

# Aurubis AG

## Sustainability KPI Update 2018/19

The 2018/19 KPIs update the KPIs from our Sustainability Report 2017/18 and supplement the information provided in our Non-Financial Report 2018/19.

### Sites and employees

<b>Europe</b>			
DE	Hamburg	Aurubis AG headquarters	2,575
		E. R. N. Elektro-Recycling NORD GmbH	13
		Peute Baustoff GmbH	13
	Lünen	Aurubis AG	664
	Stolberg	Aurubis Stolberg GmbH & Co. KG	433
	Emmerich	Deutsche Giessdraht GmbH	120
	Fehrbellin	CABLO Metall-Recycling & Handel GmbH	50
	Röthenbach	RETORTE GmbH Selenium Chemicals & Metals	41
	Nersingen/ Strass	CABLO Metall-Recycling & Handel GmbH	20
	Berlin	Aurubis AG, Group Representative Office	2
	Hanau	Aurubis AG	2
BG	Pirdop	Aurubis Bulgaria AD	882
BE	Olen	Aurubis Belgium NV/SA	630
	Brussels	Aurubis Belgium NV/SA	27
NL	Zutphen	Aurubis Netherlands BV	295
FI	Pori	Aurubis Finland Oy	256
IT	Avellino	Aurubis Italia Srl	103
	Mortara	Aurubis Mortara S.p.A.	28
UK	Smethwick/ Birmingham	Aurubis UK Ltd.	23
SK	Dolný Kubín	Aurubis Slovakia s. r. o.	15
SE	Finspång	Aurubis Sweden AB	6
FR	Lyon/Septème	Aurubis Product Sales GmbH	3
RU	St. Petersburg	Aurubis Rus LLC <sup>1</sup>	2
ES	Barcelona	Aurubis Product Sales GmbH	1
TR	Istanbul	Aurubis Turkey Kimya Anonim Sirketi <sup>1</sup>	1
<b>Employees in Europe</b>			<b>6,205</b>
<b>US</b>			
US	Buffalo	Aurubis Buffalo Inc.	624
	Chicago	Aurubis Buffalo Inc.	5
	Tampa	Aurubis Tampa LLC <sup>1</sup>	2
<b>Employees in the US</b>			<b>631</b>

<b>Asia</b>			
CN	Shanghai	Aurubis Metal Products (Shanghai) Co., Ltd. <sup>1</sup>	4
	Hong Kong <sup>2</sup>		1
	Beijing <sup>2</sup>		1
VAE	Dubai	Aurubis Middle East FZE <sup>1</sup>	3
SG	Singapore <sup>2</sup>		3
TH	Bangkok <sup>2</sup>		3
JP	Tokyo <sup>2</sup>		1
KR	Seoul <sup>2</sup>		1
<b>Employees in Asia</b>			<b>17</b>
<b>Total employees</b>			<b>6,853</b>

The KPIs relate to permanent and temporary employment arrangements as at the reporting date of September 30, 2019. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, Stolberg (DE), in which Aurubis holds a 50 % stake, as well as Ampashield NV/SA (BE). In addition to the fully consolidated companies, the numbers include the employees of the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), Aurubis Turkey Kimya Anonim Sirketi (Istanbul), and Aurubis Tampa LLC, which had a combined total of twelve employees in fiscal year 2018/19. They also include ten independent sales employees at international sites.

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

<sup>2</sup> Agency/self-employed sales employee, non-consolidated.

## Certifications by site

Site	EMAS	ISO 14001	ISO 50001	ISO 9001	IATF 16949	Efbv	ISO 45001/ OHSAS 18001 <sup>3</sup>
Hamburg, headquarters (DE)	✓	✓	✓	✓			
Lünen (DE)	✓	✓	✓	✓		✓	
Olen (BE)		✓		✓			
Pirdop (BG)		✓		✓			✓
Avellino (IT)	✓	✓		✓			✓
Buffalo (US)				✓	✓		
Emmerich, Deutsche Giessdraht (DE)		✓	✓	✓			
Fehrbellin, CABLO (DE)		✓	✓	✓		✓	
Hamburg, E.R.N. (DE)		✓	✓	✓		✓	
Hamburg, Peute Baustoff (DE) <sup>1</sup>				✓ <sup>1</sup>			
Nersingen, Strass, CABLO (DE)		✓	✓	✓		✓	
Pori (FI)		✓		✓			✓
Röthenbach, RETORTE (DE)				✓			
Stolberg (DE)			✓	✓	✓		
Stolberg, Schwermetall (DE) <sup>2</sup>	✓	✓	✓	✓			✓
Zutphen (NL)		✓		✓	✓		

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

<sup>2</sup> Not majority-owned by Aurubis (50 % stake).

<sup>3</sup> The slitting center in Dolný Kubín is also certified in accordance with OHSAS 18001.

**Explanation:**

EMAS: system of specifications for environmental management systems.

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.

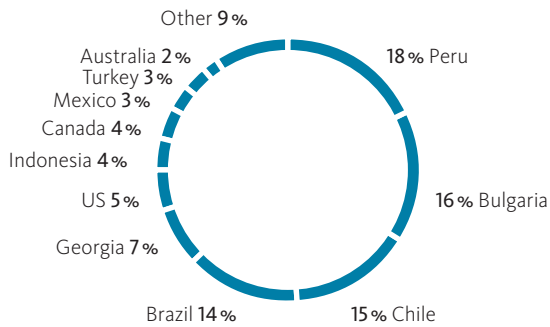
Efbv: Ordinance on Specialized Waste Management Companies (German certificate).

ISO 45001: standard for occupational safety management systems.

OHSAS 18001: standard for occupational safety management systems.

### Origin of primary raw materials<sup>1</sup>

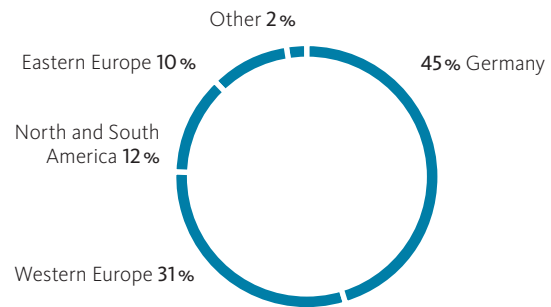
for the Aurubis Group in FY 2018/19



<sup>1</sup> Concentrate throughput in FY 2018/19 was 2.2 million t.

### Origin of recycling materials<sup>1</sup>

for the Aurubis Group in FY 2018/19



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

### Compliance and anti-corruption

	Unit	2016/17 – 2018/19
<b>Employees trained the past three years</b>		
Anti-corruption	Employees	725
Percentage of all employees	%	11
Antitrust law	Employees	320
Percentage of all employees	%	5

	Unit	2018/19
<b>Incidents or lawsuits</b>		
Corruption	Number	0
Antitrust law	Number	0
Discrimination	Number	0

## ENVIRONMENTAL KPIS

If not stated otherwise, Aurubis reports the environmental KPIS for the production sites that are majority-owned by Aurubis (> 50%). This reflects most of the energy consumption because the volume at the sales offices is negligible in comparison. In contrast to the Non-Financial Report and the Sustainability Report for fiscal year 2017/18, the KPIS reported this year don't include Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake. Aurubis reports its environmental KPIS based on the calendar year, not the fiscal year.

	Unit	2016	2017	2018
<b>Energy</b>				
<b>Total energy consumption within the organization</b>	million MWh	3.45	3.54	3.51
<b>Total energy consumption from renewable energies</b>	million MWh	0.03	0.14	0.17
<b>Total primary energy consumption</b>	million MWh	1.72	1.66	1.75
Total fuel consumption from non-renewable sources	million MWh	1.71	1.66	1.70
Natural gas	million MWh	1.20	1.15	1.21
Heating oil	million MWh	0.01	0.01	0.01
Liquefied petroleum gas (LPG)	million MWh	0.04	0.04	0.05
Diesel	million MWh	0.05	0.05	0.01
Fuel oil	million MWh	0.30	0.29	0.30
Coke	million MWh	0.08	0.09	0.09
Butane gas	million MWh	0.04	0.04	0.03
Total fuel consumption from renewable sources	million MWh	0.002	0.003	0.003
Wood and wood waste	million MWh	0.0003	-	-
Landfill gas (LFG)	million MWh	0.002	0.003	0.003
<b>Total secondary energy consumption</b>	million MWh	1.73	1.88	1.77
<b>Total electricity consumption</b>	million MWh	1.68	1.83	1.71
Total bought-in electricity	million MWh	1.65	1.79	1.69
from non-renewable sources	million MWh	1.62	1.66	1.56
from renewable sources	million MWh	0.03	0.13	0.13
Consumption of internally generated renewable energies	million MWh	0.03	0.04	0.02
<b>Consumption of bought-in steam</b>	million MWh	0.05	0.04	0.05
<b>Energy intensity<sup>1</sup></b>	MWh/t copper output	2.1	1.9	1.9

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

	Unit	2018
<b>Reduction in energy consumption through individual projects</b>		
<b>Total</b>	MWh	15,941.00
Steam turbine in Pirdop	MWh	13,390.00
Optimizations in Hamburg	MWh	2,457.00
Optimizations in Olen	MWh	94.00

	Unit	2016	2017	2018
<b>KPIs related to CO<sub>2</sub> emissions<sup>1</sup></b>				
<b>Scope 1 and 2</b>	1,000 t	1,522	1,565	1,459
Scope 1 (emissions produced as a direct result of burning fuels in internal facilities)	1,000 t	508	517	522
Scope 2 (indirect emissions related to purchased energy, e.g., electricity)	1,000 t	1,014	1,048	936
Scope 1 emissions in t/t of copper output <sup>2</sup>	t/t copper output	0.22	0.19	0.21
<b>Scope 3 (other indirect emissions)<sup>3</sup></b>	1,000 t	1,643	1,901	2,081

<sup>1</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 (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 emission trading system are not included. However, they make up 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 emissions according to both the market-based and the location-based methods.

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

<sup>3</sup> Scope 3 emissions are emissions caused by services provided by third parties, for example transport, raw material mining, or the production of purchased materials.

	Unit	2018
<b>Reduction in CO<sub>2</sub> emissions through individual projects</b>		
<b>Total</b>	t	19,155.00
Wind turbines in Olen	t	5,836.00
General process optimizations	t	6,549.00
Belt dryer	t	1,179.00
Back-pressure turbine	t	5,591.00

	Unit	2000	2012	2013	2014	2015	2016	2017	2018
<b>KPIs related to nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and dust</b>									
<b>Dust</b>	t	-	-	-	94	90	93	101	110
NO <sub>x</sub>	t	-	-	-	799	868	870	809	846
SO <sub>2</sub>	t	-	-	-	5,101	4,986	4,648	5,145	4,859
Specific dust emissions <sup>1</sup>	in g/t copper output	1,291	72	52	55	55	60	56	63
Specific NO <sub>x</sub> emissions <sup>1</sup>	in g/t copper output	-	0.55	0.66	0.53	0.62	0.63	0.54	0.57
Specific SO <sub>2</sub> emissions <sup>2</sup>	in g/t copper output	34.8	5.6	5.6	4.7	5.1	5.1	4.9	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.

	Unit	2016	2017	2018
<b>KPIs related to water and effluents</b>				
<b>Total water withdrawal</b>	million m <sup>3</sup>	77.7	82.6	80.5
Water withdrawal by source				
Surface water	million m <sup>3</sup>	74.1	79.0	76.6
Rainwater	million m <sup>3</sup>	0.4	0.4	0.4
Groundwater	million m <sup>3</sup>	0.6	0.5	0.6
Municipal water	million m <sup>3</sup>	2.3	2.1	2.6
Other <sup>1</sup>	million m <sup>3</sup>	0.4	0.5	0.3
<b>Total water discharge</b>	million m <sup>3</sup>	72.9	77.1	77.0
Water discharge by destination				
Surface water	million m <sup>3</sup>	71.4	75.8	75.6
Municipal wastewater system	million m <sup>3</sup>	1.4	1.3	1.4
Wastewater to third parties	million m <sup>3</sup>	<0.1	<0.1	<0.1
<b>Metal emissions to water<sup>2</sup></b>	t/t copper output	1.1	1.0	1.1

<sup>1</sup> Other: demineralized water, steam, etc.

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

	Unit	2016	2017	2018
<b>KPIs related to waste</b>				
<b>Hazardous waste</b>	t	43,421	53,755	48,548
Landfilling				
Disposal (thermal)	t	27,430	34,417	34,032
Thermal utilization	t	197	139	81
Recycling	t	2,363	2,407	2,109
Storage	t	9,220	13,063	10,457
Internal utilization/recycling	t	3,722	1,264	1,846
Internal utilization/recycling	t	487	2,464	24
<b>Non-hazardous waste</b>	t	44,494	45,350	42,966
Landfilling				
Disposal (thermal)	t	1,991	1,899	2,134
Thermal utilization	t	197	139	428
Recycling	t	499	446	472
Storage	t	33,916	35,768	32,947
Internal utilization/recycling	t	1,265	184	128
Internal utilization/recycling	t	6,626	6,914	6,857
<b>Construction waste</b>	t	51,029	38,826	46,558

	Distance in m	Direction
<b>Conservation areas in close proximity to copper production sites</b>		
<b>Hamburg</b>		
Hamburger Unterelbe	200 – 600	Southeast
Holzhafen	600 – 1,000	East
Heuckenlock/Schweenssand	3,600	South
<b>Pirdop</b>		
Tsentralen Balkan – bufer (nature conservation area)	approx. 1,000	North
Tsentralen Balkan – bufer (bird conservation area)	approx. 1,700	North
	approx. 2,300	East
Sredna Gora	approx. 2,300	South
<b>Lünen</b>		
In den Kämpen, Im Mersche und 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

## KPIs RELATED TO PEOPLE

If not otherwise indicated, the KPIs relate to permanent and temporary employment arrangements. In addition to the fully consolidated companies, the numbers include the employees of the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), Aurubis Turkey Kimya Anonim Sirketi (Istanbul), and Aurubis Tampa LLC, which had a combined total of twelve employees in fiscal year 2018/19. The KPIs also include ten independent sales employees at international sites. The employees of Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake, and Ampashield NV/SA (BE) are not included. If not otherwise indicated, the KPIs relate to the reporting date of September 30, 2019.

	Unit	2014/15	2015/16	2016/17	2017/18	2018/19
<b>Development of employee headcount</b>						
Total employees	Number	6,321	6,454	6,494	6,673	6,853

	Unit	2017/18	2018/19
<b>Employee structure in the Aurubis Group</b>			
Total employees	Number	6,673	6,853
– Female	%	12	12
– Male	%	88	88
Blue collar	Number	4,130	4,214
– Female	%	4	4
– Male	%	96	96
White collar	Number	2,256	2,350
– Female	%	28	28
– Male	%	72	72
Apprentices	Number	287	289
– Female	%	10	13
– Male	%	90	87
Temporary workers <sup>1</sup>	Number	214	223
New employee hires (including apprentices)	Number	544	793
Turnover rate (excluding apprentices)	%	6.6	7.8
Average length of employment in the company	Years	15.3	14.2

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



	Unit	2017/18		2018/19	
		Permanent	Temporary	Permanent	Temporary
<b>Temporary and permanent contracts<sup>1</sup></b>					
Total employees	Number	6,159	227	6,309	255
– Female	Number	729	53	766	45
– Male	Number	5,430	174	5,543	210
– Employees in Germany	Number	3,396	116	3,502	142
– Employees in Europe (excluding Germany)	Number	2,133	75	2,200	72
– Employees in the US	Number	611	36	590	41
– Employees in Asia	Number	19	0	17	0

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

	Unit	2017/18		2018/19	
		Full-time	Part-time	Full-time	Part-time
<b>Full-time and part-time employees in the Aurubis Group<sup>1</sup></b>					
Total employees	Number	6,160	226	6,300	264
– Proportion of total employees	%	96	4	96	4
– Female	Number	654	128	673	138
– Proportion of female employees	%	84	16	83	17
– Male	Number	5,506	98	5,627	126
– Proportion of male employees	%	98	2	98	2

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

	Unit	2017/18	2018/19
<b>Age structure in the Aurubis Group<sup>1</sup></b>			
<20	Number	14	15
20 – 29	Number	984	999
30 – 39	Number	1,515	1,647
40 – 49	Number	1,452	1,471
50 – 59	Number	1,820	1,832
60 – 69	Number	585	586
>69	Number	16	14

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

	Unit	2017/18	2018/19
<b>Proportion of female managers</b>			
On the Executive Board	%	0	0
First management level	%	12	24
Second management level	%	20	19
On the Supervisory Board	%	33	30

	Unit	2017/18	2018/19
<b>Individuals with a disability</b>			
Percentage of individuals with a severe disability	%	6.9	6.9

	Unit	2017/18	2018/19
<b>Incidents of discrimination</b>			
Cases of discrimination	%	0	0

	Unit	2017/18	2018/19
<b>Proportion of employees covered by collective agreements</b>			
Proportion of total employees	%	99	96
Proportion of AG employees	%	100	96

	Unit	2017/18	2018/19
<b>Apprenticeship and apprentice retention rate in Germany</b>			
Apprenticeship rate	%	6.3	7.3
Apprentice retention rate	%	80	78.4

	Unit	2017/18	2018/19
<b>KPIs regarding average training hours</b>			
Aurubis Group	Training hours/employee	11.5	15.2
– Blue collar	Training hours/employee	9.7	13.6
– White collar	Training hours/employee	15.1	18.3
Proportion of Aurubis Group employees receiving training	%	– <sup>1</sup>	76
– Blue collar	%	– <sup>1</sup>	73
– White collar	%	– <sup>1</sup>	79

<sup>1</sup> We did not record this KPI in fiscal year 2017/18.

	Unit	2014/15	2015/16	2016/17	2017/18	2018/19
<b>Work-related accidents involving Aurubis employees<sup>1</sup></b>						
LTIFR <sup>2</sup>	Rate	6.3	4.6	4.8	6.1	5.8
Number of work-related accidents	Number	63	45	47	60	59
Number of work-related fatalities	Number	0	0	0	0	0
<b>Work-related accidents involving temporary workers</b>						
LTIFR <sup>2</sup>	Rate	– <sup>3</sup>	– <sup>3</sup>	– <sup>3</sup>	– <sup>3</sup>	37
Number of work-related accidents	Number	– <sup>3</sup>	– <sup>3</sup>	– <sup>3</sup>	– <sup>3</sup>	15
Number of work-related fatalities	Number	0	0	0	0	0
<b>Work-related accidents involving external companies</b>						
LTIFR <sup>2</sup>	Rate	– <sup>3</sup>	– <sup>3</sup>	– <sup>3</sup>	– <sup>3</sup>	5.9
Number of work-related accidents	Number	– <sup>3</sup>	– <sup>3</sup>	– <sup>3</sup>	– <sup>3</sup>	22
Number of work-related fatalities	Number	0	1	0	0	0

<sup>1</sup> KPIs for consolidated sites with ten or more employees. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50 % stake.

<sup>2</sup> LTIFR = lost time injury frequency rate: work-related accidents with at least one lost shift per one million hours worked.

<sup>3</sup> We only started publishing occupational safety KPIs for temporary workers and external companies in FY 2018/19.

# About this Report

The 2018/19 KPIs update the KPIs from our Sustainability Report 2017/18 and supplement the information provided in our Non-Financial Report 2018/19.

The reporting period is fiscal year 2018/19. The Aurubis fiscal year starts on October 1 and ends on September 30. However, all environmental KPIs are reported based on the calendar year. When not stated otherwise, the report relates 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, 2019. 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 employees of the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), Aurubis Turkey Kimya Anonim Sirketi (Istanbul), and Aurubis Tampa LLC, which had a combined total of twelve employees in fiscal year 2018/19. The numbers also include ten independent sales employees at international sites. The employees of Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50% stake, and Ampashield NC/SA (BE) are not included in the figures.

The last Sustainability Report was released in early 2019, while the Non-Financial Report for fiscal year 2018/19 was published in the Aurubis Annual Report in December 2019. These publications are supplemented by the annual Aurubis AG Environmental Statement.

[Annual Report 2018/19](#)