

Welcome to your CDP Water Security Questionnaire 2020

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 three core business areas: Contracting, Agricultural-Industry (Agri-Industry) and Investment and Services. 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 Group has 39 companies and 13 subsidiaries. In 2019, the Group had USD 2.458 billion in revenues and assets of USD 2.132 billion. With 17,094 skilled employees and more than 60 years of experience, it is exemplary within the business world in terms of quality standards and ways of doing business.

The 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.

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 nearly 400 projects, demonstrating its accumulated expertise. As of end of 2019, Tekfen Construction's active projects portfolio had a contract value of USD 1.715 billion. In Engineering News-Record's 2019 list of the World's 250 biggest international contractors based on their 2018 operations, Tekfen Construction ranked 69th. For the current reporting year, the organizational boundaries of the GHG inventory have been extended to include all of the national and international projects that are being undertaken by Tekfen Construction.

Tekfen Engineering provides engineering design, procurement and project management services for group and non-group projects.

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.

Tekfen Agri-Industry Group is the sector's largest private corporation in terms of business volume, product and service portfolio, and market share. Operating as Toros Agri, it is Turkey's 70th largest industrial company. While principally a producer and marketer of fertilizer, Toros Agri also engages in yield-raising, quality-improving agricultural inputs, seed production, techno-agriculture, and seedling production. Toros Agri holds the highest share of installed production capacity for fertilizer in Turkey. It has 1,201 dealers and authorized sales points

throughout Turkey, enabling it to distribute its products to every corner of the country. Toros Agri has become an important player in organomineral fertilizer market with its new investment, Gönen Energy in 2019.

Embracing a wide range of products and services from fertilisers and plant nutrients to seeds, seedlings, and saplings and fresh produce, the Tekfen Agri-Industry Group is one of Tekfen Holding’s core business activities generating 27.28% and 27.25% shares respectively of total turnover and operational profit.

Toros Agri’s principal business line is the production of fertilisers. In the İstanbul Chamber of Industry’s 2018 list of the five hundred business concerns in Turkey, Toros Agri ranked in 70th place. Together with its subsidiaries and affiliates, the company conducts its operations under three headings: chemical and organic- organomineral fertiliser production and marketing, marine terminal services, and free-zone and fuel-station management. 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.

Tekfen Agri is an agricultural research, production, and marketing company whose operations range from cultivation to the production of fresh fruit and agricultural inputs such as seeds, seedlings, and saplings. With its team of 69 agricultural engineers, Tekfen Agri is one of the most important advocates of science-based farming in Turkey today.

Tekfen Ventures is a venture capital fund that seeks out and takes advantage of opportunities in start-up companies by investing in them during their early stages. Tekfen Ventures’ portfolio companies are pushing the bounds of what’s possible in science, robotics, and technology to improve the agriculture, construction, and manufacturing industries.

Tekfen Services provides operation and management services for a portfolio of properties.

W-CH0.1a

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

Bulk inorganic 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, 2019	December 31, 2019

W0.3

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

- Azerbaijan
- Iraq
- Kazakhstan
- Qatar
- 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

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	Important	<p>Good quality freshwater, which is vital for our direct operations, is used intensively at Agri-Industry Group; for fertilizer and fresh fruit production, and Contracting Group for construction of big scale projects.</p> <p>In the Contracting Group, we especially require good quality freshwater for hydro testing of piping and equipment (e.g. pipelines, storage tanks). Freshwater is also needed to provide WASH services to all our employees.</p> <p>As part of our indirect operations, we work with suppliers and customers (farmers) that require adequate amounts of fresh water for their operations. Considering their share in our overall indirect operations, the importance of freshwater for our indirect operations is rated as important. A lack of fresh water can have a considerable</p>

			<p>impact on our direct and indirect operations hence the rating is “vital” and “important” respectively. For example, our Contracting Group has oil&gas construction projects which constitute around 40% of the overall project portfolio. Fresh-water is vital for the oil&gas projects to perform the piping and equipment (e.g. pipelines, storage tanks) tests. 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 Agri-Industry operations. Therefore, the importance rating for our direct operations will remain the same whereas, we estimate the importance to become vital for our indirect operations as well with the increasing water stress.</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. 75.31% of our total Holding-wide water withdrawal is from seawater used in our Samsun facility. If a sufficient amount of brackish water is not supplied, the production activities will be directly affected negatively. (Production capacity will decrease thus results in a financial impact since Samsun Plant has 31.6% 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.</p> <p>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</p>

		<p>in the 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 will become “vital” for us.</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 Agri-Industry suppliers and customers 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, we consider the impact on our indirect operations to become important in the long-term.</p>
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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, the recently acquired Alanar Fruit with its orchards, we have an addition of fresh surface water withdrawal measured by pump flow rates</p>

		<p>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&Q Coordinatorship 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 both bills issued by our suppliers as well as internal water meter readings per source (i.e. groundwater, seawater, etc).</p> <p>Moreover, the recently acquired Alanar Fruit with its orchards, 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 and was 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 HSEQ Coordinatorship on a monthly basis.</p>
Water withdrawals quality	100%	<p>We monthly and/or more frequently monitor the quality of water, used for fertilizer production, drinking and sanitation purposes. Withdrawal quality in the production process is fully monitored. 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 Agri-Industry operations conduct internal lab analyses to make sure the water is at a certain quality to be used as process water. The</p>

		<p>freshwater parameters analyzed are hardness, conductivity, suspended solids, pH, etc.. Therefore in 100% of our sites, the quality of water withdrawals is monitored.</p> <p>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 1,7% 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 (85.50% of our Holding-wide water discharge), 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 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 recently acquired 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 85.50% of our Holding-wide water discharge. 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 recently acquired 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</p>

		<p>supplied. Therefore, we measure/monitor/calculate all our water discharge per volume and destination.</p>
<p>Water discharges – volumes by treatment method</p>	<p>100%</p>	<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 water treatment facilities or discharge directly to third parties' water treatment facilities. At Tekfen Agri's orchards, we discharge the irrigation water without any treatment to groundwater or surface water (0.78% of Holding-wide total water discharge). As per expert statements, we calculate that 25% of irrigation water can't be absorbed by 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>
<p>Water discharge quality – by standard effluent parameters</p>	<p>100%</p>	<p>Our 3 fertilizer plants (source of 86.60% of our total water discharge) 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 85.50% 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>

<p>Water discharge quality – temperature</p>	<p>100%</p>	<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 and Urbanisation (MoEU) and determined water discharge quality parameters are monitored and recorded in real-time by the MoEU. One of the parameters being monitored continuously is the temperature of discharged water. Samsun Plant represents 85.50% of the total water discharges reported Holding-wide in this reporting period. The majority of water is discharged to the sea. We do not monitor the discharge water temperature for Tekfen Agri orchard operations as 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 operations as this parameter is not relevant and the water temperature does not change in construction operations.</p>
<p>Water consumption – total volume</p>	<p>100%</p>	<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 montly 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</p>

		(only rainwater) or monthly (for all other water sources).
Water recycled/reused	100%	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 Agri-Industry fertilizer production operations and monitor this data in real-time in one of the facilities, Samsun. The 81,09% of water recycling takes place at our 3 fertilizer production facilities. The remainder (18.91%) 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.
The provision of fully-functioning, safely managed WASH services to all workers	100%	The Health and safety of our employees is our top priority. 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.

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	106,629	Lower	We compile the data via meter readings and water bills in all operations whereas the calculation method was used only for Tekfen Agri's rainwater withdrawal based on national meteorological data together with the UN FAO effective rainfall calculation formula. In 2019, 3 important developments affected the amount of water withdrawal. 1. Approximately 75% of the total water withdrawal is seawater. Seawater is being used in the Sulphuric Acid Unit for cooling, production

			<p>of demineralized water, and washing in the Phosphoric Acid Unit. In 2019, seawater withdrawn decreased by 27.17% compared to the previous year due to the planned stop in Samsun Plant.</p> <p>2. This year we have revised our calculation boundaries to include our overseas operations of Tekfen Construction. This resulted in an increase of 9.40 % in our total withdrawal amounts.</p> <p>3. In the reporting period, we have acquired new orchards which increased the total area of our orchards by 33%. This increase resulted in a 2,20% increase in total water withdrawals. As a result, our withdrawal volumes have decreased by 15.57%.</p> <p>Approximately 83% of the total withdrawn water is used for cooling purposes and 75% of the total withdrawn water is seawater. Therefore, planned stops of the facilities significantly affect the amount of water withdrawn.</p> <p>We expect our future water withdrawals to increase in parallel to increasing production capacity if there are no planned stops in Toros Agri plants, especially in Samsun Plant. 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. 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 15,57% it is classified as "Lower".</p>
Total discharges	96,566	Lower	<p>We compile the water discharge data via real-time monitoring (Samsun Fertilizer Plant), meter readings and water bills (in all other operations) and additionally calculation method was used only for Tekfen Agri orchards plant water intake (and therefore the discharge) based on national meteorological data together with the UN FAO effective rainfall calculation formula.</p>

			<p>In 2019, three important developments affected the amount of water discharged:</p> <ol style="list-style-type: none"> 1. 85.5% of the total water discharge comes from the Toros Agri Samsun Plant. In 2019, total water discharge decreased by 29.62% compared to the previous year due to the planned stop in Samsun Plant. 2. This year we have revised our calculation boundaries to include our overseas operations, where we included our construction projects. This resulted in an increase of 9.37 % in our total discharge amounts. 3. In the reporting period, we have acquired new orchards which increased the total area of our orchards by 33%. This increase resulted in a 0.86% increase in total water discharges. As a result, our discharge volumes have decreased by 19.39%. <p>85,5% of the total water discharge comes from Toros Agri's Samsun Plant. Therefore, planned stops of the facilities significantly affect the amount of water discharged.</p> <p>We expect our future water withdrawals to increase in parallel to increasing production capacity if there are no planned stops in Toros Agri plants, especially in Samsun Plant.</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 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". As the decrease in discharge amounts were calculated to be 19.39% it is classified as "Lower"</p>
Total consumption	10,064	Much higher	<p>Our water consumption has increased by a large 54.94%.</p> <p>This increase resulted from the following:</p> <ol style="list-style-type: none"> 1. We have revised our operational boundary to include our overseas construction projects. This resulted in a 9.93% increase in our total consumption figure. 2. Due to the acquisition of new orchards in

			<p>Alanar Fruit, our total area of orchards have increased by 33%, which resulted in a 26.89% increase in our total consumption figure.</p> <p>3. Due to operational changes in our fertilizer production plants in Samsun, Mersin, and Ceyhan, our total consumption figure increased by 18.12%.</p> <p>All of these changes resulted in a 59.94 % increase in our total water consumption figure. 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.</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 increase in consumption amounts were calculated to be 59.94% it is classified as “Much Higher”.</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	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	11-25	Much lower	WRI Aqueduct	<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 each</p>

				<p>of our locations by entering their coordinates on the tool and identifying the basin they are located at.</p> <p>Most of our operations (56 out of 62 locations) are listed as having High (40-80%) to Extremely High (>80%) Water Stress Levels. The water stress level is 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. 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.</p> <p>Our total corporate-wide water withdrawals have decreased by 15.57% in comparison with the previous reporting period. In 2018 our water withdrawals from water-stressed areas made up 99.8% of our total water withdrawals. The reason behind this was Toros Agri's Samsun plant, which uses seawater, and in 2018, 91.8 % of our withdrawals resulted from this plant. In 2018, when we made our analysis using the WRI Aqueduct Water Risk Atlas Tool, the water stress level of the Samsun plant was identified as "Extremely High". However, in this years' analysis, the water stress level was identified as "Low" for the same plant</p>
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					<p>according to the WRI Aqueduct Water Risk Atlas Tool. Therefore, taking Samsun plant out of our High-Risk locations, the amount of water withdrawn from areas with water stress came down to 21,657 Megaliters, which makes up 20.31% of our total water withdrawal.</p> <p>As a result of this analysis, we can say that our water withdrawals from water-stressed areas decreased by 82.81 % 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	1,974	Lower	<p>During the reporting year 97.37% of fresh surface water was used in Tekfen Agri orchards. Water withdrawal from this source has decreased by 6.98% although the area of our Orchards has increased by 33%. The increase in orchard area resulted in an extra need for fresh water for irrigation purposes. But</p>

				<p>the fresh water use decreased from 2,122 MI to 1,974 MI due to a decrease in rainwater, as a result of reduced rainfall, so the amount of rain water available for use in our orchards decreased by 217 ML.</p> <p>Withdrawals are measured with flow meters. Rain water constitutes 91.58% of total fresh water withdrawals 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% to 20% higher/lower, above 20% much higher/lower. 6.98% decrease is classified as Lower. Fresh water usage depends highly on precipitation regimes, so we expect a decrease with decreasing precipitation in the long-term.</p>
Brackish surface water/Seawater	Relevant	80,317	Much lower	<p>Brackish surface water/ seawater withdrawal has decreased by 30.39% (much lower).</p> <p>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. The reason for the stated decrease, by 30.39% from</p>

				<p>the previous year, is because of the Sulphuric Acid Plant was not operational for one month during the reporting period. 94.9% of total water at Samsun Plant is withdrawn from seawater.</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 30.39% is classified as “Much Lower”. We can expect an increase in this quantity especially when the Sulphuric Acid Unit in our Samsun plant is fully operational in the future.</p>
Groundwater – renewable	Relevant	18,520	Much higher	<p>Renewable groundwater is used in Tekfen Construction Projects, Toros Agri Mersin and Ceyhan Facilities and Alanar Fruit orchards and is measured via meter readings or calculations by using pump flow rates. Major uses include irrigation, cooling, cleaning, fire water, dust suppression in coal stock areas, etc.</p> <p>Our withdrawals have increased from 4,582 MI to 18,520 MI. 82.31% of this increase is due to the inclusion of the overseas projects of Tekfen Construction in our organizational boundary. 15.13% came from the 33%</p>

				<p>increase in the area of our orchards, which mainly rely on renewable ground water, water from 3rd party sources & rain water for irrigation. Due to the decrease in rainfall we had to use more groundwater for irrigation purposes.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower. An increase of 304.23% is classified as Much Higher. 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	Relevant	86	This is our first year of measurement	<p>Tekfen Construction is contracted to build an oil pipeline by an oil drilling company. In this project we use produced water which is a by-product of raw petroleum drilling process. The withdrawal data is obtained via meter readings. The amount of produced water used, seems to have decreased considerably since 2018 due to a classification mistake. In 2018, we have classified the condensed water which is produced during steam production in the Steam</p>

				<p>Turbine Generator, as produced water. But after a more detailed assessment of the water footprint terminology, we have decided that our previous classification was misleading.</p> <p>The overseas projects of Tekfen Construction are included in our boundary in the current reporting year, so when comparing to the previous year we selected “this is our first year of measurement”, as the production in our STG is reported elsewhere.</p> <p>In the future, we expect withdrawals to decrease after the completion of the construction project.</p>
Third party sources	Relevant	5,732	Much higher	<p>We use water from 3rd party sources in most of our operations, especially in our offices, orchards, and our Samsun plant which uses water from the dam for producing steam in the Steam Turbine Generators. When compared to 2018, there seems to be an increase of 1,757.30%, but this is due to a faulty classification of water withdrawals under produced water in 2018. When we revise the classification, the real increase is around 36.5%, which is also much higher.</p> <p>The major reason behind this increase is the 33% increase in the area of our orchards. As the</p>

				<p>precipitation amounts decreased in 2019, we had to use more water from 3rd party sources for irrigation purposes.</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. 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	705	Much higher	<p>Fresh surface water (fsw) discharge is present in Toros Agri, Tekfen Construction, Tekfen Manufacturing and Tekfen Agri operations. All of the volumes reported under this section are sourced from direct measurements.</p> <p>The discharge volume has increased by 171 %. Reasons behind the increase:</p> <p>Acquisition of a cherry processing facility in Tekfen Agri, where wash water of cherries is discharged to fsw. This caused an increase of 434 ML.</p> <p>Acquisition of Gonen Renewable Energy, where some of the water is discharged to fsw, causing an</p>

				<p>increase of 48 ML.</p> <p>Tekfen Manufacturing has started discharging to a river in their Derince Factory, this resulted in an increase of 5.8 ML.</p> <p>Tekfen Construction performed fewer hydro tests, so discharge to fsw has decreased by 42.65 ML.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower. We expect this amount to decrease in the future as we are currently looking for ways to re-use the water that is used for washing cherries.</p>
Brackish surface water/seawater	Relevant	94,639	Much lower	<p>We use seawater in Samsun Plant of Toros Agri and a small amount is used in a project of Tekfen Construction. We discharge to seawater in Samsun Plant and in 3 projects of Tekfen Construction. 99.98% of water withdrawals and 88.38 % water discharges to seawater come from the operations in Samsun Plant, in which seawater is used 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>The reason of the decrease in seawater discharge, from 119,063 MI to 94,639 MI by 20.51% from the previous year, is the shutdown of the Sulphuric Acid plant for a whole month in the reporting period.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower.</p> <p>A decrease of 20.51% is classified as "Much Lower". We can expect an increase in this quantity in the future especially when the</p>

				Sulphuric Acid Unit in Samsun Plant is fully operational.
Groundwater	Relevant	773	Much higher	<p>We mainly discharge to groundwater in Tekfen Agri (750.4 MI), Tekfen Construction (15.3 MI) and Toros Agri (7.3 MI).</p> <p>There has been an increase of 375% in the amount of water discharged to groundwater. The main reason for this increase is Tekfen Agri's discharge, which makes up 97% of the total water discharged to groundwater.</p> <p>An average of 75% of the irrigation water used in the orchards is consumed by fruit trees, while the remaining amount is added to the groundwater without being used.</p> <p>In 2019, the areas of orchards increased by 33%. This has led to an increase in the amount of water used and discharged.</p> <p>Another reason for the increase is the inclusion of overseas projects of Tekfen Construction in the organizational boundary.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower. An increase of 375% is classified as "Much Higher".</p> <p>We expect this amount to increase slightly in the future if we acquire new orchards.</p>
Third-party destinations	Relevant	449	Much lower	<p>In 2019 Tekfen Construction mostly used 3rd party destinations (such as clients' waste water treatment plants-WWTP) for discharge due to Client's requests.</p> <p>In the highway project, the wastewater is collected and sent to a nearby 3rd party WWTP. The way of disposal varies according to the legal requirements of the host country and the project</p>

				<p>requirements. The volumes reported are obtained via direct measurement.</p> <p>The discharge volume has increased by 45%. This is due to the revision of our organizational boundary which now includes the overseas projects of Tekfen Construction. 79% of the water discharged to 3rd party destinations comes from these projects.</p> <p>Classification: +/-5% about the same, 5-20% higher/lower, >20% much higher/lower. An increase of 45% is classified as "Much Higher".</p> <p>We expect this amount to decrease in the future as we are currently looking for ways to increase re-used/ recycled water amount that can be performed by using our own WWTPs.</p>
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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 (AN)+ Calcium Ammonium Nitrate (CAN) Fertilizers

Water intensity value (m3)

5.98

Numerator: water aspect

Freshwater withdrawals

Denominator

Ton

Comparison with previous reporting year

Higher

Please explain

AN + CAN fertilizers account for 35% 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 7.69%. The most important reason for this increase is the need for more cooling water in parallel with the increase in air temperatures. With parallel to the increase in average air temperatures, our plants need more cooling water.

In the reporting period total AN+ CAN fertilizer production was 589,315 tonnes and total freshwater withdrawal was 3,525,728 m3. That means the water intensity of AN+CAN fertilizers is 5.98 m3/ton (3,525,728/ 589,315) in 2019. The water intensity was 5,56 m3/ton in 2018.

The metric is used within our organization to set the targets relating to water efficiency. We expect the water density 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 7.69% is classified as "Higher".

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

1-25

% of total procurement spend

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. 72% of Tekfen's total revenue is realized by the Contracting Group and Tekfen Construction assesses the suppliers to be critical and non-critical. For example, Tekfen Construction focuses on suppliers' of structural steel, reinforcing bar, concrete, asphalt, etc. This practice was applied to around 10% of our suppliers (42 critical suppliers of 388 total suppliers), which made up 30.85% of Tekfen Construction's total procurement spend in the reporting period.

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

Tekfen requests information about suppliers' sustainability performance, including their water management practices. We request information from our suppliers about their company quality systems (ISO 9001, ISO 14001, etc.) and their product certifications and water management methods by requesting them to respond to the online questionnaires.

According to the result of the assessment, in case of insufficient responses, more information is requested or support is provided to improve themselves. We have found this collaboration has helped us to maintain our level of production across the value chain.

Therefore Tekfen has set a goal to establish and effectively implement the supply chain assessment to all critical suppliers in all Tekfen Group Companies by 2023. Our measure of success is reaching this ambitious goal. In the reporting year, we have achieved 10.8 % of our goal, which we see as a success as our goal is set for 2023.

Comment

Tekfen has started applying sustainability scores using a supplier scorecard. Tekfen Holding has set a company-wide goal to establish and effectively implement the supply chain assessment system in all our Group Companies.

Therefore we intend to cover 100% of our suppliers by 2023.

W1.4b

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

Type of engagement

Onboarding & compliance

Details of engagement

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

% of suppliers by number

76-100

% of total procurement spend

76-100

Rationale for the coverage of your engagement

Around 60% of Tekfen Construction's field operations are handled by subcontractors/suppliers. Therefore, the Company pays utmost attention, while onboarding a supplier/subcontractor, for them to be fully compliant with its own publicly available Code of Conduct (CoC). The Company's CoC states environmental requirements as part of (a) being compliant with environmental laws and regulations at all times and (b) the aim to take preventive and sustainable measures to protect the environment and to minimize the environmental impact of its activities. The overall approach to the environment and sustainability, including water security, do focus on working towards becoming a Better Employer, a Better Contractor, a Better Partner and a Better Neighbour.

Not only the Company ask 100% of its suppliers/subcontractors while onboarding to declare their compliance commitment to the CoC, but also requires environmental management systems documentation, including water related performance data.

Impact of the engagement and measures of success

In 2019, the engagement while onboarding a new supplier/subcontractor continued covering 100% of all new suppliers.

We consider this engagement as an important impact management tool. We require our new suppliers to meet and maintain the business excellence levels, including responsibly managing environmental impacts such as energy and water performance.

We consider this engagement strategy as a success because it enables us to pro-actively manage compliance with environmental regulations while providing a platform for our key value chain partners to manage and minimize their environmental impact. Tekfen evaluates its subcontractors/suppliers periodically and keeps a score card for each subcontractor/supplier. These periodic evaluations enable the improvements of the subcontractor/supplier. The subcontractors/suppliers who fail to show the expected progress are removed from the Approved Supplier List and cannot do business in Tekfen's other sites.

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?

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

- Toros Farmer App
- One-on-one meetings with the distributors and authorized dealers
- Presentations / Joining Agricultural Expo's
- Giving trainings to farmers

By the end of 2019, 10,724 plantations belonging to 9,762 farmers were included in the Toros Farmer database. Including the distributors (1,264) & authorized dealers a total of 11,026 members actively use this app. In 2019, suggestions for "Bread Wheat" plantations were created the most. 10.03% of all wheat fields in the country were reached via this App. In 2019 we have performed 3,651 visits to our distributors, 4,996 visits to Farmers, 269 meetings with agricultural companies, and 39 marketing activities. We have also performed 156 educational activities with our Toros Farmer Education Bus and 15 Drone Flights.

In addition to engagements held with customers, Toros Agri also engages and actively collaborates with Universities as part of its R&D centre activities focusing on water-soluble fertilizer development with great potential to reduce water pollution and avoid excess water consumption due to conventional agricultural practices. By engaging and working closely with Universities, we aim to turn the know-how shared into new and more sustainable products positively affecting the whole value chain. This engagement 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, meetings performed; and R&D projects completed.

W2. Business impacts

W2.1

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

Yes

W2.1a

(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and the total financial impact.

Country/Area & River basin

Turkey
Other, please specify
Lake Egirdir, Mediterranean Sea Coast

Type of impact driver & Primary impact driver

Physical
Severe weather events

Primary impact

Impact on company assets

Description of impact

As a result of sudden hail incident took place in Antalya region, rooftop plastics of greenhouses were damaged. Due to lightning strikes greenhouse automation system and some electronic equipment were damaged. The hail incident also affected the output quality and quantity of fruits.

Although this impact is not considered substantive, it is very important in terms of future risks. We expect an increase in the frequency and severity of these kinds of climate events.

Primary response

Use risk transfer instruments

Total financial impact

16,800

Description of response

The total damage of the severe weather events was covered by our insurance policies. In order to maintain the output of the facility without getting affected by this acute physical event, we promptly repaired the damage and claimed compensation from our insurance company. Unfortunately, due to the nature of greenhouses, there are not many measures to implement to be resilient to such acute and severe physical precipitation. However, we make sure our employees and facilities are well equipped to take immediate action to protect and maintain our business as usual operations. While this response is not directly linked to water security, it is caused by the changing climate/precipitation patterns and is considered as a chain in the water cycle. Our response to all incidents is to secure our operations with minimum or if possible no disruption, which includes maintaining our water security and resilience.

Country/Area & River basin

Turkey
Other, please specify
Gediz River

Type of impact driver & Primary impact driver

Physical

Severe weather events

Primary impact

Reduction or disruption in production capacity

Description of impact

In Tekfen Tarım's orchards, the crop yield was estimated as 3200 tons, but the realized crop yield was 1650 tons. This was due to severe weather events like hail storms, heavy rains, and freezing temperatures.

Although this impact is not considered substantive, it is very important in terms of future risks. We expect an increase in the frequency and severity of these kinds of climate events.

Primary response

Increase capital expenditure

Total financial impact

1,175,000

Description of response

The total damage of the severe weather events was the damage due to loss of crops. Unfortunately, due to the nature of farming, there are not many measures to implement to be resilient to such acute and severe physical events. However, we make sure our employees and facilities are well equipped to take immediate action to protect and maintain our business as usual operations.

While this response is not directly linked to water security, it is caused by the changing climate/precipitation patterns and is considered as a chain in the water cycle. Our response to all incidents is to secure our operations with minimum or if possible no disruption, which includes maintaining our water security and resilience. As an example of these preventive measures, we have installed hail nets to protect our products (stone fruit) against a potential hail covering a 330 decares of our Alanar Fruit orchard. By doing so we minimized the risk of heavy precipitation related detrimental impact.

W2.2

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

No

W3. Procedures

W-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:

Our company produces and trades fertilizers, for both national and international markets, exporting mainly to EU countries. We have established, implemented and maintained Environmental Management System (EMS) in parallel to ISO 14001:2015 Environmental Management System Standard which includes water pollution control management system across our operations in the fertilizer production processes. We conduct environmental risk assessments. We identify environmental aspects including water pollutants, calculate relevant risk levels, determine mitigation/ control measures and follow up the actions taken via EMS. When calculating risk levels, we identify environmental impacts, probability and severity of the impacts and calculate the risk by multiplying probability and severity of the impact. All of our fertilizer production operations are ISO14001 and International Fertilizer Association (IFA) Protect & Sustain certified.

Our pollution prevention plans identify, evaluate and monitor the products we handle and 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 Managers or Sustainability Directors 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.

Tekfen prevents pollution to land and water during its chemical operations as well as all aspects of its operations. All necessary precautions are taken to prevent the pollution of surface water and groundwater resources in the vicinity of all Tekfen sites. The following general measures are adopted to minimize potential adverse impacts on surface and ground water sources:

- All chemical plants have Waste Water Treatment Plants.
- All discharges to surface and ground water bodies, including effluents from wastewater treatment plants, shall meet applicable water discharge standards meeting but not being limited to the regulatory requirements.
- Fuelling, washing or maintenance of plant or machinery will not occur in, over or adjacent to a drain or watercourse or in areas where high-level groundwater or unconfined aquifer conditions prevail.

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 Phosphorus Fluoride Ammonium and Nitrate Nitrogen	Direct operations	These pollutants are related to Phosphoric Acid Unit and the other fertilizer production units. Algae and microscopic organisms that accumulate on the surface of the water block the sunlight and stops the oxygen absorption which is crucial for underwater life, which in turn causes eutrophication.	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 and/or by accredited companies. Planned and unplanned audits.	The best possible technologies are used in our Phosphoric Acid Unit and other fertilizer production units which are the sources of specified pollutants. 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. 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. 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. The discharge water is

				<p>always tested and the measure of success is the compliance with either regulatory limits or limits set out by IFC, whichever is stricter. These tests are performed by 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 Environmental</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>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.</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 discharged water is always tested and the measure of success is the compliance with either regulatory limits or limits set out by IFC, whichever is stricter. We also have targets like “% of tests/samples compliant with</p>
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				determined standards 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 manually, against compliance with the limit</p>

				<p>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 either regulatory limits or limits set out by IFC, whichever is stricter.</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 releases added to the</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</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 parameters in the discharged water are followed by the facility</p>

		<p>already existing deposits of cadmium in the environment. Therefore Cadmium is a toxic material for all living organisms.</p>	<p>and unplanned audits.</p>	<p>and the relevant public units, via samples taken both online and manually, against compliance with the limit values in the Water Pollution Control Regulation. 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 discharge water is always tested and the measure of success is the compliance with either regulatory limits or limits set out by IFC, whichever is stricter. We also have targets like “% of tests/samples compliant with determined standards for effluent discharge” to ensure compliance with the discharge limits.</p>
Laboratory Chemicals	Direct operations	<p>Chemicals and heavy metals may form as a result of quality and control analyses in the laboratories. If these chemicals are discharged to sink with no control measures, they may contaminate the sewer system. As a result of this contamination the bacteria in the biological treatment</p>	<p>Other, please specify Compliance with standard operating procedures for control and production in facilities. Compliance with legal regulations. Compliance with quality management system.</p>	<p>The standard operating procedures on how the chemicals shall be managed are shared with all of the employees and their compliance with the Standard Operating Procedures (SoP) are controlled by their supervisors. Tekfen controls exposures to hazardous substances to protect</p>

		<p>system of the sewer system may die resulting in negative effects on marine life.</p>	<p>both employees and others who may be exposed to as a result of its activities. Tekfen evaluates the chemicals and their effects and also assesses the hazards and risks associated with their applications as part of its chemical sector operations. The use, handling or storage of a hazardous substance shall not be permitted in a workplace unless the product carries a label and a Safety Data Sheet (SDS) meet the requirements of the regulations and unless the worker has received the training and information required to carry out the work. All chemicals brought on site are tracked. Tracking of chemicals is a continuous process followed from acquisition, through storage and use, to final disposal. All hazardous materials including chemical wastes are stored in a manner that reduces the risk of worker exposure, spills and fire accidents. Chemicals are stored in clearly designated storage areas which are contained, secured, illuminated, well-ventilated, inspected and maintained. All</p>
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			<p>hazardous materials are segregated and stored according to their chemical properties. Segregation could be by distance, by interspersing with other goods of low hazard, by inert substances or even a true physical barrier. If a hazardous substance / product is delivered without an SDS, the product is transported to the quarantine area assigned within the chemical storage area. Before handling any hazardous chemicals supervision must ensure all precautions identified in SDS have been communicated to the personnel performing the task and that all PPE requirements for the chemical have been met.</p> <p>Hazardous waste containers being prepared for off-site disposal are accumulated in a designated storage area that is designed with secondary containment and proper ventilation. Legal proof of storage and disposal of chemicals are shared with the Ministry of Environment and Urbanization periodically.</p> <p>Employees are trained for all requirements of</p>
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				Hazardous Materials Management
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 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>	Providing best practices instructions on product use	<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 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 Distributors and authorized dealers • Presentations / Meetings / Joining Agricultural Expo’s • Giving trainings to farmers <p>By the end of 2019, 10,724 plantations belonging to 9,762 farmers were included in the Toros Farmer database. When the number of distributors (1,264) and authorized dealers are taken into account a total of 11,026 members</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 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>actively use this app. In 2019, suggestions for “Bread Wheat” plantations were created the most. After that the most popular plants were Grain Corn, Sunflowers and Cotton respectively. 10.03% of all wheat fields in the country were reached via this App.</p> <p>In 2019 we have performed 3,651 visits to our distributors, 4,996 visits to Farmers, 269 meetings with agricultural companies, and 39 marketing activities (meetings, presentations, expo’s). We have also performed 156 educational activities with our Toros Farmer Education Bus and 15 Drone Flights. All these above-mentioned awareness raising activities help us reduce the nitrate pollution that may be caused via excess use of our products.</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.

Direct operations

Coverage

Full

Risk assessment procedure

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

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
International methodologies
Databases
Other

Tools and methods used

WRI Aqueduct
WWF Water Risk Filter
ISO 31000 Risk Management Standard
IPCC Climate Change Projections
Regional government databases
Internal company methods
External consultants
Other, please specify
ISO 14001 Environmental Management System Standard.

Comment

Supply chain

Coverage

Full

Risk assessment procedure

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

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
Databases

Other

Tools and methods used

WRI Aqueduct

WWF Water Risk Filter

ISO 31000 Risk Management Standard

Regional government databases

Internal company methods

External consultants

Other, please specify

ISO 14001 Environmental Management System Standard.

Comment

Other stages of the value chain

Coverage

Full

Risk assessment procedure

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

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market

Enterprise Risk Management

Databases

Other

Tools and methods used

WRI Aqueduct

WWF Water Risk Filter

ISO 31000 Risk Management Standard

Regional government databases

Internal company methods

External consultants

Other, please specify

ISO 14001 Environmental Management System Standard.

Comment

W3.3b

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

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	<p>Relevance:</p> <p>Our projects/ workplaces withdraw the necessary amount of water, which is deemed crucial for the continuation of our operations, from the nearest and suitable basins/ catchments.</p> <p>In the case of no water supply, the production will stop immediately at fertilizer plants of Toros Agri, and fruit production will severely be affected at orchards of Tekfen Agri, and performance tests of equipment can't be conducted and WASH facilities will be disrupted at Tekfen Construction. Therefore, water availability is always considered by our projects/ workplaces at a basin/ catchment level.</p> <p>Tools used in assessment:</p> <p>In order to conduct a thorough water risk assessment, we, therefore, assess both current and future water availability and changes at a basin/catchment level through the use of regional government databases, WWF-DEG Water Risk Filter and WRI Aqueduct Water Risk Atlas Tool. Moreover, we also analyze IPCC Climate Change RCP 4.5 scenario projections for Turkey and its probable emerging impact on precipitation patterns as well as water availability over the long term. This element of risk assessment covers all aspects of our value chain and both current and future issues.</p> <p>Explanation of the assessment:</p> <p>“Water Stress”, “Water Depletion”, “Groundwater Table Decline” & “Seasonal Variability” data under the “Physical Risk Quantity” section of WRI Aqueduct Water Risk Atlas are evaluated on the basis of each basin and the acquired data is used in risk assessments.</p> <p>As an example, our biggest orchards are in Manisa-Salihli. According to this analysis, baseline water stress for our orchards is rated “Extremely High (>80%), however for “Pessimistic”, “Optimistic” and “BAU” Scenarios in 2030 the stress level for this region is rated as “High(40-80%). As a</p>

		<p>result of this analysis, we have invested in 1,660 decares of new orchards in 2019.</p>
<p>Water quality at a basin/catchment level</p>	<p>Relevant, always included</p>	<p>Relevance:</p> <p>Withdrawn and discharged water quality at the basin/ catchment level is always taken into consideration during water risk assessments. In order to maintain a certain level of operational excellence, both water to be consumed/recycled and wastewater quality is analyzed in our projects and plants. Especially for our fertilizer production plants (i.e. hardness, brackishness), the quality of water is of utmost importance.</p> <p>We conduct microbiological and chemical analyses periodically (monthly and/or bimonthly) as specified in local regulation and/ or project requirements.</p> <p>On the other hand, we always monitor the quality of our discharged water in order to prevent environmental pollution and stakeholder concerns. That is why we always build and operate our own wastewater treatment plants in our facilities and in project areas where there is no sufficient water treatment available.</p> <p>As an example, in our TANAP Pipeline Project, we have monitored water quality in the basin at all times and didn't allow machinery to be used in the rivers to prevent any potential effect on water quality as well as on the natural habitat.</p> <p>We always store our hazardous materials in watertight containers and have spill response plans ready to prevent issues at all costs. Potable water quality in camps and offices are also analyzed periodically according to legal requirements. We also have wastewater treatment facilities in our camps where wastewater discharge parameters are measured, monitored, and analyzed periodically.</p> <p>Tools used in assessment:</p> <p>We use internal company methods (Environmental Risk Assessment in parallel to ISO 14001 Standard) to assess both current and possible future risks regarding water quality at a basin/ catchment level as well as tools available on the market such as WRI Aqueduct. This element of risk assessment covers all aspects of our value chain and both current and future issues.</p> <p>Explanation of the assessment:</p> <p>During the risk analysis carried out within the scope of ISO14001, the quality of the water withdrawn and</p>

		<p>discharged is evaluated on the basis of the facility/project. While evaluating the environmental impacts, the negative consequences of water quality and the possibility of occurrence are also taken into consideration. Company-based impacts are evaluated within the scope of Corporate Risk Management.</p>
<p>Stakeholder conflicts concerning water resources at a basin/catchment level</p>	<p>Relevant, always included</p>	<p>Relevance: Problems that may arise from stakeholders in the basin/ catchment level are taken into account within the scope of Corporate Risk Management. Due to the increased water stress in recent years, the water demands of nearby facilities, upstream and downstream stakeholders are evaluated. While the excess water that will be attracted by the stakeholders in the upstream affects our facilities and orchards, the excess water we will withdraw may cause serious problems between the stakeholders in the downstream. Therefore, possible water conflicts with stakeholders are taken into consideration in the medium term, where we expect water crisis/water wars to occur.</p> <p>Tools used in assessment: These risks are evaluated within the scope of Corporate Risk Management. In addition, more detailed risk assessments are included within the scope of Environmental Risk Assessments made on some of the facilities and orchards. In addition, data such as water stress, water supply, and water demand data of the basin/ catchment level are obtained from WRI Aqueduct Water Risk Atlas.</p> <p>Explanation of the assessment: We determine our water stress for each of our sites/ facilities by using WRI Aqueduct Water Risk Atlas. We evaluate the current water stress in the basin with the amount of water facility/ site's water needs, and the future water stresses in the location as per different scenarios. There are 3 scenarios; the optimistic scenario (SSP2 RCP4.5), business as usual scenario (SSP2 RCP8.5), and pessimistic scenario (SSP3 RCP8.5). Final assessments are conducted by Holding Risk Management Directorate and the score of risk is determined. If the risk score is 16 and higher, the risk is informed to Holding Board of Directors.</p>
<p>Implications of water on your key</p>	<p>Relevant, always included</p>	<p>Relevance: One of our key commodities are fertilizers and stone fruits. Water scarcity and water stress is of great importance for</p>

<p>commodities/raw materials</p>		<p>our direct operations as stone fruit producers, but also for our supply chain whom we contractually buy stone fruit and our customers (farmers) who buy fertilizers from us. Without enough water supply, we would not be able to produce or procure stone fruit but also our customers (farmers) would not be able to buy our products (fertilizer). Therefore, water availability's impact on our product is apparent. This is why we train our suppliers, customers (farmers), and dealers on the most appropriate production practices and uses of our fertilizer products, making sure they can grow their crops/products with maximal potential while using optimal amounts of water.</p> <p>Tools used in assessment: Implications of water on our key commodities are assessed by using our Corporate Risk Management system. During the assessment, we use also regional government databases, as well as tools on the market namely, WWF-DEG Water Risk Filter and WRI Aqueduct. This element of risk assessment covers all aspects of our value chain and both current and emerging issues.</p> <p>Explanation of the assessment: We determine our water stress for each of our sites/ facilities by using WRI Aqueduct Water Risk Atlas. We evaluate the current water stress in the basin with the amount of water facility/ site's water needs, and the future water stresses in the location as per different scenarios. There are 3 scenarios; the optimistic scenario (SSP2 RCP4.5), business as usual scenario (SSP2 RCP8.5), and pessimistic scenario (SSP3 RCP8.5). Final assessments are conducted by Holding Risk Management Directorate and the score of risk is determined. If the risk score is 16 and higher, the risk is informed to Holding Board of Directors.</p>
<p>Water-related regulatory frameworks</p>	<p>Relevant, always included</p>	<p>Relevance: Compliance with legal regulations is among Tekfen's main principles. Therefore, compliance with legal regulations is always taken into account during risk assessments. Tekfen identifies and complies with the local regulatory and legislative requirements applicable to all its operations and business areas. The updates of existing legal and other requirements are closely followed and relevant parties are informed about changes and their implications on our operations. Tekfen periodically evaluates its compliance with</p>

		<p>applicable legal as well as other requirements and keeps records of the results of periodic evaluations. Compliance with regulatory framework is our priority that is stated on our Policies. Moreover, we are aware that there is an increasing concern on nitrate pollution on the soil as well as water sources as a result of excess fertilizer use. Therefore, water-related regulatory frameworks, as well as rising concerns, are always considered in our facilities. As an example, we conducted Environmental Impact Assessments, implemented Biodiversity Action Plans, and run our activities according to certified ISO 14001 Environmental Management Systems in our TANAP Pipeline Project. In Toros Agri Samsun Plant, we continuously monitor our water discharges in terms of volume, temperature, and quality in order to stay within the thresholds set by regulations.</p> <p>Tools used in assessment: Compliance with water-related regulatory framework is assessed by using internal company methods (Environmental Risk Assessment in parallel to ISO 14001 Standard). This element of risk assessment covers all aspects of our value chain and both current and emerging issues.</p> <p>Explanation of the assessment: Compliance with legal legislation on water is constantly evaluated. In addition to legal regulations, risks that will affect brand value are also evaluated. During the evaluations, risk assessment tools within the scope of ISO 14001 are used for the facility / orchard / project, while Corporate Risk Management is used for company-based evaluations.</p>
<p>Status of ecosystems and habitats</p>	<p>Relevant, always included</p>	<p>Relevance: Ecosystem and habitat are very valuable and important not only for Tekfen but for all people. Therefore, protecting the ecosystem and habitat is extremely vital for Tekfen, whose revenue rests on agricultural activities. For this reason, it is taken into account in risk assessments. Tekfen has a Biodiversity Policy. Before initiating investments and projects in international protected areas, Tekfen develops Biodiversity Action Plans (BAP), identifies the potential impacts of investments and projects during the planning, operation, and post-operation stages, and engages in efforts to minimize such impacts. Actions determined for the protection of the critical flora and fauna included in these</p>

		<p>documents are taken, and compliance with the actions is monitored through audits.</p> <p>In addition, our companies, which make up 97% of Tekfen's total turnover, have ISO 14001 Environmental Management System.</p> <p>Tools used in assessment: In order to effectively manage our direct and indirect role in the ecosystem and the surrounding habitat, we conduct a thorough risk assessment with the aid of available tools on the market, namely; WWF-DEG Water Risk Filter and WRI'S Aqueduct tools. These tools give us the water-related future risks at our facilities and their immediate environment. As examples, in our TANAP project, we did not cut down any trees but if needed transplanted them to different locations and maintain their well-being. Ecosystem and habitat are always considered and Compliance to the Projects' environmental requirements are assessed and audited by our internal auditors and third-party companies. During the fish spawning period, we stopped construction activities and no machinery and equipment were allowed to enter rivers. We used internal company methods in TANAP Pipeline Project. This element of risk assessment covers all aspects of our value chain and both current and emerging issues.</p> <p>Explanation of the assessment: During the risk analysis carried out within the scope of ISO14001, Environmental Impact Assessment, and/or Biodiversity Action Plan the status of ecosystems and habitats is evaluated on the basis of the facility/project.</p>
<p>Access to fully-functioning, safely managed WASH services for all employees</p>	<p>Relevant, always included</p>	<p>Relevance: The availability of WASH services at premises is of critical importance to us. WASH services at our project sites and workplaces are important in preventing infections and other diseases. In addition, the availability of WASH facilities at the workplace is fundamental to provide our employees a healthy and safe working environment.</p> <p>We have a documented and certified Health and Safety Management System in parallel to OHSAS 18001/ ISO 45001 Occupational Health and Safety Management System Standard. One of our goals is to provide healthy and safe premises for all our employees and other value chain partners such as sub-contractors.</p> <p>Tools used in assessment:</p>

		<p>Access to fully-functioning and safely managed WASH services at all times are taken into consideration in water related risk assessments by using internal company methods (Health and Safety Risk Assessments in parallel to OHSAS 18001/ ISO 45001 Standard) and includes both current and possible future risks. WRI Aqueduct, WWF-DEG Water Risk Filter and regional government databases are being used to assess the accessibility of WASH facilities in the future. Therefore, this element of risk assessment covers all aspects of our value chain and both current and emerging issues.</p> <p>Explanation of the assessment: Access to clean and sufficient water is taken into account in risk assessments made within the scope of OHSAS 18001 / ISO 45001. Access to clean water, which is even more prominent in the COVID-19 process, is evaluated within the scope of the Occupational Health and Safety Management System being implemented.</p>
Other contextual issues, please specify		

W3.3c

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

	Relevance & inclusion	Please explain
Customers	Relevant, always included	<p>Farmers are currently a major customer group of Tekfen’s Agri-Industry operations. This is why they are included in our organization’s water-related risk assessments.</p> <p>As a method of engagement, we give training to our customers (farmers) on the most appropriate uses of the fertilizers and making sure they can grow their crops with maximal potential while using optimal amounts of water. We have also developed Toros Farmer App that gives suggestions for the correct and optimal fertilizer use.</p> <p>For our Construction operations, we consider the users access to clean and adequate water in the design process. For our housing projects we develop and build LEED certified green buildings. While assessing water-related risks for our customers, we include both current as well as potential customers covering all aspects of our value chain.</p>

Employees	Relevant, always included	<p>It is very important for us to provide our employees with fully-functioning and safely managed WASH services at all times. Water we use in our camps and offices are monitored and analyzed periodically. Wastewater in our camps is treated and discharge quality is continuously monitored. We also place importance on the protection of natural resources and we are taking measures such as converting to waterless urinals. As a method of engagement with our employees, we provide trainings and posters about water consumption. This way we can make sure our employees use water as efficiently as possible. While assessing water-related risks for our employees, we include both current as well as future risks covering all aspects of our value chain.</p>
Investors	Relevant, always included	<p>Investors and shareholders consist of the most important part of our stakeholder groups. 47,24% of the shares of Tekfen Holding owned by investors. Therefore the investors' expectations are always included in both risk and opportunity assessments.</p> <p>As part of our Agri-Industry operations, our fertilizer production facilities operate in line with the regulatory requirements. We consider our large construction projects as especially important when it comes to investor requests. International Financial Institutions (IFI) have environmental and social standards at which we have to operate within. Below are some examples of the methods we use to engage with our investors:</p> <ul style="list-style-type: none"> • In our Tanap pipeline project, we were in line with Equator Principles. The project's Environmental and Social Impact Assessment and Biodiversity Action Plans were followed strictly. • By participating in CDP Water Security Programme this year, we are sharing our water performance and our approach of managing water with our investors. • We established a Sustainability Department and issued our first Sustainability Report in 2019, making sure all water-related issues are shared with the stakeholders. <p>In addition to the above-mentioned examples, formal reporting, including Annual Reports, Company Announcements, regular and annual meetings are the other engagement methods with the stakeholders. While assessing water-related risks for our investors, we include both current as well as potential investors.</p>
Local communities	Relevant, always included	<p>Local communities are affected by our operations. Therefore local communities consist of one of the most important parts of our stakeholder groups.</p>

		<p>Local communities are always taken into consideration in our risk assessments.</p> <p>When we construct a project near villages or residents, we consider local community sources that can be affected by our operations. Environmental and Social Impact Assessments (ESIA) are conducted for projects in critical habitats. As an example, in our TANAP Pipeline Project, we considered the locals and didn't draw water more than 10% of the river flow volume. We did not cut down any trees, but if needed transplanted them to different locations and maintained their well-being. Moreover, with our acquisition of a stone fruit producer company, we now own orchards as well as are in connection with farmers as suppliers. As a result of this, we are aware that we consider local communities as part of our water risk assessment now that we are in contact with local communities in an increased number of locations.</p> <p>As a method of engagement with local communities, we organize stakeholder consultation meetings before starting any project as a part of ESIA. We also keep in contact with the leaders of the local communities during the course of the projects. Therefore, while assessing water-related risks for local communities, we include both current as well as future risks covering all aspects of our value chain.</p>
<p>NGOs</p>	<p>Relevant, always included</p>	<p>Tekfen follows NGOs' activities closely. We are both a founding member and a member of some NGOs and these memberships provide a reliable method of engagement with these NGOs. Therefore, we always consider NGOs in our risk assessments.</p> <p>We are a member of the Turkish Sustainable Development Business Council (SKD) and the founding member of the Turkish Industry and Business Association (TUSIAD) which are at the forefront when it comes to raising awareness and working with policymakers on climate change and water issues in Turkey. We are also the founding member of Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats (TEMA) and Environmentally Friendly Green Building Association (CEDBİK).</p> <p>It is very important for us to align our strategies when it comes to climate change and water with these institutions. As part of our water-related risk assessment we consider NGO's and their current and future roles in all aspects of our value chain as well as keeping an open eye to constantly identify new NGO's that can be included in our water-related risk management engagements.</p>

<p>Other water users at a basin/catchment level</p>	<p>Relevant, always included</p>	<p>We consider other current water users in the areas where we have operations as part of our water-related risk assessments. If we are working near the river or when we are discharging the wastewater to wetlands, we pay utmost attention to the discharged water quality and quantity. If we withdraw water from the river, the amount cannot be more than 10% above the river's flow volume. If we discharge the wastewater to the wetlands, every measure is taken so that the wastewater quality always complies with the discharge limits stated in the relevant regulation.</p> <p>In order to protect underground water quality, machinery and equipment repair and maintenance are carried out in suitable/impermeable areas. Hazardous chemicals are stored in bunded and impermeable areas against any leakage or spillage.</p> <p>As a method of engagement, we organize information sharing meetings with water users at basin/catchment level. Especially in Tekfen Construction's projects there are Community Liason Officers who are responsible for public relations. We also have grievance mechanisms in place in order to act upon/reply to the complaints received from other water users and stakeholders.</p> <p>While assessing water-related risks for other users at a basin/catchment, we include both current as well as future risks covering all aspects of our value chain that can be affected by our direct and indirect operations.</p>
<p>Regulators</p>	<p>Relevant, always included</p>	<p>Policy makers as well as current and potential future water-related regulations are taken into account. Groundwater is being used in Mersin and Ceyhan plants through wells and we have active well permit licenses for each well we operate. On the other hand renewal of the licenses is critical for the operations. In Samsun, we use a high amount of seawater and we draw necessary fresh water from a dam by the permit of the General Directorate of State Hydraulic Works (DSI). If we can't draw enough water from the dam, our Samsun operations might face disruption. Therefore, engagement with regulators is important to prevent this kind of risk in our fertilizer plants.</p> <p>Tekfen is a member of Turkish Sustainable Development Business Council (SKD) and Turkish Industry and Business Association (TUSIAD) which have active engagements with policymakers.</p> <p>As a method of engagement, we are participating in the water-related workshops of SKD and we also want to play an active role in TUSIAD's climate and water-related working groups.</p> <p>While assessing regulators related water risks, we include all aspects of our value chain covering both current and possible future regulators.</p>

River basin management authorities	Not relevant, explanation provided	<p>The legal background for river basin management authorities is lacking in Turkey. Currently, there are seldom limitations. However, we are following the emerging developments in this area closely. When the legal background is established, we will include potential river basin management authorities and their expectations in our risk assessments covering all Tekfen Holding Group companies' operational locations. But we think that the legislation related to watershed management will increase in the future and the risks related to water will be managed more effectively on a watershed basis.</p>
Statutory special interest groups at a local level	Relevant, always included	<p>The General Directorate of State Hydraulic Works (DSI) is the current main authority for surface and groundwater of Turkey. Approval for withdrawal from and discharge to the points are obtained from the DSI Regional Branches. Moreover, Provincial Environmental Directorates are notified about hydrostatic test discharge points and discharge approval request letters are sent to each directorate together with proof of water quality analysis results if they require us to do so. Therefore these approval request letters are a method of engagement with these stakeholders.</p> <p>As another method of engagement, we organize Ad-hoc meetings with DSI regional branches. Therefore we consider them at a local level water risk assessment. While assessing water risks covering this particular stakeholder group, we include all aspects of our value chain both for current and possible future groups.</p>
Suppliers	Relevant, always included	<p>We don't have any supplier that has been affected by water related impacts yet. But according to WEF Global Risks Report, water crisis is one of the top 10 risks in terms of likelihood and impact. Moreover, according to WRI Aqueduct tool, we can see that Turkey will be subjected to increasing overall water risks in the medium to long-term horizon. Therefore, it is clear that some of our suppliers will be affected by water crisis in the future. We are working to identify critical suppliers in terms of water and address this risk in our business continuity plans. While assessing suppliers-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.</p> <p>As methods of engagement, we use Supply Chain Policy, Supplier Contracts, Supplier Assessment Questionnaire.</p>

<p>Water utilities at a local level</p>	<p>Relevant, always included</p>	<p>Municipal, industrial and private water suppliers and water utilities that treat wastewater are always incorporated in our water risk assessment and are considered at a local level. In our facilities, we draw some of the water from municipal suppliers and some of them from private water suppliers. If there is any problem with the suppliers we can't provide enough and good quality water to our operations and employees. Therefore, local water resources are evaluated and we consider the risk of interruption of water supply. We have recently issued our Corporate-wide Water Policy. "Build and operate treatment plants, where municipal infrastructure is inadequate or insufficient" is stated on the Policy and this is an example of how we consider current water utilities at local level covering all aspects of our value chain.</p> <p>As methods of engagement, we use compliance tests results, reports, water withdrawal and discharge permits issued by regulators, regular meetings, site audits etc.</p>
<p>Other stakeholder, please specify</p>	<p>Relevant, always included</p>	<p>During withdrawal and discharge of water, Tekfen also considers downstream stakeholders in the same basin. As an example, in our Tanap pipeline project, the water withdrawal rate was set as 10% of the River's flow rate in order not to distort the hydrological regime or cause water stress in the basin that might affect other current or possible future water users from the same basin. No chemical treatment was used during the hydrostatic testing period to avoid chemical release to the environment. Tekfen ecologist/environmental inspectors attended the activity during water abstraction and discharge. Water was cascaded in order not to deteriorate the habitat integrity and not to cause surplus turbidity. The water discharge period was prolonged in order to decrease the flow rate. Water was oxygenated by physical means before discharge. The physicochemical characteristics of the discharged water (i.e. temperature, pH, dissolved oxygen, conductivity etc.) were measured by hand-held kits to make sure the discharged water quality was within the acceptable limits of recipient environment.</p> <p>As methods of engagement, we use compliance tests results, reports, water withdrawal and discharge permits issued by regulators, regular meetings, site audits etc.</p>

W3.3d

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

Water-related risks are identified, assessed and managed at a Group Company Level and are then consolidated and monitored at the Holding level.

Tekfen Holding Risk Management Directorate determines the risk model to be utilized in the Corporate Risk Management (CRM) process parallel to ISO 31000 Risk Management Standard. CRM specifically classifies risks as strategic, operational, financial, compliance and reputational risks.

The risk assessment is carried out in the second stage at which the risk's gross impact, gross probability, both with a scale of 1-very low to 5-very high and the gross risk score is calculated by multiplying gross impact and gross probability and graded as low (1-4), medium (5-14) or high (15-25).

Medium and long term and Company Level water risks are covered by the CRM. While managing the short-term water-related risks we use ISO 14001 Environmental Management System. The short-term risk analysis are performed at Asset Level.

During medium and long term and Company Level risk assessments, we use; reputable tools on the market such as WRI Aqueduct, WWF-DEG Water Risk Filter; and regional government databases to define risk probabilities and risk impact levels. The first step is to identify water related data for the sites/ facilities by using WRI Aqueduct Water Risk Atlas which gives Physical Risk Quantities (e.g. water stress, water depletion, inter annual variability, seasonal variability, groundwater table decline, riverine flood risk, coastal flood risk, drought risk etc.) For example 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 risk are identified and the risk score is determined.

Risk identification includes an examination of the knock-on effects of particular consequences, including cascade and cumulative effects. It also considers a wide range of consequences. As well as identifying what might happen, it is necessary to consider possible causes and scenarios that show what consequences can occur.

All risk management operations including actions and status tracking are followed by Group Company Risk Managers with the help of HSE Managers 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.

Company Level:

Top management of each Group company uses risk management actively in decision making. CRM is integrated into main planning processes such as strategic planning, business planning and operational management. 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.

Asset Level:

Each asset has its own risk assessments. Site HSE Management identifies/assesses water-related risks and reports to Project/ Workplace Manager who notifies site specific critical risks to Company Risk Manager. Projects/ workplaces also use CRM methods defined above.

We identify, assess and respond to our short-term water risks (up to 1 year) via ISO 14001 EMS. Our medium (1-5) and long term (5-30 years) water risks are covered by our CRM.

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:

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

The risk is assessed to have a substantive impact if:

- Financially; if the risk impact is >1% EBITDA (singular impact, which equals to 3,233,900.00 USD for the reporting period) or >0,5% of EBITDA (continuous impact, which equals to 1,616,950.00 USD). EBITDA for the reporting period is 323,390,000 USD.
- Legally; due to legislative or contractual non-conformities medium level loss of business or fines (please see substantive financial impact definition above)
- Reputational; risk poses medium level effects on our reputation. (Some negative effects on clients or employees. Some bad press on local or national media.)
- Operationally; 2 to 5 days of disruption in operations, events reducing the performance of employees. For construction projects 2-5% difference in planned and realized progress of projects.
- Strategically; Some mid-level impact on strategic plans and their execution. Strategies may need to be revised in some areas.

These definitions are applied to both our direct operations and supply chain. While assessing our operational, compliance and reputational risks, we also consider our supply chain and direct operations.

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 >1% of EBITDA (singular impact) or >0.5% 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%. So we have decided that Mersin Plant might have a substantial financial impact in the future. As another example, we have assessed all of Tekfen Agri’s location using WRI Aqueduct Water Risk Atlas. Tekfen Agri has operations in 19 locations, 18 of which are located in water stressed areas with High to Extremely High risk profiles. Out of these 18 plants only 1 plantation has revenues that are over our substantive impact thresholds, Karaman plantation can affect the Tekfen Holding’s EBITDA more than 0,66 %. Therefore, although all of the operations of Tekfen Agri are monitored closely, only the plantation in Karaman is reported under facilities exposed to water risks with the potential to have a substantive financial impact category.

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	4	1-25	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. Two of our fertilizer plants are facing Extremely High (Mersin Plant) and High (Ceyhan Plant) risk in terms of water stress. Samsun Plant’s risk rating has changed from Extremely High to Low in the new version of the tool. However, as this plant is responsible for 75.3 % of our total water withdrawal and 85.5% of our total discharge, this plant is always assessed to have a potential of substantive impact. This plant is also

			<p>rated as “Extremely High Risk” in future scenarios.</p> <p>The only plantation that was assessed to be over our substantive thresholds is a newly acquired potato plantation in Karaman. The annual revenue from this facility is over our substantive thresholds and it comprises 40% of water withdrawals within Tekfen Agri. At these facilities (especially Samsun), in the absence of an adequate amount of water, the production will directly be 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 (4 out of 62 in the reporting period), they represent approximately 21% of our total global revenue.</p> <p>According to WRI Aqueduct Water Risk Atlas, most of our operations (56 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 0,05%) of our global revenue, or because they have a very small consumption figure with respect to our other operations.</p> <p>This year we have extended our organizational boundary to include the overseas operations of Tekfen Construction, however, as these construction projects do not last longer than 3 years 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 revised version of 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 75.3 % of our total water withdrawal and 85.5% 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, Göksu

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 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

1-10

Comment

This facility is our Toros Agri Ceyhan Fertilizer Plant.

Country/Area & River basin

Turkey

Other, please specify

Beysehir Golu, Afyon

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

Less than 1%

Comment

This facility is our potato plantation in Karaman which was acquired in 2019. Our Karaman facility is responsible for 40% of our water withdrawal in our orchards and plantations. Karaman's revenue is %0,09 of Tekfen Holding's total global revenue.

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

Yesilirmak, Ceyhan, Tarsus, Marmara, Akarcay, Akdeniz, Gediz, Beysehir
Lake/Afyon

Type of risk & Primary risk driver

Regulatory

Higher water prices

Primary potential impact

Increased production costs

Company-specific description

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. This will directly cause an increase in our before-mentioned companies' and locations' production costs as they make up around 86.59% of our total water withdrawal.

Therefore, increasing water stress in our production locations might impact our bottom line if water prices increase considerably.

Timeframe

4-6 years

Magnitude of potential impact

High

Likelihood

Very likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

16,659,869

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

A large portion of Tekfen's total water withdrawal (88.36%) results from Toros Agri and Tekfen Agri activities. Both companies depend on water to carry on production. The water withdrawn from a dam and wells in Toros Agri's three production facilities and freshwater and groundwater withdrawn at Tekfen Agri's locations equals to 11.13 million m³. We are currently not paying any fees for water (8.59 million m³) at Toros Agri Plants. However, due to water stress, this may change in the future. If we base the prices on average water prices in Turkey in 2019 (around 1.94 USD/m³), we would have a USD 16.7 million (8.59 million m³ x 1,94 USD/m³) annual liability.

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 both in Toros Agri and Tekfen Agri Facilities (asset level) in line with the vision stated in our Water Policy highlighting the alignment with international initiatives such as SDG 6. A new project was implemented in 2018 for collecting and reusing all surrounding water between 10 megaliters to 15 megaliters (depending on the adequateness of conductivity and pH levels) in the sulfuric acid unit and demineralization unit in Samsun fertilizer plant. In addition, the establishment of new wastewater treatment and recovery plant in Mersin was included in the investment plan of Toros Agri. The facility is planned to be operational in 2022. Moreover, there is a planned investment to reuse the outlet of ammonia compressor cooling water in Samsun Plant instead of directly discharging. By doing this we aim to reuse up to 100 megaliters of water. As part of Tekfen Agri operations, maximized installation of efficient and new technology

irrigation systems (drip clips with up to 50% water savings and smart filtering automated systems up to 15% water savings) to eligible orchards were completed.

In the reporting period, Tekfen Agri invested in 9 Metos Meteorological Stations. The first phase was completed in all of the orchards and we have also invested in transmitters and additional units in two of our orchards.

In 2019 we also tried a new system called Manna for smart irrigation, where we can monitor the plantations via satellites and the system would suggest how much water is needed, when to irrigate, etc. We made a pilot application on 250 decares, but the results were not satisfactory, so we didn't extend this application. Instead we started using Satellite Monitoring Systems of Doctar.

Cost of response

10,680,000

Explanation of cost of response

The total investment amount for Toros Agri water efficiency projects implemented in 2019 was approximately USD 180,000 and new wastewater treatment and recovery plant investment which will be operational in 2022 will cost around USD 10,350,000. The cost of the smart irrigation system of Tekfen Agri was around 150,000 USD. The system will be completed by 2023.

Country/Area & River basin

Turkey

Other, please specify

Yesilirmak, Ceyhan, Tarsus, Marmara, Akarcay, Akdeniz, Gediz

Type of risk & Primary risk driver

Physical

Increased water stress

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

IPCC RCP 4.5 scenario projections foresee a decrease in mean precipitation and WRI Aqueduct Water Risk Atlas foresees an increase in baseline water stress risk levels in Turkey. Our operations are located in High and Extremely High water-stressed areas described by WRI Aqueduct Tool.

According to WRI Aqueduct Water Risk Atlas projected change in water stress (value in the year 2020 business as usual) is high (40-80%) to extremely high (more than 80%) in areas where our Agri-Industry companies Toros Agri and Tekfen Agri operate. Due to the effect of this potential increase in water stress and resulting water scarcity (may even be an inability to have access to enough quality and quantity of water), our fertilizer and recently acquired stone fruit production activities can be adversely affected.

A possible increase in water stress is considered a risk for production activities. Our

fertilizer plants need water for especially for the cooling of the systems. In the case of a lack of enough water, the production capacity can be reduced or stopped. According to the WRI Aqueduct Water Risk Atlas, Mersin and Ceyhan Plants are in a location in which the Baseline Water Stress defined as "Extremely High" and "High". This may force us to take new measures for water efficiency. It will cause the cost of new technologies that provide more efficient water usage to ensure the continuity of production.

Increased water stress poses a risk for Tekfen Agri as the fruits being produced needs a certain quality & quantity of water timely. In case of increased water stress, not only the production capacity but also the quality of the products yielded will also be negatively impacted, causing a further loss in revenue due to both reduced unit product price as well as less product compliant with customer requirements.

Timeframe

4-6 years

Magnitude of potential impact

High

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

33,525,807

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

As having enough freshwater is vital for especially our Agri-Industry, in the absence of enough water even to cause a 5% decrease in production capacity, Toros Agri's and Tekfen Agri's revenues will directly be affected.

In 2019, both companies' fertilizer and stone fruit production/sales related total revenue was around USD 670 million. Estimating a 5% loss in revenue due to this risk may result in a USD 33.5 million revenue loss.

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 both in Toros Agri and Tekfen Agri Facilities (asset level) in line with the vision stated in our Water Policy highlighting the

alignment with international initiatives such as SDG 6.

In Toros Agri Mersin plant we have finalized the project design of our new wastewater treatment and recovery plant which works in a fully closed cycle and converts 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. The facility is planned to be operational in 2022.

As part of Tekfen Agri operations, maximized installation of efficient and new technology irrigation systems (drip clips with up to 50% water savings and smart filtering automated systems up to 15% water savings) to eligible orchards were completed.

In the reporting period, Tekfen Agri's investments in the smart irrigation system continued. There are 3 phases of the investment;

- First phase involves the installation of fully sensed main meteorological stations in all of our plantations
- Second phase involves parcel based soil humidity sensor integration
- Third phase includes plant protection applications monitoring

Tekfen Agri has installed 9 Meteorological Stations and the first phase of the smart irrigation system was completed in all of the orchards.

In 2019 we have also tried a new system called Manna for smart irrigation, where we can monitor the plantations via satellites and the system would suggest how much water is needed, when to irrigate, etc. We made a pilot application on 250 decares, but the results were not satisfactory, so we didn't extend this application. Instead, we started using the Satellite Monitoring Systems of Doctar.

Cost of response

10,680,000

Explanation of cost of response

The total investment amount for Toros Agri water efficiency projects implemented in 2019 was approximately USD 180,000 and new wastewater treatment and recovery plant investment which will be operational in 2022 will cost around USD 10,350,000. The cost of the smart irrigation system of Tekfen Agri was around 150,000 USD. The system will be completed by 2023.

Country/Area & River basin

Turkey

Other, please specify

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

Type of risk & Primary risk driver

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 nitrate in low quantities are necessary nutrients. However, the 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 came 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 that 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, namely Calcium Ammonium Nitrate (CAN) and Ammonium Nitrate (AN) fertilizers. This will increase our compliance 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, a single figure estimate

Potential financial impact figure (currency)

30,402,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

Tekfen Agri revenue covering the sales of Nitrogen (N) containing fertilizers was 506.7 Million USD in 2019. Assuming a 1% additional compliance cost applied to these products; we would face a USD 5,1 Million additional cost.

Moreover, in the long run, this may result in a decrease in sales of these products as a result of probable limitations introduced to the fertilizers acceptable by authorities. If we include an estimation of a 5% drop in sales of these products (based on 2019 actual revenue) due to limitations, this may result in an additional USD 25.3 million potential loss. Therefore, a drop in sales and compliance costs would reach USD 30.4 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 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.

Cost of response

230,000

Explanation of cost of response

The cost of the response to this risk includes the total expenditure realized as part of farmer training project during the reporting period; USD230,000 which includes the cost of training materials, trainers, vehicles, App development, etc.

Country/Area & River basin

Turkey

Other, please specify

Yesilirmak, Ceyhan, Tarsus, Marmara, Akarcay, Akdeniz, Gediz

Type of risk & Primary risk driver

Reputation & markets

Increased stakeholder concern or negative stakeholder feedback

Primary potential impact

Brand damage

Company-specific description

We are aware that all stakeholder groups require companies to be responsible and manage their non-financial performance as well as their financial. As part of leading environmental concerns, GHG emissions and water consumption has become topics of great importance for stakeholders, especially investors. According to a leading international investor survey conducted by EY, we see that 97% of institutional investors now evaluate and make their investment decisions considering non-financial data including environmental aspects such as water management. As part of Tekfen operations, our Agri-Industry companies Toros Agri and Tekfen Agri have operations that use intensive water representing 86.59% of Tekfen Holding's total water withdrawal. Together with the fact that agricultural sector is among the ones that is likely to be impacted by climate change and other environmental impacts, and Turkey is expected to be one of the countries to be most affected by the water crisis, we can say that if we take no action to manage and transparently disclose our water performance, leading stakeholders such as investors but also shareholders, non-governmental organizations and customers would not consider our water management practices to be effective and sufficient. This can seriously damage Tekfen's brand reputation while causing a loss in stock prices as 47.88% of Tekfen Holding shares are traded in the Borsa Istanbul.

Timeframe

4-6 years

Magnitude of potential impact

High

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

6,472,800

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

The estimated potential financial impact figure was calculated with the assumption of 1% decrease in Tekfen Holding stock price due to brand damage resulting from the defined risk. In 2019 our average stock price was USD 3.72 for 174 million shares on

free float. Assuming a 1% decrease per share, we may be faced with a financial impact of USD 6.47 million. If no action is taken to prevent this risk or to reduce its impact, we may be facing this risk over the medium term (up to 5 years) with a risk of getting a higher potential financial over the long-term.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

Having placed great importance to our stakeholder expectations and brand value, we cautiously define our response strategy. Our recently published and publicly available Water Policy (2018), signed by our CEO, states our standpoint and principles regarding water management. Accordingly, Tekfen has been reporting to the CDP Water Security Program for the third year now to ensure the transparent disclosure of water management practices. In the context of Enterprise Risk Management, water-related risks and opportunities are included in our risk inventories, together with defined responsibilities for mitigation measures and following actions. We monitor our water withdrawal and discharge from 100% of our facilities. Another principle stated in the policy is to establish and operate a wastewater treatment plant where the local infrastructure is inadequate. Moreover, CDP water trainings were provided to Toros Agri and Tekfen Agri's white-collar employees to raise awareness. We also implement water efficiency initiatives as well as having close relations with public institutions, local water authorities and being an active member in leading NGO's on sustainability such as the Business Council on Sustainable Development (Turkish branch of WBCSD).

Cost of response

10,680,000

Explanation of cost of response

The total investment amount for Toros Agri water efficiency projects implemented in 2019 was approximately USD 180,000 and new wastewater treatment and recovery plant investment which will be operational in 2022 will cost around USD 10,350,000. The cost of the smart irrigation system of Tekfen Agri was around 150,000 USD. The system will be completed by 2023.

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

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.

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)

30,550,000

Potential financial impact figure - maximum (currency)

61,100,000

Explanation of financial impact

Toros Agri fertilizer sales are USD 611 million based on 2019 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 30,55million- USD 61,1 million) in Toros Agri revenues were considered based on 2019 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 42.8% with respect to 2018.

Cost of response

1,427,097

Explanation of cost of response

Toros Agri authored a first in Turkey's fertilizer-manufacturing industry by opening an R&D Center at its Mersin plant. This plant, which has been awarded by the Ministry of Industry and Technology certification, is the first center of its kind in Turkey devoted to plant nutrition and nutrients.

Engaging in scientific studies to meet the agricultural sector's demands and needs, the center gives priority to the development of new products that will help improve agricultural productivity. Employing a staff of 33 people, the center's goals include developing new products that will further diversify Toros Agri's plant nutrients portfolio as well as addressing such issues as improving existing products, developing production processes, optimization, production-related energy conservation, and reducing environmental impact.

The cost of response covers the initial investment made for Mersin Research and Development Center for the development of special fertilizer products (USD 715,000) was invested so far in as well as the operational cost of the R&D Center in the reporting period (USD 712,097).

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. We have increased special fertilizer sales by 42.8% with respect to 2018.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

12,400,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

The total fertilizer production of Toros Agri was 1,677 thousand tonnes in 2019. The specialty fertilizer portfolio was enriched by the addition of Toros Organomix (worm castings), CalMag, two new entries with new ingredients in the water-soluble NPK market (Nutriactive and Greenfeed) and FloraTech (lawn fertilizer) both with lower water needs and carbon footprint.

Toros Agri pioneered the specialty fertilizer product group in Turkey and continues to have a significant presence in it. The company's operations in this market continued to increase in 2019, with an increase in sales by 42.8% year-on and reaching a total of 41.1 thousand tonnes equivalent to;

(a) 2,4% of total production which is 0.6% higher than the previous year and

(b) increase in revenue of USD 12,4 million

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

An explanation of why this opportunity is considered strategic:

With the increasing water stress, improving water efficiency in our operations is a strategic opportunity for us, since we have water-intensive production activities. (e.g. fertilizer production, fruit production, hydro test, etc.). If we can't access the necessary amount and quality water, our operations will be affected adversely. Any measure we implement to achieve greater reduction in water withdrawal levels have also multi-benefits such as actual as well as potential future operating cost savings and reduced environmental impact while increasing our water security.

An explanation of the action to realize the opportunity:

To realize this opportunity, as a responsible corporate citizen, we have issued our Water Policy that includes principles, commitments. We have defined the roles and responsibilities of Top Management, Group Companies, employees, and our partners. In the reporting period, we have established an Environmental Working Group to develop water-related projects, comply with the principles and commitments mentioned in the Tekfen Holding Water Policy. At the asset level, we have started to measure and monitor critical water consumption and started to develop water-related projects.

A case study or example of the strategy in action:

As an example, to improve water efficiency in our operations, we have continued the installation of Smart Irrigation Systems (humidity sensors and meteorological stations) in our orchards.

The first phase of the Smart Irrigation System was completed in all of the orchards and we have also invested in transmitters and additional units in two of our orchards. Metos TR system will enable us to use up to 20% less water in irrigation practices. In 2019 we

also tried a new system called Manna for irrigation in Karaman plantation, where we can monitor the plantations via satellites and the system would suggest how much water is needed, when to irrigate, etc. We made a pilot application on 250 decares, but the results were not satisfactory, so we didn't extend this application. Instead, we started using Satellite Monitoring Systems of Doctar which will enable us to use up to around 15% less water in irrigation practices. In addition, Toros Agri's investment in Mersin Plant's Waste Water Treatment and Recovery Unit is ongoing and will be finalized by 2023.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

14,260

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

By installing smart irrigation systems (ex. METOS, Doctar- humidity sensors and meteorological stations) in Tekfen Agri orchards we expect to achieve around 15% water savings resulting in 310.000 m³ / year of potential savings.

By avoiding these water consumption, we created a monetary savings of USD 14,260 based on average 2019 water price (DSI- General Directorate of State Hydraulic Works unit irrigation water price was used in calculation; 0.046 USD/m³). Meanwhile, as a result of increased water stress, we expect irrigation water unit prices will increase much more in the medium and long term.

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)

84,616

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

80,299

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

4,317

Total water discharges at this facility (megaliters/year)

82,563

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

82,563

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

2,053

Comparison of total consumption with previous reporting year

Much higher

Please explain

Water withdrawal data from all sources are obtained via direct measurements. Third-party sources represent the municipal supplier and there is no withdrawal from fresh surface water or any groundwater sources.

Water is only discharged to the sea once it is used for; (a) cooling - without any processing and (b) for domestic use – after treated at 2 biological package wastewater treatment plants. The amount of water discharged is obtained via direct measurement done by a continuous measurement system and reported to the MoEU. There is no discharge to third parties, nor is any water we discharge is further used by other organizations.

Data provided in megaliters are obtained through direct measurement. Withdrawal amount has decreased by 29.06%, the discharge amount has decreased by 30.07% and the consumption has increased by 68.15%. The amount of decrease in withdrawal and discharge amounts are due to the systemic shut-down of our Sulphuric Acid Plant for 1 month.

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, if the Samsun plant is fully operational the water withdrawal and discharge figures are expected to increase. However, the consumption figure may remain the same as a result of our water-saving activities.

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)

3,526

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

3,526

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)

956

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

956

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

2,570

Comparison of total consumption with previous reporting year

Higher

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, nor is any water we discharge used by other organizations.

Data provided in megaliters are obtained through direct measurement. Withdrawal amount has increased by 6,17%, the discharge amount has increased by 6% and the consumption has increased by 6,24%.

The amount of increase realized between 2018 and 2019 has two major reasons:

- About 1 % increase in Nitric Acid production which consumes the majority of water
- Increase in average temperatures in the region resulting in the need for more cooling water

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 average temperatures are expected to rise as a result of climate change, we expect we may need more cooling water, 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)

749

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

749

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)

112

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

112

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

637

Comparison of total consumption with previous reporting year

Much higher

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 and consumption levels have increased by 14.91% and 44.38% respectively, while the discharge amount has decreased by 46.72%. The amount of increase realized between 2018 and 2019 can be explained as follows:

- More water is used in order to perform hydrostatic tests of the ammonia tank, and during the start-up phase to absorb ammonia in the gaseous phase into water.
- Due to a malfunction in Tayseb (Toros Adana Yumurtalık Free Zone) water pipeline, Ceyhan facility provided water to Tayseb, the neighbor of the facility.
- Due to maintenance activities involving changing of pipes in fire lines, we had to drain down the water pipes and then refill them again.

There was 16.86% increase in production volume at the Plant. 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 average temperatures are expected to rise as a result of climate change, we expect we may need more cooling water, which will result in an increase of all volumes.

Facility reference number

Facility 4

Facility name (optional)

Tekfen Agri's Karaman Potato Plantation

Country/Area & River basin

Turkey

Other, please specify

Beysehir Lake

Latitude

37.448333

Longitude

33.415833

Located in area with water stress

Yes

Total water withdrawals at this facility (megaliters/year)

2,142

Comparison of total withdrawals with previous reporting year

This is our first year of measurement

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

253

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

1,889

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)

472

Comparison of total discharges with previous reporting year

This is our first year of measurement

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

472

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

1,670

Comparison of total consumption with previous reporting year

This is our first year of measurement

Please explain

The plantation area is 2385 decares and in 2019 and 11,523 tons of potato was produced in this plantation.

This plantation solely is responsible for about 40% water withdrawals within Tekfen Agri operations. As this is our first year of measurement, we were not able to compare the reported volumes with the previous years.

The fresh surface water volume reported is the rainwater used at the plantation and this figure is calculated using meteorological data (average precipitation rate mm per region and was multiplied by the total area (m²) at relevant regions) and the Food and Agriculture Organisations of the United Nations (FAO) method was used to calculate the effective rainfall by the plants annually.

25% of renewable groundwater used for irrigation, was estimated as the discharge rate

of the plantation since the plants can't absorb all the water used in irrigation. Although the average temperatures are expected to rise as a result of climate change, we expect we may need more water for irrigation, but we are also implementing water efficiency measures to reduce the need for withdrawals, therefore we expect the volumes to remain the same in the future.

W5.1a

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

Water withdrawals – total volumes

% verified

Not verified

Water withdrawals – volume by source

% verified

Not verified

Water withdrawals – quality

% verified

Not verified

Water discharges – total volumes

% verified

1-25

What standard and methodology was used?

The wastewater discharged to the sea in Samsun, amounting 85.50% of our total water discharge as a Group, is monitored in real-time by the Ministry of Environment and Urbanisation (MoEU) through the Continuous Wastewater Monitoring System as per Continuous Wastewater Monitoring Tracking Systems Regulation.

This amount of discharge is due to Sulphuric Acid, STG, Ammonia Storage Unit, and Phosphoric Acid Units. All the discharge waters of the mentioned units are collected and delivered to the Deep Sea Discharge System. Discharge water is continuously pumped to the system. The water is continuously monitored by the MoEU. Continuous samples are taken on the final line where all the discharge waters of the facilities are collected. The parameters measured in the system are pH, conductivity, dissolved oxygen, flow rate, and temperature. Therefore, water discharge volume, destination, treatment method, quality parameters are continuously verified by MoEU.

The verification rate is 25% as only 1 out of 4 facilities has verified water data, however this facility is responsible for 98.17% of total discharges of these 4 facilities.

Water discharges – volume by destination

% verified

1-25

What standard and methodology was used?

The wastewater discharged to the sea in Samsun, amounting 85.50% of our total water discharge as a Group, is monitored in real-time by the Ministry of Environment and Urbanisation (MoEU) through the Continuous Wastewater Monitoring System as per Continuous Wastewater Monitoring Tracking Systems Regulation.

This amount of discharge is due to Sulphuric Acid, STG, Ammonia Storage Unit, and Phosphoric Acid Units. All the discharge waters of the mentioned units are collected and delivered to the Deep Sea Discharge System. Discharge water is continuously pumped to the system. The water is continuously monitored by the MoEU. Continuous samples are taken on the final line where all the discharge waters of the facilities are collected. The parameters measured in the system are pH, conductivity, dissolved oxygen, flow rate, and temperature. Therefore, water discharge volume, destination, treatment method, quality parameters are continuously verified by MoEU.

The verification rate is 25% as only 1 out of 4 facilities has verified water data, however this facility is responsible for 98.17% of total discharges of these 4 facilities.

Water discharges – volume by treatment method

% verified

1-25

What standard and methodology was used?

The wastewater discharged to the sea in Samsun, amounting 85.50% of our total water discharge as a Group, is monitored in real-time by the Ministry of Environment and Urbanisation (MoEU) through the Continuous Wastewater Monitoring System as per Continuous Wastewater Monitoring Tracking Systems Regulation.

This amount of discharge is due to Sulphuric Acid, STG, Ammonia Storage Unit, and Phosphoric Acid Units. All the discharge waters of the mentioned units are collected and delivered to the Deep Sea Discharge System. Discharge water is continuously pumped to the system. The water is continuously monitored by the MoEU. Continuous samples are taken on the final line where all the discharge waters of the facilities are collected. The parameters measured in the system are pH, conductivity, dissolved oxygen, flow rate, and temperature. Therefore, water discharge volume, destination, treatment method, quality parameters are continuously verified by MoEU.

The verification rate is 25% as only 1 out of 4 facilities has verified water data, however this facility is responsible for 98.17% of total discharges of these 4 facilities.

Water discharge quality – quality by standard effluent parameters

% verified

1-25

What standard and methodology was used?

The wastewater discharged to the sea in Samsun, amounting 85.50% of our total water discharge as a Group, is monitored in real-time by the Ministry of Environment and Urbanisation (MoEU) through the Continuous Wastewater Monitoring System as per Continuous Wastewater Monitoring Tracking Systems Regulation.

This amount of discharge is due to Sulphuric Acid, STG, Ammonia Storage Unit, and Phosphoric Acid Units. All the discharge waters of the mentioned units are collected and delivered to the Deep Sea Discharge System. Discharge water is continuously pumped to the system. The water is continuously monitored by the MoEU. Continuous samples are taken on the final line where all the discharge waters of the facilities are collected. The parameters measured in the system are pH, conductivity, dissolved oxygen, flow rate, and temperature. Therefore, water discharge volume, destination, treatment method, quality parameters are continuously verified by MoEU.

The verification rate is 25% as only 1 out of 4 facilities has verified water data, however this facility is responsible for 98.17% of total discharges of these 4 facilities.

Water discharge quality – temperature

% verified

1-25

What standard and methodology was used?

The wastewater discharged to the sea in Samsun, amounting 85.50% of our total water discharge as a Group, is monitored in real-time by the Ministry of Environment and Urbanisation (MoEU) through the Continuous Wastewater Monitoring System as per Continuous Wastewater Monitoring Tracking Systems Regulation.

This amount of discharge is due to Sulphuric Acid, STG, Ammonia Storage Unit, and Phosphoric Acid Units. All the discharge waters of the mentioned units are collected and delivered to the Deep Sea Discharge System. Discharge water is continuously pumped to the system. The water is continuously monitored by the MoEU. Continuous samples are taken on the final line where all the discharge waters of the facilities are collected. The parameters measured in the system are pH, conductivity, dissolved oxygen, flow rate, and temperature. Therefore, water discharge volume, destination, treatment method, quality parameters are continuously verified by MoEU.

The verification rate is 25% as only 1 out of 4 facilities has verified water data, however this facility is responsible for 98.17% of total discharges of these 4 facilities.

Water consumption – total volume

% verified

Not verified

Water recycled/reused

% verified

Not verified

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 Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages,	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 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. Our publicly available Water Policy can be found at our website and outlines our objective and lays out the path

		for example, due to climate change	<p>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> <p> 1</p>
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 1Tekfen Holding Water Policy.pdf

W6.2

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

Yes

W6.2a

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

Position of individual	Please explain
Board Chair	<p>Accountability on water-related issues starts at the top, with the Board Chair. There is a Corporate Governance Committee (CGC) which consists of two independent Board Members and Investor Relations Director is formed under the Board of Directors(BoD). BoD and CGC's water-related responsibilities include developing strategies and overseeing the management of climate-related risks and opportunities.</p> <p>Sustainability Committee (SC) is formed under the CGC in order to help the Board of Directors to oversee and effectively manage water and other sustainability-related issues with a holistic approach. The Committee is chaired by Deputy CFO who is also a member of the Executive Board. Working Groups including Environmental Working Group are formed under the SC. Environmental Working Group consists of environmental professionals from our group companies, including Technical Coordinator experienced on Energy and Facility Management of Tekfen Tourism, Project Coordinator experienced on wastewater and environmental projects from Tekfen Engineering, a Sustainability Expert experienced on biodiversity from Tekfen Construction, a Sustainability Expert experienced on LCA from Tekfen Agri, Deputy Quality Manager experienced on green building certifications from Tekfen Holding and a Sustainability Manager experienced on the other environmental issues from Toros Agri.</p> <p>Board Chair's responsibility is to approve water-related strategies and roadmap.</p>

Chief Executive Officer (CEO)	Tekfen Holding's CEO has the ultimate responsibility for the execution of the strategy approved by Board Chair. The CEO follows the reporting outcomes and reviews the improvement points identified for the short-medium and long term. Therefore, the CEO had an active responsibility while managing water-related issues in Tekfen Holding covering the whole content of this CDP disclosure.
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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>Board Members are informed regularly on climate- and water-related issues in the form of global trends as well as corporate performance, risks, and opportunities. CEO has the executive power for important issues such as strategy, risks/opportunities, targets, etc.</p> <p>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. 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.</p> <p>The Board of Directors reviews and guides business plans and approves annual budgets.</p> <p>Sustainability Committee sets performance targets and/or goals for climate change and water management while also monitoring the realization of climate change and water-related objectives on behalf of the Board of Directors. Changes in emissions & water usage data are also reported to the Board of Directors annually while water-related risks that are classified as over the critical threshold</p>

		<p>Reviewing innovation/R&D priorities</p> <p>Setting performance objectives</p>	<p>are directly reported to and evaluated by the Board as part of Corporate Risk Management process every two months if such cases arise. 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. One of these investment decisions was to build a new wastewater treatment and recovery plant at Toros Agri Mersin facility. The design phase of this project was finalized in 2019 and the investment will start in 2020. 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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W6.3

(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

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

As the Chairman of Top Management(TM), the CEO is responsible for providing governance & oversight over strategy, operations & management of the Holding & its Group Companies. CEO & other TM members hold bi-weekly meetings where they discuss & delegate the authority to manage day-to-day operations of the Company including water-related strategy. Risks & opportunities related to water are determined during Corporate Risk Management (CRM) studies & shared with CRM Directorate. The consolidated risks & opportunities are presented to the Risk Committee, CEO & CFO before they are presented to the Holding BoD. Risks & opportunities are reviewed & revised every 2 months where the ones that score higher than 16 are presented to the Holding BoD.

CEO's signature is also included in the Water Policy, where principles & commitments regarding water management are disclosed. Compliance with the policy is ensured by the HSE & Quality Coordinator, who reports directly to the CEO.

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

Other C-Suite Officer, please specify
Deputy CFO

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

Deputy CFO is the Chairman of the Sustainability Committee and also the member of the Top Management. The Deputy CFO briefs the Top Management that consists of the CEO and Group Vice Presidents regularly on current and emerging climate change- and water-related issues including material risks and opportunities together with overall water performance.

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

Sustainability committee

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

The Sustainability Committee is formed under the Corporate Governance Committee in order to help the Board oversee and effectively manage water-related issues with a holistic approach. The Sustainability Committee is regularly being notified on sustainability-related issues deemed crucial by the Holding HSE and Quality Coordinator who is also a member of the Sustainability Committee.

W6.4

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

Provide incentives for management of water-related issues	Comment

Row 1	Yes	In the reporting period 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
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W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Chief Operating Officer (COO)	Reduction in consumption volumes	In fertilizer production plants of Toros Agri, the COO (Vice President responsible for the Production of Fertilizer) has a target to reduce ton of water consumption per ton of product. 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. Achievement of annually set/revised targets and the Company’s success directly contribute to the COO’s performance score, resulting in monetary reward in the form of an increased salary or a bonus.
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?

Our commitments and principles in water management are announced on the Holding Water Policy. All of our Group Companies are requested to comply with this Policy. Most of our Group Companies, which make up 97% of Tekfen’s total turnover, have ISO 14001 Environmental Management System (EMS). Within the scope of the EMS, the withdrawal,

discharge and consumption requirements are documented. In addition to Tekfen's requirements, applicable legal requirements are also determined. Compliance to all requirements are ensured by Internal Audits, Third Party Audits and Holding HSE&Q Coordinatorship Audits.

The discharged water quality is tested periodically and reported to legal authorities when necessary. 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 and Urbanisation and determined water discharge quality parameters are monitored and recorded in real-time by the MoEU.

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)

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	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. 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 loss because of water-related issues. Therefore, water-efficient production, building environmentally friendly projects are another long-term objectives for us. 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

			<p>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>
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	<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 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 & will continue to remain so.</p> <p>In our workplaces, we consider the costs of water quality</p>

			<p>analysis, waste water treatment plants, waste water quality analysis and 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. By replacing membrane at demi water facility, renewal of compressors, collection and reuse of surrounding process waters in Samsun Plant, we will 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.</p>
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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)

1.34

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

239

Water-related OPEX (+/- % change)

12.66

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

10

Please explain

Since water relates awareness is raising, being a leader company, water-related risks are significantly important due to emerging regulation, financial impacts, climate change, stakeholder expectation and opportunities such as financial saving with water recycling. The stated % change values are directly calculated based on our financial data. Our water-related CAPEX has increased due to the acquisition of Gonen Energy. The increase in OPEX is due to the increase in water prices and also the acquisition of Gonen Energy.

We have also invested in 9 Metos Meteorological Stations in the reporting period which also resulted in an increase in our water-related CAPEX. We expect a significant (over 239%) increase in our water-related CAPEX due to planned Mersin Wastewater Treatment and Recovery Plant investment. Moreover, in line with our business strategy in Tekfen Agri agricultural operations, our water-related OPEX is also likely to increase by 10%.

W7.3

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

	Use of climate-related scenario analysis	Comment
Row 1	Yes	

W7.3a

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

Yes

W7.3b

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

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	Other, please specify RCP 4.5	We considered IPCC RCP 4.5 as a realistic scenario for the impacts of climate change in Turkey. According to RCP 4.5. scenario, 2013-2040, 2041-2070, 2071-2099 are considered as 3 defining time	Seeing the projections of RCP 4.5 climate scenario and it’s possible implications especially in southern Turkey, has encouraged us to evaluate water risks & adjust our strategy over long-term (5-30 years).

		<p>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. We consider these impacts especially important in our Agri-Industry operations. Our direct operations (Tekfen Agri orchards) and value chain will be directly impacted as a limited amount of water resources available will need to be used more efficiently. According to RCP 4.5 scenario, our Mersin and Ceyhan Plants are likely to face pressuring water stress beyond 2046.</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 R&D Center investment, we are looking to capitalize on the impacts of climate change in Turkey.</p> <p>We are aware that 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 including increasing productivity while achieving energy & water savings during production. Tekfen Agri is the only Turkish company engaged in this project.</p> <p>We evaluated only Turkish operations because our only overseas operations are the contracting projects of Tekfen Construction 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?

No, but we are currently exploring water valuation practices

Please explain

Turkey is still not among the water-poor countries. According to the approach of the basic economy, the price will always increase in direct proportion with the increasing demand to a scarce resource. That means water will be precious in the according to our climate-related scenario analyses by 2041 for Turkey.

At present, at Tekfen there is not an internal price process on water. Water valuation practices are an issue we intend to discuss in the upcoming periods with our Sustainability Committee.

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.</p> <p>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</p>

			<p>strategic goals & targets, we consider climate scenario projections (IPCC RCP 4.5), WRI Aqueduct Risk Atlas scenarios, Company/ Site-specific risks & opportunities, etc. All goals & targets are monitored at the corporate level (both Group Company & Holding Headquarters).</p> <p>Goal&Target examples: Our employees are the most valuable asset of Tekfen. Therefore Tekfen Holding has set a company-wide goal & target related to WASH services provision in the workplace. Toros Agri has set a business level goal of “Prevention of nitrate pollution”. Over application of fertilizers can cause nitrate pollution in groundwater sources. High concentrations of nitrates in the water table can cause drinking water to become toxic. So there is an increasing concern on nitrate pollution on the soil as well as water sources as a result of excess fertilizer use. Another example, Tekfen Agri has set a business & activity level goal of “Installation of smart irrigation systems at all of Tekfen Agri orchards by 2023”. Tekfen Agri has also set a business level & activity level target to “increase in CAPEX investments related to water withdrawal by at least 50% compared to 2018 in 2019”. Tekfen Construction Headquarter sets business level targets related to the releases of uncontrolled spills to land or water. Project sites also set targets to support this business-level target. The target realizations are monitored monthly by Tekfen Construction HSE&Q Department & Holding HSE&Q Coordinatorship.</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, Sanitation and Hygiene (WASH) services in the workplace

Level

Company-wide

Primary motivation

Risk mitigation

Description of target

Target: 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 the 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.

Rationale: This target 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.

Quantitative metric

Proportion of employees using safely managed drinking water services

Baseline year

2019

Start year

2019

Target year

2019

% of target achieved

100

Please explain

This is a year-on-year rolling target that was active in 2019. 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 2019, all potable water test results were 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 minimum responsibilities. We expect the same approach from 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.

Target reference number

Target 2

Category of target

Water withdrawals

Level

Business

Primary motivation

Recommended sector best practice

Description of target

Target: Tekfen Agri has set a target to increase its water-related investments by 50% compared to the previous year.

Importance: Water is a fundamental resource for our plantations and can be costly if not managed in the correct way. Monitoring weather and measuring soil moisture levels are the key factors for the success of agricultural operations. Managing irrigation with the meteorological stations and humidity sensors will give you a greater insight into protecting your water resource. The weather stations can predict your micro-climate in real-time by sensing moisture in the air, changes in temperature and wind speed amongst other indicators. Smart irrigation systems is a recommended sector best practice.

Companies that grow and sell agricultural products should make serious investments in order to be prepared for water stress.

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

% increase in investment related to this target category

Baseline year

2018

Start year

2019

Target year

2019

% of target achieved

100

Please explain

Installation of meteorological stations in the first phase of a smart irrigation system. With the realization of the second phase (installation of humidity sensors), our water withdrawals will decrease 15-20%. Therefore instead of “%reduction in total water

withdrawals”, we have chosen a “% increase in investment related to this category” as the quantitative metric.

The target was active in 2019. Our performance against this target was monitored annually.

Tekfen Agri took the first steps of smart irrigation systems in its orchards in 2018 and spent 40,000 USD for this purpose. In 2019, the installation of meteorological stations in all orchards was completed and 64,000 USD was spent on this investment. Therefore, the increase in CAPEX was 60% compared to the previous year. We can say that the target for this year has been successfully achieved.

W8.1b

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

Goal

Engagement with suppliers to help them improve water stewardship

Level

Company-wide

Motivation

Shared value

Description of goal

Goal: To establish and effectively implement the supply chain assessment system in all our Group Companies in order to decrease supplier-related water impacts.

Importance: Sustainability is a growing concern in Tekfen and it is changing the way business is done. In our industries, the challenges to sustainability are external and dependant on suppliers. The impact of the supply chain on the environment is primarily negative. According to a report from the McKinsey Institute, over 90% of the environmental damage caused by companies that package consumer goods come from their supply chains. As we realize the importance and weight supply chains have, their priority is to find ways of holding the suppliers accountable.

Implementation: Tekfen has issued a Supply Chain Policy. We prefer goods and services that are produced from responsible (sustainable) sources that make use of resources effectively and in harmony with the natural environment. Tekfen also expects its suppliers and subcontractors to protect the environment, use natural resources efficiently, and take measures to reduce their carbon and water footprints by keeping track of their GHG emissions and water consumption. Tekfen has started applying sustainability scores using a supplier scorecard. Our company-wide goal is to establish and effectively implement the supply chain assessment system in all our Group Companies. The progress for this goal is reported to the Sustainability Committee.

Baseline year

2019

Start year

2019

End year

2023

Progress

Evaluating the supply chain within the scope of sustainability is a new issue for Tekfen. Working with the highest number of suppliers among the Group Companies, Tekfen Construction started this process in 2018, and the process was improved in 2019. Continuous improvement studies on the subject continue every year. Our goal is to implement these efforts for all critical suppliers that our other companies do business with. Our goal has been achieved by 10.8% in 2019.

Goal

Engaging with customers to help them minimize product impacts

Level

Business

Motivation

Corporate social responsibility

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 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 2019, 10,724 plantations belonging to 9,762 farmers were included in the Toros Farmer database. When the number of distributors (1,264) and authorized dealers are taken into consideration a total of 11,026 members actively use this app. In 2019, suggestions for “Bread Wheat” plantations were created the most. After that, the most popular plants were Grain Corn, Sunflowers, and Cotton respectively. In 2019 we have performed 3,651 visits to our distributors, 4,996 visits to Farmers, 269 meetings with agricultural companies, and 39 marketing activities (meetings, presentations, expos). We have also performed 156 educational activities with our Toros Farmer Education Bus and 15 Drone Flights. We have reached 10.03% of all wheat fields in the country through our Toros Farmer App. To measure the success, 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 are monitored.

Goal

Promotion of sustainable agriculture practices

Level

Business

Motivation

Water stewardship

Description of goal

Goal: To install smart irrigation system at all of Tekfen Agri orchards.
Importance: Access to sufficient and good quality water is very important in Tekfen Agri’s fruit production and handling processes. Considering the gradually increasing water stress, the demands of other stakeholders in the basin, and the changes in the rainfall regime, efficient use of water resources is vital for our orchards. Therefore, completing the installation of smart irrigation systems in all of our orchards is one of our important water-related goals.
Implementation: Smart irrigation systems are a combination of advanced technology of sprinklers with nozzles that improve coverage and irrigation controllers that are watering and water conservation systems that monitor moisture-related conditions on your property and automatically adjust watering to optimal levels. The smart irrigation system has 3 phases and Tekfen Agri has completed the first phase that includes installation of fully sensed meteorological stations to all its orchards.

Baseline year

2018

Start year

2019

End year

2023

Progress

The smart irrigation system has 3 phases:

- First phase involves the installation of fully sensed main meteorological stations in all of our plantations (Meteorological stations have been installed at all of our orchards)
- Second phase involves parcel based soil humidity sensor integration.
- Third phase includes plant protection applications monitoring

The first phase of smart irrigation systems has been completed in all 10 orchards out of 10. The humidity sensor installation has been completed in 5 orchards out of 10 and the humidity sensor installation in the other 5 orchards will be completed by 2022. The installation of plant protection modules, the last phase, will be completed in all orchards by 2023.

The evaluation of success is measured by the ratio of the number of orchards in which a smart irrigation system is installed to the total number of orchards.

Considering all three phases, the meteorology station installation is 100% complete, the humidity sensor installation is 50% complete, and the plant module protection has not yet begun.

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.

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	President and Chief Executive Officer	Chief Executive Officer (CEO)

W10.2

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

Yes

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms