water stress between 2020 and 2030 (SSP2 RCP 4.5 scenario) is High (40-80%) and Extremely High (>80%) in many parts of Turkey. That means, existing and traditional products, production techniques will have to change soon. Therefore, as a leading company in the Agri-Industry business area, the development of new fertilizers is a strategic opportunity for Tekfen.

An explanation of the action to realize the opportunity:

To realize this strategic opportunity, Toros Agri authored a first in the country's fertilizer-manufacturing industry by opening an R&D center at its Mersin plant. This plant, which has been accredited by the Ministry of Industry and Technology, is the first center of its kind in Turkey devoted to developing more efficient and water-soluble liquid fertilizers which will help to improve agricultural productivity.

A case study or example of the strategy in action:

One of the first developments of the R&D Center is special fertilizers that are completely water-soluble and are being used in conjunction with modern irrigation techniques such as drip and rain irrigation. Drip irrigation is becoming more common due to the lack of enough water sources. Therefore we anticipate an increase in special fertilizer demand due to the increased adoption of modern irrigation techniques which will extend our existing market. Toros Agri considers them a high potential product group. In the reporting year, we have increased special fertilizer sales by 61.2% with respect to 2020.

Estimated timeframe for realization

4 to 6 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)

219,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Specialty fertilisers are water-soluble fertilisers that are preferred in agricultural lands where drip and sprinkler irrigation systems are used, especially in greenhouse farming.

The widespread use of advanced irrigation systems and soilless farming, due to the increasing importance of obtaining maximum efficiency per unit area in agriculture and the increasing water shortage on a global scale, have in parallel led to grow of the water-soluble fertiliser market. The global specialty fertiliser market, is estimated to reach 20.9 billion USD by 2025, with a growth of 5.8%. This forecast directs the attention of major producers to this area and leads them to develop growth strategies for this promising product range.

In terms of greenhouse farming, the specialty fertiliser market in Turkey, which has a strong position within the Mediterranean climatic zone, is growing each day. In addition to the greenhouse production particularly concentrated in the Mediterranean and Aegean regions, the increase in drip irrigation systems in field crop cultivation ensures the steady growth of the water-soluble fertiliser market. The size of the water-soluble fertiliser market in Turkey, which is thought to be 155,000 tons in 2021, is estimated to reach 160,000 tons 2022.

Toros Agri, the pioneer in the specialty fertiliser industry in Turkey, is one of the most remarkable players in the field. In 2021, Toros Agri sales of specialty fertilisers were have increased by 61.2% with respect to 2020 to an impressive 93,297 tons.

The financial impact is calculated using the specialty fertilizer production target in our 2030 strategic plan which is 537,579 tons. (444,282 tons more than the current reporting year)

Assuming the average price per ton of specialty fertilizers will remain the same this extra production volume has a potential financial impact of 219 Million USD by 2030.

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)

Toros Agri Samsun Plant

Country/Area & River basin

Turkey

Other, please specify

Yesilirmak

Latitude

41.241734

Longitude

36.457503

Located in area with water stress

Yes

Total water withdrawals at this facility (megaliters/year)

91,098.93

Comparison of total withdrawals with previous reporting year

Lower

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

3,822.21

Withdrawals from brackish surface water/seawater

87,273.34

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

3.38

Total water discharges at this facility (megaliters/year)

89,697.28

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

88,350.87

Discharges to groundwater

0

Discharges to third party destinations

1,346.41

Total water consumption at this facility (megaliters/year)

1,401.66

Comparison of total consumption with previous reporting year

Much lower

Please explain

Water withdrawal data from all sources are obtained via direct measurements. 3rd Party sources represent the municipal supplier. In the previous years water withdrawn from a nearby dam was reported under 3rd parties, this volume is now reported under withdrawal from fresh surface water.

Water used for cooling is discharged to the sea after primary treatment and water used in process and WASH services is discharged to the municipal sewage after being treated in secondary WWTPs. The amount of water discharged is obtained via direct measurement from a continuous measurement system & reported to the MoEUCC.

Data provided in MLs are obtained through direct measurement. Withdrawal amount has decreased by 14.57%, the discharge has decreased by 12.81% and the consumption has decreased by 62.74%. The reason behind the decrease is due to the systemic shut-down of our Sulphuric Acid Plant for 33 days in 2021. In 2020 the plant worked in full capacity (%98) therefore the water volumes have decreased considerably.

While classifying the magnitude of change from previous year data, we consider the change up to +/- 5% as "about the same", 5% to 20% as "higher/lower", and above 20% as "much higher/lower".

In the future these volumes are expected to increase as the plant will utilize its full capacity.

Facility reference number

Facility 2

Facility name (optional)

Toros Agri Mersin Plant

Country/Area & River basin

Turkey

Other, please specify

Tarsus/Goksu

Latitude

36.819615

Longitude

34.673121

Located in area with water stress

Yes

Total water withdrawals at this facility (megaliters/year)

3,591.21

Comparison of total withdrawals with previous reporting year

Higher

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

3,591.21

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

1,163.79

Comparison of total discharges with previous reporting year

Much higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

1,163.79

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

2,409.82

Comparison of total consumption with previous reporting year

About the same

Please explain

At our Mersin Plant, water withdrawal data is obtained via direct measurements. Water withdrawal only takes place from renewable groundwater sources.

Water is only discharged to the sea once it is treated at our wastewater treatment facility. The amount of water discharged is obtained via direct measurement. There is no discharge to third parties, and the water we discharge is not used by other organizations.

Data provided in megaliters are obtained through direct measurement. Withdrawal amount has increased by 7.3%, the discharge amount has increased by 24.2% and the consumption has increased by 0.73%.

The main reason behind this increase is seasonal conditions and the difference in scheduled maintenance activities between 2021 and 2020. The scheduled maintenance activity lasted shorter than the ones which performed in 2020.

While classifying the magnitude of change from previous year data, we consider the change up to +/- 5% as "about the same", 5% to 20% as "higher/lower, and above 20% as much higher/lower.

Regardless of the changes in capacity utilization and production rates, we anticipate that the amount of water needed in cooling systems will increase with the climate-change driven increase in temperatures, which will result in an increase of all volumes.

Facility reference number

Facility 3

Facility name (optional)

Toros Agri Ceyhan Plant

Country/Area & River basin

Turkey

Other, please specify

Ceyhan

Latitude

36.92355

Longitude

35.983394

Located in area with water stress

Yes

Total water withdrawals at this facility (megaliters/year)

574.18

Comparison of total withdrawals with previous reporting year

Much lower

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

574.18

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

86.13

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

86.13

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

488.06

Comparison of total consumption with previous reporting year

Much lower

Please explain

Water withdrawal and discharge data are obtained via direct measurements. Water withdrawal only takes place from renewable groundwater sources.

Water is discharged to the sea once it is treated at our wastewater treatment facility. And some of the withdrawn water is given to third party neighboring coal storage facilities who recycle this water and use it for washing the storage area.

Water withdrawal, discharge and consumption levels have all decreased by 20.33%. The reason for this decrease in all water aspects is due to the water efficiency projects implemented in the plant. In Ceyhan plant, there is a water withdrawal reduction target of 3% which was overachieved in the reporting period.

While classifying the magnitude of change from previous year data, we consider the change up to +/- 5% as "about the same", 5% to 20% as "higher/lower, and above 20% as much higher/lower.

In the future the amount of water needed in cooling systems will increase with the climate-change driven increase in temperatures which will result in an increase of all volumes

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

Samsun, Ceyhan, Mersin 100% Verified.

EN ISO 14046:2014 Environmental management-Water footprint-Principles, requirements and guidance and WFN Water Footprint Assessment Manual, Republic of Turkey Water Pollution Control Regulation, Republic of Turkey Regulation on Water Intended for Human Consumption

Water withdrawals – volume by source

% verified

76-100

Verification standard used

Samsun, Ceyhan, Mersin 100% Verified.

EN ISO 14046:2014 Environmental management-Water footprint-Principles, requirements and guidance and WFN Water Footprint Assessment Manual, Republic of Turkey Water Pollution Control Regulation, Republic of Turkey Regulation on Water Intended for Human Consumption

Water withdrawals – quality by standard water quality parameters

% verified

76-100

Verification standard used

Verification only for Samsun and Ceyhan facilities which make up 98.72%.

EN ISO 14046:2014 Environmental management-Water footprint-Principles, requirements and guidance and WFN Water Footprint Assessment Manual, Republic of Turkey Water Pollution Control Regulation, Republic of Turkey Regulation on Water Intended for Human Consumption

Water discharges – total volumes

% verified

76-100

Verification standard used

Verification only for Samsun and Ceyhan facilities which make up 98.72%.

EN ISO 14046:2014 Environmental management-Water footprint-Principles, requirements and guidance and WFN Water Footprint Assessment Manual, Republic of

Turkey Water Pollution Control Regulation, Republic of Turkey Regulation on Water Intended for Human Consumption

Water discharges – volume by destination

% verified

76-100

Verification standard used

Verification only for Samsun and Ceyhan facilities which make up 98.72%.

EN ISO 14046:2014 Environmental management-Water footprint-Principles, requirements and guidance and WFN Water Footprint Assessment Manual, Republic of Turkey Water Pollution Control Regulation, Republic of Turkey Regulation on Water Intended for Human Consumption

Water discharges – volume by final treatment level

% verified

76-100

Verification standard used

Verification only for Samsun and Ceyhan facilities which make up 98.72%.

EN ISO 14046:2014 Environmental management-Water footprint-Principles, requirements and guidance and WFN Water Footprint Assessment Manual, Republic of Turkey Water Pollution Control Regulation, Republic of Turkey Regulation on Water Intended for Human Consumption

Water discharges – quality by standard water quality parameters

% verified

76-100

Verification standard used

Verification only for Samsun and Ceyhan facilities which make up 98.72%.

EN ISO 14046:2014 Environmental management-Water footprint-Principles, requirements and guidance and WFN Water Footprint Assessment Manual, Republic of Turkey Water Pollution Control Regulation, Republic of Turkey Regulation on Water Intended for Human Consumption

Water consumption – total volume

% verified

76-100

Verification standard used

Verification only for Samsun and Ceyhan facilities which make up 98.72%.

EN ISO 14046:2014 Environmental management-Water footprint-Principles, requirements and guidance and WFN Water Footprint Assessment Manual, Republic of Turkey Water Pollution Control Regulation, Republic of Turkey Regulation on Water Intended for Human Consumption

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 Description of business impact on water Reference to international standards and widely-recognized water initiatives Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education	Rationale for the scope selected: Water is used for cooling, production, irrigation, testing, cleaning, and hygiene purposes during Tekfen's activities. Due to the global importance of water, Tekfen Holding has published its Water Policy that binds Tekfen Group Companies. Therefore, Company-wide selection has been made. Defining water as the source of life itself, we operate in business areas such as agri-industry and contracting where water is a vital source for the continuation of our operations together with the need to maintain WASH service provision for all our employees. This is why we implement our water policy throughout our entire company including our construction projects. Overview of the policy content: Tekfen Holding has a company-wide Water Policy that defines the Group's water-related principles and commitments. On the Water Policy that is undersigned by our CEO, we are committed to identify and assess water-related risks; integrate water risks into its business strategy; manage and report water risks; set

	<p>Commitment to water stewardship and/or collective action</p> <p>Acknowledgement of the human right to water and sanitation</p> <p>Recognition of environmental linkages, for example, due to climate change</p>	<p>meaningful goals and targets at business units and implement innovative business solutions to achieve these goals and targets; monitor, measure and analyze water performances and continually reduce its water footprint.</p> <p>Our publicly available Water Policy can be found at our website and outlines our objective and lays out the path leading to fundamental water-related aspects such as setting long term targets, supporting water stewardship at all our operational locations, enabling innovation that achieves water performance improvement, etc.</p> <p>Tekfen Holding takes climate change and water-related impacts very seriously and continuously updates its policies with relevant and up-to-date issues to become a leading sustainable company.</p>
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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
Board Chair	<p>All of the final decisions related to water issues are approved by the Board of Directors, which is led by Chairman of the Board. Some of the responsibilities of our Board Chairman include approval of targets and goals, strategies, management plans of identified risks and opportunities.</p> <p>Board Members are directly informed on water-related issues in Tekfen Holding Board Meetings. One of Tekfen's values stated by the Chairman of the Board is "the protection of nature and the environment". The Chairman of the Board follows water-related issues closely.</p> <p>Therefore, we can say that our Chairman of the Board is the highest responsible person for water-related issues.</p> <p>In 2020, one major water-related decision approved by our Board Chair is starting a cooperation with TUBITAK (Scientific and Technological Research Council of Turkey) to develop projects on sustainability issues like water management and climate change.</p>

	<p>Another decision is the approval of the investment on Doktor farm management systems in Tekfen Agri. With the help of this system Tekfen Agri is able to monitor the plantations closely. One of the benefits of this system is the use of compiled data for determining the water needs of the plantations to prevent excess irrigation thus reducing water consumption</p> <p>In 2021 one of the major decisions is implementation of water withdrawal related targets for our Toros Agri plants.</p>
<p>Board-level committee</p>	<p>Committees have been set up at the Company to assist the BoD with proper fulfilment of its duties and responsibilities.</p> <p>Established as per the legislation, two of these committees namely Early Detection of Risk Committee (RC) and Corporate Governance Committee (CGC) assist the BoD on water & climate-related issues. BoD, RC and CGC's water-related responsibilities include developing strategies and overseeing the management of water-related risks and opportunities.</p> <p>RC is led by an independent member of our board and another member of our board serves as the member of the RC. The RC meets every two months and, in these meetings, CEO, Risk Director, Vice-Presidents and Risk Managers of the Group Companies are also present. The RC identifies risks (including water-related risks) that may threaten the existence, development and continuation of the Company and takes the measures necessary to prevent them and acts to manage the risks. Group Companies submit their periodic reports for monitoring the risks and RC reviews these risk documents every two months and refers the major risks and its own comments and assessments to the BoD. Risks are considered by the BoD, which may instruct Tekfen Group companies as to how particular risks are to be managed.</p> <p>The CGC consists of two independent Board Members and Investor Relations Director. CGC undertakes studies regarding in-house arrangements and changes concerning the understanding, adoption and implementation of corporate governance principles by the Company employees and submits the results of these studies to the Board of Directors.</p> <p>Therefore, all of the water related issues except risk management are within the scope of CGC.</p> <p>In order to make sustainability a part of the corporate governance concept, the Sustainability Committee was founded to serve under the CGC. The Committee's works and progress are reported to the BoD annually. Climate and water related issues are also addressed by the BoD on a special agenda.</p>

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 - some meetings	<p>Monitoring implementation and performance</p> <p>Overseeing acquisitions and divestiture</p> <p>Overseeing major capital expenditures</p> <p>Providing employee incentives</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding strategy</p> <p>Reviewing and guiding corporate responsibility strategy</p> <p>Reviewing innovation/R&D priorities</p> <p>Setting performance objectives</p>	<p>Board Members are informed regularly on climate- and water-related issues in the form of global trends as well as corporate performance, business plans, risks, and opportunities. CEO has the executive power for important issues such as strategy, risks/opportunities, targets, etc.</p> <p>Holding Risk Committee (RC), which is chaired by one of the independent Board Members, meets every two months. High risks evaluated and approved in the Risk Inventory by each Group Company's Board are also directly presented to the Holding Board for risk action determination after they are reviewed by the RC.</p> <p>In the reporting year, our climate and water related risks were presented to the RC in several meetings and the risks which score higher than 16 according to our risk assessment procedure, were also presented to the BoD. In September 2017, the Sustainability Committee (SC) was established and is being chaired by Deputy CFO who is also a member of the Top Management.</p> <p>In 2019 the Environment Working Group was established as one of the 5 working groups that report to the SC.</p> <p>The Sustainability Committee is also a subcommittee of the Corporate Governance Committee. Sustainability Committee reports critical issues at least once a year to the Corporate Governance Committee. The Corporate Governance Committee reviews the annual outcomes and recommendations presented by the Sustainability Committee and notifies the Board of Directors for reviewing and guiding strategy, major action plans, policies, etc. The Board of Directors reviews and guides business plans and approves annual budgets. Sustainability Committee sets performance targets and/or goals for climate change and water</p>

			<p>management while also monitoring the realization of climate change and water-related objectives on behalf of the Board of Directors.</p> <p>Changes in emissions & water usage data are also reported to the Board of Directors annually.</p> <p>The consolidated budget of Tekfen Holding is approved by the Board of Directors, hence the BoD also approves all of the investments of the Group Companies.</p> <p>One of these investment decisions was to build a new wastewater treatment and recovery plant at Toros Agri Mersin facility. This new plant will work in a fully closed cycle and convert high ammonia and nitrate-containing condensate waters into ammonium nitrate (18-25%) solution and low-conductivity ($\leq 0.1 \mu\text{S}$) demineralized water. This recycling plant also has zero discharge.</p> <p>This process is very effective in terms of ammonia removal and ammonium nitrate recycling and is a very trustworthy and secure system.</p>
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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
Row 1	Yes	We assess the competence of Board Members according to their past experiences and memberships in environmental NGOs. For the reporting year we have one Board Member who is assessed to be competent on water-related issues as he is one of the founding members of TEMA foundation (Turkish foundation for combating erosion, reforestation and the protection of natural resources).

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

Our CEO presides over management. CEO reports to the Holding Board of Directors (BoD) & CEO’s contact point in the BoD is the Board Chair. CEO has the highest management responsibility for water. He is a permanent participant in BoD meetings which are held at least 4 times a year. Critical water related issues like risks related to water stress, future trends in water demand are brought to the BoD agenda through the CEO.

Water-related responsibilities: Water related goals and strategic directions are determined by Board Chair with the collaboration of BoD. As the head of management, CEO’s main responsibility is to turn these high-level goals & strategic decisions into reality. He focuses on risks& opportunities, investments in water stress, water intensive companies & strategic topics like assessing the future trends in water-demand, improvement options etc. CEO's signature is also included in the Water Policy, where principles & commitments regarding water management are disclosed.

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	In 2019 we have introduced a new performance assessment system, in which we use a software namely “Pi Performance Management System” which is developed for Tekfen. In this new system water-related issues are also one of the KPI’s of almost all white-collar employees. Details are given under question W6.4a

W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Please explain
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Monetary reward	Other C-suite Officer Vice President responsible for the Production of Fertilizer	Reduction of water withdrawals	<p>Water is vital for our direct operations and is used intensively at Chemical Industry Group for mainly cooling of fertilizer plants and process as well.</p> <p>In Toros Agri, Vice Presidents responsible for the Production of Fertilizer has a target to reduce water withdrawal by 3% in a year.</p> <p>The rate of achievement of this target directly affects the lower-level executives, as all of the targets are interconnected. The target and its level of achievement are controlled by a software program.</p> <p>Achievement of annually set/revised targets and the Company's success directly contribute to the Corporate Executive Team's performance score, resulting in monetary reward in the form of an increased salary or a bonus.</p>
Non-monetary reward			

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, other

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?

Tekfen Group's main strategy is determined by the Holding BoD. Group Companies prepare 10 and 3-year strategic plans, which are in line with this strategy. These strategic plans are approved by the Group VPs & CEO. The responsibility for the implementation of the approved plans lies with the General Managers. Therefore, all practices are consistent with the Holding's strategy.

Compliance with the strategy determined by the Holding is carried out by the Internal Audit Departments reporting to the BoD. Group VPs & CEO are also responsible for ensuring compliance.

Principles & commitments related to water are published in the Water Policy. Compliance with the Water Policy is the responsibility of each company's General Manager.

It is the responsibility of HSE Department Managers in the Company/Workplaces to ensure compliance with water-related policies, legal regulations & other conditions determined by Tekfen Holding. The Holding, periodically conducts HSE audits to ensure compliance. The result of the audit carried out by the Holding HSE Coordinator is also reported to the CEO. The follow-up of the actions determined after the audit is carried out by the Holding HSE Coordinator. The CEO is informed about the actions that are not completed on time.

If inconsistencies prevail, issues are escalated to Group Company GM's and Group VPs with proposals to resolve them. If the inconsistencies cannot be resolved at this level, the situation is reported to the CEO.

W6.6

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

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

 Tekfen Annual Report 2021.pdf

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	11-15	<p>Baseline water stress, flood occurrence, drought severity, groundwater stress, regulatory and reputational risks, current and future market opportunities are mainly used to determine long term business objectives.</p> <p>We used the predictions of international tools (e.g. WRI Aqueduct Water Risk Atlas) and studies while setting our goals, strategies, and financial planning. We have determined that the development of new fertilizers suitable for future conditions is vital for us. Another concern is access to good quality and the necessary amount of water, stakeholder pressure, and brand value</p>

			<p>loss because of water-related issues. Therefore, water-efficient production, building environmentally friendly projects are another long-term objectives for us.</p> <p>For example, we have published Water Policy in 2017 which defines principles and commitments including water risk assessment, integration of risks into strategy, goal and target setting for water management. We have set an objective to invest in R&D projects and established an R&D Center to facilitate the development of water-soluble fertilizers requiring less water in usage phase. Commercialisation of these products will provide us a new market. Moreover, Contracting Group has committed to develop all new building projects with LEED Green Building certification to achieve value chain water efficiency.</p> <p>For this reason, on average 11-15 years was chosen for the time horizon for water-related issues affecting our business objectives.</p>
<p>Strategy for achieving long-term objectives</p>	<p>Yes, water-related issues are integrated</p>	<p>11-15</p>	<p>We developed our Sustainability Strategy in 2018 which includes water management & published in the first Sustainability Report covering 2018 operations. Our Corporate Risk Management includes risks related to water security. We have established an HSEQ Coordination Group formed by company’s HSE representatives. Head of HSEQ Coordination Group reports HSE related issues, including water security, regularly to the Sustainability Committee and critical issues are reported to the Board of Directors via Corporate Governance Committee for action.</p> <p>Water security issues are managed more systematically since the launch of our Water Policy. Water stressed areas are monitored and analysed, new technology investments are made to minimize water consumption in the facilities and potential future fee liabilities (e.g. to increase water reuse in Samsun Facility, renewal of potable water system to prevent leakages in Ceyhan Facility, installation of humidity sensors and meteorological stations (METOS) in Tekfen Agri orchards etc.).</p> <p>We try to prevent loss in revenue due to anticipated higher water costs over longer term. We also made a</p>

			<p>large investment in an R&D Center in our Mersin plant. We anticipate consumer behavior shift to more efficient fertilizers using less water. Our intention is to exploit this potential market via R&D activities held in this center. We also aim to realize positive linkage with long term carbon emissions reductions by enabling energy efficiency in usage phase.</p>
Financial planning	Yes, water-related issues are integrated	11-15	<p>Water related issues are always considered in our financial planning.</p> <p>In our workplaces, we consider the costs of quality analysis, waste water treatment plants & necessary WASH services. In our facilities, we make constant investments in new technology to minimize our water footprint. We do this because we anticipate higher water prices in the future.</p> <p>By replacing membrane at demi water facility, renewal of compressors, collection and reuse of surrounding process waters in Samsun Plant, we save around 1000 ML of water per year.</p> <p>In Tekfen Agri, we are investing in Metos TR Systems which involves, installation of fully sensed main meteorological stations in all of our plantations, parcel-based soil humidity sensor integration&plant protection applications monitoring</p> <p>All these efforts will decrease our water cost. We used the predictions of the calculation tools&studies while setting our goals, strategies & financial planning. The studies&risk assessment tools give us long term perspective. This is why 11-15 years was chosen as the time-horizon for water-related issues. The establishment of a new wastewater treatment plant in Mersin facility was also included in the investment plan of Toros Agri with the aim of maximizing our water recycling ratio&therefore reducing withdrawal. This new plant is included in our financial planning with a CAPEX estimation of 10 M USD and we are waiting for construction permits to start the construction of this waste water treatment plant.</p>

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)

-34.84

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

23

Water-related OPEX (+/- % change)

10

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

37

Please explain

The stated values are directly calculated based on our financial data. The main reason for decrease in capital expenses is the 99% decrease of water related CAPEX in Toros Agri. We made some major investments in 2020, however in 2021 there were minor efficiency projects in Toros Agri (i.e. installing aerators to water faucets).

There was an increase in water related CAPEX in Tekfen Construction & Tekfen Agri in water related CAPEX. In Tekfen Construction we have invested in water purification and infrastructure in our Haradth project. In Tekfen Agri we have invested in water-wells, collection ponds and irrigation systems.

The main reason for increase in OPEX is the increase in water prices. The OPEX includes, water bills, waste water treatment fees.

We expect water-related CAPEX to increase by 23% due to planned investments.

Moreover, in line with our business strategy in Tekfen Agri agricultural operations, our water-related OPEX is also likely to increase by 37%.

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	

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	Climate-related	We considered IPCC RCP 4.5 as a realistic scenario for the impacts of climate change in Turkey.	We consider these impacts especially important in our Agricultural Production	The projections of RCP 4.5 climate scenario & its possible implications especially in southern

		<p>According to RCP 4.5. scenario, 2013-2040, 2041-2070, 2071-2099 are considered as 3 defining time periods. According to the scenario, Turkey will face 2 to 3 degrees in Celsius increase in mean temperature during 2013-2040 and up to 4 degrees Celsius in later periods. Reductions in mean precipitation are also expected.</p>	<p>Group and Chemical Industry Group. Our direct operations (Tekfen Agri orchards) and value chain (fruit suppliers and farmers who use our fertilizers) will be directly impacted as a limited amount of water resources available will need to be used more efficiently.</p> <p>According to RCP 4.5 scenario, our Mersin and Ceyhan Plants are likely to face pressuring water stress beyond 2046.</p>	<p>Turkey, has encouraged us to evaluate water risks & adjust our strategy over long-term (5-30 years).</p> <p>As a result, we have invested in an R&D Center in Mersin to develop water-soluble special fertilizers that can be used with modern irrigation methods such as drip & rain irrigation. Via this investment, we are looking to capitalize on the impacts of climate change in Turkey.</p> <p>Climate change will have a considerable impact on agriculture. In order to support resilience of the sector, as part of Tekfen Agri's first international collaboration under the EU Horizon 2020 Programme, we participate in PRIMA (Partnership For Research and Innovation in the Mediterranean Area) GENDIBAR Project, aiming to ensure sustainable agricultural practices in barley production. Increasing productivity while achieving energy & water savings during production. Tekfen Agri is the only Turkish company engaged in this project. This project started on 2019 and will end in 2022.</p> <p>We evaluated only Turkish operations because our only overseas operations are the contracting projects of Tekfen Construction</p>
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				<p>which last about 3 years. As our climate-related scenario analysis impacts our long-term strategies, we do not include Tekfen Construction projects under this assessment. However, these projects are assessed individually at the design phase against any climate change related impacts under the detailed EIA study.</p>
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W7.4

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

Row 1

Does your company use an internal price on water?

Yes

Please explain

We use an internal water price especially for our water-related risk analysis. Along with basic WASH services provision needs, water is an indispensable raw material for our operations. Water is being used in fertilizer production plants in Samsun, Mersin, and Ceyhan. Water is also being used for producing stone fruit as well as saplings in Tekfen Agri premises spreading across Western Turkey.

As a result of the fact that water stress is increasing in Turkey, a potential increase in (or the introduction of) water prices are likely to be implemented.

We use an internal water price of min 0.36 USD and max. 1.43 USD to calculate the potential impact of this risk. We revise our calculations annually using the prices published by ISKI (Istanbul Water and Sewerage Administration). Prices for 2021 are slightly lower when compared to 2020 due to fluctuations in USD/TL rate.

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	Please explain
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Row 1	No, but we plan to address this within the next two years	Within the scope of our sustainability studies we implement a materiality analysis, and according to this analysis classification of products as low water impact is assessed not to be a material priority.
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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 Business level specific targets and/or goals Activity level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	<p>Tekfen Holding considers water as one of the most valuable resources on our planet. Water is being used for cooling, cleaning, manufacturing, irrigation, testing, sanitation & hygiene purposes in our operations. Tekfen identifies & assesses water-related risks & opportunities, integrates water risks into its business strategy, sets meaningful goals & targets at business units & implements innovative business solutions to achieve these goals & targets. The water management principles are publicly announced via our Company-wide Water Policy (WP) encouraging Tekfen Group Companies to set targets & goals in line with the commitments & principles.</p> <p>Monitoring, measuring & analyzing water performances & continually reducing the water footprint is requested on our WP. The goals & commitments determined by the WP are followed by Group Companies. Tekfen sets policies & goals which are supported by the business units' policies & aim at reaching company-wide goals & targets.</p> <p>Targets & goals are set by individual businesses based on activity type, risks & opportunities of the business units, activities, sites/ facilities.</p> <p>Depending upon their sectors & geographical locations, the Group Companies have different sensitivity levels for each water-related aspect. Business units generally set targets & goals in parallel to their specific risks & opportunities, location, environment, regulatory requirements, etc.</p>

			<p>While identifying & realizing water-related forward-looking strategic goals & targets, we consider climate scenario projections (IPCC RCP 4.5), WRI Aqueduct Risk Atlas scenarios, Company/ Site-specific risks & opportunities, etc.</p> <p>Company-wide goals and targets (e.g. provision of %100 safe-reliable potable water to all our employees including subcontractors, reduction of water withdrawals from groundwater) are proposed and elaborated by Environmental Working Group, making use of scenarios and risks identified with our risk analysis tools and decided upon by our CEO.</p> <p>Business level goals (e.g. prevention of nitrate pollution by raising awareness of fertilizer application to the soil) and targets (e.g. implementation of smart irrigation system to %100 of orchards) are determined by the Company's Management and approved by Company's General Manager. Site/facility level targets (e.g. % 3 reduction in total water withdrawal) are determined by the Site/Facility's interdisciplinary working group and approved by Site/Facility's top management.</p> <p>Important achievements are reported also to CEO, and /or included in Tekfen's corporate communications, e.g. the annual report, sustainability report.</p> <p>All water related goals & targets are monitored at the corporate level (both Group Company & Holding Headquarters).</p>
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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

Water withdrawals

Level

Site/facility

Primary motivation

Increase freshwater availability for users/natural environment within the basin

Description of target

Target: To reduce withdrawals from fresh surface water by 5% with respect to the previous reporting year in Toros Agri Samsun Plant.

Quantitative metric

% reduction of water withdrawals from surface water

Baseline year

2020

Start year

2020

Target year

2021

% of target achieved

100

Please explain

We had a target to reduce withdrawals from fresh surface water by 5% in our Samsun Plant. We have overachieved this target by reducing 7.98% from 4,153.65 ML to 3,822.21 ML.

Target reference number

Target 2

Category of target

Water withdrawals

Level

Site/facility

Primary motivation

Increase freshwater availability for users/natural environment within the basin

Description of target

Target: To reduce withdrawals from groundwater water by 15% with respect to the previous reporting year in Toros Agri Ceyhan Plant.

Quantitative metric

% reduction of water withdrawals from groundwater

Baseline year

2020

Start year

2020

Target year

2021

% of target achieved

100

Please explain

We had a target to reduce withdrawals from ground water by 15% in our Ceyhan Plant. We have overachieved this target by reducing 20.33% from 720.73 ML to 574.18 ML.

Target reference number

Target 3

Category of target

Water use efficiency

Level

Business activity

Primary motivation

Recommended sector best practice

Description of target

Target: To implement smart irrigation systems in 100% of Alanar orchards.
Importance: Alanar has orchards in 8 different locations with a total area of 6,201 decares, using 39% of the total water withdrawn (excluding sea water). Water, which is a major input in agriculture has vital importance for Alanar, hence the efficient use of existing water is of utmost importance for us.
Monitoring weather&measuring soil moisture levels are key factors for the success of agricultural operations. Managing irrigation with the meteorological stations&humidity sensors gives us a greater insight into protecting our water resources. The weather stations predict the micro-climate in real-time by sensing moisture in the air, changes in temperature and wind speed amongst other indicators. Smart irrigation systems are a recommended sector best practice.
Rationale: Monitored at Tekfen Agri orchards (business) since the target related to the completion of smart irrigation system at Tekfen Agri's orchards

Quantitative metric

Other, please specify

% of orchards that have implemented smart irrigation systems

Baseline year

2019

Start year

2019

Target year

2023

% of target achieved

94.76

Please explain

Total area of Alanar orchards is 6,201 decares. In 5,876 decares which makes 94.76% of total orchard area we have implemented smart irrigation systems.

Target reference number

Target 4

Category of target

Water recycling/reuse

Level

Company-wide

Primary motivation

Water stewardship

Description of target

Target: To increase the percentage of total reused/recycled water to 5% with respect to total withdrawals until the end of 2025.

Importance: With increased water stress level in water basins, it is becoming more and more important for the water withdrawn to be used more than once. Especially in our fertilizer production plants and permanent facilities of Tekfen Agri, recycling/reusing of the withdrawn water will help reduce the water stress in the basin.

Rationale: We are trying to reach this target by trying to increase the quality of discharge water of treatment units and categorizing the water in Tekfen construction as green-grey and blue water.

Quantitative metric

% increase in water use met through recycling/reuse

Baseline year

2019

Start year

2019

Target year

2025

% of target achieved

35.84

Please explain

In 2021 recycled-reused water to total withdrawal ratio was 1.79%. The % of target achieved value is calculated as: $1.77/5.00=35.47\%$

W8.1b

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

Goal

Providing access to safely managed Water, Sanitation and Hygiene (WASH) in workplace

Level

Company-wide

Motivation

Risk mitigation

Description of goal

Goal: To provide 100% safe & reliable potable water to all our employees including subcontractors.

Importance: Our employees are the most valuable asset of Tekfen and we commit to provide good quality water for them. It is our responsibility to provide safe potable water to our employees as it is recognized as a basic human right and a cost-effective measure of reducing disease. Especially during the pandemic period, it has been proven once again how important WASH services are.

Implementation: This goal is monitored at the Holding level since the target related to the entire plant/facilities/ sites. The water samples which are taken from different usage points are sent to the accredited laboratories & tested in terms of chemical & microbiological parameters. As a quantitative metric, we use the ratio of the tests in compliance with the legal regulations. To calculate the metric, we divide the number of tests in compliance with the legal requirements to the total number of tests

Baseline year

2020

Start year

2020

End year

2021

Progress

This is a year-on-year rolling goal that was active in 2021. We monitor our performance monthly. To make sure that all of our employees use safely managed drinking water services, we test drinking water in all of our facilities regularly. In 2021, all potable water test results were in line with legal standards for potable water, meaning the achievement rate was 100%, and all of our employees had access to safely managed drinking water services.

Tekfen has an HSE Management System. Providing good quality and sufficient amounts of drinking and utility water to employees is among our priorities. We expect the same approach from all Tekfen Group Companies.

The quality of the water provided to the employees is evaluated by the results of the chemical and microbiological tests performed by accredited laboratories, where 100% compliance with legal limits is targeted.

Compliance with this requirement is checked through audits carried out by the Head Office or the Holding.

For this goal our threshold of success is 100% compliance of the test results with legal limits, which we have reached in 2021.

Goal

Engaging with customers to help them minimize product impacts

Level

Business

Motivation

Reduced environmental impact

Description of goal

Goal: To prevent nitrate pollution by raising awareness of fertilizer application to the soil.

Importance: Due to excess application of fertilizers, there is a risk of nitrate pollution in groundwater sources, which is likely to get higher over the medium term. High concentrations of nitrates in the water table can cause drinking water to become toxic.

Implementation: With the aim of preventing nitrate pollution as well as supporting sustainable agricultural practices, Toros Agri launched a Mobile Training Bus (Toros Farmer Academy) & Mobile Technical Team project in 2018 covering Turkey's predominantly agricultural regions and which has begun spreading the "4R" (the four "rights" of good fertilizer practices: the right source, the right rate, the right time, and the right place) practices/awareness among farmers. By doing so, we aim to prevent nitrate pollution of water at the very focal point, farming practices. "Toros Agri Smart Agriculture and Fertilization Application", which was developed by Toros Agri specifically for smartphones and tablets and offered to the farmers for free, is an agricultural decision

support application that combines weather forecasting, soil, and plant data and develops suggestions for the activities of farmers. The goal is monitored by Toros Agri (Business level) Head Quarter since it is related to the right fertilizer use.

Baseline year

2019

Start year

2019

End year

2025

Progress

By the end of 2021, Toros farmer app had 19,417 active users.

In 2021 Toros Farmer Academy has performed:

- 5,398 visits to distributors,
- 7,975 interviews with farmers,
- 184 visits to agricultural institutions,
- 20 meetings with farmers.

To measure our progress we use indicators like, the number of users of the Toros Farmer Application, the number of meetings held with dealers, the number of presentations/meetings performed, and training activities. The increase in these numbers is a good measure of our progress against our goal.

As we have returned to normal operations in 2021, 15% increase in number of active users in Toros Farmer App and 30% increase in number of interviews with farmers were determined as a thresholds of success for us.

In 2020, Toros Farmer App had 16,356 active users, in 2021 this number increased by 18.71% to 19,417. The number of interviews with farmers have also increased by 50.87% from 5286 in 2020 to 7975 in 2021.

As Toros Agri has exceeded the thresholds of success in both fields, it is considered to be successful. As our main goal is to prevent nitrate pollution by raising awareness on fertilizer use any increase in awareness raising activities is accepted as a successful progress towards our goal.

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.

Our verification certificates are attached

 TOROS CEYHAN WATER FOOTPRINT.pdf

 TOROS MERSİN WATER FOOTPRINT.pdf

 TOROS SAMSUN WATER FOOTPRINT.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	CEO, Tekfen Group of Companies	Chief Executive Officer (CEO)

W10.2

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

Yes

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I 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