

# ACHIEVING MORE

Sustainability Report  
2017/18



# Foreword

GRI 102-14

April 2019

*Dear readers,*

We are in an exciting transformation phase at the moment: As part of our company vision, we set ourselves the objective of developing Aurubis from a copper producer to a multi-metal group by 2025. Due in part to this transformation, sustainability is the foundation of our activities and will continue to guide them to a great extent.

For example, sustainability is an integral part of our new Group strategy, which focuses on growth, efficiency, and responsibility. We developed and adopted the new Sustainability Strategy 2018–2023 accordingly. It encompasses the aspects “People – Environment – Economy” and is intended as a framework for responsible corporate governance into the future as well.

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*Sustainability has always been the foundation of our activities – and it will continue to guide them to a great extent.*

Our current projects are making valuable contributions to the success of both the company strategy and the Sustainability Strategy. Two examples are our growth project Future Complex Metallurgy (FCM) and our new management system, the Aurubis Operating System (AOS). FCM will contribute to our strategic target of doubling the volume of directly supplied complex recycling raw materials in the Aurubis Group by 2022/23 compared to 2016/17. AOS helps us achieve continuous improvements in results and avoid operating losses.

On the following pages, we provide an overview of the instruments, measures, and activities from fiscal year 2017/18 that demonstrate our emphasis on responsible business activity.

Our strategic focus on Economy is increasingly influenced by our “closing-the-loop” approach. With our multi-metal recycling, we are closing the material cycle for copper and other metals. Two numbers highlight the importance this circular economy holds for us: With about 700,000 t of recycling materials processed per year, we are the world’s largest copper recycler, producing roughly one-third of our copper cathodes from recycling material. Multi-metal recycling therefore contributes substantially to our sustainable success – from both an economic and ecological perspective.

Our Industrial Heat project is an excellent success story for the strategic focal point Environment: In October 2018, we commissioned a 3.7-km-long pipeline that transfers excess heat from our Hamburg plant to our partner enercity, which then supplies the neighborhood HafenCity East with heat. We avoid 20,000 t of CO<sub>2</sub> per year as a result. We therefore improve the CO<sub>2</sub> balance outside of our plant premises as well, making a significant contribution to the energy transition.



From left to right:

**DR. THOMAS BÜNGER**  
Chief Operating Officer

**JÜRGEN SCHACHLER**  
Chief Executive Officer

**RAINER VERHOEVEN**  
Chief Financial Officer

To be successful in the long term, it is essential for us to be able to depend on qualified employees now and in the future. Consequently, training and education will remain key components of People, another strategic focus. We continuously train our employees through qualification and development programs. At the same time, we train young people in many occupations – with consistently high retention rates that we are proud of. Two modern training centers were recently built in Hamburg and Lünen, creating excellent conditions for us to continue on this path in the future.

We present these and other sustainability achievements transparently in this Sustainability Report. Like Sustainability Reports in years past, this report is oriented to the internationally recognized guidelines of the Global Reporting Initiative (GRI) and serves as the Communication on Progress for the UN Global Compact (UNGC) at the same time. We have participated in the UNGC since late 2014 and support its ten principles. Moreover, we take part in climate protection initiatives such as the CDP (formerly the Carbon Disclosure Project), and in our company's Annual Report 2017/18, we published a separate Non-Financial Report in accordance with the German CSR Directive Implementation Act for the first time ever.

As a member of society, we believe it is important to maintain a dialogue with employees, customers, suppliers, politics and society, capital market participants, the media, non-governmental organizations, and the scientific community. We are regularly in contact with our key stakeholders regarding all topics relevant to sustainability, for instance in one-on-one discussions or at shareholder events, visitor open houses, and customer and supplier meetings.

We would like to warmly invite you, too, to be in contact with us, to stay up to date online by visiting [www.aurubis.com](http://www.aurubis.com), and to approach us if you have any questions – we welcome your ideas and comments!

Sincerely,

A handwritten signature in black ink, appearing to be 'JS'.

Jürgen Schachler

A handwritten signature in black ink, appearing to be 'TB'.

Dr. Thomas Bünger

A handwritten signature in black ink, appearing to be 'RV'.

Rainer Verhoeven

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# Company Profile

GRI 102-1, 102-3, 102-4, 102-5

Aurubis AG is a provider of non-ferrous metals that operates worldwide. As an integrated group, we process complex metal concentrates, scrap metals, and metal-bearing recycling materials into metals of the highest purity. In addition to our main metal, copper, our product portfolio also includes gold, silver, lead, nickel, tin, minor metals such as tellurium and selenium, and platinum group metals.

The company’s headquarters is located in Hamburg (Germany). The headquarters is also home to key production facilities. Our additional sites are primarily located in Europe, with larger production centers in Germany, Belgium, and Bulgaria. Furthermore, we also have a production site in the US, and a global sales and service network.

## A VARIETY OF METALS – OUR BUSINESS MODEL

GRI 102-2

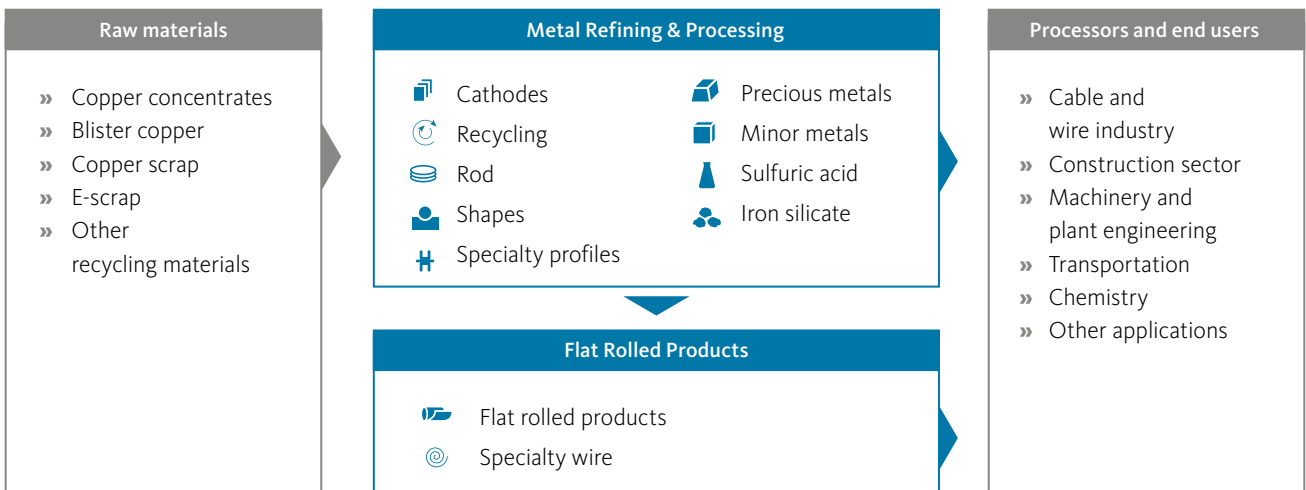
In accordance with our Vision 2025, we are consistently expanding our current business model, which is focused on copper, to encompass a broader multi-metal approach. We are increasingly extracting other metals in addition to copper from systematically purchased raw materials and intermediate products and then processing them into marketable value-added products.

For this purpose, we use copper concentrates that are obtained from ores and are offered by mining and trading companies on the global market. We purchase the necessary raw materials for our two primary smelters in Hamburg and Pirdop (Bulgaria) – we don’t hold any stakes in mines.

In addition to copper concentrates, we also process copper scrap and other metal-bearing recycling materials and bought-in intermediate products at our secondary smelters in Lünen (Germany) and Olen (Belgium), among other sites. We source most of the materials on the European market. The main suppliers are metal trading companies, though some recycling materials also reach us directly from product manufacturers.

We produce copper cathodes, some of which we process further into standard and specialty products made of copper and its alloys. Products made of different metals and a series of other by-products such as iron silicate and sulfuric acid round off our portfolio. Aurubis’ customers include companies in the semi-finished products industry; the electrical, electronics, and chemical industries; and suppliers of the renewable energies, construction, and automotive sectors.

## From raw materials to end users – An overview of the value chain and our business model



■ Aurubis AG ■ Upstream and downstream value-added stages

## Europe, the US, and Asia – Our sites and employees

GRI 102-4, 102-7



### EUROPE

DE	Hamburg	Headquarters Aurubis AG	2,462	
		E. R. N. Elektro-Recycling NORD GmbH	13	
		Peute Baustoff GmbH	12	
	Lünen	Aurubis AG	629	
	Stolberg	Aurubis Stolberg GmbH & Co. KG	438	
	Emmerich	Deutsche Giessdraht GmbH	112	
	Fehrbellin	CABLO Metall-Recycling & Handel GmbH	47	
	Röthenbach	RETORTE GmbH Selenium Chemicals & Metals	44	
	Nersingen/ Strass	CABLO Metall-Recycling & Handel GmbH	18	
	Berlin	Aurubis AG	3	Group Representative Office
	Hanau	Aurubis AG	2	
BG	Pirdop	Aurubis Bulgaria AD	866	
BE	Olen	Aurubis Belgium NV/SA	582	
	Brussels	Aurubis Belgium NV/SA	27	
NL	Zutphen	Aurubis Netherlands BV	311	
FI	Pori	Aurubis Finland Oy	262	
IT	Avellino	Aurubis Italia S.r.l.	95	
	Mortara	Aurubis Mortara S.p.A.	28	
UK	Smethwick/ Birmingham	Aurubis UK Ltd	23	
SK	Dolný Kubín	Aurubis Slovakia s. r. o.	16	
SE	Finspång	Aurubis Sweden AB	9	-
FR	Lyon/ Septème	Aurubis Product Sales GmbH	3	
RU	St. Petersburg	Aurubis Rus LLC <sup>1</sup>	3	
ES	Barcelona	Aurubis Product Sales GmbH	1	
TR	Istanbul	Aurubis Turkey Kimya Anonim Sirketi <sup>1</sup>	1	

**Employees in Europe 6,007**

### US<sup>2</sup>

US	Buffalo	Aurubis Buffalo Inc.	642	
	Chicago	Aurubis Buffalo Inc.	5	

**Employees in the US 647**



### ASIA

CN	Shanghai	Aurubis Metal Products (Shanghai) Co., Ltd. <sup>1</sup>	5	
	Hong Kong	<sup>3</sup>	1	
	Beijing	<sup>3</sup>	1	
UAE	Dubai	Aurubis Middle East FZE <sup>1</sup>	3	
SG	Singapore	<sup>3</sup>	3	
TH	Bangkok	<sup>3</sup>	3	
JP	Tokyo	<sup>3</sup>	1	
KR	Seoul	<sup>3</sup>	1	
VN	Ho Chi Minh City	<sup>3</sup>	1	

**Employees in Asia 19**

### Total employees

**6,673**

All of the companies listed in the table are fully consolidated in the Aurubis Annual Report 2017/18, with the exception of those indicated as non-consolidated companies.

Schwermetall Halbzeugwerk GmbH & Co. KG, Stolberg (DE), 308 employees, is not included; these employees are not in the table.

<sup>1</sup> Non-consolidated company.

<sup>2</sup> After the end of the fiscal year, we opened a new sales office in Tampa, Florida, with two employees on October 1, 2018. These two employees are not included in this table or in the employee figures reported.

<sup>3</sup> Agency/self-employed sales employee, non-consolidated.

### Raw materials

Concentrates and recycling materials are the raw materials used to produce copper.



### Products

The copper is processed into products. Some products are already the result of copper production.

Cathodes

Iron silicate

Rod

Sulfuric acid

Shapes

Specialty profiles

Specialty wire

Strip/foil

Precious metals

Minor metals

### Sales and distribution network

An international sales and distribution network markets our products.



### Slitting centers

Service centers located near our customers slit strip to the desired dimensions.

Status: September 30, 2018

## THE FRAMEWORK FOR OUR ACTIVITIES – OUR GROUP STRUCTURE

In fiscal year 2017/18, the Aurubis Group's organizational structure was oriented to the underlying business model. The Group's organizational structure is made up of two operating segments:

- » Segment **Metal Refining & Processing (MRP)** processes complex metal concentrates, copper scrap, and metal-bearing recycling materials into metals of the highest quality. From an organizational perspective, MRP includes the Commercial and Operations divisions. The Commercial division combines raw material purchasing and product sales, while the Operations division is responsible for manufacturing all of the base products and metals, as well as processing them further into products such as rod and shapes.
- » Segment **Flat Rolled Products (FRP)** processes copper and copper alloys – primarily brass, bronze, and high-performance alloys – into flat rolled products and specialty wire and then markets them. We plan to leave the strip sector and further strengthen our strategic orientation towards the multi-metal business. In fiscal year 2017/18, we therefore signed a contract with Wieland-Werke AG to sell Segment FRP. The European Commission blocked the sale in February 2019. We are currently reviewing other strategic alternatives for this business area.

This organizational core is framed by the central functions Corporate Development and Technology, as well as by supporting units such as Human Resources and Finance & Controlling.

# Sustainability at Aurubis

Sustainability is a significant part of our activities. This includes a responsible approach to all people affected by these activities, for instance employees, suppliers, customers, and neighbors. The same applies to our environment, as we are aware of the limits of natural resources and want to keep negative impacts from our business to a minimum. Sustainable business conduct is enshrined in our company culture – at the individual sites and across all business processes.

Based on our company vision, we are developing Aurubis into a multi-metal group. To advance this transformation process, we revised our Group strategy in 2017. Sustainability is an integral component of this Group strategy, which illustrates the high priority placed on responsible corporate governance at Aurubis. Our responsible conduct is not limited to our company, but extends beyond the plant boundaries as well.

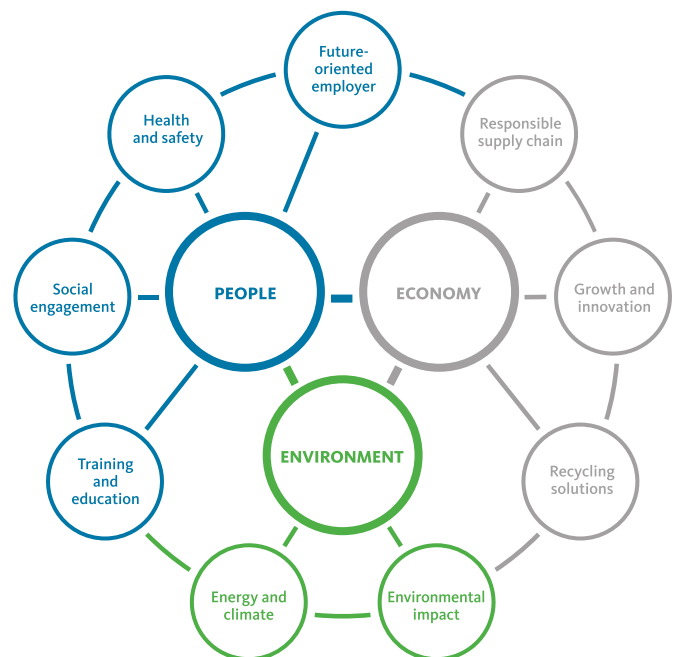
## RESPONSIBLY PLANNING THE FUTURE – OUR SUSTAINABILITY STRATEGY

Responsible corporate governance makes an important contribution to securing our company's future. Our Sustainability Strategy 2018–2023 establishes the framework. It follows the company's mission of responsibly transforming raw materials into value to provide metals for an innovative world.

Based on the pillars of People, Environment, and Economy, we developed concrete targets and action plans for individual areas to make the company's sustainable development measurable and controllable. We thus continue to expand the sustainability activities that we have systematically structured and expanded over the past several years – from sustainability reporting to the development of our first Sustainability Strategy in 2013. The Sustainability Strategy 2013–2018 and the status of the targets can be found at the end of the report on [Q pages 48-49](#).

The original Sustainability Strategy ended during the reporting period and has now been replaced by our new Sustainability Strategy 2018–2023. The development process in 2017 was broken down into two phases. In the first phase, we analyzed the internal and external requirements, as well as current trends. With the support of the relevant departments, we determined the status quo, potential for improvement, and areas that require attention at Aurubis. In the second phase, we assessed this information and reviewed the key topics from the 2015 materiality matrix to determine whether they were up to date or possibly needed to be shifted. The results were used to derive the Sustainability Strategy's nine action areas, which can be categorized under the three focal points People, Environment, and Economy. For each of these focal points, we set up a working group made up of representatives from the relevant departments, which developed concrete targets and measures for each action area in workshops.

## The Aurubis Sustainability Strategy



## Our Sustainability Strategy – Action areas, measures, and targets

### ECONOMY

#### Growth and innovation

**Target:** We have set ourselves the target of growing in the processing of complex raw materials. This will increase the importance of other metals besides copper in Aurubis' portfolio.

#### Key measures

- » Developing and implementing innovative metallurgical processes with which we can expand our raw material base, among other things
- » Establishing new sales channels for metals with strong demand growth
- » Sustainably, successfully implementing the efficiency enhancement program

#### KPIs

- » 100 % increase in sales of metals besides copper by FY 2022/23 (base FY: 2016/17)
- » Improvement in earnings: project success of € 200 million by FY 2019/20 (base FY: 2014/15)
- » Return on capital employed (ROCE): 15 % target

#### Recycling solutions

**Target:** We have set ourselves the target of using a larger volume of complex secondary raw materials in addition to copper raw materials, extracting many other metals besides copper in order to make these metals useful for society.

#### Key measures

- » Increasing the volume of complex recycling materials sourced
- » Establishing and developing “closing-the-loop” systems as a result of new or intensified cooperation with original equipment manufacturers (OEMs), retailers, or copper product customers
- » Analyzing market conditions and future opportunities for sustainable products (think tank for metals, products, and services)

#### KPIs

- » Direct sourcing of complex recycling materials from collection points: 100 % volume growth by FY 2022/23 (base FY: 2016/17)
- » Number of “closing-the-loop” systems with direct and indirect product customers from the metal value chain: target increase of at least 10 by 2022/23 (base FY: 2017/18)

#### Responsible supply chain

**Target:** We have set ourselves the target of continuing to manage our supply chains responsibly. In the process, we will take impacts on the social environment, the natural environment, and economic aspects into account.

#### Key measures

- » Introducing the Aurubis Business Partner Code of Conduct across the Group (by FY 2018/19)
- » Implementing Aurubis Business Partner Screening across the Group (by FY 2020/21)
- » Including human rights, environmental protection, and safety clauses in supply contracts for primary raw materials (by FY 2022/23)
- » Identifying a suitable sector solution

#### KPIs

- » Percentage of contracts with primary raw material suppliers including a human rights clause: 100 % target by FY 2022/23 (base FY: 2016/17; base percentage > 80 %)

### ENVIRONMENT

#### Energy and climate

**Target:** We have set ourselves the target of further increasing our energy efficiency and reducing CO<sub>2</sub> emissions wherever possible.

#### Key measures

- » Introducing the ISO 50001 standard for energy management across the Group (by FY 2021/22)
- » Increasing flexibility in electricity purchasing
- » Energy efficiency projects (such as increased heat extraction for supplying district heating and internal company electricity projects)
- » Investigating processes and electricity consumption in relation to the German Climate Action Plan 2050 and analyzing the requirements for new investments (starting FY 2018/19)

#### KPIs

- » More flexibility in electricity use: 10 % target by FY 2022/23
- » CO<sub>2</sub> emissions: reduction target > 100,000 t by FY 2022/23 (base FY: 2012/13)



### Protection from environmental impact

**Target:** We have set ourselves the target of conserving natural resources and maintaining a clean environment for future generations.

#### Key measures

- » Introducing the ISO 14001 standard for environmental management across the Group (by 2022)
- » Reducing specific metal emissions to water in multi-metal production with site-specific projects and individual measures
- » Reducing specific dust emissions to air in multi-metal production with site-specific projects and individual measures
- » Reducing specific SO<sub>2</sub> emissions to air with site-specific projects and individual measures

#### KPIs

- » Specific metal emissions to water: reduction target of 40% by 2022 (base year: 2012, copper production)
- » Specific dust emissions to air: reduction target of 15% by 2022 (base year: 2012, copper production)

## PEOPLE

### Training and education

**Target:** We have set ourselves the target of providing qualifications to our employees, continuously strengthening their skills, and promoting their development to ensure mutual success and motivation.

#### Key measures

- » Regularly identifying qualification needs to expand project, process, and management expertise in a targeted way (by FY 2022/23)
- » Group-wide introduction of the Aurubis Operating System (AOS) pillar "training and education" (by FY 2022/23)
- » Ensuring Group-wide knowledge management to identify, preserve, transfer, and enhance knowledge across functions (by FY 2022/23)

#### KPIs

- » Training hours used for development measures: target of 18 hours per FTE (full-time equivalent) and year by FY 2022/23
- » Employee participation in AOS: targets by FY 2022/23 (base FY: 2017/18)
  - » Inclusion of employees in pillar activities: target of > 90%
  - » Inclusion of employees in the performance management system: target of > 90%
  - » Active employee participation in improvement teams: target of > 20%

### Future-oriented employer

**Target:** We have set ourselves the target of creating a work environment for good, close cooperation and promoting involvement and creativity. We form a team that passionately works toward progress.

#### Key measures

- » Improving the "health" of the organization with strategically aligned HR instruments and services, as well as individual development tools
- » Regularly identifying employees' needs with respect to working time arrangements
- » Developing a diversity policy

#### KPIs

- » Organizational Health Index
- » Diversity Index (age structure, international quality, percentage of female employees; index under development)

### Health and safety

**Target:** We want to avoid work-related accidents, injuries, and illnesses (Vision Zero)

#### Key measures

- » Preparing all sites for the introduction of the ISO 45001 standard for occupational health and safety (by FY 2019/20)
- » Implementing behavior-based safety across the Group (by FY 2020/21)

#### KPIs

- » LTIFR (Lost Time Injury Frequency Rate<sup>1</sup>): target of ≤ 1.0 (by FY 2021/22)

### Societal engagement

**Target:** We have set ourselves the target of contributing to a livable environment for future generations. In the process, we focus on areas of action that are linked with Aurubis' key areas of expertise. As a responsible, committed company, we want to promote enthusiasm for our company and for our work.

#### Key measures

- » Developing and implementing a strategy for societal engagement at Group level (by FY 2018/19)

#### KPIs

<sup>1</sup> Lost time of at least one full shift.

The three focal points and the nine accompanying action areas are also the primary basis for the structure of this Sustainability Report. As part of our responsible corporate governance, the topics of compliance and human rights play a key role in addition to the nine actions areas, complementing the aspects “People – Environment – Economy.” Information on these topics is provided in the sections [Q Compliance, pages 12-13, and Human Rights, page 13.](#)

### HOW WE CONTROL OUR ACTIVITIES – OUR SUSTAINABILITY MANAGEMENT

GRI 102-11, 102-16

We implement the targets set forth in our Sustainability Strategy in our everyday work with the help of sustainability management concepts and systems. Responsible corporate governance requires common values and rules to point the way. At Aurubis, the legal framework, corporate values, and internal policies ensure that our conduct is legally sound and that our communication with colleagues and business partners is fair and trusting. These guidelines also help us safeguard the careful use of resources. Aurubis’ Code of Conduct prescribes the correct conduct for all of the employees across the Group, in accordance with our concept of responsible corporate governance.

Together with employees and employer representatives, we identified five values that are important to us: Performance, Responsibility, Integrity, Mutability, and Appreciation. The acronym PRIMA, which means “great” in German, is derived from the first letter of each value.

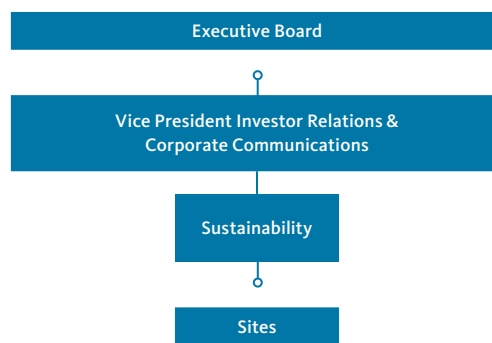
Aurubis’ principle of active prevention is a basic component of responsible business activities. We act conscientiously in our operating business and are growing to a sensible and healthy extent. Both of these factors form the basis of our sustainable economic success.

We also adhere to the German Corporate Governance Code. Accordingly, we value close cooperation between the Executive Board and the Supervisory Board, as well as consideration of shareholders’ interests. We rely on open communication, a responsible approach to risks, and proper accounting and auditing.

From an organizational perspective, the Sustainability department is part of the Investor Relations & Corporate Communications division; the head of Investor Relations & Corporate Communications reports directly to the Executive Board. The Sustainability department serves as the interface between the headquarters and the sites and coordinates all of the processes related to this topic. At the same time, it is also responsible for continuously reviewing and developing the sustainability targets. In the process, the department cooperates with the relevant divisions and departments in the Aurubis Group, and assists with the operative implementation of sustainability measures. Another focus of its work is Business Partner Screening related to aspects relevant to sustainability. More information about this is available in the section [Q Responsible Supply Chain, pages 20-22.](#)

One of the most important sustainability management tasks is to establish our Sustainability Strategy among our employees, in the operating processes of everyday work, and with our external stakeholders. Every employee should live the Sustainability Strategy each day and contribute to implementing the agreed measures and targets.

### The sustainability organization at Aurubis



### ACTIVE DIALOGUE – OUR STAKEHOLDER INVOLVEMENT

GRI 102-12, 102-13, 102-16, 102-40, 102-42, 102-43, 102-44, 415-1

Communicating with stakeholders is very important to us. We engage in an open and transparent dialogue with employees, customers, suppliers, policymakers and governmental authorities, capital market participants, the media, non-governmental organizations (NGOs), the scientific community, and interested members of the public. We regularly discuss topics relevant to sustainability, for example raw material recovery along the value chain, the development of resource-efficient production processes, company environmental protection at our sites, and our contribution to the circular economy. At the same time, we identify social trends, political developments, internal and external risks, and potential for our business early on in these discussions.

This dialogue with our stakeholders takes place in the form of talks, forums, and events. The discussions we have during visitor days, shareholder events, capital market conferences, and supplier and customer meetings are especially intensive. 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 impacted by our business processes. We review the makeup of our stakeholder groups at regular intervals to make sure that they are up to date. In the process, we make sure to include the neighborhoods surrounding our sites and to maintain a balance between experts and interested members of the public, as well as between critics and supporters of our business activities. The opinions of local citizens are especially important to us when it comes to public participation in the course of permit procedures and environmental impact assessments, as well as in the establishment of complaint mechanisms.

## Aurubis stakeholder dialogue in fiscal year 2017/18

Stakeholder	Form of dialogue	Topics related to sustainability in FY 2017/18
Capital market (analysts, institutional and private investors, retail investors, financial press/ other multipliers, banks)	<ul style="list-style-type: none"> <li>» Annual General Meeting</li> <li>» Capital Market Day</li> <li>» Shareholders' Dialogue events</li> <li>» Conferences</li> <li>» Roadshows</li> <li>» Forums</li> <li>» Reverse roadshows/site visits</li> <li>» Sales briefings</li> <li>» Conference calls</li> </ul>	<ul style="list-style-type: none"> <li>» Successes of the efficiency improvement program</li> <li>» Growth initiatives</li> <li>» Our sustainability activities (focus: energy and climate protection)</li> </ul> <hr/> <ul style="list-style-type: none"> <li>» Global Challenges Index</li> <li>» CDP Climate Change 2018 program: B</li> <li>» ISS-oekom Corporate Rating 2019: Prime</li> <li>» MSCI 2019: AA</li> <li>» Sustainalytics 2018: 68 of 100</li> </ul>
Customers	<ul style="list-style-type: none"> <li>» Personal discussions and communication several times a year</li> <li>» Trade fairs</li> <li>» Conferences</li> </ul>	<ul style="list-style-type: none"> <li>» General market information</li> <li>» Technical topics (including quality workshops)</li> <li>» Closing the loop and sustainability topics</li> <li>» Acquisition of Deutsche Giessdraht GmbH and planned sale of Segment Flat Rolled Products (FRP)</li> </ul> <hr/> <ul style="list-style-type: none"> <li>» EcoVadis 2018: Gold Status</li> </ul>
Suppliers	Personal discussions several times a year (phone calls, conferences, mutual visits)	Contract negotiations, new materials, current market situation, plans and projects on the supplier side and at Aurubis, sustainability issues
Media	Interviews, phone calls, briefings, press conferences and events, individual TV shoots in the plants, press releases	Financial results, recycling, energy management (especially industrial heat), copper production, personnel changes, acquisition of Deutsche Giessdraht GmbH, planned sale of Segment Flat Rolled Products (FRP), education and training
Employees	<ul style="list-style-type: none"> <li>» Sounding boards (active forum for change processes)</li> <li>» Fireside chats, for example with apprentice representatives and young high-potential employees</li> <li>» Leadership Summit</li> <li>» Information events on current topics</li> <li>» Annual evaluations</li> <li>» Employee magazine CU</li> <li>» Intranet</li> </ul>	<ul style="list-style-type: none"> <li>» Aurubis Operating System (AOS)</li> <li>» The successful Industrial Heat project</li> <li>» The planned sale of Segment Flat Rolled Products (FRP)</li> </ul>
Neighbors near the sites	<ul style="list-style-type: none"> <li>» Personal discussions</li> <li>» Public participation in permit procedures and environmental impact assessments</li> <li>» Register for company incidents and complaints from locals</li> <li>» Meetings related to local sponsoring projects</li> </ul>	Local and regional economic development, social involvement, education, environmental protection (noise, specific emissions to air and water), plant safety
NGOs	Personal discussions	Climate and environmental protection, recycling, responsibility in the supply chain, human rights
Policymakers/governmental authorities	<ul style="list-style-type: none"> <li>» Discussions with legislative and executive representatives at state, national, and EU level</li> <li>» Participation in public consultations, in some cases indirectly through associations</li> </ul>	Environmental protection, energy and climate, the circular economy, finance, taxes, trade policy, sustainability, innovation, supply chains, human rights
Scientific community	Joint research projects, collaborations (internship offers, thesis projects), plant tours	<ul style="list-style-type: none"> <li>» Research, including basic research in the areas of battery technology and power electronics</li> <li>» Discussions on the topics of energy and recycling</li> <li>» A broad spectrum of topics for thesis projects and plant tours</li> </ul>

We engage in objective, trusting, and open dialogue, and have been involved for many years in a number of national and international initiatives and projects on sustainability issues such as climate and environmental protection, labor standards, human rights, and the fight against corruption. For example, these include:

- » B.A.U.M. – German Association of Environmental Management (since 2001)
- » CDP – Carbon Disclosure Project (since 2015)
- » DCGK – German Corporate Governance Code (since 2002)
- » IG BCE – Equality Charter of the Mining, Chemical, and Energy Industrial Union (since 2014)

- » UNGC – United Nations Global Compact, with involvement in the local networks in Germany and Bulgaria (since 2014/15)
- » Responsible Care – as a member of the German Chemical Industry Association (VCI), we take part in the chemical industry's sustainability initiative

In Hamburg, we have been a member of the Environmental Partnership since 2003 and a member of the Partnership for Air Quality and Low-emission Mobility, both of which are coordinated by the city of Hamburg. The goal of the partnership is to reduce nitrogen dioxide emissions.

Producing and processing copper is energy-intensive – whether in smelting, scrap recycling, or strip rolling, to name just a few examples. This is why, in Germany, we participate in the Energy Efficiency Platform led by the Federal Ministry for Economic Affairs and Energy, as well as the national Energy Efficiency Networks Initiative through the networks of the German Non-Ferrous Metals Association (WVM) and the Hamburg Industrial Association. Since early 2017, Aurubis Stolberg has been a member of the Energy Efficiency Network of the Aachen region to discuss energy-saving measures with other companies. Representatives visit each other's companies to see how energy-efficiently others are already working, how improvements have been made, and where there might still be reduction potential.

Since 2013, we have participated in the EU projects Organizational Environmental Footprint and Product Environmental Footprint, which seek to achieve an environmental balance in organizations and products. The goal of this collaboration is to develop and test the methods for determining the environmental footprint. On this basis, the European Commission is striving to create a single market for “environmentally friendly products” and “environmentally friendly organizations.”

Together with 22 national and international partners, we have also participated in the European research project FORCE – Cities Cooperating for Circular Economy since 2016. The project is concerned with developing new concepts to avoid and treat waste, especially from plastics, biomass, wood, and end-of-life electrical devices. We support the project with our expertise as a multi-metal recycler with the goal of improving the recycling of strategic metals (e.g., copper, gold, silver, and lead) through the best possible collection and dismantling system for waste electrical and electronic equipment.

We are an active member of the main economic, industry, and specialist associations at national and international level. Involvement in associations is important to us, even if the associations' members have different views. The objective is to encourage members to work together with stakeholders besides policymakers, for example investors and NGOs, by using our stakeholder networks and partnerships in the cases where this makes sense.

Selected memberships in associations:

- » Agoria (Belgian Federation for the Technology Industry)
- » ASSOMET (Italian Association of Non-Ferrous Metals Industries)
- » BAMI (Bulgarian Association of the Metallurgical Industry)
- » Federation of German Industries (BDI)
- » German Equities Institute (DAI)
- » EERA (European Electronic Recyclers Association)
- » Eurometaux – European Association of Metals
- » European Copper Institute (ECI)
- » German Chambers of Industry and Commerce (including Hamburg, Dortmund, Aachen)
- » International Copper Association (ICA)
- » Metallinjalostajat (Association of Finnish Steel and Metal Producers)
- » German Chemical Industry Association (VCI)
- » VNMI (Dutch Association of the Metallurgical Industry)
- » German Federation of the Metal Industry (WVMetalle)

We are also interested in dialogue in the political sphere. Through our Group representative offices in Berlin and Brussels, we find out early on about new legislative proceedings and other initiatives that could decisively influence our work. Our five employees on site therefore serve as contacts for actors in the European Commission, the European Parliament, the German Bundestag, the German federal ministries, and German federal state offices. We are politically neutral in the process, and communicate with all parties that are part of the democratic system and that don't hold discriminatory or bigoted views. Plant visits and political briefings are open to representatives of all parties committed to basic democratic consensus. We make this political communication transparent and open. We don't take any party-specific positions, nor do we favor anyone in our donations or sponsoring activities.

We carry out our lobbying activities with the greatest level of transparency possible. Aurubis is included in the European Union's Transparency Register and publishes data regarding its expenditures for lobbying at European level. As part of an initiative of the German Chemical Industry Association (VCI) to increase transparency in lobbying, Aurubis advocates for the introduction of a national lobbying transparency law in Germany.

## COMPLIANCE – ACTING IN ACCORDANCE WITH OUR VALUES AND THE LAW

GRI 102-16, 102-17, 103-1, 103-2, 103-3, 205-1, 205-2, 205-3, 206-1

For us, compliance isn't just following the law. It also means that we act in accordance with ethical principles and defined values, as well as internal corporate policies. Our Code of Conduct, which is valid for all employees across the Group, summarizes our common values. Together with the Executive Board, our compliance employees promote a compliance culture and actively strive to strengthen awareness for following rules and laws in the Group. Additional information on compliance within the scope of corporate governance is available in the Corporate Governance Report

» [Annual Report 2017/18, pages 22-23.](#)

Compliance management establishes the main targets, develops the corresponding organization, and identifies, analyzes, and communicates significant compliance risks. Our compliance program introduces principles and measures to limit risks and prevent violations. The Chief Compliance Officer reports regularly (and as the circumstances may require) to the Executive Board and Audit Committee regarding the development of the compliance management system, compliance violations, and compliance-related measures. He works closely with the employees responsible for risk management and Internal Audit. Within 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 company's Chief Compliance Officer is the central point of contact for all compliance-relevant questions and reports directly to the CEO. At the individual Group sites, local compliance officers are available as a point of contact for employees.

Our compliance measures include prevention, monitoring, and sanctions. Preventive measures comprise internal policies, guidance, and particularly the training of employees.

One of the central topics in our compliance activities is preventing corruption in our business activities. The anti-corruption measures are also established in our compliance management. The Corporate Anti-Corruption Compliance Policy and the Code of Conduct for employees, both of which apply Group-wide, are at the core of our anti-corruption efforts. Our compliance management system is used to assess our sites for any corruption risks.

The Code of Conduct prescribes correct conduct for all of the employees in accordance with our concept of responsible corporate governance. Every employee receives the Aurubis Code of Conduct and confirms that it has been received by signing the employment contract.

Moreover, we regularly train our employees across the Group on anti-corruption and antitrust law. All employees for whom these topics are relevant due to their responsibilities are trained on these topics about every three years, regardless of their level in the company hierarchy. Over the past three years, for example, a total of 1,300 employees received anti-corruption training (about 20% of the entire staff) and around 400 employees received antitrust law training. We are not aware of any antitrust or corruption cases in the reporting period.

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, which we use to review our raw material suppliers for any corruption risks [Q Responsible Supply Chain, pages 20-22](#).

Data protection is another compliance issue we prioritize. The Legal Affairs & Corporate Governance department oversees this issue. The department's data protection officer and data protection

manager are the contacts responsible for data protection. We overhauled our data protection management in 2018 and have been in the process of harmonizing it across the Group since then. We also want to continue developing concepts to raise awareness of the topic of data protection within the company.

Employees and business partners can make anonymous reports regarding legal violations and breaches of our codes and standards via a whistleblower hotline. It is also open to all of our external stakeholders. This hotline is operated by external, independent attorneys. The hotline operators follow up on any tips they receive, for example regarding possible cases of corruption, discrimination, or incidents in the supply chain. If any wrongful acts are actually proven, they can lead to warnings, dismissals, and/or damage claims. The hotline is available in English, German, and Spanish.

## RESPECTING HUMAN RIGHTS – THE FIRM FOUNDATION OF OUR ACTIONS

GRI 103-1, 103-2, 103-3, 406-1, 408-1, 409-1, 410-1

We respect human rights and advocate for their protection. We reject any form of discrimination, forced labor, or child labor and respect the rights of indigenous populations. Compliance with the internationally recognized core labor standards of the International Labour Organization (ILO) are of fundamental importance. The Executive Board is responsible for the issue of respect for human rights as implemented in our business activities.

We have been committed to the United Nations Global Compact since 2014 and thus to working on implementing its ten principles related to human rights, labor, the environment, and anti-corruption. These ten principles are derived from the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention against Corruption.

We do not tolerate discrimination. We have firmly established equal opportunity and mutual respect in the Aurubis corporate culture. We call on all employees to report cases of discrimination to their HR departments or the Chief Compliance Officer. We investigate these tips and enact measures to correct any issues. Our employees and business partners can report these cases anonymously through our whistleblower hotline. There were no instances of discrimination during the reporting period. We train our own security staff on human rights issues.

Our efforts regarding respect for human rights focus on our supply chain. The due diligence review of our business partners is at the center of our Business Partner Screening. Our gold production is certified as conflict-free according to the standards of the London Bullion Market Association (LBMA). The LBMA's Responsible Gold Guidance standards are oriented to the OECD Due Diligence Guidance for conflict minerals and include an assessment of any human rights violations. In our contracts with raw material suppliers, we expect our business partners to follow UN conventions related to human rights, environmental protection, and safety. [Q Responsible Supply Chain, pages 20-22](#).



## Growth and Innovation

Our Vision 2025 says it all: We will develop from a copper producer and recycler to a multi-metal group [www.aurubis.com/en/about-aurubis/vision-2025](http://www.aurubis.com/en/about-aurubis/vision-2025). In the future, we want to extract more metals beyond copper and process these metals into marketable products. In addition to our main metal, copper, our metal portfolio also includes the base metals gold, silver, lead, nickel, and tin. Moreover, we recover other metals from the following two groups: platinum group metals such as platinum and palladium, and minor metals like tellurium and selenium.

Our product portfolio offers a variety of possibilities for growth and innovation. After all, society needs our metals to tackle the big challenges of the modern age. Renewable energies, electric vehicles, digitalization, and urbanization are just four of the main trends. Furthermore, we can tap new potential with innovations on the market. Generally speaking, the elements that accompany copper concentrates increase the more that a mine is depleted. Our business partners are therefore becoming more and more interested in solutions to extract copper and other metals from complex starting materials. We act responsibly in doing so and are committed to the highest quality standards when it comes to our processes and services.

## INNOVATIVE AND INTERDISCIPLINARY – OUR MANAGEMENT APPROACH

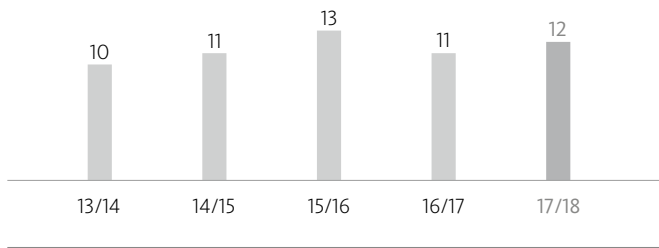
GRI 103-1, 103-2, 103-3

Internal innovations are very significant for us, as they help to secure our economic future. Our interdisciplinary Research, Development & Innovation department is part of the Technology division, which reports to the Chief Operating Officer. The international team is made up of employees from different disciplines. It cooperates especially closely with the departments overseeing environmental protection, production, quality, process technology, marketing, sales, and strategy. We also include external partners in innovation projects. In fiscal year 2017/18, we employed a total of 78 staff in our Research, Development & Innovation department (previous year: 67 employees). They are located at the sites in Buffalo, Finspång, Hamburg, Lünen, Olen, Pirdop, Pori, Stolberg, and Zutphen, and communicate extensively among one another.

The Aurubis Group's R&D expenditures in fiscal year 2017/18 amounted to € 12 million, compared to € 11 million in the reporting year 2016/17.

### R&D expenditures

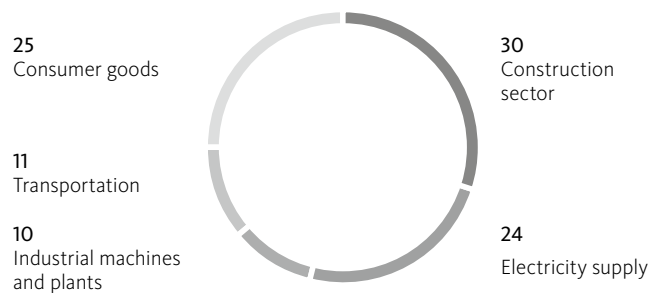
in € million



We have set the target of growing in the processing of complex raw materials. For this purpose, we utilize our expertise in smelting, refining, metal recovery, recycling, and copper processing to generate the highest added value, along our entire value chain, from the various raw materials we process.

### Global copper demand by sector

for 2018, in %



Source: Wood Mackenzie, 2018.

### Sustainability Strategy 2018–2023 – Action area “Growth and innovation”

Key measures	KPIs	Status in 2017/18
Developing and implementing innovative metallurgical processes with which we can expand our raw material base, among other things	100% increase in sales of metals besides copper by FY 2022/23 (base FY: 2016/17)	Investment project Future Complex Metallurgy (FCM) with facilities in Hamburg and Olen. Production is scheduled to start in 2020/21.
Establishing new sales channels for metals with strong demand growth		Implementation is an ongoing process.
Sustainably, successfully implementing the efficiency improvement program	<ul style="list-style-type: none"> <li>» Improvement in earnings: project success of € 200 million by FY 2019/20 (base FY: 2014/15)</li> <li>» Return on capital employed (ROCE): 15% target</li> </ul>	<ul style="list-style-type: none"> <li>» Efficiency improvement program with total project success of more than € 60 million in FY 2016/17 and FY 2017/18</li> <li>» Implementation of the Aurubis Operating System (AOS), the management system for ongoing improvements in earnings</li> <li>» Operating ROCE was 14.8% compared to 15.1% the year before</li> </ul>

### A MULTI-METAL RESEARCH FOCUS

Our Research, Development & Innovation department develops innovative projects and works on sustainable process and product improvements. We primarily concentrated on two key fields of work during the reporting period: On the one hand, we worked on new process developments for complex materials in light of the new multi-metal strategy. On the other hand, multiple projects focused on further optimizing existing core processes.

### FUTURE COMPLEX METALLURGY – CREATING MORE VALUE

Future Complex Metallurgy (FCM) is one of our key strategic internal growth projects. With FCM, we will leverage the potential value from complex input materials in the future and thus become an even more crucial partner for our suppliers' specific challenges.

We will be able to process up to 270,000 t more input materials each year thanks to FCM. In addition to complex concentrates, these can also include recycling materials, e-scrap, intermediates from copper, zinc, or lead smelters, metal-bearing slags, and materials containing precious metals. We have therefore developed an innovative metallurgical process which, among other things, improves the recovery of copper and (precious) metals from intermediate products.

The FCM facilities will be constructed at both the Hamburg (Germany) and Olen (Belgium) sites. We plan to create over 180 new jobs as FCM is implemented.

### INNOVATIVE ALLOYS

We also utilize our close contact with our customers to orient our R&D work to the demands of the market. One example can be found at Aurubis Stolberg: Under the “BlueBrass” brand, the site is developing a lead-free family of alloys that fulfills the current standards of the electrical and automotive industries in terms of conductivity, machinability, and formability. In the meantime, nine alloy varieties from the BlueBrass family are successfully marketed for wire. For strip products, the number of customer projects in the clock industry multiplied. Our product developments successfully made it through the approval process with some of our key accounts in this area. We expect to increase volumes of our BlueBrass products significantly in the coming years.

In the connector strip sector, we successfully expanded our sampling of low-alloyed, highly conductive copper alloys. Initial product approvals by our customers led to developments being transferred from project status to the standard product portfolio.

### R&D IN THE DIGITAL AGE

We are using more and more sensor technology in our main primary and secondary copper production processes. This helps us to stabilize and monitor these processes to a greater extent – and ultimately to boost metal recovery rates. In fiscal year 2017/18, we expanded our team in this specialized area. Our goal is to support the complex operating processes with advanced analytics methods. Only when we have a sufficient foundation of data can we sustainably implement improvements. An example of this is the data-driven energy consumption forecast at the Hamburg site. The project will enable us to react more flexibly to fluctuating energy prices in the future.

### AIMING FOR THE HIGHEST LEVEL OF QUALITY

With over 150 years of experience, modern and efficient production processes, and close communication with our customers, we ensure that our products meet high requirements. We set standards in recycling and generate copper of the highest quality from various and often complex raw materials.

As a result, we achieve two things: the high value added previously mentioned and consistently high quality for all copper products. At the same time, our goal over the entire life cycle of our products is to fulfill current and future environmental standards; to use raw materials, water, and energy as efficiently as possible; and to reduce our emissions continuously in the process.

The quality policy is prescribed by the Executive Board and implemented by quality management at the individual sites. We subject all products to comprehensive quality inspections. We utilize modern process management and quality assurance systems to fulfill international standards, legal regulations, and customer requirements.

Our quality management systems at all of the production sites are certified in accordance with ISO 9001:2015. The Segment Flat Rolled Products sites in Buffalo, Stolberg, and Zutphen have also been certified in accordance with the stricter rules of the standard IATF 16949. This standard applies first and foremost to suppliers of the automotive industry.

Our quality approach is also evident in our services. We offer our customers logistics services and commercial and technical customer assistance, for instance. Our engineers support our customers on site upon request. Training, seminars, and workshops round off our service portfolio.

Our customers' needs and feedback are important to us. Consequently, we carry out customer surveys and record key figures for customer satisfaction, such as delivery reliability and quality.

Product safety has top priority for us. Safety data sheets are available for copper and a number of other products. We can issue an inspection certificate for every delivery showing the precise chemical composition of the products and other physical parameters.

### QUALITY AND SAFETY: A MATTER OF COURSE

The Group-wide implementation of our new management system, the Aurubis Operating System (AOS), helps us continuously and sustainably improve our processes. The goals of AOS are to avoid operating losses, use technical facilities optimally, and establish standardizations and best practices. Following a successful pilot phase, AOS is currently being introduced at all of the main production sites and in the corporate functions.

We have already optimized processes at the Hamburg site in a number of AOS improvement teams. For instance, we have reduced production waste and material losses, minimized system outages, and shortened the downtimes of important machines. Because AOS impacts the entire staff, we prioritize intensive communication to support these measures. A two-day informational event was held in Hamburg with roughly 600 employees to kick off AOS. This will be followed up by twelve-week workshops centering on the individual focal points of the program in order to involve employees in the change process locally.



### Aurubis Operating System (AOS) – Example from the production sector

AOS is a management system designed to improve processes continuously and sustainably. In addition to the example for the production sector, AOS can be applied to the supporting functions with some adjustments, for example in administrative departments (transversals). [Q Annual Report 2017/18 Magazine, page 31.](#)



### A NEW, DIVERSE APPROACH

Many people associate us with copper first and foremost. That is still correct today, but we can do more and we are still developing. As part of our multi-metal strategy, we are recovering more and more non-ferrous metals besides copper, which enable a number of innovative applications for our customers. [Q Platinum Group Metals and Minor Metals in the Annual Report 2017/18 Magazine, pages 18-19](#)

### COPPER – CRUCIAL FOR CLIMATE PROTECTION

Copper is used as an excellent conductor of electricity and heat in energy grids, mobile phones, and heat pipelines. It also drives future low-CO<sub>2</sub> mobility solutions and is key for the use of renewable energies.

While a conventional car contains about 25 kg of the metal, electric cars, buses, and trucks include over three times more copper. It isn't used just for batteries, electric engines, and power electronics, however, but also for the necessary charging stations and their wiring. Today's global copper demand of about 0.4 million t for electric vehicles alone is expected to increase to nearly 3 million t in 2030.

In large offshore wind farms in the North Sea and Baltic Sea, up to 30 t of copper are used in each turbine. Our metals therefore make a considerable contribution to technologies that reduce CO<sub>2</sub> emissions and promote climate protection.

### GOLD – CRUCIAL FOR THE DIGITAL WORLD

Thanks to its ability to be shaped and processed, gold is not only attractive for the jewelry industry or dental technology, but is also an important precious metal for a number of industrial applications. Today, roughly 10% of the world's gold is in high-performance processors, connectors, and resistors in mobile phones, computers, and other electronic devices. Growing developments like digitalization and miniaturization increase demand further.

Gold is found in two raw materials in particular, which Aurubis obtains from conflict-free sources: For one, it is found in copper concentrates, but we also recover it by recycling scrap and industrial residues, especially e-scrap.

### SILVER – CRUCIAL FOR ELECTRICITY FROM SOLAR ENERGY

Silver is an important catalyst for the future of the industry and has high electrical and thermal conductivity. It is used in new conductor technologies, computers, and household appliances. Silver is also needed in the growth market of photovoltaics: A solar cell contains about 120 mg of silver. Furthermore, silver is crucial for Industry 4.0, for instance in automated inventory control systems.

Aurubis produces silver at the Hamburg site. Like most metals besides copper, it collects in the so-called anode slime of the copper tankhouse. We treat this anode slime and recover the silver it contains. [Q Annual Report 2017/18, pages 10-11](#)

## Recycling Solutions

Aurubis is a world leader in recycling copper, precious metals, and other non-ferrous metals. We actively take part in the modern circular economy, promote the efficient use of valuable resources, and contribute to raw material security. Due to a higher level of consumption and shorter product life cycles, the supply of recycling raw materials is also growing more quickly. In order to utilize the rising volume of secondary raw materials from the IT and telecommunications sectors, for instance, we are expanding the processing capacities for these types of e-scrap, working on new technologies, and investing in state-of-the-art facilities. We process about 700,000 t of recycling materials every year.

### NEW IDEAS FOR END-OF-LIFE MATERIALS – OUR MANAGEMENT APPROACH

GRI 103-1, 103-2, 103-3

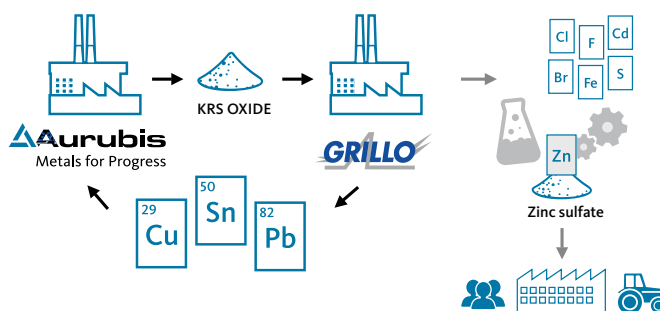
In the metal industry especially, recycling is a prerequisite for efficient and sustainable business activity. We are well positioned within the metal sector with our main metal, copper, because copper can be recycled over and over again without any loss of quality. Our strategic reorientation to becoming a multi-metal company means that we are investing more in recycling processes for precious metals and non-ferrous metals. Consequently, we have set the target in both the company strategy and the Sustainability Strategy derived from it to extract many metals besides copper through recycling, and to make these metals useful for society. In this way, we contribute to a circular economy and thus to the conservation of natural resources beyond our key expertise in copper recycling.

We process complex recycling materials found in different consumer goods, for instance electrical appliances and vehicles. These secondary raw materials are often components of e-scrap or material compounds that include plastic, ceramic, glass, or wood in addition to gold, silver, nickel, and tin. Separating them into material and product streams by type in order to reuse them is a significant challenge. We utilize highly developed mechanical, physical, and metallurgical separating and refining processes in different combinations for this purpose. In the future, our growth project Future Complex Metallurgy (FCM) will help us process up to 270,000 t of additional input materials.

Our Commercial division is responsible for sourcing recycling materials in the Group. It is separated into the areas Recycling Raw Materials, Product Sales & Marketing, and Customer Scrap Solutions. This organization aligns with our recycling approach: We use secondary materials as raw materials and, in the marketing of our products and in our customer relationships, consider the return of the metals at the same time.

The processing industry is part of both our customer base and our supplier base. Production waste accumulates during these companies' production processes. This includes materials with very high copper contents, such as Millberry scrap, which can be used again immediately as input material in copper production. However, we also return other substances to the value cycle in a meaningful way. Stamping waste containing copper and precious metals, alloy scrap, foundry slags, and other industrial residues are just a few examples.

As part of our "closing-the-loop" activities, we build up partnerships to take back valuable materials from our customers. Together with the specialist for zinc and sulfur Grillo Werke AG, we have developed a seamless material cycle for copper, zinc, and other valuable metals. The project enables the reuse and continued use of materials through a direct route between the Aurubis recycling center in Lünen and the Grillo location in Duisburg. The cycle was awarded a prize in 2017 in the Responsible Care competition of the German Chemical Industry Association (VCI).



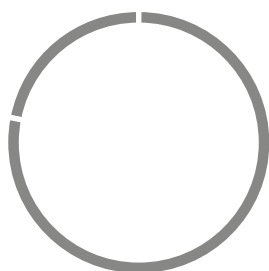
Sustainability Strategy 2018–2023 – Action area “Recycling solutions”

Key measures	KPIs	Status in 2017/18
Increasing the volume of complex recycling materials sourced	Direct sourcing of complex recycling materials from collection points: 100% volume growth by FY 2022/23 (base FY: 2016/17)	Raw material sourcing and processing are changing due to the rising complexity of the raw materials; for example, more material has to be purchased to recover the desired volumes. Furthermore, buyers receive a wider spectrum of materials. Both the raw material purchasing and production departments are adjusting their processes to the changing conditions.
Establishing and developing “closing-the-loop” systems as a result of new or intensified cooperation with original equipment manufacturers (OEMs), retailers, or copper product customers	Number of “closing-the-loop” systems with direct and indirect product customers from the metal value chain: target increase of at least 10 by 2022/23 (base FY: 2017/18)	From 2013 to the end of fiscal year 2017/18, we set up eleven new closing-the-loop projects. Our objective is to establish at least ten additional closing-the-loop systems with direct and indirect product customers.
Analyzing market conditions and future opportunities for sustainable products (think tank for metals, products, and services)		Aurubis is intensifying its processing of complex recycling materials and positioning itself as a high-performing, successful player in light of the increasingly demanding requirements placed on recycling. During the reporting period, we continued our work in the relevant associations for a uniform sector solution for sustainability in the supply chain.

Raw material input GRI 301-2

for the Aurubis Group in FY 2017/18, in million t

0.7  
Secondary  
raw materials



2.5  
Primary  
raw materials

The plant in Lünen was certified by TÜV Nord in accordance with the WEEE End Processor Standard in 2015 (WEEE = Waste Electrical and Electronic Equipment). This is a voluntary standard for the processing of WEEE materials containing copper and precious metals, such as circuit boards. We helped develop the standard and thus support the installation of organized recycling and disposal processes through compulsory standards. Since December 2018, the plant has been certified through WEEELABEX in accordance with the related European series of standards EN 50625. By adhering to these standards, Aurubis AG actively helps customers and suppliers fulfill the recycling requirements that all stakeholders place on them as well as possible within the scope of the law and beyond.

RECYCLING AS A LOCATION ADVANTAGE – IMPORTANT CONTRIBUTIONS OF THE COMPANY SITES TO THE CIRCULAR ECONOMY

Our recycling activities take place at multiple sites but are overseen centrally at Executive Board level. All site managers report to the Chief Operating Officer – and in the case of our subsidiaries CABLO and Elektro-Recycling Nord (E.R.N.), to the head of the Commercial division as well. We manufacture new products from recycling materials at different sites within the Group. Our sites in Lünen (Germany) and Olen (Belgium) specialize in recycling. They convert the recycling raw materials, which generally contain copper, into high-purity copper and other valuable metals.

Recycling raw materials are the primary feedstock used to fabricate cathode copper at our largest recycling plant, the Aurubis recycling center in Lünen. Up to 450,000 t of recycling materials are processed here annually. Tin-lead composite, nickel sulfate, and precious metals are drawn from recycling materials in addition to copper.

The Hamburg, Pirdop, and Olen sites also process recycling raw materials to produce cathode copper and precious metals. Though the primary smelters utilize copper concentrates as their main feed material, they also use copper scrap to a certain extent because it’s ideal for process cooling.

Moreover, we have two companies with unique recycling expertise within the Group: Our subsidiary CABLO specializes in recycling cable production waste and end-of-life cable scrap, while E.R.N. focuses on recycling electrical appliances and electronic devices of all kinds.

Together with 22 national and international partners, we are participating in the European research project FORCE – Cities Cooperating for Circular Economy. The project is concerned with developing new concepts to avoid and treat waste. Concretely, the goal is to understand and improve the material streams related to wood, plastic, biomass, and end-of-life electrical appliances. Our Hamburg site participates by sharing its expertise in recycling electrical appliances: Together with the city’s sanitation department, it tested the manual pre-dismantling of end-of-life appliances. The insights from this test should help appliance designers account for future recyclability in their designs.

## Responsible Supply Chain

We take responsibility for our actions. As a company with a high purchasing volume, we know that our suppliers have to work just as responsibly as we do. This is all the more important because we source raw materials from around the world for our business. In our current Sustainability Strategy, we have therefore set the target of continuing to manage our supply chains responsibly. In the process, we will take impacts on the social environment, the natural environment, and economic aspects into account.

### WE WANT TO KNOW WITH WHOM WE'RE WORKING – OUR MANAGEMENT APPROACH

GRI 102-9, 103-1, 103-2, 103-3

We process copper concentrates that are obtained from ores and are offered by mining companies and trading companies on the global market. We purchase the necessary raw materials for our two primary smelters in Hamburg and Pirdop. We don't have our own mines or stakes in mines. Apart from copper concentrates, we also

use copper scrap and other metal-bearing recycling materials, as well as bought-in intermediates, as feed material. We primarily source copper scrap and metal-bearing raw materials for recycling on the European market. Metal trading companies are the main actors on the supplier side, though some recycling materials also reach us directly from product manufacturers.

It is important to us to carefully select business partners in Germany and abroad. 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.

For primary raw materials, we value long-term relationships and strategic cooperation with our suppliers.

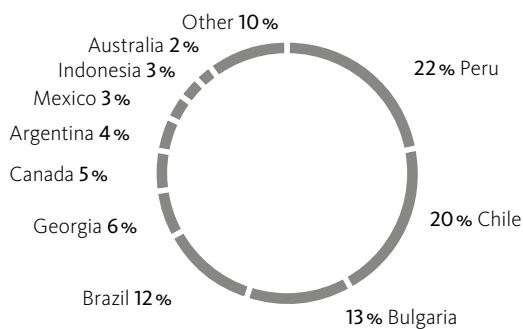
We source most of our secondary raw materials from Germany and other EU countries. Compared to primary raw materials, secondary raw materials are largely purchased on the basis of short-term supply contracts.

### Sustainability Strategy 2018–2023 – Action area “Responsible supply chain”

Key measures	KPIs	Status in 2017/18
Introducing the Aurubis Business Partner Code of Conduct across the Group (by FY 2018/19)		The process has started and is currently being coordinated.
Implementing Aurubis Business Partner Screening across the Group (by FY 2020/21)		Screening has already been expanded to the key sites Olen and Pirdop.
Including human rights, environmental protection, and safety clauses in supply contracts for primary raw materials (by FY 2022/23)	Percentage of contracts with primary raw material suppliers including a human rights clause: 100% target by FY 2022/23 (base FY: 2016/17; base percentage > 80%)	During the fiscal year, the percentage of contracts with primary raw material suppliers including the corresponding clause was over 80%.
Identifying a suitable sector solution		During the reporting period, we continued our work in the relevant associations for a uniform sector solution for sustainability in the supply chain.

#### Origin of primary raw materials<sup>1</sup> GRI 301-1

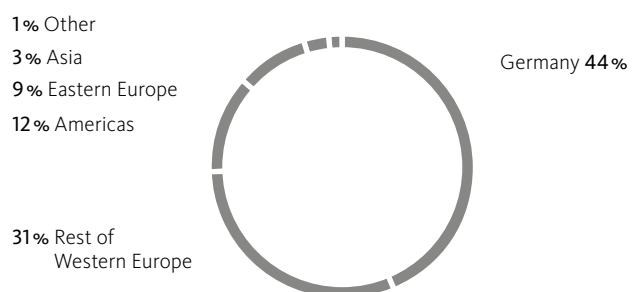
for the Aurubis Group in FY 2017/18



<sup>1</sup> Concentrate throughput in FY 2017/18 was 2.5 million t.

#### Origin of recycling raw materials<sup>1</sup> GRI 301-2

for the Aurubis Group in FY 2017/18



<sup>1</sup> About 600,000 t, excluding volumes for Segment Flat Rolled Products.

## GOOD SUPPLIER CONTRACTS FOR GOOD COLLABORATION

GRI 412-3

In some cases, our raw materials come from countries with a higher risk of corruption, human rights violations, and non-compliance with social and environmental standards. Responsibility in the supply chain is therefore one of the central topics of the Sustainability Strategy. We respect human rights, advocate for their protection, and adhere to the recognized core labor standards set out by the International Labour Organization (ILO). We have been a part of the United Nations Global Compact since December 2014 and are thus committed to working on implementing its ten principles related to human rights, labor, the environment, and anti-corruption. More information on respect for human rights is available in the section [Q Human Rights, page 13](#).

We have also pledged to comply with the OECD Due Diligence Guidance, which serves as an important international guideline for sustainable activities in the supply chain. This guidance regulates responsible global supply chain management in the processing of conflict-free raw materials.

We expect our business partners to follow all local laws. We also expect them to observe UN sanctions and trade restrictions, as well as UN conventions related to human rights, environmental protection, and safety. We have included a corresponding clause in our – usually long-term – supply contracts since 2013. In the meantime, this clause is a component of about 80 % of our supply contracts for primary raw materials. This should increase to 100 % by fiscal year 2022/23.

We source most of our copper concentrates from large global mining companies. They regularly publish their environmental standards and commit to sustainable business activities. They all operate in accordance with the OECD Due Diligence Guidance. Furthermore, most of these mining companies are organized in the International Council on Mining and Metals (ICMM) and commit to sustainable raw material mining.

We are convinced that all of the actors in the value chain – from the mine to the end user – bear responsibility for conscientious production and should work together on solutions. So far, there hasn't been a corresponding initiative to cover the entire supply chain for non-ferrous metals. We are in talks with different initiatives and associations to identify a joint approach within the industry. This joint path has priority for us.

## OUR BUSINESS PARTNER SCREENING

GRI 103-2, 103-3, 308-1, 414-1

Our due diligence in selecting suppliers has been supported by our Business Partner Screening since 2015 and applies to suppliers of both primary materials and secondary materials. Using this tool, we analyze our business partners in a structured manner with regard to their integrity relating to social and ecological criteria. Screening is guided by the OECD Due Diligence Guidance for Responsible Mineral Supply Chains.

Our corporate policies on Business Partner Screening and the processing of conflict-free gold raw materials establish responsibilities and processes within the Group. The Procurement and Sales departments are responsible for implementing this screening. We use internally configured software for screening across the Group. It assesses risks according to financial, tax, and criminal law aspects, as well as risks relevant to sustainability. The result includes a profile that, in the case of increased risk, leads to additional research by the Commercial, Compliance, and Sustainability departments.

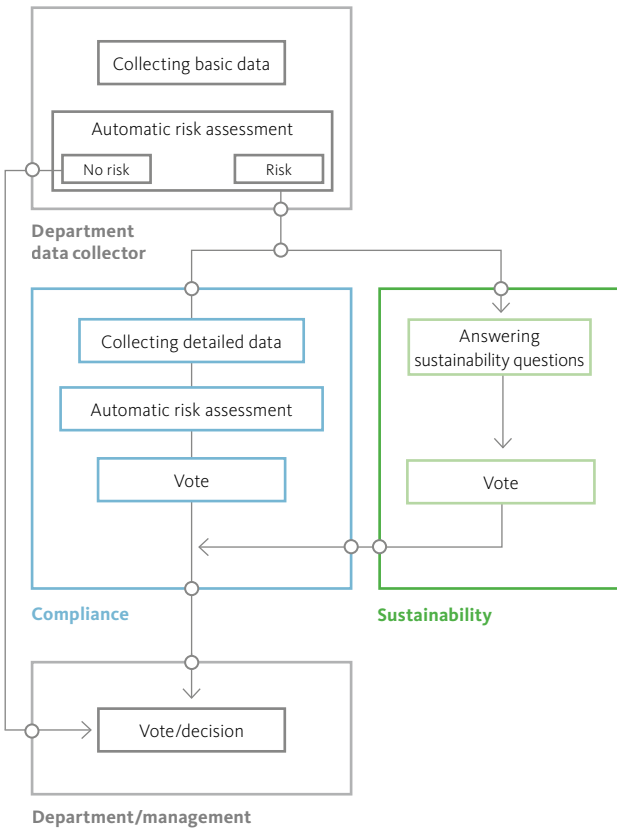
Based on this assessment, management decides on possible contracts or restrictions. The Compliance and Sustainability departments regularly repeat the review, with the time interval depending on the risk level that has been determined. New partners are reviewed before any contracts are signed.

Since 2013, we have been annually certified as conflict-free according to the standards of the London Bullion Market Association (LBMA). The certification verifies the effectiveness of our due diligence process related to gold production. The suppliers of other raw materials go through the same process as those that supply gold-bearing raw materials.

Close communication with our suppliers is part of our company policy. Our raw material purchasers routinely visit our suppliers. During these visits, they also observe the criteria that are relevant for the screening process.

Our compliance portal, also referred to as the whistleblower hotline, is publicly available online. The portal can be used to report violations in our supply chain and other issues to external, neutral lawyers, either confidentially or anonymously. The whistleblower hotline is available in German, English, and Spanish.

**Business Partner Screening: Risk assessment process**



**PRODUCTION ONLY WORKS WHEN THERE ARE OPERATING SUPPLIES AND MATERIALS**

GRI 204-1

In addition to primary and secondary raw materials, we source various operating supplies, investment goods, and services. The Hamburg and Lünen sites have roughly 4,100 active suppliers. At these two sites, which together make up Aurubis AG, 56% of the purchasing volume is covered locally, i.e., within a radius of about 100 km. The sites' Procurement departments are responsible for processing purchases. All materials and services are purchased on the basis of a Corporate Procurement Policy. The corporate function Corporate Procurement & Logistics, which works across sites and divisions, is responsible for concluding framework contracts, for process and organizational adjustments, and for overarching supplier management. Overarching topics are coordinated in regular meetings of the sites' procurement managers and corporate specialists. When it comes to environmentally relevant purchases at our German sites, we carry out an authorization process related to the purchases' environmental compatibility. This is used for waste disposal services, for example. We take a catalogue of questions about environmental protection, occupational safety, and social issues into account when selecting suppliers and service providers. It is updated regularly and has to be answered by all new suppliers. Suppliers that do not complete the questionnaire or that provide insufficient answers are not considered in the rest of the tendering procedure. We annually review the documents from our suppliers whose work is environmentally relevant to ensure that they are complete.

When sourcing investment goods, additional detailed environmental protection and safety requirements for the product and the supplier are defined and taken into consideration. The criteria include energy consumption, emissions, material input, prescribed disposal methods, the expected life cycle, and whether important test certificates are available, for example for material quality or employee qualifications.



# ENVIRONMENT

## Protection from Environmental Impact

We secure our leading position in environmental protection by steadily learning and improving. We assume Group-wide responsibility for environmentally friendly production. It is clear to us that the impact of our business activities on the environment and humans should be kept as low as possible. Environmentally sound multi-metal production from primary raw materials, such as ore concentrates, and recycling form the foundation for a responsible and demand-oriented metal supply in Europe. With these two focuses, we safeguard our sites and create the basis for viable investments.

## CONSCIOUSLY LIMITING IMPACTS – OUR MANAGEMENT APPROACH

GRI 103-1, 103-2, 103-3

In the interests of our environmental responsibility, we strive to conserve natural resources and maintain a clean environment for future generations.

We achieved the emission reduction targets for 2018 in 2017, exceeding them significantly in some cases. More information about the Sustainability Strategy 2013–2018 can be found at the end of the report on [Q pages 48-49](#).

### Sustainability Strategy 2018–2023 – Action area “Environmental impact”

Key measures	KPIs	Status in 2017/18
Introducing the ISO 14001 standard for environmental management across the Group (by 2022)		12 of 16 production sites are certified in accordance with ISO 14001.
Reducing specific metal emissions to water in multi-metal production with site-specific projects and individual measures	40 % emission reduction in copper production by 2022 (base year: 2012)	Metal emissions to water amounted to 1.0 g/t of copper output in 2017.
Reducing specific dust emissions to air in multi-metal production with site-specific projects and individual measures	15 % emission reduction in copper production by 2022 (base year: 2012)	Dust emissions amounted to 56 kg/t of copper output in 2017.
Reducing specific SO <sub>2</sub> emissions to air with site-specific projects and individual measures		SO <sub>2</sub> emissions amounted to 4.9 kg/t of copper output in 2017.

Our strategy and our targets are established in the company’s environmental protection guidelines and in our corporate policy. They are binding throughout the Group and contribute to the current Sustainability Strategy.

The main standards for our production are outlined in the permits issued by the governmental authorities. The baseline includes European regulations on immissions, emissions, water, waste, and disruptions, as well as their implementation in national law, plus the European chemical regulation REACH. Apart from our own guidelines, we are oriented to voluntary obligations from industry initiatives such as the chemical industry’s “Responsible Care” initiative and the non-ferrous metal industry’s “Metals pro Climate” campaign.

The Chief Operating Officer and Corporate Environmental Protection management are responsible for the strategic positioning of environmental protection in the Group. Environmental officers carry out individual environmental duties at the separate production sites.

Most of our sites have environmental management systems in accordance with ISO 14001/EMAS. During the reporting period, the certifications were confirmed through routine surveillance audits or recertification. At the Hamburg and Lünen sites, these systems are part of an integrated management system for quality, environmental protection, energy, and occupational safety.

These management systems don’t just fulfill legal requirements, but considerably improve our environmental performance. They assist us in recognizing relevant topics, potential improvements, and, in the case of deviations from specified targets, in initiating corrective actions.

#### Sites with certified management systems

Site	EMAS	ISO 14001	ISO 50001	ISO 9001
Hamburg, headquarters (DE)	✓	✓	✓	✓
Lünen (DE)	✓	✓	✓	✓
Pirdop (BG)		✓		✓
Olen (BE)		✓		✓
Fehrbellin, CABLO (DE)		✓	✓	✓
Nersingen, Strass, CABLO (DE)		✓	✓	✓
Hamburg, E.R.N. (DE)		✓	✓	✓
Buffalo (US)				✓
Pori (FI)		✓		✓
Avellino (IT)		✓		✓
Zutphen (NL)		✓		✓
Stolberg (DE)			✓	✓
Emmerich, Deutsche Giessdraht (DE)		✓	✓	✓
Stolberg, Schwermetall (DE)	✓	✓	✓	✓
Röthenbach, RETORTE (DE)				✓
Hamburg, Peute Baustoff (DE)				✓ <sup>1</sup>

<sup>1</sup> For the sale of iron silicate granules used to produce blasting abrasives.

To achieve our Group-wide environmental targets, we implement different local measures at our production sites. We monitor and control these measures using key parameters that are regularly recorded at the production sites and verified by external inspectors.

Our employees’ attitude and motivation have a considerable influence on the achievement of our environmental targets and on the enhancement of energy efficiency. As a result, we continuously inform our employees about all environmental and energy-related topics and train them accordingly.



We also carry out routine accident and emergency drills in coordination with the relevant authorities, documenting and evaluating them afterward. At the individual sites, we have emergency, alarm, and hazard prevention plans in place to effectively prevent environmental impacts and to protect our employees and the surrounding population. The environmental officers of all of the Group’s production sites have taken part in meetings organized by Corporate Environmental Protection to exchange information twice a year since 2008. They present best practices that the other sites can emulate, among other things.

**AIR – CLEAR TARGETS**

GRI 305-7

The dust emissions arising during copper production can contain metals and metal compounds. We have already achieved a great deal in reducing dust emissions with the help of technical measures. By consistently using the best available techniques, we have minimized specific dust emissions for primary and secondary copper production by 96% since 2000. One of the main focuses in the 1990s was the use of state-of-the-art filter technologies for all directed emission sources from chimneys. Today, projects to reduce so-called fugitive emissions have high priority. Such emissions can arise in areas near hall openings – such as gates, doors, or ridge turrets – and during material storage and handling, for instance. Technical options for reducing directed dust emissions have been virtually exhausted. Nevertheless, avoiding fugitive emissions will continue to challenge us in the future. We want to overcome these challenges by using innovative technology and training our employees.

In 2012, we set a target as part of our Sustainability Strategy 2013–2018 to reduce dust emissions to air by 10%. In the end, we lowered dust emissions from 72 (2012) to 56 g/t of copper output (2017) – a total of 22%. Many individual measures have also played a role in this development, such as more modern filters, the optimization of existing facilities, and the reduction of fugitive emissions.

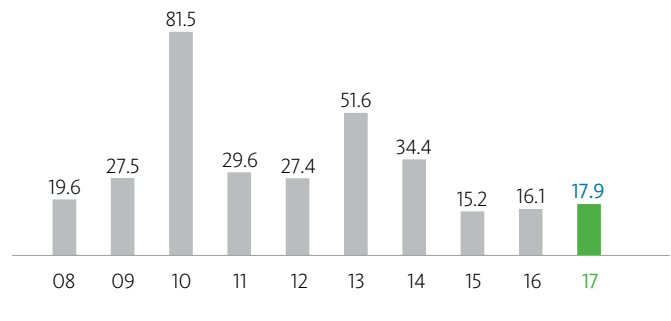
Reducing dust emissions is one of our central targets in the future as well, which is why we have included this area in the new Sustainability Strategy. We expect our total input to rise as a result of our multi-metal approach, which will increase the total volume of processed materials at a higher rate than the copper output. It will thus be a challenge in years to come to keep the ratio of calculated emission values to copper output at this low level. Our goal is to keep dust emissions under 61 g/t of copper output until 2022, despite the planned increase in total input, for a total reduction of 15% since 2012.

The following site-specific projects and individual measures help reduce environmental impacts to the air:

- » To reduce fugitive emissions, a new facility is being built in Pirdop to cool converter slag in pots. Commissioning is expected in late 2019.
- » Other emission improvements are currently being reviewed after the smelter hall openings were closed in Lünen.
- » To continue cutting fugitive emissions, a suctioning system for the ridge turrets in the Hamburg converter hall is being installed in connection with a flow improvement and developments in the existing auxiliary hood filter system. The permit for the project has been issued. Commissioning is scheduled for 2021.

**Environmental protection investments in copper production**

in € million



Apart from copper, sulfur is one of the main components of the copper concentrates used as feed. The gaseous sulfur dioxide produced when concentrates are smelted is converted into sulfuric acid in the sulfuric acid plant using the modern double catalysis process. When compared internationally, Aurubis is a forerunner in reducing sulfur dioxide emissions: We have reduced emissions per ton of copper output by 86% since 2000. This was due in part to the construction of the Sulfacid facility in Pirdop – a unique project in the non-ferrous metals industry.

Reducing SO<sub>2</sub> emissions (sulfur dioxide) was already a target in our previous Sustainability Strategy. We have continued this target in the new strategy. With the 2018–2023 strategy cycle, we are starting with a new analysis and planning process for site-specific projects and individual measures to reduce specific SO<sub>2</sub> emissions to the air from multi-metal production.

**Key figures related to nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and dust** GRI 305-7

in g/t of copper output

	2000	2012	2013	2014	2015	2016	2017
Specific dust emissions <sup>1</sup>	1,291	72	52	55	55	60	56
Specific NO <sub>x</sub> emissions <sup>1</sup>	–	0.55	0.66	0.53	0.62	0.63	0.54
Specific SO <sub>2</sub> emissions <sup>2</sup>	34.8	5.6	5.6	4.7	5.1	5.1	4.9

<sup>1</sup> Values based on copper production, i.e., at the Hamburg, Lünen, Pirdop, and Olen sites.

<sup>2</sup> Values based on primary copper production, i.e., at the Hamburg and Pirdop sites.

In 2018, for the first time since 2006, the Hamburg Environmental Authority determined that measurements taken at a public measuring station in the district of Veddel near our Hamburg plant exceeded the target outlined in the 39th ordinance implementing the German Federal Immission Control Act (BImSchV) for arsenic in particulate matter in the ambient air. According to the data released, the average for the year was about 1.8 ng/m<sup>3</sup> over the legally defined target of 6 ng/m<sup>3</sup>. As in past years, our Hamburg plant adhered to and fell significantly below the limits prescribed for all of the emissions permitted for the operation of our facilities. Nevertheless, we will continue the extensive emission reduction programs of the last several years, minimizing emissions further and thus actively ensuring that the ambitious target at the Veddel measuring station is adhered to even under unfavorable climate conditions.

**REPURPOSING WASTE HEAT – WATER AND WATER POLLUTION CONTROL**

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

We use water in our production processes and for cooling purposes. The sparing use of water resources and continuous improvement in water pollution control are included in our company guidelines. Furthermore, treating wastewater and thus avoiding environmental pollution is one of our responsibilities in industrial environmental protection since water may contain metals after use.

The relevance of water-related aspects is reviewed at the sites with the help of the environmental management systems and in the course of permit procedures. Inspections also include the influence of production on bodies of water. The environmental management systems are audited and certified annually.

Water quality is crucial in the targets for water consumption. Consequently, we have set ourselves the target of reducing metal emissions to water in multi-metal production with site-specific projects and individual measures.

In the scope of the Sustainability Strategy 2013–2018, we worked toward a 10% reduction in metal emissions. We lowered these emissions from 2.2 (2012) to 1.0 g/t of copper output (2017) – a total of 56%. We achieved this reduction first and foremost by building and optimizing the water treatment plants in Pirdop and Lünen.

We included this target again in the Sustainability Strategy 2018–2023. We want to continue reducing specific metal emissions to water in multi-metal production. We expect our total input to rise as a result of our multi-metal approach, which will increase the total volume of processed materials at a higher rate than the copper output. It will thus be a challenge in years to come to keep the ratio of calculated emission values to copper output at our low level. Our goal is to keep metal emissions to water under 1.3 g/t of copper output until 2022, despite the planned increase in total input, for a total reduction of 40% since 2012.

The following site-specific projects and individual measures help reduce environmental impacts to water:

- » We extract industrial heat for the heat supply of the Hamburg urban development district Hafencity East. This industrial heat is formed when sulfur dioxide – a by-product of copper smelting – is converted to sulfuric acid. This prevents the use of 12 million m<sup>3</sup> of cooling water and Elbe River water each year, as the excess warmth is now used for heating purposes. Incidentally, this industrial heat is nearly CO<sub>2</sub>-free.  
[Q We focus on energy efficiency, page 30.](#)
- » To reduce the use of city water in Lünen, a facility for rainwater retention, preparation, and utilization was commissioned in 2014. The collected rainwater will cover a large proportion of the plant's internal cooling and process water needs in the future. In the course of this project, the process wastewater, sanitary water, and precipitation have been fully separated from one another. We will continue to develop and modernize the canal network at the site.

- » In November 2014, a new surface water treatment plant was commissioned at our site in Pirdop, Bulgaria. With a capacity of 250 m<sup>3</sup>/h and multiple retention basins, the plant cleans the rainwater and drainage water from the 4 km<sup>2</sup> premises in order to achieve a further reduction in metal emissions to water.
- » In Pirdop, there are plans to install a new sand filter in the existing treatment plant for industrial wastewater, which should reduce emissions from undissolved substances.
- » A new pumping station for rainwater was installed in Avellino.

We used a total of 70 million m<sup>3</sup> of water in 2016 and 74.9 million m<sup>3</sup> in 2017 in copper production, mainly as cooling water. We use river water wherever possible to conserve the natural potable water resources. The absolute potable water consumption was 1.1 million m<sup>3</sup> in 2016 and 1.2 million m<sup>3</sup> in 2017. We have reduced our specific potable water consumption in copper production by a total of 40 % since 2000. We achieved this reduction with more efficient facilities and the use of rainwater.

**Key figures related to water and wastewater** GRI 303-1, 303-3, 303-4, 303-5

		2012	2013	2014	2015	2016	2017
<b>Water</b>							
Water consumption in copper production <sup>1</sup>	million m <sup>3</sup>	79.7	72.2	77.2	73.8	70.0	74.9
Potable water consumption in copper production <sup>1</sup>	million m <sup>3</sup>	1.1	1.2	1.2	1.2	1.1	1.2
Specific potable water consumption in copper production <sup>1</sup>	m <sup>3</sup> /t of copper output	0.8	0.9	0.8	0.9	0.8	0.8
Total water discharge <sup>1</sup>	million m <sup>3</sup>	76.3	68.3	75.1	69.9	65.1	69.1
Quality of water discharge: metal emissions to water <sup>2</sup>	in g/t of copper output	2.2	1.8	1.3	1.0	1.1	1.0

<sup>1</sup> The figures relate to the copper production sites, i.e., to primary and secondary copper production at the Hamburg, Lünen, Olen, and Pirdop sites.

<sup>2</sup> In Lünen, wastewater is directed to the public sewer system after being treated on the plant premises. In our reporting, we refer to the copper production sites that discharge directly into water. These sites are Hamburg, Olen, and Pirdop.

## WASTE – ENSURING PROPER DISPOSAL

GRI 306-2

Effective waste management is one of the central pillars of industrial environmental protection for a company in the basic materials industry. A total of about 103,000 t of waste accumulated in Aurubis' copper production processes in 2017. About 40% of it, or roughly 39,000 t, originated from demolition work during our construction projects. A total of 42% of the remaining production-related waste – 64,000 t overall, comprising 47,000 t classified as hazardous waste and about 17,000 t classified as non-hazardous waste – was recycled.

In addition, a fine-grained material – known as fayalite – is produced at the Pirdop site through the flotation process used there to recover the copper contained in copper smelter slag. Fayalite is used as an additive for cement production, for instance. We are reviewing additional options for reusing fayalite and are marketing it more actively.

We transported olivine-pyroxene stone and slag material that we weren't able to market as substitute building material from the Hamburg site to landfills, reusing a large proportion of it as landfill construction material in the process.

When transporting our products, we generally employ reusable pallets in order to avoid waste. We select recyclable material for packaging foil and straps.

### Key figures related to waste GRI 306-2

in t

	2012	2013	2014	2015	2016	2017
Total hazardous waste	43,157	38,606	36,928	40,300	37,349	47,246
Total non-hazardous waste	16,985	16,579	14,023	12,286	15,314	16,828
Construction waste	58,929	50,523	28,983	42,698	51,002	38,725

The figures relate to the copper production sites, i.e., to primary and secondary copper production at the Hamburg, Lünen, Olen, and Pirdop sites.

## CONSERVATION AND PROTECTION – BIODIVERSITY

GRI 304-1

We are actively involved in creating and maintaining good conditions for species conservation and biodiversity in our plants and their surroundings. Protecting biodiversity is one of our environmental targets.

The aspect of biodiversity was also inspected by governmental authorities as part of authorization procedures that included environmental compatibility tests. If any impacts on biodiversity were expected, we implemented the required compensating measures. Furthermore, we conserve the habitats of animals and plants in the areas surrounding our sites with our extensive water treatment, air emission reduction, and waste treatment methods.

### Conservation areas in close proximity to copper production sites

GRI 304-1

	Distance in m	Direction
<b>Hamburg</b>		
Hamburger Unterelbe	200–600	Southeast
Holzhafen	600–1,000	East
Heuckenlock/Schweenssand	3,600	South
<b>Pirdop</b>		
Tsentrallen Balkan – bufer (nature conservation area)	approx. 1,000	North
Tsentrallen Balkan – bufer (bird conservation area)	approx. 1,700 approx. 2,300	North East
Sredna Gora	approx. 2,300	South
<b>Lünen</b>		
In den Kämpen, Im Mersche, and Langerner Hufeisen	< 2,000	Northeast
Lippeaue	< 5,000	Northwest
Lippe-Unna, Hamm, Soest, Warendorf	< 2,500	Northwest
<b>Olen</b>		
Valleigebied van de Kleine Nete met haar brongebieden, moerassen en heiden	approx. 1,000	North
De Vallei van de Kleine Nete Benedenstroom	approx. 1,000	North
Het Olenbroek-Langendonk	approx. 1,000	North

Wherever possible, we maintain or expand green areas on our plant grounds. For instance, we take part in the Hamburg initiative UnternehmensNatur to promote biodiversity at our site there. Due to long-time industrial use, soil contamination typical for industrial areas can appear, which we work to prevent from mobilizing and spreading. We commissioned a new sewer line at the Olen site to protect the nature conservation area Olen's Broek in late 2015. When we have to expand usable areas on our plant premises, we choose areas that naturally have limited biodiversity.

Additional measures are currently being devised to protect and reinforce biodiversity. For example, we are planning to restore a fayalite landfill that was closed at the Pirdop site in late 2018. After we receive the construction permit, we expect to finish the restoration efforts by the end of 2020. In Hamburg, the setup of a green facade (pilot) is being planned to promote biodiversity and improve the ambient air. The project should be implemented in 2019.

## Energy and Climate

### EFFICIENTLY COUNTERACTING EMISSIONS – OUR MANAGEMENT APPROACH

GRI 103-1, 103-2, 103-3

The individual production steps in our value chain are energy-intensive. As a result, it makes both economic and ecological sense to use energy efficiently. Energy consumption is also the main source of CO<sub>2</sub> emissions in the Group.

Our production contributes to reducing CO<sub>2</sub> emissions at the same time, as our metals play a key role in electric cars and renewable energies such as wind energy. Electric cars contain significantly more copper than vehicles with combustion engines, and connecting an offshore wind turbine to the energy grid requires up to 30 t of copper. Our metals therefore make the low-CO<sub>2</sub> technologies of the future possible.

We report our CO<sub>2</sub> emissions on a voluntary basis each year as part of the climate change program of the Carbon Disclosure Project (CDP). CDP gathers and evaluates data about companies' emissions, climate risks, and reduction targets and strategies. More information about the risks related to climate and energy is available in the Risk and Opportunity Report in the [Q Annual Report 2017/18, page 88](#).

In our company guideline entitled "Energy & Climate," we describe how we secure and optimize the energy supply and energy consumption at Aurubis, and we explain the roles and responsibilities of the sites and Group departments in this area.

The Energy & Climate Affairs department coordinates the development of the energy management and monitoring systems across the Group. In this way, they provide a uniform approach and facilitate the exchange of expertise regarding best practice examples related to energy and CO<sub>2</sub> reductions, for instance in the form of an internal energy efficiency network. The management of Energy & Climate Affairs is responsible for developing and implementing the Group-wide energy strategy and reports directly to the Executive Board.

We have introduced energy management systems at our large production sites. Eight sites are currently certified in accordance with ISO 50001. The plan is to introduce these systems across the Group to control energy consumption efficiently and identify energy savings potential. During the reporting period, the certifications were confirmed through routine audits or recertification. The energy management system at the Hamburg and Lünen sites is part of the integrated management system for quality, environmental protection, energy, and occupational safety.

Beyond our involvement within the Group, we are in regular contact with external partners regarding energy and emissions issues. For example, in Germany, we participate in the Energy Efficiency Platform led by the Federal Ministry for Economic Affairs and Energy, as well as the national Energy Efficiency Networks Initiative through the networks of the German Non-Ferrous Metals Association (WVM) and the Hamburg Industrial Association. However, we also contribute to climate and energy policy initiatives at regional level, such as the innovation alliance NEW 4.0 – Northern German EnergieWende and the Energy Efficiency Network of the Aachen region.

We also take part – both independently and through industry associations – in political dialogue to counter the challenges that regularly arise from changes to regulatory requirements. During the reporting period, this dialogue addressed the German Energy Collection Law, the EU's Energy Efficiency Directive, and the reform of the EU Emissions Trading System (ETS) with CO<sub>2</sub> certificates, which is intended to prevent the outsourcing of CO<sub>2</sub>-intensive processes to regions outside of the EU. More information about our dialogue with stakeholders is available in the section "Active dialogue – Our stakeholder involvement" in this report. [Q Active dialogue – Our stakeholder involvement, pages 10-11](#).

**Sustainability Strategy 2018–2023 – Action area “Energy and climate”**

Key measures	KPIs	Status in FY 2017/18
Introducing the ISO 50001 standard for energy management across the Group (by FY 2021/22)		Eight sites are currently certified in accordance with ISO 50001.
Increasing flexibility in electricity purchasing	Flexibility in electricity use: 10 % target by FY 2022/23	Currently, 5 % of the power is flexible. A new project (an electrode boiler with 10 MW of power) is underway.
Reducing CO <sub>2</sub> emissions by 100,000 t through energy efficiency projects and internal electricity projects	CO <sub>2</sub> emissions: reduction target > 100,000 t by FY 2022/23 (base FY: 2012/13)	Target achievement is at 73 %.
Energy efficiency projects (such as increased heat extraction for supplying district heating, as well as electricity projects within the company)		The energy efficiency projects are implemented continuously through the action plan within the scope of the energy management systems.
Investigating processes and electricity consumption in the context of the German Climate Action Plan 2050 and analyzing the requirements for new investments (starting FY 2018/19)		A study on this topic has been commissioned.

**WE FOCUS ON ENERGY EFFICIENCY – FOR LOWER COSTS AND LOWER ENVIRONMENTAL IMPACTS**

GRI 203-1, 203-2, 302-1, 302-3, 302-4

The effective and efficient use of energy is an ongoing topic at Aurubis. In the meantime, we have reached a level where, despite continued high levels of investment, we can only achieve relatively marginal improvements, as there are technological limits to reducing energy consumption and emissions. For instance, the use of complex recycling raw materials with relatively low copper contents requires more energy in relation to copper output, though other valuable substances are drawn from the materials apart from copper.

We believe it is important to align environmental protection, resource conservation, and energy efficiency. This is why environmental protection already accounts for part of the energy consumption at Aurubis today. This includes the operation of filters with fans and other suctioning equipment.

Moreover, our long-term goal is to increase the proportion of electricity from renewable energies that we use for our production facilities. Fluctuation in the supply of renewable energies is nevertheless a challenge for us, as a constant energy supply is crucial to our production processes. As a result, we are working on initiatives to make our energy needs more flexible to enable the use of renewables.

We are participating in the project NEW 4.0, which is funded by the German Federal Ministry for Economic Affairs and Energy. The goal of the project is to supply the entire region of Hamburg and Schleswig-Holstein with regenerative electricity in a safe, cost-effective, and environmentally sound manner. This calls for a flexible and intelligent network of electricity producers and consumers.

However, we also cover a portion of our energy needs with electricity we generate internally using excess heat from our processes. We installed steam turbines for this purpose in Hamburg, Lünen, and Pirdop. This allows us to prevent over 30,000 t of CO<sub>2</sub> per year.

On top of that, we use waste heat from the production processes to secure the heat and process steam supply at the Pirdop, Lünen, and Hamburg sites. Demand there is largely covered by waste heat.

At the Hamburg site, we found another use for the CO<sub>2</sub>-free waste heat that hasn't been used up to now: Together with the energy service provider enercity, we implemented the largest industrial heat project in Germany within two years. The excess heat from our Hamburg plant is used in HafenCity East, a new urban district located nearby.

Recovering the approximately 160 million kWh of nearly CO<sub>2</sub>-free heat – equivalent to the annual heat demand of 8,000 four-person households – prevents more than 20,000 t of CO<sub>2</sub> emissions per year. About half of the reduction results from avoiding the use of natural gas to produce steam on our plant premises; we save the other half by delivering the waste heat to enercity. Furthermore, our contact acid plant no longer has to be cooled with river water, so we use about 12 million m<sup>3</sup> less cooling water – the volume of around 4,800 Olympic-sized swimming pools.



The Industrial Heat project has already received a great deal of recognition and several accolades among expert circles. The German Energy Agency (dena) not only presented it as one of ten flagship projects for the energy-efficient use of waste heat, but also honored it with the internationally renowned Energy Efficiency Award. Overall, the project has been granted the following honors:

- » Energy Efficiency Award 2018 from the German Energy Agency in the category “Energy Transition 2.0”
- » German Renewables Award 2018 from the Hamburg Renewable Energies Cluster in the category “Project of the Year”
- » Flagship Project for Energy-Efficient Waste Heat for the German Energy Agency since 2017
- » Ener.CON Europe Award 2019 from we.CONECT

The total potential heat volume that could be extracted at Aurubis amounts to up to 500 million kWh, which could cover more than a tenth of Hamburg’s district heating needs and prevent about 140,000 t of CO<sub>2</sub>. This is nearly equivalent to the amount that Hamburg industry wants to save annually starting in 2018. To leverage this savings potential efficiently, there would have to be additional political measures in place – for instance, the allocation of free certificates for the EU emissions trading system for CO<sub>2</sub> emissions that are prevented outside of the plant premises.

Beyond the use of industrial heat, we do a great deal to continue enhancing our energy efficiency. Our Olen plant won second place in the environmental contest held by the city of Olen in June 2018 for its achievements in sustainable energy use. Aurubis Stolberg is part of the Energy Efficiency Network for companies in the Aachen region, sponsored by the Aachen Chamber of Industry and Commerce. The site regularly informs its network partners about the successful measures implemented during the past few years: For example, the renovation of the flash smelter for strip reduced gas consumption by 20% and shielding gas by 50% last year. However, even smaller changes such as switching to LED lights have a positive impact on the energy balance. Projects and routine training sessions encourage employees to take energy issues into account in their conduct.

Energy-efficient burners are used at the Hamburg site. We are also in the process of improving heat use at the plant by updating the insulation and optimizing indoor cooling and heating.

These types of energy efficiency measures aren’t only taking place at our Hamburg plant, though. Other examples include our Stolberg site and the Deutsche Giessdraht GmbH plant in Emmerich. Using excess heat from air compressors, optimizing the heating and cooling process (including heat use in the production facilities), and installing LED lighting and more efficient engines are a few developments that have saved energy at these sites. We will transfer these efficiency measures to other sites such as Avellino, Pirdop, and Olen in the future.

Our total energy consumption in 2017 totaled 3,536,114 MWh and thus increased slightly compared to the previous year, primarily due to the expansion of production in Pirdop and two large-scale shutdowns in Hamburg and Pirdop during the previous year, which led to a lower output volume. Natural gas and electricity are our main energy sources. The following table provides a detailed breakdown of our energy consumption.

Key figures related to energy consumption GRI 302-1, 302-3, 302-4

		2015	2016	2017
<b>Total energy consumption within the organization</b>	<b>MWh</b>	<b>3,463,566</b>	<b>3,366,552</b>	<b>3,536,114</b>
<b>Total energy consumption from renewable energies</b>	<b>MWh</b>	<b>163,495</b>	<b>170,198</b>	<b>171,908</b>
<b>Total fuel consumption</b>	<b>MWh</b>	<b>1,750,786</b>	<b>1,716,271</b>	<b>1,667,606</b>
Total fuel consumption from non-renewable sources	MWh	1,747,596	1,713,907	1,664,934
Natural gas	MWh	1,256,308	1,199,773	1,154,935
Heating oil	MWh	6,171	7,898	5,246
Liquefied petroleum gas (LPG)	MWh	46,235	34,579	40,210
Diesel	MWh	32,772	48,024	51,723
Fuel oil	MWh	281,280	303,430	286,568
Coke	MWh	91,635	84,217	91,594
Butane gas	MWh	33,195	35,986	34,658
Total fuel consumption from renewable sources		3,188	2,364	2,672
Wood and wood waste	MWh	-	377	-
Landfill gas (LFG)	MWh	3,188	1,987	2,672
<b>Total electricity consumption<sup>1</sup></b>	<b>MWh</b>	<b>1,712,780</b>	<b>1,650,281</b>	<b>1,825,472</b>
Total bought-in electricity	MWh	1,680,443	1,612,879	1,790,611
from non-renewable sources	MWh	1,552,472	1,482,447	1,656,236
from renewable sources	MWh	127,971	130,432	134,375
Consumption from internally generated renewable energies	MWh	32,336	37,402	34,861
Consumption of bought-in steam	MWh	-	-	43,036
<b>Energy intensity<sup>2</sup></b>	<b>MWh/t</b>	<b>2.0</b>	<b>2.1</b>	<b>1.9</b>
<b>Reduction in energy consumption</b>	<b>MWh</b>	<b>-</b>	<b>-</b>	<b>15,822</b>
Steam turbine in Pirdop	MWh	-	-	12,049
Optimizations in Hamburg	MWh	-	-	3,679
Optimizations in Olen	MWh	-	-	94

<sup>1</sup> Increase due to production expansion in Pirdop in 2017. The figures for 2016 are lower because of large-scale shutdowns in Hamburg and Pirdop in the same year.

<sup>2</sup> These figures relate to the copper production sites, i.e., to primary and secondary copper production at the Hamburg, Lünen, Olen, and Pirdop sites.

Key figures related to CO<sub>2</sub> emissions<sup>1,2</sup> GRI 305-1, 305-2, 305-3, 305-4, 305-5

		2015	2016	2017
<b>Scope 1 and 2</b>	<b>t</b>	<b>1,715,718</b>	<b>1,669,129</b>	<b>1,634,694</b>
Scope 1 (emissions produced as a direct result of burning fuels in internal facilities)	t	518,376	519,823	529,239
Scope 2 (indirect emissions related to purchased energy, e.g., electricity)	t	1,197,342	1,149,306	1,105,455
<b>Scope 3 (other indirect emissions)</b>		<b>1,761,036</b>	<b>1,642,839</b>	<b>1,901,182</b>
<b>Emissions in t/t of copper output</b>	<b>t/t</b>	<b>0.21</b>	<b>0.22</b>	<b>0.19</b>
<b>Emission reduction</b>	<b>t</b>	<b>-</b>	<b>-</b>	<b>13,788</b>
Wind turbine in Olen	t	-	-	12,000
General process optimizations	t	-	-	788
Process optimizations in rod plants	t	-	-	1,000

<sup>1</sup> Aurubis reports CO<sub>2</sub> emissions for the production sites. This reflects most of the CO<sub>2</sub> emissions because the emissions volume at the sales offices is negligible in comparison. Emissions from diesel vehicles are not included in the direct CO<sub>2</sub> emissions because they are very low, relatively speaking.

<sup>2</sup> Aurubis reports its CO<sub>2</sub> emissions using the methods of the "European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations" and "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)."



### HOW WE CHOOSE OUR ROUTES – TRANSPORT AT AURUBIS

Our business involves transporting goods, whether this is the delivery of our raw materials, the exchange of goods between our production sites, or the delivery of finished products to our customers. We try to optimize this transport traffic and to limit the environmental impacts it causes.

Our suppliers of primary raw materials, which are mainly located in South America, process mined copper ore with a copper content between 0.5% and 4% into copper concentrate on site. The concentrate, with a typical copper content of up to 30%, is then shipped to Europe and transported further by inland vessel or rail. We source over 80% of our secondary raw materials directly from Europe.

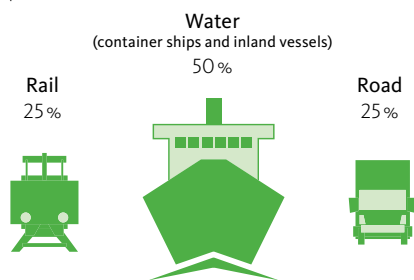
We select our carriers according to established criteria. Although economic and timing aspects have priority, we favor the most environmentally friendly carrier whenever possible. Accordingly, we prefer waterways over rail, and road transport is the last resort. Of the freights and transports we oversee, about 50% take place by waterway, 25% by rail, and 25% by road.

One example of our transport optimizations is the Cu-Port project at our Olen site. The plant’s convenient location on the Bocholt-Herentals Canal makes it an ideal destination for water transports. As part of a public-private partnership between Aurubis and De Vlaamse Waterweg, the operator of the canal system, the so-called Cu-Port is now being developed at the site: a new container crane, together with a new quay wall and a connection to the existing railway network. Everything should be completed by fall 2019. This project not only provides us with a long-term, cost-efficient solution for our material flow on site, but also has a positive effect on traffic safety and quality of life in the region: It will reduce the number of trucks on the roads by 13,000 annually. Aurubis Belgium’s water transports are expected to rise from currently 10% to 40%.

Another area in which we are trying to improve transports is inter-plant traffic. To limit this as much as possible, we continuously review how we can optimize cargo loads and return trips. Furthermore, we maintain a dialogue with our suppliers and customers to tap additional transport synergies.

### Modes of transport

Across the Group



### OUR CO<sub>2</sub> FOOTPRINT – SCOPE 1, 2, AND 3 EMISSIONS

GRI 305-1, 305-2, 305-3, 305-4, 305-5

Our Sustainability Strategy 2013–2018 included the target of reducing CO<sub>2</sub> emissions by 100,000 t in the context of energy efficiency projects. So far, we have been able to prevent 73,000 t of CO<sub>2</sub>. Nevertheless, we will continue to pursue our original reduction target in our new Sustainability Strategy 2018–2023.

Direct and indirect CO<sub>2</sub> emissions (Scope 1 and 2) within the Group amounted to roughly 1.63 million t in calendar year 2017. At 0.19 t of CO<sub>2</sub> per ton of copper output, specific emissions from fuels were at a low level in 2017. Product-related emissions have even been reduced by 40% since 2000.

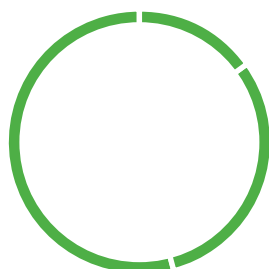
Our Scope 3 emissions rose slightly to 1.9 million t in 2017 due to an increase in internal and external logistics. The breakdown of emissions according to Scope 1, 2, and 3 was as follows in calendar year 2017:

#### CO<sub>2</sub> emissions in the Aurubis Group

GRI 305-1, 305-2, 305-3

Calendar year 2017, in %

54  
Scope 3 –  
company and  
supply chain  
activities



15  
Scope 1 –  
direct energy

31  
Scope 2 –  
purchased energy  
(market-based)

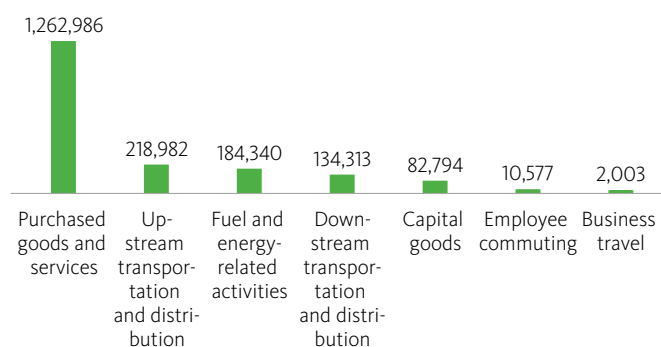
Aurubis reports the emissions that are directly produced from burning fuels in its own facilities (Scope 1) and emissions that are connected to purchased energy, e.g., electricity (Scope 2). Furthermore, partially aggregated data was used to estimate emissions from services performed by third parties, for example transport, and purchased preliminary services (Scope 3).

The graphic shows that at least half of the CO<sub>2</sub> emissions arise from services performed by third parties. Of these Scope 3 emissions, about two-thirds originate from the activities of mining companies. The transport of the materials to and from our sites causes about 20% of them. A smaller proportion of emissions arises from our investments in new or modernized facilities, as well as from the production of our fuel- and energy-related input materials that are not covered by Scope 1 and 2. Our employees' commutes and business trips have a very limited impact.

#### Scope 3 emissions by activity

GRI 305-3

Calendar year 2017, in t of CO<sub>2</sub>





## Future-oriented Employer

In many companies, employers are increasingly likely to react to the changing demands of the labor market due to demographic shifts. We believe that any company that wants to continue being an attractive employer in the future has to constantly review what it offers and meet the requirements of today's labor market.

### HOW WE WANT TO PRESENT OURSELVES TO APPLICANTS – OUR MANAGEMENT APPROACH

GRI 103-1, 103-2, 103-3

Skilled, productive, and enthusiastic employees form the basis of our future commercial success and the Group's further development. Our HR strategy helps us address the staffing challenges of the future. It is embedded in the Group strategy and is guided by our corporate values. It is applied throughout

the Group and developed continuously. Our overarching goal is to provide qualifications to our employees and to promote their development in order to ensure mutual success and motivation. This objective is supported by the high-quality training offered at Aurubis, as well as investments in our employees' qualifications.

[Q Training and Education, pages 39-41.](#)

We have set the targets of creating a work environment for good, close cooperation and promoting involvement and creativity. We form a team that passionately works toward the company's progress.

## Sustainability Strategy 2018–2023 – Action area “Future-oriented employer”

Key measures	KPIs	Status in FY 2017/18
Improving the “health” of the organization with strategically aligned HR instruments and services, as well as individual development tools	Organizational Health Index	The Transformation and Business Improvement department was set up in early 2017. The department’s Business Improvement Guides support internal projects and the implementation of the Aurubis Operating System (AOS) as internal consultants.
Regularly identifying employees’ needs with respect to working time arrangements		The flextime program was developed further during the reporting period. Furthermore, a new shift model was initiated. A new planning process for personnel placement enables better shift planning. The home office and mobile work options were expanded.
Developing a diversity policy	Diversity Index (age structure, international quality, percentage of female employees; index under development)	International teams are already working together as part of the reorganization and AOS. The development of a diversity policy (including age structure, international character, and gender distribution) is planned for the coming years.

All Group-wide activities related to our employees are managed by HR Group. This department is particularly involved with implementing and monitoring strategic HR tools and services and supporting change and internationalization processes. Direct supervisors and the local HR departments at the sites are responsible for employee supervision, performance assessments, and development planning. Their on-site HR work is oriented toward the standards of the central HR division.

We take internal changes and trends on the labor markets and in society into account. For example, this includes a lack of qualified workers due to the demographic shift, as well as the search for apprentices. We take stock of these trends annually by discussing them with employer associations and unions.

To address these challenges, we offer our employees an attractive work environment and prioritize a balance between work and free time, good cooperation between our employees and company management, and competitive, gender-neutral compensation.

In fiscal year 2017/18, Global HR Business Partners were introduced, a strategic HR recruiting function was developed, and applicant management was harmonized Group-wide. Furthermore, our HR work during fiscal year 2017/18 focused on:

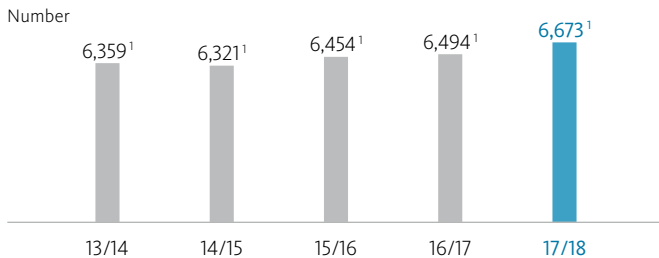
- » AOS implementation at all sites
- » Extensive recruitment as part of the new organization
- » Defining and optimizing core processes in the international functional teams (e.g., HR)
- » Team developments in the newly created functions Operations, Commercial, and Technology

Good cooperation between our employees and the company management is the basis for the Group’s success. Consequently, we expressly support the principle of employee participation at all of our sites. All employees are informed regularly and promptly about current developments. On the corporate level, the Executive Board and Supervisory Board, in which the staff is also represented, work closely together as the highest governing bodies. On the plant level, the interests of the employees are represented by works councils/ unions according to country-specific regulations. An elected European Works Council has been in place at Aurubis since 2009 and covers all of the European sites.

## OUR STAFF IN FIGURES

GRI 102-8, 401-1, 405-1

### Development of employee headcount



<sup>1</sup> Excluding Schwermetall Halbzeugwerk GmbH & Co. KG.

### Employee turnover in the Aurubis Group

(FY 2017/18 as at the reporting date 9/30/2018) GRI 401-1

Newly employed staff and apprentices	544
Turnover rate (excluding apprentices) <sup>1</sup>	6.6 %
Average length of employment in the company <sup>1</sup>	15.3 years

<sup>1</sup> Permanent and temporary employment arrangements. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake. In addition to the fully consolidated companies, this table includes the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), and Aurubis Turkey Kimya Anonim Sirketi (Istanbul), which had a combined total of twelve employees in FY 2017/18. It also includes eleven independent sales employees at international sites.

### Employee structure in the Aurubis Group

(FY 2017/18 as at the reporting date 9/30/2018) GRI 102-7, 102-8, 401-1

	Employees	Female	Male
<b>Aurubis Group<sup>1</sup></b>	<b>6,673</b>	<b>12 %</b>	<b>88 %</b>
Blue collar	4,130	4 %	96 %
White collar	2,256	28 %	72 %
Apprentices (including Pirdop)	287	10 %	90 %
Temporary workers <sup>2</sup>	214	-	-

<sup>1</sup> Permanent and temporary employment arrangements. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake. In addition to the fully consolidated companies, this table includes the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), and Aurubis Turkey Kimya Anonim Sirketi (Istanbul), which had a combined total of twelve employees in FY 2017/18. It also includes eleven independent sales employees at international sites.

<sup>2</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.

### Employees with temporary/permanent contracts by gender and region<sup>1</sup>

GRI 102-8

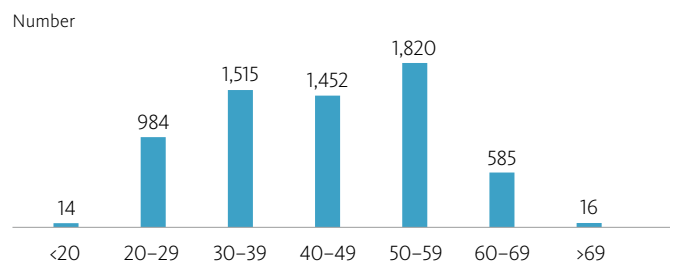
Number

	Permanent contracts	Temporary contracts
<b>Aurubis Group</b>	<b>6,159 (96%)</b>	<b>227 (4%)</b>
Female employees	729 (93%)	53 (7%)
Male employees	5,430 (97%)	174 (3%)
Employees in Germany	3,396 (97%)	116 (3%)
Female employees	344 (93%)	26 (7%)
Male employees	3,052 (97%)	90 (3%)
Employees in Europe (excluding Germany)	2,133 (97%)	75 (3%)
Female employees	331 (95%)	18 (5%)
Male employees	1,802 (97%)	57 (3%)
Employees in the US	611 (94%)	36 (6%)
Female employees	47 (84%)	9 (16%)
Male employees	564 (95%)	27 (5%)
Employees in Asia	19 (100%)	0 (0%)
Female employees	7 (100%)	0 (0%)
Male employees	12 (100%)	0 (0%)

<sup>1</sup> Apprentices not included.

### Age structure in the Aurubis Group<sup>1</sup>

GRI 405-1



<sup>1</sup> Not including apprentices.

## GAUGING OUR HEALTH – THE ORGANIZATIONAL HEALTH INDEX

Among the feedback tools used at Aurubis is the Organizational Health Index (OHI). The OHI allows us to measure the “health” of our company and provides information about how well Aurubis can react to market changes and generate sustainable economic success. Key influencing variables include leadership skills, innovation, and willingness to learn, as well as company culture and climate. We last carried out the OHI in 2016. In 2017, we started a 360° feedback program – a tool for constructive feedback for managers – based on the results. Personal developmental targets and measures are derived from this program in order to sustainably improve managerial performance. Since then, the feedback culture and cooperation at peer level and between departments has improved.

For the future, we're planning to expand feedback tools and to use the goal-setting process and annual performance reviews more intensively for personnel development across all levels. We evaluate our managers based on their individually agreed targets in the context of our performance management system. To support our managers, the professional development programs were expanded to specific target groups up to foreman level.

## WORKING TOGETHER WITH RESPECT – DIVERSITY AND EQUAL OPPORTUNITY

Q Annual Report 2017/18, pages 18-21

GRI 405-1

Diversity in the employee structure is important to us. We consider diversity to include not only cultural aspects and international representation but also diversity in terms of specialized skills and age groups, as well as a gender balance. Our cross-functional, inter-site organization, for example in the Technology division, and the program ONE Aurubis zero in on diversity. Employees from 38 different nationalities are working in Hamburg, for instance. The Group Code of Conduct and our corporate values serve as the basis for respectful cooperation.

Open positions are filled exclusively according to the applicant's qualifications and the requirements of the position. If we determine that there are any instances of discrimination, we employ labor law measures such as warnings or dismissal. Those who are affected can contact the Compliance Officer, HR, the works councils, or the anonymous whistleblower hotline.

No instances of discrimination were reported during the period under review.

One of our goals is to increase the proportion of female managers – independently of legal stipulations, which we fulfill by defining concrete target parameters.

### Proportion of female managers GRI 405-1

in %

	Status as at 9/30/2018	Target by 6/30/2022
In the Executive Board	0	25.0
1st management level	11.8	20.0
2nd management level	20.0	25.0
In the Supervisory Board	33.3	30.0

We want to continue raising enthusiasm among female applicants for working at Aurubis. We position ourselves accordingly in our marketing at colleges and universities and work together with schools for this purpose. Nevertheless, the challenge remains: Women generally tend to apply to Aurubis less frequently – possibly due to the industry – and the number of female applicants in technical fields relevant to us remains low.

We contribute to the integration of severely disabled individuals and promote their employment. The proportion of severely disabled individuals at Aurubis AG (the Hamburg and Lünen sites) is 6.9% and thus exceeds the legal quota of 5%.

## GOOD COMPATIBILITY – OUR WORK-LIFE BALANCE

We strive to make flexible working time arrangements if desired, as long as this is consistent with the individual work area. We regularly identify our employees' needs to develop modern and sensible working time models. For example, we developed the flextime program during the reporting period. On top of that, we introduced a new shift model and a new planning process for personnel placement to enable better shift planning. We also expanded the home office and mobile work options.

### Full-time and part-time employees in the Aurubis Group

(FY 2017/18 as at the reporting date 9/30/2018)

	Full-time	Part-time
<b>Total employees</b>	<b>6,160 (96%)</b>	<b>226 (4%)</b>
Female employees	654 (84%)	128 (16%)
Male employees	5,506 (98%)	98 (2%)

To improve the balance of work and family and to reduce the multiple burdens that young parents have during their 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 provide e-learning modules that can be completed at work or at home.

These efforts are recognized outside of the company as well: For example, our Lünen site was recertified as a family-friendly company.

## FAIR COMPENSATION – WAGES AND ADDITIONAL BENEFITS

GRI 102-41, 401-2

Competitive salaries independent of gender, which are oriented to performance and qualifications, and comprehensive social services enhance our attractiveness as an employer and boost employee motivation. A collective agreement related to working life and demographic change applies to Aurubis AG and includes a variety of aspects. Extensive legal regulations apply when it comes to social safeguards because our sites are mainly located in Europe and the US. Furthermore, the wage contracts and company agreements in place at all of our sites ensure minimum standards. All salaried employees at Aurubis are paid in accordance with a wage agreement. Altogether, 100 % of Aurubis AG employees and 99 % of our employees across the Group fall under collective agreements.

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

All employees in Hamburg and Lünen have additional disability insurance, and all employees with an unlimited contract have a company pension. The options of a pension plan through the German Chemical Industry Pension Fund and a long-term working hours account are becoming increasingly popular. More than 90 % of eligible employees under the wage agreement take advantage of the pension allowance offered. The long-term working hours account agreed on with the employee representatives has been introduced at all of the larger German sites.

Once again, we gave staff in Germany the opportunity to purchase Aurubis shares at a discount in fiscal year 2017/18. The number of participants increased compared to the previous year.

## Training and Education

We view our employees' training and continuing education as an investment in the future. We secure the foundation of our company's success by developing our employees both professionally and personally. At the same time, we offer our employees qualifications and support them by imparting them with knowledge and skills that will be important in the future.

### CONTINUED DEVELOPMENT THROUGH QUALIFICATIONS – OUR MANAGEMENT APPROACH

GRI 102-1, 102-2, 102-3, 103-1, 103-2, 103-3, 404-2

In order to achieve our vision and advance our strategy, we rely on the principle of a learning organization. The targeted personal development of our employees therefore has high priority. We enable our employees to obtain new qualifications, continuously strengthen their skills, and promote their development to ensure joint success and motivation.

The HR Development department is responsible for staff development. It supports the other departments, in close coordination with the local HR managers, in building employees' qualifications in a directed way tailored to their needs. The objective is to meet current and future requirements and challenges. HR Development is part of the HR Group department.

To fulfill future personnel requirements, we regularly assess personnel demand for specific skills and trades, and offer a sufficient number of apprenticeships accordingly. We also identify the demand for employee qualifications and successors for different positions in annual talks and in the yearly personnel planning process in order to develop and expand specialized skills and management expertise in a purposeful way.

**Sustainability Strategy 2018–2023 – Action area “Training and education”**

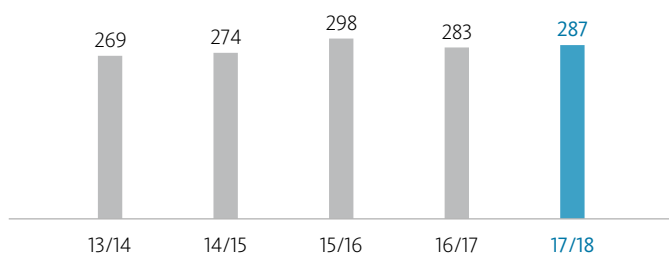
Key measures	KPIs	Status in FY 2017/18
Regularly identifying qualification needs to expand project, process, and management expertise in a targeted way (by FY 2022/23)	Training hours used for development measures: target of 18 per FTE (full-time equivalent) per year by FY 2022/23	In fiscal year 2017/18, a 360° feedback process was introduced for the Executive Board and the first and second management levels, and a Group-wide performance management system was established for the employees.
Group-wide introduction of the Aurubis Operating System (AOS) pillar “training and education” (by FY 2022/23)	Employee participation in AOS: targets by FY 2022/23 (base year: 2017/18) » Inclusion of employees in pillar activities: target of over 90 % » Inclusion of employees in the performance management system: target of over 90 % » Active employee participation in improvement teams: target of over 20 %	During the reporting year, basic AOS courses were carried out and the pilot phase for AOS e-learning was prepared.
Ensuring Group-wide knowledge management to identify, preserve, transfer, and enhance knowledge across functions (by FY 2022/23)		The necessary personnel resources were provided during the reporting period. A structured process was drafted and the pilot phase for Group-wide knowledge management started.

**THE MANAGERS OF TOMORROW – TRAINING AND YOUNG EMPLOYEES AT AURUBIS**

We are proud of our high training and retention rate. This helps ensure that we have a sufficient number of qualified employees. At our site in Pirdop, Bulgaria, we implemented a vocational training program based on the Swiss training model.

**Apprentices in the Aurubis Group**

Number of apprentices in fiscal year 2017/18



Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake. In addition to the fully consolidated companies, this table includes the employees of the nonconsolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), and Aurubis Turkey Kimya Anonim Sirketi (Istanbul), which had a combined total of twelve employees in fiscal year 2017/18.

**Apprenticeship and apprentice retention rate in Germany**

	FY 2017/18
Apprenticeship rate in Germany	6.3 %
Apprentice retention rate in Germany	80 %

Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake.

Aurubis Hamburg has participated in the internship model AV 10-Plus since 2007. The model supports young people from a range of occupational groups, helping them to gain the qualifications required to begin apprenticeships. In 2017/18, we took on five of the eleven participants as apprentices. The remaining participants started external apprenticeships or went on to pursue higher education.

In Hamburg, we are becoming more involved in fairs and school events to raise young people’s interest in Aurubis. At these events, our apprentices report on their everyday work to the potential applicants. Our sites in Lünen and Stolberg participated once again in the “Night of Apprentices.” Many interested young people were able to receive information about our trades and apprenticeship options from the exhibits and information stands, and to participate in plant tours.



Recently, we invested in the construction of two modern vocational training centers in Lünen and Hamburg. In Lünen, the Occupational Safety and Technology departments will share the building with the Training Workshop. In Hamburg, the Innovation and Training Center will house the Training department and Research & Development (R&D), with the shared building emphasizing the even stronger linkage between R&D and vocational training in the future.

Furthermore, we cooperate with partner universities, offer internships to students in Germany, and provide thesis projects and scholarships.

It is important to us that even apprentices contribute to the agreed measures and targets of the Aurubis Sustainability Strategy. Sustainability should become a fixed element of the apprenticeship program. Consequently, there has been a separate Sustainability Week for apprentices each year since 2015. During the Sustainability Week in February 2018, a total of 25 participants analyzed Aurubis' contribution to the UN Sustainable Development Goals (SDGs). In addition to the apprentices, many experts from different departments were fully involved in this sustainability event, discussing the topic intensively with the young participants.

**EXPANDING EXPERTISE – EMPLOYEE DEVELOPMENT AND CONTINUING EDUCATION**

GRI 404-2, 404-3

Developing our current employees continuously – regardless of their number of years with the company or level in the company hierarchy – is just as important to us as training the younger generation. We have different instruments to support us in this target.

Every Aurubis Group employee has an annual talk with his or her manager. Apart from a review and a performance assessment, the talk helps the participants identify development potential, provide feedback, and coordinate targets. We take the results of the employee talks into consideration in our annual personnel development planning and the corresponding budgets. During the reporting year, we held talks with 100% of our production and office employees.

We developed and adjusted the training offerings in our leadership and qualification program according to the Group's needs. In particular, options for managers at foreman level were a top priority. We also offer employees a number of technical training measures.

**Average training hours** GRI 404-1

	<b>Hours of training per employee<sup>1</sup></b>
<b>Aurubis Group</b>	<b>11.52</b>
Blue collar	9.69
White collar	15.07

<sup>1</sup> Permanent and temporary employment arrangements. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake. In addition to the fully consolidated companies, this table includes the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), and Aurubis Turkey Kimya Anonim Sirketi (Istanbul), which had a combined total of twelve employees in FY 2017/18. It also includes eleven independent sales employees at international sites.

We evaluate our managers based on their individually agreed targets in the context of our performance management system. To support our managers, we expanded the professional development programs to specific target groups up to foreman level.

In addition to qualification and development programs geared to necessary skills, for example in the areas of AOS and project management, we rely on platforms for networking and discussing best practices (e.g., expert panels and online learning groups). We established a variety of new qualification offers during the reporting period: In our one- to two-hour micro-learning units called "Learning Nuggets," participants learn and test new skills. The "Aurubis Essentials" series of short seminars presents important overarching topics to interested employees to promote a comprehensive understanding of the company.

## Health and Safety

### OUR EFFORTS TO MAKE WORK SAFE – OUR MANAGEMENT APPROACH

GRI 103-1, 103-2, 103-3, 403-1, 403-4, 403-9

We live up to our responsibility of creating a working environment for our employees that enables a working life without accidents, injuries, or illness. We don't distinguish between our own employees, external employees, or visitors in this respect. We follow all local laws as a matter of course. In many cases, our internal standards extend beyond these legal requirements.

The department Corporate Occupational Health and Safety (C-OHS) manages on-the-job safety and health. The department is responsible for creating conditions that prevent all work-related accidents and illnesses. It reports directly to the Executive Board. The corporate department establishes minimum occupational safety standards for the entire Group by issuing process instructions in addition to the Corporate Policy on Occupational Health and Safety. Our occupational safety approach applies to our employees, temporary workers, and external service providers.

The site managers play a central role in occupational health and safety. They are responsible for complying with applicable laws and ordinances on occupational health and safety, the relevant corporate policy, and the current process instructions. Furthermore, they gather and evaluate health risks and help implement suitable measures to protect employees.

The sites are in contact with each other via an organized network facilitated by C-OHS. In this way, existing specialist knowledge can be used across the Group. Moreover, employee representatives are included in the topic of occupational health and safety: Through the reporting line to the Executive Board, C-OHS also reports to the general Works Council committee and the European Works Council. C-OHS is directly invited to these committee meetings.

Occupational health and safety management at the sites is based on OHSAS 18001 and corporate policy and is currently being adjusted to fulfill ISO 45001.

### Sustainability Strategy 2018–2023 – Action area “Health and safety”

Key measures	KPIs	Status in FY 2017/18
Preparing all sites for the introduction of the ISO 45001 standard for occupational health and safety (by FY 2019/20)	LTIFR (Lost Time Injury Frequency Rate): reduce this to $\leq 1.0$ by FY 2021/22	<ul style="list-style-type: none"> <li>» This project kicked off during the Health &amp; Safety Group Meeting in Sofia in 2018.</li> <li>» Our site in Avellino was certified in accordance with ISO 45001 in early 2019.</li> <li>» A pre-audit was carried out in Pirdop in 2018 and certification is scheduled for 2019. The site is already certified in accordance with OHSAS 18001.</li> <li>» An internal gap analysis is currently underway at the other sites, and the first internal audits are scheduled for 2019.</li> </ul>
Introduction of behavior-based safety (BBS) across the Group (by FY 2020/21)		<ul style="list-style-type: none"> <li>» Behavior-based safety was initiated at our sites in Emmerich, Hamburg, Pori, and Stolberg in the reporting period.</li> <li>» The introduction of the “10 Golden Rules” planned for 2019 will support us in the process.</li> </ul>

## ACCURATELY EVALUATING HAZARDS – OUR RISK ASSESSMENT

GRI 403-2, 403-7, 403-9, 403-10

In-depth risk assessment is essential for responsible activities in our industry. Our evaluation of risks covers both current and future work processes in the company, including maintenance and repair procedures in addition to operations. Our risk assessments cover hazards in normal operations, special work assignments, and abnormal incidents.

Health hazards and individual requirements in the work areas are systematically collected, evaluated, and documented. The risk assessment is guided by the current knowledge available, taking the type, extent, and probability or duration of the effect into account. The following have to be recorded and evaluated:

- » Legal standards and supplementary Aurubis standards
- » Hazards in normal operations, special work assignments, and abnormal incidents
- » Substances in the work area, their concentrations, and their effects on health
- » Physical impacts
- » Biological impacts
- » Physical and psychological strain in the work area
- » Strain from the surrounding area and from personal protective equipment

All accidents are systematically investigated to determine their technical, organizational, and conduct-based causes. The causes and preventive measures derived from them are communicated throughout the Group. Furthermore, we strive to report and investigate every incident, even those that don't result in injury (near-misses).

Smelter operations (heat, metal melt), hazardous substances in the production process, industrial machines, and internal logistics theoretically present the greatest risks. However, analyses show that production-specific accidents are rare. The most common causes of accidents are stumbles, slips, falls, and working with hand-operated tools. Measures to avoid these accidents are incorporated more and more into our behavior-based safety (BBS) approach, in addition to continuous improvements in overall working conditions.

In the context of risk assessments and workplace analyses, we record potential health risks and derive measures from these insights. The effectiveness of these steps is reviewed in routine workplace measurements. Nevertheless, 19 suspected occupational illnesses were reported in 2018, including noise-induced hearing impairment, respiratory illness, skin conditions, and spinal complaints.

Recurring emergency and evacuation drills are carried out at the sites. We include our neighbors in the emergency drills and evacuation plans if they could potentially be affected.

## MINIMIZING RISKS – OCCUPATIONAL SAFETY AT AURUBIS

GRI 403-2, 403-6, 403-9

Our conduct is guided by Vision Zero, meaning that we strive to avoid all work-related accidents, injuries, and illnesses. Our internal reporting requires all sites to report accidents involving Aurubis employees or third parties to Group headquarters immediately or within 24 hours, depending on the severity of the incident. The accident investigations have to be sent to the headquarters within seven days. There, they are processed and distributed in the Group as part of a "learning from incidents" approach. In 2018, we expanded the obligation to report to Group headquarters to include less demanding work areas, medical treatments, first aid measures, and near-misses for all individuals working at the sites.

Our goal for the medium term is to reduce the number of work-related accidents with at least one lost shift per one million hours worked (Lost Time Injury Frequency Rate, LTIFR) to  $\leq 1.0$  by 2022.

In fiscal year 2017/18, the number of accidents increased compared to the two previous years. The "10 Golden Rules" that will be introduced in fiscal year 2018/19 will help us reinforce the topic of individual conduct, from employee to CEO. Our hope is that this will provide new momentum to achieve our goal.

### Lost Time Injury Frequency Rate GRI 403-9

	2013/14	2014/15	2015/16	2016/17	2017/18
LTIFR <small>(1-n)</small> <sup>1</sup>	7.8	6.3	4.6	4.8	6.1
LTIFR <small>(4-n)</small> <sup>2</sup>	6.5	5.3	4.4	4.2	4.6
Absolute number of accidents <small>(1-n)</small> <sup>3</sup>	80	63	45	47	60
Number of work-related fatalities <sup>3</sup>	0	0	0	0	0
Number of work-related fatalities of third parties at our sites	0	0	1	0	0

<sup>1</sup> Accidents with lost time of at least one full shift.

<sup>2</sup> Accidents with lost time of more than three full shifts.

<sup>3</sup> Permanent and temporary employment arrangements. Excluding the sales offices in Chicago, Lyon/Septême, and Barcelona, which have a total of nine employees, and excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake.

We offer external companies working for us on our premises the option to take part in biomonitoring. As required, we provide employees of external companies with our industry-specific personal protective equipment (PPE), for instance respiratory devices or fall protection.

## HEALTH SERVICES – PREVENTION AND SUPPORT

GRI 403-3, 403-6

Internal company doctors are available at three sites. At all of the other sites, freelance occupational physicians are commissioned with carrying out obligatory and optional checkups.

Health checkups are offered when new employees are hired, with routine occupational health checkups provided thereafter. In addition, we support employees in taking preventive measures to maintain their health. Our offerings extend from flu shots and preventive checkups to individual healthcare options, such as support to stop smoking or exercise programs.

All health data is subject to medical confidentiality and is only accessible to medical personnel. Data can only be transferred with the employee's written consent.

## ALWAYS UP TO SPEED – QUALIFICATIONS AND TRAINING

GRI 403-4, 403-5

Our occupational safety experts, company doctors, and medical personnel are all qualified specialists with experience in occupational health and safety. The representatives of C-OHS regularly participate in committees for occupational health and safety and in employee training, in addition to advising the management.

Occupational health and safety issues are regularly discussed with the employees or their representatives in the safety steering committees at site and Group level. Strategies to continuously improve our health and safety performance are developed jointly. Training and safety talks sensitize employees to occupational safety topics. Moreover, at appropriate intervals and at least once per year, employees receive verbal instruction related to health hazards in the workplace and the necessary preventive and protective measures. The type and content of this instruction draws on the legal regulations, risk assessments, and operating guidelines.

All external service providers are instructed about hazards, protective measures, and rules of conduct at the specific site before they start working.

## Societal Engagement

GRI 203-2

Societal engagement is a fixed component of our corporate identity. We fulfill our responsibility within society – as an employer, as a business partner, as a neighbor, and as a member of society, throughout the entire value chain.

## THE RIGHT ATTITUDE TOWARD SOCIETAL ENGAGEMENT – OUR MANAGEMENT APPROACH

GRI 103-1, 103-2, 103-3, 203-1, 413-1

As an international group, we are in contact with many people every day. And not just in our business activities, but also as an actor within society. It is important to us to fulfill the demands that society places on us – and to make a contribution to society that extends beyond the minimum requirements. As a result, we view the action area “Societal engagement” as essential for the Group and for our Sustainability Strategy. We establish the organizational conditions to effectively improve social conditions. We also offer concrete financial support at local, national, and, in the future, international level.

We have set the target of contributing to a livable environment for future generations. In the process, we focus on areas of action that are linked with Aurubis' key areas of expertise. We want to promote enthusiasm for our company and for our work and to present ourselves as a responsible, committed company.

## Sustainability Strategy 2018–2023 – Action area “Societal engagement”

Key measures	KPI	Status in 2017/18
Developing and implementing a strategy for societal engagement at Group level (by FY 2018/19)	–	The presentation of the concept is scheduled for FY 2018/19. Initial projects have been identified and partnerships have been established. The communication concept is currently in development.

### Objectives of our societal engagement:

- » We assume social responsibility: Social involvement is part of our corporate identity.
- » We are a reliable and trustworthy partner. If we agree to provide support, we fulfill our commitments. We are transparent about what type of societal engagement we pursue, and we ensure that the support we provide is visible.
- » We want to raise interest for our company and our work, attracting qualified employees. We don't see it as a given that our employees would necessarily support our company so strongly. On the contrary: Their identification with Aurubis reflects our obligation to remain a good employer in the future as well. Dedicated employees will only work for us if they accept 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 a fairly conspicuous neighbor. It is that much 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.

With the new sponsoring strategy, we are now focusing our involvement on the areas of knowledge, the environment, and participation, which align with our company strategy.

### KNOWLEDGE

- » In focusing on knowledge, we want to help people optimally use their potential – by promoting education, science, and teaching; by providing special offers for young people; and by imparting values.

### ENVIRONMENT

- » As an industrial company, we have to budget resources and keep our environmental impacts to a minimum. Resource efficiency and environmental protection are therefore topics we take very seriously. We promote projects related to the aspects of the circular economy, energy efficiency, and nature conservation in particular.

### PARTICIPATION

- » We are active in many countries and regions, and we employ people from a variety of backgrounds. As a result, we know that the conditions for social participation aren't the same everywhere. We want to reduce this imbalance, for instance by supporting socially disadvantaged people and regions and by promoting projects for better integration and inclusion.

Our involvement in society is often linked to donations or sponsoring projects. Donations refer to supplies, monetary contributions, or services for which we don't expect anything in return. In the case of sponsoring projects, we present ourselves to the public as a project partner.

In both cases, projects and partners are selected based on established criteria outlined in our Sponsoring Policy, which also defines responsibilities in the Group. The Event Management & Sponsoring department is responsible for our societal engagement and reports to the Vice President Investor Relations & Corporate Communications. This function then reports directly to the Executive Board so that they are included in our social activities and the related budget decisions.

A Sponsoring Committee made up of appointed members from Event Management & Sponsoring, Communications, Sustainability, and Corporate Compliance makes decisions about project support that exceeds a certain level set internally. To determine the need for our involvement, we talk with our neighbors, our international partners (e.g., chambers of commerce, local and international NGOs), and political representatives. When it comes to project requests related to education, our HR and Training departments also participate. They are in contact with schools, universities, and other educational institutions.

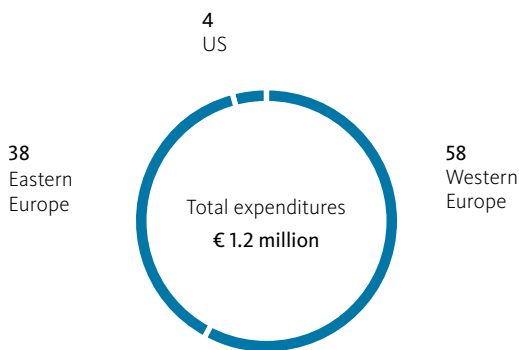
For current projects, we inquire about what our funding is used for and in what amounts, as well as what objectives have been achieved. In addition, our project partners regularly inform us about their current measures and plans. Wherever possible, we participate in activities together with the projects we support.

Apart from projects at Group level, our sites also get involved at local level using their own budgets. Our Sponsoring Policy applies to these projects as well, which, in addition to the three Group-wide focuses, also concentrate on culture, sports, or our core business. For example, this link could be in artworks made of copper alloys and other non-ferrous metals, as well copper roofs or projects that make our materials' versatility come to life. The sites regularly communicate with the Event Management & Sponsoring department about current developments in this area.

We want our sponsoring activities to share an even stronger common foundation in the future. To that end, we are planning to introduce a Group-wide sponsoring concept called "together we care" in fiscal year 2018/19. Initial projects and partnerships within this concept are already in different planning stages.

**Total expenditures for societal engagement and regional distribution** GRI 203-1, 413-1

FY 2017/18, in %



**OUR PROJECTS IN GERMANY**

In Hamburg and North Rhine-Westphalia, we have started sponsoring the national education initiative "Das Haus der kleinen Forscher" (The Little Scientists' House). This non-profit organization pursues the goal of providing better STEM education (science, technology, engineering, and mathematics) for preschool and elementary school children. To provide qualified support for the children in discovering, researching, and learning, networks in the German states train educational specialists and teachers and facilitate knowledge transfer. We have supported the organization since fiscal year 2017/18 (strategic focus: KNOWLEDGE).



We started supporting the Lünen "Schulticker" project during the reporting year. Schulticker is a media project that strengthens the competent use of print and online media among students in grades one to three and guides them in forming their own opinions. At the same time, the project promotes reading and writing skills and thus the conditions for social participation. We are currently supporting Schulticker for the school year ending in 2019 (strategy focus: KNOWLEDGE).

"Joblinge Hanse" is a Hamburg initiative that we started supporting in fiscal year 2017/18. The initiative's goal is to reduce unemployment among young people in Germany by placing youth in difficult circumstances in job training. The idea is to close the gap between the young people's backgrounds and their futures. An apprenticeship spot is crucial for these individuals so that they can acquire new knowledge and, at the same time, participate in society and the economy. We are supporting Joblinge for the next three years (strategic focus: KNOWLEDGE and PARTICIPATION).

In Hamburg, we also support the project Bridge & Tunnel. A key aspect of this project is the recycling of reusable materials. Old textiles and excess material are used to create accessories, clothing, and home textiles in the Hamburg district of Wilhelmsburg. This project is thus a good example of efficient resource use. Bridge & Tunnel furthermore creates permanent jobs for people who aren't employed on the primary labor market due to various reasons. Here, they can contribute their crafting abilities, strengthen their skills, and gain new knowledge. We have supported Bridge & Tunnel since 2016 and will continue for another two years starting in October 2019 – and this support is clearly visible, as Bridge & Tunnel products carry a sewn-on Aurubis logo (strategic focus: KNOWLEDGE, ENVIRONMENT, and PARTICIPATION).

Starting in fiscal year 2017/18, we have cooperated – initially for three years – with the non-profit Hamburg association Hanseatic Help. It supports refugees, homeless people, women's shelters, and children's homes with free clothing and other items for daily use. The organization isn't only active throughout Germany, but is involved in crisis regions abroad as well. Hanseatic Help's contribution isn't limited to providing items – more importantly, the association creates spaces for interaction, dialogue, knowledge transfer, and social participation with its efforts. Furthermore, Hanseatic Help demonstrates that resources that don't seem to have value in one place can be used to benefit others somewhere else.

## OUR INVOLVEMENT IN EUROPE AND THE US

Aurubis supported a two-year study by the Basel Action Network (BAN) in which GPS trackers were installed in 314 old electric appliances. The objective of the study was to track the appliances' routes to determine whether they were exported illegally outside of the EU. The study was published in February 2019 and is available online at [www.ban.org/news/2019/2/6/gps-trackers-discover-illegal-e-waste-exports-to-africa-and-asia](http://www.ban.org/news/2019/2/6/gps-trackers-discover-illegal-e-waste-exports-to-africa-and-asia). In this way, the BAN researches the impact of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (strategic focus: ENVIRONMENT).

Aurubis Bulgaria supported the renovation of a convent in Zlatitsa during the reporting period. The support provided is part of Aurubis Bulgaria's local sponsoring strategy of helping restore cultural and historic places in the region in order to develop a local network of tourist destinations to promote regional development (strategic focus: PARTICIPATION).

Aurubis Buffalo (US) supports The Teacher's Desk, a local program of Buffalo Public Schools that supports needy children with school materials. The organization primarily provides items such as pencils, paper, notebooks, and backpacks, enabling the basic conditions for knowledge transfer (strategic focus: KNOWLEDGE and PARTICIPATION).

Aurubis Bulgaria and Teach for All have worked together since 2010 to offer students at schools in Zlatitsa and Pirdop a good education. Teach for All supports lessons at four schools by dispatching nine of the organization's own teachers. The main goal on all sides is to enhance the academic results and motivation to learn among every child in the region (strategic focus: KNOWLEDGE and PARTICIPATION).

# Sustainability Strategy 2013–2018

Action area	Targets and measures	Date	Status in FY 2017/18
<b>ECONOMY</b>			
Economic stability	» Achieve a return on capital employed (ROCE) of at least 15 %	2018	ROCE in FY 2017/18 was 14.8 %, slightly lower than the level of 15.1 % in the previous year and below the target.
Innovation	» Increase efficiency of copper in applications by 15 %	2018	An example of increasing the efficiency of copper in applications is copper use in high-performance alloys. RD&I tested different alloys that strengthen signal cable for cable harnesses. This can save up to 30 % of the material. In the past several years, moreover, various surface coatings have been developed to improve heat management in systems (e.g., switchgear). The potential material savings in this area amount to around 20 %. With the help of CAD (computer-aided design) tools, we developed hollow profiles that save more than 10 % of the material used – with no change in performance.
	» Conduct 15 projects with original equipment manufacturers (OEMs) with new applications of copper	2018	We were able to fulfill the targets we set. To optimize production, we developed various ideas and started to implement some of them. One idea is the model-based optimization of charging pauses in the Peirce-Smith converters in Hamburg in order to increase throughput. The Modeling & Advanced Analytics team is currently developing the model together with Operations. We increasingly use sensors to optimize our key processes in primary and secondary copper production. These sensors help us use resources more efficiently and monitor our processes better. At the moment, different sensors are being jointly tested by the plants in Hamburg, Lünen, and Pirdop so that the optimal sensors can be chosen.
	» Generate and implement 18 developed ideas from Innovation Management	2018	
<b>ENVIRONMENT</b>			
Resource efficiency and recycling	» Increase the quantity of processed complex recycling materials (e.g., electronic scrap) by 20 %	2018	In FY 2017/18, we processed about 700,000 t of recycling raw materials (FY 2012/13: around 680,000 t), and the proportion of complex materials rose considerably compared to FY 2012/13.
	» Audit and certify Aurubis pursuant to the WEEE End Processor Standard (WEEE: Waste Electrical and Electronic Equipment)	2016	Aurubis Lünen was successfully certified for the first time in 2015. In December 2018, the plant was recertified with a WEEELABEX/CENELEC certificate.
	» Establish a “closing-the-loop” system with a minimum of five customers	2018	From 2013 to the end of FY 2017/18, we set up eleven new closing-the-loop projects.
Energy	» Reduce CO <sub>2</sub> emissions by 100,000 t through energy efficiency projects and internal electricity projects (base year: 2013)	2018	Energy efficiency projects and internal electricity projects reduced CO <sub>2</sub> by 73,000 t (73 %). The target hasn't been fully achieved yet, so it will be continued.
Water and air	» Reduce metal emissions to water by 10 % (base year: 2012)	2018	We lowered metal emissions to water from 2.2 (2012) to 1.0 g/t of copper output (2017) – a total of 56 %.
	» Reduce dust emissions to air by 10 % (base year: 2012)	2018	We lowered dust emissions from 72 (2012) to 56 g/t of copper output (2017) – a total of 22 %.
	» Reduce SO <sub>2</sub> emissions in primary copper production by over 80 % compared to 2000	2015	We lowered SO <sub>2</sub> emissions in primary copper production by 86 % by the end of 2017 compared to 2000.



Action area	Targets and measures	Date	Status in FY 2017/18
<b>PEOPLE</b>			
Health and safety	» Reduce LTIFR (lost time of at least one full shift) to 4.3	2018	We achieved the target in certain periods of 2016 and 2017. Unfortunately, the LTIFR at the end of FY 2017/18 was 6.1, above the target. The 10 Golden Rules that will be introduced in fiscal year 2018/19 will help us reinforce the topic of individual conduct, from employee to CEO. We hope this will provide new momentum for achieving this target.
	» Introduce measures to make working times more flexible with respect to different life phases	2018	The flextime program in Hamburg was developed further, and a new shift model was initiated. We expanded the home office and mobile work options. A new company agreement on home office and mobile work arrangements has been in place at Aurubis Lünen since 2016.
Training and education	» Develop measures to increase interest among girls and women for technical education and professions	2018	For example, Aurubis Hamburg is involved in the project mint:pink, whose purpose is to increase the number of girls in scientific and technical school courses and thus to increase the proportion of young women in the corresponding degree programs and occupations. Another example: At the Lünen site, we support future female managers as part of an EU project in the Unna region. During this project, targets and measures were arranged to increase the number of female employees by 2020. These measures haven't paid off yet; interest among female applicants for apprenticeship spots hasn't changed.
Responsible supply chain	» Develop and expand systematic supplier screening	2016	Screening has been developed; since 2015, the identity and integrity of Aurubis AG's business partners have been reviewed before entering into contracts.

# About this Report

GRI 102-45, 102-46, 102-49, 102-50, 102-51, 102-52, 102-54, 102-56

The Aurubis Sustainability Report 2017/18 is the sixth report on our activities in the three areas of People, Economy, and Environment. We use the standards of the Global Reporting Initiative (GRI) as a guide. This report was prepared in accordance with the “Core” option of the GRI Standards. In order to provide rating agencies and other stakeholders with the information they need, we report beyond these requirements and publish a more extensive GRI Content Index. GRI has been informed about our application of the GRI Standards and the publication of this report.

The report simultaneously serves as the Communication on Progress for the UN Global Compact (UNGC).

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 thus the materiality analysis carried out for it. The topics of compliance and human rights were added to the action areas, as they were identified in the materiality process for the Non-Financial Report issued in accordance with the German CSR Directive Implementation Act. Detailed information is provided in the section “Sustainability at Aurubis” in this report and in the Non-Financial Report of the [Q Annual Report 2017/18, pages 36-37](#).

Some of the information in this report was already included in the Non-Financial Report of the Aurubis Annual Report 2017/18, which was reviewed by an external auditor. The Non-Financial Report and the Auditor’s Report are available in the [Q Annual Report 2017/18, pages 34-39](#).

The language we use when referring to employees, customers, stakeholders, and other groups in this report is intended to be gender-inclusive.

This report contains forward-looking statements based on current assumptions and forecasts. Various factors, risks, and uncertainties could have the impact that the actual future results differ from the estimates given here.

## DATA COLLECTION AND KPIS

The reporting period is fiscal year 2017/18. Activities with special relevance were included up to the editorial deadline of March 2019. The Aurubis fiscal year starts on October 1 and ends on September 30. However, all environmental KPIs reported refer to calendar year 2017.

When not stated otherwise, the report refers to the entire Aurubis Group. There is no Group-wide data for a few of the KPIs. This is expressly stated for the relevant figures.

When the report mentions copper production, this refers to primary and secondary copper production at the Hamburg, Lünen, Olen, and Pirdop sites. This is the case for the environmental KPIs and is indicated as such where these KPIs are reported.

The employee figures refer to the headcount and – if not otherwise indicated – the reporting date of September 30, 2018. These figures include the employees of the fully consolidated sites, including apprentices, if not otherwise indicated in the tables. In addition to the fully consolidated companies, the numbers include the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), and Aurubis Turkey Kimya Anonim Sirketi (Istanbul), which had a combined total of twelve employees in fiscal year 2017/18. They also include eleven independent sales employees at international sites. The employees of Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake, are not included in the figures.

The last Sustainability Report was released in early 2016, while the Non-Financial Report for fiscal year 2017/18 was published in the Aurubis Annual Report. These publications are supplemented by the annual Aurubis AG Environmental Statement.

## Management Approaches

GRI 102-47, 103-1, 103-2, 103-3

### GRI 103: Management Approaches

Material topics	Page reference	103-1		103-2		103-3	
		Relevance within the Group	Relevance outside of the Group	Page reference	Page reference	Page reference	Page reference
Compliance and human rights	Q Compliance – Acting in accordance with our values and the law, pages 12-13	•	•	Q Compliance – Acting in accordance with our values and the law, pages 12-13		Q Compliance – Acting in accordance with our values and the law, pages 12-13	
	Q Respecting human rights – The firm foundation of our actions, page 13			Q Respecting human rights – The firm foundation of our actions, page 13		Q Respecting human rights – The firm foundation of our actions, page 13	
<b>ECONOMY</b>							
Growth and innovation	Q Innovative and interdisciplinary – Our management approach, pages 14-15	•	•	Q Innovative and interdisciplinary – Our management approach, pages 14-15		Q Innovative and interdisciplinary – Our management approach, pages 14-15	
Recycling solutions	Q New ideas for end-of-life materials – Our management approach, pages 18-19	•	•	Q New ideas for end-of-life materials – Our management approach, pages 18-19		Q New ideas for end-of-life materials – Our management approach, pages 18-19	
Responsible supply chain	Q We want to know with whom we're working – Our management approach, page 20	•	•	Q We want to know with whom we're working – Our management approach, page 20		Q We want to know with whom we're working – Our management approach, page 20	
				Q Our Business Partner Screening, pages 21-22		Q Our Business Partner Screening, pages 21-22	
<b>ENVIRONMENT</b>							
Environmental impact	Q Consciously limiting impacts – Our management approach, pages 23-25	•	•	Q Consciously limiting impacts – Our management approach, pages 23-25		Q Consciously limiting impacts – Our management approach, pages 23-25	
Energy and climate	Q Efficiently counteracting emissions – Our management approach, pages 29-30	•	•	Q Efficiently counteracting emissions – Our management approach, pages 29-30		Q Efficiently counteracting emissions – Our management approach, pages 29-30	
<b>PEOPLE</b>							
Future-oriented employer	Q How we want to present ourselves to applicants – Our management approach, pages 35-36	•	•	Q How we want to present ourselves to applicants – Our management approach, pages 35-36		Q How we want to present ourselves to applicants – Our management approach, pages 35-36	
Training and education	Q Continued development through qualifications – Our management approach, pages 39-40	•	•	Q Continued development through qualifications – Our management approach, pages 39-40		Q Continued development through qualifications – Our management approach, pages 39-40	
Health and safety	Q Our efforts to make work safe – Our management approach, page 42	•	•	Q Our efforts to make work safe – Our management approach, page 42		Q Our efforts to make work safe – Our management approach, page 42	
Societal engagement	Q The right attitude toward societal engagement – Our management approach, pages 44-46	•	•	Q The right attitude toward societal engagement – Our management approach, pages 44-46		Q The right attitude toward societal engagement – Our management approach, pages 44-46	

# GRI Content Index

GRI disclosure	Title	Reference	Comments	UNGC
<b>UNIVERSAL STANDARDS</b>				
<b>GRI 101: Foundation 2016</b>				
<b>GRI 102: General Disclosures 2016</b>				
<b>Organizational profile</b>				
102-01	Name of the organization	Q Company Profile, page 4		
102-02	Activities, brands, products, and services	Q A variety of metals – Our business model, page 4		
102-03	Location of headquarters	Q Company Profile, page 4		
102-04	Location of operations	Q Europe, the US, and Asia – Our sites and employees, page 5		
102-05	Ownership and legal form	Q Company Profile, page 4 ☐ Annual Report 2017/18, pages 170-171		
102-06	Markets served	Q Innovative and interdisciplinary – Our management approach, pages 14-15		
102-07	Scale of the organization	Q Europe, the US, and Asia – Our sites and employees, page 5 Q Employee structure in the Aurubis Group, page 37		
102-08	Information on employees and other workers	Q Our staff in figures, page 37 Q Employee structure in the Aurubis Group, page 37 Q Employees in temporary/permanent contracts, page 37		6
102-09	Supply chain	Q We want to know with whom we're working – Our management approach, page 20		
102-10	Significant changes to the organization and its supply chain	☐ Annual Report, page 106		
102-11	Precautionary Principle or approach	Q How we control our activities – Our sustainability management, page 10		7
102-12	External initiatives	Q Active dialogue – Our stakeholder involvement, pages 10-12		
102-13	Membership of associations	Q Active dialogue – Our stakeholder involvement, pages 10-12		
<b>Strategy</b>				
102-14	Statement from senior decision-maker	Q Foreword, pages 2-3		
102-15	Key impacts, risks, and opportunities	☐ Annual Report 2017/18, pages 86-90		
<b>Ethics and integrity</b>				
102-16	Values, principles, standards, and norms of behavior	Q Compliance – Acting in accordance with our values and the law, pages 12-13 Q How we control our activities – Our sustainability management, page 10 Q Active dialogue – Our stakeholder involvement, pages 10-12		10
102-17	Mechanisms for advice and concerns about ethics	Q Compliance – Acting in accordance with our values and the law, pages 12-13		10
<b>Governance</b>				
102-18	Governance structure	Q How we control our activities – Our sustainability management, page 10 ☐ Annual Report 2017/18, pages 18, 20		
<b>Stakeholder engagement</b>				
102-40	List of stakeholder groups	Q Active dialogue – Our stakeholder involvement, pages 10-12		
102-41	Collective bargaining agreements	Q Fair compensation – Wages and additional benefits, page 39		3
102-42	Identifying and selecting stakeholders	Q Active dialogue – Our stakeholder involvement, pages 10-12		

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GRI disclosure	Title	Reference	Comments	UNGC
102-43	Approach to stakeholder engagement	<a href="#">Q Active dialogue – Our stakeholder involvement, pages 10-12</a>		
102-44	Key topics and concerns raised	<a href="#">Q Active dialogue – Our stakeholder involvement, pages 10-12</a>		
<b>Reporting practice</b>				
102-45	Entities included in the consolidated financial statements	<a href="#">Q About this Report, page 50</a> <a href="#">Annual Report 2017/18, page 172</a>		
102-46	Defining report content and topic Boundaries	<a href="#">Q About this Report, page 50</a> <a href="#">Annual Report 2017/18, pages 36-37</a>		
102-47	List of material topics	<a href="#">Q Management Approaches, page 51</a>		
102-48	Restatements of information		There were no restatements of information compared to previous Aurubis Sustainability Reports.	
102-49	Changes in reporting	<a href="#">Q About this Report, page 50</a>		
102-50	Reporting period	<a href="#">Q About this Report, page 50</a>		
102-51	Date of most recent report	<a href="#">Q About this Report, page 50</a>		
102-52	Reporting cycle	<a href="#">Q About this Report, page 50</a>		
102-53	Contact point for questions regarding the report	<a href="#">Q Imprint, page 58</a>		
102-54	Claims of reporting in accordance with the GRI Standards	<a href="#">Q About this Report, page 50</a>		
102-55	GRI Content Index	GRI Content Index		
102-56	External assurance	<a href="#">Q About this Report, page 50</a>		
<b>GRI 103: Management Approach 2016</b>				
103-1	Explanation of the material topic and its Boundary	<a href="#">Q Management Approaches, page 51</a>		
103-2	The management approach and its components	<a href="#">Q Management Approaches, page 51</a>		
103-3	Evaluation of the management approach	<a href="#">Q Management Approaches, page 51</a>		
<b>TOPIC-SPECIFIC STANDARDS</b>				
<b>GRI 200: ECONOMIC STANDARDS</b>				
<b>GRI 201: Economic Performance 2016</b>				
201-1	Direct economic value generated and distributed	<a href="#">Annual Report 2017/18, page 106</a>		
201-2	Financial implications and other risks and opportunities due to climate change	<a href="https://www.aurubis.com/cdp">https://www.aurubis.com/cdp</a>		
201-3	Defined benefit plan obligations and other retirement plans	<a href="#">Annual Report 2017/18, page 109</a>		
<b>GRI 203: Indirect Economic Impacts 2016</b>				
203-1	Infrastructure investments and services supported	<a href="#">Q Total expenditures for societal engagement and regional distribution, page 46</a> <a href="#">Q The right attitude toward societal engagement – Our management approach, pages 44-45</a>		
203-2	Significant indirect economic impacts	<a href="#">Q We focus on energy efficiency – For lower costs and lower environmental impacts, pages 30-31</a> <a href="#">Q Societal engagement, pages 44-47</a>		
<b>GRI 204: Procurement Practices 2016</b>				
204-1	Proportion of spending on local suppliers	<a href="#">Q Production only works when there are operating supplies and materials, page 22</a>		
<b>GRI 205: Anti-corruption 2016</b>				
205-1	Operations assessed for risks related to corruption	<a href="#">Q Compliance – Acting in accordance with our values and the law, pages 12-13</a>		10

GRI disclosure	Title	Reference	Comments	UNGC
205-2	Communication and training about anti-corruption policies and procedures	Q Compliance – Acting in accordance with our values and the law, pages 12-13		10
205-3	Confirmed incidents of corruption and actions taken	Q Compliance – Acting in accordance with our values and the law, pages 12-13		10
<b>GRI 206: Anti-competitive Behavior 2016</b>				
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Q Compliance – Acting in accordance with our values and the law, pages 12-13		
<b>GRI 300: ENVIRONMENTAL STANDARDS</b>				
<b>GRI 301: Materials 2016</b>				
301-1	Materials used by weight or volume	Q Origin of primary raw materials, page 20		7, 8
301-2	Recycled input materials used	Q Origin of recycling materials, page 20		8
301-3	Reclaimed products and their packaging materials			
<b>GRI 302: Energy 2016</b>				
302-1	Energy consumption within the organization	Q We focus on energy efficiency – For lower costs and lower environmental impacts, pages 30-31 Q Key figures related to energy consumption, page 32		7, 8
302-3	Energy intensity	Q We focus on energy efficiency – For lower costs and lower environmental impacts, pages 30-31 Q Key figures related to energy consumption, page 32		8
302-4	Reduction of energy consumption	Q We focus on energy efficiency – For lower costs and lower environmental impacts, pages 30-31 Q Key figures related to energy consumption, page 32		8, 9
<b>GRI 303: Water and Effluents 2018</b>				
303-1	Interactions with water as a shared resource	Q Repurposing waste heat – Water and water pollution control, pages 26-27 Q Key figures related to water and wastewater, page 27		
303-3	Water withdrawal	Q Repurposing waste heat – Water and water pollution control, pages 26-27 Q Key figures related to water and wastewater, page 27		7, 8
303-4	Water discharge	Q Repurposing waste heat – Water and water pollution control, pages 26-27 Q Key figures related to water and wastewater, page 27		7, 8
303-5	Water consumption	Q Repurposing waste heat – Water and water pollution control, pages 26-27 Q Key figures related to water and wastewater, page 27		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	Q Conservation and protection – Biodiversity, pages 28-29 Q Conservation areas in close proximity to copper production sites, page 28		8
<b>GRI 305: Emissions 2016</b>				
305-1	Direct (Scope 1) GHG emissions	Q Our CO <sub>2</sub> footprint – Scope 1, 2, and 3 emissions, page 34 Q Key figures related to CO <sub>2</sub> emissions, page 32		7, 8

GRI disclosure	Title	Reference	Comments	UNGC
305-2	Energy indirect (Scope 2) GHG emissions	<a href="#">Q Our CO<sub>2</sub> footprint – Scope 1, 2, and 3 emissions, page 34</a> <a href="#">Q Key figures related to CO<sub>2</sub> emissions, page 32</a>		7, 8
305-3	Other indirect (Scope 3) GHG emissions	<a href="#">Q Our CO<sub>2</sub> footprint – Scope 1, 2, and 3 emissions, page 34</a> <a href="#">Q Key figures related to CO<sub>2</sub> emissions, page 32</a> <a href="#">Q Scope 3 emissions by activity, page 34</a>		7, 8
305-4	GHG emissions intensity	<a href="#">Q Our CO<sub>2</sub> footprint – Scope 1, 2, and 3 emissions, page 34</a> <a href="#">Q Key figures related to CO<sub>2</sub> emissions, page 32</a>		8
305-5	Reduction of GHG emissions	<a href="#">Q Our CO<sub>2</sub> footprint – Scope 1, 2, and 3 emissions, page 34</a> <a href="#">Q Key figures related to CO<sub>2</sub> emissions, page 32</a>		8, 9
305-6	Emissions of ozone-depleting substances (ODS)		Ozone-depleting substances don't play a significant role in our processes.	7, 8
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	<a href="#">Q Key figures related to nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>2</sub>), and dust, page 26</a> <a href="#">Q Air – Clear targets, pages 25-26</a>		7, 8
<b>GRI 306: Effluents and Waste 2016</b>				
306-1	Water discharge by quality and destination		This is covered by the updated GRI Standard 303 (2018).	8
306-2	Waste by type and disposal method	<a href="#">Q Waste – Ensuring proper disposal, page 28</a> <a href="#">Q Key figures related to waste, page 28</a>		8
306-5	Water bodies affected by water discharges and/or runoff		This is covered by the updated GRI Standard 303 (2018).	8
<b>GRI 307: Environmental Compliance 2016</b>				
307-1	Non-compliance with environmental laws and regulations		At our Buffalo site, we had to pay a fine of US\$ 35,500 to state regulators. The site agreed on measures with the regulators, and most of these measures have already been implemented.	
<b>GRI 308: Supplier Environmental Assessment 2016</b>				
308-1	New suppliers that were screened using environmental criteria	<a href="#">Q Our Business Partner Screening, pages 21-22</a>		8
<b>GRI 400: SOCIAL STANDARDS</b>				
<b>GRI 401: Employment 2016</b>				
401-1	New employee hires and employee turnover	<a href="#">Q Our staff in figures, page 37</a> <a href="#">Q Employee structure in the Aurubis Group, page 37</a> <a href="#">Q Employee turnover in the Aurubis Group, page 37</a>		6
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	<a href="#">Q Fair compensation – Wages and additional benefits, page 39</a>		
<b>GRI 402: Labor/Management Relations 2016</b>				
402-1	Minimum notice periods regarding operational changes		All legal requirements were fulfilled.	3
<b>GRI 403: Occupational Health and Safety 2018</b>				
403-1	Occupational health and safety management system	<a href="#">Q Our efforts to make work safe – Our management approach, page 42</a>		
403-2	Hazard identification, risk assessment, and incident investigation	<a href="#">Q Accurately evaluating hazards – Our risk assessment, page 43</a> <a href="#">Q Minimizing risks – Occupational safety at Aurubis, page 43</a>		
403-3	Occupational health services	<a href="#">Q Health services – Prevention and support, page 44</a>		
403-4	Worker participation, consultation, and communication on occupational health and safety	<a href="#">Q Our efforts to make work safe – Our management approach, page 42</a> <a href="#">Q Always up to speed – Qualifications and training, page 44</a>		

GRI disclosure	Title	Reference	Comments	UNGC
403-5	Worker training on occupational health and safety	Q Always up to speed – Qualifications and training, page 44		
403-6	Promotion of worker health	Q Minimizing Risks – Occupational safety at Aurubis, page 43 Q Health services – Prevention and support, page 44		
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Q Accurately evaluating hazards – Our risk assessment, page 43		
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.	
403-9	Work-related injuries	Q Our efforts to make work safe – Our management approach, page 42 Q Accurately evaluating hazards – Our risk assessment, page 43 Q Minimizing Risks – Occupational safety at Aurubis, page 43 Q Lost Time Injury Frequency Rate, page 43		
403-10	Work-related ill health	Q Accurately evaluating hazards – Our risk assessment, page 43		
<b>GRI 404: Training and Education 2016</b>				
404-1	Average hours of training per year per employee	Q Average training hours, page 41		6
404-2	Programs for upgrading employee skills and transition assistance programs	Q Continued development through qualifications – Our management approach, pages 39-40 Q Expanding expertise – Employee development and continuing education, page 41		
404-3	Percentage of employees receiving regular performance and career development reviews	Q Expanding expertise – Employee development and continuing education, page 41		6
<b>GRI 405: Diversity and Equal Opportunity 2016</b>				
405-1	Diversity of governance bodies and employees	Q Working together with respect – Diversity and equal opportunity, page 38 Q Our staff in figures, page 37 Q Age structure in the Aurubis Group, page 37 ☑ Annual Report 2017/18, page 19		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>GRI 406: Non-discrimination 2016</b>				
406-1	Incidents of discrimination and corrective actions taken	Q Respecting human rights – The firm foundation of our actions, page 13		
<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		None of Aurubis AG's business activities endanger the freedom of association or the right to collective bargaining. We expect our business partners on the supplier side to follow UN conventions related to human rights, environmental protection, and safety.	3
<b>GRI 408: Child Labor 2016</b>				
408-1	Operations and suppliers at significant risk for incidents of child labor	Q Respecting human rights – The firm foundation of our actions, page 13		5
<b>GRI 409: Forced or Compulsory Labor 2016</b>				
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Q Respecting human rights – The firm foundation of our actions, page 13		4



GRI disclosure	Title	Reference	Comments	UNGC
<b>GRI 410: Security Practices 2016</b>				
410-1	Security personnel trained in human rights policies or procedures	<a href="#">Q Respecting human rights – The firm foundation of our actions, page 13</a>		1
<b>GRI 411: Rights of Indigenous Peoples 2016</b>				
411-1	Incidents of violations involving rights of indigenous peoples		Indigenous peoples are not affected by the company's activities.	1
<b>GRI 412: Human Rights Assessment 2016</b>				
412-1	Operations that have been subject to human rights reviews or impact assessments		100% of our business sites were audited to ensure that they respect human rights. At our own production sites, most of which are located in Europe, we didn't identify an increased risk of human rights violations. Consequently, our efforts focus on our suppliers.	
412-2	Employee training on human rights policies or procedures		No training took place during the reporting period. Every employee receives the Code of Conduct with his/her employment contract.	1
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	<a href="#">Q Good supplier contracts for good collaboration, page 21</a>		2
<b>GRI 413: Local Communities 2016</b>				
413-1	Operations with local community engagement, impact assessments, and development programs	<a href="#">Q The right attitude toward societal engagement – Our management approach, pages 44-46</a> <a href="#">Q Total expenditures for societal engagement and regional distribution, page 46</a>		1
<b>GRI 414: Supplier Social Assessment 2016</b>				
414-1	New suppliers that were screened using social criteria	<a href="#">Q Our Business Partner Screening, pages 21-22</a>		2
<b>GRI 415: Public Policy 2016</b>				
415-1	Political contributions	<a href="#">Q Active dialogue – Our stakeholder involvement, pages 10-12</a>		10
<b>GRI 417: Marketing and Labeling 2016</b>				
417-2	Incidents of non-compliance concerning product and service information and labeling		There were no incidents of non-compliance concerning product and service information and labeling.	
<b>GRI 419: Socioeconomic Compliance 2016</b>				
419-1	Non-compliance with laws and regulations in the social and economic area		There were no significant fines or non-monetary sanctions in FY 2017/18.	1

# Imprint GRI 102-53

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## **Legal disclaimer**

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UN GLOBAL COMPACT  
COMMUNICATION ON PROGRESS

This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

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**Metals for Progress**

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