

# Enabling tomorrow

2023

Sustainability Report

# Aurubis at a glance

Most important 2021/22 sustainability KPIs



**€ 532 million**  
**OPERATING EARNINGS**  
before taxes (EBT)



**19%**  
**ROCE**  
(return on capital employed)



**6,913**  
**EMPLOYEES**  
including **328** apprentices



**4.25 million MWh**  
**ENERGY INPUT**  
total<sup>1</sup>

<sup>1</sup> Calendar year 2021



**€ 47 million**  
**IN INVESTMENTS**  
in environmental protection<sup>1</sup>

<sup>1</sup> Calendar year 2021



**44%**  
**RECYCLING MATERIAL**  
in each copper cathode



**15.3**  
**HOURS OF TRAINING**  
average per employee



**3**  
**AURUBIS SITES**  
certified by The Copper Mark



**-36.5%**  
**IMPROVEMENT IN**  
**CO<sub>2</sub> EQUIVALENT FOOTPRINT**  
(per ton of copper cathodes since 2013)



**-37%**  
**IMPROVEMENT IN LTIFR**  
(lost time injury frequency rate)



**-55%**  
**LOWER**  
**CO<sub>2</sub> EQUIVALENT FOOTPRINT**  
(per ton of gold in 2021)

# Enabling tomorrow



**Roland Harings**  
Executive Board Chairman

**Dear friends of the company,**



“Metals for Progress: Driving Sustainable Growth” – our company strategy clearly expresses that Aurubis views sustainability as an essential part of our Group’s conduct and business activities. We are committed to the responsible handling of the resources we use to create value in the form of our metals – for an innovative and sustainable world. Because our products are the key to the mobility and energy transition, as well as to digitalization.

We feel it is essential to counteract the impacts of ongoing climate change through our business activities and to contribute to greater resource efficiency and better health protection. This objective is reflected in the ten principles related to human rights, labor, environmental protection, and anti-corruption that are part of the United Nations Global Compact (UNGC), which we have been party to since 2014.

Our Sustainability Report details just how sharp our sustainability focus is at Aurubis. As in previous years, this report is based on the internationally recognized standards of the Global Reporting Initiative (GRI). We have also linked our strategic topics to the UN Sustainable Development Goals (SDGs), goals that we are helping achieve.

As we expand our industry leadership role in sustainability, we are targeting nine action areas under the **Economy**, **People** and **Environment** focus areas. We have defined concrete and ambitious targets for each of these action areas that we aim to achieve by 2030. This is how we are making our progress in sustainability transparent and quantifiable.

In the People sustainability area, we are demonstrating how, as a future-oriented employer, Aurubis creates an environment in which employees work together in trust and safety. We set great store in high-quality vocational training and continuing education, and foster diversity and social engagement. Just one of many examples of our progress in this area: To

raise employee awareness of human rights and anti-discrimination, we developed a Group-wide training concept that has already reached over 90% of administrative staff.

The Environment sustainability area encompasses the important goal of achieving carbon-neutral production well before 2050. At the end of 2019, Aurubis joined the UN Global Compact Business Ambition for 1.5°C, thereby pledging our commitment to work on science-based CO<sub>2</sub> reduction targets. The Science Based Targets initiative (SBTi) validated these CO<sub>2</sub> reduction targets in 2021, thus confirming that we are contributing to limiting global warming to 1.5°C in line with the Paris Climate Agreement. Our life cycle assessments show just how far down the path to carbon-neutral metal processing we have come, thanks to a wide range of measures: Today we are already producing many of our metals with less than half the global average CO<sub>2</sub> footprint.

As a multimetal company, we source raw materials from many places around the globe. So responsibility in the supply chain is deeply rooted in the Economy sustainability area. To fulfill our due diligence for

a responsible and sustainable supply chain, all our business partners undergo our comprehensive Business Partner Screening based on the principles of the Organisation for Economic Cooperation and Development (OECD). As the most efficient and sustainable smelter network in the world, we believe it is important to offer comprehensive value chain solutions for the circular economy. With our multimetal recycling, we are making an important contribution to the efficient and environmentally friendly use of valuable resources. The construction of Aurubis Richmond, the largest multimetal recycling plant in the US with a processing capacity of 180,000 tons of valuable materials per year, is impressive proof of our approach.

At Aurubis, we are absolutely certain: With our metals, we will continue to shape the future and grow – as a sustainability leader in our industry. Aurubis will resolutely carry on down this path and we look forward to your continued support.

### **Roland Harings**

Executive Board Chairman



# Aurubis' 2030 sustainability targets

Action area	Ambition	2030 targets	2022/23 interim targets <sup>1</sup>
<b>€ Economy</b>			
<b>Governance and ethics</b>	We uphold the principles of responsible corporate governance.		
<b>Recycling solutions</b>	We offer comprehensive value chain solutions for the circular economy.	<b>50%</b> recycled content in copper cathodes	
<b>Responsibility in the supply chain</b>	We minimize negative impacts on people and the environment in our supply chains.	The improvement plan implemented has significantly reduced the risk for any supplier identified as high risk	<ul style="list-style-type: none"> <li>» Human rights, environmental protection, and safety clauses in 100% of long-term contracts for primary raw materials</li> <li>» Continued roll out of the Aurubis Business Partner Screening</li> <li>» Copper Mark certification of four sites</li> </ul>
<b>🌿 Environment</b>			
<b>Energy and climate</b>	We will be carbon-neutral well before 2050.	<b>-50%</b> absolute Scope 1 and Scope 2 emissions (reference year 2018) <b>-24%</b> Scope 3 emissions per ton of copper cathodes <sup>2</sup> (reference year 2018)	<ul style="list-style-type: none"> <li>» ISO 50001 at all production sites</li> </ul>
<b>Environmental protection</b>	We produce with the smallest environmental footprint in our sector.	<b>-15%</b> specific dust emissions in g/t of multimetal copper equivalent (reference year 2018) <b>-25%</b> specific metal emissions to water in g/t of multimetal copper equivalent (reference year 2018)	<ul style="list-style-type: none"> <li>» ISO 14001 at all production sites</li> <li>» Reduction of specific metal emissions to water by 50% in g/t of copper (Cu) output (reference year 2012)</li> <li>» Reduction of specific dust emissions by 15% in g/t of Cu output (reference year 2012)</li> </ul>

Action area	Ambition	2030 targets	2022/23 interim targets <sup>1</sup>
<b>👤 People</b>			
<b>Health and safety</b>	We prevent work-related accidents, injuries, and illnesses (Vision Zero).	LTIFR <b>≤1.0</b>	<ul style="list-style-type: none"> <li>» ISO 45001 certifications at all production sites</li> </ul>
<b>Future-oriented employer</b>	We create a work environment for close collaboration and promote diversity and commitment. We passionately work for the progress of the company and society.	<b>100%</b> of the relevant employees receive unconscious bias training <b>&gt;40%</b> <sup>3</sup> of employees take part in job rotation and job shadowing, with diversity fostered at the same time At least <b>75%</b> <sup>3</sup> of the employees surveyed participate in pulse checks and feedback measures	<ul style="list-style-type: none"> <li>» Development of a diversity action framework</li> </ul>
<b>Training and education</b>	We provide high-quality vocational training and invest in forward-looking qualifications for employees.	<b>100%</b> fulfillment of the continuing education allotment in hours (continuing education allotment: 18 hours per year for each employee)	<ul style="list-style-type: none"> <li>» 18 training hours per employee per year on average</li> </ul>
<b>Social engagement</b>	Locally and internationally, we are a reliable partner that is making a lasting contribution to a livable environment.	<b>90%</b> long-term partners (percentage of total budget) <b>0.8%</b> of operating EBT (five-year average) as annual budget for social engagement, and at least <b>€ 2 million</b>	<ul style="list-style-type: none"> <li>» Developing impact monitoring to evaluate sponsored projects</li> </ul>

<sup>1</sup> The previous Sustainability Strategy and its 2018–2023 targets were assimilated as "2022/23 interim targets" into the Group strategy through 2030 and supplement Aurubis' 2030 sustainability targets.

<sup>2</sup> Refers to copper cathodes from internal production.

<sup>3</sup> Over the FY 2021/22 to 2029/30 period.

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# About this report

GRI 2-2, 2-3, 2-5, 3-1, 3-2

## Content of the report

This document is Aurubis AG's eighth Aurubis Sustainability Report. We use the Global Reporting Initiative (GRI) standards as a guide in our reporting. This report has been prepared in accordance with the GRI Standards. In addition, this is the first report based on the Task Force on Climate-related Financial Disclosure (TCFD) reporting standard.

The report is based on the principles of sustainability context, materiality, completeness, and stakeholder inclusiveness. The content of the report was selected based on the action areas of the Sustainability Strategy and the materiality analysis updated in the 2021/22 Annual Report. In order to provide rating agencies and other stakeholders with the information they require, this report also extends beyond the topics identified.

Material report content was already included in the Non-Financial Report in the 2021/22 Aurubis Annual Report pursuant to Sections 315b and 315c in conjunction with Sections 289b to 289e of the German Commercial Code (HGB), which was reviewed by an external auditor with limited assurance. The Annual Report also contains the current status of our reporting on the EU taxonomy pursuant to the EU Taxonomy Regulation (EU) 2020/852.

The Sustainability Report is released every two years. In the years without a Sustainability Report, the sustainability KPIs

are updated and released separately in consolidated form in a KPI Update. The Non-Financial Report is released annually as part of the Annual Report. The last Sustainability Report was released in spring 2021, the KPI Update in January 2022, and the Non-Financial Report for fiscal year 2021/22 in the Aurubis AG Annual Report in December 2022.

## Data collection and consolidation

The reporting period is fiscal year 2021/22. Activities with special relevance were included up to the editorial deadline of March 16, 2023. The Aurubis fiscal year starts on October 1 and ends on September 30. In addition to Aurubis AG, the scope of consolidation includes all of the fully consolidated subsidiaries (as at September 30, 2022) and therefore fundamentally corresponds to the scope of consolidation of the Annual Report. Any deviations from the scope of consolidation are expressly stated for the relevant figures. The sale of part of the Flat Rolled Products (FRP) segment means the site at Zutphen (Netherlands) and the slitting centers in Birmingham (UK), Dolný Kubín (Slovakia), and Mortara (Italy) are no longer included in the KPIs as of August 1, 2022.

Aurubis reports employee KPIs for all consolidated sites as at the reporting date of September 30, 2022 and excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake. The KPIs relate to the headcount including apprentices, unless expressly indicated otherwise.

All environmental and energy KPIs are reported for calendar year 2021, not fiscal year 2021/22, and for production sites that are majority owned (>50%) by Aurubis<sup>1</sup>. This reflects most of the energy consumption and emissions. When this report mentions copper production in the context of environmental KPIs, this refers to primary and secondary copper production at the Hamburg and Lünen (both in Germany), Olen and Beerse (both in Belgium), Pirdop (Bulgaria), and Berango (Spain) sites. The KPIs for the Beerse and Berango sites are included as of June 1, 2020, and in the environmental KPIs starting January 1, 2020.



[www.aurubis.com/en/responsibility/reporting-kpis-and-esg-ratings](https://www.aurubis.com/en/responsibility/reporting-kpis-and-esg-ratings)

<sup>1</sup> The KPIs are used first and foremost for internal management purposes and reporting for governmental authorities, for which the calendar year is the given period under review. Parallel reporting of both calendar year and fiscal year figures could lead to confusion and ambiguity.

Metals for Progress

# About Aurubis

Metals are essential drivers of progress. Which is why we at Aurubis produce Metals for Progress. To us, progress means helping shape a sustainable and livable future – for the generations of tomorrow and today.

page 9 – Company profile  
page 13 – Aurubis' corporate structure

### Progress

We responsibly transform raw materials into metals for an innovative and sustainable world.





Long-term economic stability of the company

# Future multimetal company profile

GRI 2-1, 2-6, 203-2, 203/3-3

As a world leader in copper recycling and a supplier of non-ferrous metals, we process complex metal concentrates, scrap metals, organic and inorganic metal-bearing recycling raw materials, and industrial residues into metals of the highest purity. We produce more than 1 million tons of copper cathodes annually, and from them manufacture a variety of copper products, such as wire rod, continuous cast shapes, and flat rolled products.

In addition to our main metal, copper, our metal portfolio also includes gold, silver, lead, nickel, tin and zinc, along with minor metals such as tellurium and selenium, and platinum group metals. Sulfuric acid, iron silicate, and synthetic materials round out the product portfolio. We responsibly transform raw

materials into metals for an innovative and sustainable world. In keeping with this maxim, sustainable conduct and business activities are integral to our company strategy.

The company headquarters, also home to one of our two primary smelters, are in Hamburg, Germany. Most of our sites are in Europe, with major production units in Germany, Belgium, Bulgaria, and Spain, as well as cold rolling mills for flat rolled products and rod plants along with a casting line in Germany and in other European countries. Outside Europe, Aurubis also has one production site in the US, and a global sales and service network. Aurubis started construction on the first secondary smelter for multimetal recycling in the US in Augusta, Richmond County in Georgia, in June 2022. The state-of-the-art plant is expected to be commissioned in 2024

🔗 [Recycling solutions, page 45.](#)

## Research and development for multimetal

During the reporting year, our research and development (R&D) work primarily focused on optimizing production processes for copper, lead, and precious metals, as well as on developing new and considerably more environmentally compatible technologies and on decarbonizing our processes. To upgrade our recycling capabilities even further, our Research and

Development division is investigating various ways to recover lithium, nickel, manganese, and cobalt from the lithium-ion batteries used in electric vehicles 🔗 [Recycling solutions, page 46.](#) We also developed products along with applications for our metals. The Aurubis Group's R&D expenditures in fiscal year 2021/22 amounted to € 12 million, 🔗 [for more information please see our 2021/22 Annual Report, page 104.](#)

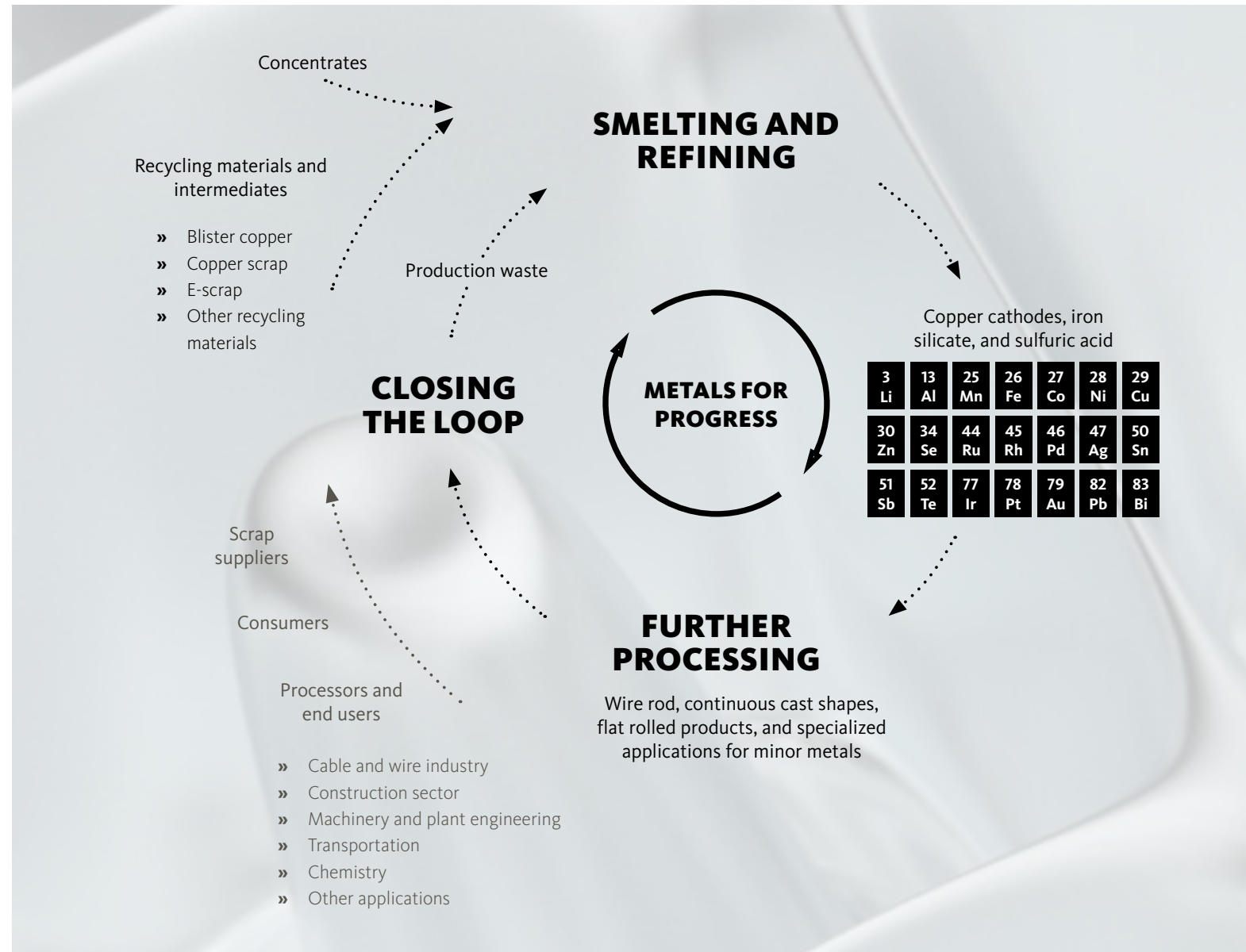


## Our business model

Metals play a pivotal role in a number of forward-looking applications. Following industrialization, automation, and digitalization, the transformation to a more sustainable, carbon-neutral economy and society is currently posing significant challenges. This transformation impacts all aspects of society, and many solutions – such as electric vehicles and wind turbines – rely on the use of metals.

The Aurubis Group's business model rests on three fundamental pillars: the processing of raw materials from the mining industry, the processing of recycling materials, and product business. This provides Aurubis with a great deal of efficiency and flexibility in managing raw material procurement, production, and sales. Different market cycles influence each of the three fundamental pillars as well.

We process copper concentrates that are obtained from ores and are sold by mining and trading companies on the global market. The necessary feed materials for our two primary smelters in Hamburg and Pirdop are purchased worldwide. Aurubis holds no stakes in mines and has a globally diversified supplier portfolio. We source a significant portion of our copper concentrates from South American countries, such as Peru, Chile, and Brazil. We also purchase raw materials from other countries, like Bulgaria, Georgia, and Canada. As a buyer, Aurubis competes with other international primary smelters, particularly in China and Japan. Copper concentrates for the Hamburg site reach us primarily by waterway and are transshipped via the port terminal in Brunsbüttel. There the



different copper concentrates are pre-mixed in accordance with the requirements of our production process. At the site in Pirdop, Bulgaria, concentrates reach us by land and sea via the port of Burgas.

In addition to copper concentrates, we use copper scrap and various types of organic and inorganic metal-bearing recycling raw materials, industrial residues, and bought-in metallurgical intermediates as feed material. Most of the copper scrap and metal-bearing recycling raw materials for our four secondary smelters in Lünen (Germany), Olen and Beerse (both in Belgium), and Berango (Spain) are sourced on the European and North American markets. Furthermore, we use copper scrap with high copper contents for cooling purposes in both of our primary smelters in Hamburg (Germany) and Pirdop (Bulgaria). Metal trading companies are the main participants on the supply side for recycling materials, though some recycling raw materials also reach us directly from industry through our closing-the-loop approach.

In the course of our production processes, we convert copper concentrates and recycling materials into copper cathodes. This is the standardized product format in global copper trading on the international metal exchanges. Copper cathodes are the starting product for manufacturing 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. In terms of processing, we have manufacturing capacities 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.

The sales markets for our products are varied and international. The Aurubis divisions' 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.

To close the value chain for copper and other metals, we place a high priority on the closing-the-loop approach. The focus of this approach is on materials such as production waste and residues that accumulate along the copper value chain in production, for example with our customers.

## Preserving stability in the future

One of our key sustainability topics is the company's long-term economic stability. Economic stability means being in a crisis-proof position for the future, and safeguarding this is the only way to achieve our economic targets. It includes ensuring a robust position, profitability, and earning profits responsibly. Operating EBT and operating return on capital employed (ROCE) are our central financial control parameters.

### Sustainable growth

Our "Driving Sustainable Growth" strategy provides a clear answer to how we will keep developing our business to shape the future and grow through sustainable profitability. Aurubis has a healthy, high-performing core business: processing raw materials containing metals – both concentrates and recycling materials. Connecting our sites in a targeted way and optimizing material flows allows us to take even better advantage of synergies in the Group. This will allow us to create

the conditions for further growth. We are using our many years of expertise in processing complex recycling materials, along with state-of-the-art smelter technology, to establish and expand scalable capacities. Further down the road, we want to expand our offerings to include battery materials and battery recycling.

### Our impact

Aurubis safeguarding its economic stability over the long term will have a great deal of positive impact on various stakeholders. It will ensure Aurubis remains a large, sustainable employer in each respective region. In addition to offering stable employment, we are also very actively involved in strengthening local communities through charitable initiatives. We produce metals that are absolutely crucial to the energy transition, for example, and to electrifying transportation. We are also an important link in the process chain for securing the material



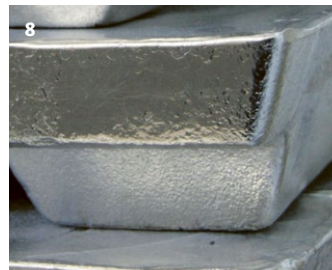
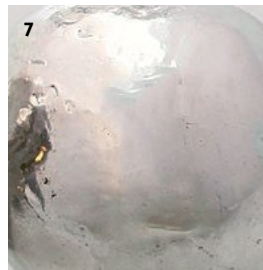
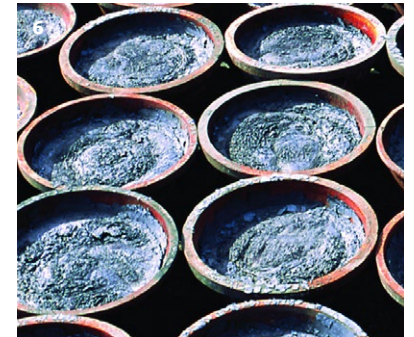
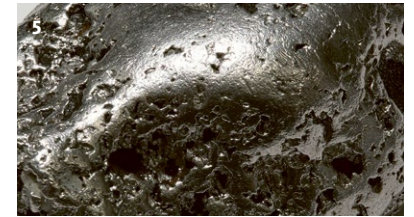
cycle for the metals we process. This area is the explicit focus of our growth ambitions, since the stability of our core business is what allows us to pursue the expansion of our activities in recycling.

We consistently and regularly make significant investments to reduce the potential negative impacts Aurubis might have through its business activities: in maintenance shutdowns at our plants to increase the functionality of our equipment; in environmental protection; in measures to reduce CO<sub>2</sub> emissions (initiatives for producing and using hydrogen and ammonia, heat recovery, electrification, etc.); in occupational safety; and in automatization.

We use a set of regularly reviewed sustainability KPIs to monitor and assess our progress in the area of sustainability. All strategic projects are also subject to a sustainability assessment. We have clearly defined strategic project pipelines intended to secure and strengthen our core business, realize our growth ambitions in the area of recycling, and further advance Aurubis' sustainability profile.

The effectiveness of these measures is clearly demonstrated by how they contribute to the Aurubis company strategy. We incorporate the insights we gain from monitoring our projects and measures into our strategies and use them for future projects.

- 1 Copper
- 2 Gold
- 3 Silver
- 4 Nickel
- 5 Platinum
- 6 Iron silicate
- 7 Rhodium
- 8 Tin
- 9 Bismuth
- 10 Lead



# Aurubis' corporate structure

GRI 2-1

In fiscal year 2021/22, the Aurubis Group's organizational framework was based on its underlying business model. In the course of developing the Aurubis Group's strategy, the segmentation was adjusted effective October 1, 2021. The Group's basic organizational structure is made up of two operating segments, Multimetal Recycling and Custom Smelting & Products, which provide the basis for segment reporting for fiscal year 2021/22 pursuant to IFRS 8. These developments are also reflected in the company management: Since January 1, 2023, Inge Hofkens has been responsible for the Multimetal Recycling segment and Heiko Arnold for the Custom Smelting & Products segment.



- » The **Multimetal Recycling (MMR)** segment comprises the recycling activities in the Group and thus the processing of copper scrap, organic and inorganic recycling raw materials containing metal, and industrial residues. The segment mainly includes the sites in Lünen (Germany), Olen and Beerse (both in Belgium), and Berango (Spain). Aurubis Richmond, the secondary smelter currently under construction in the US state of Georgia, is also included in this segment.
- » The **Custom Smelting & Products (CSP)** segment comprises the production facilities for processing copper concentrates and for manufacturing and marketing standard and specialty products, such as cathodes, wire rod, continuous cast shapes, strip products, sulfuric acid, and iron silicate. The CSP

segment is also responsible for precious metal production. The sites in Hamburg and Lünen (both in Germany), Olen and Beerse (both in Belgium) and Pirdop (Bulgaria) manufacture copper cathodes, which are further processed into wire rod and shapes at the Hamburg (Germany), Olen (Belgium), Emmerich (Germany), and Avellino (Italy) sites. The Buffalo (US), Stolberg (Germany), and Pori (Finland) plants produce flat rolled products and specialty wire products. Aurubis AG sold four sites of the former Aurubis Flat Rolled Products (FRP) segment to KME SE, Osnabrück, with effect from July 29, 2022. The site at Zutphen (Netherlands) and the slitting centers in Birmingham (UK), Dolný Kubín (Slovakia), and Mortara (Italy) accordingly contributed to the earnings of the CSP segment through July 29, 2022, i.e., for ten months.

## Sites and employees

### GRI 2-2

#### Consolidated sites

##### Europe

DE	Hamburg	Aurubis AG headquarters	2,588	
		Aurubis Product Sales GmbH	9	
		E. R. N. Elektro-Recycling NORD GmbH	16	
		Peute Baustoff GmbH	12	
	Lünen	Aurubis AG	680	
	Stolberg	Aurubis Stolberg GmbH & Co. KG	413	
	Emmerich	Deutsche Giessdraht GmbH	113	
	Röthenbach	RETORTE GmbH Selenium Chemicals & Metals	42	
	Berlin	Aurubis AG	3	Group representative office
BG	Pirdop	Aurubis Bulgaria AD	926	
BE	Olen	Aurubis Olen NV/SA	650	
	Beerse	Aurubis Beerse NV	455	
FI	Pori	Aurubis Finland Oy	281	
IT	Avellino	Aurubis Italia Srl	89	
ES	Berango	Aurubis Berango S. L. U.	101	
	Barcelona	Aurubis Product Sales GmbH	1	
UK	Edinburgh	Aurubis Beerse NV	1	
FR	Lyon/Septème	Aurubis Product Sales GmbH	1	
	Metz	Aurubis Beerse NV	1	
<b>Employees in Europe</b>			<b>6,382</b>	
<b>US</b>				
US	Buffalo	Aurubis Buffalo Inc.	529	
	Augusta	Aurubis Richmond LLP	2	
<b>Employees in the US</b>			<b>531</b>	
<b>Total employees</b>			<b>6,913</b>	

##### Raw materials

Concentrates and recycling materials are the raw materials from which copper is produced.

Concentrates

Recycling materials

##### Sales and distribution network

An international sales and distribution network markets our products.



##### Products

The copper is processed into products.

Some products are byproducts of copper production.

Cathodes

Sulfuric acid

Wire rod

Iron silicate

Shapes

Strip/foil

Specialty profiles

Specialty wire

Precious metals

Synthetic minerals

Minor metals

The KPIs relate to permanent and temporary employment arrangements as at the reporting date of September 30, 2022. Excluding companies consolidated using the equity method. Sites without employees are not listed.

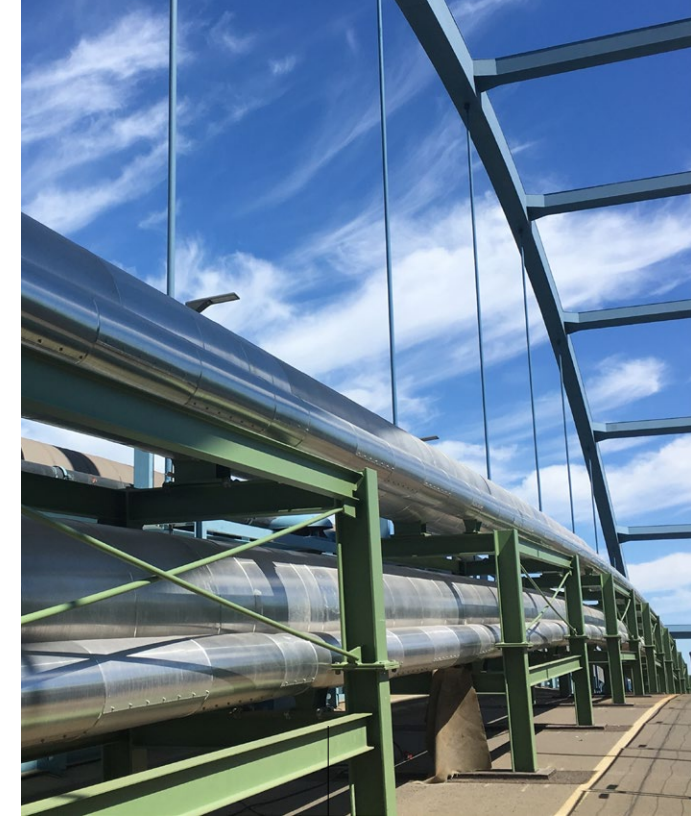
Driving Sustainable Growth

# Sustainability at Aurubis

We can only grow sustainably if we continue to expand our industrial leadership in sustainability. This is why sustainability is at the core of our company strategy and deeply rooted in our Group structure.

page 16 – Sustainability at Aurubis  
page 17 – Materiality  
page 19 – Sustainability management

page 21 – Sustainable Development Goals  
page 22 – Stakeholder engagement  
page 27 – Association work and political lobbying



## Sustainability transformation

Aurubis metals are needed for the generation and distribution of renewable energies and for the transition to electric vehicles.



## Heat for Hamburg

Our industrial heat project in Hamburg is reducing CO<sub>2</sub> emissions beyond our plant boundaries.

# Charting the right path: Sustainability as part of our company strategy

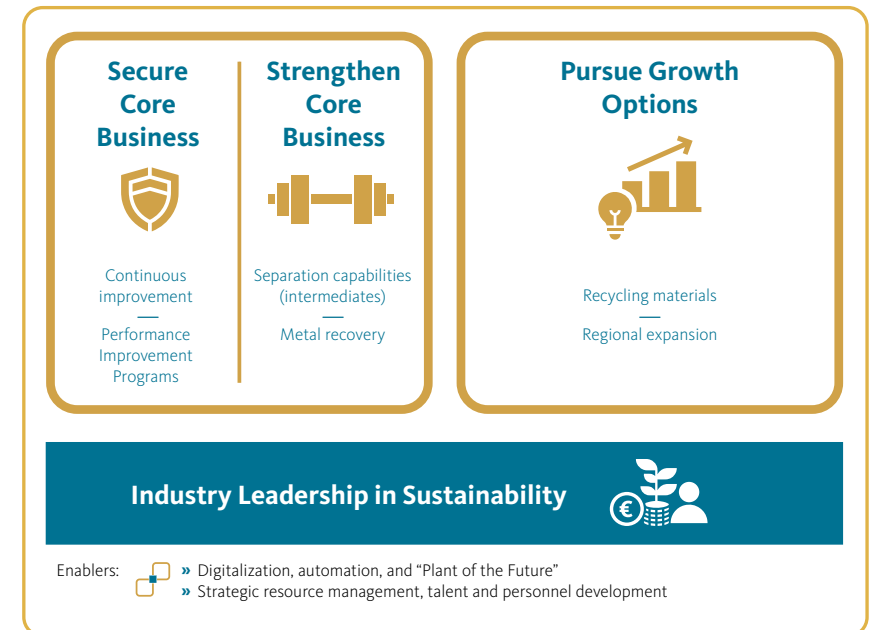
GRI 3-1, 3-2, 203-2, 203/3-3

Sustainability is a significant element of the Aurubis Group's conduct and rooted in our company strategy, so it plays a key role in our business activities. Our corporate strategy, "Metals for Progress: Driving Sustainable Growth," was updated in fiscal year 2020/21. This strategy is how we will secure and strengthen our core business, pursue growth options, and expand our industry leadership in sustainability.

We follow our company mission to responsibly transform raw materials into metals for an innovative and sustainable world. We treat employees, suppliers, customers, and neighbors with respect as a matter of course, whether in direct business operations or in the areas around our plants. The same applies to the environment, since, as a recycling specialist, we are well aware of the limits of our planet's natural resources.



As we continue to develop and realize our company strategy, we will also integrate our sustainability aspirations even more effectively into all Group divisions and activities.

The main external factors influencing business development are described in the [Risk and Opportunity Report in the Combined Management Report in the 2021/22 Annual Report, page 133](#). Risks related to non-financial considerations beyond the company boundaries are also mentioned there.





### Our sustainability targets

Our “expanding industry leadership in sustainability” strategy includes the People, Environment and Economy focus areas, which encompass nine sustainability action areas. For each action area, we have defined ambitious targets to be reached by 2030. The previous sustainability strategy and its 2018–2023 targets were assimilated into the 2030 Group strategy as interims targets  **2030 sustainability targets, page 5**. The updated strategy, including the sustainability targets, was adopted by the Executive Board and Supervisory Board. During the reporting year, the Sustainability division worked with the plants and relevant corporate functions on continuing progress in implementing the sustainability targets and allocating the targets to functions and sites, along with taking the first steps towards realizing the targets. The 2030 sustainability targets are featured at the beginning of each chapter in this report, and their implementation status is underlined in that chapter and indicated by this arrow .

### Aurubis as part of The Copper Mark

As part of the Copper Mark industry initiative, we are promoting responsibility along the entire value added chain. This external certification is granted by an independent agency to verify our sustainability performance. It can also provide suggestions for further improvement, which we pursue by means of concrete action plans.

The Copper Mark is an initiative that requires a review of the sustainability standards at copper production sites including mines, smelters, and refineries. The Copper Mark covers the 32 sustainability criteria set out in the Responsible Minerals Initiative’s (RMI) Risk Readiness Assessment and incorporates topics such as compliance, child labor, and occupational safety. The Copper Mark is also aligned with the United Nations Sustainable Development Goals (SDGs). Since August 2022, 20% of the copper produced worldwide has come from sites

that have been awarded the Copper Mark seal. Aurubis Bulgaria was granted the Copper Mark seal in 2021, and the two Aurubis AG sites in Hamburg and Lünen (Germany) successfully followed suit in 2022. The Belgian site in Olen committed to the Copper Mark in July 2022 and has begun the certification process.

## The foundation: Our material topics

To identify the relevant reporting content, we updated our materiality analysis in the reporting year with the assistance of internal and external experts. This was based on a revised list of potential material topics used to expand the existing list of material topics by adding new sustainability aspects that are also increasingly relevant to our industry.

A materiality assessment was conducted using a rating scale. Topics that were determined to be severely impacted by Aurubis’ business activities were rated as high and, as such, material. We considered our stakeholders’ concerns in the materiality assessment process via the list of potential material topics and a review by a body of experts.

The materiality assessment identified a few new material topics: In the environment action area, these include land use, protecting biodiversity, and noise. In the future-oriented employer action area, the new topics are workplace flexibility / sustainable working conditions, along with attractive compensation and fringe benefits. Generated waste was newly assessed as material both in the supply chain and with our customers. In the supply chain, emissions of additional greenhouse gas equivalencies and transport emissions were also added. Furthermore, the topic of product safety was newly added as generally material along with responsible tax practices

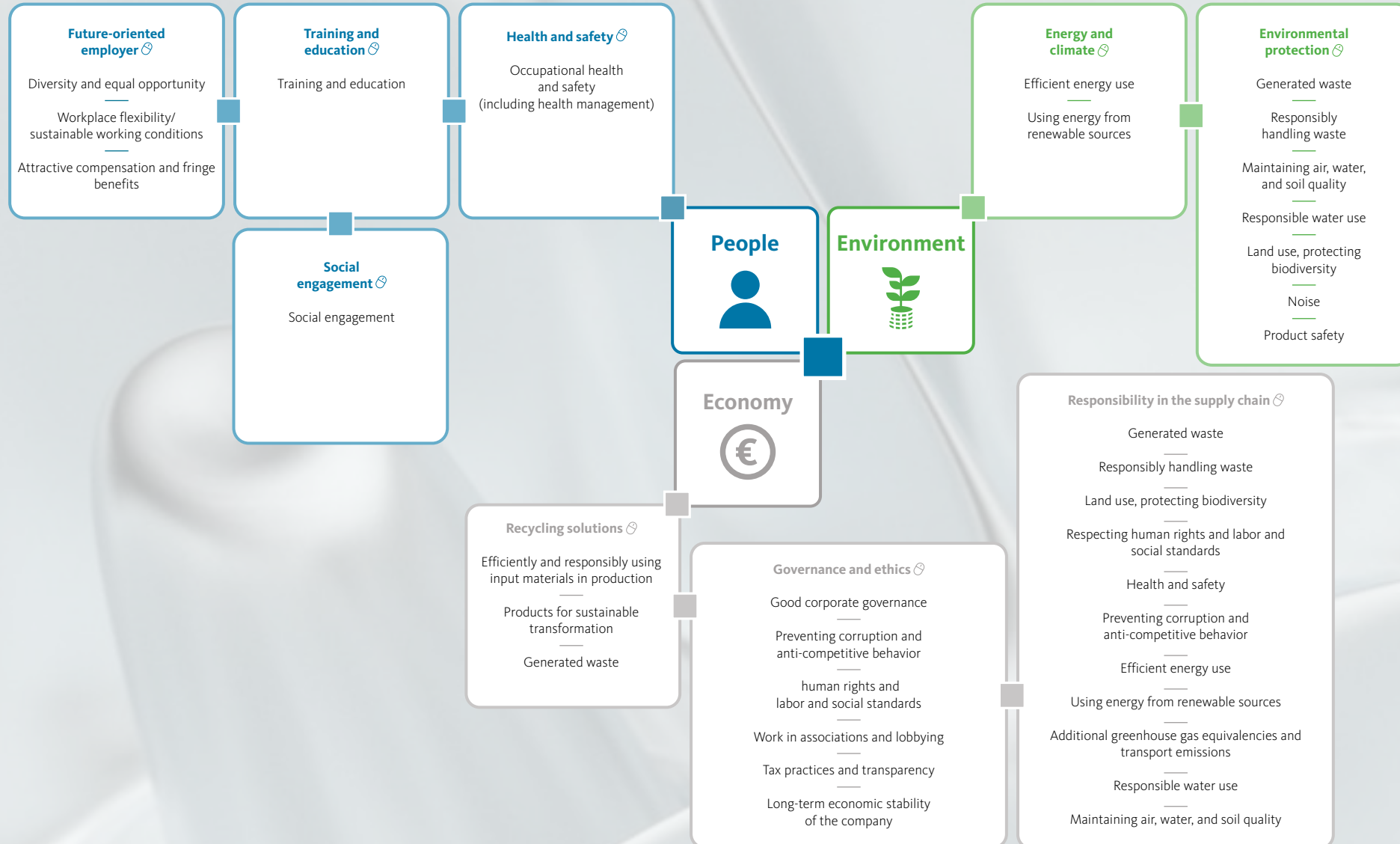
in the governance and ethics action area. The materiality assessment also revealed that a few topics were no longer classified as material based on the sustainability assessment or for methodological reasons. These include data protection and IT security, process quality, sustainable finance, and innovative processes. Sustainable finance, for example, was excluded from the assessment for methodological reasons, since it represents a cross-cutting issue that is hard to define and includes several of the individual topics covered in the assessment. For data protection and IT security, for instance, the assessment of the “impact of our activities on the topic” criterion fell below the materiality threshold, since Aurubis primarily processes employee data and the law has formulated strict rules for this data, which we already fully adhere to. Similarly, any potential negative impact from our business model on third-party IT security was rated as low. The Executive Board approved the results.

The topics identified as material in this process were assigned to the relevant sustainability action areas. We present topics with the same management approach in a consolidated format.

In addition to the material topics, we have also included topics in this report that, while not found to be material in the sense of the GRI or HGB, are nonetheless very important to us and our stakeholders, such as social engagement. We also report on additional topics to meet the transparency requirements of external stakeholders, such as ESG rating agencies.



# Our material topics



# Our organizational structure: Aurubis' sustainability management

GRI 2-9, 2-12, 2-13, 2-14, 2-17, 2-23, 2-24

The fundamental responsibilities of sustainability management include incorporating Aurubis' sustainability approach into company practice and appropriately considering the concerns of our stakeholders. Aurubis employees are committed to achieving the set measures and targets.

Legal frameworks, our company values, and internal guidelines create a foundation that ensures we act in accordance with the law, treat each other and our business partners with fairness and trust, and use resources responsibly. The prevention principle practiced at Aurubis is a basic component of responsible business activities that contributes to long-term success.

## **Sustainability division as an interface in the Group**

As part of the 2020/21 strategy process, the decision was made to realign Aurubis' sustainability organization to better reflect the Group's sustainability ambitions and the increasing importance of sustainable business practices in legislation and on the market. As part of this realignment, an independent Sustainability division with increased staffing levels was created in January 2022. The new head of the Sustainability division reports directly to the CEO, who has overall responsibility

for the topic of sustainability in the Aurubis Group. This also involves responsibility for sustainability aspects included in the Group strategy, in setting targets and guidelines, and in sustainability reporting. The first sustainability reporting guidelines that defined responsibilities, tasks, and processes, among other things, came into force in February 2023.

The Sustainability division serves as the interface between the divisions relevant for sustainability, and coordinates all of the associated processes within the Group. The Sustainability division is also responsible for continuously reviewing and developing the sustainability targets and for supporting the sites and divisions in the operational implementation of measures – including the Group-wide decarbonization strategy in particular. To this end, contacts have been appointed at the sites and in the relevant corporate functions. The Sustainability division reports current developments to the Supervisory



“We have been engaged in sustainability challenges like decarbonization and a zero-emissions strategy, sustainability requirements in supply chains and responsible mining activities, lifecycle-oriented resource management, sustainability performance management and transparent reporting for a long time now.”

**Christian Hein**, Head of Sustainability at Aurubis

Board's Audit Committee. It also undertakes continuous review based on ESG criteria and offers technical support for strategic projects, as well as carrying out supplier assessments based on sustainability criteria. Together with the Investor Relations and Corporate Communications divisions, Sustainability also manages sustainability reporting and communication. It is the point of contact for ESG rating agencies and represents Aurubis' interests in sustainability issues.

To reflect the impact of sustainability on the company's success, the Aurubis Executive Board's variable compensation – in particular the annual bonus – takes various ESG performance criteria into account [Compensation report in the 2021/22 Annual Report, starting on page 30.](#)

### Transparency and sustainability reporting at Aurubis

For many years, we have ensured our sustainability achievements are transparent in a variety of ways. These include reporting in the Non-Financial Report and Sustainability Report, and participating in sustainability rankings and ratings, such as the CDP (a non-profit organization that advocates for climate reporting, among other things) and EcoVadis. We are also rated by agencies such as MSCI, Sustainalytics and ISS ESG [www.aurubis.com/en/responsibility/reporting-kpis-and-esg-ratings](https://www.aurubis.com/en/responsibility/reporting-kpis-and-esg-ratings). Our Sustainability Reports are based on the GRI standards and released every two years. The new Corporate Sustainability Reporting Directive (CSRD) will apply to Aurubis starting for the first time in 2024 and as such to the 2024/25 Annual Report. In the years without a Sustainability Report, the sustainability KPIs are updated and released separately in consolidated form in a KPI Update.



### The German Sustainability Award

Aurubis was a 2022 finalist for the German Sustainability Award, Europe's highest award for commitment to the environment and social responsibility. [www.nachhaltigkeitspreis.de/en/](https://www.nachhaltigkeitspreis.de/en/)

## ESG ratings: What analysts have to say

<b>CDP</b>	Climate Change Questionnaire 2022: A- Water Security Questionnaire 2022: B Supplier Engagement Rating Report 2022: B
<b>EcoVadis</b>	Gold Status with 73/100 points (2022)
<b>ISS-ESG</b>	Prime Status (since 2012) B rating (2021)
<b>MSCI<sup>1</sup></b>	AA rating (since 2016)
<b>Sustainalytics<sup>1</sup></b>	Management score: 70.5/100 (Strong) (2022)
<b>Vigeo Eiris (V. E)</b>	Score: 64/100 (2021)



<sup>1</sup> Please note the disclaimers [Imprint](#)

# Our contribution to the Sustainable Development Goals

As part of the 2030 Agenda, the United Nations set 17 goals for sustainable development (Sustainable Development Goals, SDG). We view contributing to achieving these goals as our responsibility. Our impact and approaches here are as diverse as our company.



**3 GOOD HEALTH AND WELL-BEING**  
Vision Zero: Management approach to preventing work-related accidents and injuries | Occupational safety anchored in supply chain management | Preventative measures to protect health



**8 DECENT WORK AND ECONOMIC GROWTH**  
Commitment to UN Guiding Principles on Human Rights at Group sites and in the supply chain | Promoting digitalization, diversity and codetermination



**15 LIFE ON LAND**  
Environmental management approach at all production sites | Environmental protection anchored in supply chain management | Support for social projects that focus on environmental protection



**4 QUALITY EDUCATION**  
Promoting vocational training in apprenticeship programs | Professional development options for the workforce | Supporting educational projects in social engagement



**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**  
Use of our metals for CO<sub>2</sub> reduction, i. e., in electric vehicles and offshore wind turbines | Core business recycling solutions | Innovative processes for more sustainable production



**16 PEACE, JUSTICE AND STRONG INSTITUTIONS**  
Principles for good corporate governance | Commitment to German Federal Lobbying Act | Fight against corruption



**5 GENDER EQUALITY**  
Targets for women in leadership positions | Cross-company Women4Metals network | Support for a social recycling project led by female entrepreneurs



**10 REDUCED INEQUALITIES**  
Fostering diversity and equal opportunities in the workforce and supply chain | Diversity Commitment | Social engagement projects to promote participation



**17 PARTNERSHIPS FOR THE GOALS**  
Stakeholder engagement: open dialogue on sustainability topics | Involvement in initiatives and projects for sustainable development



**6 CLEAN WATER AND SANITATION**  
Regular assessment of water management including water risk audits | Support for a water protection project in international social engagement



**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**  
Energy conservation and responsible use of finite resources through metal recycling | Supplying raw materials for the energy and mobility transition



**7 AFFORDABLE AND CLEAN ENERGY**  
Management approach for efficient energy use and the use of renewable energy sources | Aurubis as energy provider through industrial heat



**13 CLIMATE ACTION**  
Decarbonization roadmap aiming for carbon-neutrality well before 2050 | Climate protection anchored in supply chain management | Identification of climate-related risks to develop climate strategies in keeping with TCFD | Innovative testing for decarbonization (hydrogen, ammonia)

# In dialogue with our stakeholders




GRI 2-12, 2-23, 2-28, 2-29, 413-1, 415/3-3

We communicate regularly with our key stakeholders about sustainability-related topics. We believe it is important to maintain an open and transparent dialogue with our employees, customers, and suppliers, policymakers and society, public authorities, capital market participants, the media, non-governmental organizations, and the scientific community.

## Ready to listen


As a manufacturing company with many global influences, staying in close contact with our stakeholders – both locally and nationally – is very important to us. This dialogue allows us to understand our stakeholders' perspectives and incorporate them into our business development when possible.

We regularly discuss topics relevant to sustainability, such as decarbonizing our production, raw material recovery along the value chain and a more flexible energy supply – especially in light of current geopolitical events. Other topics of interest include the Supply Chain Due Diligence Act (LkSG), operational environmental protection at our sites, and our contribution to the objectives of the European Green Deal. These conversations also help us identify social trends and political developments.

At Aurubis, the respective sites are responsible for working together with local communities and governments. As part of a regular process, we identify local stakeholders for concerns regarding occupational safety, quality, environmental protection and energy. This takes place at the sites according to the specifications of our integrated management system, in keeping with the applicable ISO standards our sites are certified by  **Certifications by site, page 99**, and aligned with the relevant local guidelines. This is how we monitor and check for any changes to what our stakeholders require from us, for example, and assess whether we need to adapt our communication approach and management measures. In social engagement, we identify local stakeholders through networks and by making inquiries  **Social engagement, page 70**  [www.aurubis.com/whistleblower-hotline](http://www.aurubis.com/whistleblower-hotline).

## Our formats: Local and cross-regional

We take the concerns of our local stakeholders seriously and exchange information with them in a variety of ways: in conversations, at forums and events, and as part of permit processes and environmental impact assessments. Particularly in-depth exchange takes place with specialized groups of visitors, at capital market conferences, in meetings with suppliers and customers, and with social engagement stakeholders. With these different forms of dialogue, we hope to involve a broad spectrum of stakeholders who are interested in the company and/or are directly or indirectly connected to our business processes.

Our  **Memberships and participation in initiatives and projects, page 26**, serve as another example of our commitment on a regional and national level.

Additionally, our website provides stakeholders with an opportunity to submit suggestions for improvement or report complaints via a central contact form or the contacts listed on the website for the individual divisions and sites. We gather the results for each plant and report them in regular meetings with the chief production officers. We integrate possible improvements into our management systems for quality, environment, energy, and occupational safety. The whistleblower hotline is another option for submitting complaints [🔗 Compliance, page 35](#).

Local communication raises the visibility of our commitment and thus increases the acceptance of our sites in the local community. Since 2011, for example, we have operated a public information center in Pirdop (Bulgaria). Furthermore, our environmental monitoring data for the Pirdop and Zlatitsa areas (both in Bulgaria) is available to the public.

### Handling criticism

If incidents of public interest occur despite all the precautionary measures we have taken, we focus on responsible exchange with our stakeholders and engage in constructive dialogue, taking critical comments seriously, and developing measures for improvement.

The New York State Department of Environmental Conservation (NYSDEC) identified environmental protection violations at the Aurubis site in Buffalo (US) and initiated legal proceedings in 2018. The violations were related to the handling of hazardous substances and wastewater treatment. To correct these issues, the site developed and fully implemented an action plan with about 20 individual measures. The number of employees in the environmental division was increased and the organizational structures were adjusted. We also established close monitoring with the help of external consultants. This will contribute to minimizing risks even further. The fine of US\$ 240,000 was paid in March 2021, and the case completely closed. An environmental management system in accordance with ISO 14001 was successfully introduced in September 2022.

### Whistleblowing

At Aurubis, anyone can anonymously contact an external and independent whistleblower hotline.



A screenshot of the Aurubis website's Whistleblower Hotline page. The page header includes the Aurubis logo and navigation links: About Us, Products, Responsibility, Investor Relations, Media, Career. The main content area features a large image of hands holding a smartphone. Below the image, the heading 'Whistleblower Hotline' is displayed. The text explains that tips can be submitted anonymously using an external and independent Compliance Portal. It also mentions that the attorneys of the Ombud Service (OSR) are available as a trustworthy and anonymous reporting office. The reporting office (OSR whistleblowing portal) can be contacted around the clock by telephone, web form, e-mail or fax to report indications of possible legal violations or other actions harmful to the company. A list of reasons for a fact-based tip is provided: Criminal acts such as corruption, fraud or theft; and Violations of antitrust law.

## Our dialogue formats

Types of dialogue

Topics related to sustainability in FY 2021/22

### Capital market

(analysts, institutional and private investors, financial press/other multipliers, banks)

Annually: – Annual General Meeting Multiple times per year/as needed: – Conferences – Roadshows – Forums – Site visits from investors – Conference calls	– Performance Improvement Program (PIP) – Growth initiatives – Our sustainability activities (focus: energy and climate protection, the Copper Mark)
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### Customers

Multiple times per year/as needed: – Regular personal exchange and customer surveys – Dialogue forum on REACH safety data sheets – Presentations at exhibitions – Participation at conferences – Workshops – Participation in our customers' sustainability days – Development projects with customers	– Company strategy – Decarbonization – Recycling solutions / recycling content in Aurubis products – Energy prices – Product quality and supply security – Responsible supply chain
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### Customers/contractors

Multiple times per year/as needed: – Personal contact, e. g. by phone or at conferences – Reciprocal visits – Supplier Days	– Company strategy – Decarbonization – The Copper Mark – Further advancing combined transport – Occupational safety for the maintenance shutdowns at the Aurubis Hamburg plant – (Top 50 contractors) Security concept, responsibility for occupational safety, incident analysis, and learning from events – Securing materials (i. e., battery materials (black mass)) – Sustainability concept in production and supply chains
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### Media

Multiple times per year/as needed: – Interviews, phone calls, briefings – Press conferences and events – Press releases – Individual TV shoots in the plants	– Company strategy – Construction of Aurubis Richmond, US site – Alternative energy sources – Hydrogen – Prices and supply/flexibilization – Responsible supply chain – Battery recycling
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## Types of dialogue

## Topics related to sustainability in FY 2021/22

**Employees**

At least once per year:

- Annual performance reviews

Multiple times per year/as needed:

- (Virtual) informational events on current issues
- All-staff meetings
- “CU” employee magazine, intranet news and social media activities
- Employee events, i. e., the Aurubis Christmas market
- Informational events and interactive events

– Company strategy

- Commissioning RDE and general maintenance shutdown in Hamburg

– Information on voluntary relief operations for crises or catastrophes (i. e., sorting and packaging donations for people in Ukraine together with our partner Hanseatic Help)

- Informational events and interactive events around the “World Day for Safety and Health at Work” at the Lünen, Beerse, Olen and Pirdop sites
- Current energy supply situation

**A good neighbor at our sites**

Multiple times per year/as needed:

- Personal conversations
- Public participation in permit procedures and environmental impact assessments
- Register for company incidents and complaints from locals
- Meetings related to local sponsoring projects
- Information booths and interactive events

– Information booths and interactive events around the “World Day for Safety and Health at Work” in the Pirdop and Zlatitsa communities (safety awareness and culture, handling knives safely)

**NGOs/civil society**

Multiple times per year/as needed:

- Personal conversations and written communication

– Automotive Industry Dialogue

**Policymakers/governmental authorities**

Multiple times per year/as needed:

- Discussions with legislative and executive representatives at state, national, and EU level
- Participation in public consultations, in some cases indirectly through associations
- Site visits

- Construction of Aurubis Richmond, US site
- Sustainable finance / taxonomy (in finance)
- Raw material availability
- Decarbonization, energy prices

**Scientific community**

- Joint research projects (with TU Freiberg and the University of Queensland, for instance)
- Studies
- Interviews
- Participation at conferences and seminars
- Industry seminar on metallurgical process technology

- Researching the latest technologies
- Introducing environmentally friendly production technologies
- Securing young talent

## Memberships and participation in initiatives and projects

For many years now, we have been actively involved in many national and international initiatives and projects dealing with sustainability topics, such as climate and environmental protection, labor standards, human rights, and fighting corruption.

### Aurubis is a member of the following initiatives:

- B.A.U.M. – German Association of Environmental Management e. V. (since 2001)
- CDP (since 2015)
- DCGK – German Corporate Governance Code (since 2002)
- ERMA – European Raw Materials Alliance (since 2020)
- IG BCE – “Charta der Gleichstellung” der Industriewerkschaft Bergbau, Chemie, Energie (“Equality Charter” of the Mining, Chemistry and Energy Industry Union, since 2014)
- PREVENT Waste Alliance (since 2020)
- Responsible Care – as a member of the German Chemical Industry Association (VCI), we are committed to the chemical industry’s sustainability initiative
- Stiftung KlimaWirtschaft – German CEO Alliance for Climate and Economy, actively promotes the European and German climate targets, founded as Stiftung 2° (since 2021)
- The Copper Mark (since it started in 2020)
- UNGC – United Nations Global Compact with local involvement in the networks in Germany and Bulgaria (since 2014/15)

A selection of partnerships and projects follows. A list of the projects we support as part of our social engagement is available on [page 71](#).



Stiftung  
KlimaWirtschaft



Responsible Care – ein Beitrag zur  
Nachhaltigkeitsinitiative Chemie<sup>3</sup>



### Energy and climate action area:

- Energy Efficiency Network for Companies in the Aachen Region (Aurubis Stolberg)
- German Energy Efficiency Networks Initiative through the Hamburg Industry Association
- NRL – Norddeutsches Reallabor (Living Lab Northern Germany) (cost-efficiency of producing and using hydrogen in copper production)

### Environmental impact action area:

- German model project “Mobil.Pro.Fit®” in collaboration with the environmental organization B.A.U.M. e. V. (low-emission mobility)
- EU project on achieving environmental balance in organizations and products (further developing and testing a method for determining the environmental footprint of copper production)
- EU innovation and research projects on low-carbon construction materials, such as iron silicate
- Environmental partnership and partnership for air quality and low-emission mobility, coordinated by the Free and Hanseatic City of Hamburg (reduction of nitrogen dioxide emissions, especially from transport)
- Partnership with the University of Düsseldorf for the evaluation of diffuse emissions, in particular using drone measurements

### Responsible supply chain action area:

- Member of the “Automotive Industry Dialogue” within the scope of the German National Action Plan (NAP) on Business and Human Rights
- The Copper Mark: Advisory Council member

## Association work and political lobbying

### GRI 2-28, 415-1

The appropriate and transparent representation of Aurubis' interests with respect to political and social institutions is an important part of responsible corporate governance.

We consider ourselves a reliable, factual, transparent discussion partner for governments, political parties, elected representatives, and non-governmental organizations.

Corporate External Affairs serves as the central interface for political and regulatory issues in the Aurubis Group. This division coordinates political measures at the corporate level and represents the company to policymakers. The head of Corporate External Affairs reports directly to the CEO. Experts in our specialized divisions and production sites support the work in subject-specific areas.

Aurubis' political lobbying is based on the Corporate External Affairs Policy, which defines the responsibilities, duties, and processes in this area. This corporate policy is supplemented by the Corporate Policy on the Management of Associations.

In addition to independent lobbying, Aurubis is an active member of national and international economic, industry, and specialist associations. Our goal is to constructively and critically oversee political initiatives together with the other association members and to actively represent our positions in

a back-and-forth dialogue with stakeholders from the worlds of business, science, and civil society.

As members of business association committees, we also participate in political discussions on the further development of tax laws [🔗 Taxes, page 32](#). We take part in trade associations with the aim of ensuring the fair, transparent and administratively simple further development of tax law.

Our employees in the Group representative offices in Brussels (Belgium) and Berlin (Germany) serve as contacts for members of the European Commission, the European Parliament, the German Bundestag, the German federal ministries, and German federal state representations. Moreover, Aurubis maintains a continuous dialogue with local officeholders and interest groups in the areas around our sites. We feel it is crucial to convey the political conditions Aurubis needs to grow sustainably and responsibly. All our political communication is transparent and open.

One result of our transparent approach to political lobbying is our contributions to public consultations, which are accessible on the European Commission's website. Furthermore, our positions on individual topics are outlined in the factsheets available at [www.aurubis.com/en/](http://www.aurubis.com/en/) and in the position papers of associations, which are available online.

Aurubis is included in the European Union's Transparency Register, which publishes expenditures for lobbying at the European level. Since the passing of the German Lobby

Register Act, which we advocated for together with the German Chemical Industry Association (VCI), Aurubis has also been listed on the German Transparency Register at the German Bundestag [🔗 www.lobbyregister.bundestag.de](http://www.lobbyregister.bundestag.de). It lists the amounts reported by Aurubis: € 960,001 to € 970,000 for the representation of interests in Germany and € 500,000 to € 599,999 for the representation of interests in Europe. Aurubis does not donate to any political parties or candidates.

### Selection of the most important association memberships:

- » Agoria (Belgian Federation for the Technology Industry)
- » ASSOMET (Italian Association of Non-Ferrous Metals Industries)
- » BAMI (Bulgarian Association of the Metallurgical Industry)
- » Bundesverband der Deutschen Entsorgung, Wasser und Kreislaufwirtschaft e. V. (Association of the German Waste, Water and Circular Economy, BDE)
- » Federal Association of German Industries (BDI)
- » Deutsches Aktieninstitut (German Equities Institute, DAI)
- » EERA (European Electronics Recyclers Association)
- » Eurometaux – European Association of Metals
- » European Precious Metals Federation
- » Fachvereinigung Edelmetalle e. V. (German Precious Metals Federation)
- » German chambers of industry and commerce (including in Hamburg, Dortmund, Aachen)
- » International Copper Association (ICA)
- » Metallinjalostajat (Association of Finnish Steel and Metal Producers)
- » German Chemical Industry Association (VCI)
- » Verband Deutscher Metallhändler e. V. (Association of German Metal Traders, VDM)
- » VNMI (Dutch Association of the Metallurgical Industry)

Economy

# Enabling Transformation

Through our business activities, we play a key role in the energy transformation and circular economy. We work towards a more sustainable economy every day.

page 29 – Tomorrow Metals by Aurubis  
page 30 – Corporate governance  
page 32 – Tax practices  
page 33 – Compliance  
page 35 – IT security and data protection

page 36 – Human rights  
page 39 – Responsibility in the supply chain  
page 44 – Recycling solutions  
page 48 – Product safety

### Promoting the transition

We are committed to doing business in a way that is responsible, transparent and sustainable.



# Tomorrow Metals by Aurubis

## We are ready for the future – are you?

Investments totaling more than

# €780 million

IN ENVIRONMENTAL PROTECTION  
SINCE 2000

A reduction of almost

# 36 %

IN THE CO<sub>2</sub> FOOTPRINT OF THE  
AURUBIS CATHODE SINCE 2013

Around

# 1 million t

OF RECYCLING MATERIAL PROCESSED  
BY AURUBIS ANNUALLY

Already

# 3

AURUBIS SITES CERTIFIED  
BY THE COPPER MARK

Everything we do, we do with passion and the highest standard of quality. This is also true for one of the most important goals of our time: sustainable economic activity. As an energy and resource-intensive company, we recognized the need to act quite early and have done a lot to make our products and processes more sustainable. Here we number among the best in the industry. Our commitment is clear and can be summed up in one product label: **Tomorrow Metals by Aurubis.**

This label is our promise to our customers and all our stakeholders that our entire product range is manufactured and delivered using only the highest ecological and social standards – today and in the future. This applies to

our responsibility in the supply chain in particular. **The comparative figures from our life cycle assessments also show how much better we are than the industry average** <sup>Ⓞ</sup> *page 81*. As such, **Tomorrow Metals by Aurubis** is creating a responsible and robust foundation for the great social transformations of our time, which critically rely on our metals. They pave the way for renewable energies, for digitalization, for sustainable mobility, and much more.

**Tomorrow Metals by Aurubis stands for our ambition to continually build added value with an ever-decreasing footprint, and in all areas of sustainability: Environment, People, and Economy.**



We are committed to continually creating **more value** with an **ever-decreasing environmental footprint**.



By decarbonizing our production, we are contributing to the **1.5 °C target set out in the Paris Climate Agreement**.



We are consistently expanding our **multimetal recycling** to make a significant contribution to the **circular economy** and conserve **natural resources**.



**Responsibility:** Everything we do takes the balance between the **economy, the environment, and people** into account.



[www.aurubis.com/tomorrowmetals](http://www.aurubis.com/tomorrowmetals)

Good corporate governance, tax practices and transparency; preventing corruption and anti-competitive behavior; and upholding human rights and labor and social standards

# Responsible at every level through good governance

## Our approach to good corporate governance

**GRI 2-10, 2-18, 2-19, 2-20, 2-23, 2-24, 2-26, 2-27, 203/3-3**

We view corporate governance as a continual process in which we adjust our leadership and monitoring based on new experiences, guidelines, and advances in national and international standards. The Executive Board and Supervisory Board's joint Corporate Governance Report [Corporate Governance Report in 2021/22 Annual Report, starting on page 17](#) confirms Aurubis' commitment to responsible and transparent corporate governance and monitoring aimed at sustainably increasing corporate value. This is how we create value for all our stakeholders. We rely on open communication, a balanced approach to risks and opportunities, and proper accounting and auditing.

### The impact of good corporate governance

Responsible corporate governance helps us achieve our economic, ecological and social objectives. It leads to the lasting and stable development of the company, and turns the focus toward long-term goals rather than short-term profits. Additionally, good corporate governance strengthens stakeholder trust as it means compliance violations can be

prevented, for example. This safeguards our social license to operate.

### Our policies and their implementation

Our corporate governance principles are set out in numerous Group guidelines and are accessible to all employees on the Aurubis intranet. These include the Aurubis Code of Conduct for employees, as well as the Business Partner Code of Conduct, the Corporate Policy for Occupational Health and Safety, the Environmental Protection Policy, the Energy and Climate Policy, the Responsible Sourcing Policy, the Risk Management Policy, and, since February 2023, the Sustainability Policy. Our policies govern business processes and have been approved by the Executive Board.

Implementing these policies in the company involves formulating concrete goals for the key policies and incorporating them in our corporate strategy. Each policy defines roles and responsibilities, fostering transparency and acceptance in the company. Each policy addresses a specific target group, and the responsible parties make sure the policy is implemented in their area of responsibility, and are available as contacts for the policy. Those responsible for the anti-corruption and compliance area organize training courses, for example [Compliance, page 34](#). For the risk management

policy, on-site meetings are held every year at the sites where the focus is on the risk catalogue and training aspects from the corporate policy as well. In the event of personnel changes at the sites or in central functions, these training seminars are held within a reasonable period of time. Those policies that are relevant to our dealings with third parties also apply to business partners.

### Reporting and control structures

In the event that violations of our policies or of laws and regulations occur, in spite of our best efforts to prevent them, internal and external sources can anonymously submit complaints and tips to the whistleblower hotline [Compliance, page 35](#). Furthermore, our management and supervisory bodies keep a watchful eye on our business activities. A number of skills and factors are important for the composition of these bodies, including independence and balanced diversity. There is a diversity concept for the composition of the Executive Board, for instance, that the Supervisory Board uses to pursue the objective of achieving the highest level of diversity with respect to age, gender, education, and professional background. There is also a publicly accessible concept for the composition of the Supervisory Board with targets, a skills profile, and a diversity concept. [2021/22 Annual Report, starting on page 19](#)

## Governance and ethics ambition

We uphold the principles of responsible corporate governance.



### Speak up!

Aurubis benefits when employees talk openly about any concerns they may have.

### Standards as an important foundation

Aurubis has pledged to uphold the German Corporate Governance Code (DCGK). As part of this commitment, we have incorporated the sustainability-related aspects required by the new version of the DCGK into our strategy and planning processes and instruments, and into our control and risk management processes as well.

In addition to the DCGK, Aurubis' corporate practice is also guided by its corporate values and the Aurubis Code of Conduct, along with the principles defined by external organizations, such as those in the United Nations Global Compact (UNGC) and the chemical industry's Responsible Care Global Charter.

### Sustainability incentives in our compensation policy

The Aurubis compensation policy creates incentives for sustainable corporate governance. The Supervisory Board sets the compensation for the members of the Executive Board based on the recommendations from the Personnel/ Compensation Committee. The current compensation system is detailed in the [Compensation report in the 2021/22 Annual Report, starting on page 30](#).

Total compensation for Aurubis Executive Board members is made up of fixed compensation and variable compensation components. The variable compensation components, that is the annual bonus, depend on the company's success and on individual performance. In the reporting year, sustainability incentives were also incorporated into the objectives for employee qualifications, leadership and company culture, corporate social responsibility and ecological targets [Compensation report in the 2021/22 Annual Report, starting on page 30](#). The compensation report includes additional details on the targets set and how target achievement is tracked. To spread these targets throughout the organization, the Executive Board targets are passed on to the next management level as part of the performance management process. These supervisors are tasked with actively supporting the targets and sharing them with their employees. Each respective supervisor then takes responsibility for the continued rollout of the targets in the organization. Sub-targets are set for each area that contribute to the Group targets. These sub-targets are also relevant to compensation.

## Paying taxes responsibly

GRI 207-1, 207-2, 207-3, 207/3-3

We view paying taxes as a key element of our economic and social responsibility, since this allows us as a large manufacturing company to contribute to financing the communities around our sites. We balance business interests and society's expectations of the role the company should play through our tax compliance.

### The Aurubis tax strategy

Managing tax risks and ensuring full compliance with all tax and trade regulations are central considerations in realizing our business responsibly and economically successfully. We are subject to different tax liabilities at our sites in Europe and in the US. The Group follows a unified tax strategy that allows us to meet these obligations while also achieving our company goals. It defines the tax objectives and principles and is assessed by the head of the Corporate Tax function every year. The tax strategy will be available on our website in the course of the 2022/23 fiscal year. It is also part of the Aurubis Group's Corporate Tax Policy. This policy defines the individual measures and responsibilities for local management, the central functions in general, and the central control function. Strategy and policy are closely aligned with our business strategy.

The entire Executive Board approves the tax strategy, the tax policy, and any changes made to them. The Chief Financial Officer (CFO) is responsible for taxes in the Group. The CFO delegates these tax duties to the head of the Corporate Tax

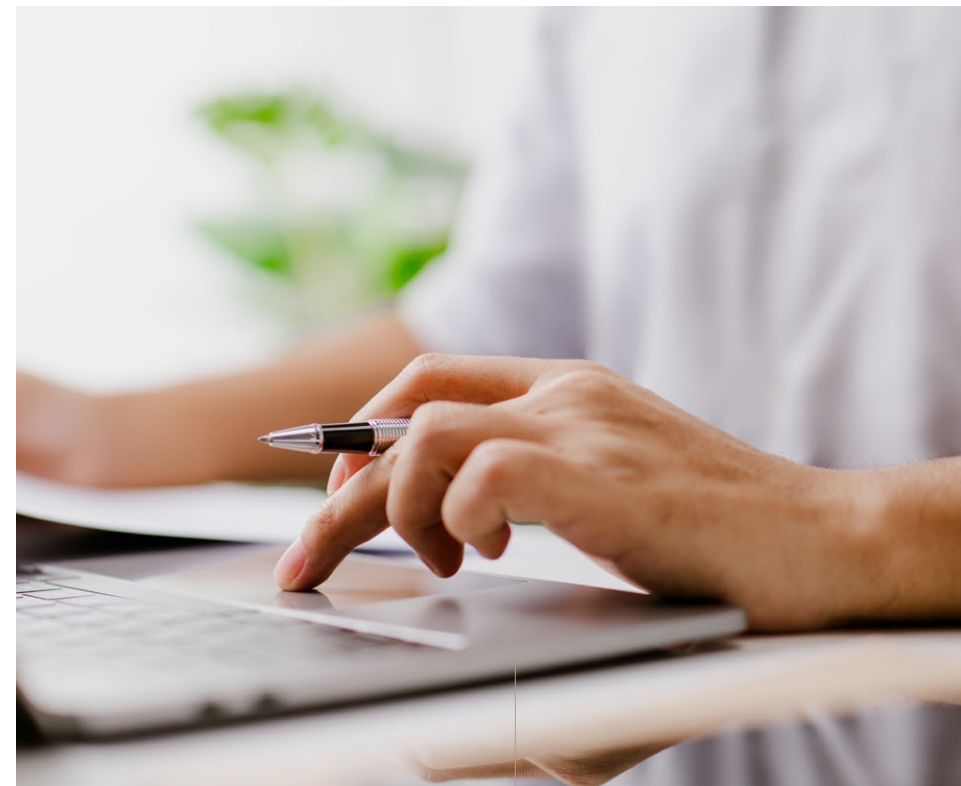
function. The head in turn defines the organizational structure of the Corporate Tax function, which is responsible for Group-wide topics along with tax matters for Aurubis AG and at all the German sites. Each local finance director is primarily responsible for tax matters at the subsidiary level. Either local tax units or external consultants handle these matters.

### Our tax compliance management system

The Aurubis Group is currently in the process of rolling out a tax compliance management system (TCMS) to ensure compliance with legal regulations, minimize the risk of violations, and detect them early. The head of the Corporate Tax function is responsible for implementing, monitoring and further developing the TCMS.

Aurubis performs daily and monthly test routines to monitor tax processes, such as tax determination and tax identification numbers. We analyze any anomalies identified and initiate appropriate measures as needed. This is how we eliminate sources of error. The tax department can also ask the responsible department to monitor the implementation of measures.

Additionally, relevant employees attend regular training seminars on sales tax, payroll tax and profit tax. The materials used in training are evaluated as needed and at least once a year. Regular meetings are also held with the departments that deal with tax-related issues. Group headquarters document transfer prices for the entire Aurubis Group.



### Responsible

tax practices are part of social responsibility.



Transfer pricing is closely monitored by Corporate Tax. Corporate Tax works with local finance directors to supervise foreign tax audits in this field. Local consultants provide support as required.

### In dialogue with our stakeholders

We are committed to transparency and a mutually cooperative relationship between Aurubis and the responsible tax authorities. This is important for reducing tax risks and preventing tax disputes. To increase tax certainty, we conclude advance agreements with the tax authorities – as far as is possible and reasonable.

As members of business association committees, we also participate in political discussions about the further development of tax laws [Stakeholder engagement, page 22](#). We participate in trade associations with the aim of ensuring the fair, transparent and administratively simple further development of tax law.

### Partnership

Aurubis always strives to be a reliable partner with integrity for all stakeholder groups. This can only succeed if every individual puts this integrity into practice on a daily basis.



## Compliance with laws and regulations

**GRI 2-25, 2-26, 2-27, 205-1, 205-2, 205-3, 206-1, 205/3-3, 206/3-3, 413-1**

To us, compliance means that we follow laws and align our actions with ethical principles, our values, and company policies. In this context, our objective is to always be compliant with all legal and company guidelines and policies. A potential violation of the law can have serious consequences – for our employees, for Aurubis as a group, and for Aurubis AG entity business partners.

Preventing anti-competitive behavior and corruption in our business dealings is a key aspect of corporate responsibility and one of the central issues of our compliance activities. Corruption and anti-competitive behavior not only cause material damage; they also undermine fair, free competition.

### Our compliance organization

The Group Chief Compliance Officer is the central contact person for all compliance-relevant issues and reports directly to the entire Executive Board. Local compliance officers are

also available as contacts for employees at the individual Group sites. Together with the Executive Board, the compliance officers promote a compliance culture and actively strive to strengthen awareness for compliance with the law and policies in the Group.

Compliance management establishes the main targets relevant for compliance, develops the corresponding compliance organization, and identifies, analyzes, and communicates significant Aurubis policies and commitments. Our compliance



## Code of Conduct

The Aurubis Code of Conduct was revised in fiscal year 2021/22.

program introduces principles and measures to limit risks and prevent violations. For prevention, we identify corruption risks in the purchasing and sales departments and with respect to office holders at all of our sites. The Chief Compliance Officer reports regularly and as needed to the Executive Board and Audit Committee of the Supervisory Board on the compliance management system, compliance violations, and compliance-related measures. The CCO works closely with the employees responsible for risk management and with Internal Audit. As part of our internal control system, the Chief Compliance Officer reviews potential compliance risks together with the Executive Board, the plant managers, and the heads of corporate and central functions. The corruption risks at our sites are thus also identified and documented in risk management as part of compliance management.

No significant compliance risks were identified in the reporting year.

The Internal Audit department reviews fulfillment of the overarching legal conditions and internal policies (e.g., the Anti-Corruption Policy) in the company's business dealings.

We also pay attention to possible compliance and corruption risks when selecting our business partners. One significant step in this process is our Business Partner Screening [Responsibility in the supply chain, page 40](#), which we use to review the suppliers of input materials for any corruption risks.

### Involving the workforce

The compliance measures include prevention, monitoring, and sanctions. Preventive measures at Aurubis comprise the risk analyses previously mentioned, internal policies, guidance, and

particularly training for our employees. Our policies and training documents are regularly updated to reflect new findings. The Corporate Anti-Corruption Compliance Policy and the Code of Conduct for employees are at the core of our anti-corruption efforts. The Code of Conduct was significantly revised this fiscal year and distributed to all employees by mail. Every new employee also receives the Code of Conduct with his or her employment contract. [Aurubis Code of Conduct](#)

As soon as we become aware of a possible violation of the Aurubis Code of Conduct, we investigate, clarify the facts, and remedy the problem. Depending on the type of violation, the respective department takes responsibility for this process. The Chief Compliance Officer is the central point of contact for white-collar crimes, for example.

The focus in the reporting year was on ensuring the successful harmonization of Aurubis policies and commitments with the previous compliance approaches of our sites in Beerse (Belgium) and Berango (Spain), which were acquired in 2020. We introduced the compliance management system to the on-site supervisors. The employees affected also completed training courses on anti-corruption and antitrust law in the reporting year.

Training on anti-corruption and antitrust law is carried out regularly throughout the Group for those full-time and part-time employees, supervisors, Executive Board members, and, when necessary, employees from external companies for whom the topics are relevant. To track the effectiveness of our training measures, participants are required to take a test once they have completed training. In the past three years, a total of 1,422 employees received anti-corruption training



A total of

1,422

EMPLOYEES RECEIVED ANTI-CORRUPTION TRAINING

A total of

585

EMPLOYEES RECEIVED ANTITRUST LAW TRAINING

and 585 employees received antitrust law training, including the Executive Board. If any questions or concerns arise about one of the compliance topics during the fiscal year, the local compliance managers, compliance officers and the Chief Compliance Officer are available as contact persons.

### Whistleblowing

Employees, business partners, and other third parties can make confidential and anonymous reports regarding legal violations and breaches of our Code of Conduct via our compliance portal, the whistleblower hotline [www.aurubis.com/whistleblower-hotline](https://www.aurubis.com/whistleblower-hotline). The Corporate Compliance Policy states that there are no disadvantages to a whistleblower for making a report. This can be done confidentially and anonymously, if desired. The whistleblower hotline is available in 13 languages, including all Group languages, and is also open to all external stakeholders. It is operated by external, independent attorneys. Any tips they receive regarding possible cases of corruption, discrimination, or incidents in the supply chain, for instance, are consistently investigated. If a case of wrongdoing is confirmed, this can result in a warning, dismissal and/or claims for damages.

No issues related to compliance or human rights were reported to the whistleblower hotline during the reporting year. Shortly after the end of the reporting year, we became aware of a media feature alleging environmental pollution and occupational health and safety violations by a major Chilean copper producer [Responsibility in the supply chain, page 41](#). The whistleblower hotline received four reports about this media report.

## Secure data, secure infrastructure

**GRI 2-19, 2-23, 2-26, 2-27, 205-1, 205-2, 205-3, 206-1, 205/3-3, 206/3-3, 207/3-3**

Digital technologies are indispensable in today's business world, which is why protecting personal data and information technology systems is crucial. Aurubis gathers, processes, and utilizes data from business partners, employees and other individuals solely for purposes related to business or labor law and only to the extent legally permitted.

### Clear responsibility for IT security and data protection

The Executive Board and the managing directors of the Group companies are responsible for the data processing that takes place in their area of responsibility and appoint a data protection officer or a data protection coordinator pursuant to the national regulations. The latter coordinates the data protection law activities of the respective Group company and supports company management in implementing the data protection law measures. The IT Operations division, which reports to the CFO via IT Services, is responsible for IT security.

We have a uniform regulatory framework in place for data protection that defines responsibilities and procedures in the Group. The Aurubis IT Security Fundamentals – General Guidelines for Using Information Systems policy comprises responsibilities and regulations that relate to the use of information systems, passwords, the e-mail system, the internet, and mobile devices. Since the end of September 2022, this has been supplemented by the Aurubis AG Corporate Information Security Policy, which strategically classifies information security.

Training seminars also raise Aurubis employees' awareness of IT security topics. The training formats are evaluated and updated regularly, and at least once a year. The effectiveness of the information security control system is also regularly monitored, for the e-mail infrastructure and the SAP systems in the reporting year, for example. A subsequent review of the entire server infrastructure then follows. This applies to both those servers that are operated in the data centers of cloud providers and those that are operated in local data centers.

### Well prepared for risks

Aurubis conducts regular safety checks and risk analyses for its IT security systems and information assets in accordance with the Risk Management Policy. Established response plans go into effect in the event of unauthorized data leaks or third-party access. A phishing test was carried out in 2022, for example, and the results were also incorporated into the previously mentioned training courses. These phishing tests continue to draw the workforce's attention to information security. Based on these insights, we want to continue developing our concepts to raise awareness of data protection and IT security within the company.

One of the IT Security Officer's primary tasks is to establish an information security management system (ISMS) in accordance with the ISO/IEC 27001 international standard, for which an ISMS concept was developed in the year under review. Focal points include technical security precautions, such as firewalls and network security, the planning and implementation of security checks by third parties, and support for upcoming improvement measures. Organizational precautions are also essential to the ISMS. The emergency plan was revised and a corresponding drill was carried out. Certification of the ISMS is scheduled for 2023.

In the fiscal year, new reporting channels were created and established in the company to improve the handling of information security incidents. A due diligence program for IT security is also in use: Third-party checks, such as of new software tools and IT service providers, are carried out using a standardized checklist and documented.

There was a cyber attack on Aurubis' IT systems at the end of October 2022. The fact that essential IT systems could be restarted comparatively quickly underlines the effectiveness of our measures.

## Respecting human rights

**GRI 2-16, 2-23, 406/3-3**

Together with the other participants in the value chain, Aurubis' global business activities contribute to employment, training, and advancement, as well as prosperity. However, they also include risks that could potentially negatively impact human rights. Examples include environmental damage, high-risk working conditions, and social conflicts, such as in the mining of primary raw materials or in the subsequent processing stages.

### Human rights in our corporate values

We respect human rights and advocate for their protection. Here we follow the United Nations' Guiding Principles on Business and Human Rights in accordance with the "Protect, Respect and Remedy" framework and view human rights due diligence as a responsibility shared by all participants in the value chain in question, including nations and economic actors.

Respect for human rights is reflected in our company values and is included in our Code of Conduct. In it we pledge to reject all forms of discrimination and handle individual and cultural diversity in our company with sensitivity. We do not tolerate forced labor or child labor, and we respect the rights of indigenous populations. We are committed to the principle

of codetermination in the company and place a high priority on good communication between our employees and the company management. Compliance with the internationally recognized International Labor Organization (ILO) core labor standards, labor law provisions, applicable labor standards and laws relating to compensation, working hours, and the general rights of our employees is fundamentally important to us.



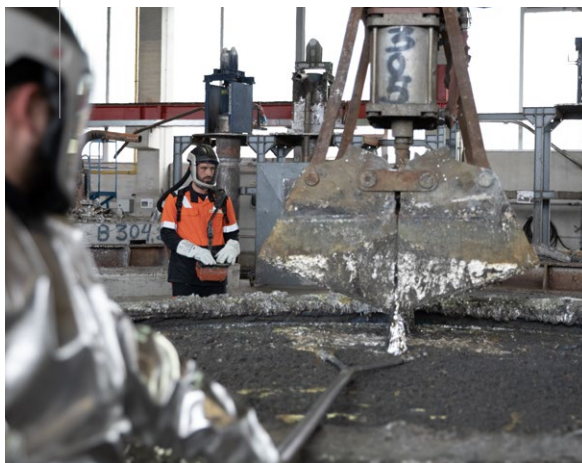
### Human rights

Health and safety is also an important human right.



## The Copper Mark

certification also covers human rights, such as labor and social standards.



The Aurubis Human Rights Commitment summarizes Aurubis' understanding and key elements of our human rights due diligence obligation. It is aimed at all employees, business partners, and other partners of the Aurubis Group. The Aurubis Business Partner Code of Conduct specifically applies to business partners [www.aurubis.com/en/responsibility/people/human-rights-and-labor-standards](https://www.aurubis.com/en/responsibility/people/human-rights-and-labor-standards).

### International standards and certifications

We have participated in the United Nations Global Compact since 2014 and are committed to working towards implementing its ten principles related to human rights, labor standards, the environment, and anti-corruption. We have pledged to comply with the OECD Due Diligence Guidelines to promote responsible supply chains [Responsibility in the supply chain, page 40](#).

As part of the Copper Mark certification process at our sites in Hamburg, Lünen (both in Germany) and Pirdop (Bulgaria), we underwent audits in accordance with the Copper Mark criteria on human rights and labor and social standards. This audit verified our human rights approach to our business activities and in the supply chain. The audit feedback helps us continue to improve our approach [Certifications by site, page 99](#).

### Responsibilities at Aurubis

The Executive Board and the local managing directors bear responsibility for upholding human rights in our business activities. The Code of Conduct requires that all Aurubis employees fundamentally respect human rights in their daily work and in all their business decisions. Supervisors serve as role models in this regard.

### Strengthening our due diligence through training

Our target in the fiscal year was to further heighten awareness of and agency regarding human rights due diligence. This is why we designed a Group-wide training concept on human rights and anti-discrimination in the reporting year. Separate digital training formats were developed for administration and for production. Training for employees and supervisors was launched in the reporting year and over 90 % of the target group completed training. The first in-depth workshops were also held with employees from the Human Resources and Purchasing departments, as these departments play a key role in human rights issues. A tutorial was designed for blue-collar employees and will be rolled out Group-wide in the course of the 2022/23 fiscal year.

### Working together to uncover and address violations

We started a systematic human rights gap and risk analysis for some of our sites in the fiscal year. The results will provide further guidance on possible measures for the Group's business areas.

We call on all employees to report justified suspicions of discrimination or other human rights violations via our compliance portal, the whistleblower hotline. We expect our business partners to do the same. Every report is investigated.

[www.aurubis.com/whistleblower-hotline](https://www.aurubis.com/whistleblower-hotline) [Compliance, page 34](#)

## Corporate governance and ethics KPIs

### Compliance and anti-corruption: Employees trained in the past three years GRI 205-2

	Unit	2019/20 to 2021/22
Anti-corruption	employees	1,422
Percentage of total workforce	%	20.3
Antitrust law	employees	585
Percentage of total workforce	%	8.3

### Incidents or lawsuits GRI 205-3, GRI 206-1, GRI 406-1

	Unit	2021/22
Corruption	number	0
Antitrust law	number	0
Discrimination	number	0

### Human rights GRI 412-3

	Unit	2020/21
Reports received on topics relevant to human rights	number	0
Human rights, environmental protection, and safety clauses in supply contracts for primary raw materials	%	81

Respecting human rights, occupational safety, the responsible handling of natural resources, climate protection

🔗 *Our material topics*

# Taking responsibility in the supply chain

GRI 2-6, 2-29, 308-1, 407-1, 408-1, 409-1, 411-1, 414-1, 308/3-3, 407/3-3, 408/3-3, 409/3-3, 411/3-3, 414/3-3, 205-2

## Responsibility in the supply chain:

Ambition: We minimize negative impacts on people and the environment in our supply chains.

### Our 2030 targets

→ The improvement plan implemented has significantly reduced the risk for any supplier identified as high risk

### 2022/23 interim targets

→ Human rights, environmental protection, and occupational safety clauses in 100% of long-term contracts for primary raw materials

↗ Continued rollout of Aurubis Business Partner Screening

↗ Copper Mark certification of four sites

Our progress towards achieving our targets, and the concepts and measures we used to drive progress in the reporting year, are underlined in the text or margin column and indicated by a symbol.

We take responsibility for sustainability standards, and not just in our own production processes and in our own actions, but in our supply chain as well. This is all the more important because we source raw materials from around the world. We systematically analyze the risks of our suppliers and supplier countries in view of possible risks regarding compliance with sustainability standards.

The extraction of the resources we use can have a direct or indirect impact on social and environmental factors. Our suppliers' raw materials extraction and production processes can pose risks within the scope of sustainability standards and can, for example, have an impact on biodiversity and the climate, or on maintaining air, water, and soil quality. Other environmental considerations, such as the handling of slag and the use of energy and water, may also be relevant. Social aspects, such as compliance with human rights and labor and social standards, along with health and safety, are also taken into consideration.

We manage our supply chain responsibly. We review the level of target achievement at least once a year. We introduce remedial measures to address any indications of a deviation from the intended path.

### Our raw materials are our responsibility

We source our primary and secondary raw materials from a number of suppliers, which protects us from becoming too dependent on individual major suppliers and shields us from regional fluctuations on the global market. In our primary smelters, we source and process concentrates extracted from

ores that contain copper and precious metals and are sold by mining companies and trading companies on the global market. We source most of these concentrates from large, global mining companies that are committed to more sustainable economic activities and regularly report their sustainability performance. Furthermore, most of these mining companies are involved in the [International Council on Mining and Metals \(ICMM\)](#). The members pledge to implement the ICMM Mining Principles, which comprise ecological and social requirements and governance standards. Implementation of these principles has been validated since 2020, including by independent third parties, and the assessment results transparently disclosed. When sourcing primary raw materials, we particularly value long-term relationships and strategic cooperation with our suppliers.

In addition to concentrates, we use copper scrap, other metal-bearing recycling materials, and bought-in intermediates as feed material. The plants source most of these materials on the European market. The main suppliers for recycling materials are

metal trading companies, though some of this raw material also reaches our plants directly from our customers via our closing-the-loop approach. Unlike primary raw materials, secondary raw materials are largely purchased on the basis of short-term supply contracts, which is customary for the market.

**In dialogue with our business partners**

We require that our business partners follow local laws, UN sanctions and trade restrictions, as well as UN conventions on human rights, environmental protection, and safety. Our interim target is to ensure that these requirements are included in all our long-term supply contracts for primary raw materials by 2022/23. [☺ In the reporting year, they were already included in 81% of our long-term supply contracts for primary raw materials.](#)

We have pledged to comply with the OECD Due Diligence Guidance, which serves as an important guideline for promoting responsible supply chains for minerals from conflict and high-risk areas. Our Responsible Sourcing policy and corporate

policy for processing conflict-free precious metal raw materials establish responsibilities and processes within the Group. The Aurubis Business Partner Code of Conduct outlines our requirements regarding labor standards, respect for human rights, health and safety, environmental and climate protection, business integrity and responsible raw material sourcing, as well as reporting procedures and the monitoring of the business partner's due diligence obligation. It is available to business partners in eleven languages.

**Our Business Partner Screening**

To fulfill our due diligence obligation with regard to all of our material topics in the supply chain area, we implemented a Business Partner Screening system based on OECD guidelines<sup>1</sup>.

The production units are responsible for conducting screenings and have commissioned the Commercial and Procurement division with execution. The Compliance and Sustainability divisions are also involved. In our risk analysis, we consider both regional risks and the risks actually associated with the business activities of our business partners. The central issues here include anti-corruption, upholding human rights, occupational safety, and environmental and climate protection, as well as OECD obligations and third-party certification. The results of a media search are also included in the screening.

**Advancing the Business Partner Screening**

In the 2021/22 fiscal year, all procurement processes, including those for conflict minerals, were revised with a particular focus on supply chain due diligence. The new Responsible Sourcing Policy entered into force on October 1, 2022. The purpose of this corporate policy is to define the responsibilities and procedures in the Group regarding supply chain due diligence and to even better meet the demanding standards of industry initiatives, such as the Copper Mark and the London Bullion Market Association (LBMA), along with the LkSG (German Supply Chain Due Diligence Act).

[↗](#) Progress on the “Continued rollout of the Aurubis Business Partner Screening” interim target described in the “Advancing the Business Partner Screening” section

**Origin of concentrates and throughput 2021/22**

GRI 301-1, in %



**Origin of recycling materials and throughput 2021/22**

GRI 301-2, in %



<sup>1</sup> The Beerse (Belgium) and Berango (Spain) sites are currently working with a separate, though comparable, system and will be integrated as the entire screening system is upgraded.



In the reporting period, a cross-divisional project team began a comprehensive revision of the Business Partner Screening to incorporate ongoing ideas for improvement. The resulting optimized processes will be implemented in 2023. The new process enables a more risk-appropriate approach. Suppliers with an increased risk can be developed in a more targeted manner, while suppliers considered low risk are assessed in a standardized way, i.e., via largely automated checks and links to external data sources.

The new system is scheduled for gradual, Group-wide rollout from the start of fiscal year 2022/23. The responsible employees are currently undergoing training to prepare them for the new system. The new screening reinforces our dedication to meeting the requirements of the German Supply Chain Due Diligence Act (LkSG), which came into force on January 1, 2023. The LkSG requires companies to conduct due diligence in their supply chain with respect to internationally recognized human rights and to identify, address and properly document human rights and environmental impacts.

### Our approach to risks in the supply chain

In the event that we become aware of identified and substantiated risks, steps are taken to improve the sustainability performance of the partner in question. Possible approaches include engaging in conversation about the circumstances, a statement by the supplier about the situation on the ground, the drafting of an improvement plan in the event of actual negative incidents, local stakeholder dialogue, and an external assessment by a third party. Steps may also include deciding not to enter into or terminating a business relationship if the preceding measures prove ineffective.

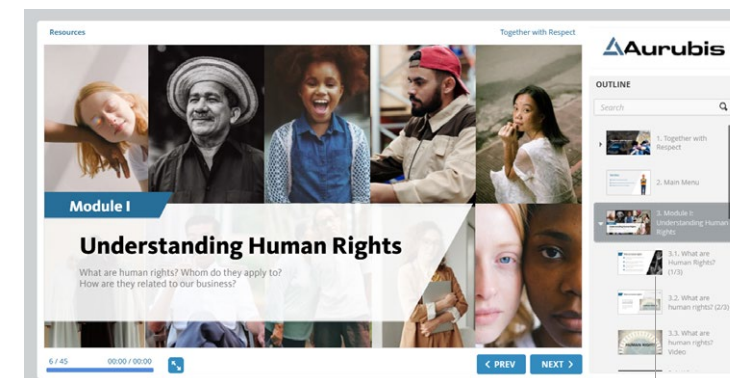
As of 2023, further developing the screening process will also include on-the-ground sustainability assessments of business partners deemed medium or high risk. The objective of these on-the-ground assessments is to verify the screening results and the business partner's self-disclosures and draft development improvement plans. This corresponds to the joint due diligence standards of the Copper Mark, among others. In the reporting period, on-the-ground assessments could not be conducted as planned due to the coronavirus pandemic, the associated travel limitations, and the respective situation on the ground at the suppliers and worldwide.

During the 2019/20 reporting year, we identified serious cases of environmental pollution at one of our business partners, though these were not directly connected to the products we source from them. Since then, we have been in dialogue with the supplier about measures taken and progress achieved.

Shortly after the end of the reporting year, we became aware of a media feature alleging environmental pollution and health and safety violations by a major Chilean copper producer. We take such allegations very seriously and continue in-depth dialogue, as we did with this supplier, about sustainability standards, measures taken, and progress made. The supplier has demonstrated consistent progress on many critical aspects and emphasized their ongoing commitment to improving sustainability performance. This is underscored by the supplier's commitment to the Copper Mark industry initiative, among other things. The feature also asserted that it was difficult or impossible for whistleblowers to call the Aurubis hotline. This is not the case: The hotline can be easily reached worldwide via the Aurubis website with just a few clicks. Complaints can be submitted in multiple languages, including Spanish, and in various ways, such as by phone, e-mail, or using a form.



Progress on “The improvement plan implemented has significantly reduced the risk for any supplier identified as high risk” 2030 target described in the “Our approach to risks in the supply chain” section



## Together with respect – human rights training for our employees

Respecting human rights, decisively confronting discrimination, and promoting diversity – these are central principles at Aurubis that are reflected in our current Code of Conduct and company values. To anchor these principles even more firmly in the company and make them more accessible, we started the “Together with Respect: Together for human rights and against discrimination at Aurubis” training program.

The various digital training formats offer interactive media content and real case studies that help illustrate human rights issues. They are individually designed for the various target groups in administration and in the industrial-technical sector and will be introduced successively. Human rights are at the core of all training formats – what they are, who they apply to, and what they have to do with our work at Aurubis. In addition to the basic tutorials for employees in administration and in production, we offer more in-depth workshops for Human Resources and Procurement, both very relevant to upholding human rights and anti-discrimination.



### Our production

of so-called conflict minerals such as gold, silver, and tin has been externally certified as conflict free.

### Standards and external reviews

Since 2013, Aurubis' gold production has been annually certified as conflict free according to the standards of the London Bullion Market Association (LBMA). This certificate verifies that we carry out our due diligence in accordance with the OECD standards. This certification option has been available for silver since 2019, and Aurubis' silver production has been certified as conflict free since then as well. Tin production at our Beerse and Berango sites has been certified as conflict free in accordance with the Responsible Minerals Assurance Process Standard (RMAP) and the Responsible Minerals Initiative (RMI) since 2015. This standard is also based on the OECD standard for conflict minerals.

The regulatory audit of the German and Bulgarian sites for compliance with due diligence requirements in accordance with the EU Conflict Minerals Regulation began in the reporting year. This legislation makes due diligence and auditing obligations along the supply chain binding for EU importers of tin, tantalum, tungsten, and their ores, as well as gold.

🔗 The Aurubis plants in Hamburg, Lünen, Pirdop, and Olen were successfully audited in line with the Copper Mark due diligence standard for the responsible procurement of copper, lead, nickel, and zinc during the reporting year. The Copper Mark published the standard, a more detailed version of the previous guidelines, at the beginning of 2022. It also helps fulfill the standards of the London Metal Exchange (LME). This standard is currently being reviewed by the OECD for conformity with its due diligence requirements, which is a prerequisite for recognition by the LME.

### Grievance portal

We expect our business partners to report substantiated suspicions of human rights violations by using our compliance portal, the whistleblower hotline, for example. Complaints about sites that are taking part in the Copper Mark process can also be submitted through the Copper Mark's grievance mechanism 🌐 <https://secure.ethicspoint.eu/domain/media/en/gui/107757/index.html> and [www.aurubis.com/en/responsibility/whistleblower-hotline](http://www.aurubis.com/en/responsibility/whistleblower-hotline).

### Transparency and dialogue in the supply chain

As a company in the raw materials industry with smelter operations in Europe and purchasing activities worldwide, we are frequently the focus of public interest and take part in public dialogues and political discussions. We are participating in the Automotive Industry Dialogue as part of the German National Action Plan (NAP) on Business and Human Rights, for example.

Aurubis does not own any mines or stakes in mines, and it purchases only a small percentage of the copper concentrate volume sold worldwide. This relatively small purchase quantity means we can only exercise limited influence over our suppliers' ESG performance. All our business partners are, however, committed to improving their sustainability performance. Because the market for concentrates is served by a few large mining companies and integrated metal companies, revealing our supplier base would involve disclosing business secrets and result in competitive disadvantages.

For this reason, transparency means that we ensure that all sides uphold their commitment to sustainability when initiating a business relationship and over the course of that business relationship. Our LBMA certificates and Copper Mark seals confirm that verification by a third, independent party has taken place. Within the scope of the certification processes, our supply chains are presented transparently to the independent auditors.

At Aurubis, our approach to sustainable management is to employ persuasion and promote a willingness to work together. The memorandum of understanding concluded between Aurubis and Anglo American plc in November 2022 is one example. It involves technological solutions for tracking responsibly produced copper and thus increasing transparency. Another example of cooperation is the memorandum of understanding signed in January 2023 by Aurubis and Codelco regarding collaboration on a more sustainable copper value chain. The memorandum of understanding includes potential cooperation on smelter operations and circular economy projects in Chile along with an agreement to work together on promoting the Copper Mark.

### Indirect procurement

Procurement screens the main suppliers of fixed assets, services, consumables and spare parts on behalf of the plants. This results in a profile that leads to additional research when increased risks are identified. Based on the subsequent assessment, management makes decisions about contracts and possible related restrictions. For existing business partnerships, we regularly repeat the analysis depending on how the individual risk develops and the dialogue that takes place.

Corporate Procurement is responsible for the governance of so-called indirect procurement. Purchasing potential is leveraged and needs-based procurement organized holistically in cooperation with the local procurement departments at Group company plants. The purchasing process is based on an overarching Corporate Procurement Policy along with supplementary, plant-specific procurement guidelines.

The plants carry out an authorization process related to the environmental compatibility of the deliveries for some specific Aurubis AG purchases for which environmental considerations are important. This applies to waste disposal services, for example. We take a questionnaire about environmental protection and occupational safety topics into account when selecting suppliers and service providers. It is updated regularly and must be completed by all new suppliers. Suppliers that do not complete the questionnaire or that provide insufficient answers are not included in the rest of the tendering process. For existing contracts, the questionnaires and additional documents were assessed for completeness every year to date. In the future, this process will be replaced by the Business Partner Screening and partly automated.

When sourcing capital goods, we define and consider detailed environmental protection and safety requirements for the product, any related services, and the supplier. The criteria include energy consumption, emissions, material input, prescribed disposal methods, the expected life cycle, and whether important test certificates are available, such as for material quality or employee qualifications. The Business Partner Screening for primary raw material suppliers also covers environmental topics [page 40](#).

A similar process applies to sourcing energy and is carried out by the Corporate Energy & Climate Affairs division.



## Recycling solutions

# Closing cycles: Recycling solutions

GRI 2-6, 201/3-3, 301/3-3, 306/3-3

## Recycling solutions

Ambition: We offer comprehensive value chain solutions for the circular economy.

### Our 2030 targets

→ 50 % average recycled content in the copper cathode

Our progress towards achieving our targets, and the concepts and measures we used to drive progress in the reporting year, are underlined in the text and indicated by a symbol.

Aurubis is a world leader in recycling copper, precious metals, and other non-ferrous metals in an efficient, environmentally sound manner. With our multimetal recycling, we are making an important contribution to the modern circular economy, promoting the efficient and environmentally friendly use of valuable resources, and contributing to raw material security. Additionally, recycling reduces the smelting of copper ores and the negative environmental impacts associated with the mining of them by shortening transportation paths, for example, lowering overall energy consumption, and reducing water use.

→ The proportion of recycled copper in our copper cathodes was 44 % on average across the Group (fiscal year 2021/22). Our aim is to increase the recycling content to 50 % by 2030.

### Our approach to recycling

In addition to the processing of copper concentrates, another key business area for Aurubis is the recycling of copper scrap and complex recycling raw materials, such as computer circuit boards. Non-ferrous metals like copper can be recycled as often as desired without a loss of quality. Furthermore, complex recycling raw materials contain not only copper, but a number of other accompanying elements that can be recovered, such as gold, silver, nickel, tin, lead, and zinc. Our integrated smelter network enables us to process a broad range of materials – from industrial waste that accumulates directly from our production

or our customers' production to complex materials from end-of-life products. From these materials, we produce metals that can be directly used in new products.

Complex recycling raw materials include industrial residues, slimes, and shredder materials, as well as recycling materials and waste that contains copper, precious metals, and lead. We also consider end-of-life materials from electronic devices, vehicles, and other everyday items to be complex recycling raw materials. These consist of increasingly complex composite materials that include plastics, ceramic, and glass.

Separating these into single-variety material and product streams for reuse is a significant challenge for the entire recycling sector. For this purpose, we utilize highly developed

metallurgical separating and refining processes in different combinations applying our multimetal expertise, work on new technologies for optimal metal recovery, and invest in state-of-the-art equipment.

The Commercial division is tasked with sourcing recycling materials for the individual plants, among other duties. It is divided into departments, such as Recycling Raw Materials (which handles the supply of recycling raw materials for the smelters) and Metal Management (which supplies the production facilities with cathodes and “direct melt” raw materials), which includes the Customer Scrap Solutions function (which supplies the smelters and production facilities with production waste from our copper product customers). This organizational structure aligns with our recycling approach: We use secondary materials from production and from end-of-life products as raw materials and view this as a closed loop.

Effective January 1, 2023, the new Executive Board position of COO of Multimetal Recycling will strengthen the focus on the recycling business. In the future, this will include the sites in Lünen (Germany), Olen and Beerse (both in Belgium), Berango (Spain), and the new Aurubis Richmond (US) site.

### The Aurubis recycling network

Aurubis processes recycling materials at different sites. The managers of these sites report to the Chief Production Officer. Our sites in Lünen (Germany), Olen and Beerse (both in Belgium), and Berango (Spain) specialize in processing recycling raw materials. Recycling raw materials are almost the only feedstock at our largest recycling plant, the recycling site in Lünen. The plant is certified as a specialized waste management

company in accordance with the German EfbV ordinance and through WEEELABEX in accordance with the European EN 50625 series of standards. The latter certificate confirms that waste electrical and electronic devices are efficiently treated and disposed of while minimizing environmental impacts and emissions of harmful substances at the same time. The Beerse and Berango sites process complex recycling materials to recover not only copper, but also tin, lead, and metal intermediates such as nickel sulfate solution and zinc oxide.

Our subsidiary E.R.N. specializes in recycling electrical and electronic devices of all kinds. Aurubis also holds a 40% stake in cable dismantling specialist Cablo GmbH – a joint venture that former Aurubis subsidiary CABLO entered into with the TSR Recycling GmbH & Co. KG recycling company. The goal of the joint venture is to efficiently recover copper granules and plastics, thereby strengthening the circular economy.

The Hamburg and Pirdop sites also process recycling raw materials. Though the primary smelters utilize copper concentrates as their main feed material, they also use copper scrap to a certain extent because it is useful for process cooling and therefore enables particularly energy-efficient processing. In December 2022, an investment of around € 190 million was approved for the expansion of recycling capability and optimization of the flow chart in Hamburg: With the Complex Recycling Hamburg (CRH) project, Aurubis will have the capacity to process around 32,000 additional tons of recycling material and internal, complex smelter intermediary products on a larger scale starting at the end of 2025. As such, the company is closing both internal and external additional value chains in another contribution to the circular economy.

## Ground-breaking

in Augusta on  
June 17, 2022.



## Our new recycling plant in Richmond, USA

In the reporting year, we invested in a new secondary smelter specializing in multimetal recycling in Augusta, Georgia (USA). In the future, the facility will be capable of processing up to 180,000 tons of computer circuit boards, copper cable, and other recycling materials that contain metal into blister copper. We plan to process the intermediate products into various industrial and precious metals at our European smelter sites, and sell some directly on the US market. The facility will also be able to process the recycling materials currently being exported to Asia and Europe, minimizing transport volumes and the CO<sub>2</sub> footprint they generate. Construction started in summer 2022 (groundbreaking), and commissioning of the plant is anticipated in 2024. The second module approved in December 2022 will double processing capacity to 180,000 tons, and is scheduled to go online in 2026.

## How batteries can be recycled

Recycling the lithium-ion batteries from electric vehicles is essential for a truly sustainable and circular energy transition. In recent years, our Research and Development department has therefore focused on developing a technology we can use to process larger quantities of the black mass from lithium-ion batteries in the future.

Using an innovative, hydrometallurgical process, we can increase the recycling rate of non-ferrous metals like copper, nickel and cobalt, and establish access to manganese and lithium. The objective is to use these processes on an industrial scale to return the valuable metals recovered to battery manufacturers. To this end, we commissioned a pilot plant in Hamburg in fiscal year 2021/22. Here the process developed in the laboratory has been verified and is being further refined at pilot plant scale. We have succeeded in extracting more than 95% of the valuable metals contained in old batteries. The particularly high percentage of lithium extracted speaks for the efficiency of the process. This outstanding yield is proof of our excellent metallurgical expertise in recycling complex, high-value materials. Aurubis has achieved the highest recovery values through this innovative process, enabling us to reliably close important material cycles.



With the € 33 million investment in the construction of a new recycling facility at the Beerse (Belgium) site, Aurubis intends to recover metals such as gold, silver, and tin more quickly and efficiently, and with a higher yield. A newly developed hydrometallurgical process that enhances the valorization of metals makes this possible. In the future, this ASPA facility (Advanced Sludge Processing by Aurubis) will process anode sludge, an intermediate copper tankhouse product, from the recycling sites in Beerse and Lünen. The project highlights synergies with the Beerse site while also strengthening it. Construction of the facility began in the second quarter of 2022 and commissioning is planned for fiscal year 2024/25.

Another project approved in the reporting year is an investment of € 70 million in building a bleed (electrolyte) processing plant at our Olen site in Belgium. Here a hydrometallurgical process recovers valuable metals such as nickel and copper from electrolyte streams generated in metal production during electrolysis at the Aurubis Beerse and Olen sites (both in Belgium). The facility comprises a complete tankhouse purification system known as “bleed treatment”. The new plant is expected to go online in 2024.

### Battery recycling film

 [aurubis.cdn.picturepark.com/v/hbZEBSFw/](https://aurubis.cdn.picturepark.com/v/hbZEBSFw/)

#### Aurubis

extracts valuable metals from the black mass.



**We can do it together: Our partners in closing the cycle**

Closing the loop is only possible if metals are returned after use. Which is why we look at how metals can be returned in customer relationships and product marketing as well. The production units provide individualized solutions for taking back the recycling materials that accumulate from the processing of copper products and other metals. This takes place at the different value-added stages of our product customers and their customers. This entire process provides customers with a range of options, such as selling production residues or copper scrap to Aurubis and receiving refined copper in return. Thanks to our integrated smelter network, we can identify solutions for metallurgical challenges as well, so we can serve customers from a wide variety of sectors. As part of our closing-the-loop activities, we have established targeted product distribution partnerships through which we not only sell our products, but also take back accumulated recycling raw materials, in addition to other services. This is how the raw material cycle comes full circle.



Average recycled copper content in copper cathodes in the Group 2021/22

in %

**56**  
Average primary copper content in the cathode



**44**  
Average recycled copper content in the cathode

**Recyclable materials**

Aurubis closes the raw materials loop by processing a wide range of recycling materials.

Product safety

# Safe, quality products

GRI 403-7, 416-1, 416-2, 417-1, 416/3-3, 417/3-3, 203/ 3-3

## Continually improving operating excellence

Aurubis stands for modern and efficient production and recycling processes that fulfill high ecological and social standards. This is how we create high-quality products that satisfy customer expectations and the applicable standards. The negative impact these products have on the environment and society is as low as possible.

We are focused on continual advancement because we want to continue to meet the demands we place on ourselves, those from our customers, plus current and future regulatory requirements as well. We use the Aurubis Operating System (AOS) to steer this advanced development at most of our sites. The objective of the AOS is to make our processes along the entire value-added chain even more efficient and effective.

## Product safety through environmental and occupational safety standards

We view the safety of our products as an essential element of our corporate responsibility. The central issues here are safety in production, compliance with environmental standards, and protecting the health of our employees and of essentially everyone who comes into contact with our products in the manufacturing process, during transport, or as a customer.

During the production steps at our sites, our management approaches, including certifications, in the areas of the environment [page 75](#), energy management, [page 85](#), occupational safety [page 65](#) and quality management help us minimize potential negative impacts on the environment and on occupational safety. Our management systems are verified by external certification bodies [Certifications by site, page 99](#). Our environmental policy also stipulates that customers are given a suitable briefing on the properties of our products as well as essential safety measures, and advised on questions regarding product disposal.

## REACH: The European chemical management framework

The European REACH chemical regulation establishes an important framework for chemical management. The regulation is designed to ensure a high level of protection for human health and the environment, while at the same time guaranteeing the free movement of chemicals on the domestic market. REACH is based on the principle that manufacturers, importers, and downstream users are responsible for their chemicals. They must ensure that the chemicals they manufacture and place on the market are used safely. The objective is to make information available on all of the substances on the EU market, especially hazardous substances, to evaluate them, and to protect people and the environment using appropriate measures.

Our products are registered in dossiers in accordance with REACH. The existing registration dossiers are regularly updated to align them with current requirements and established approaches and to take new findings into account. We provide

We are not aware of any significant incidents relating to the safety of our products in the reporting period.



safety data sheets to inform our customers about substances that are classified as hazardous by REACH, such as lead, nickel sulfate, and sulfuric acid. Each safety data sheet reflects the information contained in the REACH registration dossiers and provides information on hazardousness and the safeguards to be applied when using the materials in the value chain. We provide our customers with safety information sheets that are based on the safety data sheet in form and content, for the safe handling of substances that are not classified as hazardous, such as copper and iron silicate.

We can also issue a plant certificate that discloses the material properties for every delivery. We minimize the risks involved in transporting our products by consistently adhering to the load securing regulations and the maximum permitted loads.

Through these activities we reduce – where possible – the risk of improper handling of the products once they have reached our customers as well. In particular, the improper handling of products classified as hazardous can have serious consequences for people and the environment. We consistently consider the possible risks associated with our products for operating areas like production, storage, and on-site transportation to further reduce risks. The typical usage scenarios in the REACH dossier have been evaluated for the usage phase and the conditions that ensure safe use detailed. In addition to products classified as hazardous, our measures also cover those classified as not

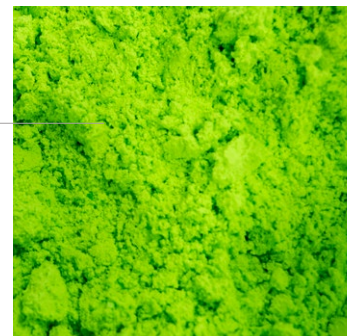
hazardous and as such our entire product range (100%), which is primarily accomplished via an assessment in the scope of the REACH registration dossier. For waste disposal, we have defined criteria for commissioning waste disposal companies to ensure professional and legally compliant disposal.

### Using synergies

Aurubis has joined forces with other companies in a number of consortia at a European level and is, for example, part of the Metals and Inorganics Sectoral Approach (MISA). MISA is a voluntary, cooperative program specific to the metals and inorganics sector. It was set up by the European Chemicals Agency (ECHA) and Eurometaus, the European non-ferrous metals association. The organizations participating in the program seek to resolve technical and methodological issues, such as exposure and risk assessments of metals and inorganic substances, and to improve registration dossiers.

### Our products

like nickel sulfate are registered in dossiers in accordance with REACH.



### Lead products

from Aurubis fulfil REACH requirements.



People

# Enabling Growth

The people who work at Aurubis motivate and inspire us every day. If we are to continue to learn from one another, they need to be able to grow as individuals and grow together.

page 51 – People and digitalization  
page 52 – Future-oriented employer  
page 54 – Diversity  
page 55 – Work-life balance

page 57 – Compensation  
page 60 – Training and education  
page 65 – Health and safety  
page 70 – Social engagement



## High-quality education

We are proud of our high training and retention rate.

## Working together

We are passionate about progress.



# People and digitalization



Sustainability and digitalization are both growing in importance for the future, and shaping not just our economy and society, but Aurubis' company strategy as well. The interplay of these two topics influences our business activities – and as such also the people at Aurubis.



## The most important elements of the Aurubis digital strategy:

- » Digitalizing processes includes any area in which IT can increase process efficiency.
- » Digitalizing production is the ongoing digitalization and automation of equipment and supply chains.
- » Digitalizing business partner relationships involves the range of digital services we offer customers and suppliers.

## Current innovations at Aurubis deliver more value to people in the Aurubis environment:

- » In our Innovation Lab (InnoLab), we have developed digital services for suppliers that make it easier to contact and work with Aurubis. This has been enthusiastically received by our suppliers' employees.
- » The Digital Factory program: In August 2019, an induction furnace exploded at one of our sites. No one was injured. After this event, the Digital Factory team worked with Operations to develop a solution for monitoring the induction furnace's critical values and set off an alarm as soon as any deviations are detected. This is how we protect our employees from accidents.
- » Digitalization is also creating a new kind of cooperation that is more flexible, with more leeway for making decisions, and is closer to people. This way of working is particularly consistently implemented in the InnoLab. IT projects follow a policy that stipulates "agile first," meaning all projects are designed to be agile unless there is a good reason not to do so.

## Opportunities for linking digitalization and sustainability at Aurubis:

- » Efficiency in production by conserving valuable resources
- » Sustainability in the supply chain achieved through digitalization, increasing transparency, and digital solutions tracking compliance with our sustainability standards.

Diversity and equal opportunity, workplace flexibility/sustainable working conditions, attractive compensation and fringe benefits

# Attractive jobs: Future-oriented employer

GRI 401/3-3, 405/3-3, 407/3-3

## Future-oriented employer

Ambition: We create a trusting, collaborative working environment and foster diversity and commitment. We are passionately invested in the progress of the company and society.

### Our 2030 targets

- ↗ 100% of the relevant employees received unconscious bias training.
- >40%<sup>1</sup> of employees take part in job rotation and job shadowing, with diversity fostered at the same time.
- At least 75%<sup>1</sup> of the employees surveyed participate in pulse checks and feedback measures.

### 2022/23 interim targets

- ↗ Developing a diversity action framework.

Our progress towards achieving our targets, and the concepts and measures we used to drive progress in the reporting year, are underlined in the margin column and indicated by a symbol.

Competent, productive, and dedicated employees are the foundation of Aurubis' commercial success and continued development. Our aim is to create a work environment for close collaboration and foster diversity and commitment. We are passionately invested in the progress of the company and society.

### Our HR organization

The Corporate Human Resources (HR) division manages all the overarching activities related to our employees at the Group level. The head of HR reports directly to the CEO, who is also the Industrial Relations Director. HR is involved in the HR strategy of the entire Group, as well as the implementation and monitoring of the resulting HR instruments, especially those related to organizational and staff development, employer branding, compensation and fringe benefits, resource management, and supervising change initiatives. The work of the regional HR departments focuses first and foremost on local requirements. For issues that apply Group-wide, the local departments coordinate closely with the central HR division.

### An HR strategy centered around values

Our HR strategy is derived from the Group strategy and is based on our corporate values. We develop it continuously, taking labor market changes, social change, and trends in human resources into consideration – such as the shortage of skilled workers due to demographic change, and the difficult search for young talents and apprentices, among other issues.

We launched a comprehensive transformation of HR in the reporting year. The first step in this reorientation was a revision of the HR strategy in 2021 with a time horizon through 2025. This reorientation will also entail organizational changes to HR. The focus during the reporting year was on the HR units in Germany and the Group functions. Targeted adjustments will be made to ensure even more effective cooperation between the central and local HR departments in the future.

<sup>1</sup> Over the FY 2021/22 to 2029/30 period.

The digitalization of HR was yet another focus of the HR transformation. We continued to pursue a digitalization strategy for HR during the reporting year, and introduced short-term measures as well as long-term initiatives.

To successfully implement future strategic projects, we established the internal “Fit4Projects” initiative. It provides our project managers with guidance in all HR-related topics, such as resource planning and staffing. During the revision of the Group strategy, a decision was made to expand the Engineering division at the sites with the aim of accelerating site-related and higher-level project implementation and creating synergies beyond the Group. A handbook provides project managers with uniform and practical rules for tasks such as searching for suitable employees – both internally and externally. The newly established global talent pool also supports the search. Any employee interested in working on strategic projects can apply. The main focus in this reporting year was on staffing and recruiting for our strategic growth projects, including Aurubis Richmond, Georgia (US) (see below), and on identifying and developing internal and external talent. We strive to facilitate attractive development and career opportunities in the project environment for our internal talents and experts.

### Aurubis as an attractive employer

We are using the Group-wide employer branding project to analyze what makes us a top employer and what unique selling points can be used to set us apart from the competition. Developing a sustainable employer brand will help us position Aurubis as an attractive and sought-after employer on the job market. We feel it is important to transparently represent the application process at Aurubis. The newly launched Aurubis IT career site is one example of this.

### Overseeing organizational changes and Group programs

HR is providing support in establishing the site in Georgia (US), including a human resources and training concept, a recruiting strategy, and a compensation and fringe benefits plan. We also continue to support the organizational changes brought about by the Performance Improvement Program (PIP), which focuses on cost reduction. During the course of this program, we will eliminate 300 full-time equivalent (FTE) positions in the corporate functions and the Hamburg plant by 2022/23 compared to fiscal year 2018/19. In this process, we will continue to follow socially responsible principles and offer services to mitigate the impact on employees who are laid off. We will prevent as many layoffs as possible by not backfilling vacant positions, for example, offering improved part-time retirement options, and facilitating internal transfers with related qualification options as needed. The employee representatives were and are involved in the process.

Aurubis sold part of its Flat Rolled Products (FRP) segment sites to KME SE in the reporting year. The sale was approved by the relevant supervisory authorities in May and closed with effect from July 29, 2022. The agreement specifies that the Zutphen (Netherlands) site as well as the slitting centers in Birmingham (United Kingdom), Dolný Kubín (Slovakia), and Mortara (Italy), with a total of about 360 employees, were transferred to KME SE. At the time of purchase, KME SE intended to retain all employees. The FRP plants in Stolberg (Germany), Pori (Finland), and Buffalo (US) will remain in the Aurubis Group.

### We managed catastrophic flooding

In July 2021, a heavy rain event caused flooding at the Aurubis site in Stolberg, which had to declare force majeure. One year after the flood, the plant had been completely rebuilt, and in June 2022 the final shutdown production line came back online. The renovation of the administrative and social spaces will be completed over the course of fiscal year 2022/23. Employees' working hours were not reduced during the operational shutdown and all employees were retained.

### Aurubis Stolberg

The Aurubis site in Stolberg was completely rebuilt.





Progress on the “Development of a framework for action on diversity” 2022/23 interim target and the “100% of the relevant employees receive unconscious bias training” 2030 sustainability target is detailed in the “Creating opportunities for diversity” section.

## Creating opportunities for diversity

GRI 401/3-3, 405/3-3

### Aurubis is diverse

Ensuring employee diversity is one of our central concerns in HR work. Our Code of Conduct, which was comprehensively revised in the reporting year, and the corporate values set out in it serve as the basis for respectful cooperation [🔗 Anti-corruption, page 34](#). Our ambition is to ensure that racist motivation,

a person’s ethnic or social background, gender, religion or worldview, disability, age, family status, or sexual identity do not play a role in hiring, compensation, career trajectories, or in personal interactions. We reject all forms of discrimination. We feel a diverse workforce is conducive to knowledge transfer, incorporating different viewpoints, and open collaboration. A workforce that is overly uniform or is discriminatory has the opposite effect, and is likely to do long-term damage to the working environment and to Aurubis’ economic development.

### We continue to move forward

In the fiscal year, our objective was to define our understanding of diversity. To this end, an interdepartmental working group developed an activity plan and drafted a diversity commitment. As part of the update of the Code of Conduct, a Group-wide training initiative was launched during the reporting year to heighten staff awareness of human rights and anti-discrimination issues [🔗 Human rights, pages 37 and 41](#).

Any person at Aurubis can contact the employee representatives, HR, the Corporate Legal Department or our supervisors at any time to report any justified suspicion of discrimination. Anyone affected by discrimination can also contact our Chief Compliance Officer or the local compliance officers at the various sites, confidentially if desired. A Group-wide whistleblower hotline is also available for confidential and anonymous reports [🔗 Compliance, page 35](#).

No instances of discrimination were reported during the period under review. If we determine that the rules against discrimination have been violated, we employ labor law measures such as warnings or dismissal. Those who are affected can contact the Compliance Officer, HR, or the Works Councils, or the anonymous whistleblower hotline.



### More women at Aurubis

Enabling women to take on leadership roles and as such increase the proportion of female managers – irrespective of any legal stipulations – is an important goal at Aurubis. We have defined specific targets for the first and second management levels below the Executive Board and we regularly monitor their progress. Specifically, this means 30% in the first and 25% in the second management level by September 30, 2026 [Corporate Governance Report in the 2021/22 Annual Report, starting on page 19](#). In September 2022, Inge Hofkens was appointed the first female member of the Executive Board in the new role of Chief Operating Officer (COO) of Multimetal Recycling with effect from January 1, 2023. This also fulfils the mandatory quota for an executive board consisting of four persons in keeping with Section 76 (34) of the German Stock Corporation Act (AktG).

Aurubis implements various measures to achieve these targets. One involved further strengthening and expanding the Women4Metals initiative in the reporting year, in part to inspire women in particular to work at Aurubis. We address young people using distinctive marketing for our apprenticeship programs, and would like to further expand our involvement in university marketing in the future. We also specifically work with schools. Nevertheless, the challenge remains: Women generally tend to apply to Aurubis less frequently – possibly because of the industry – and the number of female applicants in fields relevant to us remains low.

### Working at Aurubis with severe disability

We also want to foster the integration of persons with severe disability or the equivalent and promote their employment. The proportion of individuals with severe disability at Aurubis AG (the Hamburg and Lünen sites) is 5.5% and thus exceeds the legal 5% quota. The works councils of these sites include a representative body for employees with severe disability, whose representatives are available for questions related to severe disability and equal opportunity.

## Women4Metals: strong, international network



Founded in 2019, one goal of the Women4Metals (W4M) initiative is to “give women in the metals industry more opportunities to support one another, to lead by example, and share our enthusiasm for the industry,” according to Tanja Winter, Head of Sales Rod and a co-founder of W4M. It also focuses on ensuring ambitious, qualified and dedicated women are promoted without prejudice. The network is active internationally and open to new members. Network meetings regularly take place online and in person, depending on the location. The program includes events to strengthen the role of women in the metals industry overall, but also at Aurubis in particular. This allows participants to profit from diversity in action.

## Creating flexible and future-proof jobs

**GRI 401-2, 401/3-3, 407/3-3, 413-1**

We offer our employees an attractive work environment and offer options that help them establish good work-life balance. This is accomplished in part through more flexible and modern working time models, because we want to increase employee satisfaction and ensure that we remain attractive in comparison with other companies.

Among other benefits, we offer our employees the opportunity of flexi-time and part-time work, and have also expanded options for remote work. A recent company agreement for Germany stipulates that employees with an office job can work remotely for up to three-fifths of their monthly working hours in coordination with their supervisors. In Germany, Aurubis also continues to offer the possibility of working part-time temporarily and maintaining a long-term working-hours account. With the long-term working-hours account, employees in Germany have the option of individually using accumulated time for a sabbatical, to take early retirement, or in periods where they have to care for family members.

### Balancing family and career

To reduce the multiple burdens on young parents while in training, we offer our apprentices with children part-time apprenticeships or enable additional childcare leave with a corresponding extension of the apprenticeship period.

We also take legal rights, such as educational leave, into account and ensure our supervisors are properly informed. We provide e-learning modules in continuing education that can be completed at work or at home as well.

### In dialogue with our employees

Our Code of Conduct and internationally recognized International Labor Organization (ILO) core labor standards form the foundation for how we interact at Aurubis and provide guidance for cooperation and responsible behavior. Company codetermination is another important element for good cooperation between our workforce and company management. At the corporate level, the Executive Board and the Supervisory Board, which includes an equal number of employer and employee representatives, work closely together as the highest governing bodies. At a company level, the interests of the workforce are represented by works councils and trade unions in accordance with country-specific regulations. Aurubis' European sites<sup>2</sup> are represented by the European Works Council, which was established in 2009. At our production site in Buffalo (US), working conditions are subject to state and national labor laws. There we cooperate closely with the local union (United Steelworkers).

Close, constructive cooperation with the unions active in the company and the elected Works Council members is thus an established principle for us. The Works Council regularly and promptly informs employees about current developments to prevent information asymmetry. During the coronavirus pandemic when contact restrictions were in place, the Works Council held multiple virtual information events at the Hamburg site, for instance.

<sup>2</sup> To date excluding Berango (Spain).

### Attractive working environment

We create an attractive work environment and foster good work-life balance.





## Attractive compensation as well

GRI 2-30, 401-2, 401/3-3

We offer attractive compensation in line with the market. Competitive salaries independent of gender and based on performance and qualifications, along with comprehensive social services enhance our attractiveness as an employer and boost employee motivation.

Compensation and fringe benefits are regulated in collective wage agreements. All salaried employees at Aurubis are paid in accordance with collective agreements, and over 90% of employees across the Group fall under these agreements as well. For those not covered by collective agreements, we base compensation on external benchmark data in line with the industry standard, such as compensation benchmarks and structures. The “Working lifetime and demography – Chemical industry” contract applies to Aurubis AG. Furthermore, the wage contracts and company agreements in place at all of our sites guarantee the minimum standards. We concluded an exclusive collective agreement for our Buffalo site in the US, for example.

All Aurubis employees are informed about the compensation model that applies to them. At the German sites, this is accomplished through posters, intranet articles, and Works Council events related to the collective wage agreements, for instance. Every employee receives and can access information about the relevant performance-related compensation with his or her employment contract.

Temporary workers are brought on at some German sites, such as Hamburg and Lünen, to cover peak order volumes. We work with a recognized temp agency here. Using a vendor management system for temp work, we ensure that temporary workers are treated in accordance with the law and that they

# 94 %

of our employees fall under collective agreements.

Around

# 19 %

of our employees took part in the share purchase program.

are compensated pursuant to the collective industry agreement regarding pay for temp work.

### Our fringe benefits

In addition to the base salary, we offer performance-related components and additional company benefits. Performance and success-oriented compensation is a central element of the compensation system. The performance of an individual is always viewed in connection with that of the team, the department, and the production area.

All employees in Hamburg and Lünen have additional disability insurance, and all employees with an unlimited contract have a company pension. Additional benefits, such as the option of a pension plan through the German Chemical Industry Pension Fund, and a long-term working-hours account, are becoming increasingly popular. More than 80% of eligible employees under the wage agreement take advantage of the



demographic contribution offered. The long-term working-hours account agreed on with the employee representatives has been introduced at all of the larger German sites. Because most of our sites are located in Europe, the social protection of our employees is safeguarded by extensive legal regulations.

Social protection is not comprehensively regulated by law at our production site in Buffalo (US). There, we cover 86% of employees' health insurance contributions, which is above and beyond the legal requirements.

The share purchase program is another fringe benefit Aurubis offers employees. In the 2021/22 fiscal year, we again gave employees in Germany, i.e., roughly 56% of the total Aurubis staff, the opportunity to purchase Aurubis shares at a discount. About 19% of the total workforce took part in the share purchase program, an around 25% increase in the number of participants compared to the previous year.

## Future-oriented employer KPIs

### Employment structure GRI 102-7, 102-8, 401-1, 405-1

	Unit	2021/22	2020/21	2019/20
Total employees	number	6,913	7,135	7,236
Female	%	13	13	13
Male	%	87	87	87
Blue collar	number	4,018	4,285	4,356
Female	%	4	4	3
Male	%	96	96	97
White collar	number	2,567	2,519	2,561
Female	%	28	28	29
Male	%	72	72	71
Apprentices (including Pirdop, BG)	number	328	331	319
Female	%	13	14	12
Male	%	87	86	88
Temporary workers	number	170	166	147
New employee hires (including apprentices) <sup>2</sup>	number	853	662	547
Turnover rate (excluding apprentices)	%	9.5	9.5	8.6
Average length of employment in the company <sup>2</sup>	years	14.0	14.4	14.5

<sup>1</sup> Personnel that are legally employed by an external service provider, regularly work for Aurubis, and have been approved in the course of internal personnel and resource planning. External consultants and service providers are not included.

<sup>2</sup> Prior-year figures have been adjusted.

### Temporary and permanent contracts<sup>1</sup> GRI 102-8

	Unit	2021/22		2020/21		2019/20	
		Permanent	Temporary	Permanent	Temporary	Permanent	Temporary
Total employees	number	6,325	260	6,589	215	6,706	211
Female	number	801	60	815	48	830	44
Male	number	5,524	200	5,774	167	5,876	167
Employees in Germany	number	3,402	159	3,347	121	3,462	128
Employees in Europe (excluding Germany)	number	2,416	77	2,679	81	2,704	49
Employees in US	number	507	24	563	13	540	34

<sup>1</sup> Excluding apprentices.

### Full-time and part-time employees<sup>1</sup> GRI 102-8

	Unit	2021/22		2020/21		2019/20	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Total employees	number	6,222	363	6,448	356	6,545	372
Proportion of total employees	%	94	6	95	5	95	5
Female	number	716	145	719	144	716	158
Proportion of female employees	%	83	17	83	17	82	18
Male	number	5,506	218	5,729	212	5,829	214
Proportion of male employees	%	96	4	96	4	96	4

<sup>1</sup> Excluding apprentices.

Age structure<sup>1</sup> GRI 405-1

	Unit	2021/22	2020/21	2019/20
<30	number	955	946	998
30 – 50	number	3,381	3,412	3,385
>50	number	2,249	2,446	2,534

<sup>1</sup> Excluding apprentices.

## Proportion of female managers GRI 405-1

	Unit	2021/22	2020/21	2019/20
On the Supervisory Board	%	33	33	33
On the Executive Board	%	0	0	0
1st management level	%	24	28	20
2nd management level	%	22	20	21

## Proportion of women according to nature of employment

	Employees			Female			Male		
	2021/22	2020/21	2019/20	2021/22	2020/21	2019/20	2021/22	2020/21	2019/20
Aurubis Group	6,913	7,135	7,236	13 %	13 %	13 %	87 %	87 %	87 %
Blue collar	4,018	4,285	4,356	4 %	4 %	3 %	96 %	96 %	97 %
White collar	2,567	2,519	2,561	28 %	28 %	29 %	72 %	72 %	71 %
Apprentices	328	331	319	13 %	14 %	12 %	87 %	86 %	88 %

## Employees with disability GRI 405-1

	Unit	2021/22	2020/21	2019/20
Percentage of individuals with severe disability <sup>1</sup>	%	5.5	5.9	6.1

<sup>1</sup> For Aurubis AG.

## Proportion of employees covered by collective agreements GRI 102-41

	Unit	2021/22	2020/21	2019/20
Proportion of total employees	%	94	93	96
Proportion of AG employees	%	100	100	100

Training and education, staff development

# A job with a future: Training and education

GRI 2-30, 203-2, 404-2, 404-3, 401/3-3, 404/3-3, 203/3-3

We rely on the principle of a learning organization to achieve our vision and advance our strategy. We provide high-quality vocational training and invest in forward-looking qualifications and development for employees.

Corporate HR carries out the overall, responsible management of staff development. In close coordination with the local HR managers, HR supports the other departments in building our employees' skills in a way that is directed and tailored to need. This helps us to meet current and future requirements and challenges in the area of human resources.

To secure an adequate number of qualified personnel in the long term, we regularly assess the need for specific skills and trades, and offer apprenticeships accordingly. We also monitor

the demand for employee qualifications and successors for different positions in annual performance reviews and in the yearly personnel planning process in order to develop specialized skills and management expertise in a purposeful way.

## Developing and promoting talents

We use a qualification program to support the development of our employees. We offer supervisors at the foreman level a number of technical training sessions, for instance, as well as options for personal development. In the reporting year, "healthy leadership" was one focus of training in Hamburg and Lünen (Germany). Numerous training courses were offered Group-wide in English as well. We also launched a pilot workshop on "new leadership" at our Hamburg site.

The workshop aims to provide managers with modern leadership approaches they can use to master the challenges of increasingly complex day-to-day management. It also fosters networking among management staff. Our "Leadership in the Production Environment" program, specifically geared towards the leadership challenges there, is another example.

## Training and education

**Ambition:** We provide high-quality vocational training and invest in forward-looking qualifications for employees.

### Our 2030 targets

→ 100% fulfillment of the continuing education allotment in hours (continuing education allotment: 18 hours per year for each employee)

### 2022/23 interim target

→ 18 training hours per employee per year on average

Our progress towards achieving our targets, and the concepts and measures we used to drive progress in the reporting year, are underlined in the margin column and indicated by a symbol.



## Talents

We invest in the talents of tomorrow and give them a perspective.

We have been further systematizing qualification measures for specialist employees since the Group-wide introduction of the qualification matrix in 2019. The employee and their direct supervisor enter the employee's level of qualification and the qualification needs directly into the matrix. They meet to discuss and define the implementation period for the corresponding qualification measures, and review them regularly. The job profile provides the basis for the qualification requirements defined in the matrix.

To offer our employees the best possible qualifications, we also frequently evaluate the different qualification options and adjust them as needed.

In addition to qualification, we also focus on promoting talent. In fiscal year 2021/22, we conducted Group-wide talent reviews to identify and develop talent within the company. The talents identified in this way are included in the new Orientation Track

## Promoting talent

2022/23 Orientation Track program participants.

(OTrack) program. OTrack provides information on our talents' current state of development, future career direction, and the next development steps. Over the course of three months, they take responsibility for their own development and explore relevant new topics, continuously reflect on their development needs, and give and receive feedback. The program is a building block for systematic talent development in the field of succession planning.

The range of options offered by the Leadership and Qualification Program also contributes to our employees' overall employability. The responsible supervisors and HR contacts offer advice tailored to the employee's individual situation. Furthermore, in Hamburg and Lünen (both in Germany), supervisors can request a moderated knowledge transfer, or acquire the skills to carry it out themselves, as part of staff development for Aurubis AG employees who are in transition – changing departments, retiring, or leaving the company, for example.

## Digital learning

Our goal is to carry on fostering digital and self-guided learning as well as innovative learning methods within the Group. We have continued to expand our digital learning options over the past few years. This allows us to respond even better to the needs of our employees. Moreover, we are further enhancing self-guided learning and the use of innovative learning methods in the Group. Since mid-2021, employees Group-wide have had access our digital Corporate Learning Academy, where they can complete internal and external courses on specialized, personal and management skills, as well as watch educational films and presentations on independent and digital learning. The Corporate Learning Academy also provides information on possible specialist or management career paths at Aurubis.

In addition to qualification and development programs geared toward promoting the necessary skills, such as for the Aurubis Operating System (AOS) and in project management, we also rely on dialogue formats and learning platforms for networking. The program also offers one to two-hour micro-learning units ("Learning Nuggets") so that participants can learn and test new skills. In the short "Aurubis Essentials" seminars, colleagues teach one another about interdisciplinary topics, promoting a uniform, Group-wide understanding of knowledge relevant to Aurubis. Many Aurubis Essentials and Learning Nuggets took place online during the coronavirus pandemic. The insights gained from the use of these digital learning formats are valuable for our ongoing development as a learning organization.

## Our performance management process

Regular, open feedback and qualified performance reviews are key elements in the ongoing personal development of our employees. Direct supervisors and the local HR departments at the sites are responsible for supervision, performance reviews, and development planning. Their on-site HR work is based on the central HR division standards. An annual performance review with a supervisor is conducted for every Aurubis Group employee regardless of location. This is part of our Group-wide performance management process, and emphasizes the recognition of good performance and ongoing communication between supervisors and their employees.

Apart from a review and a performance assessment, the annual review is also an opportunity to identify development needs, provide feedback, and coordinate goals. We take the results of the performance reviews into consideration in our annual personnel development planning and the corresponding budgets. During the reporting year, we held annual reviews with all of our production and office employees, which supervisors documented.



For executives and other employees not covered by collective wage agreements, calibration meetings take place after the annual performance reviews involving their supervisors, a reference group, and the HR contact person. These meetings help supervisors communicate their expectations to employees, promote a common performance standard, and evaluate employees' performance and potential more objectively. The calibration meetings also contribute to management development and support. This is how we systematically link performance management with our company objectives.

### Modern training right from the start

Aurubis is one of the large vocational training companies in the chemical industry in Germany. We are proud of our vocational training and retention rate, which is an important factor in securing qualified employees.

At the Hamburg and Lünen training sites, we have two modern vocational training centers that serve as a foundation for increasing the number of apprenticeships. At these sites, we also conduct cooperative training with local companies whose apprentices complete basic vocational courses with us. These efforts are paying off: Our Hamburg training center received the highest rating of 5 out of 5 stars as a top trainer in the [Capital study "Deutschlands beste Ausbilder 2022" \(Germany's Best Trainers in 2022\)](#). We take this as further confirmation that

our high standards ensure external stakeholders see us as a training company with a significant positive influence on the local skilled labor market.

In this reporting year at the Pirdop site, Aurubis Bulgaria is again continuing its dual apprenticeship program with a local vocational school in Zlatitsa and in cooperation with two large neighboring mines and local subcontractors. The first dual students completed their practical training on site in 2022, and the second class is currently in training.

The Hamburg site has participated in the AV 10+ internship model since 2007, which provides young adults from a range of occupational areas with the skills they need to start apprenticeships. Five of the twelve participants were accepted as apprentices in the reporting year, while the remaining participants started external apprenticeships or have gone on to pursue higher education. Aurubis also took on an apprentice in Lünen from a similar "entry-level qualifications" program.

We were also able to maintain our vocational training during the coronavirus pandemic and carried out a planned increase in the number of apprenticeships. This was possible with the help of digital learning resources and communication formats, while taking the necessary precautions into account. Where it made sense to do so, Aurubis made remote work possible for

apprentices as well, and this has continued in the scope of the new guidelines on remote work.

With the start of the new training year in September 2022, apprentices were equipped with tablets to allow them to integrate digital learning materials and communication formats even better into vocational training. Aurubis will continue to increase apprenticeship capacity. As such, more young people were able to start an apprenticeship than in previous years, securing young talent in our specialty areas.

### Top training

Hamburg training center awarded the highest ranking as top trainer





Sustainability is also a fixed part of the vocational training curriculum at Aurubis. We have organized a Sustainability Days event for apprentices in the first year of their apprenticeship since 2015. This is how we create an understanding of the issue right from the start and show apprentices how they can contribute to achieving the Aurubis sustainability targets. Around 20 participants from Hamburg, Lünen and Stolberg attended the 2022 Sustainability Days event, explored the Aurubis sustainability action areas, and deepened their understanding of human rights, climate and resource protection, recycling, and social engagement.

### **Aurubis as a future employer**

In addition to internal development, Aurubis also actively recruits new employees to cover personnel need. In the reporting year, we developed a series of tools for our HR department and supervisors with open positions to help them recruit new specialists and executive staff, especially from the technical-commercial sector. These ensure that the application process is as successful and fair as possible. We also launched an individual career page for Aurubis IT to specifically address people from the IT environment.

Aurubis takes part in educational marketing at fairs and school events and online. We also revamped our apprenticeship marketing and simplified the application process for an apprenticeship in Hamburg and Lünen in order to better address potential applicants and reduce possible barriers. We provide information about the application process, answer questions and accept applications on a variety of social media platforms. We also offer internships to students in Germany and facilitate thesis projects.

The Training department in Hamburg also actively supports the MUT Academy and JOBLINGE Hanse cooperation programs with offerings related to professional orientation, MINT workshops (MINT stands for mathematics, informatics, natural sciences, and technology), and applicant training for young people from difficult circumstances; it also promotes apprenticeships. We attract talented master's students in non-ferrous metallurgy at the RWTH Aachen with the Aurubis Prize, awarded since 2005, and our scholarships. This support gives us an opportunity to come into contact with our future specialists at the same time.



### **Second class starts new Aurubis Management Trainee program**

In 2022, the next generation of the Aurubis Management Trainee program started in the commercial, finance and operations areas. This program is designed to turn talented young people into bridge builders between departments, sites and countries at all levels. On this second run, three trainees set off on a trip through the organization to gather know-how and get to know the processes, unique qualities, and people in the Aurubis Group. Aurubis talent management and an individual mentor offer support along the way. Along with professional development, Aurubis also values personal development. This is why our apprentices take part in our internal talent development program.

## Education and training KPIs

### Apprenticeship rate and apprentice retention rate in Germany

	Unit	2021/22	2020/21	2019/20
Apprenticeship rate	%	8.1	8.4	7.7
Apprentice retention rate	%	79.1	71.6	71.2

### Training hours GRI 404-1

	Unit	2021/22	2020/21	2019/20
Total employees	training hours/employee	15.3	13.9	12.0
Blue collar	training hours/employee	12.0	13.7	10.2
White collar	training hours/employee	20.9	14.2	15.2
Blue collar total	%	83.6	61.2	67.0
Blue collar	%	76.3	58.6	66.0
White collar	%	95.8	65.5	68.8



Progress on the “18 training hours per employee per year on average” 2022/23 interim target is detailed in the “Training hours” table.



## Health and safety

# Healthy and safe at work

GRI 403-1, 403-2, 403-3, 403-4, 403-6, 403-7, 403-9, 403-10, 403/3-3

## Health and safety

Ambition: We prevent work-related accidents, injuries, and illnesses (Vision Zero).

### Our 2030 targets

→ LTIFR  $\leq$  1.0

### 2022/23 interim target

✓ ISO 45001 certifications at all production sites and slitting centers

Our progress towards achieving our targets, and the concepts and measures we used to drive progress in the reporting year, are underlined in the text or margin column and indicated by a symbol.

As a responsible company, Aurubis considers it a matter of course that we take measures to maintain the health and performance of our workforce, employees from external companies and outside visitors, and to protect them from accidents and illness.

### Our Vision Zero

Our safety standards apply to everyone, and we make no distinctions between the Aurubis workforce and employees from external companies or visitors. Our internal standards, which often surpass local safety requirements and which we adapt for the local conditions and regulations at our plants, apply to everyone. We assign the highest priority to a safe environment at all of our sites – whether in multimetal production, logistics, or administrative management.

Health and Safety (H&S) in the Group creates the overall conditions to prevent work-related accidents and illness on behalf of and in the interests of the production units. Our aim is to achieve our Vision Zero, i.e., to reduce work-related injuries and illnesses to zero. We have set ourselves the goal of reducing

the number of work-related accidents resulting in at least one lost shift or one working day per one million hours worked (lost time injury frequency rate, LTIFR) to  $\leq$  1.0 by 2030.

Group Health & Safety and Behavioral Management (G-OHS) manages H&S and establishes minimum occupational safety standards for the entire Group by issuing process instructions in addition to the Corporate Policy on Occupational Health and Safety. G-OHS is part of the corporate Continuous Improvement | H&S department. The head reports directly to the Chief Operating Officer (COO). ✓ In line with our targets for the fiscal year, all sites across the Group were certified in accordance with the ISO 45001 international standard for occupational safety management systems by the end of the fiscal year [Certifications by site, page 99](#).

Accidents involving temporary workers and contractors are recorded and evaluated, and are therefore subject to reporting. We use this information to derive Group-wide, site-specific targets.

### The people behind Vision Zero

Achieving Vision Zero will require the ambitious implementation of measures, clear responsibilities, and qualified personnel. Our occupational safety experts, company doctors, and medical personnel are qualified specialists with experience in occupational health and safety.

The site managers play a key role in realizing occupational safety measures. They are responsible for ensuring compliance with applicable laws and ordinances on occupational health and safety, the relevant corporate policies, and the current process instructions. Our intention here is to identify and evaluate health risks and help implement suitable measures to protect everyone in our area of responsibility, such as Group employees, temporary workers, and contractors. Moreover, employee representatives are involved in H&S issues. Through the reporting line to the Executive Board, G-OHS reports to the general Works Council committee and the European Works Council during committee meetings.

Since the start of the coronavirus pandemic, there has been a Group task force that includes the largest sites. This allowed specific plans and measures to be enacted quickly to protect employees' health, while keeping operations up and running. Options offered including testing and vaccination.

Occupational health and safety issues and the progress and impact of measures are regularly discussed with employees or their representatives at management meetings and in safety steering committees at the site and Group levels. The parties involved work together to develop strategies for continual improvement.

### Assessing dangers and risks

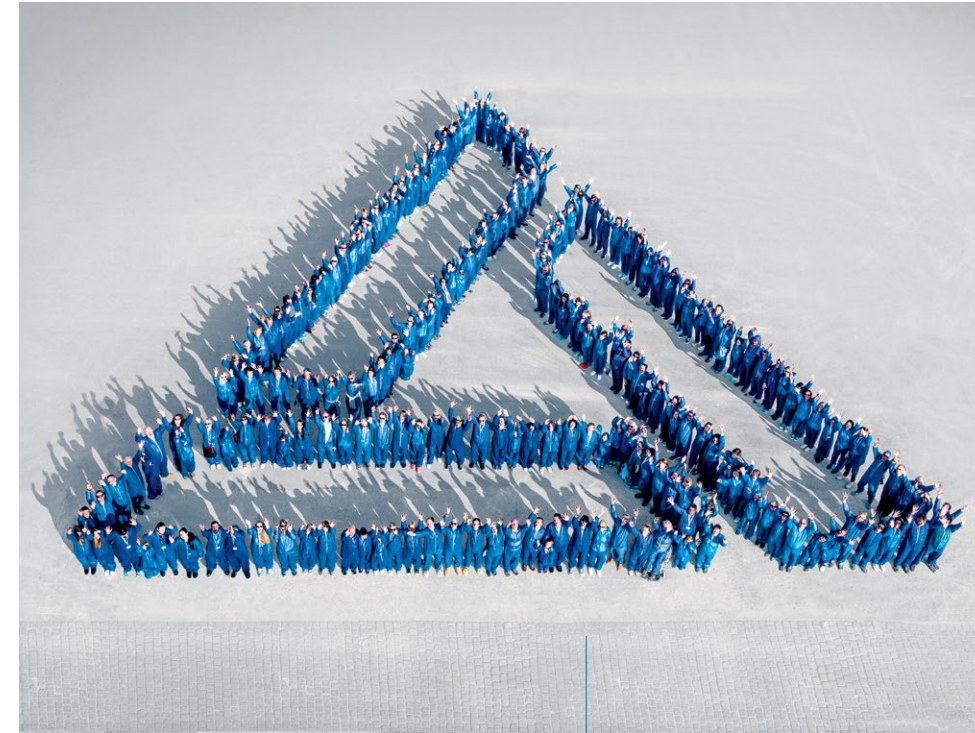
Risk assessments are carried out by the management of the sites. These identify all health risks and stress factors that could have a negative impact on health and lead to work-related accidents or occupational diseases, and evaluate them with respect to extent, probability of occurrence, and duration of impact. Stress factors include physical, chemical, biological and psychological factors.

The risk assessments extend to both current and future work processes in the company, including maintenance and repair procedures in addition to production. The risk assessments cover hazards in normal operations and special work assignments.

Health hazards and individual requirements in the work area are systematically collected, evaluated, and documented. We are deploying H&S management software at an increasing number of sites. We review the effectiveness of our risk-minimizing measures in preventative occupational safety via routine workplace measurements, for example.

### Prevention and education

People under our responsibility, such as employees, temporary workers, and contractors, are informed about risks in the workplace and receive instruction in the necessary preventive and protective measures, thus enhancing their awareness. Current H&S topics are discussed in safety briefings.



### Occupational safety – healthy at work

Health and safety are the top priorities in everything we do.

The type and content of these briefings is drawn from the legal regulations, risk assessments, and operating guidelines. Safety briefings take place at appropriate intervals, and at least once a year.

### Guidelines protect people

Along with technical and organizational precautions, the occupational safety conduct of every individual is crucial. To raise awareness of personal safety-conscious conduct, the Group-wide H&S campaign 10 Golden Rules (10forZero) was continued through April 2022. The campaign promoted targeted dialogue between supervisors and employees on essential rules and protective measures. In addition, focused initiatives on behavior-based safety (BBS) and on leadership and communication in occupational safety have been launched at some sites. In the reporting year, all managers up to the foreman level in Hamburg and Lünen (both in Germany) were given the opportunity to take part in training on “healthy



## OHS initiative for external companies during the maintenance shutdown in Hamburg

As part of the preparations for the large-scale planned, regular maintenance shutdown at the Hamburg site, we held a Supplier Day with a focus on occupational health and safety. The aim of the event was to share information about our ambitious “ZERO accidents” target with our partner companies and highlight the role of everyone involved in achieving this target.

We introduced our comprehensive safety concept to the suppliers present, including entry rules, a multi-step briefing concept, and how to communicate about and coordinate work. Supplier Day also provided an early opportunity to get to know and talk to our partner companies, and for them to talk to one another as well. A workshop with key questions on general occupational safety management fostered the exchange of ideas.

leadership” [🔗 Training and education, page 60](#). A Health & Safety Award was established to highlight the relevance of occupational health and safety across the Group and provide a platform for recognizing innovative ideas. It is presented at the Leadership Summit. Legal compliance audits to ensure conformity with the law are regularly carried out at the sites. G-OHS also audits the implementation of two selected corporate standards at each site each year. The integration of the Health and Safety pillar into the Aurubis Operating System (AOS) also contributes to our Vision Zero: On behalf of the production units, Group-wide occupational safety processes will be structured, systematically implemented and developed with the help of continuous improvement tools.

Our occupational safety approach applies to our temporary workers and contractors as well. The H&S policies and process instructions apply to all individuals working at the site. Every person who enters our sites is registered. Before they start

The new Supplier Days concept was a resounding success. Feedback from all participants was very positive and the drop of 40% in work-related accidents compared to the previous year is another indication of how successful our various measures have been.

work, temporary workers and contractors are briefed on risks, protective measures, rules of conduct, and what to do in an emergency at the specific site. In addition, we offer them the option of taking part in biomonitoring, and provide them with our industry-specific personal protective equipment (PPE) – such as the Air Stream helmet during the shutdown in Hamburg.

Regular emergency and evacuation drills are carried out at the sites. We include any neighbors who could potentially be affected in the emergency drills and evacuation plans.

### Handling hazardous substances

As a company that processes lead, we regularly analyze the blood lead levels of the relevant employees. As a member of the ILA (International Lead Association), we have already entered into voluntary commitments to limit blood lead levels in the past. In 2021, the new Technical Rules for Hazardous Substances “Lead” (TRGS 505) went into effect in Germany, establishing a lower limit value for lead in the blood. We have updated the existing risk assessments and, where necessary, derived and implemented technical, organizational, and/or personal protective measures. During the reporting year, we revised the hygiene concept at the Lünen site and improved the separation between exposed and non-exposed risk areas. We also created designated smoking areas with nearby hand hygiene facilities. At the Beerse (Belgium) site, we renovated the control rooms in lead-exposed areas and sanitary facilities in accordance with best practices. We introduced a special awareness program on

working with lead for new employees as well. At the Hamburg site, we also reassessed the exposure areas and introduced measures to improve ergonomics, such as the continuous wearing of blower respirators. In addition to increasing the understanding of the right way to put on and take off work clothes and respirators, we also reinforced the standards for one-on-one meetings between managers and employees with the aim of improving compliance with protective measures and discussing further opportunities for improvement during individual activities.

In pending new construction projects, both technical and organizational measures are taken into account in line with modern standards to minimize contact with or carryover of hazardous substances.

#### **Systematically recording accidents and illnesses**

The local departments systematically investigate accidents to determine their technical, organizational, and conduct-based causes. The causes determined from these investigations and the measures derived from them are communicated throughout the Group. They are outlined in “Lessons Learned” descriptions. In addition to lost time incidents (LTI), medical treatments, first aid services, and near misses are centrally recorded and analyzed for all sites.

Accidents and other relevant incidents are part of the monthly reports to the entire Executive Board. Every accident with lost time is directly reported to G-OHS and the Chief Operating Officer, including those involving temporary workers and external companies. Thanks to our preventive measures, the accidents typical of the smelting industry, such as those involving molten metals, hazardous substances, and heavy loads, are rare. As in other industries, the main causes of injuries are stumbling, slipping, and falling.

## How we promote our employees' mental health

### **Fürstenberg hotline in Hamburg and Lünen (Germany):**

All Aurubis AG employees in Hamburg and Lünen have had access to an anonymous employee advice hotline since January 2022. In crises, employees can take advantage of confidential, anonymous and immediate advising services by phone or online around the clock via a tollfree telephone number. These advising services are offered in a range of languages (German, English, Turkish, Russian, Arabic, etc.).

Any suspicion of an occupational disease is to be reported to the proper parties. In fiscal year 2021/22, a total of 16 reports of suspected cases were received. These involved diseases related to noise, the respiratory system and the musculoskeletal system.

### **The impact of our measures**

In fiscal year 2021/22, the number of accidents decreased compared to the two previous years. The continuation of the 10 Golden Rules campaign, audits, cross-site checks, the AOS Health & Safety pillar and the site initiatives associated with it, as well as the introduction of an occupational safety management system in keeping with ISO 45001, have all contributed to this improvement.

### **Psychological health program in Olen (Belgium):**

In Olen, a new health program organized by the Human Resources department and health coordinator focuses on identifying and properly managing psychological stress. Starting at the shift supervisor level, every supervisor has completed several training courses on how to identify psychological stress and talk to their employees about it. We also carry out pulse checks on work-related stress at regular intervals, and follow up as needed. A range of individual coaching options rounds out the program.

### **Health and Safety Week in Pirdop (Bulgaria):**

A week-long event on mental health and safety was held for the second time at the Pirdop site. Employees were invited to participate in up to six different live, online training courses with a focus on mental and physical health. Seminars were recorded and made available for later viewing.

### **Our health care includes protecting health**

Routine health exams and occupational checkups are offered to employees at all sites. Several internal company doctors are available at the Hamburg and Pirdop sites. At all of the other sites, freelance occupational physicians are commissioned with carrying out obligatory and optional checkups.

The additional offerings of the plant medical offices extend from flu vaccinations and medical checkups to addiction prevention, as well as supporting measures for the heart and circulatory system. In the reporting year, the Hamburg, Pirdop, Olen, Beerse, and Berango sites also offered various initiatives on “healthy management” and “mental well-being” to strengthen and maintain employee health.

## Occupational safety KPIs

### Occupational safety

	Unit	2021/22	2020/21	2019/20
<b>Work-related accidents employees</b>				
Number of work-related accidents <sup>1</sup>	number	34	55 <sup>3</sup>	51
LTIFR <sup>2</sup>	rate	3.2	5.1 <sup>3</sup>	5.4
Severity rate	rate	0.21	0.32	0.35
Number of work-related fatalities	number	0	0	0
<b>Work-related accidents involving temporary workers</b>				
Number of work-related accidents	number	4	4	10
LTIFR <sup>2</sup>	rate	10.9	12.5	36.2
Number of work-related fatalities	number	0	0	0
<b>Work-related accidents involving external companies</b>				
Number of work-related accidents	number	12	33	21
LTIFR <sup>2</sup>	rate	3.1	8.7	5.8
Number of work-related fatalities	number	0	0	0



Progress on the “LTIFR  $\leq$  1.0” 2030 sustainability target detailed in the “Occupational safety” table.

<sup>1</sup> Absolute number of accidents including the Beerse (Belgium) and Berango (Spain) sites starting June 1, 2020. Excluding Cablo Metall-Recycling und Handel GmbH, Fehrbellin, starting June 1, 2021 (which, since June 1, 2021, has belonged to the joint venture Cablo GmbH entered into with the recycling company TSR Recycling GmbH & Co. KG; Aurubis holds a 40% stake in Cablo GmbH). As of August 1, 2022, excluding the sold Zutphen (Netherlands), Birmingham (United Kingdom), Dolný Kubín (Slovakia), and Mortara (Italy) sites.

<sup>2</sup> LTIFR: Beerse and Berango sites included for the entire fiscal year starting in 2019/20 so that the KPIs can be compared.

<sup>3</sup> Data from previous years adjusted to reflect subsequent reporting.

## Social engagement

# Socially engaged

GRI 203-1, 413-1, 203/3-3, 413/3-3

Social engagement is a fixed element of our company identity. We want to promote enthusiasm for our company and for our work and be a reliable partner locally and internationally. We have made contributing to a livable environment our goal. Here we focus on action areas that are linked to Aurubis' key skills.

## Our sponsoring principles

- **We assume social responsibility:** Social engagement is part of our company identity.
- **We are a reliable and trustworthy partner:** When we agree to provide support, we fulfill our commitments. We are transparent about what type of social engagement we pursue, and we also visibly express this support.
- **We want to raise interest for our company and our work, attracting qualified employees:** We do not take it as a given that employees champion our company. Dedicated employees will only work for us if they agree with our actions and our values. This will only become more important in light of demographic change.
- **We want to be a good neighbor at our sites:** As a company with large industrial facilities, we are not an “inconspicuous” neighbor. It is therefore even more important to us that the people living in our neighborhood know what happens on our plant premises, that we are interested in their well-being, and that we will advocate for them.

## Social engagement

**Ambition:** We are a reliable partner locally and internationally that is making a lasting contribution to a livable environment.

### Our 2030 targets

- 90 % long-term partners (percentage of total budget)
- ✓ 0.8% of operating EBT (five-year average) as annual budget for social engagement, and at least € 2 million

### 2022/23 interim target

- ↗ Developing impact monitoring to evaluate sponsored projects

Our progress towards achieving our targets, and the concepts and measures we used to drive progress in the reporting year, are underlined in the text and indicated by a symbol.

### How we select our projects

Projects and partners are selected according to established criteria outlined in our policy on social engagement, which also defines responsibilities in the Group. ↗ For our 90% long-term partnerships target, we began drawing up a definition for long-term collaborations during the reporting year.



With our “together we care” social engagement strategy, we are focusing our involvement on the areas of knowledge, the environment, and participation. We bundle our social engagement under the “together we care” slogan on a national level in Germany, but also internationally in the areas around our sites as well as in our supplier countries.

### Knowledge

We want to help people optimally use their potential – by promoting education, science, and teaching; by providing special programs for young people; and by imparting values.

The Event Management & Social Engagement division is responsible for our social engagement and reports to the head of Communications & Investor Relations. Because this division has a direct reporting line to the Executive Board chairman, the CEO is included in our social activities. The entire Executive Board determines the budget for Aurubis AG and decides what projects to sponsor. ✓ The budget was increased to € 2,230,000 in the reporting year, which corresponds to the planned 0.8 % of the five-year average operating EBT.

The Event Management & Social Engagement, Communications, Sustainability and Corporate Compliance divisions support the plants in implementing the projects they plan to realize.

Aurubis not only supports projects at the Group level; our sites are also involved at a local level and have their own budgets to support this work. These projects also fall under our policy, which stipulates that projects can be sponsored if they address the three Group-wide focuses, knowledge, environment, and participation, or if they promote culture and sports, or our core business.

### Environment

As an industrial company, we have to handle resources with care and keep our environmental impacts to a minimum. So we take resource efficiency and environmental protection very seriously. We promote projects related to aspects of the circular economy, energy efficiency, and nature conservation in particular.

We are often involved in donation campaigns and sponsoring projects. For donation campaigns, we contribute supplies, funds, or services for which we do not expect anything in return. In sponsoring projects, we officially act as a publicly visible project partner.

To determine the need for our involvement, we talk with the communities around our sites, our international partners (e.g., chambers of commerce, local and international NGOs), and political representations. For project requests in the field of education, we consult with our HR and Training departments. Together, we are in contact with schools, universities, and other educational institutions.

To be able to assess the impact of our engagement, we ask qualitative questions about current projects, such as what our funding is used for and in what amounts, and what objectives have been achieved. In addition, our project partners regularly inform us about their current measures and plans.

### Participation

We are active in many countries and regions, and we employ people from a variety of backgrounds. So we are well aware that the conditions for social participation are not the same everywhere. We want to reduce this imbalance by supporting socially disadvantaged people and regions, for instance.

The ongoing coronavirus pandemic and the war in Ukraine have posed significant challenges for our project partners. We want to be a good partner even in times of crisis, so one of our particular concerns has been providing quick, pragmatic, and customized emergency assistance to support our existing projects.

#### What we support

The following examples provide an impression of the projects we sponsor:

Aurubis joined forces with other companies from northern Germany in “Hamburg packt’s zusammen” (Hamburg Handles/Packs It Up) and has continued to support the joint relief effort to provide everyday items to individuals who fell on hard times due to the coronavirus pandemic.

Together with our partner of many years, Hanseatic Help, we organized aid shipments to Ukraine at the start of the war there. We also provided goods like clothing, toiletries and strollers to people who fled Ukraine. Employees from the Hamburg

### Total expenditures for social engagement and regional distribution in 2021/22 GRI 203-1, 413-1



<sup>1</sup> The total expenditures mainly comprise sponsoring amounts and donations combined. The total includes Schwermetall Halbzeugwerke GmbH & Co. KG and Cablo Metall-Recycling und Handel GmbH, Ferbellin.

site assisted Hanseatic Help at a variety of packing stations. Together with the “Bürger helfen Bürgern e. V.” (Citizens Helping Citizens) initiative, apprentices and trainers from our Hamburg site took part in a project to renovate a multi-story residential apartment building to get it ready for people who fled Ukraine. We were also involved in numerous other initiatives, including in Hamburg, Lünen, Stolberg, Olen, Beerse and Pirdop, working with local partner organizations to provide aid to the people in Ukraine.

🔗 We further expanded our existing international social engagement partnerships in the reporting year. With five projects in South America and one in South Africa, we want to make a social contribution in our supplier countries and in countries where we have business relationships.

In Peru, we support a holistic educational program for elementary school students in the Urubamba region and a project for sustainable water use and biodiversity conservation in a national park near Arequipa. In this fiscal year, we began funding “Mujeres Ecosolidarias” a recycling project initiated by women that focuses on waste management in Arequipa.

In Chile, we are involved in setting up dual occupational training following the German model for sustainable resource use in agriculture in the O’Higgins Region. To round out this project, we are also promoting digitalization at elementary schools in the immediate vicinity via numerous workshops and advanced training for teachers and schools classes. The projects are linked, as the majority of elementary school graduates continue their education at the local vocational school. In the reporting year, we worked with AHK Chile on a pilot program for impact monitoring.

In this fiscal year, we began supporting a food and energy plant in Potchefstroom, South Africa to fight malnutrition, offer training in ecologically sustainable, organic farming, and promote the use of resource-efficient, innovative technologies.

In Germany, Aurubis is a partner in the “Haus der kleinen Forscher” (Little Scientists’ House) network, which encourages children to take an interest in MINT subjects (math, IT, natural sciences, and technology). In Hamburg and Lünen (Germany), we work with our partner, Joblinge, to assist unemployed young people in integrating into the apprenticeship and job market. Together with partner companies from the region, the Aurubis

site in Pirdop (Bulgaria) is involved in a dual education program at the technical college in Zlatitsa and has supported the hospital in Pirdop for many years – with additional assistance in reporting year 2020/21 during the coronavirus pandemic. At the Olen (Belgium) site, we cooperate with the Flemish “Helden Voor Helden” (H4H) non-profit organization to support children and young adults with chronic and/or life-threatening illnesses. H4H focuses on uncovering their talents, such as cycling or cooking, and on their strengths, rather than concentrating on what these children and young adults may not be able to do due to their illnesses. Our site in Berango (Spain) is active in a sponsorship project for traffic safety education and fostering enthusiasm for cycling among children and young adults.



Our website offers more impressions of the projects we sponsor [www.aurubis.com/en/togetherwecare](http://www.aurubis.com/en/togetherwecare).

### “Mujeres Ecosolidarias” care

A recycling project initiated by women in Peru.





## Environment

# Enabling a Greener Economy

For sustainable economic activity to succeed, we need gentle production processes. We are committed to continually decreasing environmental damage and shrinking our CO<sub>2</sub> footprint even further.

page 74 – Decarbonization  
page 75 – Environmental protection

page 85 – Energy and climate  
page 92 – TCFD-Report

## Reducing diffuse emissions (RDE)

Aurubis is breaking new ground in environmentally friendly primary copper production with an innovative exhaust system at the Hamburg plant (Germany).



## Green Energy

Company-owned solar park in Pirdop (Bulgaria)

# Carbon-neutral metal processing

We are aiming for carbon-neutral production well before 2050. The challenge of decarbonization is that there is no one, single technology we can rely on. So we need to diversify our approach, especially since our sites have very different requirements. Some example projects from our decarbonization roadmap are detailed below.



CO<sub>2</sub> reduction potential/year:  
**22,400 t**



**Expanding the use of renewable energy from solar power**  
in Pirdop, Bulgaria



CO<sub>2</sub> reduction potential/year:  
**5,000 t**



**Optimized production processes through hydrogen**  
in Hamburg, Germany



CO<sub>2</sub> reduction potential/year:  
**4,000 t**

**Power-to-steam (electrode steam boiler)**  
in Hamburg, Germany



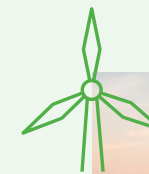
CO<sub>2</sub> reduction potential/year:  
**70,000 t**

**Switching to other energy sources**  
in all Group cathode shaft ovens



CO<sub>2</sub> reduction potential/year:  
**120,000 t**

**Expansion of industrial heat**  
in Hamburg, Germany



**Wind turbines for sustainable power generation**  
in Olen, Belgium



CO<sub>2</sub> reduction potential/year:  
**6,000 t**



Responsible water use, maintaining air, water, and soil quality, land use, generated waste, responsibly handling waste, protecting biodiversity, noise

# Conserving natural resources: Environmental protection

GRI 303/3-3, 304/3-3, 305/3-3, 306/3-3

The metals industry is energy and resource intensive. At the same time, our metals are essential to forward-looking technologies and the energy transition, especially for expanding renewable energies and electric vehicles. We recognized this early on and have been working on continually reducing our environmental footprint for a long time now.

As our life cycle assessments show, this dedication has made us pioneers in environmental protection [see page 81](#). The basis for a metal supply that is as responsible as possible and tailored to meet need is a combination of recycling and the most environmentally friendly multimetal production from primary raw materials. Our focus here remains on expanding our recycling business even further.



## Certified management of environmental impact

Our objective is to produce in a way that minimizes the environmental impact of our business activities to allow for the most environmentally friendly and safe manufacture of our products. This means that we strive to continuously improve what is already the most efficient and consequently smallest environmental footprint in our industry. This footprint includes maintaining air, water, and soil quality and biodiversity in our plants and the surrounding areas, as well as the responsible handling of waste, hazardous substances, and water use.




## Environmental protection

Ambition: Our production has the smallest environmental footprint in our industry.



### Our 2030 targets

-  -15% specific dust emissions in g/t of multimetal copper equivalent (reference year 2018)
-  -25% specific metal emissions to water in g/t of multimetal copper equivalent (reference year 2018)

### 2022/23 interim target

-  ISO 14001 at all production sites
-  Reduction of specific dust emissions by 15% in g/t of copper (Cu) output (reference year 2012)
-  Reduction of specific metal emissions to water by 50% in g/t of copper (Cu) output (reference year 2012)


Our progress towards achieving our targets, and the concepts and measures we used to drive progress in the reporting year, are underlined in the text or margin column and indicated by a symbol.

We view and manage these environmental aspects holistically in our environmental management system. This helps us recognize potential improvements and, in the case of deviations from specified targets, initiate corrective actions. At the Hamburg and Lünen sites, these are part of the integrated management system (IMS) for quality, environmental protection, energy, and occupational safety. The environmental management systems are audited and certified annually.  All of our sites have environmental management systems certified in accordance with ISO 14001/EMAS  [Certifications by site, page 99](#).


The relevance and the impact of our production sites on local resources like water, air, soil, and biodiversity are regularly assessed using this environmental management system and during permit procedures. We use appropriate KPIs to steer our environmental performance. We report the results publicly, for instance in our annual Environmental Report, Sustainability Report, Annual Report and on the Aurubis website.

We have set Group-wide targets for environmental protection. The production sites implement local measures to achieve these targets. Environmental performance is monitored and controlled using environmental KPIs, which are regularly recorded at the production sites and verified by external inspections.

We also commission an external auditor to carry out extensive environmental risk assessments at each smelter site every year. The environmental risks for all production sites in the Group are regularly analyzed and evaluated as part of each plant's responsibility for risk management. Measures are developed and defined to counter any possible risks identified. In 2021, we expanded these risk analyses to include the areas of biodiversity, nature conservation, and water availability, and


we carried out special flood risk inspections  [see page 78](#).

Based on the results and KPIs, we identify potential ways we might continue to improve our environmental performance. For water, for example, there is the Water Management round table in which Corporate Environmental Protection works with the sites and, with the help of an external consultant, identifies potential improvements related to water.

Biodiversity is also a key area in environmental management. EMAS contains specific requirements regarding biodiversity in environmental assessment and reporting in the scope of the EMAS environmental statement. Our waste management also always undergoes a EMAS audit. The upstream and downstream risks of our business activities on the environment are analyzed in our Business Partner Screening  [see page 40](#).

We keep our employees up to date on environmental and energy-related topics and provide appropriate training on the site-specific environmental issues. Moreover, disruption and emergency drills are carried out regularly, which we document and evaluate. At the individual sites, we have emergency, alarm, and hazard prevention plans in place to prevent environmental impacts and to protect our workforce and the surrounding population.

#### Clear responsibilities

The head of Corporate Environmental Protection reports to the Chief Operating Officer (COO) and, together with the COO, is responsible for strategic positioning. Environmental officers oversee the environmental protection responsibilities at the individual production sites. The principles of our Company Guidelines on Environmental Protection provide a framework for safeguarding our uniform, Group-wide environmental standards. They are enshrined in  [Environmental Protection](#).

#### Laws and guidelines serve as a starting point

The main standards for the respective production sites are outlined in the permits issued by governmental authorities. The European regulations on immissions, emissions, water, waste, and disruptions, as well as their implementation in national law, plus the REACH European chemical regulation provide the foundation  [also see page 48](#). Our compliance management,  [see page 33](#), helps us keep track here, and we can react to changes in legislation within a reasonable time thanks to our continuous improvement process. Apart from our own guidelines and legal regulations, we have agreed to voluntary commitments from industry initiatives, such as the European chemical industry's Responsible Care initiative.

The high priority Aurubis places on environmental protection is evident in our investments as well. Since 2000, we have invested more than € 780 million in measures to improve environmental protection throughout the Group.

**2021/22 investments in environmental protection**  
in € million

47

## Lower emissions from our plants

GRI 305/3-3

Copper production generates dust emissions that can contain metals and metal compounds. To protect the environment, and so as not to endanger the health of our employees and the people who live near the plants, we have set targets for minimizing these impacts. Aurubis takes the steps necessary for achieving these targets.

We have consistently invested in the best available equipment and filter technology since the 1990s, for example. This has allowed us to reduce specific dust emissions for primary and secondary copper production by 96% since 2000. We are proud of this fact. Our success thus far also means that we have almost exhausted the technical options for further reducing directed dust emissions, however. This is why our main focus is currently on reducing what are known as diffuse emissions.

### Our goal: improving air quality

✔ In 2021, we surpassed our goal of reducing specific dust emissions by 15% in grams per ton of copper output compared to 2012. As part of the Group's transition from a copper to a multimetal producer, we have therefore set ourselves a new, even more ambitious goal: By 2030, we aim to reduce our specific dust emissions in grams per ton of multimetal copper equivalent by a further 15% compared to reference year 2018. In the future, our new specific reduction targets, i.e. those related to production volume, and the associated reporting of specific emissions, will no longer be based on copper output, but rather on a multimetal indicator – the copper equivalent. It is calculated using an approach that has already been established at a European level within the framework of an EU project on life cycle assessment (environmental footprint) of

organizations and products, the “organization environmental footprint” and the “product environmental footprint”, [page 81](#).

Sulfur is one of the main components of the copper concentrates we use, and gaseous sulfur dioxide is generated during the smelting of these concentrates. We manufacture sulfuric acid from this sulfur dioxide in our sulfuric acid production plants. In international comparisons, Aurubis is a forerunner in reducing sulfur dioxide emissions: We have reduced emissions from primary production by 85% per ton of copper output since 2000. This was due in part to the construction of a Sulfacid facility to clean smelter off-gases with low sulfur dioxide concentrations in Pirdop (Bulgaria) – a unique

project in the non-ferrous metals industry that surpasses the best available techniques (BATs) established at a European level. Furthermore, the facility for cooling converter slag at the site in Pirdop, Bulgaria is undergoing further expansion.

### Reducing diffuse emissions

With an innovative exhaust system for reducing diffuse emissions (RDE) at the Hamburg site, Aurubis is setting standards in environmentally friendly primary copper production. With an investment volume of € 85 million, the RDE facility at the Hamburg site is the largest environmental protection measure at the plant in the Veddel district since the 1980s. The system has been in operation since October 2021.

## Reducing diffuse emissions – an investment in the future

Investments of

€ 85 million

in environmental protection

Pipeline system with a total length of

185 m

and an inner diameter of 4.50 m

Filtering of particles smaller than

10 µm

Ridge turrets with a respective size of

71 m<sup>2</sup>

are controlled automatically and as needed

Up to

540,000 Nm<sup>3</sup>/h

in air extraction line

Preparation and construction each took

1.5 years

About

6,300

filter elements

Commissioned in October

2021

Diffuse emissions can be released into the environment from hall openings, such as gates, doors, or ridge turrets, and during material storage and handling. Preventing diffuse emissions is a huge challenge Aurubis can meet with the assistance of innovative technology and the cooperation of all employees.

RDE uses and combines new technologies in a completely innovative way. These measures include optimized source extraction, a newly installed procedure for processing intermediates, and the use of state-of-the-art suctioning and filtration technology to trap residual dust emissions. The specially developed, needs-based control of the ridge turrets enables a level of digitalization in environmental protection that is unique in the metals industry to this day, as well as efficient implementation with high volumes of exhaust air and optimized energy expenditure. With the entire project, Aurubis is sending a clear signal to the city of Hamburg that clean and sustainable production is possible in the city – and thus securing the future of the Aurubis site in Hamburg.

## Water as a valuable resource

GRI 303-1, 303-2, 303-3, 303-4, 303-5, 303/3-3

As a company that uses water, we see the growing responsibility we bear for preserving this natural resource. So we are committed to reducing our own water consumption as much as possible, and continuously improving the water quality in our sphere of influence.

This commitment is set out in our environmental policy, and in our Business Code of Conduct we stipulate that our partners must use water responsibly along the supply chain. Although we have already accomplished a lot, in our strategy we have set a target of reducing specific metal emissions to water in grams per ton of multimetal copper equivalent by a further 25% by 2030 compared to 2018. Here compliance with legal regulations is the foundation and minimum standard of our activities.

→ Since water may contain metals in particular, such as copper, zinc, and lead, after use, treating wastewater and thus preventing environmental pollution is one of our key responsibilities in industrial environmental protection.

Wastewater treatment and water discharge, for instance into the municipal wastewater system or into surface water, is regulated in the official discharge permits at all sites. This is monitored by governmental inspections, which are supplemented by internal monitoring carried out by the plants themselves.

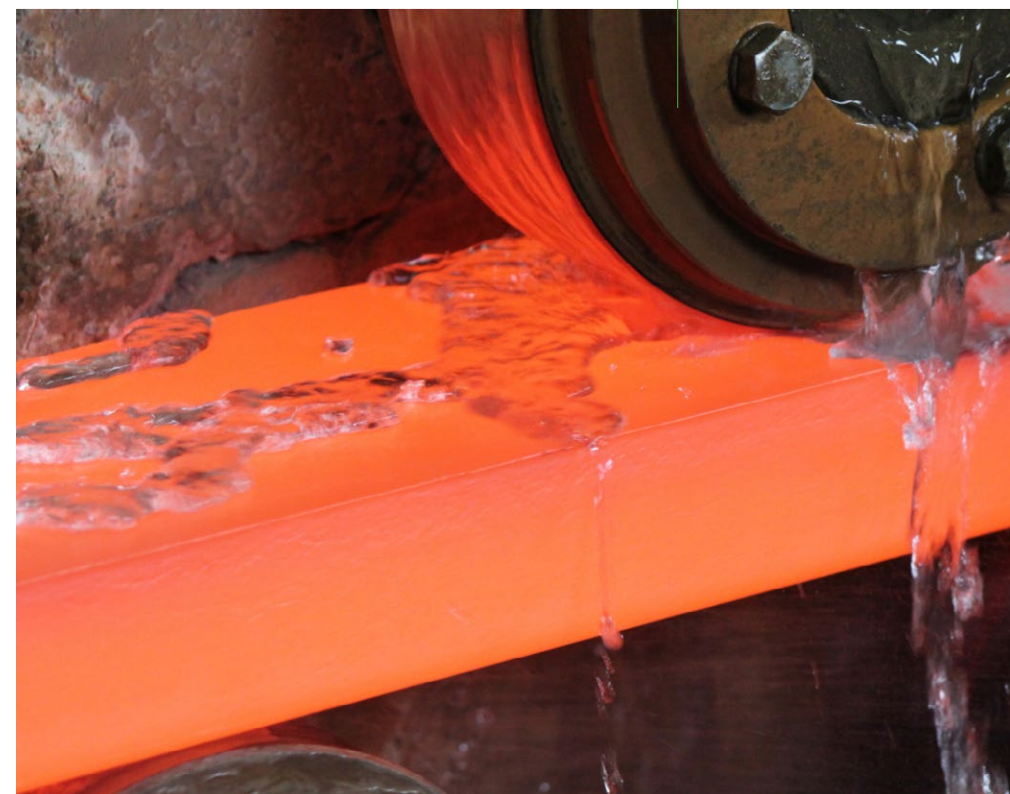
### Recognizing water risks immediately

2021 was the first year we took part in the CDP Water Security Questionnaire, which deals with current and future water-related risks and opportunities. Participation in 2021 initially involved an unassessed, basic version of the questionnaire. We participated in the full version for the first time in 2022. With our “B” rating, we performed better than the B– industry average. To analyze water stress risks, we use, among other things, the World Resources Institute’s global water risk atlas (Aqueduct Version 3.0).

The risk analysis in the field of water was expanded in 2021: In addition to water availability in the catchment area (e.g. water supply, water quality) we now also look at risks related to water discharge (e.g. EU Water Framework Directive, water discharge permits). We continue to include risks connected to climate change and natural hazards in the assessment. Interest groups with a stake in nature conservation are also involved, including local authorities and residents. We also completed a flood risk analysis.

### Resource water

Water is used in part for cooling in our production processes.



The risk analyses concluded that our business activities do not have a significant impact on the aforementioned environmental aspects. The Water Security Questionnaire we participated in did not identify any relevant impacts for our sites in the areas defined by WRI Aqueduct as “water stress areas,” either in terms of water availability or water quality. As part of the risk analysis, we also conducted a systematic analysis of individual opportunities specifically associated with the risks identified at the sites regarding these topics. When a risk is identified, we derive appropriate measures to minimize the risk as needed.

#### Measures for responsible water use

To minimize water consumption, we use water in our production processes and for cooling purposes mainly in closed cycles. We conserve drinking water resources by using river and rainwater wherever possible. Measures to reuse or recycle water have been implemented at all sites – where possible – in order to reduce the input of fresh water and the volume of wastewater.

In 2021, we used a total of 77.9 million m<sup>3</sup> of water at our production sites (2020: 78.3 million m<sup>3</sup>) – the majority as cooling water. With the help of more efficient facilities, we have successfully further reduced water withdrawal in copper production from 59 m<sup>3</sup> per ton of copper output in 2012 to 46 m<sup>3</sup> in 2021. As such, Aurubis' water intake is already quite low, though we would like to reduce it even further.

## Local measures on the topic of water at our sites

In the past, Aurubis commissioned a facility for rainwater retention, treatment, and utilization **at the Lünen site** for example, so now a large part of the plant's internal cooling and process water needs are covered by the collected rainwater. Additionally, we recycle the water used in our production and cooling processes in a closed cycle where feasible. This has allowed us to continually increase the volume of rainwater used over the past few years, while water withdrawal from the public water network has decreased accordingly. In 2021, more than 120,000 m<sup>3</sup> of process water was used for internal purposes and thus conserved. Overall, the project for rainwater use has significantly surpassed the projected quantities. In 2021, we were able to reduce wastewater discharge by more than 50% compared to 2019 thanks to optimized water collection and provision. Further optimizations of internal water use are planned for the coming years. The goal is to use all water internally to the greatest possible extent and prevent the discharge of process water into the public sewer system. Thus, the project contributes significantly to increasing water efficiency at the site.

We also require that our business partners introduce and maintain processes and procedures to minimize environmental impacts and risks and continuously improve their environmental performance. This includes resource efficiency such as water use, as well as emissions to water, for instance. Our requirements are set out in the Aurubis Business Partner Code of Conduct.

Aurubis provides industrial heat for the heat supply of the **Hamburg urban development district HafenCity East**, and for the Rothenburgsort district since 2021 as well. This heat is generated when sulfur dioxide is converted to sulfuric acid. For the **Hamburg** site, the cooling water volume discharged into the Elbe River decreased again this year by over 10 million m<sup>3</sup> per year as a result of the Industrial Heat project commissioned in late 2018. The district heat concept will be further expanded during the 2024 shutdown.

At the **Bulgarian site in Pirdop**, a new sand filter was commissioned in the existing treatment facility for industrial wastewater in 2020. This reduces the discharge of undissolved substances to water.

## Improving soil quality


At Aurubis, we use a variety of materials that contain hazardous or environmentally harmful substances. Our environmental efforts include preventing harmful substances from entering the soil and groundwater. We have regulations at the sites for the appropriate handling of such substances, such as procedural instructions and training courses, and continually improve these through our best-practice approach. Technical measures like paving and catch basins round out our approach.

The soils at our sites show the impurities typical for industrial areas owing to many years of industrial use. Systematic soil and groundwater monitoring is carried out at the relevant paved plant premises and sites in order to be able to take immediate action in the event of any changes in soil and groundwater quality. In addition, external experts regularly assess the soil and groundwater situation and carry out a risk assessment for our sites.

We actively practice groundwater protection for historical pollution. In 2019, equipment was set up to clean up historical oil damage at the Lünen site. At the Lünen plant, comprehensive preventative and protective measures are being taken to prevent future pollution of the soil. These include fully securing sensitive plant areas with moisture-resistant surfaces, using double-walled containers, and closely monitoring equipment with automated leak detection.

## Waste products are raw materials

GRI 306-1, 306-2

When it comes to processing recycling materials and other raw materials, waste management is one of the central pillars of industrial environmental protection. One special feature of the circular business model is that process residues are further utilized internally in metallurgical processes to the greatest extent possible and thus directly recycled. Processed raw materials and intermediate products are fed back into the economic cycle as completely as possible, and unavoidable waste is recycled or properly disposed of  [Recycling solutions, page 44](#).

We also use our environmental management systems to control waste materials. Since recycling metals is a growing part of our core business, we operate two certified “waste disposal companies” with our recycling center in Lünen and our subsidiary E.R.N. (both in Germany). We have the Lünen site audited annually to maintain the certificate in Lünen. We train the employees entrusted with the recycling process on a site-specific basis. As part of EMAS, our waste management, including our handling of hazardous waste, is regularly audited at all sites. This is how we ensure that possible risks to the environment and society are minimized.

We pass what we cannot process ourselves on to external service providers. Through contractual provisions, we ensure that this waste is also treated or disposed of professionally and in accordance with the law.

### Valuable raw materials

Handling and returning waste products to the cycle is for experts.





## The environmental profile of our products – small numbers, big impact

Copper, tin, silver, gold and other metals are the elements at the heart of digitalization. So for sustainable development, it is crucial that we find environmentally friendly ways of producing these essential metals. With our life cycle assessments (LCAs), we have again demonstrated that we are pioneers in sustainability. In addition to copper cathodes, which we have documented in our environmental profiles since 2013, we also compiled the first LCAs for gold, silver and tin as well as for wire rod and continuous cast shapes copper products in 2022.

The results reinforce what the “Tomorrow Metals by Aurubis” label stands for [🔗 Highlight Tomorrow Metals page 29](#): In 2021, the plants emitted a solid 35% percent less CO<sub>2</sub> eq per ton of copper cathodes than in 2013. At the same time, the footprint at the plants is more than 60% below the average for copper cathodes worldwide updated by the International Copper Association (ICA) in 2022. Read how we are achieving and further reducing this already small footprint starting on [🔗 Energy and climate, page 85](#)<sup>1</sup>. Our numbers have also gotten considerably smaller and continue to be much better than the average in other aspects of the analysis, such as hyperacidity and summer smog.

The numbers for all the other products analyzed also highlight Aurubis’ pioneering role. Aurubis AG is more than 50% below the global average with its silver products, for example, and 55% lower for gold. This is due in part to the high recycling content of 58% for silver and 27% for gold. The values for tin are even better at an impressive 76% below the global average from the International Tin Association.

<sup>1</sup> A different methodology from the life cycle analysis was used to calculate the emission values for Scope 1 to 3 in [🔗 Energy and climate, page 87](#). As such, the results of the two approaches to the CO<sub>2</sub> emissions are not comparable.

### CO<sub>2</sub> FOOTPRINT OF COPPER CATHODES

in kg CO<sub>2</sub> equivalent per t copper cathodes



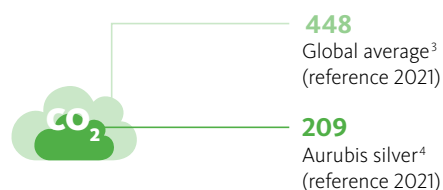
### CO<sub>2</sub> FOOTPRINT OF TIN

in kg CO<sub>2</sub> equivalent per kg tin



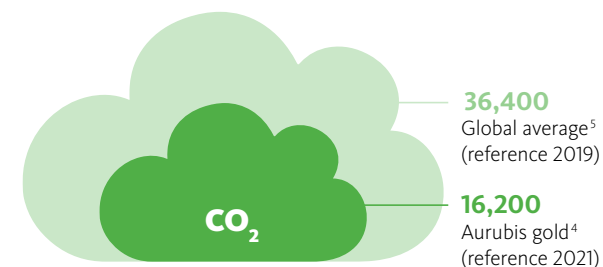
### CO<sub>2</sub> FOOTPRINT OF SILVER

in kg CO<sub>2</sub> equivalent per kg silver



### CO<sub>2</sub> FOOTPRINT OF GOLD

in kg CO<sub>2</sub> equivalent per kg gold



<sup>1</sup> International Tin Association, Life cycle assessment of average tin production.

<sup>2</sup> Aurubis with support from Sphera, report: Life Cycle Assessment of Tin, Oct. 2022; Results in keeping with the CML impact assessment method (CML 2001, update August 2016).

<sup>3</sup> Ecoinvent.

<sup>4</sup> Aurubis with support from Sphera, report: Life Cycle Assessment of Silver and Gold, Oct. 2022; Results according to the environmental footprint impact assessment method (EF 3.0).

<sup>5</sup> World Gold Council, Gold and climate change: Current and future impacts.

## Promoting biodiversity

GRI 304-2, 304-3, 304/3-3

The plant sites are often located in the immediate vicinity of arable and agricultural land or nature reserves. Therefore, protecting biodiversity and improving nature conservation at our production sites is included in our environmental targets. This is accomplished either with environmental impact assessments as part of permit procedures or through voluntary projects.

We maintain and expand the existing green areas at the plant sites as far as possible, for example. If the usable area on the factory premises has to be expanded, preference is given to areas with low biodiversity. We implement any officially required compensatory measures as a matter of course. Furthermore, the sites employ measures for wastewater treatment, reducing air emissions, and waste treatment to ensure that the habitats of animals and plants in the vicinity of our plants are protected. This is part of our environmental policy.

### A look at our biodiversity projects

Our sites are dedicated to conserving biodiversity with various site-specific projects. We would like to highlight a few examples:

– In the year under review, we completed a pilot project at the Hamburg site for the greening of facades on the plant premises to promote biodiversity and improve the ambient air. We also participate in the “UnternehmensNatur” (Corporate Nature) initiative. This cooperative project involving the Chamber of Commerce, the Association of North German Housing Companies, NABU and Hamburg's environmental authority supports companies in creating habitats for animals and plants by designing and maintaining their company grounds as naturally as possible.

- At the Pirdop site, we are restoring disused landfill areas on the premises.
- Aurubis AG Lünen's plant premises are adjacent to agricultural land and are just a few kilometers from several Natura 2000 nature conservation areas (In den Kämpen, Cappenberger Wälder, and Lippeaue). So it is particularly important to protect and promote biodiversity here, which is why we have commissioned extensive expert reports on possible impacts on biodiversity. Furthermore, we actively implement measures in smaller projects at the plant and in the neighborhood to promote and preserve biodiversity, such as through the diverse greening of unused areas around the plant (noise protection embankment, old landfills) and installing nesting sites on buildings and chimneys.

## Low noise makes good neighbors

In addition to nature conservation areas, some of our sites are close to residential areas. We need to keep Aurubis' noise emissions as low as possible so as not to disturb local residents and/or the animals living there.

Aurubis constructs and operates its production facilities with state-of-the-art noise reduction technology. We also take noise pollution into consideration in all new Aurubis projects. As we did in 2020 with the construction of the Cu-Port at the Belgian site in Olen [📍 Logistics, see page 90](#). The new ship-loading facility means that transport previously performed by trucks is now carried out in an energy-efficient and environmentally friendly manner by waterway – and eliminates the noise trucks make when transporting goods on the roads.

### Our noise emissions at a glance

Noise is an important benchmark in our regularly conducted risk analysis and assessment. Aurubis has compiled a noise register for the Hamburg site that shows the noise pollution over the entire area and records all relevant noise sources at the site. The responsible environmental protection agency has set noise emission limits for 20 emission points in the vicinity of the site. These restrictions are established in the permits. The impact on the noise situation in the neighborhood is evaluated for all facility modifications and any necessary measures are defined and implemented.

There were no noise complaints for our sites in 2021, [📍 see page 22 for information on our complaint mechanisms](#). This shows that we are on the right path with our noise reduction measures.



### Biodiversity

Greening of the buildings at the Hamburg plant.

## Environmental protection KPIs

GRI 303-4, 303-5, 304-1, 305-3, 305-7, 306-3, 306-4, 306-5

### Air emissions at all production sites: Nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and dust GRI 305-7

	Unit	2021	2020 <sup>1</sup>	2019
Dust	t	86	102	93
NO <sub>x</sub>	t	820	863	769
SO <sub>2</sub>	t	5,212	5,424	4,154
Specific dust emissions <sup>2</sup>	g/t of copper output	46.1	56.3	59.5
Specific dust emissions <sup>2</sup>	in g/t multimetal copper equivalent	41.9	52.1	51.6
Specific NO <sub>x</sub> emissions <sup>2</sup>	g/t of copper output	0.51	0.54	0.56
Specific SO <sub>2</sub> emissions <sup>3</sup>	g/t of copper output	5.1	5.4	4.6

↗ Progress on the “–15% specific dust emissions in g/t of multimetal copper equivalent (reference year 2018)” 2030 target is detailed in the “Nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and dust” table.

<sup>1</sup> Including the Beerse (Belgium) and Berango (Spain) sites as of 2020.

<sup>2</sup> Values based on copper and/or multimetal production, i.e., they include the Hamburg, Lünen, Pirdop, Olen, and, as of 2020, Beerse and Berango sites.

<sup>3</sup> Values based on primary copper production, i.e., they include the Hamburg and Pirdop sites.

### Water use and waste water at all production sites<sup>1</sup> GRI 305-3, 305-4, 305-5

	Unit	2021	2020 <sup>1</sup>	2019
<b>Total water withdrawal</b>	million m <sup>3</sup>	<b>77.9</b>	<b>78.3</b>	<b>71.0</b>
Water withdrawal by source:				
Surface water	million m <sup>3</sup>	74.2	74.6	67.7
Rainwater	million m <sup>3</sup>	0.6	0.6	0.3
Groundwater	million m <sup>3</sup>	0.7	0.6	0.5
Municipal water	million m <sup>3</sup>	2.1	2.2	2.1
Other <sup>2</sup>	million m <sup>3</sup>	0.4	0.3	0.3
<b>Total water discharge</b>	million m <sup>3</sup>	<b>70.3</b>	<b>71.9</b>	<b>66.1</b>
Water discharge by destination:				
Surface water	million m <sup>3</sup>	69.1	70.5	64.7
Municipal wastewater system	million m <sup>3</sup>	1.2	1.3	1.3
Wastewater to third parties	million m <sup>3</sup>	<0.1	<0.1	<0.1
<b>Water consumption</b>	million m <sup>3</sup>			
<b>Metal emissions to water<sup>3</sup></b>	g/t of copper output	<b>0.90</b>	<b>0.81</b>	<b>0.90</b>
<b>Metal emissions to water</b>	in g/t multimetal copper equivalent	<b>0.78</b>	<b>0.71</b>	<b>0.78</b>

→ Progress on the “–25% specific metal emissions to water in g/t of multimetal copper equivalent (reference year 2018)” 2030 target is detailed in the “Water and waste water” table.

<sup>1</sup> Including the Beerse (Belgium) and Berango (Spain) sites as of 2020.

<sup>2</sup> Other: distilled water, steam, etc.

<sup>3</sup> In this table, we refer to the copper production sites that discharge directly into water. In Lünen and Berango, wastewater is directed to the public sewer system after being treated on the plant premises. This is why these sites are not included.

## Waste KPIs GRI 306-3, 306-4, 306-5

	Unit	2021	2020	2019
<b>Hazardous waste</b>	t	<b>50,543</b>	<b>50,970</b>	<b>48,659</b>
Landfilling	t	36,653	36,473	36,429
Disposal (thermal)	t	1,254	370	123
Thermal utilization	t	445	441	391
Recycling	t	10,338	11,638	8,731
Storage	t	1,417	1,899	1,682
Internal utilization/recycling	t	436	149	1,303
<b>Non-hazardous waste</b>	t	<b>50,956</b>	<b>81,705</b>	<b>46,992</b>
Landfilling	t	13,410	17,491	1,739
Disposal (thermal)	t	583	624	682
Thermal utilization	t	950	435	590
Recycling	t	34,970	57,068	38,354
Storage	t	211	133	89
Internal utilization/recycling	t	832	5,955	5,537
<b>Construction waste</b>	t	<b>28,554</b>	<b>17,887</b>	<b>122,503</b>

## Closest conservation (copper production sites) GRI 304-1

	Name	Distance	Direction
Hamburg (DE)	Hamburger Unterelbe	200 – 600 m	Southeast
	Holzhafen	600 – 1,000 m	East
	Heuckenlock/Schweenssand	3,600 m	South
Pirdop (BG)	Tsentralen Balkan – bufer (bird conservation area)	approx. 1,700 m approx. 2,300 m	North East
	Sredna gora	approx. 2,300 m	South
Lünen (DE)	In den Kämpen, Im Mersche, and Langerner Hufeisen	< 2,000 m	Northeast
	Lippeaue	< 5,000 m	Northwest
	Lippe-Unna, Hamm, Soest, Warendorf	< 2,500 m	Northwest
Olen (BE)	Valleigebied van de Kleine Nete met haar brongebieden, moerassen en heiden	approx. 1,000 m	North
	De Vallei van de Kleine Nete Benedenstroom	approx. 1,000 m	North
	Het Olensbroek-Langendonk	approx. 1,000 m	North
Beerse (BE)	Eksterheide	approx. 500 m	West
	Duivelskuil	approx. 750 m	Southwest
	Pomp-Poelberg	approx. 1,000 m	Northwest
Berango (ES)	Ría de Mundaka-Cabo de Ogoño Marine Area	approx. 3,500 m	North
	Ría del Barbadun	approx. 10,000 m	Southwest

Efficient energy use, using energy from renewable sources

# Our promise for the climate: We are committed to the 1.5° target

GRI 2-4, 305-1, 305-2, 305-3, 302/3-3, 305/3-3

As an energy-intensive company, we assume responsibility for climate protection. The individual production steps in our value chain are energy intensive and are the main source of direct and indirect CO<sub>2</sub> emissions (Scope 1 and 2) in the Group.

Taking the entire value chain into consideration, however, the majority of the CO<sub>2</sub> emissions are generated in the upstream and downstream parts of our value-added chain (Scope 3), meaning they come from our suppliers, customers, and service providers. The majority of the Scope 3 emissions originate from the activities of the mining companies from which we source copper concentrates.

The products we manufacture contribute to reducing CO<sub>2</sub> emissions in business and society because they play a central role in the transmission of renewable energies, in applications that boost energy efficiency, and in electric vehicles: Electric cars contain nearly four times more copper than vehicles with conventional combustion engines, and building and connecting an offshore wind turbine to the power grid requires up to 30 tons of copper. This makes it all the more important for the overall footprint across all stages of the value chain that we actively strive for low-emission production and supply chains.



## Our energy and climate policies

Our Group-wide Corporate Energy & Climate Policy outlines how Aurubis secures and optimizes the energy supply, energy consumption, and preventing CO<sub>2</sub>. The policy contributes to achieving our strategic climate and energy targets. In this context, the policy also defines the roles and responsibilities of the sites and corporate departments. The head of the Corporate Energy & Climate Affairs department is responsible for developing and implementing the Group-wide energy strategy and reports directly to the Executive Board chairman. The corporate department also coordinates the advancement of the energy management and monitoring systems across the Group. Energy management systems (EMS) contribute


## Energy and climate

Ambition: We will be carbon-neutral well before 2050.

### Our 2030 targets

-  -50 % absolute Scope 1 and Scope 2 emissions (reference year 2018)
-  -24 % Scope 3 emissions per t of copper cathodes<sup>1</sup> (reference year 2018)

### 2022/23 interim target

-  ISO 50001 at all production sites

Our progress towards achieving our targets, and the concepts and measures we used to drive progress in the reporting year, are underlined in the text or margin column and indicated by a symbol.

<sup>1</sup> Refers to copper cathodes from internal production.



More information is available in the [Risk and Opportunity Report from the 2021/22 Annual Report](#) under [“Energy and climate,” page 136](#) as well as in our publicly available CDP Climate Change Questionnaire at [www.aurubis.com/en/responsibility/reporting-kpis-and-esg-ratings](http://www.aurubis.com/en/responsibility/reporting-kpis-and-esg-ratings)

to efficiently steering energy consumption and identifying energy savings potential. [Almost all our sites have already been certified in accordance with ISO 50001](#), clear proof that our energy management and monitoring systems meet high standards [Certifications by site, page 99](#).

### Promoting networking in the Group

The Corporate Energy & Climate Affairs department assists the sites in arriving at a unified understanding. The German Aurubis site energy management officers, for example, are members of an energy efficiency network that holds regular workshops. Topics covered in the workshops include completed and planned energy efficiency projects, results of external energy audits, the current legal situation, and aid programs or implementation assistance for new requirements.

### Our approach to climate-related risks

We determine climate-related opportunities and risks and related measures by linking our risk management with our energy and environmental strategy. When carrying out the risk and opportunity analysis, we consider pending legal requirements, technological developments, and compliance-related, reputational, and physical risks.

The CDP Questionnaire gathers and evaluates data and information about the companies' CO<sub>2</sub> emissions, climate risks, and reduction targets and strategies, assessing their responsibility in the supply chain in the process. In 2022, it was assessed as an A- in the Climate Change program for calendar year 2021. The questionnaire is voluntary.

### Our science-based targets

At the end of 2019, Aurubis joined the UN Global Compact Business Ambition for 1.5°C, thus expressing our pledge to work on science-based CO<sub>2</sub> reduction targets. Our involvement in the KlimaWirtschaft foundation (formerly Stiftung 2°), for which Aurubis has been a sponsor since 2021, underlines our commitment to climate protection.

The Science Based Targets initiative (SBTi) validated these Aurubis AG CO<sub>2</sub> reduction targets in June 2021, thus confirming that our targets are contributing to limiting global warming to 1.5°C in keeping with the Paris Climate Agreement. We have set out to reduce the absolute Scope 1 and Scope 2 emissions, meaning CO<sub>2</sub> emissions generated by burning fuels in internal facilities and those related to purchased energy, by 50% by 2030 compared to reference year 2018. We want to reduce Scope 3 emissions, which arise in the upstream and downstream stages of the value chain, by 24% per ton of copper cathodes during the same period as well. To ensure that our reduction targets are taken into account in projects, Aurubis also reviews the fulfillment of group-wide sustainability targets, which include CO<sub>2</sub> reduction targets, as part of the project assessment process.

### A variety of measures to reach the goal

We will continue implementing our detailed roadmap to achieve our climate goals. For Scope 1 and Scope 2 emissions, the roadmap includes technical measures, such as decarbonizing plant facilities by using green hydrogen instead of fossil fuels, electrifying our production, utilizing industrial waste heat from our production process, and expanding the purchase of green electricity. Approaches for reducing Scope 3 emissions include cooperation with participants in our supply chain and increased recycling activities, for example. We aspire to make our production carbon neutral well before 2050.

### Test series for blue ammonia

On October 21, 2022, the test series for the use of blue ammonia in the copper rod plant was symbolically commissioned at the Hamburg site in the presence of Dr. Robert Habeck, German Federal Minister for Economic Affairs and Climate Action, Dr. Sultan Ahmed Al Jaber, Minister for Industry and Advanced Technology and ADNOC CEO, Hamburg's First Mayor Dr. Peter Tschentscher, HHLA Executive Board Member Torben Seebold and Aurubis CEO Roland Harings.



## Our CO<sub>2</sub> footprint

As an energy-intensive company, our energy input significantly impacts the size of our CO<sub>2</sub> footprint. There is great potential for decarbonization here.

In calendar year 2021, our Group-wide direct and indirect CO<sub>2</sub> emissions (Scope 1 and 2) amounted to 1,605 million tons of CO<sub>2</sub>. The Scope 1 emissions consist of both fuel-related emissions and unavoidable process emissions, such as from the raw materials we source. Environmental protection already accounts for a large part of the electricity consumption (Scope 2) at Aurubis today. This includes operating filters with fans and other exhaust gas equipment, for instance.

However, the majority of our CO<sub>2</sub> emissions are generated by the upstream supply chain (Scope 3), in particular mining activities and the transport of our raw materials. Services provided by third parties accounts for another part. These Scope 3 emissions added up to 6,181 million tons of CO<sub>2</sub> in 2021. Our ambition is to continuously improve data quality and granularity for Scope 3 emissions, since these form an important basis for reducing these emissions.

### CO<sub>2</sub> emissions<sup>1</sup> GRI 305-1, 305-2, 305-3, 305-4

	Unit	2021 <sup>2</sup>	2020 <sup>3</sup>	2019
<b>Scope 1 and 2</b>	1,000 t	<b>1,605</b>	<b>1,563</b>	<b>1,444</b>
Scope 1 (emissions produced as a direct result of burning fuels in internal facilities)	1,000 t	559	540	503
Scope 2 (indirect emissions related to purchased energy, e.g., electricity)	1,000 t	1,047	1,023	941
Scope 1 emissions in t/t of copper output	t/t of copper output	0.29	0.31	0.32
Scope 2 emissions in t/t of copper output	t/t of copper output	0.51	0.62	0.65
Scope 1 and Scope 2 emissions in t/t of copper output	t/t of copper output	0.80	0.93	0.97
<b>Scope 3 (other indirect emissions)</b>	1,000 t	<b>6,181</b>	<b>5,940<sup>4</sup></b>	<b>6,219<sup>4</sup></b>

<sup>1</sup> Aurubis reports its CO<sub>2</sub> emissions using the "EU Emissions Trading System (EU ETS) methodology: The Monitoring and Reporting Regulation (MRR) – General Guidance for Installations" and "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)." In accordance with the emissions trading system, emissions from diesel vehicles are not included. However, they make up a very small percentage compared to other sources. Scope 2 emissions are reported here using the market-based method. In our reporting to the CDP, we disclose both "market" and "location-based" Scope 2 emissions.

<sup>2</sup> Scope 1 and Scope 2 emissions rose slightly compared to the previous year. This is largely due to the increase in productivity and the resulting increased energy consumption.

<sup>3</sup> The Beerse (Belgium) and Berango (Spain) sites have been included for the entire calendar year since 2020.

<sup>4</sup> The previous year's figure was adjusted due to the recalculation in order to establish comparability. More precise emission factors based on new average values from the copper industry and primary data from suppliers were used to calculate Scope 3 emissions for the 2021 calendar year. This higher level of detail resulted in a significant upward revision of Scope 3 emissions, particularly in the area of raw material purchasing. More precise data from Logistics has also been incorporated. We used the same basis to recalculate previous years since 2018 in order to ensure comparability of the data. We remain committed to our reduction targets and this increased transparency allows us to address and implement them considerably better.



Progress on the "-50% absolute Scope 1 and Scope 2 emissions (reference year 2018)" and "-24% Scope 3 emissions per t of copper cathodes (reference year 2018)" 2030 targets is detailed in the "CO<sub>2</sub> emissions" table

## Energy efficiency and decarbonization

Since we have implemented many energy efficiency measures in the past, realizing additional measures for increasing energy efficiency is challenging. There are technological limits to reducing energy consumption and emissions, which means that the improvements achieved inside the plants today are only marginal compared to previous years, despite equally high investments. For example, complex recycling raw materials with relatively low metal contents and complex copper concentrates require a higher specific energy input to be processed. As a result, we focus not only on further increasing efficiency but also on solutions that save energy and thus prevent CO<sub>2</sub> outside our plants.

### New technology for decarbonization

We are also looking ways to replace fossil fuels with renewable energy sources.

- These include the 10 MW power-to-steam facility, an electrode steam boiler. Assuming that 100 % of the power supply came from renewable energies, this plant alone could save up to 4,000 tons of CO<sub>2</sub> annually. When making investment decisions, we also consider and evaluate their influence on reducing greenhouse gas emissions.
- Green hydrogen is considered a key technology for decarbonizing industry. Aurubis sees the anode furnaces as the best option for using hydrogen efficiently and cost effectively. In 2021, a test series was carried out at the Hamburg plant. The procedural findings will lay the foundation for future activities with hydrogen. Hydrogen is used as a reducing agent in place of natural gas in the

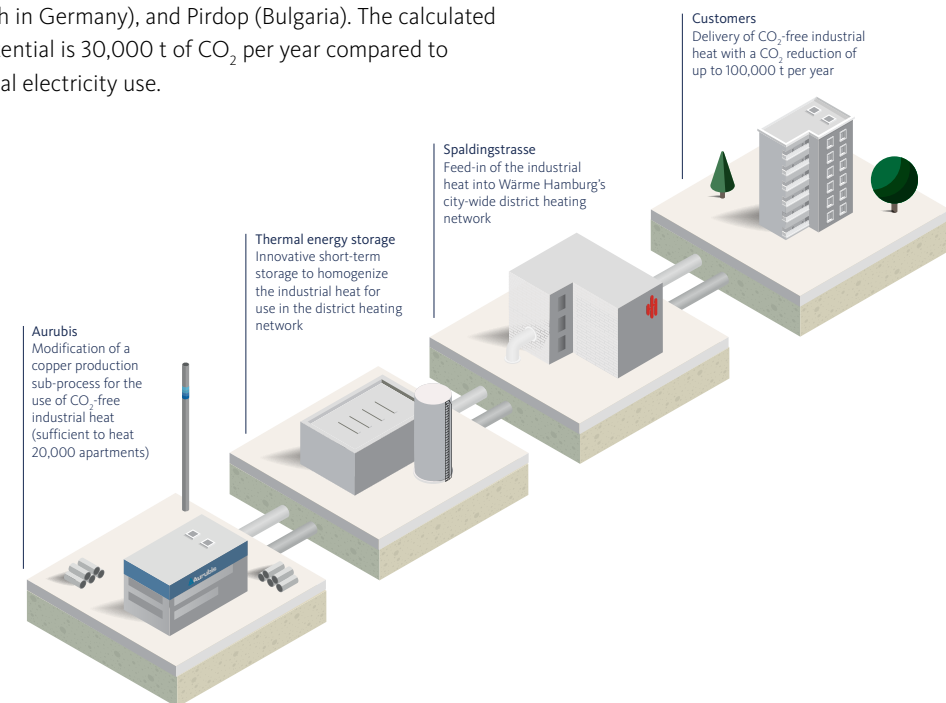
process step involving the anode furnaces. In the process, oxygen is removed from the copper melt in the anode copper using hydrogen. This forms water vapor rather than CO<sub>2</sub>, as when natural gas is used as a reducing agent. The savings potential for the Hamburg smelter alone amounts to 5,700 tons of CO<sub>2</sub> per year. The pilot project was awarded first prize in the 2021 Responsible Care competition held by the German Chemical Industry Association (VCI) at the national and state level.

- Along with hydrogen, ammonia can also contribute to the decarbonization of industry. Ammonia is not just an ideal hydrogen carrier; it can also be directly used as a fuel. Furthermore, ammonia is much easier to transport over longer distances than hydrogen. We started a pioneering test series on the use of blue ammonia in copper rod production at the Hamburg site. In the production of blue hydrogen, the resulting carbon dioxide is captured and stored underground using the carbon capture and storage (CCS) technique. The blue ammonia used for testing was supplied as part of the deepening hydrogen cooperation between Germany and the United Arab Emirates. If testing proves successful, we will look into the permanent use of blue ammonia on an industrial scale. This application would offer huge potential savings of 20,000 MWh of natural gas, which corresponds to 4,000 tons of CO<sub>2</sub> per year.

### Aurubis as a pioneer in renewable energies

The use of renewable energies on a large scale is a challenge for us, since generating them is still associated with energy supply fluctuations. Our production processes require a constant energy supply. We are therefore working on measures to make our energy uptake more flexible so that we can react to fluctuating energy availability and use more renewable energies.

We also cover a portion of our energy needs with electricity we generate internally using excess heat from our processes. We installed steam turbines to generate electricity in Hamburg, Lünen (both in Germany), and Pirdop (Bulgaria). The calculated savings potential is 30,000 t of CO<sub>2</sub> per year compared to conventional electricity use.



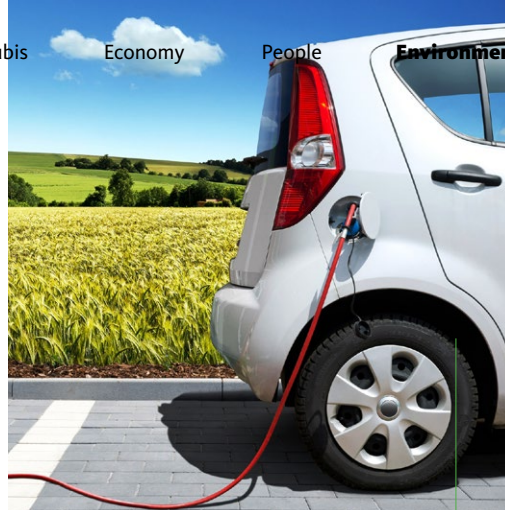
## Industrial heat for Hamburg – a look at our second project

Many of our processes generate industrial heat, which often goes unused. At Aurubis, we recognized the potential of our process heat from copper production for the energy transition early on, and have been supplying the HafenCity East with heating energy since 2018. We kicked off another project in this reporting year: By converting a sub-process in copper production at the Aurubis plant in Hamburg, from 2025 onward, up to 20,000 additional apartments will be heated each year in cooperation with the Hamburg city energy utility, reducing CO<sub>2</sub> emissions in the city by up to 100,000 metric tons. The planned heat supply represents the largest use of industrial heat in Germany.



At 12,270 tons of CO<sub>2</sub>, the actual savings during the reporting year were lower, mainly due to maintenance measures related to the steam turbines and their surrounding areas. On top of that, we use waste heat from the production processes to secure the heat and process steam supply at the three Pirdop, Lünen, and Hamburg sites, where demand is already covered by waste heat for the most part.

In order to further decarbonize energy consumption where electricity generated in-house is not sufficient, Aurubis Olen (Belgium) concluded a long-term electricity supply contract with the Dutch Eneco energy supply company. Over a ten-year period, 12 MW in connected wattage will be purchased from the Belgian SeaMade offshore wind farm. As of January 2023, 90% of the electricity generated externally for Aurubis Olen will thus come from renewable energies, making the site a green pioneer. We are reducing the site's CO<sub>2</sub> emissions by 42,000 tons per year with this contract.



### Optimizing electric vehicles with Aurubis metals

We can also influence decarbonization through our products themselves. We assume that the demand for copper and other non-ferrous metals will continue increasing due to global decarbonization efforts (via renewable energies and electric vehicles, for instance), the automation of processes, and ongoing digitalization.

So our research includes work on new copper strip products for connectors and high-performance electronics for use in electric vehicles. In the year under review, we developed solutions for electric vehicles that are more efficient and longer lasting than conventional products on the market. In addition, we are working on projects with leading industrial partners to drive forward new manufacturing processes for high-performance printed circuit boards. In the rod sector as well, we kicked off a project with which we plan to realize complex cross-sections and expand the alloy portfolio.

Over the past few years, with the BlueBrass brand, we developed a lead-free family of alloys for our preliminary products, such as copper rod and strip, which is used in the electrical, automotive, and renewable energies sectors. We are continuously working in this area to expand our product portfolio and optimize our products.



### Our new solar park in Pirdop (Bulgaria)

At the Aurubis site in Pirdop (Bulgaria), an internal 10 MW solar plant, "Aurubis-1," was constructed and began operations at the end of 2021. It is currently the largest solar plant for internal electricity production for a company in South-East Europe, comprising over 20,000 solar panels on a remediated and recultivated landfill of 100,000 m<sup>2</sup>. The Aurubis-1 solar park generated approximately 13,500 MWh of electricity in the reporting year for the Pirdop plant, significantly reducing external electricity consumption. The electricity generated is equivalent to the annual needs of about 4,200 households<sup>1</sup>. The site's goal is to cover 20% of its total energy needs from renewable sources by 2030. The expansion of the solar park was approved in December 2022. An investment of around € 12 million will increase output from 14 MW to 24 MW. The plant is scheduled to be commissioned as early as 2024.

This makes Aurubis Bulgaria the first industrial consumer in the country to invest in renewable energy production on this scale.

<sup>1</sup> For households with an average electricity consumption of 3,150 kWh p.a.

## Environmentally friendly logistics

For our business activities, transport extends from the arrival of our raw materials and the exchange of goods among our production sites to the delivery of finished products to our customers. Our objective is to optimize this transport traffic and to limit the environmental impacts it causes. 85% of copper concentrates are shipped to Europe by sea, because we source them from South America in particular. In Europe, they are further transported on inland vessels, by rail, or by truck. We source over 80% of our secondary raw materials directly from Europe.

### Water and rail before road

We select transport service providers according to set criteria. Although economic and timing aspects take priority, we favor the most environmentally friendly carrier whenever possible. Accordingly, we prefer waterways over rail – and road transport is the last resort. Site is also a deciding factor here. In Bulgaria, for example, a mine supplier is just a few kilometers away from the plant, so copper concentrates are transported by truck in round trips over short distances. Of the freights and transports we are responsible for, by volume about 50% take place by waterway, 15% by rail, and 35% by road.

The Cu-Port project at our Olen site is one example of how we are optimizing transports. The plant's advantageous location on the Bocholt Herentals Canal allows for delivery by water almost to the plant gates. The Cu-Port was built as part of a public-private partnership between Aurubis and De Vlaamse

Waterweg, the canal system operator. It comprises a container crane, together with a new quay wall and a connection to the existing railway network. As a result, the Cu-Port not only reduces costs and CO<sub>2</sub> emissions; it also shifts a significant proportion of transport from the road to the waterway. This eliminates a total of about 11,000 truck deliveries per year and 780 tons of CO<sub>2</sub>. Additionally this reduces traffic stress for people in the region, improving their quality of life.

In the reporting year, we began replacing the fleet of diesel forklifts in the Hamburg (Germany) and Berango (Spain) plants with electric forklifts to reduce emissions from interplant transport. This amounts to a potential savings of 335 t CO<sub>2</sub> over the course of a fiscal year.

### How we use technologies for optimization

Tracking software for our road transports was introduced in 2021 as well. It visualizes the CO<sub>2</sub> emissions of each trip, making it possible to directly measure and thus control CO<sub>2</sub> emissions, which will raise awareness of climate-friendly choices. This will make it possible to select forwarders not just based on price-performance, but also based on greenhouse gas emissions in the future. Our Aurubis Carbon Data Index describes the carbon footprint of transports, and shows that they are better than 95% of all shippers across the entire industry.

### Time-slot system

Transports are processed more quickly at Deutsche Gießdraht (Emmerich) with the help of the new digital time-slot system.

### Cu-Port project

at the Olen  
(Belgium) site



## Our employees go mobile

Aurubis is contributing to the transportation shift, and focusing on sustainability when it comes to employee mobility. In the reporting year, one of the largest interconnected charging parks in northern Germany was commissioned with 150 charging points. This means that all of our employees can charge their electric cars at our site, while encouraging those who have not yet made the switch to use an electric car.

The way a person chooses to commute to work is very individual and can contribute to satisfaction, health, and environmental protection. To promote environmentally friendly employee mobility, we revised the mobility and company vehicle fleet policy during 2021, adding measures to reduce CO<sub>2</sub> emissions in the company vehicle fleet and incentives for choosing low-emission vehicles. Other examples of our efforts in this area include the bicycle leasing options and subsidies for local public transport we offer employees in Germany.

The minimum distance policy introduced for flights also contributes to more environmentally friendly employee mobility.

### Biking to work

In addition to electric vehicles, we also support alternatives to conventional individual transportation: One is the JobRad (Job Bike) program our employees in Hamburg, Stolberg and Lünen have taken advantage of since 2021. The initiative is proving successful, and there were already 675 job bikes in use at the sites by the end of the reporting year in September 2022.

We also support options for combining travel by public transport and bike. In addition to subsidizing the ProfiTicket for Hamburg's public transport system, we also offer free access to lockable bike boxes at the two closest train and subway stations in Hamburg to improve public transport access to the plant. As part of our mobility plan, we offer the option of bike leasing, including e-bikes and speed pedelecs, at our Belgian sites. Employees with speed pedelecs can complete the mandatory safety training in sessions organized by the site.



### Cycling

Campaigns at the Aurubis sites encourage cycling



## Impact of climate change on us as an organization (TCFD)

### GRI 2-12, 2-13, 201-2

In addition to its impact on the climate, Aurubis also analyzes the effects of climate change on its own business activities. Furthermore, this is the first report based on the Task Force on Climate-related Financial Disclosure (TCFD) reporting standard, which enables comparable, consistent, clear and efficient reporting of climate change-related financial risks. This is how we are increasing the transparency of our sustainability reporting and showing our stakeholders that we can continue financially stable operations in the future through risk-oriented planning. We plan to further expand our reporting in the coming years.

### Governance and board oversight

The **Aurubis Executive Board** accounts for the overall strategy for the Aurubis group, and with it all climate-related projects and targets. It approves any investment budgets or individual project approvals linked to climate topics prior to their final submission for approval by the Supervisory Board.

Each quarter, the Executive Board reviews key financial and operating figures in detail and scrutinizes critical developments and issues. Sustainability and climate issues are included in this reporting. In addition, the Executive Board reviews quarterly risk reporting and the annual Strategic Risk Portfolio, both of which are presented by Corporate Risk Management. As part of this process, climate-related risks and corresponding risk mitigating measures are regularly discussed in detail. Based on this risk reporting, the Executive Board might initiate additional, appropriate risk mitigation measures or projects.

On top of that, the CEO and CFO take part in the weekly Group Financial Meeting (GFM) together with managers from the Finance and Energy & Climate Affairs corporate functions, among others. The purpose of the GFM includes monitoring price and cost driver evolution and the associated risks and opportunities, which includes climate-related risk drivers. Based on the analysis, the GFM decides on hedge positions where appropriate.

Furthermore, **Aurubis Group Sustainability** monitors and steers – together with the corresponding and responsible functions – projects, activities and their development with extensive sustainability KPIs including climate-related KPI, and reports directly to the CEO. The aim here is to proactively tackle challenges and initiate suitable countermeasures early on if necessary. Group Sustainability is also the driving force behind the drafting of the decarbonization roadmap and in realizing the decarbonization ideas contained in it.

The **Supervisory Board** deals with climate-related issues and decisions in two major fields of action: Approval of material investment decisions, which also include climate-related issues, and consulting on the company's strategy, which includes climate-related topics and projects. The main duties of the **Audit Committee of the Supervisory Board** include overseeing the accounting process, sustainability, and risk management. In its quarterly meetings, it follows a standard agenda that includes sustainability and risk management, and thus also climate-related risks.

### Strategy

At Aurubis, protecting the climate is an established part of our company strategy. In addition to our various and ambitious decarbonization activities, Aurubis has also analyzed the risks brought about by climate change. We will investigate and use the opportunities associated with climate change in greater detail in the coming years:

We see substantial chances and opportunities for Aurubis in an environment that is close to achieving the targets of the Paris Climate Agreement (→ [1.5°C scenario \(RCP 2.6\)](#)<sup>1</sup>) in particular. We especially see opportunities in connection with a successful energy transition, which will result in a sharp increase in demand for our metals. We have positioned ourselves to meet this increase with a wide variety of strategic projects, and are focusing on expanding our recycling activities in particular. These projects include investing in our new recycling plant in Richmond, Georgia (US) (→ [Recycling solutions, page 45](#)). With this strategic step onto the North American market, we want to realize additional earnings potential for Aurubis as well as actively conserve resources and protect the climate by returning high-grade metals from complex recycling materials back to the economic cycle.

Our Industrial Heat project is another important contribution (→ [page 88](#)). In Hamburg today, district heating is still primarily powered by fossil fuels. By making industrial heat available for district heat for around 20,000 Hamburg households as of 2024/25, we are contributing to saving up to 100,000 tons of

<sup>1</sup> The Representative Concentration Pathways scenarios (RCPs) defined by freelance scientists maps different concentration pathways based on greenhouse gas emissions and radiative forcing values. In the RCP 2.6 scenario, for example, CO<sub>2</sub> emissions will drop to zero by 2080 and temperature rise will stay below the 2°C limit by the year 2100. Ocean warming will also increase by just 1°C relative to 1986–2005. In contrast, the RCP 8.5 scenario projects a temperature increase of about 4.8°C by 2100 and ocean warming of 4°C relative to 1986–2005.

CO<sub>2</sub> (“avoided emissions”) per year. This enables us to further reduce our CO<sub>2</sub> footprint according to the life cycle assessment in accordance with ISO 14040, which is already more than 60% lower than the global average for copper cathodes today. In addition, we remain committed to our sustainability targets of reducing our CO<sub>2</sub> emissions (Scope 1 and 2) by 50% by 2030, and of carbon-neutral production well before 2050. We see another opportunity for “avoided emissions” in our integrated smelter network: In copper production, gold, silver, platinum, palladium, additional precious metals, and building materials such as iron silicate stone, are also extracted along with copper. Produced at other companies using alternative production processes, these additional metals would cause significantly higher CO<sub>2</sub> emissions. Based on an external study referencing published emission factors, the conventional production of the above-mentioned metals and products extracted at Aurubis would lead to an additional 3.5 million t of CO<sub>2</sub> emissions each year. These additional emissions are not generated at Aurubis thanks to our energy-efficient processes, based in part on the advantages of the smelter network. This means that metals we produce, including copper, have a very small CO<sub>2</sub> footprint.

For climate-related risks, we distinguish between physical and transition risks. While transition risks result from the transition to a lower-carbon economy, physical risks represent the tangible effects of climate change on an organization. Political, regulatory, and technological market changes can pose transition risks during the transition to a lower-carbon economy

and negatively impact an organization's reputation. Physical risks, on the other hand, can be event driven (acute) or caused by longer-term shifts in climate patterns (chronic), endangering an organization and damaging its assets or the supply chain.

The table on the right shows transition and physical risks for our business activities as well as physical risks for our suppliers. We break down the individual risk categories into different risk types, which we use to describe the risks in more detail. We also categorize them chronologically and allocate them to the segment or location affected. Affected Aurubis sites are allocated to the city in which they are located. We evaluate suppliers based on the countries in which they are located. For chronological categorization, we distinguish between a short-term time horizon of one to three years, a medium-term time horizon of four to ten years, and a long-term time horizon of eleven to 30 years.

Furthermore, we subdivide physical risks in the table to the right into acute extreme weather, and chronic climate change. The assessment of these risk types forms the basis for the climate risk and scenario analysis detailed below. The results of the climate risk analysis (acute extreme weather) are shown on [page 94](#). We looked at the Aurubis sites and the sites of our most important suppliers in the climate risk analysis. We illustrate chronic climate change as an element in our scenario analysis on [page 95](#). Here we analyzed the climate risks for the 17 Aurubis sites.

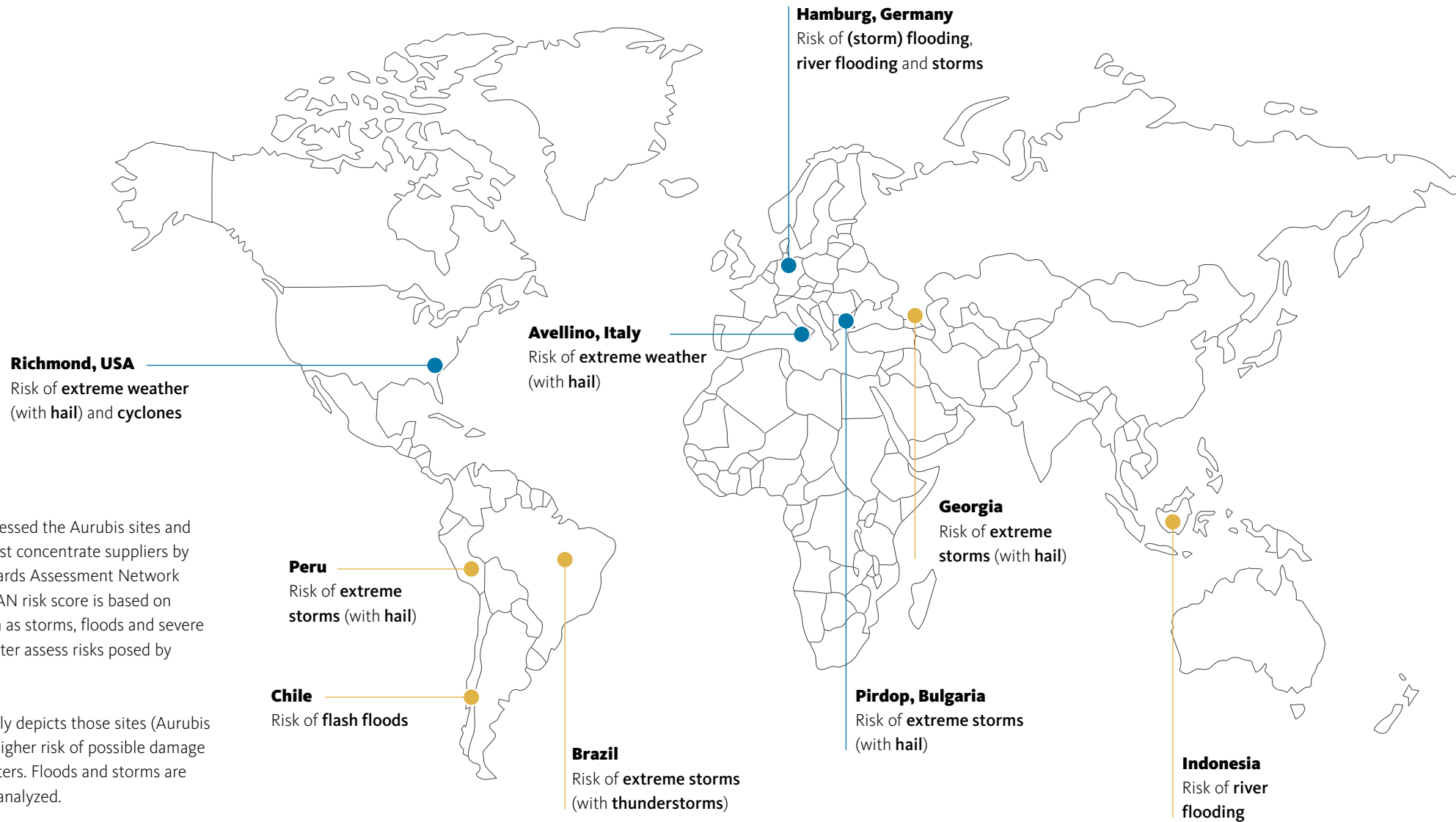
### Transition and physical risks for our key sites and suppliers

Risk category	Risk type	Description	Chronological classification	Segment/city/region affected
Transition risks (Aurubis)	Technological risk	Arises from the conversion of all carbon-emitting production processes to exclusively carbon-neutral processes including CO <sub>2</sub> storage/utilization for raw material-related CO <sub>2</sub> emissions by 2045 e.g., risk of high investment and operating costs, such as with the use of hydrogen <a href="#">page 88</a>	Medium, long term	Custom Smelting & Products Multimetal Recycling
	Policy risk	Results from global CO <sub>2</sub> tax regulations, the European Carbon Border Adjustment Mechanism (CBAM), or other political factors leading to further increases in energy prices. Also linked to the to the still-insufficient recognition of CO <sub>2</sub> -free industrial heat supplied for district heating within the framework of the EU-ETS (EU Emissions Trading System) or alternative compensation system.	Short, medium term	Custom Smelting & Products Multimetal Recycling
	Reputational and market risk	Arises from a failure to achieve decarbonization targets (e.g. negative impact on sales campaigns for Aurubis copper products).	Medium term	Custom Smelting & Products
Physical risks (Aurubis)	Acute extreme weather	Flooding and river flooding, risk of an (extra)tropical cyclone, a tornado, hailstorms, and thunderstorms occurring	Short, medium, long term	Hamburg (DE), Richmond (US), Pirdop (BG), Avellino (IT)
	Chronic climate change	Change in precipitation patterns, temperature rise, sea level rise	Long term	Hamburg (DE) Pirdop (BG)
Physical risks (suppliers)	Acute extreme weather	Flooding and river flooding, risk of an (extra)tropical cyclone, a tornado, hailstorms, and thunderstorms occurring	Short, medium, long term	Brazil, Bulgaria, Chile, Indonesia Georgia, Peru
	Chronic climate change	Change in precipitation patterns, temperature rise, sea level rise	Long term	Brazil, Bulgaria, Chile, Peru

Source: Quantis, contracted by Aurubis, study: Avoided Emission Potentials for Copper By-Products, 2021. The avoided emissions amount refers to calendar year 2020.

## Climate risk analysis for Aurubis sites and suppliers

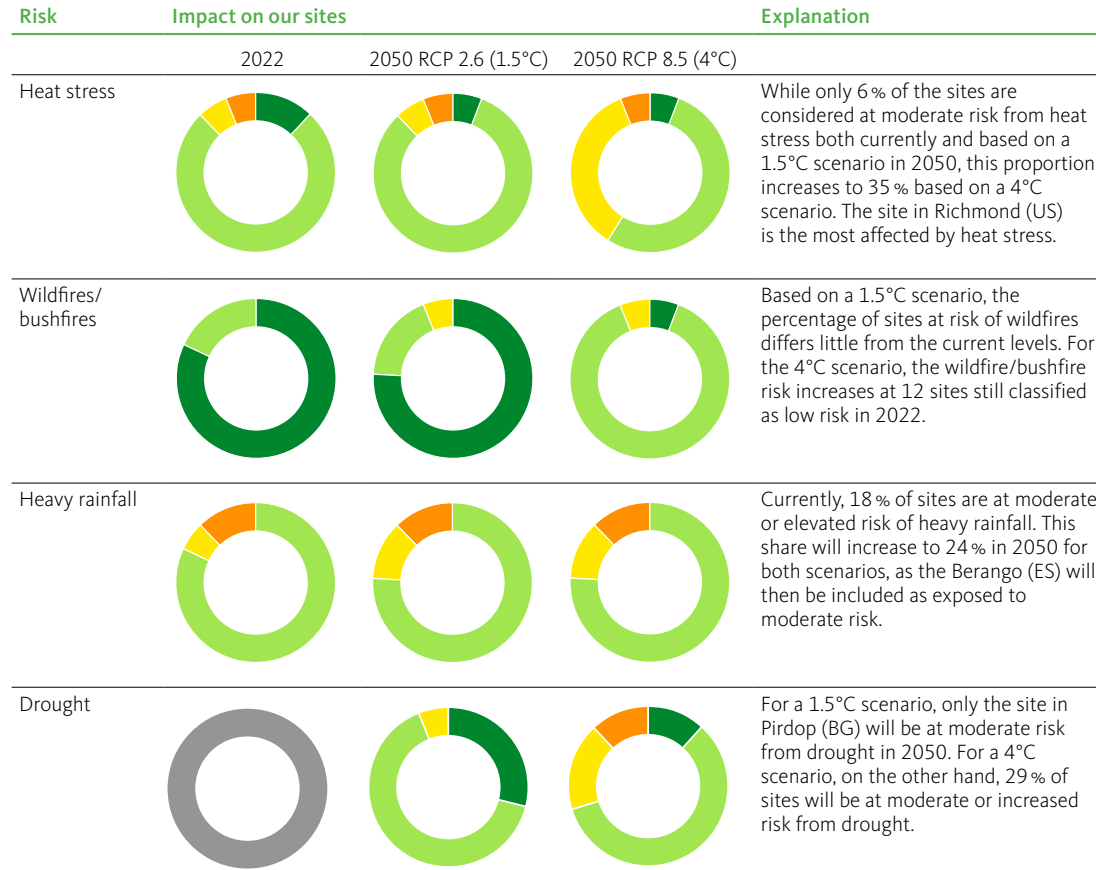
- Aurubis sites
- Suppliers



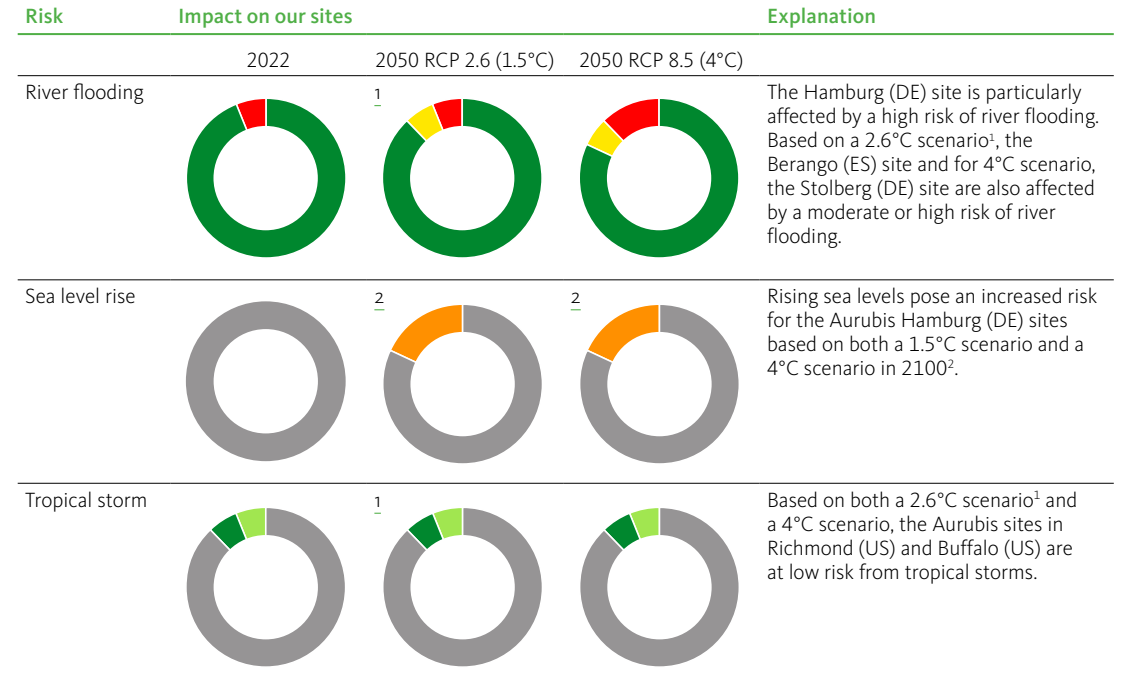
In the climate risk analysis, we assessed the Aurubis sites and the location countries of our largest concentrate suppliers by volume based on the Natural Hazards Assessment Network (NATHAN) risk scores. The NATHAN risk score is based on data for various climate risks, such as storms, floods and severe weather events, and is used to better assess risks posed by climate-related natural disasters.

For reasons of clarity, the chart only depicts those sites (Aurubis and suppliers) with a medium or higher risk of possible damage from climate-related natural disasters. Floods and storms are the main risks posed for the sites analyzed.

## Scenario analysis for the development of physical risks at our sites



no danger
  very low
  low
  moderate
  high
  very high



<sup>1</sup> RCP 4.5 (2.6°C scenario) used because no RCP 2.6 (1.5°C scenario) is available.

<sup>2</sup> Mapped for 2100 since no data is available for 2050.

Scenario analysis, shown in simplified form on [page 95](#), looks at the development of physical risks for different points in time and for the different scenarios defined by the Intergovernmental Panel on Climate Change (IPCC), the Representative Concentration Pathways (RCPs). We specifically considered two scenarios: a 1.5°C scenario (RCP 2.6) and a 4°C scenario (RCP 8.5), both for the year 2050. The 1.5°C scenario requires a reduction of emissions to net zero, in line with the Paris Climate Agreement, by 2050, i.e., ambitious reduction efforts. In contrast, the 4°C scenario assumes no major efforts are taken to slow or stop the progression of climate change.

In the coming years, we plan to extend both climate risk and scenario analysis to all suppliers, and additionally report information on the impact of opportunities and risks on the organization's strategy and financial planning. This information will relate to current transition and physical risks, but also to their development based on various scenarios at specific points in time. Our aim is to continuously improve our TCFD reporting in order to fulfill our responsibility towards our stakeholders and to allow us to optimally prepare for future developments.

### Risk management – managing climate risks

For a description of the risk management system, please refer to the Risk Report in the [2021/22 Annual Report, pages 116-117](#). The system described there includes climate-related risks and how we manage these risks as integral elements. We report on this in [2021/22 Annual Report, pages 116-117](#).

Aurubis also carries out an annual process for creating a strategic risk portfolio with a time horizon of up to 30 years. This strategic risk portfolio also includes climate-related risks and measures already initiated or still in planning, and is discussed in detail with the Executive Board and the Audit Committee.

This TCFD report significantly expands the mapping of physical climate risks to date, as it is the first analysis of our sites (and key suppliers) with respect to the warming scenarios described above. We will take the information gained from this process into account in our long-term investment planning.

### KPIs and targets

In addition to the risks and opportunities of climate change, we also want to assess our impact on climate change, so we evaluate our Scope 1, Scope 2 and Scope 3 greenhouse gas emissions [page 87](#). We have also defined environmental targets and indicators to help us measure our progress and initiate appropriate improvement measures. Here we distinguish between energy, climate, and environmental protection targets [sustainability targets, page 5](#).

In the coming years, we will further hone our targets and key performance indicators based on the climate risk analysis described here, and integrate the results into our planning process.



### Green energy

Our energy supply at the Olen site is growing greener thanks to wind power and long-term green energy contracts.



## Energy and climate KPIs

### Energy GRI 302-1, 301-2, 302-3

	Unit	2021	2020 <sup>1</sup>	2019
<b>Total energy consumption within the organization</b>	million MWh	<b>3.79</b>	<b>3.72</b>	<b>3.47</b>
<b>Total energy consumption from renewable energies</b>	million MWh	<b>0.13</b>	<b>0.15</b>	<b>0.15</b>
<b>Total primary energy consumption<sup>2</sup></b>	million MWh	<b>1.85</b>	<b>1.72</b>	<b>1.69</b>
Total fuel consumption from non-renewable sources	million MWh	1.85	1.71	1.68
Natural gas	million MWh	1.31	1.21	1.17
Heating oil	million MWh	0.00	0.00	0.01
Liquefied petroleum gas (LPG)	million MWh	0.03	0.04	0.04
Diesel	million MWh	0.05	0.05	0.06
Fuel oil	million MWh	0.32	0.27	0.30
Coke	million MWh	0.11	0.11	0.08
Butane gas	million MWh	0.03	0.03	0.03
Total fuel consumption from renewable sources	million MWh	0.002	0.002	0.002
Wood and wood waste	million MWh	0.00	0.00	-
Landfill gas (LFG)	million MWh	0.002	0.002	0.002
<b>Total secondary energy consumption<sup>3</sup></b>	million MWh	<b>1.94</b>	<b>2.00</b>	<b>1.78</b>
<b>Total electricity consumption</b>	million MWh	<b>1.87</b>	<b>1.93</b>	<b>1.74</b>
Total bought-in electricity	million MWh	1.75	1.90	1.72
from non-renewable sources	million MWh	1.62	1.79	1.59
from renewable sources	million MWh	0.13	0.11	0.13
Consumption of internally generated renewable energies	million MWh	0.05	0.03	0.02
Consumption of bought-in steam	million MWh	0.00	0.05	0.04
<b>Energy intensity</b>	MWh/t	<b>1.94</b>	<b>2.0</b>	<b>2.1</b>

<sup>1</sup> The Beerse (Belgium) and Berango (Spain) sites have been included for the entire calendar year since 2020.

<sup>2</sup> Including energy consumption for on-site vehicle traffic.

<sup>3</sup> Including electricity for oxygen generation.

<sup>4</sup> Values based on copper production, i.e., at the Hamburg, Lünen, Pirdop, Olen, and (starting 2020) Beerse and Berango sites.

### Reduction in energy consumption through individual projects GRI 302-4

	Unit	2021/22
<b>Total</b>	MWh	<b>12,441</b>
Replacement of the air-gas heat exchanger to preheat the flue gas, Avellino (IT)	MWh	6,881
Optimized use of nitrogen, Hamburg (DE)	MWh	2,033
Reduction of the 6 kV network losses, Pirdop (BG)	MWh	788
Heat recovery system, Berango (ES)	MWh	644
Heat recovery from flue gases	MWh	328

### Reduction in CO<sub>2</sub> emissions through individual projects GRI 305-5

	Unit	2021/22
<b>Total</b>	t	<b>2,881</b>
Replacement of the air-gas heat exchanger to preheat the flue gas, Avellino (IT)	t	1,256
Reduction of the 6 kV network losses, Pirdop (BG)	t	387
Optimized use of nitrogen, Hamburg (DE)	t	370
Minimizing compressed air leakage in the chemical facilities, Hamburg (DE)	t	113
Frequency regulation of Delmet exhaust blower, Olen (BE)	t	75

### Scope 3 emissions by activity GRI 305-3

	Unit	2021
Purchased goods and services	%	76
Downstream transport and delivery	%	11
Upstream transport and delivery	%	7
Fuels and energy-related activities	%	4
Investment goods	%	2
Employees' commutes	%	<1
Generated waste	%	<1
Business travel	%	<1

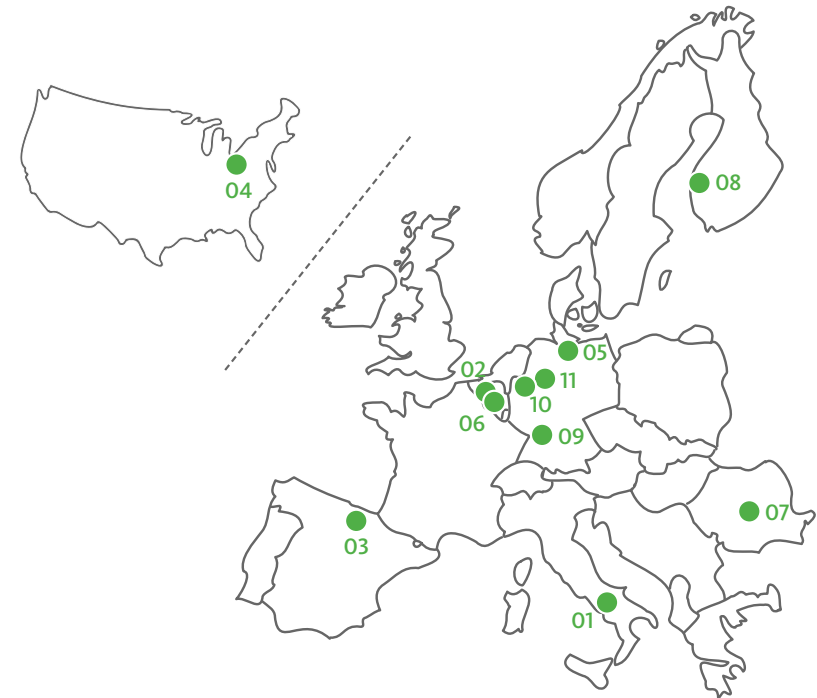
## Decarbonization projects

Our path to carbon-neutrality is diverse. Some examples of the technologies used at the respective sites are detailed in the table below.

Site	Technology	In operation since:	CO <sub>2</sub> reduction/year (in tons)	Additional CO <sub>2</sub> reduction potential (in tons)
<b>01</b> Avellino, IT		2021	1,250	
<b>02</b> Beerse, BE		Potential	-	2,000
<b>03</b> Berango, ES		2021	2,000	
		2021	200	
<b>04</b> Buffalo, US		2000	140,000	
<b>05</b> Hamburg, DE		2019	4,000	14,000 <sup>1</sup>
		2018	20,000	100,000 (as of 2024)
		2024	5,700	>20,000
<b>06</b> Olen, BE		2016	6,000	
		2023	42,000	
<b>07</b> Pirdop, BG		2021	6,600	22,000
		Potential	-	30,000
		Potential	-	10,000

Site	Technology	In operation since:	CO <sub>2</sub> reduction/year (in tons)	Additional CO <sub>2</sub> reduction potential (in tons)
<b>08</b> Pori, FI		2018 – 2020	565	
<b>09</b> Stolberg, DE		2016 – 2021	>500 (multiple measures)	
		2017 – 2018	1,225 (multiple measures)	
<b>05</b> Hamburg, DE				
<b>09</b> Stolberg, DE				
<b>10</b> Emmerich, DE				
<b>11</b> Lünen, DE		2022	184,000	
<b>07</b> Pirdop, BG				
<b>05</b> Hamburg, DE		2014 and 2016*	14,000	16,000
<b>10</b> Emmerich, DE				
<b>06</b> Olen, BE				
<b>01</b> Avellino, IT				100,000

<sup>1</sup> Replacing the gas-powered auxiliary boiler for steam production.



- Internal hydrogen production
- Energy supply from renewable energies
- Energy efficiency optimization measures
- Industrial heat for district heat
- Solar plant

- Waste heat use for internal processes
- Waste heat use for internal power generation
- Power-to-steam (integrated energy): Steam generation using surplus renewable energies
- Wind turbines
- Alternative smelting processes

# Appendix

## Certifications by site

Site	The Copper Mark	EMAS	ISO 14001	ISO 50001	ISO 9001	IATF 16949	EfbV	ISO 45001
<b>Production sites</b>								
Hamburg, headquarters (DE)	√	√	√	√	√			√
Lünen (DE) <sup>1</sup>	√	√	√	√	√		√	√
Olen (BE)			√	√	√			√
Pirdop (BG)	√		√	√	√			√
Avellino (IT)		√	√	√	√			√
Beerse (BE)			√	√	√			√
Berango (ES)			√	√	√			√
Buffalo (US)			√	√ <sup>2</sup>	√	√		√
Emmerich, Deutsche Giessdraht (DE)			√	√	√			√
Hamburg, E.R.N. (DE)			√	√	√		√	√
Hamburg, Peute Baustoff (DE)			√	√	√ <sup>3</sup>			√
Pori (FI)			√	√	√			√
Röthenbach, RETORTE (DE)			√	√ <sup>4</sup>	√			√
Stolberg (DE)			√	√	√	√		√
Stolberg, Schwermetall Halbzeugwerk (DE) <sup>5</sup>		√	√	√	√			√

<sup>1</sup> The plant is also certified through WEEELABEX in accordance with the European series of standards EN 50625. The certificate confirms that waste electrical and electronic devices are efficiently treated and disposed of while minimizing environmental impact.

<sup>2</sup> Since October 2022.

<sup>3</sup> For the sale of iron silicate granules used to produce blasting abrasives.

<sup>4</sup> Since December 2022.

<sup>5</sup> Not majority owned by Aurubis (50% stake).

Explanation:

EMAS: System of specifications for environmental management systems and environmental audits

ISO 14001: Standard for environmental management systems

ISO 50001: Standard for energy management systems

ISO 9001: Standard for quality management systems

IATF 16949: Standard for quality management systems in the automotive industry, based on ISO 9001

EfbV: Ordinance on Specialized Waste Management Companies (German certificate)

ISO 45001: Standard for occupational safety management systems

# GRI Content Index

Statement of use	Aurubis AG has reported in accordance with the GRI Standards for the October 1, 2021 to September 30, 2022 reporting period.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	none

GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>General disclosures</b>						
<b>GRI 2: General disclosures 2021</b>						
2-1	Organizational details	<a href="#">Company profile, page 9</a> <a href="#">Group structure, page 13</a>				
2-2	Entities included in the organization's sustainability reporting	<a href="#">About this report, page 7</a> <a href="#">Site and employee KPIs, page 14</a>				
2-3	Reporting period, frequency and contact point	<a href="#">About this report, page 7</a> <a href="#">Imprint, page 111</a>				
2-4	Restatements of information	<a href="#">Low noise makes good neighbors, page 82</a> <a href="#">Our promise for the climate: We are committed to the 1.5° target, page 85</a>				
2-5	External assurance	<a href="#">About this report, page 7</a>				10
2-6	Activities, value chain and other business relationships	<a href="#">Taking responsibility in the supply chain, page 39</a> <a href="#">Future multimetal company profile, page 9</a> <a href="#">Closing cycles, page 44</a>				
2-7	Employees	<a href="#">Attractive jobs KPIs, page 58</a>				
2-8	Workers who are not employees	<a href="#">Attractive jobs KPIs, page 58</a>				
2-9	Governance structure and composition	<a href="#">Our organizational structure: Aurubis sustainability management, page 19</a> <a href="#">2021/22 Annual Report, pages 19, 22</a>				1, 7, 10
2-10	Nomination and selection of the highest governance body	<a href="#">Our approach to good corporate governance, page 30</a> <a href="#">2021/22 Annual Report, page 19</a>				
2-11	Chair of the highest governance body	<a href="#">2021/22 Annual Report, page 18</a>				
2-12	Role of the highest governance body in overseeing the management of impacts	<a href="#">Our organizational structure: Aurubis sustainability management, page 19</a> <a href="#">In dialogue with our stakeholders, page 22</a> <a href="#">Impact of climate change on us as an organization, page 92</a> <a href="#">2021/22 Annual Report, pages 9, 12, 19</a>				1, 7, 10
2-13	Delegation of responsibility for managing impacts	<a href="#">Our organizational structure: Aurubis sustainability management, page 19</a> <a href="#">Impact of climate change on us as an organization, page 92</a> <a href="#">2021/22 Annual Report, page 58</a>				1, 7, 10

			Omission			
GRI standard	Disclosure	Reference	Requirement(s) omitted	Reason	Explanation	UNGC
2-14	Role of the highest governance body in sustainability reporting	<a href="#">Our organizational structure: Aurubis sustainability management, page 19</a>				1, 7
2-15	Conflicts of interest	<a href="#">2021/22 Annual Report, pages 13, 18, 151</a>				
2-16	Communication of critical concerns	<a href="#">Our approach to good corporate governance, page 30</a> <a href="#">Respecting human rights, page 36</a> <a href="#">2021/22 Annual Report, page 28</a>				
2-17	Collective knowledge of the highest governance body	<a href="#">Our organizational structure: Aurubis sustainability management, page 19</a> <a href="#">2021/22 Annual Report, page 13</a>				
2-18	Evaluation of the performance of the highest governance body	<a href="#">Our approach to good corporate governance, page 30</a>				
2-19	Remuneration policies	<a href="#">Our approach to good corporate governance, page 30</a> <a href="#">Secure data, secure infrastructure, page 35</a>				1, 7, 10
2-20	Process to determine remuneration	<a href="#">Our approach to good corporate governance, page 30</a>				
2-21	Annual total compensation ratio	<a href="#">We are committed to the greatest possible transparency and report the compensation for the members of our Executive Board and Supervisory Board in the 2021/22 Annual Report, starting on page 30</a>	No information on the ratio to the median compensation for all other individuals	Information not available/incomplete	No comparison is provided to the median compensation for the rest of the workforce for reasons of confidentiality.	
2-22	Statement on sustainable development strategy	<a href="#">Enabling Tomorrow, page 3</a>				1, 7
2-23	Policy commitments	<a href="#">In dialogue with our stakeholders, page 22</a> <a href="#">Our organizational structure: Aurubis sustainability management, page 19</a> <a href="#">Our approach to good corporate governance, page 30</a> <a href="#">Secure data, secure infrastructure, page 35</a> <a href="#">Respecting human rights, page 36</a>				1, 2, 3, 4, 6, 7, 8, 10
2-24	Embedding policy commitments	<a href="#">Our approach to good corporate governance, page 30</a> <a href="#">Our organizational structure: Aurubis sustainability management, page 19</a>				
2-25	Process to remediate negative impacts	<a href="#">Compliance with laws and regulations, page 33</a>	2-25 d + e	Not applicable	Our whistleblower hotline meets the market standard. Involving potential users, such as by eliciting user feedback, therefore promises no further benefit.	
2-26	Mechanisms for seeking advice and raising concerns	<a href="#">Our approach to good corporate governance, page 30</a> <a href="#">Secure data, secure infrastructure, page 35</a> <a href="#">Compliance with laws and regulations, page 33</a>				1, 3, 7, 10
2-27	Compliance with laws and regulations	<a href="#">Our approach to good corporate governance, page 30</a> <a href="#">Secure data, secure infrastructure, page 35</a> <a href="#">Compliance with laws and regulations, page 33</a>				
2-28	Membership associations	<a href="#">Work in associations and political lobbying, page 27</a>				
2-29	Approach to stakeholder engagement	<a href="#">In dialogue with our stakeholders, page 22</a> <a href="#">Taking responsibility in the supply chain, page 39</a>				
2-30	Collective bargaining agreements	<a href="#">A job with a future, page 60</a> <a href="#">Attractive compensation as well, page 57</a>				3

GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>Material topics</b>						
<b>GRI 3: Material Topics 2021</b>						
3-1	Process to determine material topics	<a href="#">Charting the right path: Sustainability as part of our company strategy, page 16</a> <a href="#">About this report, page 7</a>				1, 2, 3, 4, 5, 6, 7, 8, 9, 10
3-2	List of material topics	<a href="#">Charting the right path: Sustainability as part of our company strategy, page 16</a> <a href="#">About this report, page 7</a>				1, 2
<b>Economic performance</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Charting the right path: Sustainability as part of our company strategy, page 16</a> <a href="#">Closing cycles, page 44</a>				
<b>GRI 201: Economic Performance 2016</b>						
201-1	Direct economic value generated and distributed	<a href="#">2021/22 Annual Report, page 130</a>				7, 8
201-2	Financial implications and other risks and opportunities due to climate change	<a href="#">Impact of climate change on us as an organization, page 92</a>				7, 8, 9
201-3	Defined benefit plan obligations and other retirement plans	<a href="#">2021/22 Annual Report, page 171</a>				
<b>Indirect economic impacts</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Socially engaged, page 70</a> <a href="#">A job with a future, page 60</a> <a href="#">Safe, quality products, page 48</a> <a href="#">Multimetal future: Company profile, page 9</a> <a href="#">Charting the right path: Sustainability as part of our company strategy, page 16</a> <a href="#">Our approach to good corporate governance, page 30</a>				7
<b>GRI 203: Indirect Economic Impacts 2016</b>						
203-1	Infrastructure investments and services supported	<a href="#">Socially engaged, page 70</a>				
203-2	Significant indirect economic impacts	<a href="#">A job with a future, page 60</a> <a href="#">Multimetal future: Company profile, page 9</a> <a href="#">Charting the right path: Sustainability as part of our company strategy, page 16</a>				

GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>Anti-corruption</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Paying taxes responsibly, page 32</a> <a href="#">Compliance with laws and regulations, page 33</a> <a href="#">Secure data, secure infrastructure, page 35</a>				10
<b>GRI 205: Anti-corruption 2016</b>						
205-1	Operations assessed for risks related to corruption	<a href="#">Compliance with laws and regulations, page 33</a> <a href="#">Secure data, secure infrastructure, page 35</a>				1, 7, 10
205-2	Communication and training about anti-corruption policies and procedures	<a href="#">Compliance with laws and regulations, page 33</a> <a href="#">Secure data, secure infrastructure, page 35</a> <a href="#">Corporate governance KPIs, page 38</a> <a href="#">Taking responsibility in the supply chain, page 39</a>	Breakdown of reported data according to employee category and/or region	Information not available/incomplete	A breakdown according to employee category and/or region is not possible due to data availability	10
205-3	Confirmed incidents of corruption and actions taken	<a href="#">Compliance with laws and regulations, page 33</a> <a href="#">Secure data, secure infrastructure, page 35</a> <a href="#">Corporate governance KPIs, page 38</a>				10
<b>Anti-competitive behavior</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Compliance with laws and regulations, page 33</a> <a href="#">Secure data, secure infrastructure, page 35</a>				
<b>GRI 206: Anti-competitive Behavior 2016</b>						
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	<a href="#">Compliance with laws and regulations, page 33</a> <a href="#">Secure data, secure infrastructure, page 35</a> <a href="#">Corporate governance KPIs, page 38</a>				
<b>Tax</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Paying taxes responsibly, page 32</a> <a href="#">Secure data, secure infrastructure, page 35</a>				
<b>GRI 207: Tax 2019</b>						
207-1	Approach to tax	<a href="#">Paying taxes responsibly, page 32</a>				
207-2	Tax governance, control, and risk management	<a href="#">Paying taxes responsibly, page 32</a>				
207-3	Stakeholder engagement and management of concerns related to tax	–	207-3 iii.	Information not available/incomplete	No stakeholders were involved in development	
207-4	Country-by-country reporting	–	207-4	Confidentiality limitations	Transparency towards tax auditors during audits	

GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>Materials</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Closing cycles, page 44</a>				7, 8, 9
<b>GRI 301: Materials 2016</b>						
301-1	Materials used by weight or volume	<a href="#">Origin of concentrates and throughput KPIs, page 40</a>				7
301-2	Recycled input materials used	<a href="#">Origin of recycling materials KPIs, page 40</a>				8, 9
<b>Energy</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Our promise for the climate: We are committed to the 1.5° target, page 85</a> <a href="#">Low noise makes good neighbors, page 82</a>				7, 8
<b>GRI 302: Energy 2016</b>						
302-1	Energy consumption within the organization	<a href="#">Energy and climate KPIs, page 97</a>				7, 8, 9
302-2	Energy consumption outside of the organization	–	302-2	Information not available/incomplete	Energy consumption is generally available to us indirectly through the calculation of Scope 3 emissions. In some cases, energy consumption is also directly available.	7, 8
302-3	Energy intensity	<a href="#">Energy and climate KPIs, page 97</a>				7, 8
302-4	Reduction of energy consumption	<a href="#">Energy and climate KPIs, page 97</a>				7, 8, 9
<b>Water and effluents</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Water as a valuable resource, page 78</a>				7, 8
<b>GRI 303: Water and Effluents 2018</b>						
303-1	Interactions with water as a shared resource	<a href="#">Water as a valuable resource, page 78</a>				7, 8, 9
303-2	Management of water discharge-related impacts	<a href="#">Water as a valuable resource, page 78</a>				7, 8, 9
303-3	Water withdrawal	<a href="#">Water as a valuable resource, page 78</a>				7, 8, 9
303-4	Water discharge	<a href="#">Water as a valuable resource, page 78</a>				7, 8
303-4	Water consumption	<a href="#">Water as a valuable resource, page 78</a>				7, 8



GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>Biodiversity</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">🔗 Conserving natural resources, page 75</a> <a href="#">🔗 Promoting biodiversity, page 82</a>				7, 8
<b>GRI 304: Biodiversity 2016</b>						
304-1	Operational sites owned, leased, managed in, or adjacent to protected areas and areas of high biodiversity value outside protected areas	<a href="#">🔗 Environmental protection KPIs, page 83</a>				7, 8, 9
304-2	Significant impacts of activities, products and services on biodiversity	<a href="#">🔗 Promoting biodiversity, page 82</a>				7, 8
304-3	Habitats protected or restored	<a href="#">🔗 Promoting biodiversity, page 82</a>				7, 8, 9
304-4	International Union for Conservation of Nature (IUCN) Red List species and national conservation list species with habitats in areas affected by operations	–	304-4	Information not available/incomplete	We currently do not have sufficient information for this indicator	7, 8
<b>Emissions</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">🔗 Conserving natural resources, page 75</a> <a href="#">🔗 Lower emissions from our plants, page 77</a> <a href="#">🔗 Low noise makes good neighbors, page 82</a> <a href="#">🔗 Our promise for the climate: We are committed to the 1.5° target, page 85</a>				7, 8
<b>GRI 305: Emissions 2016</b>						
305-1	Direct (Scope 1) GHG emissions	<a href="#">🔗 Low noise makes good neighbors, page 82</a> <a href="#">🔗 Our promise for the climate: We are committed to the 1.5° target, page 85</a> <a href="#">🔗 CO<sub>2</sub> emissions KPIs, page 87</a>				7, 8
305-2	Energy indirect (Scope 2) GHG emissions	<a href="#">🔗 Low noise makes good neighbors, page 82</a> <a href="#">🔗 Our promise for the climate: We are committed to the 1.5° target, page 85</a> <a href="#">🔗 CO<sub>2</sub> emissions KPIs, page 87</a>				7, 8
305-3	Other indirect (Scope 3) GHG emissions	<a href="#">🔗 Low noise makes good neighbors, page 82</a> <a href="#">🔗 Our promise for the climate: We are committed to the 1.5° target, page 85</a> <a href="#">🔗 CO<sub>2</sub> emissions KPIs, page 87</a> <a href="#">🔗 Environmental protection KPIs, page 83</a>				7, 8
305-4	GHG intensity	<a href="#">🔗 CO<sub>2</sub> emissions KPIs, page 87</a> <a href="#">🔗 Energy and climate KPIs, page 97</a> <a href="#">🔗 Environmental protection KPIs, page 83</a>				7, 8
305-5	Reduction of GHG emissions	<a href="#">🔗 CO<sub>2</sub> emissions KPIs, page 87</a> <a href="#">🔗 Energy and climate KPIs, page 97</a> <a href="#">🔗 Environmental protection KPIs, page 83</a>				7, 8, 9
305-6	Emissions of ozone-depleting substances (ODS)	–	305-6	Not applicable	Ozone-depleting substances do not play a significant role in our processes.	7, 8
305-7	Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ) and other significant air emissions	<a href="#">🔗 Environmental protection KPIs, page 83</a>				7, 8

GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>Waste</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Closing cycles, page 44</a> <a href="#">Conserving natural resources, page 75</a>				7, 8
<b>GRI 306: Waste 2020</b>						
306-1	Waste generation and significant waste-related impacts	<a href="#">Improving soil quality, page 80</a> <a href="#">Waste products are raw materials, page 80</a>				7, 8
306-2	Management of significant waste-related impacts	<a href="#">Improving soil quality, page 80</a> <a href="#">Waste products are raw materials, page 80</a>				7, 8
306-3	Waste generated	<a href="#">Environmental protection KPIs, page 83</a>				7, 8
306-4	Waste diverted from disposal	<a href="#">Environmental protection KPIs, page 83</a>				7, 8
306-5	Waste directed to disposal	<a href="#">Environmental protection KPIs, page 83</a>				7, 8
<b>Supplier environmental assessment</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Taking responsibility in the supply chain, page 39</a>				7, 8
<b>GRI 308: Supplier Environmental Assessment 2016</b>						
308-1	New suppliers that were screened using environmental criteria	<a href="#">Taking responsibility in the supply chain, page 39</a>				7, 8
308-2	Negative environmental impacts in the supply chain and actions taken	-	308-2	Confidentiality limitations	An analysis of environmental risks takes place as part of our Business Partner Screening. The results cannot be published here for reasons of confidentiality.	7, 8
<b>Employment</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Attractive jobs KPIs, page 52</a> <a href="#">Creating opportunities for diversity, page 54</a> <a href="#">Creating flexible and future-proof jobs, page 55</a> <a href="#">Attractive compensation as well, page 57</a> <a href="#">A job with a future, page 60</a>				
<b>GRI 401: Employment 2016</b>						
401-1	New employee hires and employee turnover	<a href="#">Training and education KPIs, page 64</a>				6
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	<a href="#">Creating flexible and future-proof jobs, page 55</a> <a href="#">Attractive compensation as well, page 57</a>				
401-3	Parental leave	-	401-3	Information not available/incomplete	We grant parental leave based on the local conditions and laws. It is currently not possible to collect data for this indicator.	

GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>Occupational health and safety</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Healthy and safe at work, page 65</a>				1-10
<b>GRI 403: Occupational Health and Safety 2018</b>						
403-1	Occupational health and safety management system	<a href="#">Healthy and safe at work, page 65</a>				3, 4, 5, 6
403-2	Hazard identification, risk assessment, and incident navigation	<a href="#">Healthy and safe at work, page 65</a>				3, 4, 5, 6
403-3	Occupational health services	<a href="#">Healthy and safe at work, page 65</a>				3, 4, 5, 6
403-4	Worker participation, consultation, and communication on occupational health and safety	<a href="#">Healthy and safe at work, page 65</a>				3, 4, 5, 6
403-5	Worker training on occupational health and safety	–	403-5	Information not available/incomplete	It is currently not possible to collect data for this indicator.	3, 4, 5, 6
403-6	Promotion of worker health	<a href="#">Healthy and safe at work, page 65</a>				3, 4, 5, 6
403-7	Prevention and mitigation of occupational health and safety impacts directly linked to business relationships	<a href="#">Healthy and safe at work, page 65</a> <a href="#">Safe, quality products, page 48</a>				3, 4, 5, 6
403-8	Workers covered by an occupational health and safety management system	100% of our employees are covered by an occupational health and safety management system. <a href="#">Certifications by site, page 99</a>				3, 4, 5, 6
403-9	Work-related injuries	<a href="#">Healthy and safe at work, page 65</a>				3, 4, 5, 6
403-10	Work-related ill health	<a href="#">Healthy and safe at work, page 65</a>				3, 4, 5, 6
<b>Training and education</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">A job with a future, page 60</a>				
<b>GRI 404: Training and Education 2016</b>						
404-1	Average hours of training per year per employee	<a href="#">Training and education KPIs, page 64</a>				
404-2	Programs for upgrading employee skills and transition assistance programs	<a href="#">A job with a future, page 60</a>				
404-3	Percentage of employees receiving regular performance and career development reviews	<a href="#">A job with a future, page 60</a>				

GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>Diversity and equal opportunity</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">🔗 Attractive jobs KPIs, page 52</a> <a href="#">🔗 Creating opportunities for diversity, page 54</a>				6
<b>GRI 405: Diversity and Equal Opportunity 2016</b>						
405-1	Diversity of governance bodies and employees	<a href="#">🔗 Future-oriented employer KPIs, page 58</a> <a href="#">🔗 2021/22 Annual Report, pages 20, 35, 66</a>				1, 6
405-2	Ratio of basic salary and remuneration of women to men	At Aurubis, compensation depends on the job performed, the quality of the work, and the level of professional experience. No other distinctions are made.				6
<b>Non-discrimination</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">🔗 Respecting human rights, page 36</a>				3, 4, 5, 6
<b>GRI 406: Non-discrimination 2016</b>						
406-1	Incidents of discrimination and corrective actions taken	<a href="#">🔗 Corporate governance and ethics KPIs, page 38</a>				3, 4, 5, 6
<b>Freedom of association and collective bargaining</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">🔗 Taking responsibility in the supply chain, page 39</a> <a href="#">🔗 Attractive jobs KPIs, page 52</a> <a href="#">🔗 Creating flexible and future-proof jobs, page 55</a>				3, 4, 5, 6
<b>GRI 407: Freedom of Association and Collective Bargaining 2016</b>						
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	<a href="#">🔗 Taking responsibility in the supply chain, page 39</a>				3, 4, 5, 6

GRI standard	Disclosure	Reference	Omission			UNGC
			Requirement(s) omitted	Reason	Explanation	
<b>Child labor</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Taking responsibility in the supply chain, page 39</a>				3, 4, 5, 6
<b>GRI 408: Child Labor 2016</b>						
408-1	Operations and suppliers at significant risk for incidents of child labor	<a href="#">Taking responsibility in the supply chain, page 39</a>				3, 4, 5, 6
<b>Forced or compulsory labor</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Taking responsibility in the supply chain, page 39</a>				3, 4, 5, 6
<b>GRI 409: Forced or Compulsory Labor 2016</b>						
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	<a href="#">Taking responsibility in the supply chain, page 39</a>				3, 4, 5, 6
<b>Rights of indigenous peoples</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Taking responsibility in the supply chain, page 39</a>				1, 2
<b>GRI 411: Rights of Indigenous Peoples 2016</b>						
411-1	Incidents of violations involving the rights of indigenous peoples	<a href="#">Taking responsibility in the supply chain, page 39</a>				2
<b>Local communities</b>						
<b>GRI 3: Material Topics 2021</b>						
3-3	Management of material topics	<a href="#">Socially engaged, page 70</a>				
<b>GRI 413: Local Communities 2016</b>						
413-1	Operations with local community engagement, impact assessments, and development programs	<a href="#">Socially engaged, page 70</a> <a href="#">In dialogue with our stakeholders, page 22</a> <a href="#">Creating flexible and future-proof jobs, page 55</a>				1, 2
413-2	Operations with significant actual and potential negative impacts on local communities	<a href="#">In dialogue with our stakeholders, page 22</a>				1, 2

GRI standard		Disclosure	Reference	Omission			UNGC
				Requirement(s) omitted	Reason	Explanation	
<b>Supplier social assessment</b>							
<b>GRI 3: Material Topics 2021</b>							
3-3		Management of material topics	<a href="#">Taking responsibility in the supply chain, page 39</a>				1, 2
<b>GRI 414: Supplier Social Assessment 2016</b>							
414-1		New suppliers that were screened using social criteria	<a href="#">Taking responsibility in the supply chain, page 39</a>				2
414-2		Negative social impacts in the supply chain and actions taken	-	414-12	Confidentiality limitations	An analysis of environmental risks and social risks at our suppliers takes place as part of our Business Partner Screening. The results cannot be published here for reasons of confidentiality.	2
<b>Public policy</b>							
<b>GRI 3: Material Topics 2021</b>							
3-3		Management of material topics	<a href="#">In dialogue with our stakeholders, page 22</a>				
<b>GRI 415: Public Policy 2016</b>							
415-1		Political contributions	<a href="#">Work in associations and political lobbying, page 27</a>				
<b>Customer health and safety</b>							
<b>GRI 3: Material Topics 2021</b>							
3-3		Management of material topics	<a href="#">Safe, quality products, page 48</a>				
<b>GRI 416: Customer Health and Safety 2016</b>							
416-1		Assessment of the health and safety impacts of product and service categories	<a href="#">Safe, quality products, page 48</a>				
416-2		Incidents of non-compliance concerning the health and safety impacts of products and services	<a href="#">Safe, quality products, page 48</a>				
<b>Marketing and labeling</b>							
<b>GRI 3: Material Topics 2021</b>							
3-3		Management of material topics	<a href="#">Safe, quality products, page 48</a>				
<b>GRI 417: Marketing and Labeling 2016</b>							
417-1		Requirements for product and service information and labeling	<a href="#">Safe, quality products, page 48</a>				
417-2		Incidents of non-compliance concerning product and service information and labeling	There were no relevant incidents of non-compliance concerning product and service information and labeling.				

# Imprint

If you would like more information, please contact:

**AURUBIS AG**

Hovestrass 50  
20539 Hamburg  
responsibility@aurubis.com  
www.aurubis.com

**Christian Hein**

Head of Sustainability  
C.Hein@aurubis.com  
Phone + 49 40 7883-2933

**Kirsten Kück**

Sustainability Manager  
K.Kueck@aurubis.com  
Phone + 49 40 7883-3270

**Vedrana Lemor**

Senior Sustainability Manager  
V.Lemor@aurubis.com  
Phone + 49 40 7883-3270

**Carolin Würtele**

Sustainability Specialist  
C.Wuertele@aurubis.com  
Phone + 49 40 7883-4006

**CONCEPT AND CONSULTING**

:response, Frankfurt a. M., Germany

**DESIGN AND REALIZATION**

Kirchhoff Consult AG, Hamburg, Germany

**IMAGES**

Aurubis AG, iStockphoto

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aurubis.com

**Metals for Progress**

Aurubis AG  
Hovestrasse 50  
20539 Hamburg, Germany  
Phone +49 40 7883-0  
responsibility@aurubis.com