Aurubis AG - Water Security 2022

W0. Introduction

W0.1

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

Aurubis AG is a company in the basic materials industry that operates worldwide. Aurubis AG is the parent company of the Aurubis Group and is based in Hamburg, with production sites in Hamburg and Lünen. As an integrated group, Aurubis processes complex metal concentrates, scrap metals, organic and inorganic metalbearing recycling raw materials, and industrial residues into metals of the highest purity. In addition to the main metal, copper, Aurubis' metal portfolio also includes gold, silver, lead, nickel, tin, zinc, minor metals such as tellurium and selenium, and platinum group metals. Sulfuric acid, iron silicate, and synthetic minerals round off the product portfolio. In the course of our production processes, we convert copper concentrates and recycling materials into copper cathodes. This is the standardized product format that is traded on the international metal exchanges. We produce more than 1 million t of copper cathodes per year. Copper cathodes are the starting product for fabricating additional copper products, but they can also be sold directly. Our product portfolio mainly comprises standard and specialty products made of copper and copper alloys. When it comes to processing, we have manufacturing capabilities for continuous cast copper wire rod, continuous cast shapes, rolled products, strip, specialty wire, and profiles. Additional products result from processing the elements that accompany copper in the feed materials, elements that are in some cases purchased on purpose as part of our multimetal approach. In particular, these include different metals such as gold, silver, lead, nickel, tin, zinc, minor metals like tellurium and selenium, and platinum group metals. We also produce iron silicate and synthetic minerals. Sulfuric acid (> 2 million t p.a.) forms as a by-product of copper concentrate processing. Sulfuric acid customers are very diverse and include international companies from the chemical, fertilizer, and metal processing industries. 7,135 employees worked for the Aurubis Group worldwide as of September 30, 2021. Of this number, 92 % worked at the European plants and 8 % worked in the USA. The sales markets for our products are varied and international. Aurubis' direct customers include companies from the copper semis industry, the cable and wire industry, the electrical and electronics sector, and the chemical industry, as well as suppliers from the renewable energies, construction, and automotive sectors.

W-MM0.1a

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

Activity	Details of activity
Processing	Copper Gold Platinum group metals Silver Nickel Zinc Lead Other non-ferrous materials processing, please specify (Selenium, Tellurium, Tin)

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1 2021	December 31 2021

W0.3

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

Belgium
Bulgaria
Finland
Germany
Italy
Netherlands
Slovakia
Spain
United Kingdom of Great Britain and Northern Ireland
United States of America

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 over which operational control is exercised

W0.6

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

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
The data reported includes data from all production sites that are majority owned by Aurubis (50%). The three slitting centers in Dolny Kubin, Smethwick, UK and Mortara, Italy are not included.	Compared to the impact of our production sites, we consider the impact of these three slitting sites (each < 25 employees) to be negligible.

W0.7

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

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, an ISIN code	DE 000 67 66 504

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Vital	Importance of sufficient amount of good quality freshwater for intake (in direct as well as indirect parts of our value chain), is rated as vital because it is relevant for securing the direct and indirect operation. The water is used e.g. for production processes and cooling purposes in direct and indirect operation. More than 90% of water withdrawal is used directly from surface water (rivers, lakes, canals) so the water should not exceed a certain temperature, should contain little solid matter and should not be too high in salt content. Future water dependency is likely to remain the same, as water withdrawals from sites are subject to marginal fluctuations due to our operation processes. However new installations will operate with a significant lower water demand by increased number of cooling water cycles. “High quality” freshwater of potable standard is not required for operation but is relevant for drinking water supply from municipal water for all employees in direct and indirect parts of our value chain.
Sufficient amounts of recycled, brackish and/or produced water available for use	Neutral	Neutral	Sufficient amounts of recycled, brackish and/or produced water is not decisive for us for both, water use in direct operation as well as for water use in indirect operation, since availability of good quality freshwater is required for production processes (see above) and is therefore rated for both, direct and indirect use as “neutral”. Future water dependency will not differ in direct or indirect water use, as our processes will not require recycled, brackish water in the future despite use of recycled rainwater.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	Total volume of water withdrawal (m^3) is regularly measured and monitored for all sites. Site-specific measurements are carried out during the entire year on a regular basis by using permanently installed flow meters. Measurements are monitored and continuously available (e.g. by real-time monitoring in an online operation system at Hamburg site). Water withdrawal is part of our Environmental KPIs which is annually provided by the environmental manager of the individual sites and is annually verified by an external company. The volume of group water withdrawal is officially reported in the yearly published environmental report. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).
Water withdrawals – volumes by source	100%	Volume of water withdrawal by source (m^3) is regularly measured and monitored for all sites. Site-specific measurements are carried out during the entire year on a regular basis by using permanently installed flow meters. Measurements are monitored and continuously available (e.g. by real-time monitoring in an online operation system at Hamburg site). Water withdrawal is part of our Environmental KPIs which is annually provided by the environmental manager of the individual sites and is annually verified by an external company. The volume of group water withdrawal is officially reported in the yearly published environmental report. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector]	Not relevant	Entrained water is not relevant since we do not own or have holdings in mines (the question is only relevant for the metals & mining sector). This water aspect is also not expected to be relevant in the future.
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	51-75	Water withdrawals quality is regularly measured mainly for sites that withdraw water from surface waters. Thus, the majority of total water withdrawal for Aurubis group is covered, since more than 80 % of water withdrawal of Aurubis group is taken by Hamburg site (e.g. water quality from river Elbe is measures and monitored at Hamburg site). Therefore, the share of sites (as requested here) does not correctly represent the share of monitored water withdrawal regarding water quality for Aurubis group. Internal measurements are carried out during the entire year on a regular basis. Site-specific measurements are carried out during the entire year on a regular basis several times a year (e.g. at Hamburg site by manual sampling and lab testing). This also allows us to check the water quality before and after operation in order to prevent deterioration of the water. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).
Water discharges – total volumes	100%	Volume of water discharged (m^3) is regularly measured and monitored for all sites. Site-specific measurements are carried out during the entire year on a regular basis by using permanently installed flow meters. Measurements are monitored and continuously available (e.g. by real-time monitoring in an online operation system at Hamburg site). Volume of water discharge is part of our Environmental KPIs which is annually provided by the environmental manager of the individual sites and is annually verified by an external company. The volume of group water discharge is officially reported in the yearly published environmental report. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).
Water discharges – volumes by destination	100%	Volume of water discharged by destination (m^3) regularly measured and monitored for all sites. Site-specific measurements are carried out during the entire year on a regular basis by using permanently installed flow meters. Measurements are monitored and continuously available (e.g. by real-time monitoring in an online operation system at Hamburg site). Water discharge by source is part of our Environmental KPIs which is annually provided by the environmental manager of the individual sites and is annually verified by an external company. The volume of group water withdrawal is officially reported in the yearly published environmental report. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).
Water discharges – volumes by treatment method	Not relevant	All contaminated effluents (such as process water, surface run off or direct cooling water) are treated prior to discharge applying a tertiary treatment including filtration and chemical precipitation to remove suspended solids and dissolved metals. Treatment takes place on site in most case or in some cases by a third party (municipal treatment plant). In all cases the water discharge complies with strict standards. Therefore, the permitted water discharge quality is the leading parameter for our water discharges. Therefore, water discharge volumes by treatment method are not relevant and not expected to be considered as relevant in the future.
Water discharge quality – by standard effluent parameters	100%	Water discharge quality (metal concentration and load) are the relevant parameters for our operation. Water discharge quality is regularly measured and monitored during the entire year for all sites with direct discharge to water bodies and for sites with indirect discharge to municipal wastewater treatment plants according to permits. Site-specific measurements are carried out several times a year (e.g. at Hamburg site by continuous self-monitoring manual sampling and lab testing as well as spot sampling by the authority without prior notice). At Hamburg site, this also allows us to check the water quality before and after operation to prevent deterioration of the water. Water discharge quality is part of our Environmental KPIs which is annually provided by the environmental manager of the individual sites and is annually verified by an external company. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6)
Water discharge quality – temperature	51-75	Temperature of water discharge is monitored only for sites where temperature is a relevant parameter – the amount of discharged water incl. temperature monitoring covers >84 % of the total group withdrawal (with 84% water discharge only at Hamburg site) – Therefore share of sites (as requested here) does not correctly represent the share of monitored water temperature within water discharge for Aurubis group. For temperature measurements on site level, we use regularly maintained sensors to monitor temperature in wastewater (e.g. fixed installed thermometers that provide real-time online measurements at Hamburg site). The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).
Water consumption – total volume	100%	Volume of water consumption (m^3) regularly measured and monitored for all sites. This KPI is measured by calculating the total volume withdrawn minus the total volume discharged. Site-specific measurements are carried out during the entire year on a regular basis. Measurements are monitored and continuously available (e.g. by real-time monitoring in an online operation system at Hamburg site). Water consumption is part of our Environmental KPIs which is annually provided by the environmental manager of the individual sites and is annually verified by an external company. The volume of group water consumption is officially reported in the yearly published environmental report. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).
Water recycled/reused	76-99	All sites implement measures to reuse or recycle water where applicable in order to reduce freshwater input or reduce generation of wastewater. Examples are reuse of water from slag granulation, reuse of surface run off, use of closed circuit cooling system, recycle pickling solutions or rinse water, reuse of water from flotation process etc. Site-specific measurements are carried out during the entire year on a regular basis by using permanently installed flow meters e.g. for Hamburg site the treatment of electrolyte and the subsequent return to the electrolysis process and the reuse of rainwater in the processes (continuous monitoring of direct connection via flow meter). Water recycled/reused (m^3) is measured and accounted in the water balance on site level but is not part of the annual external Verification at corporate level. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).
The provision of fully-functioning, safely managed WASH services to all workers	100%	Fully-functioning, safely managed WASH services are provided to all workers at all sites. Sanitary wastewater is regularly sampled several times a year with different frequencies and on demand by manual sampling and lab testing). Compliance with the permitted values is also checked by the authorities on regular basis. The term 'sites' relates to our different geographic operations / production sites (see definition in question W0.5 and W0.6).

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	77888	About the same	The total water withdrawal in 2021 is at a similar level as in 2020. The volume has not changed significantly, as there was no specific occurrence that significantly affected the sites water use. According to the current status, major fluctuations are not to be expected in the future. The threshold for comparison with the previous reporting year "higher/lower" is defined as a deviation of more than 20 %. KPI is verified externally.
Total discharges	70294	About the same	The total water discharge in 2021 is at a similar level as in 2020. The volume has not changed significantly, as there was no specific occurrence that significantly affected the sites water discharge volumes. According to the current status, major fluctuations are not to be expected in the future. The threshold for comparison with the previous reporting year "higher/lower" is defined as a deviation of more than 20 %. KPI is verified externally.
Total consumption	7594	About the same	The total water consumption in 2021 is at a similar level as in 2020. The volume has not changed significantly, as there were also no specific occurrence that significantly affected the sites water consumption. However, water withdrawal and water discharge depend on various factors, such as weather-related factors (e.g. amount of precipitation and evaporation) as well as production-related factors (e.g. increased evaporation during production processes and measurement deviations) and may therefore be higher or lower in the future. The threshold for comparison with the previous reporting year "higher/lower" is therefore broader defined as a deviation of more than 20 %. KPI is verified externally.

W1.2d

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

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	1-10	Lower	WRI Aqueduct	7.6 % of the water was withdrawn from areas with water stress in 2021.Percentage is lower than in previous reporting year, because Aurubis' subsidiary Cablo GmbH is not majority owned by Aurubis anymore (<50%) due to a joint venture for cable recycling between Aurubis and TSR since Q1 2021.Cablo GmbH is situated in a "High: 40-80%" water stress area according to WRI Aqueduct. For our sites, no relevant impacts are experienced in the areas defined as "water stress areas" by WRI Aqueduct, neither in terms of water availability, water quality, nor water accessibility. The environmental risk assessment carried out by an external consultant also revealed no indications of the above-mentioned impacts. Areas with water stress identified by using WRI Aqueduct version 3.0. (baseline data, annual temporal resolution, indicator water stress, default weighting). Water stress proportion calculated according to CDP requirements by dividing „volume withdrawn in stress areas" with "total volume for company-wide withdrawals" (stress areas are defined as areas identified as equal to/greater than "High": 40-80% according to WRI Aqueduct).

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	74806	About the same	The amount of water withdrawal from fresh surface water has remained about the same compared to 2020. The volume has not changed significantly, as there was no specific occurrence that significantly affected the sites water withdrawal from fresh surface waters. The threshold for comparison with the previous reporting year "higher/lower" is defined as a deviation of more than 20 %. KPI is verified externally.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	Water withdrawal from brackish surface water/seawater is not relevant, because Aurubis sites do not withdraw water from brackish surface water / seawater.
Groundwater – renewable	Relevant	666	About the same	The amount of water withdrawal from groundwater has remained about the same compared to 2020. The volume has not changed significantly, as there was no specific occurrence that significantly affected the sites water withdrawal from groundwater. The threshold for comparison with the previous reporting year "higher/lower" is defined as a deviation of more than 20 %. KPI is verified externally.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Water withdrawal from non-renewable groundwater is not relevant, because Aurubis sites do not withdraw water from non-renewable groundwater.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Water withdrawal from produced/entrained water is not relevant, because Aurubis sites do not withdraw water from produced/entrained water.
Third party sources	Relevant	2416	About the same	The amount of water withdrawal from third party water has remained about the same compared to 2020.Third party sources mean municipal water and other (demineralised water, steam, etc.). The volume has not changed significantly, as there was no specific occurrence that significantly affected the sites water withdrawal from third party sources. The threshold for comparison with the previous reporting year "higher/lower" is defined as a deviation of more than 20 %. KPI is verified externally.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	69110	About the same	The amount of discharged fresh surface water has remained about the same compared to 2020. The volume has not changed significantly, as there was no specific occurrence that significantly affected the sites water discharge into fresh surface water. The threshold for comparison with the previous reporting year "higher/lower" is defined as a deviation of more than 20 %. KPI is verified externally.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Water discharge in brackish surface water/seawater is not relevant, because Aurubis sites do not discharge water in brackish surface water/seawater.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	Water discharge in groundwater is not relevant, because Aurubis sites do not discharge water in groundwater.
Third-party destinations	Relevant	1184	About the same	The amount of discharged third-party water has remained about the same compared to 2020. The volume has not changed significantly, as there was no specific occurrence that significantly affected the sites water discharge to third party destinations. The threshold for comparison with the previous reporting year "higher/lower" is defined as a deviation of more than 20 %. KPI is verified externally.

W1.3

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

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	16300000000	77888	209274.85620378	Overall, water withdrawal of Aurubis' group has shown a decreasing trend over the years. Due to continuous efficiency improvement measures, we expect to achieve further increases in water withdrawal efficiency in the future. However, it should be considered that various influencing factors (e.g. extreme weather conditions), can lead to slight upward or downward fluctuations. Note: Aurubis AGs operating revenue is stated for FY20/21.

W-MM1.3

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

Yes

W-MM1.3a

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

Product	Numerator: Water aspect	Denominator	Comparison with previous reporting year	Please explain
Copper production	Other, please specify (Metal emissions to water)	Other, please specify (Ton of copper output)	About the same	The reduction of metal emissions to water in Aurubis group copper production is part of our environmental targets and within the scope of our sustainability strategy: Reducing specific metal emissions to water by 50 % in g/t of copper output until 2022 compared to 2012. A 59 % total reduction was achieved in 2021. Thus, our metal emissions to water are already on a very low level and will be further reduced in future. Nevertheless, slight upward or downward fluctuations occur during the last years and are likely to occur also in the future. The change from previous year is stated as "About the same" as the deviation from previous year is <20 %. The metal emissions to water per ton of copper output has not changed significantly, as there was no specific occurrence that significantly affected the sites water emissions. KPI is verified externally every year. As one of our group environmental targets and within the sustainability strategy this indicator is a decisive KPI which underlines Aurubis' ambitions in sustainability and commitment to further implementing sustainability in project evaluations and our operations. We report water intensity information on metal emissions to water bodies and water withdrawals, both related to our group copper production (ton of copper output from primary and secondary copper production sites). Copper is one of our top five products by revenue. Other top products by revenue, as for example Cu wire rod, Cu shapes and strip/bars/profiles, are related to the copper production as the copper cathode is the basic copper product and starting material for further processing into high quality copper products (like e.g. wire rod). Therefore, it is reasonable for us to indicate water intensity information only for copper which incorporates other top products by revenue.
Copper production	Other, please specify (Water withdrawal)	Other, please specify (Ton of copper output)	About the same	Conserving water resources is one of our environmental goals to minimize the environmental impact of our business activities, described also in our environmental policy. Compared to the reference year 2012, water withdrawal per ton of copper was reduced by 21 %. Thus, our water withdrawal is already on a very low level and has been further reduced during the last years and is intended to be further reduced also in the future. Due to various influencing factors (e.g. extreme weather conditions), slight upward or downward fluctuations occur and may also occur in the future. The change from previous year is stated as "About the same" as the deviation from previous year is < 20 %. The water withdrawal per ton of copper output has not changed significantly, as there was no specific occurrence that significantly affected the sites water withdrawals. KPI is verified externally every year. To ensure continuous improvement of environmental performance we identify potential for improvement of our water management. For example, a roundtable Water Management is in place, where potential water-related measures for improvement are identified by corporate environmental protection together with the sites and guided by an external consultant. We report water intensity information on metal emissions to water bodies and water withdrawals, both related to our group copper production (ton of copper output from primary and secondary copper production sites). Copper is one of our top five products by revenue. Other top products by revenue, as for example Cu wire rod, Cu shapes and strip/bars/profiles, are related to the copper production as the copper cathode is the basic copper product and starting material for further processing into high quality copper products (like e.g. wire rod) Therefore, it is reasonable for us to indicate water intensity information only for copper which incorporates other top products by revenue.

W1.4

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

No, not currently but we intend to within two years

W1.4d

(W1.4d) Why do you not engage with any stages of your value chain on water-related issues and what are your plans?

	Primary reason	Please explain
Row 1	We are planning to do so within the next two years	Aurubis already now expects its business partners to establish and maintain processes and procedures to minimize environmental impact and risks and to continuously improve environmental performance. This relates also to water use and emissions to water. Business partners are expected to appropriately communicate these requirements to their employees and to provide training to enable everyone to work in an environmentally compatible way. This requirement is outlined in the Aurubis Business Partner Code of Conduct which has to be confirmed by our raw material suppliers. Above that, during our meetings with concentrate suppliers, environmental management including water management is discussed. A more systematic approach will be developed within the next two years.

W2. Business impacts

W2.1

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

No

W2.2

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

No

W3. Procedures

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Value chain stage
Direct operations

Coverage
Full

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

Frequency of assessment
Annually

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

Type of tools and methods used
Other

Tools and methods used
External consultants
Scenario analysis
Other, please specify (Enterprise Risk Management; IPCC Climate Change Projections)

Contextual issues considered
Water availability at a basin/catchment level
Water quality at a basin/catchment level
Water regulatory frameworks
Status of ecosystems and habitats

Stakeholders considered
Customers
Employees
Investors
Local communities

Comment
The Risk Assessment is carried out by an external expert once a year for the smelter sites of Aurubis. The external risk assessment is supervised by Corporate Environmental Protection in close coordination with the Aurubis sites and Corporate Risk Management. Topics of the assessments include emissions to air and water, water management, and handling hazardous substances, but also the challenges that climate change poses. In the past year, we expanded the assessment to include the additional topics of biodiversity, nature conservation, and water availability as well as flood risks.

W3.3b

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

Our objective in risk management is to manage and monitor the risks associated with our business with the help of a risk management system (RMS) suited to our activities. Identifying and observing risk development early on is of major importance. Furthermore, we strive to limit negative effects on earnings caused by risks by implementing appropriate and economically sound countermeasures.

Risk management is an integral component of both centralized and decentralized planning, management, and monitoring processes and covers all of the Aurubis Group's main sites, business sectors, and central functions. The planning and management system, risk reporting, open communication culture, and risk reviews at the sites create risk awareness and transparency with regard to our risk situation (also considering internal and external stakeholder as e.g. employees, customers, investors) and promote our risk culture. Risk management officers have been appointed for all sites, business sectors and central functions, and they form a network within the Group (Risk Management Organization). The Group headquarters (CRM) manages the network. The Risk Management System (RMS) is documented in a corporate policy. Standard risk reporting takes place bottom-up each quarter using a Group-wide uniform reporting format. Within this format, the identified risks (incl. climate-related and water-related risks) and risks beyond a defined threshold are explained and evaluated based on their probability of occurrence and their business significance (incl. possible interdependencies). Measures to manage them are outlined. The risks registered with Group headquarters are qualitatively aggregated into significant risk clusters by CRM and reported to the entire Executive Board. The report also establishes the basis for the report to the Audit Committee of the Supervisory Board as well as external risk reporting. In the quarterly report to the Executive Board and the Audit Committee, the qualitatively aggregated risk clusters are assessed with due regard to risk management measures (net perspective) based on their probability of occurrence and the potential effect on earnings. Please refer to Question 4.1a for a definition of substantive financial impact.

On top, once a year a strategic risk portfolio is reported to Executive Board and Audit Committee focusing on risks with a time horizon up to 30 years (incl. initiated or proposed mitigating measures).

Parallel to these above mentioned risk reporting processes, communication and organisation, CRM is engaged in annual on-site risk reviews with sites and central functions and regular Jour Fixes with Corporate Energy & Climate Affairs, Environmental Protection and Sustainability for early and overarching risk identification and corresponding countermeasures in terms of climate-related and water-related risks.

For the risk report section in the annual report, climate-related risks are structured according to the Task Force on Climate-Related Financial Disclosures (TCFD) framework to provide transparency on this important aspect. During annual Risk Assessments for Aurubis' smelter sites, which are carried out by an external expert together with the sites, supervised by Corporate Environmental Protection, a wide range of water risk are considered at site level, including water availability at catchment level (as for example water supply, water permit and water quality), but also risks with regard to water discharges (e.g. EU Water Framework Directive, water discharge permits). Risk related to climate change and natural hazards are considered in a separate section in the assessment, whereas water availability as well as stakeholders are also considered with regard to nature preserve and residents, also including local authorities. The final result of this water risk assessment is shared with CRM (via Corporate Environmental Protection).

In addition, we are actively involved in creating and maintaining good conditions for species conservation and biodiversity in our plants and their surroundings. A list of conservation areas in close proximity to copper production sites is included in our environmental report.

In order to better understand the physical risks arising from climate change and to derive measures, we identify our climate change risks by a site-specific climate scenario analysis (IPCC Climate Change projections), including water-related climate issues as precipitation and extreme weather conditions with heavy rainfall and temperature increase.

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?

• Definition of "substantive financial or strategic impact": In general, Aurubis Group defines substantive financial or strategic impact as an impact which limits or delays future possibilities for strategic actions and therefore may require strategy adjustments. This could be the case for risks that bear the potential for a major shareholder or customer concern, for risks that pose a physical threat for one of our major sites (e.g. flooding) or for risks that negatively impact two or more major sites in parallel.

• Description of the quantifiable indicator: A substantive financial or strategic impact on our business is defined in our risk management process as follows: either the impact on EBT is more than € 50 million and the probability of occurrence is at least "medium" (about as likely as not) or the impact on EBT is above € 20 million and the probability is high (more likely than not).

W4.1b

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

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	1	1-25	One of our sites has been identified as being exposed to water risks. Note that for the purpose of reporting, our definition of 'facility' is the same as our definition for a site, i.e., for which there could be several different types of factory operating in the same location (see reporting boundary in W0.5 and W0.6). Site in focus here is: Aurubis AG, Hamburg.

W4.1c

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

Country/Area & River basin

Germany	Elbe 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
10506000000

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

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

% company's total global revenue that could be affected
61-70

Comment
Data based on IFRS and FY20/21 (01.10.2020-30.09.2021)

W4.2

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

Country/Area & River basin

Germany	Elbe River

Type of risk & Primary risk driver

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

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Aurubis headquarters and its biggest plant is located in the Hamburg port area which is vulnerable to the influence of tides of the North Sea via the river Elbe. Thus, the Hamburg port area is also vulnerable to storm surges caused by major storms in the North Sea area. Climate change models predict these storms can likely grow in intensity. The whole port area of Hamburg as well as the cities along the river Elbe are protected against these floods by a system of well-maintained dams and levees and this also includes the Hamburg plant of Aurubis. Flooding of site Hamburg bears the risk to cause longer production shutdowns and complete breakdown of major equipment and production facilities, plus the flood and corresponding mud can cause major disruptions in the plant infrastructure incl. stability of buildings. A similar event happened last year in one of our smaller plants in Stolberg where - due to torrential rain - water levels of 1.5 - 2 meters incl. mud swept through the plant leaving the whole site devastated. Adopting this lesson learned effect onto plant Hamburg the severity of such a flood event and the impacted facilities, major disruption can last for 3 months or even longer for some facilities.

Timeframe
More than 6 years

Magnitude of potential impact
High

Likelihood
Very unlikely

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
110000000

Potential financial impact figure - maximum (currency)
130000000

Explanation of financial impact
Flooding of site Hamburg bears the risk to cause longer production shutdowns and complete breakdown of major equipment and production facilities, plus the flood and corresponding mud can cause major disruptions in the plant infrastructure incl. stability of buildings. A similar event happened last year in one of our smaller plants in Stolberg where - due to torrential rain - water levels of 1.5 - 2 meters incl. mud swept through the plant leaving the whole site devastated. Adopting this lesson learned effect onto plant Hamburg the severity of such a flood event and the impacted facilities, major disruption can last for 3 months or even longer for some facilities. We would estimate the risk for a three-month production downtime of Hamburg site to be approximately € 90 million as one day of full production loss grosses up to ~ € 1 million. This € 1 million is a combination of margin losses due to production standstill and fixed costs for e.g. personnel, overhead, etc. On top of that comes repair, clean-up and remediation costs which can only be roughly guessed and are estimated to be in the range of € 20 to 40 million. Major Capex volumes for collapsed buildings are not included in this estimate. It has to be stated here that this is the gross risk which for the mid-term perspective (next 10 years at least) is minimized to a low net risk by the existence of dams and levees as also described below. These dams and levees are high enough to withstand current projected storm surge levels. However, on a long-term perspective (20-30 years) it is very certain that these dams and flood prevention systems will have to be fundamentally upgraded and improved to protect Hamburg site. Calculation of financial figure: 90 days production standstill x margin losses and fixed costs of one lost production day of € 1 million = € 90 million - plus € 20 million (minimum) clean-up, remediation, repair of machinery and infrastructure = € 110 million (minimum) - plus € 40 million (maximum) clean-up, remediation, repair of machinery and infrastructure = € 130 million (maximum)

Primary response to risk
Develop flood emergency plans

Description of response
Constantly monitor projected flood water levels to initiate response in good time Hamburg plant is protected by dams and levees (called Polder) which surround the peninsula Peute. These dams and levees are high enough to withstand current projected storm surge levels. Nevertheless, flood emergency plans do exist and are regularly trained and updated so that they always reflect latest developments

Cost of response
30000

Explanation of cost of response
The costs for Aurubis as a member of the “Polder” community gross up to approx. € 30,000 p.a. (Aurubis share).The Polder community takes care of maintenance and repair of dam and levees which protect the Peute peninsula on which Hamburg plant is located. Further costs are the costs for the Hamburg plant firefighting department. However, as the existence of the firefighting department is a legal prerequisite to run our operations, the costs related to flood response for this department cannot be directly allocated and separated. Capital expenditures for a possible increase of levees and dams to protect against higher future flood levels are not foreseen to be planned within this decade. As this risk has a long-term horizon the Capex will be invested probably in the late 2030s.

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	Not yet evaluated	In line with our goal to engage with our value chain on water-related issues (see W1.4) within the next 2 years, we will also start to identify and evaluate risks.

W4.3

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

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

W4.3a

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

Type of opportunity
Efficiency

Primary water-related opportunity
Improved water efficiency in operations

Company-specific description & strategy to realize opportunity
With the largest industrial heat project in Germany, we have also set our sights on projects beyond our plant borders: Together with energy supplier enercity AG, we've been supplying Hamburg's HafenCity East neighbourhood exclusively with CO2-free heating derived from chemical sub-processes of copper production since 2018. The adjustment to the acid cooling facility saves 12 million m3 of cooling water and Elbe River water annually as the residual heat is now used for heating purposes. This is equivalent to the volume of around 4,800 Olympic-size swimming pools. In December 2021, Aurubis and Wärme Hamburg signed a long-term heat supply contract. As of the 2024/25 heating period, about 20,000 more households in Hamburg will be supplied with CO2-free industrial heat from a sub-process of Aurubis copper production.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Low-medium

Are you able to provide a potential financial impact figure?
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

Type of opportunity
Efficiency

Primary water-related opportunity
Improved water efficiency in operations

Company-specific description & strategy to realize opportunity
We are leaders in environmental protection and are continuously improving in our industry. As important part of Aurubis' existing Sustainability Strategy, environmental protection, and the incorporated water management is top priority for Aurubis. As a result, we are continuously reviewing and developing our processes and methods to reduce water emissions and increase water use efficiency. For example, during the fiscal year 20/21, a wastewater treatment process at the Pirdop site was developed. Beside others, the planned upgrade of the wastewater treatment plant (WWTP) at Pirdop site will extend useful life of the landfill for the sludges (which are generated during production processes in Pirdop) by implementing a new process which will lead to reduced waste volumes (reduced amount of sludges for landfilling) and lower chemical consumption in the future. Furthermore, the upgrade will increase the WWTP treatment volume capacity for a most efficient wastewater treatment. The concepts for the wastewater treatment plant upgrade developed and assessed in 2020/2021 and feasibility study has been conducted. Detailed engineering phase will focus on implementation activities mid-2022.

Estimated timeframe for realization
1 to 3 years

Magnitude of potential financial impact
Low-medium

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

W5. Facility-level water accounting

W5.1

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

Facility reference number
Facility 1

Facility name (optional)
Aurubis AG, Hamburg site

Country/Area & River basin

Germany	Elbe River

Latitude
53.521576

Longitude
10.03331

Located in area with water stress
No

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
64067

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
63708

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
359

Total water discharges at this facility (megaliters/year)
59174

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
59136

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
38

Total water consumption at this facility (megaliters/year)
4893

Comparison of total consumption with previous reporting year
Higher

Please explain
Slight increase (<15% deviation) of water withdrawal together with a slight decrease (<15% deviation) of water discharge, result in higher volume of water consumption.

W5.1a

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

Water withdrawals – total volumes

% verified
76-100

Verification standard used
Total volume of water withdrawal is part of our annually reviewed environmental KPIs, which are standardized for the Aurubis group and verified by external auditors from TÜV Nord Cert. The verification services provided are accredited under EMAS standard (Verification of group-wide harmonized environmental KPIs on the basis of Regulation (EC) No 1221/2009 as amended on 25 November 2009).

Please explain
<Not Applicable>

Water withdrawals – volume by source

% verified
76-100

Verification standard used
Volume of water withdrawal by source is part of our annually reviewed environmental KPIs, which are standardized for the Aurubis group and verified by external auditors from TÜV Nord Cert. The verification services provided are accredited under EMAS standard (Verification of group-wide harmonized environmental KPIs on the basis of Regulation (EC) No 1221/2009 as amended on 25 November 2009).

Please explain
<Not Applicable>

Water withdrawals – quality by standard water quality parameters

% verified
76-100

Verification standard used
Proportion with regard to the facilities referenced in W5.1 (Hamburg) is 100%. Water quality from river Elbe at Hamburg site is measured and monitored.

Please explain
<Not Applicable>

Water discharges – total volumes

% verified
76-100

Verification standard used
Total volume of water discharges is part of our annually reviewed environmental KPIs, which are standardized for the Aurubis group and verified by external auditors from TÜV Nord Cert. The verification services provided are accredited under EMAS standard (Verification of group-wide harmonized environmental KPIs on the basis of Regulation (EC) No 1221/2009 as amended on 25 November 2009).

Please explain
<Not Applicable>

Water discharges – volume by destination

% verified
76-100

Verification standard used
Volume of water discharge by destination is part of our annually reviewed environmental KPIs, which are standardized for the Aurubis group and verified by external auditors from TÜV Nord Cert. The verification services provided are accredited under EMAS standard (Verification of group-wide harmonized environmental KPIs on the basis of Regulation (EC) No 1221/2009 as amended on 25 November 2009).

Please explain
<Not Applicable>

Water discharges – volume by final treatment level

% verified
Not relevant

Verification standard used
<Not Applicable>

Please explain
The permitted water discharge quality is the leading parameter for our water discharges. Therefore, water discharge volumes by final treatment level is not relevant and not expected to be considered as relevant in the future.

Water discharges – quality by standard water quality parameters

% verified
76-100

Verification standard used
Water discharge quality (metal concentration and load) is regularly measured and monitored during the entire year on a regular basis for all sites with direct discharge to water bodies and for sites with indirect discharge to municipal wastewater treatment plants according to permits. Water discharge quality is part of our annually reviewed environmental KPIs, which are standardized for the Aurubis group and verified by external auditors from TÜV Nord Cert. The verification services provided, are accredited under EMAS standard (Verification of group-wide harmonized environmental KPIs on the basis of Regulation (EC) No 1221/2009 as amended on 25 November 2009).

Please explain
<Not Applicable>

Water consumption – total volume

% verified
76-100

Verification standard used
Total volume of water consumption is part of our annually reviewed environmental KPIs, which are standardized for the Aurubis group and verified by external auditors from TÜV Nord Cert. The verification services provided, are accredited under EMAS standard (Verification of group-wide harmonized environmental KPIs on the basis of Regulation (EC) No 1221/2009 as amended on 25 November 2009).

Please explain
<Not Applicable>

W6. Governance

W6.1

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

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Description of water-related standards for procurement Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to stakeholder awareness and education Recognition of environmental linkages, for example, due to climate change	Our water policy is company-wide in scope and is part of our Environmental Policy. Water is used in metal production for many important processes e.g cooling processes, processing, steam generation and cleaning processes. Sufficient amount of freshwater is relevant for securing the operation. Continuous improvement of the environmental performance in wastewater management as e.g for water pollution control and conservation of natural resources (e.g. fresh surface water, groundwater), are key goals within the scope of our Environmental Policy. As a producer of copper and other non-ferrous metals, we are aware of our responsibility toward the environment and people who could be directly or indirectly impacted by our business activities. Our “Business partner Code of Conduct” applies to all business partners of the Aurubis Group, including subsidiaries that are majority-owned by Aurubis (>50 %). Aurubis expects its business partners to establish and maintain processes and procedures to minimize environmental impact and risks and to continuously improve environmental performance. This relates to (but not exclusively) resource efficiency, including water use, as well as e.g. emissions to water. One environmental target is the reduction of specific metal emissions to water by 50 % until 2022 (compared to 2012). Even though we aren’t able to fully quantify our contribution to achieving these goals yet, we highlight activities that promote the goals in our Sustainability Report. Compliance with legal regulations is the basis and minimum standard of our activities. Ongoing improvement in environmental protection is enshrined in our corporate strategy and is one of our key responsibilities. We communicate regularly with our key stakeholders about sustainability-related topics. We believe it is important to maintain an open and transparent dialogue with employees, customers, suppliers, politicians and society, capital market participants, the media, non-governmental organizations, and the scientific community. Our customers are appropriately informed about the features of our products and necessary safety measures and are advised on questions related to product disposal. Contractors working for us must be selected, informed, and advised in such a way as to ensure that laws and our environmental protection standards are observed.

W6.2

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

W6.2a

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

Position of individual	Please explain
Chief Operating Officer (COO)	Within the executive board, the COO has the responsibility to coordinate all large sites in the Aurubis Group. He is responsible for the composition of the investment budget which contains CAPEX for upcoming 4 financial years (incl. water projects). Several times a year, the COO hosts the Group Operations Meeting (GOM) with all major sites, Corporate Environmental Protection (CEP) and e.g. Sustainability among others to participate. It serves as information exchange on site-relevant topics (e.g. water related) and major projects are reviewed. In the resort of the COO the Head of CEP is responsible for strategic positioning of env. protection in the Group. Env. officers oversee the env. protection duties at the sites following national env. legislation with technical supervision of CEP. Example: Lünen site developed a project which will increase water efficiency through max. reuse of water. The project has been approved by the COO and is now at the beginning of the implementation phase.
Board-level committee	The Executive Board approves the investment budget which is a cornerstone of each years Mid Term Planning prior to final submission for approval by Supervisory Board. On top of that, each Capital Expenditure project of > 2 Mio. € has to be individually approved by the Executive Board with projects > 10 Mio. € to be forwarded to Supervisory Board for final approval. Investment budget and individual project approvals also cover water-related issues. The Executive Board defines the strategy for Aurubis Group and afterwards aligns the strategy with the Supervisory Board. One key pillar of Aurubis strategy is Sustainability incl. water-related projects and targets. Each quarter, an in-depth review by the Executive Board takes place on every major plant's financial and operating performance which also covers sustainability and water-related issues.

W6.2b

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

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Overseeing acquisitions and divestiture Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding risk management policies Reviewing and guiding strategy	• As part of the Board of Directors, the COO oversees acquisitions and divestiture with water relation. All due diligence processes are carried out in accordance with the OECD standards (Organization for Economic Co-operation and Development) and include assessments on environmental protection (thus also water-related subjects). • The COO oversees major capital expenditures in the context of water, since all major investment requests from the sites are approved by the COO. • Budgets of the sites in context of water and, in particular, the investment plans of the sites within the framework of the medium-term plan are reviewed, guided and approved by the COO. • As part of the Executive Board, the COO contributes by reviewing and guiding water related issues, also the business plan. • COO guides and reviews the Risk Management Policy in context of water as part of the Executive Board. • COO oversees all strategic growth projects in context of water and continues developing Aurubis´ strategy.

W6.2d

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

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	The Executive Board Member for Production (Chief Operations Officer) has strong competence in water-related issues due to his scientific academic background and his doctorate in chemistry. He is professional experienced as research chemist in several management positions at international companies (e.g. Vice President Operations, Technology, and Investment Intermediates) and in technical-operational work as Chief Technology Officer with technical functions and functional management of the several production sites and facilities in the chemical industry.	<Not Applicable>	<Not Applicable>

W6.3

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

Name of the position(s) and/or committee(s)
Chief Operating Officer (COO)

Responsibility
Assessing water-related risks and opportunities
Managing water-related risks and opportunities

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

Please explain
Within the executive board, the Chief Operating Officer (COO) is responsible for all large sites in the Aurubis Group. Hence, he is responsible for the composition of the investment budget which contains all Capital Expenditure volumes for the following four financial years. This budget then also includes projects on water-related issues. Several times throughout a fiscal year the COO hosts the Group Operations Meeting (GOM) with all major sites, Corporate Environmental Protection (CEP) and e.g. Sustainability and Corporate Energy & Climate Affairs among others to participate. The meeting serves as information exchange on site-relevant topics (e.g. water related) and major projects are presented and reviewed. In the resort of the COO the Head of CEP is responsible for strategic positioning of env. protection in the Group. Environmental officers oversee the env. protection duties at the sites following national environmental legislation with technical supervision of CEP.

W6.4

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

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	The boards CSR targets in the fiscal year 2020/21 was to improve the EcoVadis rating result of Aurubis. Responsible water management is assessed by EcoVadis and included in the company's performance. An improvement of the EcoVadis Rating was one of the ESG performance targets of the Board in 2020/21.

W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Board/Executive board Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO)	Other, please specify (Improvement of the EcoVadis rating)	An improvement of the EcoVadis Rating was one of the ESG performance targets of the Board in 2020/21. The boards CSR targets in the fiscal year 2020/21 was to improve the EcoVadis rating result of Aurubis. Responsible water management is assessed by EcoVadis and included in the company's performance. An improvement of the EcoVadis rating was considered as achieved when the achieved total score increased in comparison to the rating of the previous year. An improvement in the EcoVadis rating has been chosen as a target because the criteria of the rating comprehensively reflect the sustainability pillars. Therefore, a rating improvement indicates the overall performance in the area of sustainability. The company's performance in water security is part of the rating in the area of environment. The improvement in the rating is part of the non-financial criteria of the individual performance of the executive board and determines the annual bonus along with financial criteria. The target constitutes 5 % of the overall non-financial target that influence the annual bonus of the executive board members. The target was achieved (Improvement of the EcoVadis overall Score of Aurubis from 72 to 73).
Non-monetary reward	Please select	Please select	

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?
Yes, direct engagement with policy makers
Yes, trade associations
Yes, funding research organizations

W6.5a

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

Within Aurubis Group, we coordinate our political activities in regular exchange in fields of Energy&Climate policy, Environmental policy, Circular Economy, Supply Chain&Trade Policy (Participants: Executive Board, Leadership of the above-mentioned sectors, leading functions involved in political issues). Relevant political developments are reported, our position for the Aurubis strategy is streamlined and our activities are coordinated. Inconsistencies will be addressed here to ensure consistency of water commitments. The Corp. Env. dep. (CEP) is analyzing the EU Env. policy developments, identifying risks and opportunities on Aurubis in general and on individual sites together with them. The topics are ranked by a consistent set of criteria. This assessment framework allows us to deliver clear priorities and objectives rel. to water policy commitments. The results are provided in Group Env. meetings with the COO and the env. managers of all sites 2 times a year. Annual individual exchange on EU env. regulatory developments (major part water policy) are carried out by CEP together with the env. managers of the sites to ensure that local env. legislation and concerns of the sites are respected and considered in our activities. Thus, an advocacy strategy is developed and updated on regular basis incl. key messages and approach to policy makers. We are actively working as member of the trade associations or bring our position directly to decision makers at EU and national level

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)

C6.6 water-relatd risks in financial report.png

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	Continuous improvement of environmental performance, including optimization of water management, is part of our environmental policy and of the company guidelines on environmental protection (e.g. water pollution control and reduction of water use). As part of the Aurubis' strategy, Aurubis' sustainability targets are clear and measurable and review every new project on the basis of these KPIs and ensures long-term sustainable growth. Thereby, water-related issues are integrated in our long-term business objectives (sustainability targets 2030). One of the Aurubis' 2030 sustainability targets is the reduction of specific metal emissions to water in g/t of multimetal copper equivalent by 25% compared to the base year 2018.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	Within the development process of Aurubis' strategy which incorporates sustainability targets and water-related environmental targets, recycling and sustainability topics with facts in detail were taking more strongly in consideration and substantiated with concrete (e.g. water-related) projects. Apart from conserving water, treating wastewater and thus avoiding environmental pollution is one of our fundamental responsibilities in industrial environmental protection since water may contain metals after use. We have reduced metal emissions to water in copper production processes from 7.2 to 0.9 g per t of copper output since 2000. This is a decline of 88 %. Compared to the reference year 2012, metal emissions to water per ton of copper were reduced by 59 %. One of the Aurubis' 2030 sustainability targets is the reduction of specific metal emissions to water in g/t of multimetal copper equivalent by 25% compared to the base year 2018.We review every new project on the basis of these KPIs and ensure long-term sustainable growth. Thereby, water-related issues are integrated in our strategy for achieving the long-term business objectives within our sustainability targets 2030.
Financial planning	Yes, water-related issues are integrated	5-10	As reported above in W4, water-related issues are part of strategic risk assessment. We elaborate scenarios of physical climate change risks (such as storm surge risks) and we include the risks identified in this process in our long-term planning (including financial planning) so that we can adapt to changing conditions / climatic conditions. For example: the levees and dams (Polder) to protect Hamburg plant against possible flooding are high enough to withstand current projected storm surge levels. If these projections of storm surge levels rise due to climate change, then Capex for an increase of these levees and dams would be part of our strategic planning.

W7.2

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

Row 1

Water-related CAPEX (+/- % change)

-30

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

50

Water-related OPEX (+/- % change)

-20

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

5

Please explain

Water CAPEX/OPEX are expenditures/cost, influenced by internal and external factors (projects or global price increases), so fluctuations can occur from year to year. The reduction of ~30% CAPEX and ~20% OPEX are mainly caused by individual water-related projects e.g. to optimize water emission control and to reduce water use (e.g. within renewal of slag wet granulation at Hamburg site). Trends cannot be derived from one year, but only over long periods: We have invested ~€330 Mio. since 2012 in env. protection in the Group. We are continuously improving in water management through CAPEX projects at the sites, e.g. to minimise wastewater volume and load of metal emissions to water. Thus, CAPEX trend is expected to increase (~50%) and OPEX trend is expected to remain the same. Lünen site developed a big project that will increase water efficiency by max. reuse of water and adopting a water zero-wastewater strategy. Note: water-related OPEX excl. data from Beerse site; Scope: FY20/21

W7.3

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

	Use of scenario analysis	Comment
Row 1	No, but we anticipate doing so within the next two years	Currently, the strategic risk portfolio is amended by climate-related physical risks – applying a 2° C scenario and a climate stress scenario of 4° C.

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

An internal price on water is not currently in place. Relevancy to incorporate potential water prices or other valuation practices has not been assessed yet.

W7.5

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

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	No, but we plan to address this within the next two years	<Not Applicable>	Other, please specify (Impact on water use in LCA of copper cathode is ongoing. Hot spot analysis in OEF and PEF studies concluded that water use is not one of the most relevant impact categories i.e. does not contribute to at least 80% of the single overall score.)	For getting wide picture of the env. impacts and our sustainable development, we evaluated the env. profile of our core produc Cu cathode and the env. performance of the whole organization based on •Life Cycle Assessment (LCA) ISO standards 14040, 14044 •Environmental Footprint (EF) Methods adopted by the EU Commission (Recom. on use of EF methods) •Environmental product declarations (EPD) for our Cu sheets used in architecture (ISO 15804) The LCA for our produced Cu cathode includes impact categories of carbon footprint, primary energy demand, acidification, summer smog, and eutrophication. An impact category for the consumption of freshwater is included in the ongoing update of our Cu Cathode LCA and will be available next year. OEF studies for copper production and PEF study for Cu sheet assessed impact on water use and confirmed that water use is not one of the most relevant impact categories for any of the life cycle stages i.e. acquisition of raw materials and manufacturing.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	We have set Group-wide targets in environmental protection within the scope of the Sustainability Targets 2030 (group level), which represent one key pillar of Aurubis strategy (business level) and includes water-related projects and targets (site level). We have set the target to reduce specific metal emissions to water in g/t of multimetal copper equivalent (base year 2018) by 25%. We implement local measures together with the production sites to achieve these targets. Environmental performance is monitored and controlled using key environmental parameters, which are regularly recorded at the production sites and verified by external inspectors. We regularly and publicly issue reports such as the annual Environmental Report, the Sustainability Report, Annual Report and the Aurubis website.

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
Reduced environmental impact

Description of target
Our group-wide target is to reduce metal emissions to water in multimetal production by 25 % until 2030 compared to 2018 (measured as specific metal emissions to water in g/t of multimetal copper equivalent); scope: all sites with direct water discharge into waterbodies. Apart from conserving water, treating wastewater and thus avoiding environmental pollution is one of our fundamental responsibilities in industrial environmental protection since water may contain metals after use. We have reduced metal emissions to water in copper production processes from 7.2 to 0.9 g per t of copper output since 2000. This is a decline of 88 %. Compared to the reference year 2012, metal emissions to water per ton of copper were reduced by 59%.

Quantitative metric
% reduction in concentration of pollutants

Baseline year
2018

Start year
2021

Target year
2030

% of target achieved
100

Please explain
We have made significant improvements in water pollution control. We have reduced metal emissions to water in copper production processes from 2.2 to 0.9 g per ton of copper output since 2012. This is a decline of 59 % (target: 50 %).

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 (Continuous improvement of environmental performance)

Level
Company-wide

Motivation
Reduced environmental impact

Description of goal
Continuous improvement of environmental performance, including optimization of water management, is part of our environmental policy and of the company guidelines on environmental protection (e.g. water pollution control and reduction of water use). Within the scope of the Sustainability Strategy 2018–2023, we had set Group-wide targets in environmental protection and defined concrete targets for the individual sites.

Baseline year
2012

Start year
2012

End year
2022

Progress
To ensure continuous improvement of environmental performance, we have e.g. a roundtable water management in place, where potential water-related measures for improvement are identified by the sites together with corporate environmental protection and also guided by an external consultant. The effectiveness of our group-wide environmental targets and measures is reviewed continuously and also verified during annual external audits. We have an online KPI system in place to monitor and steer the development and fulfillment of our environmental targets e.g. the reduction of metal emissions to water (target already fulfilled in 2021: We have reduced metal emissions to water in copper production processes from 2.2 to 0.9 g per ton of copper output since 2012. This is a decline of 59 % (target: 50 %).

Goal
Other, please specify (Optimization of water use)

Level
Site/facility

Motivation
Reduced environmental impact

Description of goal
Zero wastewater strategy at Lünen site: Implementation of a closed water system to achieve zero discharge water. Optimization of internal water use such as reviewing the further treatment of internal process water (reverse osmosis, evaporation). The goal is to use water internally to the greatest possible extent and to prevent the discharge of process water into the public sewer system. The project will significantly contribute to increasing water efficiency at the site.

Baseline year
2021

Start year
2021

End year
2024

Progress
A feasibility study has been conducted and shows positive results. The project is planned to be implemented by 2023/2024. Project activities are continuously reported, and important steps are discussed at group and site level, e.g. at the group environmental meetings with the COO together with Corporate Environmental Protection, the environmental site managers, Sustainability department as well as risk management, which take place twice a year.

Goal
Other, please specify (Optimization of water use and water quality)

Level
Site/facility

Motivation
Reduced environmental impact

Description of goal
The planned upgrade of the wastewater treatment plant (WWTP) at Pirdop site will beside others extend useful life of the landfill for the sludges (which are generated during production processes in Pirdop) by implementing a new scorodite process which should cause in less sludges for landfilling. Furthermore, the upgrade will increase the WWTP treatment volume capacity.

Baseline year
2021

Start year
2021

End year
2024

Progress
Concepts for the wastewater treatment plant upgrade developed and assessed in 2020/2021 and feasibility study has been conducted. Detail Engineering phase mid 2022 will focus on implementation activities.

W9. Verification

W9.1

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

Yes

W9.1a

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

Disclosure module	Data verified	Verification standard	Please explain
W1 Current state	Environmental KPIs on site level: - Water withdrawal by source (m^3) - Water discharge by destination (m^3) - Water consumption (m^3) - Metal emissions to water: separate for Cu, Zn, Pb, Ni, As, Cd, Hg and sum of metal load (kg/a)	Other, please specify (Based on the regulation (EG) No. 1221/2009 (EMAS))	We determine key environmental protection factors (Environmental KPIs), which are uniform within the Group and are reviewed and certified by external auditors annually. Standard of verification audit based on the regulation (EG) No. 1221/2009 (EMAS).
W8 Targets	Multimetal-KPIs (MM-KPIs)	Other, please specify (Based on the regulation (EG) No. 1221/2009 (EMAS))	Verification of group-wide harmonized multi-metal key figures in environmental protection. The audit included the multimetal key figures (MM-KPIs) as well as the method for determining the MM-KPIs. Standard of verification audit based on the regulation (EG) No. 1221/2009 (EMAS).

W10. Sign off

W-FI

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

W10.1

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

	Job title	Corresponding job category
Row 1	Chief Executive Officer (CEO), Member of the Executive Board Chief Operations Officer (COO), Member of the Executive Board	Board/Executive board

W10.2

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

No

SW. Supply chain module

SW0.1

(SW0.1) What is your organization's annual revenue for the reporting period?

	Annual revenue
Row 1	16300000000

SW1.1

(SW1.1) Could any of your facilities reported in W5.1 have an impact on a requesting CDP supply chain member?

Yes, CDP supply chain members buy goods or services from facilities listed in W5.1

SW1.1a

(SW1.1a) Indicate which of the facilities referenced in W5.1 could impact a requesting CDP supply chain member.

Facility reference number
Facility 1

Facility name
Hamburg site (Aurubis AG)

Requesting member
Prysmian SpA

Description of potential impact on member
Aurubis site Hamburg is located in the Hamburg port area which is vulnerable to the influence of tides of the North Sea via the river Elbe and thus also vulnerable to storm surges caused by major storms in the North Sea area. The whole port area of Hamburg as well as the cities along the river Elbe are protected against these floods by a system of well-maintained dams and levees and this also includes the Hamburg plant of Aurubis. In the exceptional scenario that there are longer production shutdowns or breakdown of major production facilities, product deliveries (e.g. rod) could be taken over from other (e.g. rod producing) sites of Aurubis in order to maintain product supply to our customers. Aurubis also supplies the Prysmian Group from other Aurubis sites, so there is no sole dependency on the Hamburg site.

Comment

SW1.2

(SW1.2) Are you able to provide geolocation data for your facilities?

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	Yes, for some facilities	

SW1.2a

(SW1.2a) Please provide all available geolocation data for your facilities.

Identifier	Latitude	Longitude	Comment
Hamburg, Germany	53.521576	10.03331	
Pirdop, Bulgaria	42.703374	24.177048	
Lünen, Germany	51.60646	7.50755	
Olen, Belgium			
Stolberg, Germany	50.759048	6.234986	
Buffalo, USA	42.948404	-78.892807	
Zutphen, Netherlands	52.157565	6.206821	
Pori, Finland	61.462226	21.861253	
Avellino, Italy	40.914388	14.790612	
E.R.N., Hamburg, Germany	53.526343	10.029339	
Retorte, Hamburg, Germany	49.49038	11.24973	
Peute Baustoffe, Hamburg, Germany	53.51133	10.05728	
Deutsche Giessdraht, Emmerich, Germany	51.82784	6.26501	
Aurubis Beerse, Belgium	51.31962	4.81783	
Aurubis Berango, Spain	43.36787	2.993	

SW2.1

(SW2.1) Please propose any mutually beneficial water-related projects you could collaborate on with specific CDP supply chain members.

SW2.2

(SW2.2) Have any water projects been implemented due to CDP supply chain member engagement?
No

SW3.1

(SW3.1) Provide any available water intensity values for your organization's products or services.

Product name
Copper production

Water intensity value
0.9

Numerator: Water aspect
Other, please specify (Metal emissions to water)

Denominator
Ton of copper output

Comment
The reduction of metal emissions to water in Aurubis group copper production is part of our environmental targets and within the scope of our sustainability strategy: Reducing specific metal emissions to water by 50 % in g/t of copper output until 2022 compared to 2012. A 59 % total reduction was achieved in 2021. Thus, our metal emissions to water are already on a very low level and will be further reduced in future. KPI is verified externally every year. Our specific metal emission to water per ton copper production was 0.9 g/t Cu output in 2021.

Product name
Copper production

Water intensity value
46

Numerator: Water aspect
Water withdrawn

Denominator
Ton of copper output

Comment
Conserving water resources is one of our environmental goals to minimize the environmental impact of our business activities, described also in our environmental policy. Compared to the reference year 2012, water withdrawal per ton of copper was reduced by 21 %. Thus, our water withdrawal is already on a very low level and has been further reduced during the last years and is intended to be further reduced also in the future. Due to various influencing factors (e.g. extreme weather conditions), slight upward or downward fluctuations occur and may also occur in the future. KPI is verified externally every year. Our specific water withdrawal per ton copper production was 46 m^3 / t Cu output in 2021.

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

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

The European Climate Pact Submission

Please indicate your consent for CDP to showcase your disclosed environmental actions on the European Climate Pact website as pledges to the Pact.
No, we do not wish to pledge under the European Climate Pact at this stage

Please confirm below
I have read and accept the applicable Terms