W0. Introduction

W0.1

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

Eti Soda has a partnership structure whose 74% share belongs to Ciner Group, being a leading organization in mine, energy and media sectors in Turkey and whose 26% share belongs to Eti Mining Corporation being a government entity.

The company is **the first and natural soda production plant within Europe**. Eti Soda Inc. was established in 1998 to extract, operate and bring in economy TRONA MINE reserves, found coal boring operation carried out in Beypazarı, Ankara in 1979.

In order to reach the vision of becoming a world leading brand, Eti Soda is continuously improving product and service quality via **ISO 9001, ISO 14001, ISO 22000, ISO 14064, ISO14046ISO 50001, ISO 27001, ISO 45001, ISO 37001, ISO26000, ISO/IEC 17025 management systems and certifications**. To provide safety of the chemical products exported upon the human health and environment, **Eti Soda has completed the regulations determined in the REACH Legislation**, which is effective in the European Union Countries. Eti Soda has also become a signatory to UN Global Compact and has endorsed the CEO Water Mandate.

TRONA MINE is extracted from the ground by the soliton mining method, which is a **safe and environmentally friendly operating technique**.

The TRONA solution is taken into the monohydrate process and converted to the Sodium Carbonate and Sodium Bicarbonate products. The products of Eti Soda, which are used in many sectors such as glass production and baking powder, are exported all over the world, especially to European countries.

Eti Soda is a producer of Sodium Carbonate and Sodium Bicarbonate with an annual production of 1.7 million tonnes.

In 2010, we established a GHG management system in our facilities under operational control. We calculated our Scope 1, Scope 2 and Scope 3 emissions per ISO 14064-1 standard. Since then, we are calculating our emission internally, per annum. For 2019, reporting period we had an onsite verification for our Scope 1 and 2 emissions by a third-party certification body. Our base year was set as 2012 and we are sharing our base year emissions data and emission reduction targets in this report.

Within continuous improvement perspective, Eti Soda added a new project among the social and environmental responsibility projects by obtaining the EPD (Environmental Product Declaration) certificate on 07.12.2017. Nowadays, the environmental details of products gain more and more importance in ensuring communication between organizations or manufacturer-consumers. With this regard, the EPD certificate constitutes a foundation for the evaluation of the environmental performances of the manufacturer and consumers. One of its most important contributions is that it supports Sustainable Production. The EPD certificate allows an environment friendly and more economic production in financial terms by ensuring the reduction of the use of resources in the production process. Eti Soda Inc. which is the number one in soda production in the world, has become the first and only soda producer of the world which holds an Environmental Production Declaration Certificate in Sodium Carbonate and Sodium Bicarbonate production with the purpose of reinforcing its mission of “Introducing our high quality and natural products into economy by making use of an untouched equity of our country with an environment and human oriented approach, with the consciousness of our social responsibility, with a dynamic, productive and innovative team”. The works of EPD – Environmental Product Declaration carried out by Eti Soda Inc. are prepared as per the ISO 14025 standard and ISO 14040/44 which is an LCA – Life Cycle Assessment standard, are approved by independent accredited validators and are published in The International EPD System platform which holds an international accreditation.

LCA studies and EPD certifcates are living documents and valid for 5 years set for the EPD Programme Operators.

Although it has been less than 3 years since the issuance of our first EPD certificate, we have renewed both our EPD and LCA studies in 2020. Our registered EPD certificate can be reached at: https://www.environdec.com/Detail/?Epd=13275

For more information on Eti Soda:http://www.etisoda.com/en/home-page/

W-MM0.1a

(W-MM0.1a) Which activities in the metals and mining sector does your organization engage in?

Activity	Details of activity
Mining	Other mining, please specify (Trona Ore)

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 2020	December 31 2020

W0.3

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

Turkey

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

TRY

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	Neutral	Direct: We apply solution mining method; therefore, we need good quality water during the Trona mine extraction process. In addition to that, steam is used in sodium carbonate and sodium bicarbonate producing process. Therefore, availability of sufficient amounts of good quality freshwater is of vital importance for our operations. If sufficient amount of water is not supplied, the production activities will be affected negatively. (Production capacity will decrease thus results in a financial impact.) In the case of no water supply, the production will stop after approximately 29 hours. As our operational activities will remain the same in the future the direct use importance rating will remain the same. Indirect: Sufficient amounts of good quality freshwater availability is important for Eti Soda's suppliers and customers. However, from a life-cycle point of view, our product lies at the cradle stage for many products, and although we also use some raw materials during extraction and production, our raw materials only make-up 4-5% of our total upstream impacts. Also, we don't use any raw materials that are criticial in such a way that we are dependent on a few suppliers around the world. This is why the indirect use importance rating is selected as neutral. Another important issue in our value chain is our customers, however as our products are used in many different sectors and applications, their dependence on freshwater availability differs from process to process. As we are unable to analyze all of our customers' dependency on water, the indirect use importance rating is given as neutral as well. For future scenarios, although climate scenarios predict an increase in water stress in most of the world, we believe the future water dependency importance rating will remain the same, as we always have an option to diversify our supply chain operations.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Not very important	Direct: Majority of the water we use is fresh surface water which we supply from a nearby dam. We also use recycled water, which we obtain via condensing the steam which is used in the proses. Recycled water counts only for 15-20% percent of our water demand. At Eti Soda, water recovery/recycling by all our operations and 100% of facilities on a monthly basis are being monitored and recorded by water meters and flowmeters. As recycling reduces our withdrawal volumes from fresh surface water, thus reducing our environmental impact and costs, the importance rating is selected as "important". As we would be able to sustain our operations without the recycled water, we didn't assess the rating to be vital. In the future we expect the importance rating to remain the same. Indirect: In our value chain, our product, being a raw material for many industries is at the very start of the life cycle. Therefore, as we don't have many raw materials that are used in our production, and in our downstream value chain we are unable to predict the production processes and their dependency on recycled water, the indirect importance rating is assessed to be not very important. In the future we expect the importance rating to remain the same as we have no plans for diversifying our product range.

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%	At Eti Soda, we have only one facility, and 100% of water withdrawals by total volume is measured continuously via water meters at our facility. The withdrawal volumes are recorded daily.
Water withdrawals – volumes by source	100%	Sarıyar Dam is the only Water Source of Eti Soda. Therefore, we also measure 100% of water withdrawal volume by source continuously via water meters. The withdrawal volumes are recorded daily. As there is only one facility, 100% of the facility withdrawal volumes by source is measured and monitored.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector]	100%	We have only one mining site, therefore 100% of the entrained water associated with our activities in this site is monitored. We use our own patented solution mining technology where we inject heated water into the underground ore body, which then dissolves the trona forming brine solution. The brine is then extracted to the surface, and pumped to a central processing facility. During this process the water entrained in the trona ore also mixes up with the brine. This amount is calculated using the molecular composition and molecular weight of the trona ore.
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	At Eti Soda, we only have one facility and we monitor the quality of 100% of the water we withdraw from Sarıyar Dam at our facility. We analyze the water in our ISO 17025 certified laboratory. The chemical analysis of the water is performed daily, and microbiologic analysis are performed montly. The analyzed parameters are: pH, conductivity, total hardness, p-m alkanite, sodium chloride, TOC, total iron, suphate, silica, free CO2, Suspended solids, turbidity, total chlorine and e.coli.
Water discharges – total volumes	100%	At Eti Soda,we have an industrial waste water treatment plant (WWTP) and a domestic WWTP. 100% of the total volume discharged from these two facilities are monitored continuously via flowmeters. The discharge volume is recorded daily from these flowmeters. All the water discharge at Eti Soda, is made from these two treatment plants.
Water discharges – volumes by destination	100%	As stated above we have two waste water treatment plants where all of our water is treated to be discharged. We continuously monitor 100% of our discharge volumes by destination via flowmeters. 100% of the water treated in our domestic WWTP is discharged to Beyseri River's dry waterbed, and 100% of the water treated in our industrial WWTP is discharged to Zaviye River's dry waterbed. We have no other discharge destination.
Water discharges – volumes by treatment method	100%	At Eti Soda, waste water from different processes is treated in different WWTPs. As stated above, we have an industrial waste water treatment plant (WWTP) and a domestic WWTP. Depending on the pollution load, different degrees of treatment may be required, hence separate WWTPs are a necessity. We continuously measure the amount of water treated at and discharged from these two WWTPs via flowmeters. The meter readings are recorded daily by Eti Soda staff.
Water discharge quality – by standard effluent parameters	100%	At Eti Soda we have one facility and the water discharge volumes by effluent parameters are always monitored at this facility because we have to be in line with legal permits while discharging our waste water. The discharge water from both treatment facilities is analyzed weekly in our ISO 17025 certified laboratory, and water samples are also sent to an accredited independent laboratory for analysis. The external independent laboratory analysis is performed every 15 days for our industrial WWTP, and every 2 months for our domestic WWTP.
Water discharge quality – temperature	100%	At Eti Soda, we have two waste water treatment plants. The discharge water temperature from both of these treatment plants are monitored continuously with online analyzers. The temperature measurements from both waste water treatment plants are recorded daily.
Water consumption – total volume	100%	At Eti Soda, we have only one facility and the water consumption in this facility is measured and monitored 100%. However, the measurement of consumption volumes is though a formula where we deduct the discharge volumes from withdrawal volumes to get the consumption figures. As withdrawal and discharge volumes are continuously measured and daily recorded, we also calculate and record our consumption figures daily.
Water recycled/reused	100%	At Eti Soda, water recovery by all our operations and 100% of facilities on a monthly basis are being monitored and recorded by water meters and flowmeters. Recycling is an important issue in our factory. This is stated in our company policy. Since 2015, steam losses in condensate tanks have been reduced by heat recovery heat exchangers, saving an average of 18,290,555 kWh/year of energy and avoiding 27,741 metric tons/year of CO2 emissions.
The provision of fully-functioning, safely managed WASH services to all workers	100%	At Eti Soda, access to clean water and a hygienic working environment are an integrated part of Health and Safety management approach. The primary concern is health of our workers and local people affected by our mining operation within the mining site. At Eti Soda we have a water softening plant, and the fresh surface water withdrawn from Sarıyar Dam is treated in this plant before being sent to the facility to be used as tap water. The water produced at this softening plant is in compliance with the Regulation on Waters for the Purpose of Human Consumption. We always analyze the quality of withdrawn water and make sure that water that doesn't fit our high sanitation standards is not sent to tap water. Drinking water is also tested regularly.

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	3698.28	About the same	We withdraw water from Sarıyar Dam & the withdrawal volumes are measured continuously via flow-meters & recorded daily & these volumes are also checked & agreed upon by two state institutes for invoicing purposes. EUAS (Electricity Generation Company) is the state company that operates the Hydroelectric Power Plant to generate electricity from the Sarıyar Dam. As we are using the water of this dam, we annually pay a fee to EUAS for the loss of generation potential. DSI (State Hydraulic Works) also checks the withdrawal volumes & invoices Eti Soda annually. There is also entrained water associated with the mining activities, when the ore is dissolved in the heated water which is injected underground, the water entrained in the ore also mixes up with the brine. In the previous reporting period, we didn't include entrained water in our calculations, this year we have also calculated the value for 2019, the comparison is made with the revised withdrawal figure which includes the entrained water. In the reporting period withdrawals increased slightly (5%) from 3,522.19 ML in 2019 to 3,698.28 ML in 2020. The reason for this increase is, due to Covid-19 we had to stop our operations a few times & to restart the operations we need more water and more energy. Our production processes are extremely water dependant. In the future, especially in 2021 we expect this volume to be slightly lower, as we will have less stops. Water management is the integral part of our risk management & production management approaches. Thresholds for comparison: In the 2020, we have redefined the threshold definitions to reflect our operational procedures better. +/-10% "about the same"; +/-10-25% "higher/lower" & over 25% change is classified as "much higher/much lower". As the increase in withdrawal volumes is only 5,00%, it is classified as "about the same" No significant uncertainty has been detected with the water withdrawal amount since our flow meters have always been calibrated.
Total discharges	623.66	Higher	At Eti Soda, Water discharges – total volumes at both industrial and domestic wastewater treatment plants are being measured continuously and recorded daily. When compared to the previous reporting period, our discharge volumes have also increased from 540.60 ML in 2019 to 623.66 ML in 2020 which equals to an increase of 15.36%. The reason for this increase is, due to Covid-19 we had to stop our operations a few times, and to restart the operations we need more water and more energy. As we have withdrawn more water, our discharge volumes have also increased. Natural Sodium Carbonate and Sodium Bicarbonate production highly depends on water. Water is an essential part of our processes. In the future, especially in 2021 we expect this volume to be slightly lower, as we will have less stops. Thresholds for comparison: In the reporting period, we have redefined the threshold definitions to reflect our operational procedures better. +/-10% "about the same"; +/-10-25% "higher/lower" and over 25% change is classified as "much higher/much lower". As the increase in discharge volumes is 15.36%, it is classified as "higher" No significant uncertainty has been detected with the water discharge amount since our flow meters have always been calibrated.
Total consumption	3074.63	About the same	At Eti Soda, water consumption defined as the volumes of water lost due to evaporation in the unit processes (e.g. calcination, crystallization). We calculate the consumption figure using the formula Consumption(C) = Withdrawal(W) – Discharge(D) In the previous reporting period, we didn't calculate the impact of the entrained water, so this year we have also calculated the water content of the ore and revised our calculations for 2019. When compared to the previous reporting period, our consumption figure has also increased slightly from 2,981.59 ML in 2019 to 3,074.63 ML in 2020 which equals to a 3.12% increase. The reason for this increase is, due to Covid-19 we had to stop our operations a few times, and to restart the operations we need more water and more energy Natural Sodium Carbonate and Sodium Bicarbonate production highly depends on water. Water is an essential part of our processes. In the future, especially in 2021 we expect this volume to be slightly lower, as we will have less stops. Thresholds for comparison: In the reporting year, we have redefined the threshold definitions to reflect our operational procedures better. +/-10% "about the same"; +/-10-25% "higher/lower" and over 25% change is classified as "much higher/much lower". As the increase in consumption volumes is 3.12%, it is classified as "about the same" No significant uncertainty has been detected with the water withdrawal and discharge volumes since our flow meters have always been calibrated. Therefore as the consumption figure is calculated using these two continuously measured figures, it can be stated that there is also no significant uncertainty for the consumption figure as well.

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	76-99	About the same	WRI Aqueduct	For the reporting period, 86.14% of our water withdrawals come from Sarıyar Dam which is about 30 kms South of Eti Soda. Sarıyar dam is primarily fed by Sakarya River, and 3 tributaries of Sakarya river, namely Aladağ, Kirmir and Gürleyik streams. Although Sarıyar Dam is 30 kms away from our facility as 86.14% of our water withdrawals come from this Dam, we used the location of this Dam in order to assess whether we are withdrawing water from water stressed areas. In WRI Aqueduct water risk atlas tool, for this location baseline water stress is given as Medium-High (20-40%) and overall water risk is also Medium High (2-3) however in future scenarios, both optimistic and pessimistic, the water stress levels are given as Extremely High (>80%).As a result of this assessment, it is obvious that 86.14% of our withdrawal volume is from a water stressed area. Remaining 13.86% is the entrained water which is naturally occurring in the trona ore. In the solution mining technology that we use, we inject heated water into the underground ore body, which then dissolves the trona ore, forming a brine solution. During this process, the water entrained in the ore also mixes up with the brine solution as it is being extracted to the surface. The water entrained in the ore is naturally occurring in the ore and cannot come from an underground stream, as trona is water-soluble. If there was a water-stream it would dissolve the ore and we would not be able to mine the ore. Therefore, we don't include the amount of entrained water into our water stress level analysis. As a matter of fact, as water is naturally occurring in the trona ore, it reduces our withdrawal volumes from fresh water resources. Also, with our LCA study water scarcity has been calculated in SimaPro LCA software via -Berger et al 2014 (Water Scarcity) which analyses the vulnerability of basins to freshwater depletion and via -Pfister et al 2009 (Water Scarcity). This water scarcity indicator (WSI) is based on a withdrawal to availability (WTA) ratio and modelled using a logistic function (S-curve) in order to fit the resulting indicator to values between 0.01 and 1 m3 deprived/m3 consumed. The curve is tuned using OECD water stress thresholds, which define moderate and severe water stress as 20% and 40% of withdrawals, respectively. Data for water withdrawals and availability were obtained from the WaterGap model. Results of this WSI are presented in our EPDs and our EPD certificate was verified and uploading phase of the report in progress. Check on our EPD and more information: https://www.environdec.com/Detail/?Epd=13275

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	3185.57	About the same	We apply solution mining method; therefore, we need good quality water during the Trona mine extraction process. In addition to that, steam is used in sodium carbonate and sodium bicarbonate producing process. Therefore, availability of sufficient amounts of good quality freshwater is of vital importance for our operations. We withdraw water from Sarıyar Dam, and the withdrawal volumes are measured continuously via flow-meters. The withdrawal amounts are recorded daily. In the reporting period the withdrawal figures increased slightly (6.55%) from 2,989.88 ML in 2019 to 3,185.57 ML in 2020. The reason for this increase is, due to Covid-19 we had to stop our operations a few times, and to restart the operations we need more water and more energy. Thresholds for comparison: +/-10% "about the same"; +/-10-25% "higher/lower" and over 25% change is classified as "much higher/much lower". As the increase in withdrawal volumes is only 6.55%, it is classified as “about the same”
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	Sarıyar Dam, from which we supply fresh surface water, is the only Water Source of Eti Soda. Except from Sarıyar Dam, the only relevant water source is the water that is entrained in the trona ore which is naturally occurring.
Groundwater – renewable	Not relevant	<Not Applicable>	<Not Applicable>	Sarıyar Dam, from which we supply fresh surface water, is the only Water Source of Eti Soda. Except from Sarıyar Dam, the only relevant water source is the water that is entrained in the trona ore which is naturally occurring.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Sarıyar Dam, from which we supply fresh surface water, is the only Water Source of Eti Soda. Except from Sarıyar Dam, the only relevant water source is the water that is entrained in the trona ore which is naturally occurring.
Produced/Entrained water	Relevant	512.72	About the same	We apply solution mining method, where the ore is dissolved in the water and the moisture content of the ore mixes up with the brine. In the previous reporting period, we didn’t include entrained water into our calculations, this year we have also calculated the value for 2019, the comparison is made with the revised withdrawal figure which includes the entrained water. When compared to 2019, amount of entrained water withdrawn has decreased slightly from 532.32 ML to 512.72 ML, which translates to a decrease of 3.68%. The reason for this decrease is due to Covid-19 our production figure was lower than the previous year, as we have extracted less ore, we have extracted less entrained water. Thresholds for comparison: +/-10% "about the same"; +/-10-25% "higher/lower" and over 25% change is classified as "much higher/much lower". As the decrease in entrained water is only 3.68%, it is classified as “about the same”
Third party sources	Not relevant	<Not Applicable>	<Not Applicable>	Sarıyar Dam, from which we supply fresh surface water, is the only Water Source of Eti Soda. Except from Sarıyar Dam, the only relevant water source is the water that is entrained in the trona ore which is naturally occurring.

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	623.66	Higher	At Eti Soda, we discharge to dry river beds (which is classified as fresh surface water). Water discharges – total volumes at both industrial and domestic wastewater treatment plants are being measured continuously and recorded daily. When compared to the previous reporting period, our discharge volumes have increased from 540.60 ML in 2019 to 623.66 ML in 2020 which equals to an increase of 15.36%. The reason for this increase is, due to Covid-19 we had to stop our operations a few times, and to restart the operations we need more water and more energy. As we have withdrawn more water, our discharge volumes have also increased. Thresholds for comparison: +/-10% "about the same"; +/-10-25% "higher/lower" and over 25% change is classified as "much higher/much lower”. As the increase in discharge volume is15.36%, it is classified as “Higher”
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	We don’t discharge to brackish surface water. Our discharge permit includes discharge to two separate dry river beds. In the previous years, we have mistakenly reported this discharge as “discharge to brackish surface water”, this year we changed the discharge destination in order to reflect our processes.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	We have two waste water treatment plants, and all our discharge is made from these two plants. Both plants discharge to dry riverbeds so we do not have any discharge to groundwater.
Third-party destinations	Not relevant	<Not Applicable>	<Not Applicable>	We have two waste water treatment plants, and all our discharge is made from these two plants. Both plants discharge to dry riverbeds so we do not have any discharge to third party destinations.

W1.2j

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

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	We do not have a tertiary treatment facility in our plant. We have two waste water treatment plants one is for domestic waste water and the other is for industrial waste water.
Secondary treatment	Relevant	34.68	About the same	100%	We have secondary treatment in our domestic waste water treatment plant. The amount of water treated in this plant decreased slightly from 35.31 ML in 2019 to 34.68 ML in 2020 (1.76% decrease). The reason behind this decrease is the covid-19 pandemic related shut down of operations. As we had to shut-down our operations several times in 2020, we used less water for domestic purposes, hence less water was treated in the Domestic WWTP. We expect this volume to increase slightly as we return to our normal level of operations. The discharge standards are determined according to the relevant tables on “Water Pollution Control Regulation” depending on the discharge destination’s profile and the characteristics of the discharge water. The discharge water is analyzed weekly at Eti Soda laboratories and a sample is also sent to an independent laboratory approved by the Ministry of Environment and Urbanization every two months. The alalysis results are submitted to the MoEU’s online system. The analyzed parameters are: pH, COD, BOD and Suspended Solids. Thresholds for comparison: +/-10% "about the same"; +/-10-25% "higher/lower" and over 25% change is classified as "much higher/much lower”. As the decrease in treatment volume is only 1.76%, it is classified as “about the same”
Primary treatment only	Relevant	588.98	Higher	100%	We have primary treatment in our industrial waste water treatment plant. The amount of water treated in this plant increased from 505.30 ML in 2019 to 588.98 ML in 2020 (16.56% increase). The reason behind this increase is the covid-19 pandemic related shut down of operations. As we had to stop and re-start the operations more than usual, we had to use more water, as a result we also produced more waste water. We expect this volume to decrease slightly as we return to our normal level of operations. The discharge standards are determined according to the relevant tables on “Water Pollution Control Regulation” depending on the discharge destination’s profile and the characteristics of the discharge water. The discharge water is analyzed weekly at Eti Soda laboratories and a sample is also sent to an independent laboratory approved by the Ministry of Environment and Urbanization every two weeks. The alalysis results are submitted to the MoEU’s online system. Analysis parameters for industrial wastewater: pH, fish bioassay, oil-grease, COD, chloride, sulfate, iron Thresholds for comparison: +/-10% "about the same"; +/-10-25% "higher/lower" and over 25% change is classified as "much higher/much lower”. As the increase in treatment volume is 16.56%, it is classified as “higher”
Discharge to the natural environment without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	We never discharge to natural environment without treatment. This is against our discharge permits.
Discharge to a third party without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	We don’t discharge to any third-party destinations without treatment.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	We don’t have any other type of discharge.

W-MM1.3

(W-MM1.3) Do you calculate water intensity information for your metals and mining activities?

Yes

W-MM1.3a

(W-MM1.3a) For your top 5 products by revenue, provide the following intensity information associated with your metals and mining activities.

Product	Numerator: Water aspect	Denominator	Comparison with previous reporting year	Please explain
Sodium Carbonate and Sodium Bicarbonate	Total water withdrawals	Ton of final product	Higher	We use total water withdrawn per ton of product (both for sodium carbonate and sodium bicarbonate) as a metric internally for tracking our water performance. When calculating the water intensity, we don’t take into account the entrained water as it is already present in the ore. We only use the amount of water withdrawn from Sarıyar Dam. In 2020 water intensity was 1.81 m3 water/ 1 ton of Sodium carbonate/sodium bicarbonate. Sodium carbonate and sodium bicarbonate production lines are integrated together. Both products are manufactured from the same Trona solution, so we don’t have any way to separately calculate the water intensity for each product. Water intensity has increased from 1.61 m3/ton in 2019 to 1.81 m3/ton in 2020 (12.41% increase) The reason for this increase is, due to Covid-19 we had to stop our operations a few times, and to restart the operations we need more water and more energy. Our strategy to reduce the water intensity of our product, we are constantly working on efficiency measures, both on the withdrawal side and on the production side, however, when there are too many stops in the process like it was the case for 2020, the withdrawal amounts increase substantively due to the nature of our operations. In the future we expect this intensity figure to decrease as we will be having less stops. Thresholds for comparison: +/-10% "about the same"; +/-10-25% "higher/lower" and over 25% change is classified as "much higher/much lower”. As the increase in water intensity volumes is 12.41% it is classified as “higher”

W1.4

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

Yes, our suppliers

Yes, our customers or other value chain partners

W1.4a

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

Row 1

% of suppliers by number
26-50

% of total procurement spend
51-75

Rationale for this coverage
In order for Eti Soda's business and operations to be continued with no interruption, we have to manage supply chain processes efficiently. To manage an efficient procurement process, we make regular supplier assessments. We monitor our active suppliers (which make up 86% of our total procurement spend), on environmental issues, including water-related issues. In our active suppliers list, the suppliers that have over 1% share in our procurement spend, are prioritized in engagement activities, however we try to reach all of our active suppliers every year. We engage our suppliers through our Procurement policy, our Sustainability Reports, Contract negotiations, and Supplier Sustainability Assessment Questionnaire. According to our procurement policy, a supplier has to complete our Supplier Sustainability Assessment Questionnaire. Our supplier engagement method creates an opportunity to better understand our influence over our supply chain and gives us an understanding of what is needed by our suppliers in terms of sustainability. During the reporting period, the Supplier Sustainability Assessment Questionnaire was sent to all of our active suppliers, and 28% of them by number reported back sufficiently on water related questions. As an incentive for the suppliers to report, the suppliers that have a sufficient score in their sustainability assessment questionnaire are qualified to be included in our "Approved Supplier List"

Impact of the engagement and measures of success
We request information from our suppliers about their company quality systems (ISO 9001, ISO 14001, ISO 22000, BRC, ISO27001 etc.) and their product certifications and water withdrawals by source by sending them questionnaires. Those questionnaire results are evaluated by Eti Soda and site visits are arranged to control whether the information provided from our suppliers is correct and valid. According to our Procurement policy, we assess our suppliers per Supplier Sustainability Assessment Questionnaire results with 4 categories. We can find out Corrective and Preventive Actions (CAPA) for our suppliers and we give training at supplier engagement days. Our suppliers are given time to accommodate the identified CAPAs. Also, we evaluate the information provided and determine whether we will continue to work with our suppliers according to questionnaire results. The success of supplier engagement on water-related issues, is measured by percentage (by procurement spend) of the active suppliers sufficiently replying the Supplier Assessment Questionnaire, if the percentage is 50% or higher the engagement activity is evaluated as successful. For water related data the success of engagement is also the same, if the suppliers that make up more than 50% of our procurement spend send us water-related information, we accept the engagement activity as a success. In 2020, 10 suppliers making up 52% of our procurement spent shared water related information.

Comment

W1.4b

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

Type of engagement
Innovation & collaboration

Details of engagement
Educate suppliers about water stewardship and collaboration

% of suppliers by number
51-75

% of total procurement spend
51-75

Rationale for the coverage of your engagement
Each year we organize supplier engagement days. We invite all of our suppliers to these days where we educate our suppliers about sustainability related issues. Water stewardship is also a part of this training. We also try to support our customers by explaining them about why we need the data that we request from them, and how working on water related issues will help them manage future risks. Also according to our Procurement policy, we assess our suppliers according to Supplier Sustainability Assessment Questionnaire results with 4 categories, and according to the assessment results, suppliers with lower scores are trained if deemed necessary.

Impact of the engagement and measures of success
With this engagement activity we are trying to raise awareness on sustainability and water related issues. Suppliers that attend these events have a chance to learn about the sustainability, water and climate related standards, how they are applied, and also water and climate related risks that their operations may face in the not-so-distant future. The success of supplier engagement is measured by percentage of the active suppliers attending these events. In the reporting year we have reached 69% of our active suppliers which is a huge success. In the previous year this figure was 27%.

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?

We constantly engage with our customers, because for ETI SODA it is very important to identify the needs of our customers.

Depending on the nature of our relationship with our customers, this engagement activity can be simply sharing product specifications and the environmental performance of our products, but it can also be taking part in their emission/water reduction projects, helping them develop strategies towards a low-carbon future and also helping them achieve their water and climate related targets.

We use several methods to engage with our customers:
- To emphasize the low environmental impacts of natural soda ash production, we have performed an LCA study and published an Environmental Product Declaration (EPD). This study is renewed at regular intervals to reflect the improvements in our operational conditions. Our EPD is published on our website along with other certifications like ISO-14046. Anybody who visits our website can reach these documents.
- Sometimes our customers send us supplier assessment surveys, and we always participate in those surveys doing our best to meet their expectations.
- When requested we engage in projects led by our customers, to help them work on their targets and strategies, especially related to water security and climate-change.
- We use social media to emphasize the environmental benefits of our products and we also participate in World Soda Ash Conference which is a global event, where we have a chance to introduce our products to new customers.

We send customer satisfaction surveys to all of our customers to measure the impact of our engagement activities. Customer satisfaction rate in these surveys is a measure of success for ETI SODA. If the customer satisfaction rate is over 90%, we accept the engagement activities of that year as a success. In 2020, despite covid-19 related restrictions, our customer satisfaction rate was 93% which is a huge success.

W2. Business impacts

W2.1

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

No

W2.2

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

No

W3. Procedures

W-MM3.2

(W-MM3.2) By river basin, what number of active and inactive tailings dams are within your control?

Country/Area & River basin

Turkey	Sakarya

Number of tailings dams in operation

0

Number of inactive tailings dams

0

Comment

Eti Soda does not have any active or inactive tailing dams.

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
Annually

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

Type of tools and methods used
Tools on the market
Enterprise Risk Management
International methodologies
Databases
Other

Tools and methods used
WRI Aqueduct
ISO 31000 Risk Management Standard
Environmental Impact Assessment
Life Cycle Assessment
Regional government databases
Internal company methods
External consultants
National-specific tools or standards

Comment
Ecoinvent database is used for our EPD.

Supply chain

Coverage
Full

Risk assessment procedure
Water risks are assessed in an environmental risk assessment

Frequency of assessment
Annually

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

Type of tools and methods used
Tools on the market
Enterprise Risk Management
International methodologies
Other

Tools and methods used
WRI Aqueduct
ISO 31000 Risk Management Standard
Environmental Impact Assessment
Life Cycle Assessment
Internal company methods
National-specific tools or standards

Comment
Ecoinvent database is used for our EPD

Other stages of the value chain

Coverage
None

Risk assessment procedure
<Not Applicable>

Frequency of assessment
<Not Applicable>

How far into the future are risks considered?
<Not Applicable>

Type of tools and methods used
<Not Applicable>

Tools and methods used
<Not Applicable>

Comment
As our product has many application areas, with many different production processes and thus many different levels of water dependency, we are not able to include our customers in our water-related risk analysis.

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	Relevance: Water availability at a basin/catchment level is always considered in our water-related risk assessments, because we have only one water source which is Sarıyar Dam, which is fed by Sakarya River and this water source is also used by EUAS to produce electricity. In the case of no water supply, the production will stop after approximately 29 hours. We also use the same water source for our WASH services, therefore we can say we are extremely dependent on this water source. Tools used in assessment: In order to be able to make a comprehensive assessment, we use WRI Aqueduct Water Risk Atlas Tool to analyze current and future water stress levels and changes at a basin/catchment level. Assessment results: While performing the risk assessment at a basin/catchment level, instead of using the location of our facilities, we used the location of Sarıyar Dam which is our only water source. According to WRI Aqueduct Water Risk Atlas, Sarıyar Dam is in a location in which the Baseline Water Stress defined as "Medium-High (20-40%)" and the river basin is Sakarya. However, in both optimistic and pessimistic scenarios for 2030 and 2040, the future water stress levels increase drastically, becoming "Extremely High (>80%). The results of this assessment show that in the future we may face a significant increase in water prices as the stress levels increase, so will the prices. This may have substantial financial impact on our business increasing our operational expenses. In the process risk and opportunity evaluation form prepared by the water sanitation and treatment department, risks related to the basin/catchment water level are also discussed. (decrease in water quantity, seasonal drought, etc.)
Water quality at a basin/catchment level	Relevant, always included	Relevance: Water quality at a basin/catchment level, is of utmost importance to us, because in order to perform our operations we need good quality fresh water. If the water quality is not good enough, we may need to treat the water further in order to be able to use it in our operations. As stated above we have only one water source and we are highly dependent on water for our operations. If the quality of the water changes, it may disrupt our operations. Tools used in assessment: We consider water quality in our water related risk assessments that we perform within the scope of ISO 14001 Environmental Management System. Water quality is also an aspect that is assessed in our WATER MANAGEMENT STRATEGY PLAN. Principles identified in this plan includes water quality parameters. Water quality is being tested hourly in our accredited laboratories. In our risk assessment, we consider risks from current and emerging water quality challenges. Assessment results: As high-quality water is a vital resource for our operations, a sudden change in quality may disrupt our operations. This is why the quality of the water withdrawn from Sarıyar Dam is analyzed hourly in our ISO17025 accredited laboratories. For future scenarios the impact of this risk is also included in our risk assessments.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Relevance: Our only source for water withdrawals is Sarıyar Dam. This Dam was built for the purpose of producing hydroelectric power. EUAS (Electricity Generation Company) is the main stakeholder for this dam. Within the Turkish regulations, General Directorate of State Hydraulic Works has the control over the usage of water amount. In our current process, an agreement has been reached with the relevant legal entities for water consumption and this is guaranteed with 2 protocols. 1st protocol was signed for the supply of water from Sarıyar Dam Lake with EUAS General Directorate, Hydraulic Plants Department, Directorate of Operations on the existing and additional water needs for the Soda Ash, Sodium Bicarbonate Production Plant and Auxiliary Units of ETİ SODA. 2nd protocol was signed with the 3rd Regional Directorate of General Directorate of State Hydraulic Works to increase the amount of water supplied from Sarıyar Dam. Currently, with regard to these protocols and permits, no Stakeholder conflicts concerning water resources at a basin/catchment level has been identified. However, with the increasing stress, we may face some conflicts. Tools used in the assessment: In order to be able to make a comprehensive assessment, we use WRI Aqueduct Water Risk Atlas Tool to analyze current and future water stress levels and changes at a basin/catchment level. Assessment results: According to WRI Aqueduct Water Risk Atlas Tool, although baseline water stress on Sarıyar Dam is "Medium-High (20-40%)", in both optimistic and pessimistic scenarios for 2030 and 2040, the future water stress levels increase drastically, becoming "Extremely High (>80%). This may result in stakeholder conflicts, as water scarcity may drive other stakeholders (i.e. residential areas) to use this water source as well.
Implications of water on your key commodities/raw materials	Relevant, always included	Relevance: Some of our key commodities, i.e packaging material, chemicals and coal, may require high amounts of water in production processes. However, as we don't have detailed data on the production processes of our key commodities, the implications of water on our key commodities are sometimes included in our risk assessments. Tools used in assessment: In order to evaluate the water related impacts on our supply chain we have been conducting life cycle assessment study since 2017. Water scarcity has been calculated in SimaPro LCA software via -Berger et al 2014 (Water Scarcity) method which analyses the vulnerability of basins to freshwater depletion and via -Pfister et al 2009 (Water Scarcity) method. Assessment results: With a cradle to gate life cycle assessment, we identified that our supply chain water scarcity indicator only accounts for less than 5% of entire life cycle impact. We still evaluate water related impact over our supply chain in our WATER MANAGEMENT STRATEGY PLAN.
Water-related regulatory frameworks	Relevant, always included	Relevance: Water related regulations are always deemed relevant and included in our risk assessments, because we apply solution mining technology and our process is highly dependent on water. If we fail to comply with the regulations, we may receive fines or worse our operations may be temporarily shut-down. Tools used in assessment: The water-related regulatory framework is considered in our risk assessment in the WATER MANAGEMENT STRATEGY PLAN. This includes risks presented by existing and emerging regulations national and international. Assessment results: We have protocols and permits to withdraw water from our water source Sarıyar Dam. Also, wastewater parameters are always being measured, tested and recorded in line with the water quality control directive by the Ministry. We are fulfilling our obligations under the related legislation for both fresh waters used in the operation and wastewater generated as a result of operations. To ensure both the raw water and wastewater met the regulation limit values, samples are taken, and analysis are carried out periodically.
Status of ecosystems and habitats	Relevant, always included	Relevance: Ecosystems and habitats are of utmost importance for Eti Soda. In the scope of the protocol signed with General Directorate of State Hydraulic Works, arrangements have been made for the amount of usage water that will not adversely affect the habitat and natural life. Tools used in assessment: Our Environmental Impact Assessment Reports cover this issue. These reports are prepared by an independent company, and we need to submit these reports in order to get environmental permits. We also work with ecosystem specialists to identify and protect the endangered species that are present in our impact area. We have an ongoing project named "Eti Soda Biodiversity Assessment and Action Plan Preparation" with which we aim to identify the biodiversity of our mining licence area. In this context, it is aimed to determine the flora species, existing terrestrial vertebrate-invertebrate and aquatic vertebrate-invertebrate species, to identify critical living species, if any, and to determine the necessary measures to be taken by determining possible effects. In addition, necessary analyses for discharged water are conducted and analysis results are reported to Ministry of Environment and Urbanization in order to avoid any damage by both Eti Soda Quality Control Laboratory and a third-party accredited laboratory. Results of assessment: Within the scope of this project, 8 experts will assess the biological diversity of the license area, with literature surveys and field studies that will be performed each of the 4 seasons. If species and/or habitats that are essential for protection and monitoring are identified, an action plan will be prepared for them, with a holistic approach to ensure the continuation of biological diversity in and around the license area. Within the scope of the report, primarily Vascular Plants, Vertebrate Animals (Mammals, Birds, Fish, Reptiles, Divers) and Invertebrates will be identified. The project is still ongoing and is expected to be finalized in November 2021.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Relevance: Access to fully-functioning safely managed WASH services is extremely important for Eti Soda, as it a basic human right. With the presence of the pandemic, this issue became more important. We always work to provide a healty and safe working environment for our employees. Tools used in assessment: Risk assessment is carried out for the water provided within the scope of WASH services and the amount of water supplied is monitored by "Eti Soda-Water Supply and Treatment Department" and analysed by both the Quality Control Laboratory and a third-party accredited laboratory. Results of assessment: At Eti Soda, access to clean water and a hygienic working environment are an integrated part of Health and Safety management approach. The primary concern is health of our workers and local people affected by our mining operation within the mining site. Eti Soda uses solution mining method to extract the Trona ore from the underground that requires water. Water parameters are monitored and measured on monthly basis.
Other contextual issues, please specify	Not considered	

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	Importance: Collaboration with our customers as part of our risk assessment process is part of our strategy planning to better understand and meet our customers' expectations. Relevance: Customers demanding eco-friendly, low carbon, less water consumed products day by day and requesting water consumption date, water footprint data and there is an increasing demand for water related disclosures. Engagement method: Supply contracts, face-to-face meetings, Annual surveys and focus groups, Customer audits, our Environmental Product Declaration certificates, CDP
Employees	Relevant, always included	Importance: As an integral part of the production and value of Eti Soda, employees have a big portion on achieving Eti Soda targets. The amount and quality of the water supplied for personal usage are always controlled by Eti Soda - Quality Control Laboratory. Relevance: Employees and workers have a significant impact on foreseeing the risks and opportunities in manufacturing. Engagement method: Written communication, newsletters and posters; surveys, forums on environmental issues, training, regular meetings. All new employees are educated on environmental issues and awareness is increased in order to minimize both the amount of water consumed and the consumption of natural sources.
Investors	Relevant, always included	Importance: Investors and shareholders consist of the most important part of our stakeolders groups. 26% of the shares of Eti Soda owned by Eti Mine Works Inc., which is a state-owned organization. Relevance: Eti Soda located in a water stressed area and to ensure long term liaisons with investors risk arising from investors and shareholders are evaluated within our strategic planning. Engagement method: Formal reporting, including quarterly results, Annual Reports, Company Announcements, regular and annual meetings.
Local communities	Relevant, always included	Importance: Local communities consist of one of the most important part of our stakeholder groups. Within our mining operation area there are several villages. Those people living in the villages are identified as our stakeholder group and are directly affected by our operations. The community living in the villages within the influence of mining site is likely to be affected by Eti Soda's management decisions or actions and we believe the community is also likely to influence the management of our mining site. Relevance: Water withdrawal and wastewater discharged from our wastewater treatment plants can affect the local people's life standards. The water demand at the local level is not provided by Eti Soda. However, the needs and expectations of the local people are met by making joint decisions as a result of the meetings. For example, agricultural production has been supported by the construction of 100 m3 irrigation pool and 1200 m pipe for continuous feeding and separate distribution lines to the vineyards of the villagers in Çakıloba Village. Additionally, a pool with a volume of 300 m3 for the purpose of agricultural irrigation in Başören Village has been constructed and a hydrofoil system has been established with 8000 m of piping, thus the agricultural production of the village has been supported. Engagement method: Meetings are organized with the local communities in the nearest settlements at least once a year. In these meetings, water-related risks and developments are discussed. Local communities' needs and expectations are taken into consideration. Eti Soda top management- if available the General Manager if not the Assistant General Manager - always welcomes Official/Elected Neighborhood Representative of each village 24/7 without any appointment. They are able to come through the administrative building of Eti Soda directly or contact to the top management via direct telephone for any inquiry.
NGOs	Relevant, always included	Importance: Interactive liaisons with NGOs are considered in our water-related risk assessment procedures and NGOs are considered in our risk assessment in the WATER MANAGEMENT STRATEGY PLAN. Relevance: Due to the reputational risk, water-related activities of our company are evaluated for any negative response that would occur form the NGOs side. Relative concerns from NGOs can be defined as, environmental disclosures, transparency, environmental impacts on water contamination Engagement method: Regular meetings, ongoing dialogues, social media, print media.
Other water users at a basin/catchment level	Relevant, always included	Importance: Other water users at a basin/catchment level are included in our stakeholder groups and considered in our risk assessment in the WATER MANAGEMENT STRATEGY PLAN. Relevance: We aware that we need to share the limited sources of the world and we are located in an area where water scarcity will be a problem according to climate scenarios. Engagement method: CDP Water Security Disclosure, Participation in forums
Regulators	Relevant, always included	Importance: It is an obligation to renew the required water permits on time in order to maintain our mine operation activities. Relevance: Necessary applications are made to the Ministry of Environment and Urbanization, General Directorate of State Hydraulic Works and all related corporations, therefore they are considered in our water related potential risk and stakeholder groups. Engagement method: Compliance reporting, signed agreements, regular meetings, site audits.
River basin management authorities	Relevant, always included	The regulatory framework of river basin management authorities is very new, and they are not actively working yet. Therefore, as mentioned in the Regulators section, the river basin is under the control of government and activities are carried out under the protocol signed with the General Directorate of State Hydraulic Works. Importance: It is an obligation to renew the required water permits on time in order to maintain our mine operation activities. Relevance: Necessary applications are made to the Ministry of Environment and Urbanization, General Directorate of State Hydraulic Works and all related corporations, therefore they are considered in our water related potential risk and stakeholder groups. Engagement method: Compliance reporting, signed agreements, regular meetings, site audits
Statutory special interest groups at a local level	Relevant, always included	Importance: Statutory special interest groups that we share the water resource at a local level are included in our stakeholder groups and considered in our risk assessment in the WATER MANAGEMENT STRATEGY PLAN. Relevance: We aware that we need to share the limited sources of the world and we are located in an area where water scarcity will be a problem according to climate scenarios. With these stakeholder group, the awareness of environmental impacts specifically on air quality and water contamination has been raising. Engagement method: Regular meetings, written communication, ongoing dialogue, public reporting.
Suppliers	Relevant, always included	Importance: In order for Eti Soda's business and operations to be continued with no interruption, we have to manage supply chain processes in an efficient way. Relevance: To manage an efficient procurement process, we make regular supplier assessments. This assessment includes water related issues, thewater risks of our suppliers and other sustainability related issues. Engagement method: Procurement policy, sustainability reports, contract negotiations, supplier sustainability assessment questionnaire.
Water utilities at a local level	Relevant, always included	As mentioned in Regulators section, our water supply Sarıyar Dam utility are under the control of government and activities are carried out under the protocol signed with the General Directorate of State Hydraulic Works. Importance: It is an obligation to renew the required water permits on time in order to maintain our mining activities. Relevance: Necessary applications are made to the Ministry of Environment and Urbanization, General Directorate of State Hydraulic Works and all related corporations, therefore they are considered in our water related potential risk and stakeholder groups. Engagement method: Compliance reporting, signed agreements, regular meetings, site audits
Other stakeholder, please specify	Not considered	

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.

At Eti Soda, water-related risks assessments are carried out as a part of our enterprise risk management activities under Environmental Risk Assessment within the scope of ISO 31000 Risk Management Standard.

The risk assessment calculations are made with the formula below.

Risk = Probability x Impact (5x5 matrix)

Risk rating is classified as;

- very high,
- high,
- medium,
- low,
- very low.

For the risks determined as medium and/or higher level, work programs (activity / action / responsible person / term and realization) are applied.

In addition, within the scope of ISO 14001: 2015 revision, procedures for company and process-based environmental risks and opportunities have been established and relevant assessments have been made in accordance with these procedures.

Direct Operations:

We use WRI Aqueduct Water Risk Atlas to assess the baseline and future water stress on our direct operations.

We also gather water-related data from regional databases for our direct operations.

As an example:

We use the regional database of Turkish Meteorological Institute and their climate projection studies in order to understand the future impacts of climate change on Turkey, especially the impact on precipitation patterns.

Our only water source is Sarıyar Dam which is on the Sakarya River Basin. WRI Aqueduct Water Risk Atlas provides Overall Water Risk and baseline water stress in an explanatory way and helps to identify and respond to local water risks.

Turkey experienced the worst drought of the last 44 years in 2017 due to a substantial decrease in precipitation. In 2020, we calculated our water footprint and get verified by a third-party in order to manage the water related risk emerging from stakeholders, current regulations and reputational risks.

WRI Aqueduct Water Risk Atlas helps us to understand the significance of the impact.

The tool we use for our water footprint assessments, is a national standard; ISO 14046. This standard is used as a tool to assure transparency, consistency, reproducibility and credibility of our water footprint assessments.

Supply chain:

In order to understand and manage the water related risks on our operations as well as on our value chain, we started our LCA studies in 2017 and we have updated this study on 15.07.2020.

We use Berger et al 2014 (Water Scarcity) methodology for our supply chain water stress analysis. This method analyses the vulnerability of basins to freshwater depletion over our supply chain. Also, we use Pfister et al 2009 (Water Scarcity) method - water scarcity indicator (WSI) - which is based on a withdrawal to availability (WTA) ratio and modelled using a logistic function (S-curve) in order to fit the resulting indicator to values between 0.01 and 1 m3 deprived/m3 consumed. The curve is tuned using OECD water stress thresholds, which define moderate and severe water stress as 20% and 40% of withdrawals, respectively. Data for water withdrawals and availability were obtained from the WaterGap model.

This water risk approach enables us to early detect the any potential improvement over our suppliers.

The outcomes of the risk assessment performed using all the above-mentioned tools, especially WRI Water Risk Atlas Tool and our EPD Study, are used to inform our medium and long-term strategies and financial planning. According to WRI Water Risk Atlas Tool in the long-term, the water stress in our only water source Sarıyar Dam will increase, which means we have to work on improving our water efficiency. This risk is also included in our long-term financial planning as we may have to pay more for our water withdrawals.

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, only within our direct operations

W4.1a

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

By the view of the Board, substantive impact would be anything that can significantly affect our ability to meet business goals and material importance for our stakeholders. Water related risks are evaluated (in terms of violence / impact and probability) by analysing any expected and unexpected factors that may affect the company's achievement of its goals and objectives.

In Eti Soda, risks are governed with the following principle:

Define – Analyze – Plan – Monitor &Measure – React

After a risk is defined, the impact and probability of this risk is identified through analysis.

At Eti Soda Impact of the risks are analyzed under 13 main categories, the categories that are related to water risks and opportunities and their corresponding substantive impact definitions are given below:
1. Financial Loss: A water related price increase above 1,000,000 TL
2. Reputational Loss: Over 2.5% loss of market-share on a national level
3. Media Reflection: Short-term negative news on national or international media
4. Production/Work Loss: Unplanned stop of operations for over 1 week
5. Water Impacts:

- Legal restriction of the amount of water required for production within the scope of prudent use of water
- 5% restriction on the amount of water required for industrial production from surface freshwater sources and lakes
- Failure to reach water within 2 days due to water supply failure

The above-mentioned definitions and thresholds are applicable to direct operations. The definitions for reputational loss and media reflection also apply to our value chain operations.

Example:

IPCC RCP 4.5 scenario projections foresee a decrease in mean precipitation levels and WRI Aqueduct Water Risk Atlas foresees an increase in water stress risk levels in Turkey. As a result of climate change induced stresses like increased frequency and severity of draughts, the government may impose statutory water withdrawal limits. Such a limit on water withdrawals will result in reduction or disruption in our production capacity as we are extremely dependent on water.

If the government imposes limits on our water withdrawals from our only source, our production capacity may decrease. Estimating a 10% to 20% decrease in our withdrawal limits, will directly impact our production with the same percentage of decrease.

Our revenue for 2020 is 2,292,992,903 TL 10% of the revenue equals to 229.3 Million TL and 20% is double that amount.

This impact is way above our substantive impact threshold which we define under water-related impacts as: 5% restriction on the amount of water required for industrial production from surface freshwater sources and lakes.

Therefore, this risk is considered to be one with a substantive impact.

W4.1b

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

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	1	100	We only have one facility; therefore, it represents 100% of our company-wide facilities.

W4.1c

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

Country/Area & River basin

Turkey	Sakarya

Number of facilities exposed to water risk
1

% company-wide facilities this represents
100%

Production value for the metals & mining activities associated with these facilities
2292993903

% company's annual electricity generation that could be affected by these facilities
<Not Applicable>

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

% company's total global revenue that could be affected
100%

Comment
The given figure is our revenue for the reporting year. All our revenue comes from our metals and mining sector activities.

W4.2

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

Country/Area & River basin

Turkey	Sakarya

Type of risk & Primary risk driver

Physical	Increased water stress

Primary potential impact
Increased operating costs

Company-specific description
According to the risk assessment we performed using WRI Aqueduct Water Risk Atlas, Sarıyar Dam is located in an area with Medium-Low (20-40%) water stress. However, in both pessimistic and optimistic future scenarios, the water stress levels are increasing reaching up to extremely high (>80%) levels. The increasing water stress may increase our water prices, which will result in an increase in operational expenses. We withdraw water from a dam which is also used as a hydroelectric power plant and if we didn't withdraw that amount it would be used to generate electricity. This is why we also have to pay a fee for the amount of hydro-electricity not generated by the power plant operator. This poses even a greater risk in our operational expenses, because with the increasing regulatory and physical stress related to climate change, it is expected that renewable energy will be in higher demand which will in turn increase the energy costs. With increasing cost of energy, the fees we pay to the power plant operator have a potential to increase more than the price we pay to the State Hydraulic Works.

Timeframe
More than 6 years

Magnitude of potential impact
Medium-low

Likelihood
Very likely

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
363000

Potential financial impact figure - maximum (currency)
1690000

Explanation of financial impact
With increasing water stress levels, the water prices are expected to increase as well. Our water source Sarıyar Dam, is also a hydroelectric power plant, and with increasing water stress levels and increasing demand for energy, we may be required to pay higer fees for water. As we also have to pay for the electricity not produced by

the power plant, this increases our risk. The minimum potential financial impact figure is calculated assuming a 30% increase in both water price and the price we pay for the electricity not produced. The max. financial impact is calculated assuming a 70% increase in water prices and 200% increase in renewable electricity prices (hence the price we pay for electricity not produced). According to our substantive impact thresholds, a water-related price increase above 1 million TL is defined as a risk with substantive impact. As the minimum potential financial impact is lower than our substantive impact threshold, the magnitude of impact is selected as “medium-low”

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

Description of response
We constantly work on projects to reduce water consumption and withdrawal. We have targets on reducing the solution required for production, which in turn reduces the amount of water used. We are aware of this risk and we also include this risk in our long-term financial and strategic planning, so that we will be ready financially. We also look for ways to increase the amount of water recycled.

Cost of response
370000

Explanation of cost of response
In 2021 we are planning to change the filtration system of our reverse osmosis membrane, which will impact our discharge amounts. This investment is planned and factored into our financial planning. The given cost of response is the cost of this investment.

Country/Area & River basin

Turkey	Sakarya

Type of risk & Primary risk driver

Regulatory	Statutory water withdrawal limits/changes to water allocation

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
IPCC RCP 4.5 scenario projections foresee a decrease in mean precipitation levels and WRI Aqueduct Water Risk Atlas foresees an increase in water stress risk levels in Turkey. As a result of climate change induced stresses like increased frequency and severity of draughts, the government may impose statutory water withdrawal limits. Such a limit on water withdrawals will result in reduction or disruption in our production capacity as we are extremely dependent on water.

Timeframe
More than 6 years

Magnitude of potential impact
High

Likelihood
About as likely as not

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
229299390.3

Potential financial impact figure - maximum (currency)
458598780.6

Explanation of financial impact
If the government imposes limits on our water withdrawals from our only source, our production capacity may decrease. If there is a 10% to 20% decrease in our withdrawal limits, this will directly impact our production with the same percentage of decrease. The minimum and maximum potential impact figures are calculated estimating a 10% to 20% decrease in production capacity, thus 10% to 20% decrease in our revenues. Our revenue for 2020 is 2,292,992,903 TL therefore, 10% of the revenue equals to 229.3 million TL and 20% is double that amount. According to our water-related substantive impact thresholds a “5% restriction on the amount of water required for industrial production from surface freshwater sources and lakes” is identified as a substantive strategic impact. As the minimum potential financial impact is is double that amount, the magnitude of impact is selected as “High”.

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

Description of response
We have the option to manage this risk in two ways. First of all, we constantly work on reducing our water consumption and increasing water efficiency. Our efforts to increase water efficiency will potentially decrease all our water-related risk exposure. Another response option would be trying to secure an alternative water supply, which may not be possible as the withdrawal limits may not be limited to one source.

Cost of response
370000

Explanation of cost of response
In 2021 we are planning to change the filtration system of our reverse osmosis membrane, which will impact our discharge amounts. This investment is planned and factored into our financial planning. The given cost of response is the cost of this investment.

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	Overall water-related risks are evaluated for Eti Soda's value chain during the risk assessment procedure. Sufficient amounts of good quality freshwater availability is important for Eti Soda's suppliers and customers. However, from a life-cycle point of view, our product lies at the cradle stage for many products and although we also use some raw materials during extraction and production, our raw materials only make-up 4-5% of our total upstream impacts. Also we don't use any raw materials that are critical in such a way that we are dependent on a few suppliers around the world. As we always have an option to diversify our supply chain operations, the impact of water-related risks on our supply chain are assessed to be very low. Another important issue in our value chain is our customers, however as our products are used in many different sectors and applications, their dependence on freshwater availability differs from process to process. Therefore, we are unable to make a thorough assessment on water related risks of our customers. However, as our products have many application areas and we don't depend on a few customers, our customer-related impacts of water-related risks are also assessed to be low.

W4.3

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

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

W4.3a

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

Type of opportunity

Efficiency

Primary water-related opportunity

Cost savings

Company-specific description & strategy to realize opportunity

Explanation of why this opportunity is considered strategic for the company: We apply the solution mining method; therefore, we need water during the Trona mine extraction process. In addition to that, water vapour is used in sodium carbonate and sodium bicarbonate producing process. We constantly work on improving the efficiency of our processes, with improved water efficiency, we will have the opportunity to reduce our operating costs as we will need less water. Explanation of the action to realize the opportunity: As the water used is circulated in the closed-circuit in the factory, the water loss is reduced to the minimum and the water-related expenses are minimized. We have a cogeneration plant which requires pure water. We condense water vapor in our processes to produce pure water recovering/recycling some of the water we use. If we didn't have this technology, we would need to withdraw more water from Sarıyar Dam and we would need to purify the raw water, which would mean more water use and more energy use. Example of the strategy: In 2020, via the water recovery/recycle within the processes we have saved over 980,000 m3 freshwater withdrawal from Sarıyar Dam. When compared to 2019, our recycling/recovery rate has decreased by 2% this is due to the disruptions related to Covid-19.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

Low-medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

380000

Potential financial impact figure – maximum (currency)

900000

Explanation of financial impact

As the water used is circulated in the closed-circuit in the factory, the water loss is reduced to the minimum and the water-related expenses are minimized. Less water consumption will result in less water withdrawal from the Sarıyar Dam. Water withdrawal is monitored continuously and the cost of the consumption are calculated based on the volume of water saved. In 2019, we have saved over 1,000 ML of water and in 2020 we have saved around 980 ML of water. The min financial impact is calculated with the current prices and the max. financial impact is calculated using the price projections we use for the future, which includes a higher price increase (200% increase) for electricity not produced and a lower price increase (70% increase) for the water we withdraw from Sarıyar Dam. We use a higher price increase for electricity not produced because in our future projections we expect renewable energy prices to increase. With these assumptions, the min. financial impact is calculated as 380,000 TL whereas the max. financial impact is about 900,000 TL. Although the financial impact of this opportunity is slightly lower than our substantive impact threshold, as water is a very vital resource for our operations, any initiative that results in water savings is important for us.

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)
Eti Soda

Country/Area & River basin

Turkey	Sakarya

Latitude
40.183617

Longitude
31.859192

Located in area with water stress
Yes

Primary power generation source for your electricity generation at this facility
<Not Applicable>

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
3698.28

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
3185.57

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
512.72

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
623.66

Comparison of total discharges with previous reporting year
Higher

Discharges to fresh surface water
623.66

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
3074.62

Comparison of total consumption with previous reporting year
About the same

Please explain
At Eti Soda, water withdrawn, consumption and discharge by all our operations (100% of facilities) are being monitored and recorded by water meters and flowmeters. Only the entrained water is calculated using a mass balance equation with the molecular composition and molecular weight of trona ore extracted. In the reporting year our withdrawal volume has increased by 5,00%, discharge volume has increased by 15.36 %, and consumption figure has increased by 3.12%. The reason for this increase is, due to Covid-19 we had to stop our operations a few times, and to restart the operations we need more water and more energy. Thresholds for comparison: In the 2020, we have redefined the threshold definitions to reflect our operational procedures better. +/-10% "about the same"; +/-10-25% "higher/lower" & over 25% change is classified as "much higher/much lower".

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
76-100

What standard and methodology was used?
100 % of our water withdrawals are verified according to, ISO 14046:2014. Entrained water was not included in the total withdrawal volume but reported separately. Please see page 12 of our verification report.

Water withdrawals – volume by source

% verified
76-100

What standard and methodology was used?
100 % of our water withdrawals by source are verified according to ISO 14046:2014 Please see page 12 of our verification report.

Water withdrawals – quality

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharges – total volumes

% verified
76-100

What standard and methodology was used?
100 % of our discharge volumes are verified according to ISO 14046:2014 Please see page 12 of our verification report.

Water discharges – volume by destination

% verified
76-100

What standard and methodology was used?
100 % of our discharge volumes by destination are verified according to ISO 14046:2014 Please see page 12 of our verification report.

Water discharges – volume by treatment method

% verified
76-100

What standard and methodology was used?
100 % of our discharge volumes by treatment method are verified according to ISO 14046:2014 Please see page 12 of our verification report.

Water discharge quality – quality by standard effluent parameters

% verified
76-100

What standard and methodology was used?
100 % of the quality of our discharge water is verified according to ISO 14046:2014 Please see page 12 of our verification report.

Water discharge quality – temperature

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water consumption – total volume

% verified
76-100

What standard and methodology was used?
100% of our withdrawal and discharge values are verified according to ISO 14046:2014. As Consumption =. Withdrawal – Discharge, our consumption volumes are also verified.

Water recycled/reused

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

W6. Governance

W6.1

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

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

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Description of water-related performance standards for direct operations Description of water-related standards for procurement Reference to international standards and widely-recognized water initiatives Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	Our water policy covers all our operations and as we operate in only one location, the scope of every policy that we publish including our water-policy, is company-wide. Our process is extremely dependent on water as we use it for our mining and processing operations, therefore this dependency is clearly identified in our policy. In the policy we acknowledge the basic human right to water & sanitation, and it also emphasizes our commitment to set targets and goals to reduce our water intensity. We calculate our and manage our water footprint according to ISO 14046 and assess our water-related risks using WRI Water Risk Atlas Tool. We recognize that water stress is directly related to climate change, therefore we also do our best to reduce our climate related impacts. We are aware that we have to comply with water-related regulations, but in our water policy we also commit to go beyond this target, we have commitments to comply with CEO water mandate and other initiatives like water-related SDGs. We include of water-related standards in our procurement processes, and we always commit to water stewardship so that we can be a good example for our value chain partners. Water-related innovation studies are also very important to us as we see technology as a way to reduce our water intensity. Eti Soda Su Politikası.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	Water-related issues are integrated aspects of Eti Soda management approach and a very significant strategic issue due to the company's responsible management code. The Board is the highest level of authority and decision-maker at Eti Soda and responsible for reviewing water related policies, strategies and targets. Our Board Chairman, who is also the Glass and Chemicals CEO of Ciner Group (which is the mother company and 74% shareholder of Eti Soda), is the highest-level individual on the board with responsibility for water-related issues. All of the water-related decisions including strategies, major plans of action, management strategies for risks and opportunities and business plans are approved by our Board Chairman. Our Board Chairman (hence our Board) is informed about all of the water-related issues through the Sustainability Committee. One of the major decisions approved by our Board Chair was the endorsement of CEO Water Mandate in 2020.

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - all meetings	Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Setting performance objectives	Our Board has the highest level of responsibility on water-related issues, in order to be able to perform elegantly, our Board is assisted by the Sustainability Committee on climate-related decision-making processes. Our Sustainability Committee consists of one Board member, a director who is the Deputy General Manager, QA/QC Department Manager, HSE Department Manager and Management System Supervisor. In order to enhance the works of the Sustainability Committee, the Board has decided to receive support from experts and academicians. Sustainability Committee organizes regular meetings with these experts results of which are directly reported to the Board. The Sustainability Committee, suggests water-related strategies, major plans of action, risk management policies, business plans, targets and performance objectives to be reviewed by the Board. These items are a regular agenda item in all scheduled meetings of our Board. All of the suggestions of the Sustainability Committee shall be reviewed and approved by the Board before being a part of the company policies/actions/culture. The Board also oversees major capital expenditures, progress against goals and implementation of performance objectives. Having the Board's support on all of these decisions, enables us to act swiftly on any kind of water-related issue.

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)
President

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
Our President (General Manager) who is also a Member of the Board is the highest management-level position with responsibility for water-related issues. Our president is the co-chair of the Sustainability Committee (SC), through which the Board manages all the water-related issues at regular meetings. All water-related issues like risks, opportunities, targets, etc. are reported to the Board by our President and who is also a member of the board. Sustainability is a regular agenda item in our Board Meetings. Our President reports directly to the Chairman of the Board. The water-related responsibilities of our President include, but not limited to: - Assessing and managing water-related risks and responsibilities - Monitoring and overseeing progress against goals and targets - Informing the Board about water-related issues

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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
In line with the basic principles and policies of Eti Soda, the Sustainability Committee (SC) was established and appointed by the Board of Directors (BoD) to determine short, medium- and long-term objectives and to regulate the methods and resources to be followed to achieve these objectives. SC is co-chaired by our President and our Deputy GM &consists of QA/QC Dept. Manager, HSE Dept. Manager, Management System Supervisor, Environmental Engineers, Water Supply & Treatment Supervisor, Brand & Sustainability Supervisor & Customer Relations Supervisor. SC is responsible for the control, monitoring of water-related issues, the performance report to the Board, the planning and reporting of the Management Review meeting, and the monitoring the water-related issues such as expectation from suppliers&customers, local people, stakeholder communication, legislative risks and opportunities.

Name of the position(s) and/or committee(s)
Other, please specify (Water Supply and Treatment Department)

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
Water Supply and Treatment Department is responsible to Establish a system for the determination of methods and controls for the supply of water to be supplied to the plant and production processes (Mining, Process, Energy) in the specified conditions and amounts and to ensure production by following technological developments and conducting research and development activities.

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	We have an active employee incentive system that is based on KPIs.

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	Board chair Corporate executive team Other, please specify (President)	Improvements in efficiency - direct operations	At Eti Soda, water is a vital resource for our operations. Our Board Chair, President and our Corporate Executive team has targets to improve efficiency during mining operations by reducing the solution used / production and these targets are included in their KPIs. The solution we use for mining is around 85% hot water, and reducing the solution amount will help us reduce both our water use and our energy use. If they achieve those targets, they are incentivized in the form of a bonus or a raise.
Non-monetary reward	Please select	Please select	

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, direct engagement with policy makers

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

We have a Water Policy which includes our water-related working principles and commitments. Our water policy is a public document and is known by the employees of Eti Soda.

Water-related legislation is followed-up by the relevant departments according to the area of responsibility. In case of a change in legislation, the management and the sustainability committee are informed. If the new/revised legislation has any elements that may conflict with our water policy commitments, our water policy is revised to be in line with the legislation, as compliance with water-related regulations is one of our priorities. Legislative issues are also followed by the members of the sustainability committee (Water Supply and Treatment, Environment, Management Systems).

All activities that are seeking to influence policy are made by the process managers in accordance with the communication instructions of ETI SODA, with the approval of the management.

It is already stated on our water policy that, if any inconsistencies occur, between our water policy commitments and the actions of our employees to influence policy, corrective action is implemented as soon as possible to end the relevant situation, and the effectiveness of the measures taken is monitored.

W6.6

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

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

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	> 30	Since water is a vital resource, water-related issues are integrated in our long-term business objectives for over 30 years. The issues integrated in our long-term business objectives are: Baseline and future water stress which is analyzed using WRI Aqueduct Water Risk Atlas Tool Regulatory risks – like statutory water withdrawal limits Water quality on both withdrawal and discharge. Examples of how these issues are integrated to our water management strategy: At Eti Soda, a company-wide Water Management Strategy Plan has been developed and it consists of a SWOT analysis (strengths-weaknesses-opportunities-threats), targets and strategies. Water Management Strategy Plan articulates our water commitments and challenges. The challenges include water related risks like future water stress and statutory water withdrawal limits and their management strategies. The plan includes a roadmap on how to carry out the studies to be conducted in accordance with the strategic plan, methods to be followed, to carry out coordinated works in cooperation with all units, to develop a strategy for the next 30 years and to determine goals and act in line with this strategic plan.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	> 30	Water is a vital source for our operations, therefore in order to achieve our long-term business objectives, we have to be aware about the water-related risks and how they may impact our operations. It is of utmost importance for us to strategize accordingly. Water-related risks at all stages of our operations including our supply chain, direct operations and customers are included in our strategy in order to achieve long-term business objectives. Examples of how these issues are integrated to our water management strategy: At Eti Soda, a company-wide Water Management Strategy Plan (WMSP) has been developed and it consists of a SWOT analysis, targets and strategies. WMSP articulates our water commitments and challenges. In order to achieve our long-term business objectives, we must determine our water-related risks and manage them as best as we can. Our water management strategy plan, includes these water related risks and their management strategies for medium and long term. The plan also complies with the Sustainability Committee's corporate sustainability expectations. In this plan 6 principles have been identified, • OHS and environmental requirements, • employee awareness training, • changes of the system according to the variability of raw water parameters, • to protect water source and prevent pollution, • to ensure the elimination of washing wastewater without disturbing the ecological balance, • providing uninterruptible water supply.
Financial planning	Yes, water-related issues are integrated	> 30	Since water is one of the resources that is vital for the continuation of our operations, water-related issues are always integrated in our short-medium and long-term financial planning. We have only one water resource which is Sarıyar Dam, and this puts us in a risky position, as the loss of this precious resource may have devastating implications on our business. Therefore, we use WRI Aqueduct Water Risk Atlas tool to identify future water risks, and include the possible financial implications of these risks in our long-term financial planning.

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)
-100

Anticipated forward trend for CAPEX (+/- % change)
100

Water-related OPEX (+/- % change)
13.12

Anticipated forward trend for OPEX (+/- % change)
12

Please explain
As 2020 was a crisis year, marked by the Covid-19 pandemic, we have stopped all non-vital capital expenses. This is why our water related CAPEX has decreased by 100% because we didn't make any water-related Capital Expenses in 2020. This is also the reason why we expect an increase of 100% in our CAPEX, because we have plans that require capital expenses, and even if the expense values are not high, any change after zero expense will be 100% increase. Our water-related OPEX has increased by 13.12%, some of this increase is due to the increased amount of water withdrawals. In 2020 we have withdrawn 6.55% more water from Sarıyar Dam. The rest is due to a slight increase in water prices and a higher increase in electricity prices. As we are withdrawing water from a dam that belongs to a hydroelectric power plant, we have to pay them for the electricity not produced because of the water that was withdrawn by our facility. .

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 have used the study "Climate Change Projections for Turkey: Three Models and Two Scenarios" published by the Turkish Meteorological Institution, to better understand the impacts of climate change on Turkey. According to the temperature and precipitation projections produced using HadGEM2-ES based on the RCP4.5 scenario; The most relevant impacts between the 2016 and 2040 period • The warming is generally limited to 2 C, and this warming will be 2-3 C in the Marmara and Western Black Sea regions in summer, • As for precipitation, an increase is observed in the Coastal Aegean, Eastern Black Sea and Eastern Anatolia during the winter months, while it is predicted that the precipitation will decrease by 20% in a significant portion of the country, except for the Coastal Aegean and Eastern Anatolia, during spring.	According to this scenario, although there is no specific regional effect, there is a risk of a decrease in the amount of water supplied from the Sarıyar Dam, based on the estimation that the precipitation will decrease by around 20%. This result is not news to us, as we were expecting the water stress levels to increase in the future based on the analysis we have performed using WRI Water Risk Atlas Tool. The result of the climate-related scenario analysis using the RCP 4.5 scenario is confirming the results of our previous risk analysis. As our operations are highly dependent on water, the risk of reduced water availability, poses a risk of reduction in our production capacity if we are unable to secure an alternative water source. This risk may also result in a significant increase in water prices which is one of our most important resources. These results have not impacted our strategy any further, as we were already working on ways to reduce our water consumption and withdrawal amounts especially by using recycled water. The results also impacted our financial planning, as we now implement higher costs of water for our future projections. The anticipated timescale for our response is >6 years.

W7.4

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

Row 1

Does your company use an internal price on water?
Yes

Please explain
Being a vital resource for our operations, we use internal water price especially for the calculation of water related risks.

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 Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	Water-related issues are integrated aspects of Eti Soda management approach and a very significant strategic issue due to the company's responsible management code. The Board is the highest level of authority and decision-maker at Eti Soda and responsible for reviewing water related policies, strategies and targets. Through the Sustainability Committee, the Board manages all the water risk topic at regular meetings. Sustainability Committee Director reports directly to the (CEO) Chairman of the Board. The Boards tasks include considering the social, environmental and economic interests of the company as well as the water related risks and opportunities that the company will face. Water is a vital component of the company strategy and managed at the highest level at Eti Soda. Therefore, company-wide targets&goals are assessed by the SC and evaluated by the Board in the regular meetings. Likewise, monitoring of water-related goals and targets is carried out via the STRATEGIC TARGET TRACKING FORM within our WATER MANAGEMENT STRATEGY PLAN. The progress for all company-wide targets and goals and monitoring results are reported in the internal MANAGEMENT REVIEW PERFORMANCE REPORT. Water related goals and targets that are company-wide, business level and facility/site level are set through the following policy as stated in the WATER MANAGEMENT STRATEGY PLAN. ➢ Establishing a system for the determination of methods and controls for the supply of water to be supplied to the factory and production processes (Mining, Process, Energy) in the specified conditions and amounts, ➢ To ensure production by following technological developments and conducting research and development activities, ➢ Ensuring the detection and control of risky situations in our activities and preventing the occurrence of occupational accidents, ensuring that the personnel of the unit are trained to raise OHS awareness, ➢ To fulfil the responsibilities regarding the environment and to carry out the necessary works to prevent environmental pollution, ➢ To protect water resources and to minimise water withdrawal, ➢ To ensure the disposal of washing wastewater without disturbing the ecological balance, ➢ To ensure the goals and targets cover the climate related scenario analysis water related results and potential water risks.

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 use efficiency

Level
Site/facility

Primary motivation
Reduced environmental impact

Description of target
Target: Reducing the amount of wastewater discharged from our domestic waste water treatment plant by 5% with respect to 2019 levels. Importance: Reduced pollutant loads, not to disturb the ecological balance, fulfil the responsibilities regarding the environment, meeting the requirements of SDGs, Rationale: Monitored at the corporate level, but as the target only relates to discharge volumes from our domestic wastewater plant the target level is selected as “Site/facility”. Water discharge includes all the water discharge from our domestic wastewater treatment plant. The target is the same for all operations related to this WWTP, as Eti Soda has only one facility located in Sakarya river basin and this target is set to help improve Sakarya river basin’s water security.

Quantitative metric
% reduction in total water discharge

Baseline year
2019

Start year
2019

Target year
2020

% of target achieved
100

Please explain
This target contributes to water security by reducing our discharge volumes. In 2019 we have discharged 44,281.21 m3 of water from our domestic waste water treatment plant, in 2020 we were able to reduce this figure to 40,724.51 m3 which translates to a reduction of 8.03%. Therefore, we have overachieved this target.

Target reference number
Target 2

Category of target
Supplier engagement

Level
Company-wide

Primary motivation
Water stewardship

Description of target
Target: In our sustainability assessment surveys, we request water-related data from our suppliers. The sustainability assessment surveys are sent to all of our approved suppliers and we calculate the ratio of suppliers which submit their water data (including water-related risks) to us to the ratio of all approved suppliers. Our target is to increase this ratio by 10% each year. We have 35 approved suppliers.

Quantitative metric

% increase in number of suppliers engaged

Baseline year
2019

Start year
2019

Target year
2020

% of target achieved
100

Please explain
In 2019 we have sent the survey to all 35 of our approved suppliers and none of them sent their water-data. In 2020 as a result of our engagement efforts 10 of our suppliers sent their water data, which makes (10/35)*100=28% of our approved suppliers. This target is part of our long-term goal of having 80% of our approved suppliers report on their water-related data including risks, opportunities and their own targets by 2030. Our main goal with this target was to improve water-related awareness in our supply chain, which is a success.

Target reference number
Target 3

Category of target
Water use efficiency

Level
Company-wide

Primary motivation
Reduced environmental impact

Description of target
This is a medium-term target of reducing the amount of solution that we use for our mining activities per ton of products produced by 8% until 2025. The solution we use in mining consists 85% of water, therefore increasing the efficiency of our mining operations will also help us to reduce our water consumption, hence reducing our environmental impact. This target is also included in the KPIs of our Board Chair, President & Corporate executive team and it is directly related to our monetary reward system.

Quantitative metric
Other, please specify (% reduction amount of solution used / ton of production)

Baseline year
2019

Start year
2019

Target year
2025

% of target achieved
31

Please explain
In 2019 our solution/ton of soda produced ratio was from 5.80 m3/ton. In 2020 this figure went down to 5.63 m3/ton, which shows a derease of 3.1%. Therefore, we can safely state that we have achieved 31% of our target.

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
Water stewardship

Description of goal
Goal: We have a goal to ensure 80% of our critical suppliers to start reporting their water-related data including their risks, opportunities, management policies. This goal is important for Eti Soda, because we acknowledge our potential impact as a customer for our suppliers. We also want to improve water-related awareness in our supply chain. Although we constantly work on reducing our water-related impacts, it is our duty to the environment to try to do more. To implement this goal, we organize supplier engagement days, send sustainability questionnaires to our suppliers, and train our suppliers on water-related issues. As their awareness on water-related issues increase, their will to identify their impacts on water, their water risks and their water footprint will also increase.

Baseline year
2019

Start year
2019

End year
2030

Progress
In 2019 we have sent the survey to all 35 of our approved suppliers and none of them sent their water-data. In 2020 as a result of our engagement efforts 10 of our suppliers sent their water data, which makes (10/35)*100=28% of our approved suppliers. We have achieved (28/80)x100=35% of our goal already. The threshold for success was to achieve at least 10% of this goal, because this was our fist year of monitoring the progress of this goal. Keeping in mind that 2020 was an extraordinary year due to Covid-19 related restrictions, having 10 of our approved suppliers report on their water-related data including their management methods, is a huge success for us.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?
Yes
EtiSoda_14046_VerificationReport2021_Rev03.pdf

W9.1a

(W9.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1 Current state	Comparisons related to the water withdrawal volume changes as 2018,2019 and 2020 withdrawal volumes are stated on our verification report. Entrained water volume for 2020. W1.2j-primary and secondary discharge volumes W-MM1.3a-Water intensity for 2019 and 2020 All of the above data can be found on page 12 of our verification report. The verification of our water related data which is given under section 5.1a of this report can also be found at page 12 of the same report.	Other, please specify (ISO 14046:2014)	Verification is performed by BSI according to ISO 14046:2014 criteria.

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	Board Chair	Board chair

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