MYTILINEOS Holdings S.A. - Water Security 2019

W0. Introduction

W0.1

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

MYTILINEOS is one of Greece's leading industrial companies, with activities in Metallurgy, EPC, Electric Power and Gas Trading. The company was established in Greece in 1990 and has been listed in Athens Exchange since 1995. Today, the Company's stock is a constituent of the FTSE 25 Large Capitalisation index. As a responsible industrial company, MYTILINEOS seeks to apply the Corporate Social Responsibility and Sustainable Development principles across the range of its main activity, besides its key objective being the preservation of a leading position in all sectors of its business activity through continuing re-investment.

Business Activity Sectors

Metallurgy Sector: MYTILINEOS owns the only vertically integrated production and trading plant of alumina and aluminum in the European Union, offering high quality products mainly to enterprises producing products of rolling, processing/aluminium extrusion and aluminium metal production industries. It is one of the healthiest growing industrial enterprises in Greece and in cooperation with its subsidiary DELPHI-DISTOMON exhibits a robust international activity, which renders the company a driving force for the Greek economy and society.

E**PC & Infrastructure Projects Sector:** MYTILINEOS operates in the construction of broad scale projects, covering the wide spectrum of EngineeringProcurement-Construction and the industrial production of high-level know-how, with presence in the Energy & Infrastructure sectors. In the energy sector, the company focuses on the international markets, with ongoing projects in Europe, Middle East and Africa and is specialized in the construction of turn-key power plants that utilise the full

Electric Power & Natural Gas Trading Sector: MYTILINEOS has a wide range of activities in the sector of energy, extending from the construction of gas-fired thermal power generation plants and Renewable Energy Sources (RES) plants, to power and natural gas supply. It is the largest private electric power producer in Greece with an energy portfolio of 1,200MW thermal production capacity and 200 MW Renewable Energy Sources capacity; it produces more than 10% of electricity production in Greece. In addition, it provides modern, reliable services and combined packages of electricity and natural gas to almost 130,000 active customers across the country (businesses & households).

The dynamic business growth of MYTILINEOS is inextricably linked to our principles of Corporate Responsibility and Sustainable Development. Sustainable Development is a top priority for MYTILINEOS. Through Corporate Social Responsibility (CSR), MYTILINEOS expresses its continuous commitment to Sustainable Development. CSR is a multi-faceted and complex corporate practice, mainly characterized by the company's conscious self-commitment to responsible entrepreneurship and continuous improvement. Also, it is directly related to the company's business operations, as it defines the way it chooses to make progress, taking solid steps, towards Sustainable Development, based on its mission and values. CSR is an ongoing self-improvement and incessant learning process aimed at increasing MYTILINEOS's positive impact on the greater society while also serving as a key mechanism for renewing its "social" license to operate, improving its competitiveness at national and international level.

W-EU0.1a

(W-EU0.1a) Which activities in the electric utilities sector does your organization engage in?

Electricity generation

W-EU0.1b

(W-EU0.1b) For your electricity generation activities, provide details of your nameplate capacity and the generation for each power source.

	Nameplate capacity (MW)	% of total nameplate capacity	Gross generation (MWh)
Coal – hard			
Lignite			
Oil			
Gas	1215.08	100	4913000
Biomass			
Waste (non-biomass)			
Nuclear			
Geothermal			
Hydroelectric			
Wind			
Solar			
Other renewable			
Other non-renewable			
Total			

W-MM0.1a

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

Activity	Details of activity
Mining	Bauxite
Processing metals	Aluminium Alumina

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 2018	December 31 2018

W0.3

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

Greece

W0.4

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

EUR

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 in which an equity share is held

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
RES plants (11 Wind Farms, 3 Photovoltaic Parks ; 4 Small Hydropower Plants).	RES pants are excluded from this response boundary due to the extremely small fraction of the Company's total water use with no exposure to water risk.

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	Water is vital for all MYTILINEOS's activities, and this dependency is likely to increase in the future in the company's specific business sectors. MYTILINEOS's Metallurgy and Electric power Sectors represent the 99% of the company's freshwater (sea water, ground water and drinkable water) mainly in terms of bauxite, alumina, aluminium and energy production processes (water intensity main operations: steam production and the cooling process). Direct use: Continuous production at our alumina & aluminium facility is dependent on our ability to maintain our water rights and the physical availability of the water supplies. Indirect use: the main downstream dependence of this type of water is that annually nearly 20% of our underground water withdrawals, after a minimal treatment, is used to fulfill local communities water needs.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Not very important	Direct use: In Metallurgy sector we use brackish water for the casting's cooling system. This amount of water is obtained from 2 drills, owned by the MYTILINEOS, in the wider region around its plant, in strict compliance with the provisions of the Water Resources Management Directorate of the Sterea Regional Administration. The use of brackish water for indirect use is considered as not very important in our value chain upstream or downstream. Future quantity and quality dependency on this kind of water will likely remain the same. Also, expected no dependence of this type of water in our value chain in the future.

(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	76-99	MYTILINEOS considers this aspect as important. In this context measures and monitors the total volumes of water withdrawals from 21 out of 25 industrial facilities across its business: 4 Industrial plants, 3 Gas-fired thermal plant of primary electricity production and 14 facilities which are RES plants (11 Wind Farms, 3 Photovoltaic Parks). We do not monitor water withdrawals from 4 Small Hydropower Plants because of their extra small to nil fraction to the total company's respective volume of water and also are not yet monitored at the corporate level. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). Also we disclose water discharges at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS.
Water withdrawals – volumes from water stressed areas	Not relevant	There are no water withdrawals from water stressed areas. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). Also we disclose water discharges at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS.
Water withdrawals – volumes by source	76-99	MYTILINEOS considers this aspect as important. In this context measures and monitors the total volumes of water withdrawals by source from 21 out of 25 industrial facilities across its business: 4 Industrial plants, 3 Gas-fired thermal plant of primary electricity production and 14 facilities which are RES plants (11 Wind Farms, 3 Photovoltaic Parks). We do not monitor water withdrawals by source from 4 Small Hydropower Plants because of their extra small to nil fraction to the total company's respective volume of water and also are not yet monitored at the corporate level. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). We disclose the relevant data at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sectors]	100%	The company measures and monitors the volumes of entrained water from all of its 2 facilities in Metallurgy Sector: bauxite mining plant and alumina & aluminum production plant. These data are collected monthly from Metallurgy sector EHS department, through the environmental management system processes. Also we disclose the relevant information at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS.
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	We monitor water withdrawals quality in all of our 2 facilities in Metallurgy Sector: bauxite mining plant and alumina & aluminum production plant. This refers to the quality of groundwater we drown into our boundary. These data are collected monthly from the Sector EHS department and reported annually to the local authorities (where it is recommended).
Water discharges – total volumes	76-99	The company considers this aspect as important. In this context measures and monitors the total volumes of water discharges from 21 out of 25 industrial facilities across its business: 4 Industrial plants, 3 Gas-fired thermal plant of primary electricity production and 14 facilities which are RES plants (11 Wind Farms, 3 Photovoltaic Parks). We do not monitor water discharges from 4 Small Hydropower Plants because of their extra small to nil fraction to the total company's respective volume of water and also are not yet monitored at the corporate level. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). Also we disclose water discharges at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS.
Water discharges – volumes by destination	76-99	The company considers this aspect as important. In this context measures and monitors the total volumes of water discharges by destination from 21 out of 25 industrial facilities across its business: 4 Industrial plants, 3 Gas-fired thermal plant of primary electricity production and 14 facilities which are RES plants (11 Wind Farms, 3 Photovoltaic Parks). We do not monitor water discharges from 4 Small Hydropower Plants because of their extra small to nil fraction to the total company's respective volume of water and also are not yet monitored at the corporate level. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). Also we disclose water discharges at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS.

	% of sites/facilities/operations	Please explain
Water discharges – volumes by treatment method	26-50	The company monitors the quality of its water discharges to comply with local legislation and corporate environmental policy and procedures, from 7 out of 25 facilities across its business: 2 Industrial plants of Metallurgy sector, 2 plants of EPC Project and 3 Gas-fired thermal plant of primary electricity production. In our 18 RES sites we do not monitor the water discharges volumes by treatment method. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). Also we disclose water discharges at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS.
Water discharge quality – by standard effluent parameters	26-50	The company monitors the quality of its water discharges by standard effluent parameters according to its Environmental Approval Permits mainly in its 7 heavy industrial facilities which are covering the 100% of the company's total discharge volume: 2 Industrial plants of Metallurgy sector, 2 plants of EPC Project and 3 Gas-fired thermal plant of primary electricity production. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). Also we disclose water discharges at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS.
Water discharge quality – temperature	1-25	MYTILINEOS considers this aspect as important in all its facilities where discharge temperature (see water) is increased, such as the 3 Gas-fired thermal plant of primary electricity production where water is used for cooling processes. The company monitors the temperature of its water discharges by standard effluent parameters according to its Environmental Approval Permits. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). Also we disclose water discharges at corporate level within our annual Sustainable Development Report under the new GRI STANDARDS. For the rest facilities the issue is not relevant.
Water consumption – total volume	76-99	MYTILINEOS considers this aspect as important. In this context measures and monitors the total water consumption volumes from 21 out of 25 industrial facilities across its business: 4 Industrial plants, 3 Gas-fired thermal plant of primary electricity production and 14 facilities which are RES plants (11 Wind Farms, 3 Photovoltaic Parks). We do not monitor water discharges from 4 Small Hydropower Plants because of their extra small to nil fraction to the total company's respective volume of water and also are not yet monitored at the corporate level. These data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals and reported annually to the local authorities (where it is recommended). Also we disclose water consumption total volume, at corporate level, within our annual Sustainable Development Report under the new GRI STANDARDS.
Water recycled/reused	1-25	Reused water volume refers mainly to 3 company facilities (two Gas-fire thermal plant of primary electricity production and one plant of Metallurgy sector - mining process) . Although there are in place small water recycled programs in Metallurgy sector the volumes are not officially measured. All data are collected monthly and are reported hese data are collected monthly from each Business sector EHS departments, through the environmental management system processes for review and management according to company's business sectors internal goals. Also we disclose water reuse volume percentage within our annual Sustainable Development Report under the new GRI STANDARDS.
The provision of fully-functioning, safely managed WASH services to all workers	100%	MYTILINEOS considers this aspect as important in all its facilities, so 100% of our Business sectors monitor this aspect as part of its labour relation policies and health and safety policies. All of our facilities (including RES sites) and corporate centers provide water consumptions and have access to fully-functioning WASH services.

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	171404.78	Higher	The company's total water withdrawal quantity presented a slide increase by 2.1%, comparing to 2017. The 95% of the total volume is related to seawater withdrawals. The increase is mainly due to the increase of the seawater volume used in the cooling systems of the Combined Heat and Power (CHP) plant of the Metallurgy sector. Total withdrawals will likely remain at the same volumes for the next 2 years with slide ups and downs as the limit of the seawater withdrawn for cooling purposes is annually determined by the Water Resources Management Directorate of the Sterea Regional Administration.
Total discharges	165700.67	Higher	The company's total water discharges presented a slide increase by 2.2%, comparing to 2017. The 95,6% of the total volume is related to seawater discharged back to its original source. Please see the above comment.
Total consumption	5704.11	About the same	The total consumption volume, compared to the respective one in 2017, remained almost unchanged (a decrease of 1%). Consumption is likely to decrease in the future, due to the company's Metallurgy sector 'Black Belt' project, gradual implementation launched in 2017, aimed at reducing the consumption of industrial and drinking water based on water reuse, the utilization of treated water and the use of modern equipment.

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	7	About the same	Rainwater volume collected directly in a special reservoir, with a capacity of 6-7 mega liters per year, configured in the area of a disused mine by the company's Metallurgy sector (mining activity).
Brackish surface water/Seawater	Relevant	162930.05	About the same	This figure shows the seawater intake for the cooling purposes of the High Efficiency Combined Heat and Power plant. The limit on the volume of seawater withdrawn annually is determined by a Decision of the Water Resources Management Directorate of the Regional Administration of the Prefecture of Sterea Hellas. This water source is relevant to MYTILINEOS because it is the main water source for some of our significant activities and is determined by legislation. Withdrawal of this kind of water has increased (by 2%) with respect to last year. Withdrawal volumes vary each year depending principally on the operation time of the High Efficiency Combined Heat and Power plant.
Groundwater – renewable	Relevant	8133.18	About the same	This figure corresponds to volume of brackish, industrial service and drinking water, used primarily to meet the water supply needs of the company's facilities in all Metallurgy and 2 out of 3 Energy industrial plants. This quantity is obtained mainly by a network of 17 drills, owned by the company's Metallurgy sector, in the wider region around aluminum facilities, in strict compliance with the provisions of the Water Resources Management Directorate of the Sterea Regional Administration. Also the source is characterized as renewable because the volumes of the water withdrawn can be replenished relatively quickly (according to company's monthly measurements) and is located at shallow dept.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Our company did not withdraw water from this source and neither did the previous year. Therefore, this water withdrawal is not relevant for the company.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Our company did not withdraw water from this source and neither did the previous year. Therefore, this water withdrawal is not relevant for the company.
Third party sources	Relevant	334.55	Higher	The 70% of this volume concerns seawater returned by third party sources (Motor Oil company) and used in the desalination process for the production of industrial water in our thermal power station of the Electric Power sector . The rest percentage of 30%, concerns water from public suppliers consumed by a large variety of activities in the company. In total this source is relevant because a large number of facilities depend on this kind of water. Withdrawals of this kind of water increased in 2018 due to the increased withdrawals volumes from public water utilities, used to meet the needs of the buildings and primarily of MYTILINEOS' industrial facilities in Metallurgy sector.

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	Not relevant	<Not Applicable>	<Not Applicable>	We do not discharge to surface water bodies, i.e. rivers, lakes and reservoirs outside our operations.
Brackish surface water/seawater	Relevant	165630.34	Higher	This figure shows the company's water discharge volume to the sea. 98% of this water volume is seawater discharge from the cooling process of the Combined Heat and Power (CHP) plant. The 1.5% is brackish water discharge for the Metallurgy casting's cooling system. The rest 0,5% waste water, including rainwater, measured at the point of exit from the primary treatment facilities of Metallurgy sector. Water discharged to this destination is relevant to MYTILINEOS as it is determined by legislation. The discharge of seawater have increased in comparison with the previous year as is directly connected with the respective withdrawal volumes which vary each year depending principally on the operation time of the High Efficiency Combined Heat and Power plant.
Groundwater	Relevant	40.98	Lower	Discharge volume to the subsoil which includes a) waste water from the mining process, b) Waste water from mining sites and c) Water used for road wetting, Watering –Environmental restoration.
Third-party destinations	Relevant	29.35	Lower	Industrial service water in the power generation process. Disposal to a Motor Oil company liquid waste treatment plant.

W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	1-10	Lower	The water quantity reused in other company's plants prior to being discharged amounted to 5.06 m m3 (2017: 5.14 m. m3) corresponding to 3.01% of the total withdrawal water volume. This quantity regards to the Electric Power sector by 99.8% and in particular: the reuse of 5,024,914 m3 of sea water from the cooling network of the co-generation plant (heat and power) in the thermal power plant of Agios Nikolaos b)the recycling of 30,396 m3 of liquid waste from the Heat recovery Boiler of the power generation plant of combined cycle (thermal power plant), in Agioi Theodoroi,Korinthia. The remaining quantity relates to the use of rainwater 7.000 m3 being collected in the raw materials mining activity.

W-MM1.2j

(W-MM1.2j) For your metals and mining operations, provide details of the volume of water recycled or reused by your organization and the proportion of total water use this represents.

	Volume of water recycled or reused by your organization (megaliters/year)	% of total water use recycled or reused	Please explain
Row 1	6.7	Less than 1%	Recycled amount of water in the mining activity for obtaining raw materials.

W-EU1.3

(W-EU1.3) Do you calculate water intensity for your electricity generation activities?

Yes

W-EU1.3a

(W-EU1.3a) Provide the following intensity information associated with your electricity generation activities.

Water intensity value (m3)	Numerator: water aspect	Denominator: unit of production	Comparison with previous reporting year	Please explain
0.67	Total water consumption	MWh	Higher	This intensity value refers to High Efficiency Combined Heat and Power Plant owned by MYTILINEOS, located in the Energy Complex of Ag. Nikolaos (Viotia).This indicator corresponds to water consumption per MWh. The value of the indicator is little higher compared to the previous reporting year (0.64), due to the decrease of the electricity production volume as a consequence of the extended scheduled maintenance of the plant.
0.04	Total water consumption	MWh	About the same	This intensity value refers to Gas-fired Combined Cycle Thermal Power Plant (CCGT) owned by KORINTHOS POWER SA, a subsidiary of MYTILINEOS located in Ag. Theodoroi (Korinthia). This indicator corresponds to water consumption per MWh. The value of the indicator remained the same compared to the previous reporting year, although there has been an increase of 15% in electricity production.

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: Unit of production	Comparison with previous reporting year	Please explain
Bauxite	Total water consumption	Ton of final product	About the same	2018: 0.000065 mega liters 2017: 0.000067 mega liters The value of the indicator has a small decreased compared to the previous reporting year as there has been a smaller production.
Alumina	Total water consumption	Ton of final product	Lower	2018: 0.00409000 mega liters 2017: 0.00464000 mega liters This indicator corresponds to water consumption of the company's alumina production process. Despite the increase of the alumina production volume the above result illustrates the effort made in the context of gradual implementation of the 'Black Belt' project, launched in 2017, aimed at reducing the consumption of industrial water, based on water reuse, the utilization of treated water and the use of modern equipment.
Aluminium	Total water consumption	Ton of final product	About the same	2018: 0.00249000 mega liters 2017: 0.00252000 mega liters Despite the increase of aluminium production by 3%, the above result illustrates the effort made in the context of gradual implementation of the 'Black Belt' project, launched in 2017, aimed at reducing the consumption of industrial water, based on water reuse, the utilization of treated water and the use of modern equipment.

W1.4

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

Yes, our suppliers

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

51-75%

% of total procurement spend

76-100

Rationale for this coverage

The main objective of the company, by 2025, is to integrate specific sustainable development requirements into the process of selecting its key suppliers as well as to commit existing ones to responsible practices aiming to developing partnerships for better understanding of impacts and for mutual harmonization of goals and expectations. In this context in 2018, MYTILINEOS carried out the 1st official sustainability self-assessment of its suppliers, as they were identified by each Business Activity Sector. The group of suppliers selected for reporting about their environmental (including water use) and social impacts the relative management information are all key suppliers with purchase orders, that represented the 78% of total company's procurement spending. The collection of information is carried out through an on line Self-Assessment Sustainability Questionnaire by the l company's central CSR department. 53% of the company's key suppliers responded to this process.

Impact of the engagement and measures of success

The servey asks specifically about water use and reduction mechanisms, among other environmental aspects, and is used by MYTILINEOS to: 1) to investigate whether the company's key suppliers have in place a process in terms of identification and management of the most significant current and potential environmental impacts stemming from their activity, 2) to report if they comply with the environmental and other sustainability standards as defined in our Supplier Code of Conduct and 3) to record these impacts for further suppliers assessment purposes on behalf of the company and to undertake any corrective actions, if needed. Finally, following the results of the study and the practices reported by suppliers, the company designed specific improvement actions (b' cycle of self-assessment with non-responding suppliers, training conferences, sending incentivizing letters etc) which are still in the approval stage in view of a step-wise implementation starting in the period 2019-2020.

Comment

For more information please advice MYTILINEOS Sustainable Development Report, page 110.

W1.4b

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

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-EU3.1

(W-EU3.1) How does your organization identify and classify potential water pollutants associated with your business activities in the electric utilities sector that could have a detrimental impact on water ecosystems or human health?

All the company's Business Sectors apply an ISO 14001 -2015 certified Environmental Management System, supported by specific environmental policies. In parallel, the systematic application of Best Available Techniques (BATs) in the electricity generation process is a significant factor that contribute to the company's business growth and drive its commitment to the protection of the environment and to ensuring the sustainable management of natural resources. The company has a specific standard-guide to manage the withdrawals and discharges in all process of Electric Power sector to guarantee the compliance with current legislation and avoiding any environmental impact. All the plants have technical instructions under this guide to determine the parameters/contaminants to be controlled, measurement points, frequency of measurement, limit values and who will carry out each measurement. There are no potential water-related impacts on ecosystem or human health. Moreover, all company's sectors follow the MYTILINEOS Measures & Principles for the protection of the natural environment, such as: a) Adherence to the agreements and commitments that the Company's Sector has undertaken over and above its statutory obligations, b) Organisation of regular internal and external inspections to assess the performance of the Environmental Management System, the achievement of the targets set and the application of regulations and principles, c)Prevention of all risks of pollution, including by accident, or of other large-scale accidents (development, testing and application of emergency response procedures), d) Assessment of the impacts of the company's activities on the environment, identification and assessment of potential risks, adoption of the necessary preventive measures, conduct of regular inspections and drills in order to confirm their implementation and evaluate their efficiency, e) Control and continuous reduction of liquid waste and f) Correction of all deviations identified, by introducing and implementing improvement / restoration plans and preventive action plans.

W-EU3.1a

(W-EU3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants associated with your activities in the electric utilities sector on water ecosystems or human health.

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
No potential water pollutants identified	<Not Applicable>	<Not Applicable>	According to the evaluation tools available, no source of water was affected by MYTILINEOS' Electric power Sector activity in 2018.

W-MM3.2

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

W-MM3.2a

(W-MM3.2a) To manage the potential impacts to human health or water ecosystems associated with the tailings dams in your control, what procedures are in place for all of your dams?

Procedure	Detail of the procedure	Please explain
No management procedure applies to all tailings dams	<Not Applicable>	We do not use tailings 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

Partial

Risk assessment procedure

Water risks are assessed as a standalone issue

Frequency of assessment

Every two years

How far into the future are risks considered?

3 to 6 years

Type of tools and methods used

Other

Tools and methods used

Internal company methods
External consultants
Other, please specify (ISO 14001)

Comment

This refers to company's direct operations, in Metallurgy sector. We measure the water consumption and monitor the natural sources situation in order to meet the permit’s rules and criteria. The company has a specific water resources procedure within the environmental management standard. In case of a new product or any production change, we re-estimate the water needs and amend the permits if it would be accepted by the authorities. Our EHS team (in Metallurgy Sector) maintains a standing agenda item on environmental topics (including water) as part of its monthly meetings. Water risk assessment is taking place particularly in the alumina & aluminium production facilities including the High Efficiency Combined Heat And Power Plant which is used for the steam production. These facilities represent more than the 99% of the company's direct industrial operations water needs. Our facilities are certified under ISO14001 and evaluate water aspects in order to prevent, minimize and control potential impacts generated.

Supply chain

Coverage
Partial

Risk assessment procedure
Other, please specify (Water risks are assessed as part of the 1st company's suppliers environmental & social risk assessment according to its "Suppliers & Partners Code of Conduct")

Frequency of assessment
Every two years

How far into the future are risks considered?
Up to 1 year

Type of tools and methods used
Other

Tools and methods used
Internal company methods

Comment
In 2018, MYTILINEOS carried out the 1st official self-assessment of its key suppliers, as they were identified by each Business Activity Sector, through a structured questionnaire. The aim of this initiative was: 1) to investigate whether the company's suppliers own a recognition and management procedure of the most important, existing and potential impacts (environmental and social) stemming from their activity and 2) the recording of these impacts allowing the company to assess them planning any corrective actions, in the context of its effort to develop a responsible supply chain. A percentage of 53% (146 key suppliers) responded to this first attempt of bringing closer the company's suppliers with Sustainable Development issues. The degree of correlation between the suppliers who declared having a recognition procedure of effects/risks and the reporting of respective practices applied for preventing or coping with such risks is very high reaching 97%. As far as the declared practices is concerned, compliance with the legislation ranks very high, in labor issues mostly, while reference to more specialized initiatives is limited. In addition, both domestic and foreign suppliers have a common identification of the areas likely to incur potential negative impacts. Regarding the most important potential environmental impacts, the suppliers reported the following: Waste management, energy consumption, pollution of the natural environment, air emissions and water consumption.

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

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	Water which is used primarily to meet the manufacturing / processing, energy and water supply needs of the MYTILINEOS' industrial facilities in Metallurgy sector, is obtained from a network of 17 drills, which the company operates in the broader region around its plant, in strict compliance with the provisions of the relevant Decision of the Water Resources Management Directorate of the Sterea Hellas Regional Administration. Concerning seawater is by its nature not subject to scarcity while, wastewater discharges comply with national and local regulations and permit authorization. Company's alumina and aluminium production plants have access to sufficient water supplies to support present and future operational demands. Also we are conducting scenario planning of potential events that could affect mining operations such as storms that produce excess water. Moreover, at operations where water availability is important, we consider future changes in water availability in our assessments using internal company knowledge. This may take the form of supply continuity risk which involve liaison with regulators on permitted withdrawal volumes.
Water quality at a basin/catchment level	Relevant, always included	Water which is used primarily to meet the manufacturing / processing, energy and water supply needs of the MYTILINEOS' industrial facilities in Metallurgy sector, is obtained from a network of 17 drills, which the company operates in the broader region around its plant, in strict compliance with the provisions of the relevant Decision of the Water Resources Management Directorate of the Sterea Hellas Regional Administration. Concerning seawater is by its nature not subject to scarcity while, wastewater discharges comply with national and local regulations and permit authorization.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Where appropriate, we will always consider stakeholder conflicts when assessing water resources and our requirements, at a local level. There were no such conflicts as the MYTILINEOS' Metallurgy Sector is the water supplier of the local communities in the area of its operation. We consider early and effective engagement with our Stakeholders which strengthen the Company's process for the identification of conflicts in connection with sustainability issues. This Engagement mechanism consists of the following approaches: a) Official Stakeholder Engagement Procedure on environmental issues, b) open door policy with employees and local citizens, c) close cooperation with the Hellenic Federation of Enterprises (SEV) and the Greek Mining Enterprises Association (SME), in terms of significant environmental issues (including water).
Implications of water on your key commodities/raw materials	Relevant, always included	In case of a new product or any production change, we re-estimate the water needs and amend the permits if it would be accepted by the authorities. In Metallurgy sector, the production of alumina (is the industrial product derived from bauxite ore and is used to produce primary cast aluminium) with method (Bayer) requires significant quantities of fresh water which comes from groundwater renewable sources. MYTILINEOS' Metallurgy Sector has evaluated the possibility of using sea water after desalination treatment to cover a big part of its needs.
Water-related regulatory frameworks	Relevant, always included	We use water in strict compliance with the provisions of the relevant Decision of the Water Resources Management Directorate of the Regional Administration of the Prefecture of Sterea Hellas, and are under permission by the local Authorities. Possible future changes in the limits of the water withdrawals may effect negatively our operations in terms of business expansion. To identify and evaluate the future potential of regulatory changes of sustainability issues including water, we engage in constant dialogue with our stakeholders including the competent authorities.
Status of ecosystems and habitats	Relevant, always included	The areas used for water withdrawal by the MYTILINEOS activity sectors, are not particularly sensitive in terms of endangered or threatened ecosystem. Although, regarding the seawater used in the cooling systems of the Combined Heat and Power (CH) plant in addition to the strict compliance with the relevant provisions of the laws determining the framework for preventing any environmental impact, the company appoints, on an annual basis, an authoritative organisation (Hellenic Centre for Marine Research - HCMR) to conduct of a research study to monitor the status of living organisms (benthic biocoenoses, with emphasis on thermophilic species) on the Antikyra Gulf seabed.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	We are providing access to water, sanitation and hygiene at the workplace at an appropriate level of standard for all employees.
Other contextual issues, please specify	Relevant, always included	Regulatory changes at a local level: MYTILINEOS activities are in conformity with the laws and regulations that are relevant to the environmental protection. The compliance cost with such regulations involves, among others, either investments or the significant spending for actions relating to the safe management of industrial wastes and measures for remediating environmental damages. Environmental issues within our responsibility might arise in the future in relation to our current facilities, facilities that we owned in the past or facilities where we conducted our operations even if the Management has not been or could not be aware of such issues up to date or these issues have not been present yet.

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, sometimes included	There are no request information concerning water use or management by our customers. The trust of customers/consumers is essential for our success, that's why customers are factored into our assessments to ensure continuity of our business.
Employees	Relevant, always included	Our water risk assessment takes into consideration our employees behaviour and awareness concerning water consumption.
Investors	Relevant, always included	Investors are factored into our assessment because any disruption to planned operations or change in future risk exposure, has the potential to impact negatively on revenue and profitability alongside shareholder perception towards the company. Although there are no requests for information concerning water use and management by our shareholders we report the relevant data in our Sustainability reports as well as in our Global Compact CoP (Advanced Level) to give them the opportunity to assess their potential investment and to send any feedback. We are in close dialog with the capital market and rating agencies. We conduct roadshows to meet with socially responsible investors (SRI). At these events, we discuss various sustainability topics including water.
Local communities	Relevant, always included	The MYTILINEOS Metallurgy sector is the water supplier of the local communities in the area it operates. Local communities are a primary stakeholder group for the company whose input is evaluated through our annual engagement process at local level. At present we do not face any issues with local communities, but if such issues were to arise, they could jeopardize business continuity. Thus we strive to maintain dialogue with local communities and to always consider their circumstances when assessing water risk.
NGOs	Relevant, sometimes included	A fixed component of our sustainability management is the continuous exchange with our stakeholders including NGOs. NGO positions on our activities, especially where a facility withdraws or discharges significant volumes of water, are materially important to us and where applicable, we will engage directly with the NGOs and factor their views and insights into our risk assessments.
Other water users at a basin/catchment level	Not considered	There are no other water users at a local level.
Regulators	Relevant, always included	We operate facilities which are subject to water-related permits or licenses. The relevant regulators are always factored into our assessments as their evaluation of our operational performance is important to the continuity of our business. Regular inspections are carried out by Environmental Regulators and routine reports are submitted to them.
River basin management authorities	Not relevant, explanation provided	There are no river basin management authorities.
Statutory special interest groups at a local level	Not relevant, included	Included in local communities concern. MYTILINEOS does not face any issues or conflict with such groups.
Suppliers	Relevant, not included	The suppliers’ water use, risks and management are considered as an issue not related to our production because of the raw materials (bauxite, pet coke etc) nature. On the other hand, we recognize the need to identify supplier-side water risk according to our strategic line to build a responsible key suppliers group until 2025.
Water utilities at a local level	Not relevant, explanation provided	There are no water utilities/suppliers at local level.
Other stakeholder, please specify	Relevant, sometimes included	Sustainable Development & Corporate Social Responsibility institutions in Greece in which MYTILINEOS participates, in the context of its broader Environmental Policy.

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.

Please advise our Disclosure Management Approach within our Sustainable Development Report 2018 (page 48) in the following address: https://www.mytilineos.gr/en-us/csr-reports/publications.

Our aim is to avoid risks that pose a threat to MYTILINEOS operations continued existence and to make improved managerial decisions to create lasting value. We understand risk to be any event that can negatively impact the achievement of our short-term operational or long-term strategic goals. More specifically, in Metallurgy sector a substantive risks include: a) water availability and quality and extreme weather events, b) withdrawal and discharge authorisations and impact on supply chain, habitats and ecosystems. These could increased capital expenditure and operational maintenance costs associated with development of alternate water supplies. Many exposure variables and tools are used in the process to identify and assess these risks, such as: tools to monitor consumption and discharges and procedures for environmental management and the experience of the company's qualified personnel. Also, in order to effectively measure and manage identified opportunities and risks, we quantify these in terms of probability and economic impact in the event they occur. If a risk is identified that could have a significant impact on earnings, it must be immediately reported to the Executive Committee. Also, we measure the water consumption and monitor the natural sources situation in order to meet the permit's rules and criteria. In case of a new product or any production change, we re-estimate the water needs and amend the permits if it would be accepted by the authorities. Our stakeholder engagement process aims to promote open exchange between citizens and our site management with the goal of strengthening trust in our activities. In respect of water consumption, our facilities monitor their water use and implement risk minimization strategies if necessary. In addition, we specify stakeholders appropriately and use ISO26000 to ensure we have not missed any perspectives or matters that should be included in the due diligence process.

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?

There are no operational, financial or strategic substantive or inherent risks that undermine our business, in terms of water issue. Through self-assessment & threats and opportunities evaluation procedures at sector level, our aim is to avoid risks that pose a threat to MYTILINEOS operations continued existence and to make improved managerial decisions to create lasting value. We understand risk to be any event that can negatively impact the achievement of our short-term operational or long-term strategic goals. For example, in Metallurgy sector, water is used to produce the steam required in the digestion process; in the preparation of aqueous caustic soda, flocculants and lime; to wash the ore, residues and recycled caustic and for dust mitigation. There are also uses such as vehicle washing, sanitation and provision of drinking water which occur at a refinery. The amount of water used in refineries is dependent on a variety of factors – bauxite quality, the design of the process facility, the extent to which water is recycled and the demand for non-process applications as well as the location of the facility. A substantive risk in this sector may include the change of the limits of the water use permission issued by local authorities. This could include increased capital expenditure and operational maintenance costs associated with development of alternate water supplies. In order to effectively measure and manage identified opportunities and risks, we quantify these in terms of probability and economic impact in the event they occur. If a risk is identified that could have a significant impact on earnings, it must be immediately reported to the Board of Executive Directors. Recognising that water is a precious resource, we are investing in sustainable water management programmes, including increased use of recycled water, although non-recycled resources are still essential for some stages of the refining process in Metallurgy sector.

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	2	1-25	As mentioned above, although water related risks are less material for our business we report two facilities that use the 99,8% of the total amount of the company's water withdrawal and could have potential substantive impact in the future: 1) High Efficiency Combined Heat and Power Plant, in Ag. Nikolaos (Viotia), exposed to seawater risks in terms of the limits of the water use permission issued by local authorities. This facility also used by Metallurgy sector for the steam production as a basic stage in alumina production process. 2) Alumina and Aluminium production Plant in Ag. Nikolaos (Viotia), which uses industrial water for its operation, is exposed to groundwater and municipal supply sources risks concerning to the limits of the water use permission issued by local authorities.

W4.1c

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

Country/Region
Greece

River basin
Other, please specify (Sea Golf of Antikira)

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
177000000

% company's annual electricity generation that could be affected by these facilities
Less than 1%

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

% company's total global revenue that could be affected
1-25

Comment
Sea water, is by its nature, not subject to scarcity. There are no clear financial water risks, deriving from the operation of the High Efficiency Combined Heat and Power Plant. Our Combined Heat and Power (CHP) plant requires specific quantity of seawater for use in its cooling system. This facility is used by Metallurgy sector for the steam production as a basic stage in alumina production process. The limit on the volume of seawater, withdrawn annually for this purpose, is determined by a Decision of the Water Resources Management Directorate of the Prefecture of Sterea Ellada. Any change on this volume in the future may affect partially our operation increasing costs, forcing us to find alternative ways of water supply.

Country/Region
Greece

River basin
Other, please specify (Groundwater sources & Mornos River)

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
394000000

% company's annual electricity generation that could be affected by these facilities
Less than 1%

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

% company's total global revenue that could be affected
1-25

Comment
Alumina and Aluminium production Plant which uses industrial water for its operation, is exposed to groundwater and municipal supply sources risks concerning to the limits of the water use permission issued by local authorities. In case of the change of current limits of groundwater withdrawal, it has been estimated that if we have to meet all our the water needs of these specific facilities through the municipal supply (the Athens Water Supply and Sewerage Company - EYDAP) then it will affect less than 1% the price of aluminium products according to the current pricing policy of EYDAP.

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/Region
Greece

River basin
Other, please specify (Sea Golf of Antikira)

Type of risk
Regulatory

Primary risk driver
Statutory water withdrawal limits/changes to water allocation

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Our Combined Heat and Power (CHP) plant requires specific quantity of seawater for cooling purposes. Withdrawals/discharges are directly measured; consumption is calculated. The limit on the volume of seawater, withdrawn annually for this purpose, is determined by a Decision of the Water Resources Management Directorate of the Prefecture of Sterea Ellada. Any change on this volume may affect our operation increasing costs, forcing us to find alternative ways of water supply or forcing premature closures. Also, the volume of the sea water which returns back to the sea after the cooling process may affect the status of living organisms (benthic biocoenoses, with emphasis on thermophile species) on the Antikira Gulf seabed in terms of its ph and temperature.

Timeframe
4 - 6 years

Magnitude of potential impact
Low

Likelihood
Very unlikely

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact
We do not see financial impact for the next 5 years.

Primary response to risk
Engage with regulators/policymakers

Description of response
Engagement with public policy makers - Strengthen links with local community - Cooperation with governmental research organisations. Our strategy is applied on an annual basis and consists of the following elements: 1) Compliance with the environmental legislation (including water management) is a core priority of MYTILINEOS. This view, which also serves as the foundation of the company's environmental policy, aims to drive the continuous improvement of its environmental footprint and is based, first and foremost, on the principle of adherence to the provisions of the law, as well as to the agreements concluded and the voluntary commitments. 2) Metallurgy Sector has close cooperation with the responsible services of the Ministry of the Environment and of the Region of Sterea Hellas, which are responsible for controlling its activity and environmental performance. 3) Company's Stakeholder Engagement process expresses, in a systematic way, the long-standing principle to engage in a consistent and honest open dialogue with its Stakeholders. In this context, thematic consultations on Environmental issues take place giving the opportunity to our social partners to raise its concerns or expectations 4) Finally, the Metallurgy Sector appoints, on an annual basis, an authoritative organization Hellenic Centre for Marine Research - HCMR) to conduct of a research study to

monitor the status of living organisms, on the he Antikyra Gulf seabed.

Cost of response
42000

Explanation of cost of response
There is no separated cost to managing the water risks. The cost of response is related with the research study to monitor the status of living organisms, on the he Antikyra Gulf seabed, as mentioned above. The total planned expenditures for the implementation of the company's environmental policy in Metallurgy Sector (which includes water issues) reaches the number of €8-10 million in annual basis.

Country/Region
Greece

River basin
Other, please specify (Groundwater sources & Mornos River)

Type of risk
Regulatory

Primary risk driver
Statutory water withdrawal limits/changes to water allocation

Primary potential impact
Increased operating costs

Company-specific description
Volume of industrial service, brackish and drinking water, used primarily to meet the manufacturing / processing, and water supply needs of the company's industrial facilities, in Metallurgy Sector. It is obtained from a network of 17 drills, owned by Metallurgy sector, in the broader region around its plant, in strict compliance with the provisions of the relevant Decision of the Water Resources Management Directorate of the Sterea Regional Administration which has set specific limits on water withdrawal. Any change on these limits may force us to municipal supply source affecting our operational costs, although a limited production disruption is not excluded.

Timeframe
4 - 6 years

Magnitude of potential impact
Low

Likelihood
Very unlikely

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact
As we use groundwater from renewable resources and the specific water risk is not material to our business, there is no need of calculation of its potential financial impact. We do not see financial impact for the next 5 years.

Primary response to risk
Engage with regulators/policymakers

Description of response
The MYTILINEOS Metallurgy sector has close cooperation with the responsible services of the Ministry of the Environment and of the Region of Sterea Hellas, which are responsible for controlling its activity and environmental performance. Also the sector has an internal specific water target, not only to remain below the withdrawal limits but also to improve its performance as much as possible.

Cost of response
250000

Explanation of cost of response

There is no separated cost to managing the water risks. The total planned expenditures for the implementation of the company's environmental policy in Metallurgy Sector (which includes water issues) reaches the number of €8-10 million in annual basis. The cost of response refers to the installation of a new, industrial water supply pipe from the well water collection tank to the central industrial water tank which feeds all the plant's facilities. This project ensures that the Aluminium plant is supplied with industrial water in the event of potential damage to the old network.

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	In Metallurgy sector, mining is at the base of the value chain and therefore we directly evaluate water use, risk and management as a core component of our own business. The suppliers' water use, risks and management are considered as an issue not related to our production because of the raw materials (bauxite, pet coke etc) nature. Also the company's power plants are located near the coast line and all internal water needs can be covered by sea water. Gas-fired Combined Cycle Thermal Power Plant (CCGT), in Agioi Theodoroi, uses sea water for its desalination plant. The sea water is provided by the Refinery plant that lies next to the plant and the quantity and quality is guaranteed with contracts. Moreover sea water is by its nature not subject to scarcity. We have reviewed public disclosures of our key suppliers and from that review we have not identified any water-related risks that could materially impact our business.

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
Other

Primary water-related opportunity
Other, please specify (Cost savings & community relations)

Company-specific description & strategy to realize opportunity
The power plants of MYTILINEOS are located near the coast line and use sea water. The Metallurgy Sector covers its local communities water needs. Also, it operates three wastewater treatment plants for the needs of the plant and local communities.The selected locations for the operation of MYTILINEOS facilities, in Metallurgy and Energy sectors, have a strategic importance. The use of seawater and groundwater provides cost savings for all plants. Also the Metallurgy Sector through its network of 17 drills covers the water needs of its local communities, maintaining good community relations and its social license to operate.

Estimated timeframe for realization
>6 years

Magnitude of potential financial impact
High

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact
There is no calculation of its potential financial impact.

W5. Facility-level water accounting

W5.1

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

Facility reference number
Facility 1

Facility name (optional)
High Efficiency Combined Heat and Power Plant

Country/Region
Greece

River basin
Other, please specify (Sea Golf of Antikira)

Latitude
38.358016

Longitude
22.689508

Primary power generation source for your electricity generation at this facility
Gas

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
162930

Comparison of withdrawals with previous reporting year
Higher

Total water discharges at this facility (megaliters/year)
161828.9

Comparison of discharges with previous reporting year
Higher

Total water consumption at this facility (megaliters/year)
1101.3

Comparison of consumption with previous reporting year
Lower

Please explain
Seawater volumes for the cooling systems of the CHPP facility. The withdrawal and discharge volumes are higher with respect to last year due to the increase of production. Concerning the future projections, the limit on the volume of seawater withdrawn annually is determined by a Decision of the Water Resources Management Directorate of the Sterea Regional Administration, so it will be about the same with limited positive or negative deviations. The water consumption volume was lower by 14%.

Facility reference number
Facility 2

Facility name (optional)
Alumina and Aluminum production Plant

Country/Region
Greece

River basin
Other, please specify (Groundwater sources & Mornos River)

Latitude
38.360912

Longitude
22.688575

Primary power generation source for your electricity generation at this facility
Gas

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
8099.2

Comparison of withdrawals with previous reporting year
About the same

Total water discharges at this facility (megaliters/year)
3801.4

Comparison of discharges with previous reporting year
About the same

Total water consumption at this facility (megaliters/year)
4297.78

Comparison of consumption with previous reporting year
About the same

Please explain
Withdrawals/discharges are directly measured; consumption is calculated. Virtually all withdrawals/discharges are due to alumina

and aluminium production. Consumption shows water into production and for human use. This facility produced more alumina and aluminium volumes, 1% and 3% respectively, in 2018, keeping water consumption at the same levels. This is due primarily to improvements in installations as well as to small-scale water recycling practices, where this was feasible, in the framework of a large-scale “Black Belt” project implemented in the alumina and aluminum production processes with the aim of conserving water resources.

W5.1a

(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.

Facility reference number
Facility 1

Facility name
High Efficiency Combined Heat and Power Plant

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
162930

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
0

Comment
Seawater is used for the cooling systems of the High Efficiency Combined Heat and Power (CHP) Plant. The limit on the volume of seawater withdrawal annually is determined by a Decision of the Water Resources Management Directorate of the Sterea Hellas Regional Administration.

Facility reference number
Facility 2

Facility name
Alumina and Aluminum production Plant

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
0

Groundwater - renewable
8099.2

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
83.46

Comment
The figure corresponds to volume of brackish, industrial service and drinking water, amount of groundwater is used to meet the manufacturing / processing needs of the facility as well as to cover the local communities water supply needs. This quantity is obtained mainly by a network of 17 drills, owned by the company's Metallurgy sector, in the wider region around aluminum facilities, in strict compliance with the provisions of the Water Resources Management Directorate of the Sterea Regional Administration. Also, the source is characterized as renewable because the volumes of the water withdrawn can be replenished relatively quickly (according to company's monthly measurements) and is located at shallow dept. Third party sources refers to the amount of Municipal water used to support the needs of the facility industrial water.

W5.1b

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

Facility reference number
Facility 1

Facility name
High Efficiency Combined Heat and Power Plant

Fresh surface water
0

Brackish surface water/Seawater
161828.91

Groundwater
0

Third party destinations
0

Comment
Seawater discharged to the sea from the cooling systems of the High Efficiency Combined Heat and Power (CHP) Plant. The limit on the volume is determined by a Decision of the Water Resources Management Directorate of the Sterea Hellas Regional Administration.

Facility reference number
Facility 2

Facility name
Alumina and Aluminum production Plant

Fresh surface water
0

Brackish surface water/Seawater
3801.43

Groundwater

Third party destinations
0

Comment
Groundwater controlled discharge volumes to the sea. All discharges satisfies the facility's discharge permit.

W5.1c

(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

Facility reference number
Facility 1

Facility name
High Efficiency Combined Heat and Power Plant

% recycled or reused
1-10%

Comparison with previous reporting year
About the same

Please explain
This amount refers to seawater that is reused in another facility prior to being discharged. It concerns the use of 5,06 mega liters that come from the cooling system network of the High Efficiency Combined Heat and Power Plant (prior to being discharged), to the Gas-fired Combined Cycle Thermal Power Plant (located at the same Energy Complex of Ag. Nikolaos) for cooling purposes. This amount is corresponding to 3.01% of the company's total water withdrawal.

Facility reference number
Facility 2

Facility name
Alumina and Aluminum production Plant

% recycled or reused
Less than 1%

Comparison with previous reporting year
About the same

Please explain
Concerns very small amounts of recycle water in the production process due to improvements in installations as well as to small scale water recycling practices, where this was feasible, in the framework of a large-scale “Black Belt” project implemented in the alumina and aluminums production processes with the aim of conserving water resources. As the project is currently in progress, more positive results are expected in the future.

W5.1d

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

Water withdrawals – total volumes

% verified
Not verified

What standard and methodology was used?
Audited by the authorities under permits’ rules and terms (quantities measurement control etc.)

Water withdrawals – volume by source

% verified
Not verified

What standard and methodology was used?
Audited by the authorities under permits’ rules and terms (quantities measurement control etc.)

Water withdrawals – quality

% verified
Not verified

What standard and methodology was used?
Audited by the authorities under permits’ rules and terms (quantities measurement control etc.)

Water discharges – total volumes

% verified
Not verified

What standard and methodology was used?
Audited by the authorities under permits' rules and terms (quantities measurement control etc.)

Water discharges – volume by destination

% verified
Not verified

What standard and methodology was used?
Audited by the authorities under permits' rules and terms (quantities measurement control etc.)

Water discharges – volume by treatment method

% verified
Not verified

What standard and methodology was used?
Audited by the authorities under permits' rules and terms (quantities measurement control etc.)

Water discharge quality – quality by standard effluent parameters

% verified
Not verified

What standard and methodology was used?
Audited by the authorities under permits' rules and terms (quantities measurement control etc.)

Water discharge quality – temperature

% verified
Not verified

What standard and methodology was used?
Audited by the authorities under permits' rules and terms (quantities measurement control etc.)

Water consumption – total volume

% verified
Not verified

What standard and methodology was used?

Water recycled/reused

% verified
Not verified

What standard and methodology was used?

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	Commitment to align with public policy initiatives, such as the SDGs Other, please specify (Water issue is included in our Business Sectors environmental policies, in our Environmental Management & Climate Change Disclosure Management Approach under the management of raw materials as well as in our CSR policy under SDGs alignment.)	Following the results of the company's 2019 Materiality Process, we may form a stand alone water policy in the next 2 years time. MYTILINEOS_CSR_Policy_en.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
Other, please specify (Executive Committee)	The board receives the relevant environmental reports on progress, but not discussing these topics themselves. On the other hand the company's Executive Committee is discussing on water topic, if there are specific risks to manage. According to the company's EHS structure a designated Team leading by a competent person is responsible for the Environmental issues by activity sector. In addition the head of corporate HSE, has taken over a coordinating role on the Environmental aspects (including water) of the MYTILINEOS Business Activity Sectors, composing the overall picture, designing the strategy, highlighting and promoting best practices, aiming at shaping the corporate image in the market. Every 3 months an overall presentation of environmental issues (including water) takes place at Executive Committee level (executed by the head of Corporate HSE) with intermediate relevant progress reports. The company's executive management team is presented to the following link: https://www.mytilineos.gr/en-us/management-directors/list
Other, please specify (CSR Committee)	CSR Committee is composed of board members and senior company staff (https://www.mytilineos.gr/en-us/committees/and-external-auditors#tab-csr-committee). The committee refers to water issue once a year in the context of the Materiality process results validation.

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	Other, please specify (The board receives the environmental progress reports, but not discussing these topics themselves unless an important matters arise.)	Monitoring implementation and performance Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding corporate responsibility strategy Setting performance objectives	These governance mechanisms take place at the company's Business Sector level.

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)
Environmental health and safety manager

Responsibility
Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
Quarterly

Please explain
The persons with the direct responsibility for matters relating to water issues within the company's activity sectors are: a) In Metallurgy Sector the EHS and Continuous Improvement Director, b) In Energy Sector the Plant Manager of Agios Nikolaos and Agioi Theodoroi CCGT power plants and the Head of Section Environment, Management Systems & Compliance. Also, the Plant Managers and the Operation Managers of the power plants are responsible for reporting in a monthly basis to the competent local authority. The General Managers of each MYTILINEOS business activity sector inform the Executive Committee about objectives and performance of environmental issues, including water, if there are specific risks to manage.

W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4

(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?
No, and we do not plan to introduce them in the next two years

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?
No

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?
Yes (you may attach the report - this is optional)
MYT_ETISIA_EKTHESI_2018_ENG_FOR WEB.pdf

With reference to our new investments in Metallurgy & Electricity Power sectors, we may include water-related risks and risk management in the following years in our financial report.

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	5-10	MYTILINEOS long term business objective is to become regional leader in each sector through continuous reinvestment while ensuring stable shareholder returns. In Metallurgy Sector the company focus on continuous cost cutting and product quality improvement as well as to invest in innovative technologies to enhance productivity and performance standards. In Electric Power Sector the company focuses on the increase of power production and to implement a new round of Renewables Investments. MYTILINEOS takes into account for its above mentioned business objectives by sector of activity several water issues such as water withdrawals, water reuse & recycling, water discharges quality and water cost.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	Our strategic lines to achieve our long-term business objectives include: In Metallurgy Sector a) Ongoing productivity and performance improvement to keep the company's place within the first quadrant of the global cost curve, b) Acquisition of know-how and expansion into the aluminium scrap recycling activity by acquiring the company EPALME SA. c) The basic technical study for the new Alumina plant with a production capacity of 1m. tons annually, is under completion. Water issues have been integrated in a time horizon beyond 5 years. We expect changes since we are going to operate a new alumina production plant increasing our water withdrawals mainly from public utilities sources. Concerning our existing facilities we expect changes in the near future, in terms of water consumption reduction due to the gradual implementation of the water 'Black Belt' project, aimed at reducing the consumption of industrial and drinking water, based on water reuse, the utilization of treated water and the use of modern equipment. In Electric Power sector a) Reduction of carbon footprint by means of further investment in the sector of RES b) Implementation of a new investment related to the establishment of a gas-fired, electric power generation plant of combined cycle, currently in the process of licensing to replace the lignite plants. Water issues have been integrated expecting changes mainly in seawater withdrawals regarding the investment for the new combined cycle gas fired plant.
Financial planning	Yes, water-related issues are integrated	5-10	The financial aspects affected by the water related initiatives, concern mainly the Metallurgy sector. The outcomes of the implementation of the 'Black Belt' project will contribute to the operating cost reduction program boosted the company's Metallurgy sector competitiveness.

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)

25000000

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

-100

Water-related OPEX (+/- % change)

21.9

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

10

Please explain

CAPEX in 2018 has a significant increased compared to 2017 because of the installation of a new, industrial water supply pipe from the well water collection tank to the central industrial water tank which feeds all the plant's facilities. This project ensures that the Aluminium plant is supplied with industrial water in the event of potential damage to the old network. Regarding OPEX, in the reporting year has increased by 21.9%, comparing to 2017 mainly due to the increased of energy and maintenance costs concerning industrial, brackish and drinkable water withdrawals volumes and the relative treatment process in Metallurgy Sector. Regarding anticipated forward trend for CAPEX and OPEX during 2019, CAPEX will decrease around 10% in comparison with 2017 due to the cost reduction related to the use of municipality water in Metallurgy Sector. On the other hand, OPEX will be decreased by 100%, in 2019, as no further significant water investment in the operations is expected.

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	No, but we anticipate doing so within the next two years	The Climate Change adaptation has been added as a stand alone subject in the list of the identified issues in terms of the company's 2019 Materiallity process. Since the issue will be characterized as material then the company may proceed to the development of resilient strategic lines in terms of climate-related scenario.

W7.4

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

Row 1

Does your company use an internal price on water?

No, and we do not anticipate doing so within the next two years

Please explain

As the costs associated with water use do not reflect a significant economic impact to the company in monetary terms, we do not use an internal price on water.

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	Targets are monitored at the corporate level Goals are monitored at the corporate level	Company wide our approach to setting water-related targets and goals derives mainly from our commitment to support the Sustainable Development Goals 6 and 14 in conjunction with our relations with local communities in terms of environmental issues and initiatives. Moreover we have site/facility policy to set water targets in order to decrease water cost and to comply with specific regulations.

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 pollution reduction

Level

Company-wide

Primary motivation

Commitment to the UN Sustainable Development Goals

Description of target
Zero water pollution incidents. This is an important and company-wide target as it responds to more than one of the MYTILINEOS Measures and Principles for the Environmental Protection: 1) Prevention of any identified pollution risk and 2) Assessment of the impacts of the company's activities on the environment, identification and assessment of potential risks, adoption of the necessary preventive measures, conduct of regular inspections and drills in order to confirm their implementation and evaluate their efficiency. This target, is a company-wide target and is broken down into annual objectives in all Business activity sectors, which, in addition, is again broken down at facility level.

Quantitative metric
Other, please specify (Number of pollution incidents)

Baseline year
2017

Start year
2017

Target year
2018

% achieved
100

Please explain
Target achieved: No water pollution incidents occurred during 2018.

Target reference number
Target 2

Category of target
Water consumption

Level
Company-wide

Primary motivation
Commitment to the UN Sustainable Development Goals

Description of target
Total water consumption <5,800 megaliters /year. This is an important and company-wide target as it responds to one of the MYTILINEOS Measures and Principles for the Environmental Protection: Control of the consumption of raw materials and energy. This target, is a company-wide target and is broken down into annual objectives in all Business activity sectors, which, in addition, is again broken down at facility level.

Quantitative metric
% reduction in total water consumption

Baseline year
2014

Start year
2014

Target year
2018

% achieved
1.65

Please explain
Target achieved: Total water consumption 5,704.1 megaliters in 2018. This target is based on % annual reduction in comparison with a four years average of water consumption(2014-2017). Therefore, start year and baseline year is 2014. The decrease in water consumption is due primarily to improvements in installations as well as to small-scale water recycling practices, where this was feasible, in the framework of a large-scale “Black Belt” project implemented in the alumina and aluminium production processes. As the project is currently under implementation, more positive results are expected in the future.

Target reference number

Target 3

Category of target
Water, Sanitation and Hygiene (WASH) services in the community

Level
Business activity

Primary motivation
Water stewardship

Description of target
One of the main strategic lines of MYTILINEOS Corporate Social Responsibility Policy is the contribution to the development of local infrastructure and to the wellbeing of the local communities in close proximity to the company's industrial plants. Based on this and in terns of water issues, MYTILINEOS aims to contribute to the basic human right of access to drinking water and sanitation, as recognized by the United Nations General Assembly in 2010. Accordingly, one of the targets of MYTILINEOS's Metallurgy Business Sector is to operate a network of drills that delivers (among other uses) water to more than 2,000 people in residential areas of Aspra Spitia, Antikyra and Saint Nikolaos in Viotia, to cover their needs. This includes water treatment installation.

Quantitative metric
Other, please specify (The total population of the three residential areas supplied by water network drills created by MYTILINEOS (more than 2,000 people).)

Baseline year
2017

Start year
2017

Target year
2018

% achieved
100

Please explain
The quantitative metric for this target is: the total population of the three residential areas supplied by water network drills created by MYTILINEOS . This target is set every year by MYTILINEOS Metallurgy Sector. Also is in the pipeline (in 2 years period) to design an approach to specify the level of optimal consumption of the drinkable water from these residential areas. According to the MYTILINEOS Metallurgy Sector EHS department this target for the year 2018 is achieved.

W8.1b

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

Goal
Other, please specify (Compliance with the regulations)

Level
Company-wide

Motivation
Brand value protection

Description of goal
Where we have specific limits on water withdrawals and discharges, our goal is to ensure ongoing compliance with them. We set this goal pursuant to our policy commitment to prevent pollution, be compliant and continually improve.

Baseline year
2017

Start year
2017

End year
2018

Progress
In 2018, no incidents arose that resulted any legal action.

Goal
Engagement with suppliers to help them improve water stewardship

Level
Company-wide

Motivation
Brand value protection

Description of goal
Regarding MYTILINEOS value chain, one strategic objective is to mitigate environmental, social and governance risk in the supply chain and create new sustainable solutions where needed. This goal is of particular relevance and applies to the whole company (and is broken down in its business sectors). The company is implementing this goal trough suppliers self assessments regarding sustainability (including water aspects). .

Baseline year
2017

Start year
2017

End year
2025

Progress
In 2018, MYTILINEOS carried out the 1st official self-assessment of its key suppliers, as they were identified by each Business Activity Sector, through a structured questionnaire. The aim of this initiative was: 1) to investigate whether the company's suppliers own a recognition and management procedure of the most important, existing and potential impacts (environmental and social) stemming from their activity and 2) the recording of these impacts allowing the company to assess them planning any corrective actions, in the context of its effort to develop a responsible supply chain. A percentage of 53% (146 key suppliers) responded to this first attempt of bringing closer the company's suppliers with Sustainable Development issues. The degree of correlation between the suppliers who declared having a recognition procedure of effects/risks and the reporting of respective practices applied for preventing or coping with such risks is very high reaching 97%. Regarding the most important potential environmental impacts, the suppliers reported the following in the 5th place the water consumption. Following the results and the practices declared by suppliers, the company designed specific improvement actions (b' cycle of self-assessment with non-responding suppliers, training conferences, sending incentivizing letters etc) which are still in the approval stage in view of a step wise implementation starting in 2019.

W9. Linkages and trade-offs

W9.1

(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?

Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased GHG emissions

Description of linkage/tradeoff

METALLURGY Sector: Water withdrawals and treatment processes (in terms of brackish, industrial and drinkable water) have limited impact on another environmental issues such as energy consumption and therefor CO2 emissions. Moreover water management is associated with labor and maintenance costs. In this context, MYTILINEOS increased energy use and CO2 emissions as well as the associated financial costs by 22% respect to previous year mainly due to the increase water withdrawal volumes .

Policy or action

METALLURGY Sector: Since water is a precious natural resource, the company aims to reduce consumption. This aids in decreasing energy consumption and hence GHG emissions. In this direction, the gradual implementation of the Water management 'Black Belt' project, launched in late 2017, aimed at reducing the consumption of industrial and drinking water, 10.500 m3 /day from 12.950 m3 /day currently, based on water reuse, the utilization of treated water and the use of modern equipment.

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Other, please specify (Local community relations)

Description of linkage/tradeoff

METALLURGY Sector: MYTILINEOS is responsible of drinkable water covering the water needs of more than 2,000 citizens of its local communities. Over the course of the year, a total of 1,213,590 cm3 of water was treated, made drinkable and purified managed by the company.

Policy or action

METALLURGY Sector: As part of our community relations policy we will continue to supply the residential areas of Aspra Spitia, Antikyra and Saint Nikolaos in Viotia, with drinking water to cover the needs of citizens.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

No, but we are actively considering verifying within the next two years

W11. 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.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	CSR Manager	Chief Operating Officer (COO)

W11.2

(W11.2) 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

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

Please confirm below

I have read and accept the applicable Terms