Environmental Performance 2018

Shaping the world with sensor solutions

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04-2019

Environment Management

Annual Environmental Performance Statistics

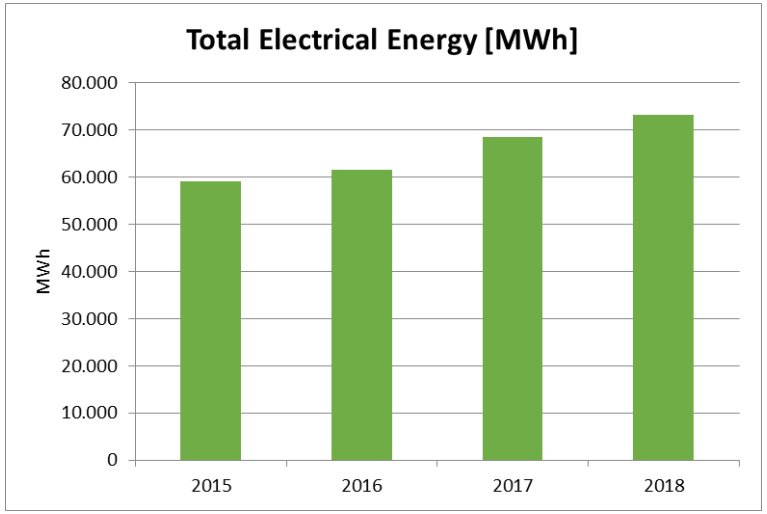
- ams is committed to responsible, visionary environmental management with the aim to contribute to the conservation of an environment worth living in
- ams fully assesses the environmental impact of our business activities and operates in a manner that avoids or minimizes emissions of pollutants and reduces energy consumption
- ams recognizes that human activities are contributing to global climate change therefore we will pursue activities to lessen our company's impact on CO_2 production

The scope of the report in hand is focusing the assessment of environmental impact of the manufacturing site in Premstaetten, Austria.

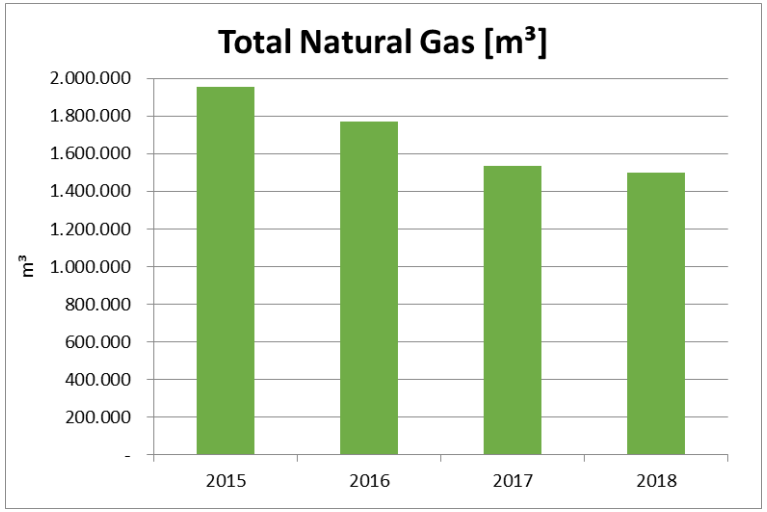
Environmental Performance, Austria

Electrical Energy, Natural Gas in 2018

- **73.296 MWh electrical energy** – increase by 7% due to increase of cleanroom floors and the related production technologies.
- The total energy is encompassing the energy needed for administration and offices, the energy required for manufacturing of CMOS and TSV wafer, plus the manufacturing operation in the filter line. In addition the heat pump (consuming electrical energy), which utilizes heat load of equipment to produce warm water, is running in full operation.
- 100% usage of renewable electricity, hydropower since 2011.



- **1.499.359 m³ natural gas** - decrease by 2,3%. Almost stable with minor fluctuations that are depending on weather conditions.



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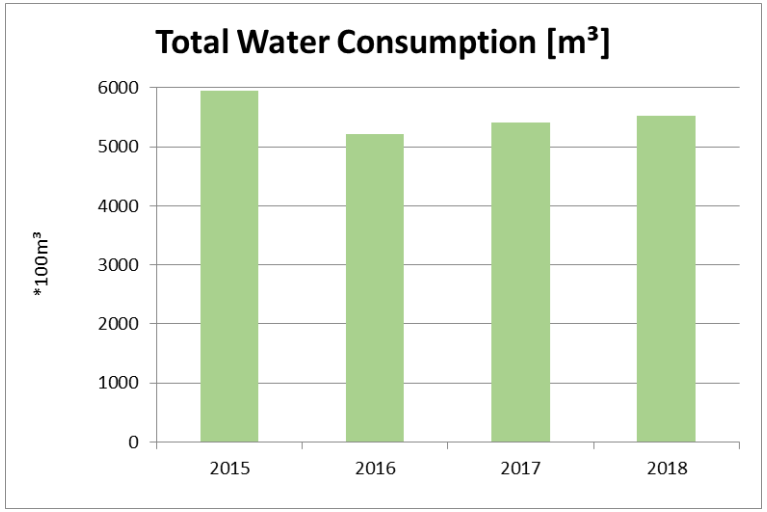
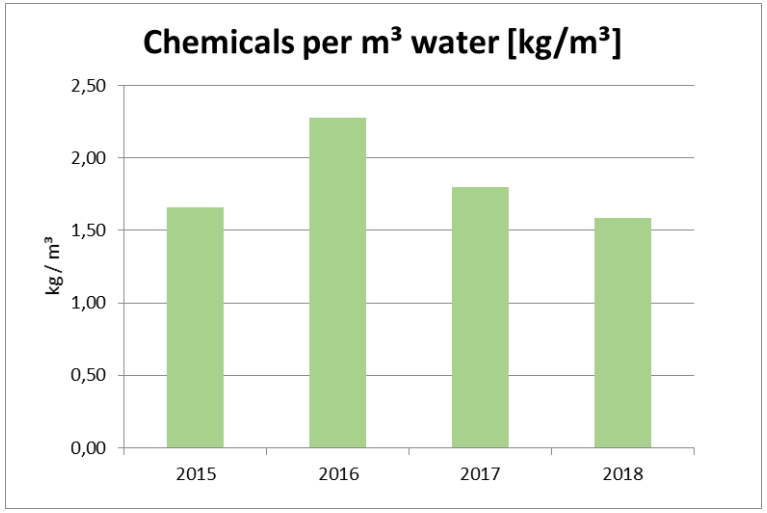
Water, Industrial Grade Chemicals in 2018

- **552.800 m³ water** – increase by 2,3% due to changes of product mix.
- Water is used for production of ultrapure water, softened cooling water, and as boiler feed water.



- **1,58 kg/m³ industrial grade chemicals for water** on average – decrease by 12% due to water treatment with RO and the usage of waste KOH for waste water neutralization.
- Chemicals for preparation of ultrapure water, for wastewater treatment and exhaust air purification.



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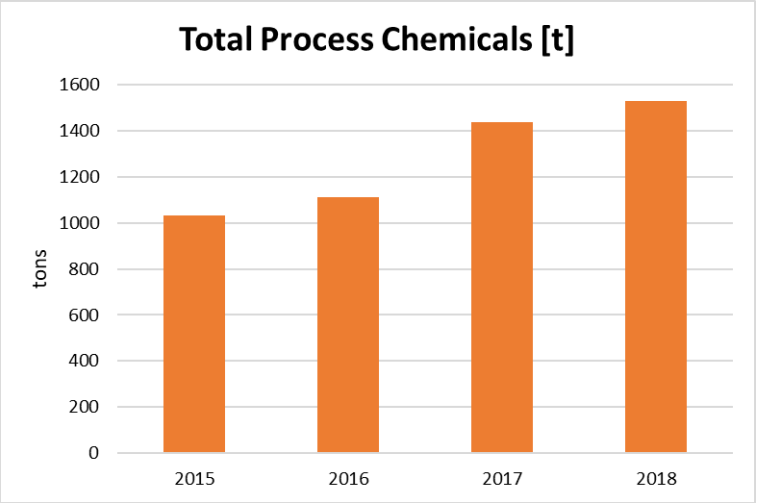
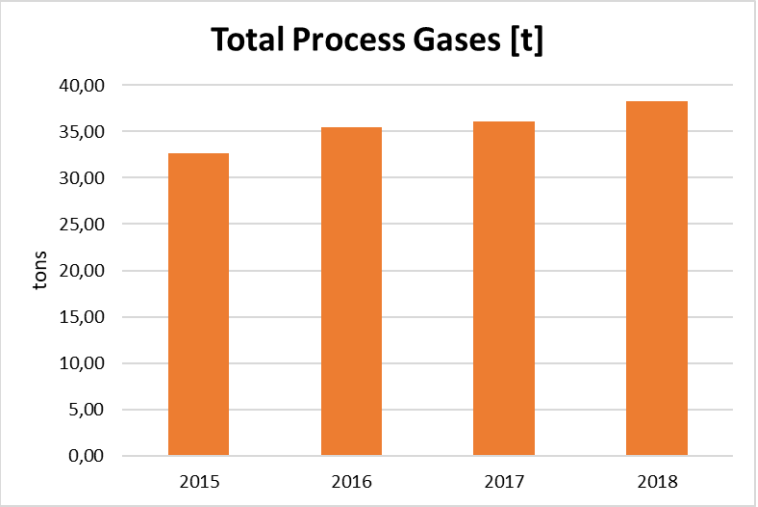
Process Chemicals, Process Gases in 2018

- **1.531 tons process chemicals** – increase by 6,55% due to changes in production mix.



- **38,1 tons process gases** – increase by 6,25%, the consumption of process gases is dependent on the production mix in the fab, where additional technologies are introduced.
- All gases which are consumed for the manufacturing of wafers are considered.



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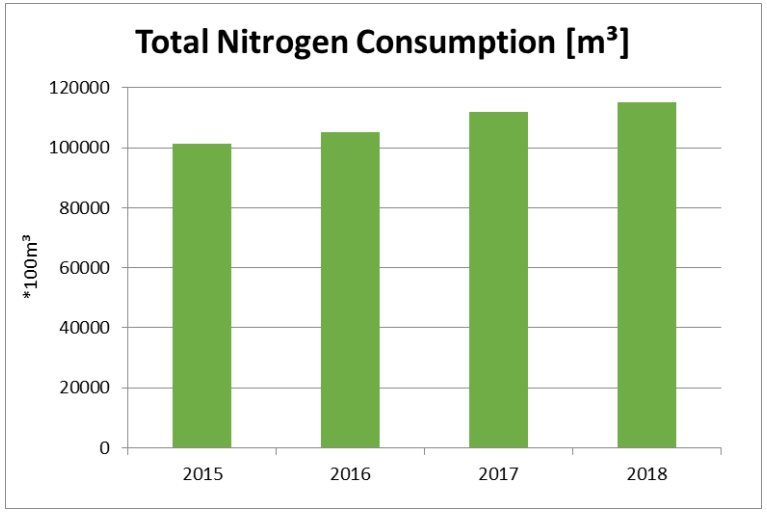
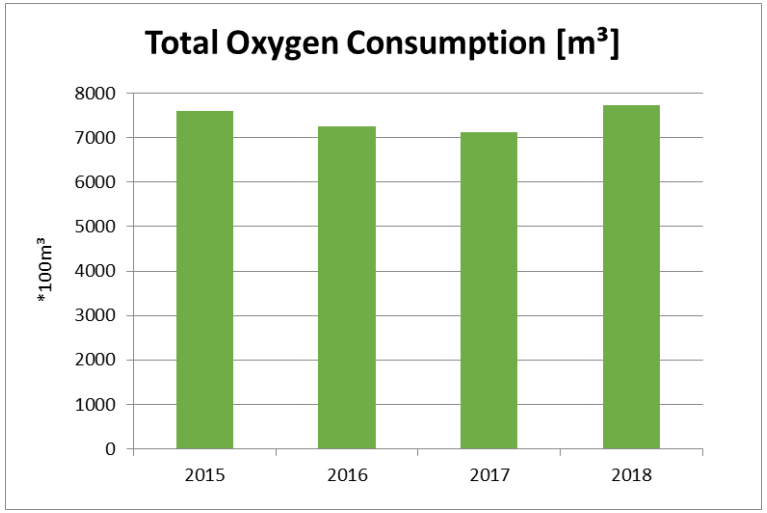
Nitrogen, Oxygen Consumption in 2018

- **11.515.700 m³ nitrogen**– increase by 2,8% due to changes of product mix.
- Liquid Nitrogen is not only used for production equipment, but also used for maintaining storage conditions.



- **772.100 m³ oxygen** - increase by 8,3% due to changes of product mix.



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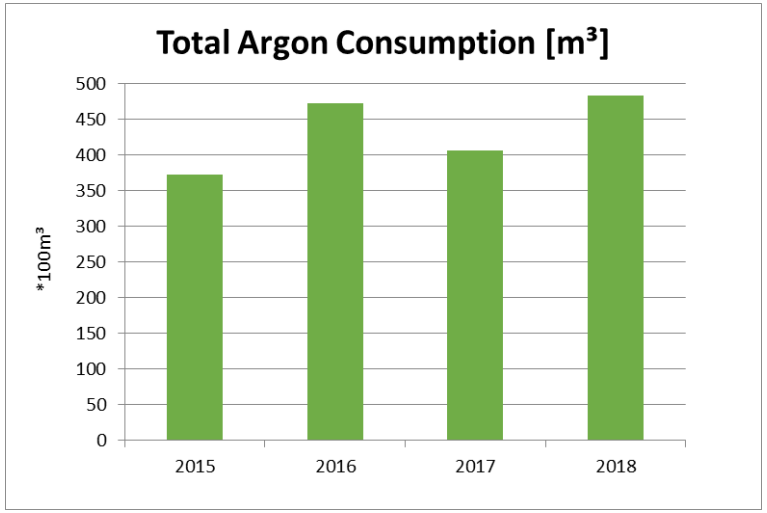
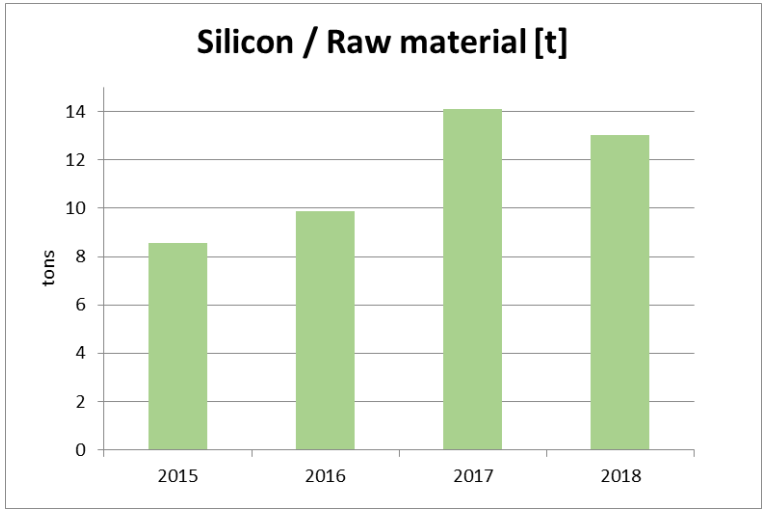
Argon, Silicon Consumption in 2018

- **48.300 m³ argon** – increase by 19% due to changes of product mix.



- **13.03 t silicon** of raw material consumed – decrease by 7,7%, as reflected from production volume.
- Partially, the consumed silicon is from purchased consigned material – already processed wafers from outsourced foundries are purchased, and continued to be processed in ams fabs.



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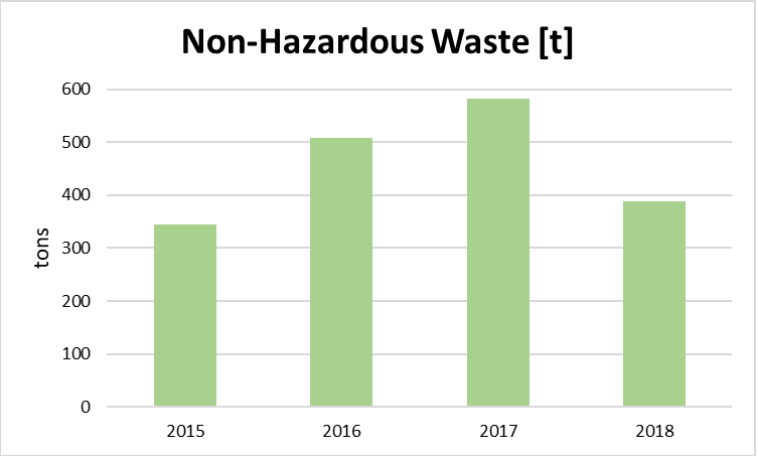
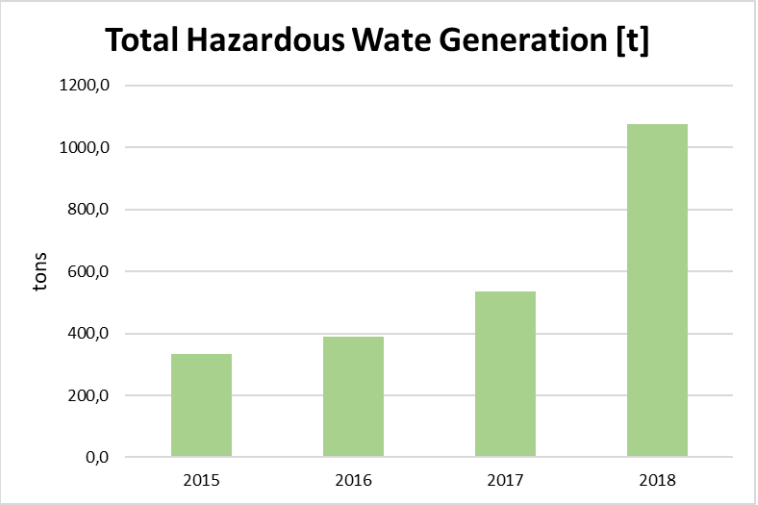
Non-hazardous Waste, Hazardous Waste in 2018

- **387,9 tons non-hazardous waste** was generated – decrease by 33,3% due to reduced construction activities at the premises (details in the waste management statistics).



- **1.075,7 tons hazardous waste** is generated – increase by 101% due to the ramp-up of a production line with a new process technology and a change of product mix.



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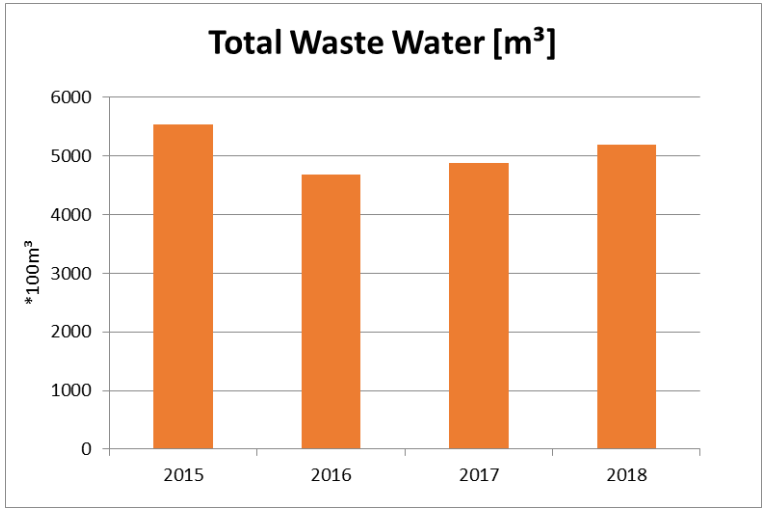
Waste Water in 2018

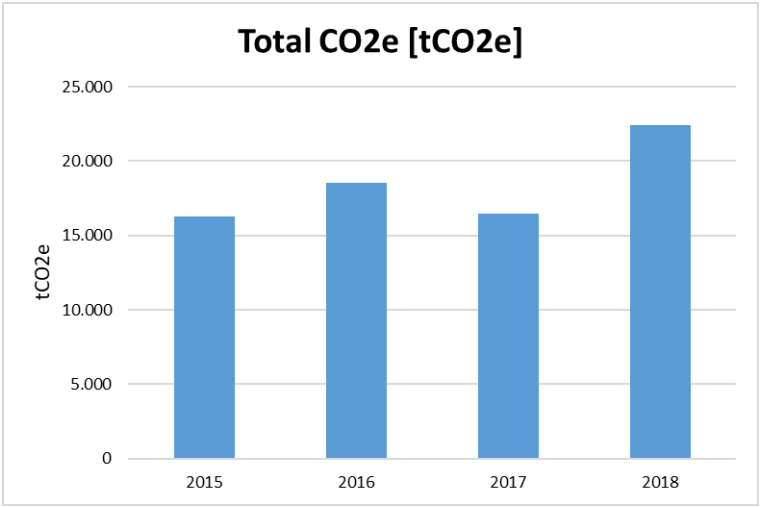
- **519.358 m³ waste water** is generated – increase by 6,5% due to need of cooling water preparation, depending on the weather conditions.

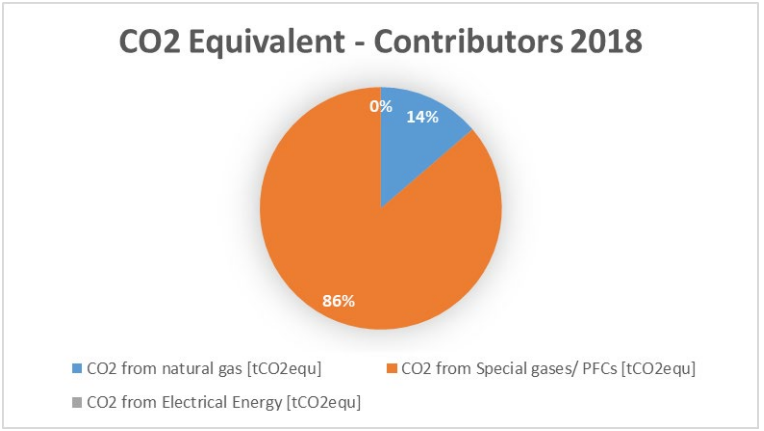


Environmental Performance, Austria

Greenhouse Gas Emissions in 2018

- **22.443 tCO2e** are generated for the site in Austria – total increase by 36,5%. The majority of the increase is caused by the use of special gases in the production area that are identified as GHG potential – due to changes in the productions technologies running.
- The CO_2 calculation is considering the usage of special (production) gases (PFCs, HFCs, SF6, etc) and natural gas.
- 100% usage of renewable electricity, hydropower since 2011 – therefore no CO2e caused.





Thank you!

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