Aurubis AG

Sustainability KPI Update 2020/21

The 2020/21 KPIs update the KPIs from our Sustainability Report 2019/20 and supplement the information provided in our Non-Financial Report 2020/21.

Sites and employees GRI 102-4, GRI 102-45

Consolidated sites

DE	Hamburg	Aurubis AG	2,526	
		headquarters	_,	
		Aurubis Product Sales GmbH	11	\$
		E.R.N. Elektro-Recycling NORD GmbH	15	© P
		Peute Baustoff GmbH	12	& 2"
	Lünen	Aurubis AG	665	© 7 1 . }
	Stolberg	Aurubis Stolberg GmbH & Co. KG	396	© 🕲 📂 🏱
	Emmerich	Deutsche Giessdraht GmbH	115	
	Röthenbach	RETORTE GmbH Selenium Chemicals & Metals	41	
	Berlin	Aurubis AG	3	Group representa- tive office
BG	Pirdop	Aurubis Bulgaria AD	896	
BE	Olen	Aurubis Belgium NV/SA	621	ૄ ▮⊜#
	Beerse	Metallo Belgium NV	444	@ ##
		Metallo Group Holding NV	3	
NL	Zutphen	Aurubis Netherlands BV	288	C 📂 👄 🏱
FI	Pori	Aurubis Finland Oy	271	© 📂 🏞
ΙΤ	Avellino	Aurubis Italia Srl	91	
	Mortara	Aurubis Mortara S. p. A.	27	
ES	Berango	Metallo Spain S. L. U.	97	©
	Barcelona	Aurubis Product Sales GmbH	1	\$
UK	Smethwick/ Birmingham	Aurubis UK Ltd.	23	☞ 🗇 🖔
SK	Dolný Kubín	Aurubis Slovakia s. r. o.	12	
FR	Lyon/Septème	Aurubis Product Sales GmbH	1	\$
Emp	loyees in Europe		6,559	
US				
US	Buffalo	Aurubis Buffalo Inc.	576	© 📂 🎤
Emp	loyees in the US		576	

The KPIs relate to permanent and temporary employment arrangements. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, Stolberg, in which Aurubis holds a 50% stake, and excluding Cablo Metall-Recycling und Handel GmbH, Ferbellin (which, since June 1, 2021, has belonged to the joint venture Cablo GmbH with the recycling company TSR Recycling GmbH & Co. KG; Aurubis holds a 40% stake in Cablo GmbH). Sites without employees are not listed.

7,135

Total employees

Non-consolidated sites and independent sales employees

Euro	pe			
DE	Berlin	azeti GmbH	29	
SE	Finspång	Aurubis Sweden AB	3	
RU	St. Petersburg	Aurubis Rus LLC	2	\$
TR	Istanbul	Aurubis Turkey Kimya Anonim Sirketi	1	\$
Empl	oyees in Europe		35	
Asia				
CN	Shanghai	Aurubis Metal Products (Shanghai) Co., Ltd.	4	P
	Beijing ¹		1	\$
UAE	Dubai	Aurubis Middle East FZE	2	\$
SG	Singapore ¹		2	\$
TH	Bangkok ¹		1	\$
JP	Tokyo ¹		1	\$
KR	Seoul ¹		1	P
Empl	oyees in Asia		12	
Total	employees		47	

¹ Agency/independent sales employees.

Raw materials

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

ConcentratesRecycling materials

Products

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

☐ Cathodes ☐ Sulfuric acid ☐ Wire rod ☐ Iron silicate

Strip/foil

Specialty wire

Synthetic minerals

♣ Specialty profiles✔ Precious metals

Shapes

Precious 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.



Certifications by site

Site	EMAS	ISO 14001	ISO 50001	ISO 9001	IATF 16949	EfbV	ISO 45001
Production sites							
Hamburg, headquarters (DE)	√	V	V	V			V
Lünen (DE) ¹	V	V	V	V		V	√
Olen (BE)		V	V	V			V
Pirdop (BG)		√		V			V
Avellino (IT)	V	V		V			V
Beerse, Metallo (BE)		V	√²	V			
Berango, Metallo (ES)		√		V			V
Buffalo (US)				V	V		
Emmerich, Deutsche Giessdraht (DE)		V	V	V			V
Fehrbellin, Cablo GmbH (DE) ³		V	V	V		V	
Hamburg, E. R. N. (DE)		V	V	V		V	٧
Hamburg, Peute Baustoff (DE)				√4			٧
Pori (FI)		V	V	V			V
Röthenbach, RETORTE (DE)				V			V
Stolberg (DE)			V	V	V		
Stolberg, Schwermetall Halbzeugwerk (DE) ⁵	√	V	V	V			V
Zutphen (NL)		V		V	V		
Slitting centers							
Dolný Kubín (SK)		V		V			V
Mortara (IT)				V			V
Smethwick/Birmingham (UK)				V			

¹ The plant is also certified through WEELABEX in accordance with the European series of standards EN 50625. The certificate confirms that waste electrical and electronic devices are efficiently treated and disposed of while minimizing environmental impact. ² Since October 29, 2021.

Explanation:
EMAS: system of specifications for environmental management systems and environmental audits ISO 14001: standard for environmental management systems
ISO 50001: standard for energy management systems
ISO 9001: standard for quality management systems
IATF 16949: standard for quality management systems in the automotive industry, based on ISO 9001
EfbV: Ordinance on Specialized Waste Management Companies (German certificate)
ISO 45001: standard for occupational safety management systems

ISO 45001: standard for occupational safety management systems

³ Not majority-owned by Aurubis (40 % stake).
4 For the sale of iron silicate granules used to produce blasting abrasives.
5 Not majority-owned by Aurubis (50 % stake).

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ECONOMY

Overview GRI 201-1

	Unit	2019/20	2020/21
Operating earnings before taxes (EBT)	€m	221	353
ROCE (return on capital employed)	%	9.3	15.6
R&D expenditure	€m	15.0	12.0
Environmental protection investments	€m	36.1	60.9
Environmental protection investments since 2000 (cumulative)	€m	670	730

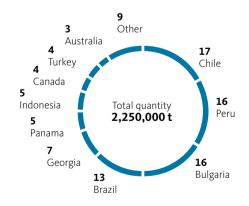
Average recycled copper content in copper cathodes in the Group 2020/21

in %



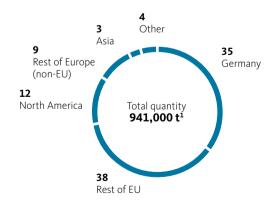
Origin of concentrates and throughput 2020/21

GRI 301-1, in %



Origin of recycling materials and throughput 2020/21

GRI 301-2, in %



¹ Excluding FRP.

Compliance and anti-corruption: Employees trained the past three years GRI 102-17, GRI 205-2

	Unit	2018/19 to 2020/21
Anti-corruption	Employees	1,330
Percentage of all employees	%	19.2
Antitrust law	Employees	507
Percentage of all employees	%	7.3

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

	Unit	2020/21
Corruption	Number	0
Antitrust law	Number	0
Discrimination	Number	0

Human rights GRI 412-3

Unit	2020/21
Reports submitted on topics relevant to human rights	See pages 68-70 of the Aurubis Annual Report 2020/21
Human rights, environmental protection, and safety clauses in supply contracts for primary raw materials %	89

ENVIRONMENT

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

	Unit	2018	2019	2020
Total energy consumption within the organization	million MWh	3.64 ²	3.47	3.72
Total energy consumption from renewable energies	million MWh	0.17	0.15	0.15
Total primary energy consumption	million MWh	1.75	1.69	1.72
Total fuel consumption from non-renewable sources	million MWh	1.70	1.68	1.71
Natural gas	million MWh	1.21	1.17	1.21
Heating oil	million MWh	0.01	0.01	0.00
Liquefied petroleum gas (LPG)	million MWh	0.05	0.04	0.04
Diesel	million MWh	0.01	0.06	0.05
Fuel oil	million MWh	0.30	0.30	0.27
Coke	million MWh	0.09	0.08	0.11
Butane gas	million MWh	0.03	0.03	0.03
Total fuel consumption from renewable sources	million MWh	0.003	0.002	0.002
Wood and wood waste	million MWh	_	-	_
Landfill gas (LFG)	million MWh	0.003	0.002	0.002
Total secondary energy consumption	million MWh	1.89 ²	1.78	2.00
Total electricity consumption	million MWh	1.842	1.74	1.93
Total bought-in electricity	million MWh	1.812	1.72	1.90
from non-renewable sources	million MWh	1.682	1.59	1.79
from renewable sources	million MWh	0.142	0.13	0.11
Consumption of internally generated renewable energies	million MWh	0.032	0.02	0.03
Consumption of bought-in steam	million MWh	0.05 ²	0.04	0.05
Energy intensity ¹	MWh/t	2.0 ²	2.1	2.0

 $^{^1}$ Values based on copper production, i.e., at the Hamburg, Lünen, Pirdop, Olen, and (starting 2020) Beerse and Berango sites. 2 Figures from the Sustainability Report 2019/20 have been adjusted.

To evaluate our environmental protection performance, we carried out a life cycle assessment (LCA) for our main product, the copper cathode. The results are available in the Environmental Statement 2021 (pages A-27 to A-28).

☐ Environmental Report 2021

Reduction in energy consumption through individual projects GRI 302-4

	Unit	2020/21
Total	MWh	24,342
Additional use of internal waste heat from the sulfuric acid process, Hamburg (DE)	MWh	5,520
Installation of an efficient converter booster burner, Hamburg (DE)	MWh	1,705
Integration of frequency converters for ventilation system, Beerse (BE)	MWh	111
Integration of more efficient engines and drives, Pirdop (BG)	MWh	1,469
Installation of more efficient transformers, Pirdop (BG)	MWh	1,608

CO₂ emissions¹ GRI 305-1, GRI 305-2, GRI 305-3, GRI 305-4

	Unit	2018	2019	2020
Scope 1 and 2	1,000 t	1,459	1,444	1,563
Scope 1 (emissions produced as a direct result of burning fuels in internal facilities)	1,000 t	522	503	540
Scope 2 (indirect emissions related to purchased energy, e.g., electricity)	1,000 t	936	941	1,023 ²
Specific Scope 1 emissions ⁵	t/t of copper output	0.31	0.32	0.31
Specific Scope 2 emissions ⁵	t/t of copper output	0.59	0.65	0.62
Specific Scope 1 and Scope 2 emissions ⁵	t/t of copper output	0.90	0.97	0.93
Scope 3 (other indirect emissions) 4	1,000 t	2,081	1,917	2,541

¹ Aurubis reports its CO₂ emissions using the methods of the "European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MRR) -General Guidance for Installations" and "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)." Emissions from diesel vehicles in accordance with the emissions trading system are not included. However, they make up only a very small percentage compared to other sources. Scope 2 emissions are reported here according to the market-based method. For the CDP, we report Scope 2 emissions according to both the market-based and the location-based methods.

The increase is due to the new Beerse and Berango sites as well as an adjustment to the methodology used. Since 2020, emissions connected with oxygen production are included in Scope 2. These were included in Scope 3 in 2018 and 2019.

Scope 3 emissions by activity GRI 305-3

Unit	2020
Purchased goods and services %	69
Upstream transport and delivery %	14
Fuels and energy-related activities %	8
Downstream transport and delivery %	5
Investment goods %	4
Employees' commuting routes %	< 1
Generated waste %	<1
Business travel %	< 1

³ Based on copper production at the Hamburg, Lünen, Pirdop, Olen, and (since 2020) Beerse and Berango sites. ⁴ Some Scope 3 emissions have been extrapolated.

⁵ The increase is due to the new Beerse and Berango sites as well as an adjustment to the methodology used.

Reduction in CO₂ emissions through individual projects GRI 305-5

	Unit	2020/21
Total	+	5,405
Additional use of internal waste heat from the sulfuric acid process, Hamburg (DE)	t	1,593
Installation of an efficient converter booster burner, Hamburg (DE)	t	310
Integration of frequency converters for ventilation system, Beerse (BE)	t	44
Integration of more efficient engines and drives, Pirdop (BG)	t	581
Installation of more efficient transformers, Pirdop (BG)	t	637

Nitrogen oxides (NO_x), sulfur dioxide (SO₂), and dust GRI 305-7

	Unit	2000	2012	2018	2019	2020
Dust	t	-	-	103	93	102
NO _x	t	_	-	8423	769	863
SO ₂	t	_	-	4,859	4,154	5,264
Specific dust emissions ¹	g/t of copper output	1,291	72	63	60	57
Specific NO _x emissions ¹	g/t of copper output	-	0.55	0.57	0.56	0.54
Specific SO ₂ emissions ²	g/t of copper output	34.8	5.6	4.9	4.6	5.4

¹ Values based on copper production, i.e., at the Hamburg, Lünen, Pirdop, Olen, and (starting 2020) Beerse and Berango sites.

Water and effluents GRI 305-3, GRI 305-4, GRI 305-5

	Unit	2018	2019	2020
Total water withdrawal	million m³	80.5	71	78.3
Water withdrawal by source:				
Surface water	million m ³	76.6	67.7	74.6
Rainwater	million m ³	0.4	0.3	0.6
Groundwater	million m ³	0.6	0.5	0.6
Municipal water	million m ³	2.6	2.1	2.2
Other ¹	million m ³	0.3	0.3	0.3
Total water discharge	million m ³	77.0	66.1	71.9
Water discharge by destination				
Surface water	million m ³	75.6	64.7	70.5
Municipal wastewater system	million m ³	1.4	1.3	1.3
Wastewater to third parties	million m ³	< 0.1	<0.1	<0.1
Metal emissions to water ²	g/t of copper output	1.1	1.0	0.8

¹Other: distilled water, steam, etc.

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

³ The figure from the Sustainability Report 2019/20 has been adjusted.

² In this table, we refer to the copper production sites that discharge directly into water. In Lünen and Berango, wastewater is directed to the public sewer system after being treated on the plant premises, so these sites aren't included.

KPIs related to waste GRI 306-3, GRI 306-4, GRI 306-5

	Unit	2018	2019	2020
Hazardous waste	t	46,886	48,659¹	50,970
Landfilling	t	34,032	36,429	36,473
Disposal (thermal)	t	81	123 ¹	370
Thermal utilization	t	447	391	441
Recycling	t	10,457	8,731 ¹	11,638
Storage	t	1,846	1,682	1,899
Internal utilization/recycling	t	24	1,303	149
Non-hazardous waste	t	43,255¹	46,992	81,705
Landfilling	t	2,134	1,739	17,491
Disposal (thermal)	t	717 ¹	682 ¹	624
Thermal utilization	t	472	590	435
Recycling	t	32,947	38,354 ¹	57,068
Storage	t	128	89	133
Internal utilization/recycling	t	6,857	5,537	5,955
Construction waste	t	46,558	122,503 ¹	17,887

¹ Figures from the Sustainability Report 2019/20 have been corrected.

Conservation areas in close proximity to copper production sites GRI 304-1

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

PEOPLE

Personnel structure GRI 102-7, GRI 102-8, GRI 401-1, GRI 405-1

	Unit	2018/19	2019/20	2020/21
Total employees	Number	6,831	7,236	7,135
– Female	%	12	13	13
– Male	%	88	87	87
Blue collar	Number	4,214	4,356	4,285
– Female	%	4	3	4
– Male	%	96	97	96
White collar	Number	2,328	2,561	2,519
– Female	%	28	29	28
– Male	%	72	71	72
Apprentices (including Pirdop, BG)	Number	289	319	331
– Female	%	13	12	14
– Male	%	87	88	86
Temporary workers ¹	Number	223	147	166
New employee hires (including apprentices)	Number	792	547	662
Turnover rate (excluding apprentices)	%	7.8	7.4	8.4
Average length of employment in the company	Years	14.3	14.1	14.0

¹ 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.

Temporary and permanent contracts¹ GRI 102-8

	Unit	2018/	2018/19		2019/20		21
		Permanent	Temporary	Permanent	Temporary	Permanent	Temporary
Total employees	Number	6,287	255	6,706	211	6,589	215
– Female	Number	758	45	830	44	815	48
- Male	Number	5,529	210	5,876	167	5,774	167
– Employees in Germany	Number	3,502	142	3,462	128	3,347	121
- Employees in Europe (excluding Germany)	Number	2,197	72	2,704	49	2,679	81
– Employees in the US	Number	588	41	540	34	563	13

 $^{^{\}rm 1}$ Excluding apprentices.

Full-time and part-time employees¹ GRI 102-8

	Unit	2018/19		2019/20		2020/21	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Total employees	Number	6,279	263	6,545	372	6,448	356
– Proportion of total employees	%	96	4	95	5	95	5
– Female	Number	666	137	716	158	719	144
- Proportion of female employees	%	83	17	82	18	83	17
– Male	Number	5,613	126	5,829	214	5,729	212
- Proportion of male employees	%	98	2	96	4	96	4

¹ Excluding apprentices.

Age structure¹ GRI 405-1

	Unit	2018/19	2019/20	2020/21
<20	Number	15	11	4
20 – 29	Number	997	990	944
30-39	Number	1,642	1,806	1,865
40 – 49	Number	1,467	1,583	1,548
50-59	Number	1,824	1,912	1,840
60-69	Number	584	602	596
>69	Number	13	13	7

¹ Excluding apprentices.

Proportion of female managers GRI 405-1

	Unit	2018/19	2019/20	2020/21
			22	-
On the Supervisory Board	%	33	33	33
On the Executive Board	%	0	0	0
First management level	%	24	20	28
Second management level	%	19	21	20

Individuals with a disability GRI 405-1

	Unit	2018/19	2019/20	2020/21
Descentage of individuals with a source disability!	2	6.0	<i>6</i> 1	FO
Percentage of individuals with a severe disability ¹	%	0.9	0.1	5.9

¹ For Aurubis AG.

Proportion of employees covered by collective agreements GRI 102-41

	Unit	2018/19	2019/20	2020/21
Proportion of total employees	%	96	96	93
Proportion of AG employees	%	96	100	100

Apprenticeship rate and apprentice retention rate in Germany

	Unit	2018/19	2019/20	2020/21
Apprenticeship rate	%	7.3	7.7	8.4
Apprentice retention rate	%	78.4	71.2	71.6

Training hours GRI 404-1

	Unit	2018/19	2019/20	2020/21
Total employees	Training hours/employee	15.2	12.0	13.9
– Blue collar	Training hours/employee	13.6	10.2	13.7
– White collar	Training hours/employee	18.3	15.2	14.2
Total proportion of employees receiving training	%	75.5	67.0	61.2
– Blue collar	%	73.4	66.0	58.6
– White collar	%	79.4	68.8	65.5

Occupational safety GRI 403-9

	Unit	2018/19	2019/20	2020/21
Work-related accidents involving Aurubis employees ¹				
Number of work-related accidents	Number	61	51	54
LTIFR ²	Rate	6.0	5.4	5.0
Severity rate	Rate	0.32	0.35	0.32
Number of work-related fatalities	Number	0	0	0
Work-related accidents involving temporary workers Number of work-related accidents	Number	16	10	4
LTIFR ²	Rate	39.4	36.2	12.5
Number of work-related fatalities	Number	0	0	0
Work-related accidents involving external companies				
Number of work-related accidents	Number	22	21	33
LTIFR ²	Rate	5.9	5.8	8.7
Number of work-related fatalities	Number	0	0	0

¹ Absolute number of accidents including the Beerse and Berango sites starting June 1, 2020.
Excluding Cablo Metall-Recycling und Handel GmbH, Ferbellin, starting June 1, 2021 (which, since June 1, 2021, has belonged to the joint venture Cablo GmbH with the recycling company TSR Recycling GmbH & Co. KG; Aurubis holds a 40 % stake in Cablo GmbH).
² LTIFR: Beerse and Berango sites included for the entire fiscal year starting in 2019/20 so that the KPI can be compared.

Total expenditures for social engagement and regional distribution 2020/21 GRI 203-1, GRI 413-1

in%



¹ The total expenditures mainly comprise sponsoring amounts and donations combined. The total includes Schwermetall Halbzeugwerke GmbH & Co. KG and Cablo Metall-Recycling und Handel GmbH, Ferbellin (which, since June 1, 2021, has belonged to the joint venture Cablo GmbH with the recycling company TSR Recycling GmbH & Co. KG; Aurubis holds a 40 % stake in Cablo GmbH).

About the KPI Update

GRI 102-50, GRI 102-51, GRI 102-52

With the KPI Update 2020/21, we are updating the KPIs from our Sustainability Report 2019/20 and supplementing the information provided in our Non-Financial Report 2020/21. The reporting period is fiscal year 2020/21. The Aurubis fiscal year starts on October 1 and ends on September 30. All environmental and energy KPIs are reported for calendar year 2020, not fiscal year 2020/21. These KPIs are used first and foremost for internal management purposes and reporting for governmental authorities, for which the calendar year is the given period under review. Parallel reporting of both calendar year and fiscal year figures could lead to confusion and ambiguity.

In addition to Aurubis AG, the scope of consolidation includes all of the fully consolidated subsidiaries (as at September 30, 2021) and therefore fundamentally corresponds to the scope of consolidation of the Annual Report, excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50 % stake. The Fehrbellin site has belonged to the joint venture Cablo GmbH with the recycling company TSR Recycling GmbH & Co. KG since June 1, 2021. Aurubis holds a 40 % stake. The site is still fully consolidated in the environmental KPIs. The KPIs for the Beerse and Berango sites are included as of June 1, 2020, and in the environmental KPIs starting January 1, 2020. The environmental and energy KPIs are reported for production sites that are majority-owned (>50 %) by Aurubis (see page 2). This reflects most of the energy consumption and emissions. The volume at the slitting centers and sales offices is negligible in comparison. When copper production is mentioned in the context of environmental KPIs, this refers to primary and secondary copper production at the Hamburg, Lünen, Olen, Pirdop, Beerse, and Berango sites. Any deviations from the scope of consolidation are expressly stated for the relevant figures.

The Non-Financial Report is released annually as part of the Annual Report. Our Sustainability Reports are released every two years. The last Sustainability Report was released in spring 2021, and the Non-Financial Report for fiscal year 2020/21 was released with the Aurubis AG Annual Report 2020/21 in December 2021.

☐ Annual Report 2020/21