2018 ENVIRONMENTAL REPORT

Updated environmental report for the Linz and Steyrling locations

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DATA, FACTS AND IMPORTANT INFORMATION ON ENVIRONMENTAL TOPICS

The content of the updated 2018 Environmental Report comply with requirements of the EMAS III Directive and refer to the validated locations in Linz and Steyrling and the respective companies voestalpine Stahl GmbH, voestalpine Grobblech GmbH, voestalpine Giesserei Linz GmbH, voestalpine Camtec GmbH, voestalpine Steel & Service Center GmbH, voestalpine Standortservice GmbH, Logistik Service GmbH, Cargo Service GmbH and voestalpine Automotive Components Linz GmbH.

CONTENT

IMPLEMENTED ENVIRONMENTAL MEASURES

Excerpt of environmental measures implemented in the 2017/18 fiscal year

Essential environmental measures that have made a significant contribution to environmental performance are integral constituents of the environmental programs of companies included in the scope. The following tables document measures implemented in previous programs as well as objectives newly defined in the 2018/19 environmental program. Further individual measures have been developed and implemented in the respective companies.

Company	Target	Measure	Figure	Deadlines
voestalpine Stahl GmbH	Reduction of carbon organic emissions in the coal pulverization and drying system	Installation of a post-combustion system in the coal pulverization and drying system	Carbon organic emission concentrations < 50 mg/Nm³; current status: < 2 mg/Nm³ (currently measured value)	31 Dec. 2017
voestalpine Stahl GmbH	Improved monitoring of dust separation by joining dedusting lines in the LD3 steelmaking plant	Integration of two smaller dedusting systems in the continuously monitored secondary dedusting system 2.2	Expansion of the continuous dust emission monitoring system Current status: Implemented and goal achieved	31 Mar. 2018
voestalpine Stahl GmbH	Reduction of vapor pressure in RH1 and RH2	Implementation of ball valves and implementation of special control valves Higher level of safety	Steam consumption reduced by roughly 11,000 tons/year Current status: 15,500 tons/year	31 Mar. 2018
voestalpine Grobblech GmbH	Energy savings in heat-treating furnace (D20)	Optimization and cleaning of regenerator, optimization of offgas stack valve regulation and lambda optimization of all burners, revamp of burner control system	Specific energy consumption reduced by roughly 10% Current status: Current 10.4% reduction	31 Aug. 2017
voestalpine Giesserei Linz GmbH	Minimized dumping of fireclay scrap	External recycling for the manufacture of refractory spraying mixture	External recycling of roughly 15 tons/year of fireclay scrap Current status: External reuse of 16 tons/year	31 Dec. 2017
voestalpine Giesserei Linz GmbH	Minimized dumping of sand residues	Evaluation of external recycling of sand residues in collaboration with several customers	External recycling of roughly 400–500 tons/year of sand residues Current status: Target of minimizing residual material deposition of precipitated sand (2017 CY : 1.346 t) has been achieved — not through external recycling, but through an internal process-integrated measure (optimized recycling)	31 Dec. 2018
voestalpine Giesserei GmbH	Plant optimization and increased resource efficiency	Sand treatment facility optimized by replacing magnetic cutters with magnetic drums	The original parameter for measuring target achievement (separation efficiency) was concretely defined in an effort to minimize the procurement of chromite sands. Current status: 29.26% reduction in sand purchases	31 Dec. 2017
voestalpine Camtec GmbH	Reduction of chemical consumption	Conversion of the marking system from etching to laser film	Chemical consumption reduced by 90% using the new marking method Current status: 20 liters/year (= 50% savings) for new product by implementation in existing product	31 Mar. 2018
voestalpine Steel & Service Center GmbH	Number of unscheduled truck transports reduced in pre-material supply to SSC subsidiary in Romania	Avoidance of truck transports through improvements in production logistics	Unscheduled truck transports reduced by roughly 50%. Current status: The target was not achieved because of high and low water levels on the Danube.	31 Mar. 2018
voestalpine Steel & Service Center GmbH	Reduction of work-based travel between the Industriezeile location and the steelworks	Reorganization of production system operator teams in the interest of reduced travel between the two locations	Savings of roughly 10,000 km per year and thus approximately 750 liters of diesel fuel per year Current status: Savings of 10,000 kilometers/year and 750 liters/year of diesel fuel	30 June 2017

Company	Target	Measure	Figure	Deadlines
voestalpine Standortservice GmbH	Optimization of track-field lighting systems (new installation in railway systems in the area of the scrap yard and cold-rolling mill)	Track-field lighting systems upgraded to LED technology (new installation in railway systems in the area of the scrap yard and cold-rolling mill)	Reduced electrical consumption in a portion of track-field lighting by roughly 25% Current status: Approximately 650 light points were installed using LED technology on the scrapyard feeder track (hairpin bend) and slag tracks (from the railway switch to the By-products Center), thus achieving a savings of 492,000 KWh/year	31 Mar. 2018
Logistik Service GmbH	Savings of diesel fuel in road-based vehicles required in production operations	Implementation of two new slag transporters	Savings of approximately 36,000 liters of diesel per year Savings of 36,000 liters of diesel per year	31 Jan. 2018
Logistik Service GmbH	Reduced electricity consumption	Lighting systems converted to LED technology Operations-based switching and dimming of lighting	Savings of roughly 2,000 MWh/year. Current status: Roughly 700 light points and a savings of 530,000 KWh/year	31 Dec. 2017
Cargo Service GmbH	Reduced energy consumption	New strategy for more ecological operation of engines during railway transport The scheduled speed of trains in which change was possible was reduced from 100 to 90 km/h	Reduced power consumption by roughly 35 MWh/a Current status: Implemented and goal achieved	31 Mar. 2018
voestalpine Automotive Components Linz GmbH	Reduced water consumption in Stamping Line No. 1	Conversion of main hydraulic unit from water to air cooling	Reduction from approximately 800 m^3 to 0 m^3 of water per month and from 9,600 m^3/year, respectively Current status: Reduction achieved, more air cooling and thus no consumption of cooling water	1 May 2017

2018/19 ENVIRONMENTAL PROGRAM: MEASURES BEING IMPLEMENTED

Company	Target	Measure	Figure	Deadlines
voestalpineStahl GmbH	Coking plant: Soil extraction: Reduction of BTEX content in future excavated material	Remediation of Linz coking plant 076 in Linz, stage 1: Extraction of BTEX from the contaminated underground air phase in the unsaturated zone (soil extraction)	Reduction of BTEX in contaminated soil to below 50 mg/m^3	31 Dec. 2022
voestalpine Stahl GmbH	Minimization of (environmental) effects in the event of flooding	Optimization of flood protection	Flood protection increased to roughly HW 1000	31 Dec. 2020
voestalpineStahl GmbH	Optimized dust detection strategy and dust separation in the burdening system of blast furnace A	Installation of a new exhaust and filter system	Reduction of roughly 3 tons/year of diffuse dust emissions	31 Dec. 2018
voestalpine Stahl GmbH	Reduction of cooling water	Exchange of three water-cooled steel rolls in hot-dip galvanizing line No.1 to non-cooled, full-ceramic rolls, thus eliminating energy loss to the cooling water	Cooling water reduced by roughly 150,000 cubic meters per year (roughly 4% of the annual discharge volume in Hot-dip Galvanizing Line No.1.	31 Jan. 2019
Steyrling location	Increased efficiency in resource utilization through reduction of dead rock	Procurement of a mobile screening unit and post-treatment of dead rock	Reduction of dead rock by roughly 4,500 tons/year through reuse of sifted-out limestone in production operations	31 Mar. 2019

2018/19 ENVIRONMENTAL PROGRAM: NEW MEASURES

Company	Target	Measure	Figure	Deadlines
voestalpine Stahl GmbH	Increased energy efficiency and guaranteed availability of the DeNO$_x$ plant	Preventive maintenance of plate heat exchangers	Power consumption reduced by roughly 11,500 MWh/year	31 Dec. 2018
voestalpine Stahl GmbH	Diffuse dust emissions reduced in the coke loading and unloading facility	Construction of a dust extraction and dedusting system for dust collection at transfer points and conveyor belts	Reduction of approximately 500 kg of dust per year	31 Mar. 2020
voestalpine Stahl GmbH	Energy efficiency increased by optimizing process control with regard to fuel consumption in the sintering plant	Installation of an automatic coke breeze sampling system in the mixing plant to determine grain sizes and to optimize the grain size	Reduction of approximately 1,500 tons/year of solid fuel (coke breeze) = approximately 12,000 MWh/year	31 Mar. 2019
voestalpine Stahl GmbH	Reducing agent savings in 8-meter blast furnaces	Partial substitution of foreign coke by increasing the quality of our own coke	Reduction of roughly 15,000 tons/year of external coke or roughly 49,000 tons/year of CO_2	31 Mar. 2019
voestalpine Stahl GmbH	Increased energy efficiency in Blast Furnace A	Temperature increased in the mixed blast of Blast Furnace A through partially substituting foreign coke with natural gas/blast furnace gas	Reduction of approximately 5000 tons/year of CO_2	31.Mar. 2019
voestalpine Stahl GmbH	Increased energy efficiency through optimization of the exhaust steam pressure in the two turbines in the blast centers	Reduction and control of the condenser cooling water quantity by reducing the exhaust steam pressure from 0.09 to 0.12 bars	Blast furnace gas reduced by roughly 6,600 MWh/year and roughly 8.8 million m^3/year of process water	31 Mar. 2020
voestalpine Stahl GmbH	Conservation of resources through optimized paint application in Continuous Annealing Line 2	Development of a new coating thickness measuring method for more accurate determination of coating thicknesses	Reduction of coating requirements in C6 coatings by approximately 20%	31 Mar. 2019
Standort Steyrling	Reduction of noise emissions through modification of Lime Kiln 6	Conversion of Lime Kiln 6 from corner shaft to circular shaft Emissions are also reduced through improved port-end charging and sound insulation enclosures.	Noise emissions reduced by 11 dB	31 Jan. 2019
voestalpine Grobblech GmbH	Reduced energy consumption in heating units	Investment in a chamber furnace and optimization of the operation modes of the pusher-type furnaces (relocation of thick plating units to chamber furnace and thus optimizing the operation mode in Pusher-Type Furnaces 1 and 2)	Natural gas consumption reduced by roughly 4,600 MWh/year and coke gas consumption by roughly 4,900 MWh/a	31 Mar. 2020
voestalpine Giesserei Linz GmbH	Assessment of filter dust recycling in effort to reduce landfill quantities	Discussions and test series with partner companies	Roughly 20 tons of filter dust recycled per year	31 Aug. 2018
voestalpine Camtec GmbH	Resource efficiency increased by reducing material removal during processing	Design/production optimization of new generation of cam units (O-KS)	Scrap volumes reduced by roughly 30%	31 Mar. 2019
voestalpine Steel & Service Center GmbH	Conservation of resources and reduction of waste	Number of wooden bases for special pallets reduced	Reduction of 24 m^3/year	31 Mar. 2019
voestalpine Standortservice GmbH	Optimization of track lighting (new installation in the track network from the steelmaking plant to the raw material station)	Track-field lighting systems upgraded to LED technology (new installation in railway systems between the steelmaking plant and the raw material station)	Reduced electrical consumption in a portion of track field lighting by roughly 25%	31 Mar. 2020
Logistik Service GmbH	Reduced consumption of diesel fuel on the works railway	Procurement of two new diesel locomotives with start/stop technology (series 1004.01 and .02)	Fuel savings of roughly 5,500 liters/year of diesel per locomotive = total savings of roughly 11,000 liters/year of diesel per locomotive	31 Mar. 2019
Logistik Service GmbH	Savings in diesel fuel for works road traffic	Implementation of two new slag transporters	Savings of approximately 14,000 liters of diesel per year	31 Mar. 2019
Cargo Service GmbH voestalpine	Reduction of diesel fuel	Conversion from diesel to electric locomotive on the Steyrling–Kirchdorf route for roughly 50% of the journeys completed in the 18/19 FY	Conversion from diesel to electric locomotive on the Steyrling–Kirchdorf route for roughly 50% of the journeys completed in the 18/19 FY	31 Mar. 2019
Automotive Components Linz	Laser exchange on Welding Line 6A: Optimization of energy efficiency	Replacement of CO_2 lasers with disk lasers	Electric consumption reduced by 270,400 MWh/year	31 Mar. 2019

PRODUCTION AND ENERGY FIGURES

The following production figures show the relevant environmental parameters for the companies included in this Environmental Report:

Linz location

Production volume	Unit	2016 CY	2017 CY
Crude steel (CS)	in million tons	5.29	5.75

Products	Unit	2016 CY	2017 CY
Hot-rolled strip (non-slit)	in million tons	1.1	1.1
Cold-rolled strip and electrical steel		1.0	1.1
Galvanized strip		2.3	2.2
Organic-coated strip		0.2	0.2
Heavy plates		0.7	0.8
Blast furnace slag		1.3	1.3
Castings (without NEM as of the 2017 CY)	tons	7,444	6,214.0
Camtec castings			110.0
Laser-welded blanks		129,496	161,153
Products processed by SSC		1,751,415	1,757,627

Energy	Unit	2016 CY	2017 CY
Natural gas	TWh	2.8	3.0
Electric power (outside source)	TWh	0.55	0.48

Steyrling location

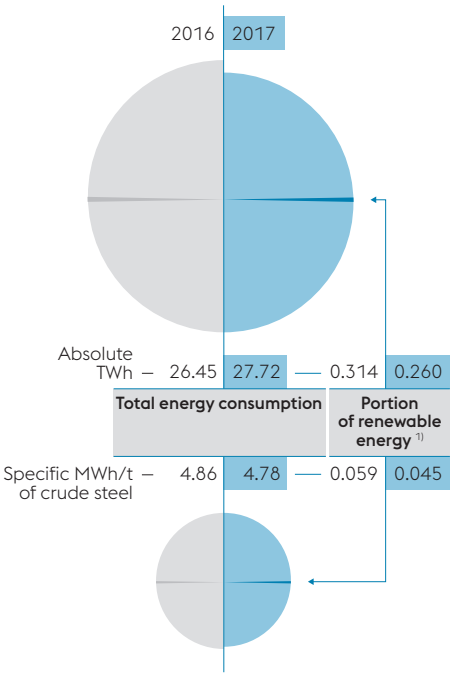
Products	Unit	2016 CY	2017 CY
Burned lime (BL)	in million tons	0.373	0.359
Armor stones		0.007	0.002
Limestone chips (non-burned)		0.515	0.512

Energy	Unit	2016 CY	2017 CY
Natural gas	GWh	362	342
Electric power		16	15

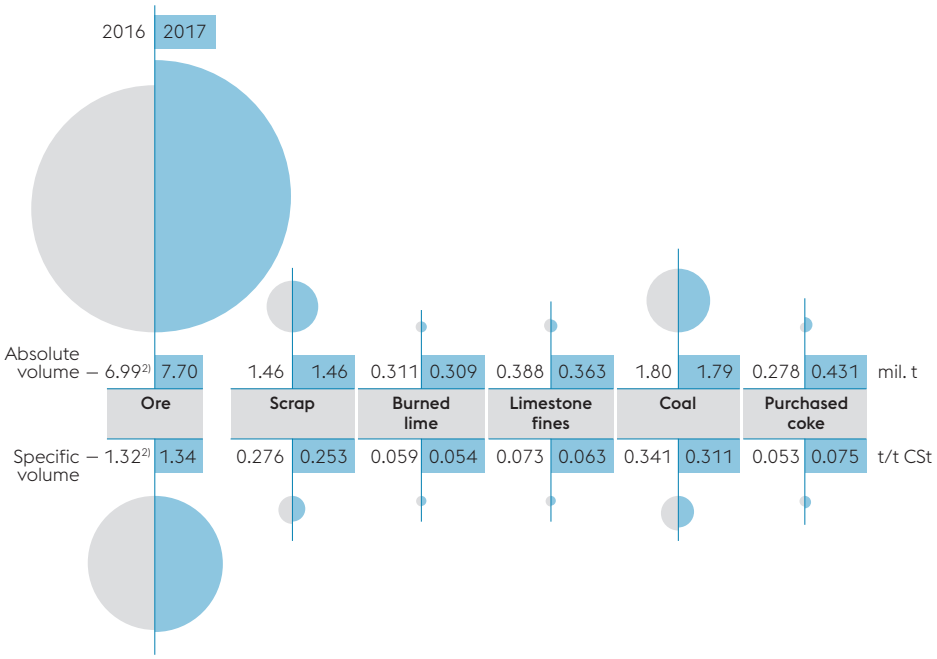
CORE INDICATORS

Linz location

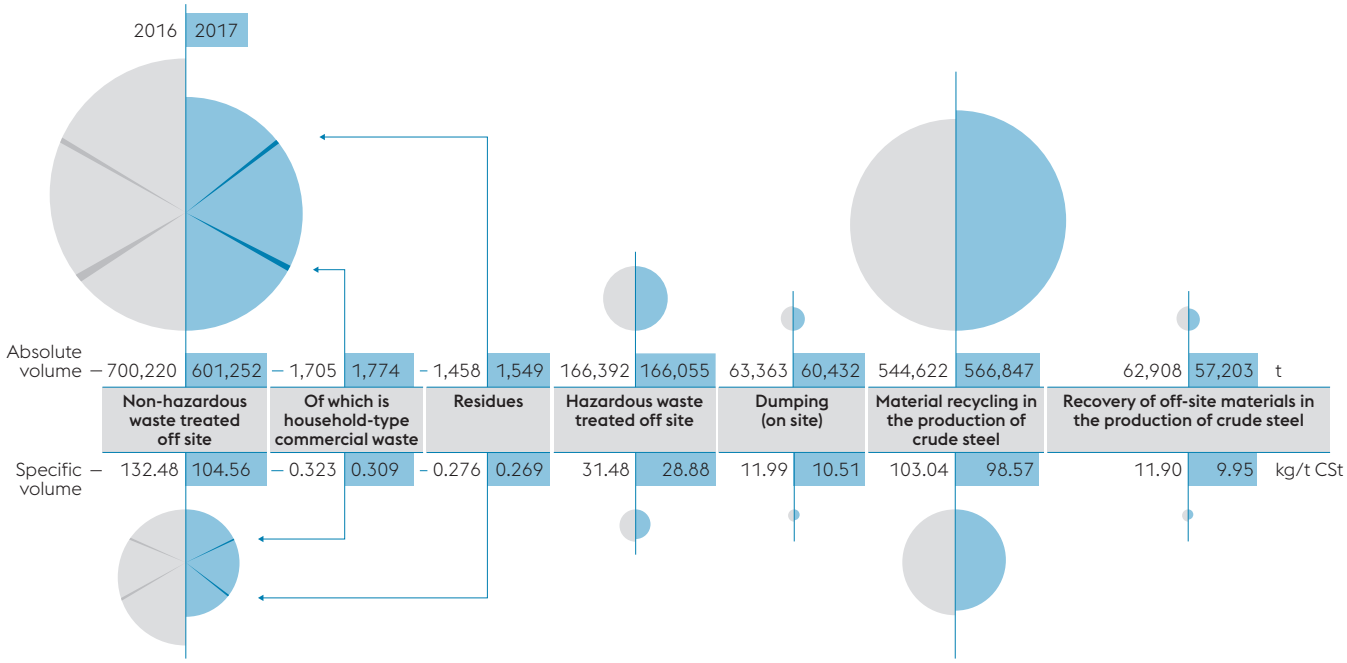
Energy efficiency



Material efficiency



Waste management

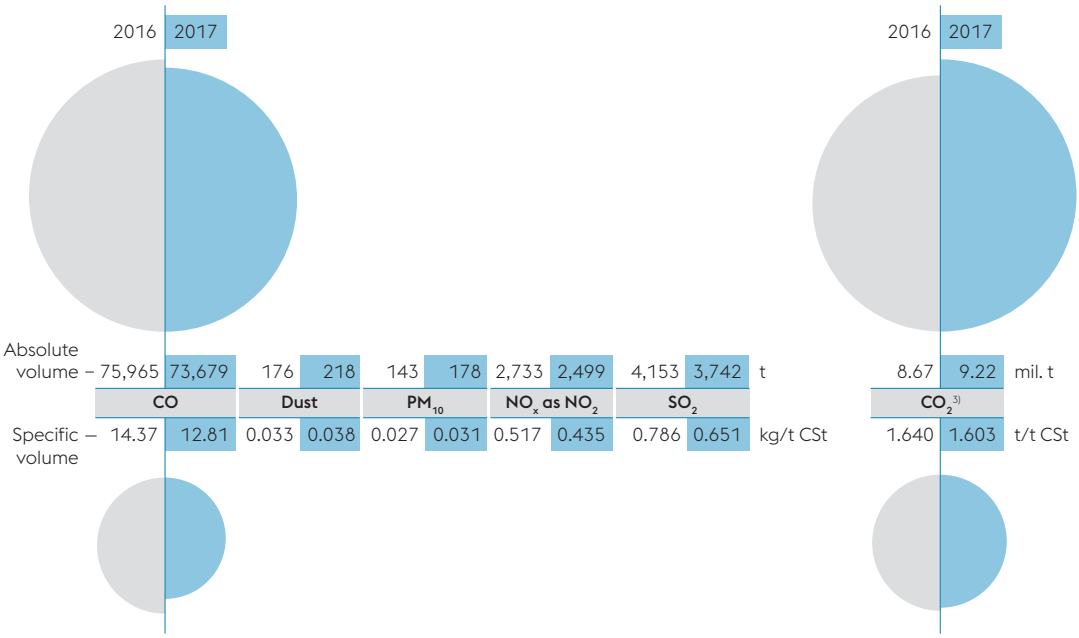


[1] Increased proportion of renewable energies with respect to electricity labeling from purchased third-party electricity. This reflects the following for the 2017 calendar year: water power (34.68%), solid biomass (4.47%), liquid biomass (0.01%), biogas (1.07%), wind energy (10.38%), photovoltaic power (1.76%), waste containing a high percentage of biogenic materials (1.52%), landfill gas (0.02%), sewage gas (0.01%) and geothermal energy (< 0.01%).

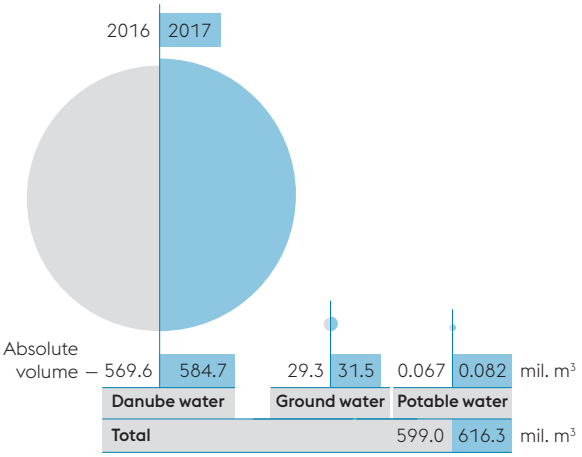
[2] Value updated

The core indicators refer to total annual crude steel production. In the 2017 calendar year, the value was 5.75 million tons. In 2016 it was 5.29 million tons.

Emissions



Water



Biological diversity [4]

Total site surface area: 5,101,677 m²

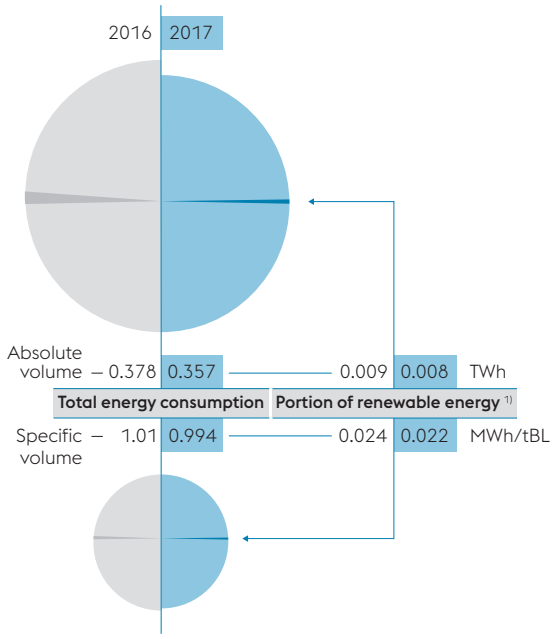
[3] from ECA monitoring (Emission Certificate Act of 2012)
[4] Core biological diversity indicator refers to the surface of the works premises at the Linz location as registered in the land registry in December 2017.

Other greenhouse gases such as methane and fluorochlorohydrocarbons (FCHC) are emitted in only small amounts (roughly 57 tons of methane and 60 kg of FCHC).

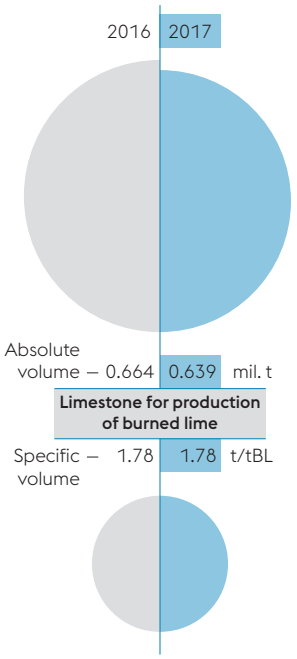
CORE INDICATORS

Steyrling location

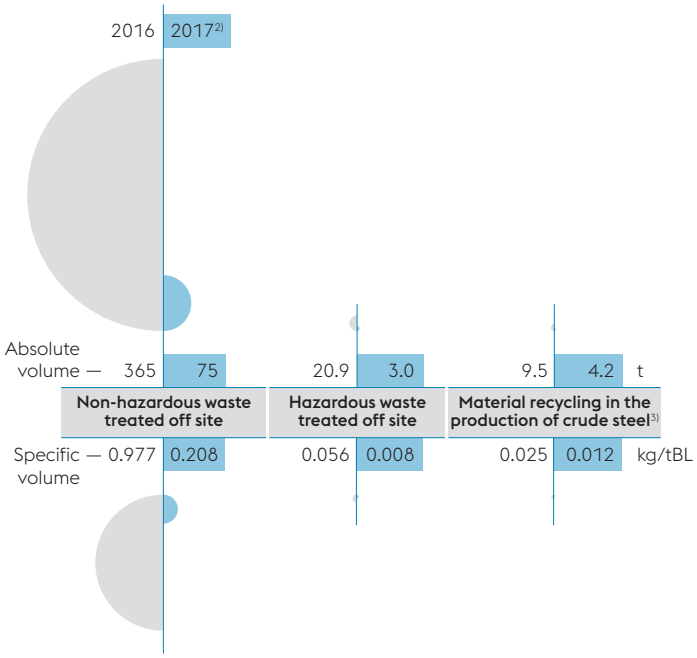
Energy efficiency



Material efficiency



Waste management



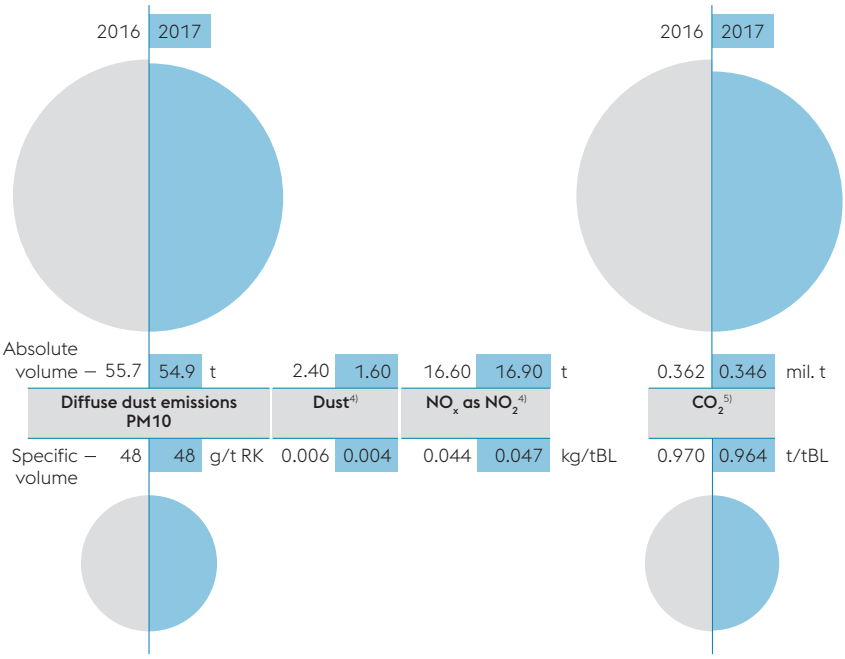
1) Increased proportion of renewable energies with respect to electricity labeling from purchased third-party electricity. This reflects the following for the 2017 calendar year: water power (34.68%), solid biomass (4.47%), liquid biomass (0.01%), biogas (1.07%), wind energy (10.38%), photovoltaic power (1.76%), waste containing a high percentage of biogenic materials (1.52%), landfill gas (0.02%), sewage gas (0.01%) and geothermal energy (< 0.01%).

2) Fluctuation due to construction and demolition activities

3) Materials recycling at the Linz site

The core indicators refer to total annual burned lime production. In the 2017 calendar year, the value was 0.359 million tons. In 2016 it was 0.373 million tons.

Emissions



Biological diversity [6]

Total site surface area: 1,503,837 m²

[4] Emissions from lime furnaces
[5] from ECA monitoring (Emission Certificate Act of 2012)
[6] The core biological diversity indicator refers to the surface of the works premises at the Steyrling location as registered in the land registry in December 2017.

ENVIRONMENTAL HIGHLIGHTS

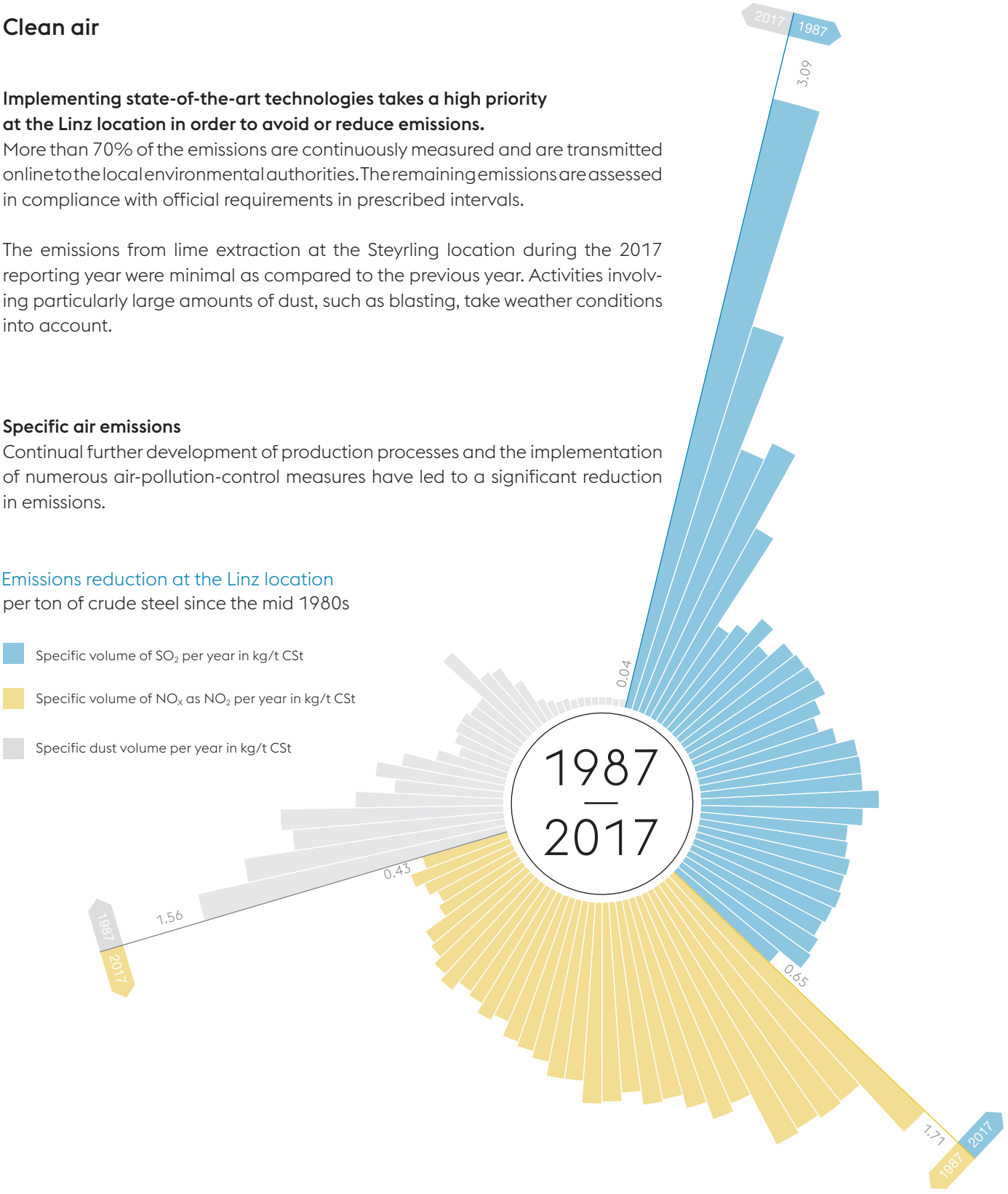
Clean air

Implementing state-of-the-art technologies takes a high priority at the Linz location in order to avoid or reduce emissions.
More than 70% of the emissions are continuously measured and are transmitted online to the local environmental authorities. The remaining emissions are assessed in compliance with official requirements in prescribed intervals.

The emissions from lime extraction at the Steyrling location during the 2017 reporting year were minimal as compared to the previous year. Activities involving particularly large amounts of dust, such as blasting, take weather conditions into account.

Specific air emissions
Continual further development of production processes and the implementation of numerous air-pollution-control measures have led to a significant reduction in emissions.

Emissions reduction at the Linz location
per ton of crude steel since the mid 1980s



NO_x as NO_2

Production line	Half-hour-average value (mg/m_n^3)	Measured annual average value (mg/m_n^3)	
	Limit value	2016 CY	2017 CY
Power station	Block 06	100	84	77
	Block 03	100	59	48
	Block 04	100	42	38
	Block 05	100	56	45
	Block 07	100	46	38
	Gas and steam turbine	33	24	27
Blast furnace blower station	Central blower station 2, boiler 1	100	6	3
	Central blower station 2, boiler 2	100	5	6
Hot-rolling mill	Pusher-type furnace 06	430	273	274
	Pusher-type furnace 07	430	197	191
	Walking-beam furnace 1	[1]	105	86
Sintering plant	Sinter belt 5	150 [2]	89	88
Cold-rolling mill	Hot-dip galvanizing line III	250	134	141
	Hot-dip galvanizing line IV	250	108	102
	Hot-dip galvanizing line V	250	106	140
Heavy plates	Pusher-type furnace 1	500	339	331
	Pusher-type furnace 2	[1]	177	163

SO_2

Production line	Half-hour-average value (mg/m_n^3)	Measured annual average value (mg/m_n^3)	
	Limit value	2016 CY	2017 CY
Power station	Block 06	200	88	61
	Block 03	200	97	81
	Block 04	200	102	88
	Block 05	200	88	78
	Block 07	200	100	85
	Gas and steam turbine	67	30	31
Blast furnace	Casting bay dedusting (BF A)	350	108	93
LD steelmaking plant	Secondary dedusting 1	101.5 [3]	28	18
Hot-rolling mill	Pusher-type furnace 06	200	112	113
	Pusher-type furnace 07	200	49	47
Coking plant	Sulfuric acid and gas cleaning system	1000 [4]	371	370
Sintering plant	Sinter belt 5	350	298	289
Heavy plates	Pusher-type furnace 1	200	104	103

All emission sources are continuously monitored. The data are referenced each individual calendar year.

[1] The limit value is defined in the course of the acceptance test.

[2] Sinter Belt No. 5: additional limitation of daily mean values for NOx of 100 mg/Nm^3.

[3] SO_2 limit values in kg/h.

[4] There is also a fraction limit value of 150 kg SO_2/day under normal operating conditions.

CO	Production line	Half-hour-average value (mg/m_n^3)	Measured annual average value (mg/m_n^3)	
		Limit value	2016 CY	2017 CY
Power station	Block 03	100	1.7	0.7
	Block 04	80	2.1	3.9
	Block 05	80	2.3	2.4
	Block 07	80	0.4	0.8
	Gas and steam turbine	33	1.4	2.0
Blast furnace	Central blower station 2, boiler 1	80	0.1	0.6
	Central blower station 2, boiler 2	80	3.0	< 0.1
Coil coating line	Strip coating line 1	100	3.9	4.6
	Coil coating line 2	100	7.4	8.1

Total C	Production line	Half-hour-average value (mg/m_n^3)	Measured annual average value (mg/m_n^3)	
		Limit value	2016 CY	2017 CY
Coil coating line	Coil coating line 1	30	2.5	2.4
	Coil coating line 2	30	4.9	3.7

H_2S	Production line	Half-hour-average value (mg/m_n^3)	Measured annual average value (mg/m_n^3)	
		Limit value	2016 CY	2017 CY
Coking plant		500 [1]	230	228

HF	Production line	Half-hour-average value (mg/m_n^3)	Measured annual average value (mg/m_n^3)	
		Limit value	2016 CY	2017 CY
Sintering plant	Sinter belt 5	3	1.1	1.4

Hg	Production line	Half-hour-average value (mg/m_n^3)	Measured annual average value (mg/m_n^3)	
		Limit value	2016 CY	2017 CY
Sintering plant	Sinter belt 5	0.050	0.040	0.042

Staub	Production line	Half-hour-average value (mg/m_n^3)	Measured annual average value (mg/m_n^3)	
		Limit value	2016 CY	2017 CY
Blast furnace	Casting bay dedusting (BF A)	15 [2]	4.6	5.6
	Casting bay dedusting system (BF 5 and 6)	10	1.8	1.6
Sintering plant	Sinter belt 5	10	1.6	2.5
	Sinter plant dedusting	10	5.4	4.7
	Sinter crusher and screening unit (SIBUS)	10	1.1	1.5
LD steelmaking plant	Secondary dedusting 1	10 [2]	0.5	4.3
	Secondary dedusting 2.1	10	2.3	3.0
	Secondary dedusting 2.2	10	0.4	1.2
	Secondary dedusting 3.1	10	0.04	0.1

The emission concentrations listed in this table refer to the legally prescribed oxygen content, e.g. emission protection law on boiler plant systems, directive on iron and steel.

All emission sources are continuously monitored. The data are referenced each individual calendar year.

[1] H_2S is contained in the coke gas that is energetically utilized in other process steps. Emissions only occur in the form of SO_2.

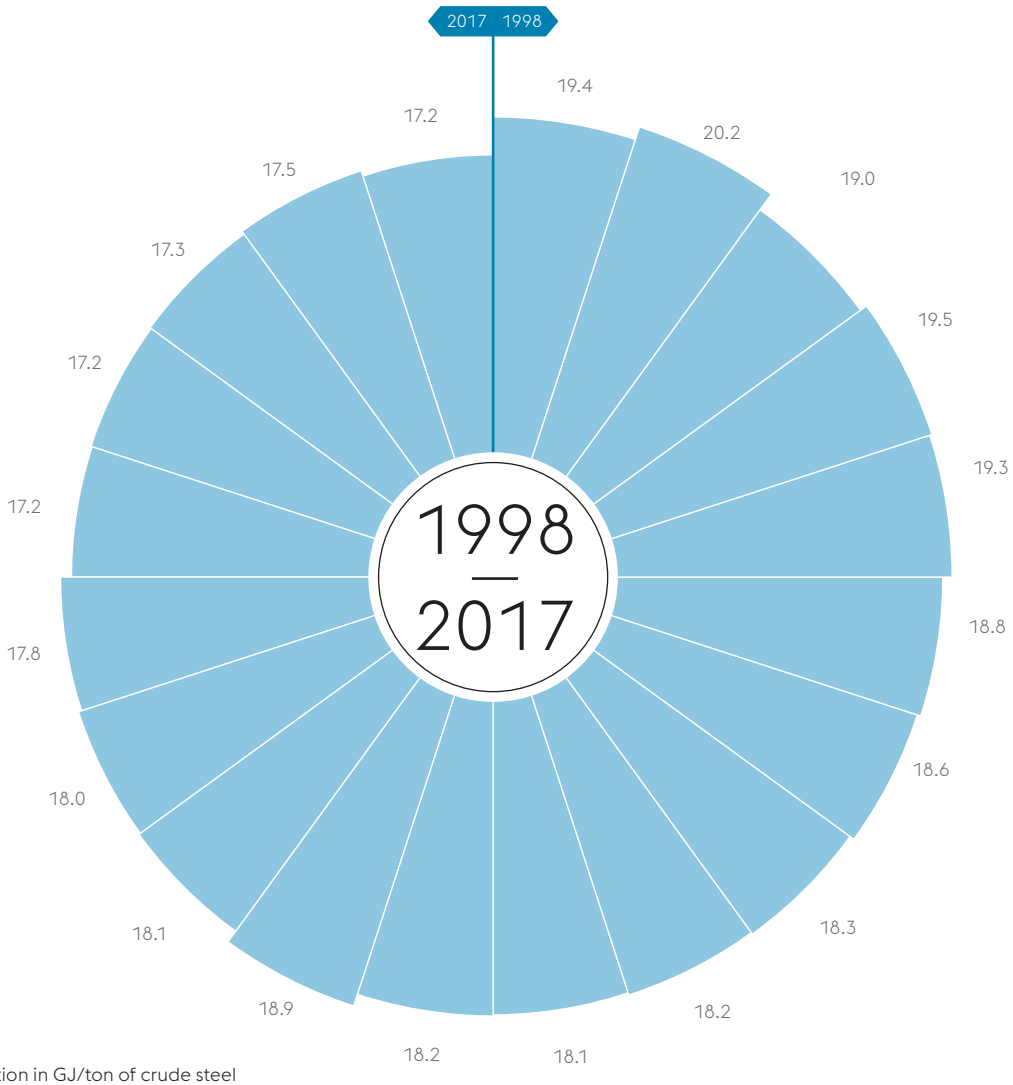
[2] Limit value according to regulation for iron and steel lowered


5,8m

Energy

In our efficient use of energy, we also focus on optimization of process gas utilization, energy recovery, consistent energy monitoring and continuous plant system optimization for increased overall energy efficiency.

Net energy consumption



Specific net energy consumption in GJ/ton of crude steel

The specific energy consumption was substantially reduced over the past twenty years. The Linz site is nearly energy-independent (with respect to electricity).

The energy required in steelmaking is derived primarily from coal, coke, natural gas and electricity. Process gases (coke-oven gas, blast-furnace gas and converter gas) generated in the making of steel are used as energy-transfer media either directly or by efficiently converting the gases into heat or electrical energy in individual process steps.

The active contributions of each employee to environmental protection and energy savings are of great value. Many projects, large and small, are continually being planned and implemented.

The spectrum ranges from small projects to large, industrial-scale programs such as the optimization of steam generation, reduced loss of compressed air and the optimization of thermal processes. These and many other measures saved more than 78,000 MWh during the 2017 calendar year.

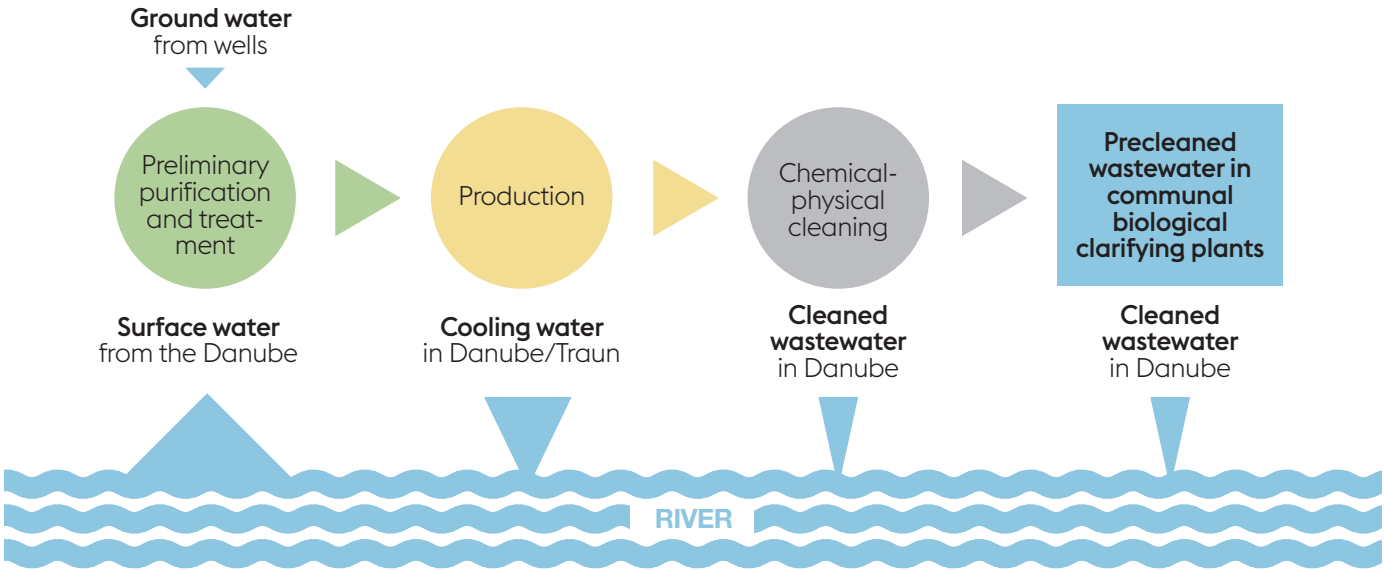
Water management

Water is one of the most important operating supplies. It is needed to cool plant systems and to create steam in iron and steel production.

A total of 585 million m^3 of water were pumped from the Danube in the 2017 calendar year. This cooling water is channeled back into the Danube in compliance with the defined temperature limit values. Depending on the wastewater constituents, the water was either cleaned before returning it to the Danube or was piped to the communal clarifying plant in Asten for biological treatment.

The sustainable management of water resources, particularly in compliance with local conditions, is an essential priority of voestalpine.

CAREFUL TREATMENT OF WATER AS A NATURAL RESOURCE IS REGARDED AS A FUNDAMENTAL PRIORITY AT voestalpine.



Water footprint at the Linz location

In accordance with ISO 14046, voestalpine takes a holistic view of the water systems across all production sites and implements the lifecycle assessment.

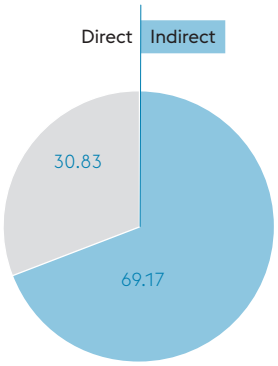
Blue water consumption and the water scarcity footprint are calculated in an effort to assess the company's detailed contribution to water scarcity in the region. The assessment takes into account the hydro-geological properties at the production site.

The volume of water used by voestalpine at the Linz site amounted to around 616 million m^3 in the 2017 calendar year, with more than 95% being taken from the Danube for cooling purposes and returned to the source in the same quality.

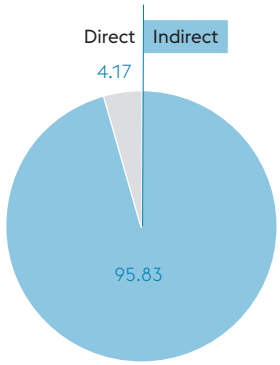
Accordingly, the direct net fresh water consumption of voestalpine at the Linz site in 2017 amounted to 8.1 million m^3 or 1.46 m^3/ton of crude steel. At 18.9 million m^3 or 3.28 m^3/ton of crude steel, the significantly larger share of the total net fresh water consumption results mainly from the procurement of raw materials and the use of special alloying elements.

Calculation of the water scarcity footprint (available-water-remaining method) also indicated that the operating activities of voestalpine at the Linz site make a comparatively negligible contribution to water scarcity in regional ecosystems when the entire value chain (cradle to gate) is taken into account.

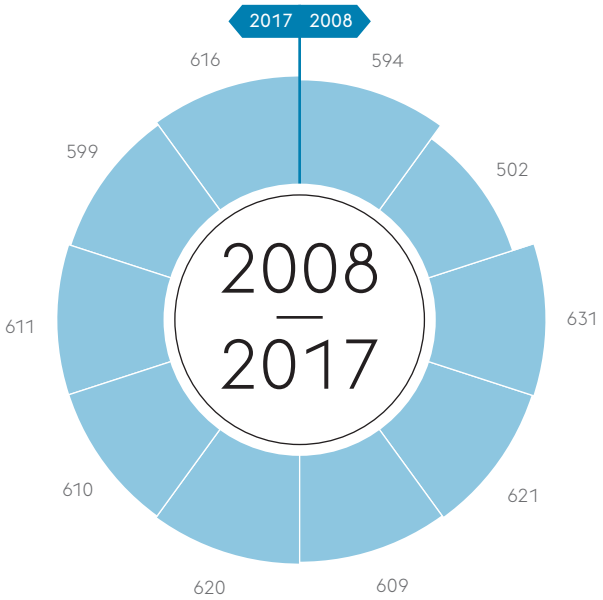
Blue water consumption [%]



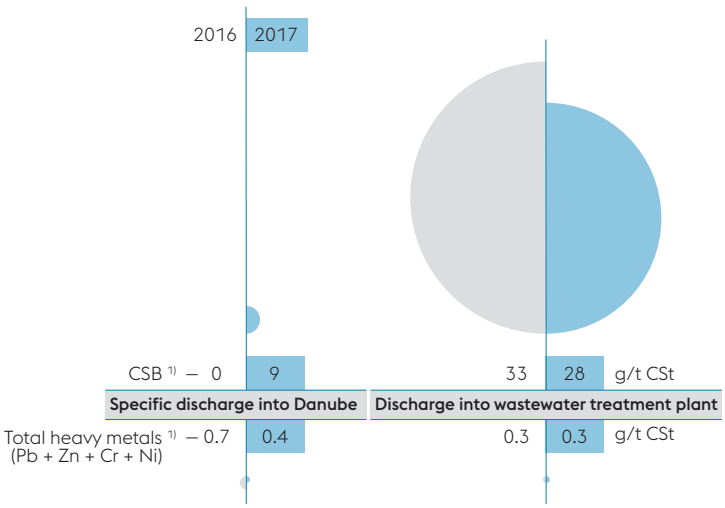
Water scarcity footprint [%]



Quantity of water used [in millions of m^3]



Wastewater load

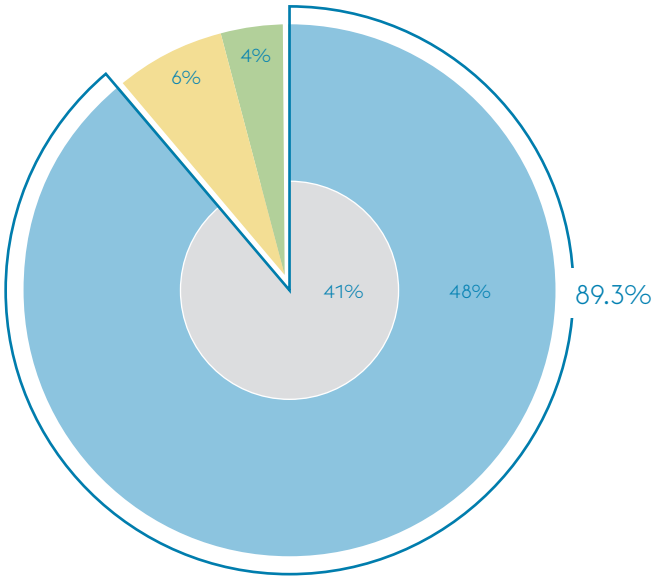


[1] minus initial load from Danube


LD STAHLWERK 3

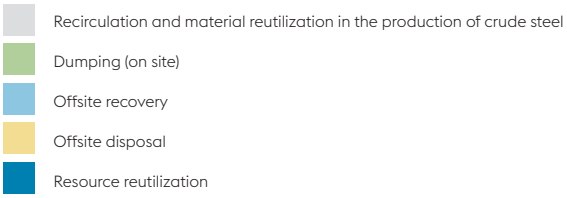
Waste management

Numerous waste and circulating materials are incurred during steelmaking and are returned to the production processes. This conserves natural raw materials. Waste and secondary raw materials are utilized in both in-house and external production process. Examples of this are scrap, end-of-life oils and waste greases. The following graphic provides an overview of utilized resources in the form of waste and recycled materials at the Linz site (not including scrap).

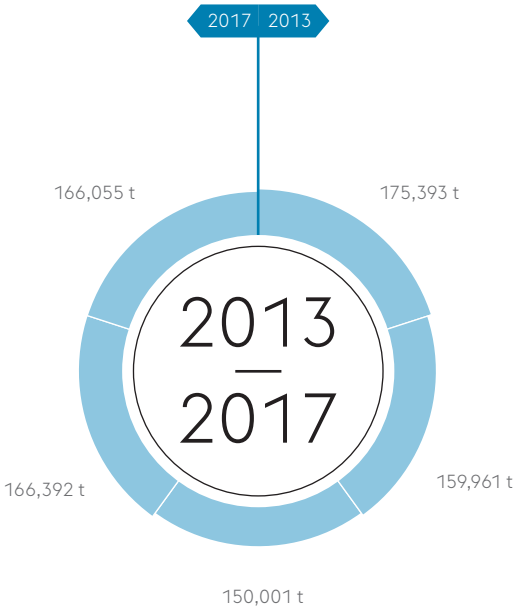


In the 2017 calendar year, roughly 41% of the recycled materials and waste incurred at the Linz location were re-utilized, thus increasing resource efficiency in production processes. (This value increases to 60% when in-house scrap recycling is taken into account.)

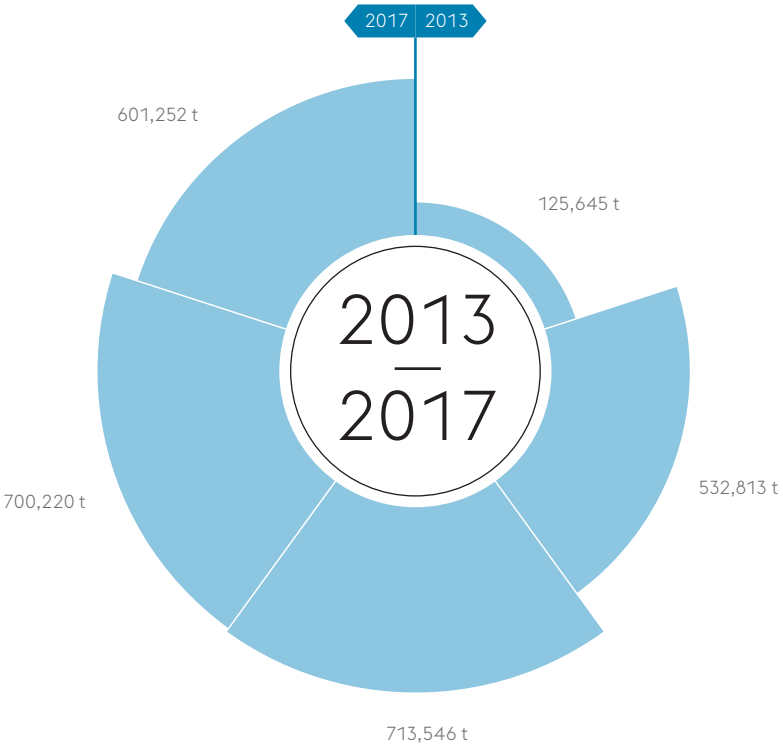
Materials recycling and the portion of re-used waste materials in total amount to a resource reutilization of 89%.



Dangerous externally treated waste



Non-dangerous externally treated waste

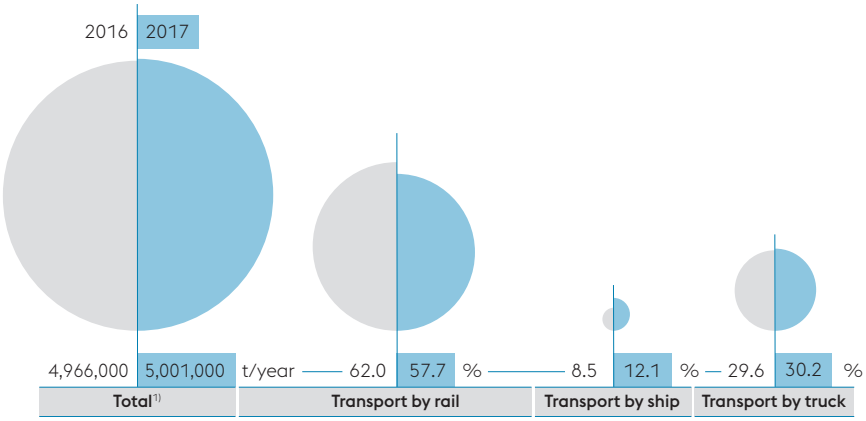


Transport

Material supply and product delivery are by railway, waterway or truck. It is important to us that our transports are as ecological as possible. Logistik Service GmbH and Cargo Service GmbH combine their transport possibilities, e.g. mobile systems, in order to avoid empty hauls and rely heavily on continual improvements in logistics systems, in technologies, implementation, methods, environmentally compatible driving techniques. Where possible, as many transports as possible are transferred from the roadway to the more environmentally compatible railway.

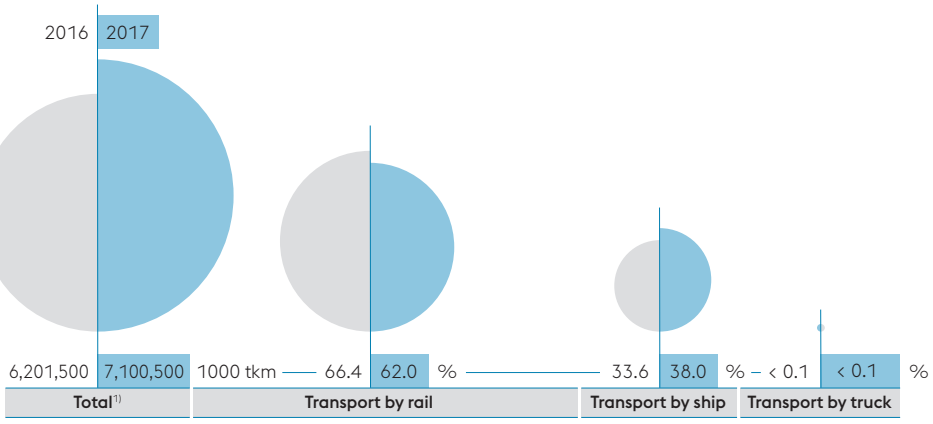
The figures for distribution of raw materials transported within Europe and distribution of product deliveries to the individual means of transport are as follows in the 2017 calendar year:

Product dispatch



[1)] Products delivered from the Linz site by Logistik Service GmbH and Cargo Service GmbH

Raw material transports



[1)] Raw material deliveries in ton kilometers of ore, coal, scrap, lime, coke and coke breeze
[2)] Raw material transport by inland waterway

The definition of diffuse emissions is difficult to impossible because of the large number of transport routes in use by the various means of transport (railway, ship, truck) with a wide variety of engine and vehicle technologies.

For this reason, no direct emission assessment is made for the transport of raw materials and for the delivery of products to voestalpine at the Linz location. Only the modal split is used as evaluation criteria for the assessment according to the respective transport routes.

SAFETY AND SECURITY TAKE HIGHEST PRIORITY SEVESO PRODUCTION SYSTEMS

External emergency plan

Detailed information on the alarms and measures outside the works premises can be found in the external emergency plan issued by the fire department of the city of Linz. Required measures in the event of Danger Level III are contained in the internal emergency plan. The safety report complies with Section 84f of the Trade and Industrial Code dated 1994 and is available for review in the Environment Department of voestalpine Stahl GmbH.

Information to the public on safety measures and correct behavior in the event of industrial accidents pursuant to Section 14 of the Industrial Accident Act.

At the Linz production site, voestalpine Stahl GmbH operates plant systems that are subject to Section 8a of the Trade and Industrial Code of 1994 and the Industrial Accident Act and provides the following information on safety measures and proper behavior in the event of industrial accidents. Not every plant system failure is an industrial accident, which is defined as an event in which certain hazardous substances are released that pose a danger to humans or to the environment.

The precautions to be taken to prevent and limit industrial accidents are set forth in the Industrial Accident Act. Because of the comprehensive safety measures that have been taken for many years in production, the probability of you as a neighbor being affected by an industrial accident is very low. An industrial accident can only occur in the event that all the precautionary technical and organizational measures simultaneously fail. In the unlikely event that an industrial accident occurs in spite of all the safety measures that have been implemented, the following information advises you of steps to take.

There are six relevant plant areas in the integrated metallurgical facility that could have an effect beyond the works premises in the unlikely event of an industrial accident:

- Coke oven batteries, including coking gas recovery, conveyor system and gasometer.
- Tar extraction and crude benzene plant, including storage tank
- Blast furnaces, including gas cleaning, conveyor system and gasometer
- Converter operations, including converter gas cleaning, conveyor system and gasometer
- Unloading of fuel oil and distribution into piping and storage tanks
- Storage and distribution lines for calcium carbide in the steelmaking plant

Steam reformers A and B and air separation units 8 through 10 are operated by Linde Gas GmbH using the Linde low-pressure technology and are safety-relevant systems installed on the works premises in Linz.

The substances contained in the systems of voestalpine Stahl GmbH and Linde Gas GmbH are subject to the provisions set forth in Section 8a of the Trade and Industrial Code dated 1994.

COMPREHENSIVE SAFETY MEASURES ARE IN PLACE AND ENSURE THAT THE RISK OF AN INDUSTRIAL ACCIDENT IS EXTREMELY LOW.

The authorities have been notified pursuant to Section 84d of the Trade and Industrial Code. Corresponding safety and security reports were submitted to the authority (Magistrate of the Provincial Capital of Linz, Office of the Provincial Government). The information is submitted to or updated at regular intervals and can be consulted there.

The following safety aspects are taken into account in the safety report submitted:

- Processes and reactions occur in closed systems.
- Hazardous substances are replaced where possible and remaining amounts are reduced to the specifically required volumes.
- The avoidance of waste takes a high priority in the planning and operation of plants.
- Safety systems generally consist of multiple stages.
- The plants are operated, maintained and tested by qualified and regularly re-trained personnel.

The plants are regularly tested in accordance with legal regulations by in-house and external experts, e.g. TÜV. Stringent safety regulations are assessed by the authorities for all designated plant systems. As a result of these regulations and precautions taken by the operators, there has never been an accident at the works since it has existed that would have posed any hazard to the population. In spite of the high safety standards, then risk of accidents can never be completely eliminated. Even though the probability of an accident with effects beyond the works premises is very low, voestalpine Stahl GmbH nevertheless takes this opportunity to inform the public in a precautionary manner of possible effects and measures to take in the event of an accident.

Information on possibly hazardous plant systems and production activities

COKE OVEN BATTERIES, INCLUDING COKING GAS RECOVERY, CONVEYOR SYSTEM AND GASOMETER

The coke required in the blast furnace is produced in the coking plant. For this purpose, finely ground coal is heated in coking ovens that are arranged in batteries each containing a total of 40 ovens. The coal is heated for approximately 18 hours to a temperature of roughly 1250 °C. The coal is converted into coke, which means that it is baked until it has released all its gaseous constituents. These gaseous constituents make up the coke gas that is cleaned to a high degree in the coking plant and is then used as a fuel gas in the power plant and other furnace systems throughout the steel works. A gasometer and a network of gas lines store the gas until it is used. The system of course is closed. Coke gas contains approximately 7% carbon monoxide and is, as are all flammable gases, combustible with certain amounts of air.

TAR EXTRACTION AND CRUDE BENZENE PLANT, INCLUDING STORAGE TANK

Crude tar and crude benzene occur as co-products during the high-grade cleaning of the coke gas. Crude benzene is cleaned out of the coke gas by means of wash oil in two scrubbers. It is then removed by means of distillation from the circulating wash oil and stored intermediately in a 2000 m^3 tank before it is delivered to purchasers. The crude benzene is suctioned out of the storage tank. The filling process is by means of a gas displacement device to ensure that no emissions can be released. Crude benzene contains up to 85% benzene. The fumes are, as with all other flammable liquids, combustible when mixed with certain amounts of air. The crude tar condenses with condensation from the crude coke gas and is separated in tar separators from the condensate. Crude tar is pumped through the intermediate tar containers into the crude tar tanks. The individual parts of the tar separator units are equipped with a liquid-tight bucket system to prevent any emission to the environment. The crude tar and crude benzene are contained in tank railcars until they are used in the closed systems of production lines.

BLAST FURNACES, INCLUDING GAS CLEANING, CONVEYOR SYSTEM AND GASOMETER

Blast furnace gas is a by-product and co-product that occurs during the production of hot metal in the blast furnace. This blast furnace gas is cleaned to a high degree, removing all the dusts, and is used as a fuel gas in the blast furnace itself, the power plant, in the coking plant and other furnace systems throughout the steel works. A gasometer and a network of gas lines store the gas until it is used. The entire network is a closed system. Blast furnace gas contains approximately 25% carbon monoxide and is, as are all flammable gases, combustible with certain amounts of air.

CONVERTER OPERATIONS, INCLUDING CONVERTER GAS CLEANING, CONVEYOR SYSTEM AND GASOMETER

Steel chemically differs from iron primarily in its lower carbon content. The carbon contained in the crude iron produced in the blast furnace is removed from the steel melt by means of the oxygen top-blowing process during steelmaking in the LD steel plant. This process yields the so-called converter gas that is subjected to a high-grade cleaning process in electric filters and then added in a controlled manner to the top gas in order to increase its calorific value. A gasometer and a network of gas lines store the gas until it is used. The system of course is closed. Converter gas contains approximately 60% carbon monoxide and is, as are all flammable gases, combustible with certain amounts of air.

AIR SEPARATION UNIT

Air is divided in air separation units (8 through 10) belonging to Linde Gas GmbH by means of rectification into nitrogen, oxygen and argon constituents. The generated gases are either piped in gaseous form to consumers in the works of voestalpine Stahl GmbH or to the Chemiepark or they are liquefied, stored at super-cooled temperatures and filled into tank cars. In addition to the air as a raw material and different energies, hydrogen is also required in the argon fine cleaning system (8) of the air separation unit. This hydrogen is supplied by the hydrogen production facility at voestalpine.

HYDROGEN PRODUCTION SYSTEM COMPLEX

Natural gas is converted through chemical reactions into hydrogen in the steam reformers (STR A and B) of Linde Gas GmbH. The gaseous hydrogen is used in-house and is supplied to voestalpine Stahl GmbH and Chemiepark in Linz. External customer supply is provided on trailer units.

UNLOADING OF FUEL OIL AND DISTRIBUTION INTO PIPING AND STORAGE TANKS

Light fuel oil is delivered in tank trucks and pumped into the storage tanks at the power station of voestalpine Stahl GmbH. The light fuel oil is pumped through piping from the storage tank to block 7 of the power plant of voestalpine Stahl GmbH. The light fuel oil is used in the event that other fuels, such as the usually used metallurgical gases and natural gas, are temporarily not available. In order to ensure that the light fuel oil is ready for use, it is continuously circulated in piping between the storage tank and the power station in order to maintain the required temperature and pressure.

STORAGE AND DISTRIBUTION LINES FOR CALCIUM CARBIDE IN THE STEELMAKING PLANT

The hot metal is combined with scrap and additives in three converters in the LD steelmaking plant. The mixture is converted in an oxygen blowing process at approximately 1650 °C to crude steel. Further treatment takes place in the ladle furnace and in the vacuum degassing unit. The molten steel is cast in the continuous caster into slabs.

Calcium carbide is used in the steelmaking plant to remove sulfur (desulfurization) and oxygen (deoxidation) from the hot metal.

A high standard of safety is guaranteed by continuous monitoring by plant personnel, regular tests and the safety precautions described above. Should an industrial accident occur, however, in spite of all the technical and organizational preparation made to prevent such an incident, the emission of poisonous substances still poses a possible danger in addition to explosion and fire. In such an instance, affects to human health and the natural environment outside the works premises, especially caused by gas or fumes that may be carried over distances, cannot be excluded.

Information on the types of dangers and their possible consequences

The following substances when emitted into the atmosphere pose a potential danger beyond the premises of the steel works.

CARBON MONOXIDE

Carbon monoxide is contained in

- Coking plant gas (approx. 7 volume percent CO)
- Blast furnace gas (approx. 25 volume percent CO)
- Converter gas (approx. 60 volume percent CO)

The listed process gases are easily combustible and are poisonous because of their CO content. When emitted to the atmosphere, these gases are diluted with atmospheric air to differing degrees that lead to various symptoms depending on the respective concentrations. These symptoms may include headache, dizziness, sickness, sleepiness, asphyxiation, unconsciousness and respiratory paralysis. Patients must be exposed to fresh air and must rest comfortably. Tight clothing must be loosened. In the event of apnea, resuscitation is required to introduce oxygen to the brain. Call a doctor. Keep patients warm. In the event of threatening unconsciousness, place the patient on his or her side and transport in stable position.

BENZENE

Patients must be exposed to fresh air and must rest comfortably. Tight clothing must be loosened. Resuscitate immediately in the event of apnea. Remove contaminated clothing immediately. Rinse contaminated skin sufficiently with water. Rinse contaminated eyes adequately with water for ten to fifteen minutes. Call a doctor. Keep patients warm. In the event of threatening unconsciousness, place the patient on his or her side and transport in stable position.

ATMOSPHERIC GASES AND HYDROGEN

Because of their volumes and properties (both not poisonous) and distances to other substances, the hazardous substances (oxygen, nitrogen, argon and hydrogen) contained in the air separation and hydrogen production units are not potentially hazardous outside the premises of voestalpine Stahl GmbH.

CALCIUM CARBIDE

The carbide mixture in the hopper contains essential constituents as follows:

Calcium carbide (CaC_2):	63.1%–72.3%
Coal, including volatile constituents:	5.5%
C content:	32.59%–19.14%
Additional fluxes:	3.0%

Calcium carbide is not a flammable substance. Ethyne develops in the presence of moisture and mixes with air to form an explosive gas atmosphere and calcium hydroxide. The humidity from the air is enough to begin the reaction. Under atmospheric conditions, one ton of calcium carbide of technical quality (approx. 68% CaC_2) in reaction with water yields roughly 258 Nm^3 ethyne (= acetylene gas).

MEASURES

The measures taken to eliminate accidents and limit the consequences of an accident are regulated in the emergency plan of voestalpine Stahl GmbH. This plan is regularly updated in collaboration with the Municipal Offices of the Provincial Capital City of Linz and the fire department of Linz pursuant to the pertinent official regulations of the provincial capital of Linz.

The measures to be taken in the event of an incident are obligatory. The safety report of voestalpine Stahl GmbH is submitted on a regular basis to the authorities. The report is an integral part of the tests carried out by the responsible authorities that also serve to meet requirements and adaptations pursuant to Section 8a of the Trade and Industrial Code dated 1994.

With respect to the air separation unit, a safety report has also be submitted by Linde Gas GmbH.

OVERVIEW OF POTENTIAL HAZARDS AND COMPREHENSIVE EMERGENCY PLANS FOR THE FACTORY PREMISES.

EXTERNAL EMERGENCY PLAN

Detailed information on the alarms and measures outside the works premises can be found in the external emergency plan issued by the fire department of the city of Linz. Required measures in the event of Danger Level III are contained in the internal emergency plan. Notification procedures (excerpt from the emergency plan of voestalpine Stahl GmbH). The following measures have been determined in accordance with the emergency plan of voestalpine Stahl GmbH:

- Works fire department responds to the scene with all fire trucks and breathing apparatus vehicle
- Fire department of the City of Linz responds to the scene
- Establishment of a command center on site managed by City of Linz fire department
- Measurements taken to eliminate dangers such as cordoning off area by gas search troop, evacuation of the cordoned off area, radio announcements

Warning

The public is warned by means of sirens in the event of an extraordinary incident. Industrial accidents on the premises of are voestalpine Stahl GmbH and steps to take by the public are announced on public radio and television stations. This procedure and the type of reports required by the authorities are defined in the in-house emergency plan submitted to the authorities.

Attention

Please do not call emergency telephone numbers without any important reason.
This will ensure that the lines remain open for actual emergencies.

Contact numbers for inquiries and further information

Central office: T. +43/50304/15-5077 or +43/50304/15-2629
Environmental Department: T. +43/50304/15-5783
Occupational Safety Department: T. +43/50304/15-9806
Linde Gas GmbH: T. +43/50/4273-1616

Link to Environmental Report on the Internet:

www.voestalpine.com/group/en/group/environment/environmental-statements.html

RADIATION, NOISE AND ODOR

PROTECTING OUR NEIGHBORS FROM NOISE AND OBNOXIOUS ODORS IS AN IMPORTANT PRIORITY FOR US.

RADIATION

All raw materials at the site are inspected thoroughly for radiation by highly sensitive devices before they delivered to production facilities. Radioactive tests are conducted on all heats of the intermediate hot-metal product to exclude any risk.

NOISE

The works premises has been divided into 16 contingency sections according to the environmental impact assessment (L6). Higher noise loads of individual surface areas can be balanced by surface areas that do not reach permissible noise levels. From the perspective of neighborhood protection, limitation of noise emissions is important with respect to on-site expansion. We have taken seriously the rare complaints that have come from neighbors and have taken measures accordingly.

ODOR

Based on measures taken in the past to prevent and minimize emissions, a favorable level has now been achieved to the effect that no adverse odors are produced.

VIBRATIONS

Lime-containing rock at the Steyrling site is mined from the walls of an open pit by means of conventional blasting. This can cause ground vibration. Blasting activities are announced to neighboring parties ahead of time.

GLOSSARY

EMAS REGULATION

Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 establishing a program for the volunteer participation of organizations in a community system dedicated to environmental management and company environmental impact assessment (EMAS = Eco Management and Audit Scheme), which was revised in September 2017 pursuant to Regulation (EC) No 2017/1505.

LD PROCESS

Linz-Donawitz process featuring the top-blowing of hot metal with technical-grade oxygen.

ENVIRONMENTAL AUDIT

Systematic, documented, regular and objective evaluation of environmental performance.

ENVIRONMENTAL MANAGEMENT SYSTEM

Part of a company-wide management system that includes organizational structures, planning activities, responsibilities, methods, processes, procedures and resources for the development, implementation, fulfillment, evaluation and maintenance of environmental policies.

ENVIRONMENTAL PROGRAM

Description of the measures required to achieve environmental objectives and individual environmental goals or planned measures (responsibilities, means and deadlines).

SOIL VAPOR EXTRACTION

Soil vapor extraction in the course of a coking plant remediation project in Linz.

BTEX

Abbreviation for benzene, toluene, ethyl-benzene and xylene-volatile aromatic compounds.

DENO$_X$

Offgas denitrification system for the prevention of nitrous oxides as offgas, such as in power plants.

INFORMATION, CONTACT AND ABOUT US

Environmental statement

The next consolidated Environmental Report will be submitted for review in October 2019 and published thereafter. In addition, an updated version is created, externally reviewed and published on an annual basis.

Certified environmental experts

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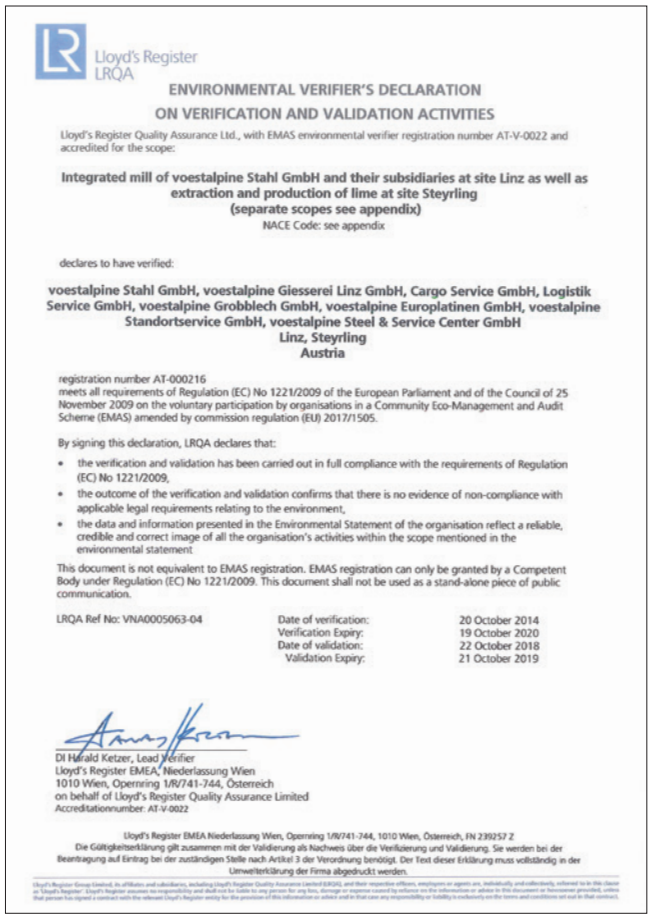

Lloyd's Register LRQA

ENVIRONMENTAL VERIFIER'S DECLARATION
ON VERIFICATION AND VALIDATION ACTIVITIES

Lloyd's Register Quality Assurance Ltd., with EMAS environmental verifier registration number AT-V-0022 and accredited for the scope:

Integrated mill of voestalpine Stahl GmbH and their subsidiaries at site Linz as well as extraction and production of lime at site Steyrling (separate scopes see appendix)
NACE Code: see appendix

declares to have verified:

voestalpine Stahl GmbH, voestalpine Giesserei Linz GmbH, Cargo Service GmbH, Logistik Service GmbH, voestalpine Grobblech GmbH, voestalpine Europlatinen GmbH, voestalpine Standortservice GmbH, voestalpine Steel & Service Center GmbH
Linz, Steyrling
Austria

registration number AT-000216
meets all requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS) amended by commission regulation (EU) 2017/1505.

By signing this declaration, LRQA declares that:

- the verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009,
- the outcome of the verification and validation confirms that there is no evidence of non-compliance with applicable legal requirements relating to the environment,
- the data and information presented in the Environmental Statement of the organisation reflect a reliable, credible and correct image of all the organisation's activities within the scope mentioned in the environmental statement

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a Competent Body under Regulation (EC) No 1221/2009. This document shall not be used as a stand-alone piece of public communication.

LRQA Ref No: VNA0005063-04

Date of verification:	20 October 2014
Verification Expiry:	19 October 2020
Date of validation:	22 October 2018
Validation Expiry:	21 October 2019

DI Harald Ketzer, Lead Verifier
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on behalf of Lloyd's Register Quality Assurance Limited
Accreditationnumber: AT-V-0022

Lloyd's Register EMEA Niederlassung Wien, Opernring 1/R/741-744, 1010 Wien, Österreich, FN 239257 Z
Die Gültigkeitserklärung gilt zusammen mit der Validierung als Nachweis über die Verifizierung und Validierung. Sie werden bei der Beantragung auf Eintrag bei der zuständigen Stelle nach Artikel 3 der Verordnung benötigt. Der Text dieser Erklärung muss vollständig in der Umwelterklärung der Firma abgedruckt werden.

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EMAS
Geprüftes Umweltmanagement
REG.NO. AT- 000216

The Linz and Steyrling locations have established independent environmental management systems. The public is informed of the environmental measures taken at these locations in compliance with the community systems for environmental management and environmental impact assessment.

Registry number: AT-000216

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voestalpine
ONE STEP AHEAD.