



# REPORT 2018 ENVIRONMENTAL PROTECTION, WORK SAFETY AND ENERGY

KRAIBURG TPE GmbH & Co. KG  
Location Waldkraiburg

## Preface

Since 2002, KRAIBURG TPE has been certified in Germany according to environmental standard ISO 14001. Our management system which undergoes an annual review by auditors is in line with the environmental standard. Our policy clearly reinforces our comprehensive commitment to environmental protection and responsible handling of resources.

It is our aim within the area of environmental protection, work safety and energy management to preserve resources, reduce or possibly avoid environmentally harmful waste and emissions and take effective measure to prevent accidents.

Based on the following facts and figures we assess our performance in the fields of environmental protection and work safety and initiate appropriate measures. Energy efficiency is addressed in a sustainable manner.

The data collection system in these areas is well established and serves as the basis for future measures.



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Director EMEA



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Director Corporate QSEE

## Area of application

The parameters and assessment limits of the environmental and energy management system at the KRAIBURG TPE site in Waldkraiburg are defined as follows:

- Facility at Teplitzer Strasse: Production building including infrastructure facilities and production lines of KRAIBURG TPE
- Facility at Friedrich-Schmidt-Straße: Premises, production and office building

## Work safety and health protection

The aim of work safety and health protection is to recognize potential risks in advance. Possible risks are recognized with predictive analyses in collaboration with all responsible parties. The assessment of the individual risk factors are carried out by a health & safety officer in coordination with the managers.

Preventive targets for risk minimization are agreed upon these results. Internal expert groups, together with employee representatives, monitor and evaluate ongoing and new topics related to environmental protection, work safety and health protection on a quarterly basis.





### Hazardous material

An internal hazardous material directive ensures that no raw materials classified as harmful (e.g. carcinogenic, mutagenic or acutely toxic substances) are used within KRAIBURG TPE.

### Dangerous goods

Legal compliance is assured by assigned specific persons who monitor dangerous goods.

### Noise protection

In certain areas of production we have noise levels above 85 dB(A). For this reason, we have established a noise reduction program. Various noise reduction initiatives have been successfully implemented as part of our environmental and safety program. Based on these initiatives, we have been able to continuously reduce the noise levels. Examination and compliance of noise limits on the property boundary are administrated in a system

### Work safety / accidents

We work continuously on preventing work accidents and reducing the risk of accidents at the location. The LTIF (Lost Time Injury Frequency) indicator gives the number of accident-related lost working hours per scheduled working hours. Thus the development of lost working hours is made more transparent in the process and can be compared on a company-wide level across all locations globally. We have not yet entirely reached our ultimate goals in this respect and have therefore implemented various measures to establish a distinct and visible culture of safety in the company in order to demonstrate positive progress in this areas.

### Fire and explosion protection / emergency management

In addition to designated evacuation assistants, there are numerous emergency managers at KRAIBURG TPE. A crisis management system was implemented in 2015. On a regular basis, exercises and drills are performed and measures for improvement are identified. The fire protection engineer supervises and inspects compliance with fire protection regulations randomly.

### Environmental conditions

The new environmental standard 14001:2015 requires the monitoring of environmental status indicators. The aim is to better identify changes in the environment and to react to them.

KRAIBURG TPE's is to influence the biological diversity of the region as little as possible through its business activities. This is why KRAIBURG TPE creates compensation areas in order to keep land consumption as low as possible.

### Environmental accidents / environmental aspects

We did not have any environmental accidents with environmental effects in 2018. The assessment of environmental aspects has been adjusted to meet the requirements of the new 14001:2015 standard. In addition, the internal process for "determining environmental aspects" has been optimized.

### Waste and emissions

A central aim of the environmental management is the reduction of waste and emissions. The Closed Substance Cycle Waste Management Act regulates proper waste disposal for all producers, owners and disposers of waste. The principle of avoiding waste generation or re-use before disposal applies. According to this principle, KRAIBURG TPE has already initiated various measures with positive results as we successfully reduced the specific amount of waste in 2018. In 2018 we were also able to save 20,000 disposable paper cups.

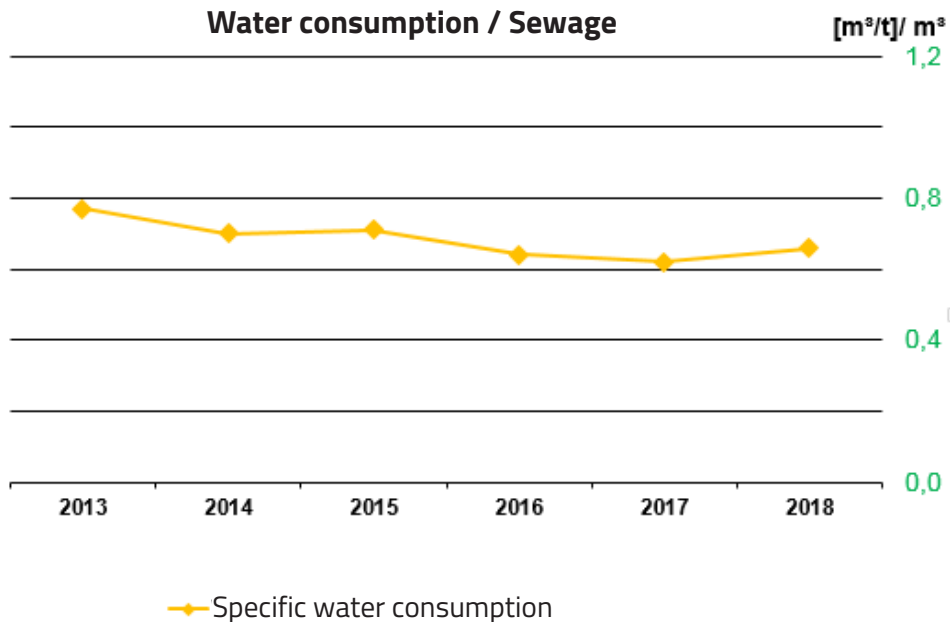
### Recycling

An important environmental aspect is the recycling of our products. Instead of disposing TPE, we recycle nearly 100 % of our products. The goal of the recycling team is the economical, efficient recycling of recyclable material (e.g. returned goods, production waste, etc.). We have once again achieved very good results in the recycling quota.

### Water Consumption

Our strategic target is to reduce the specific water consumption (m<sup>3</sup> per metric ton produced). We have been able to reduce the specific water consumption by some 20% over the last five years.

Due to the unusually hot summer and the associated increase in evaporation, no further reduction in specific water consumption was possible in 2018.

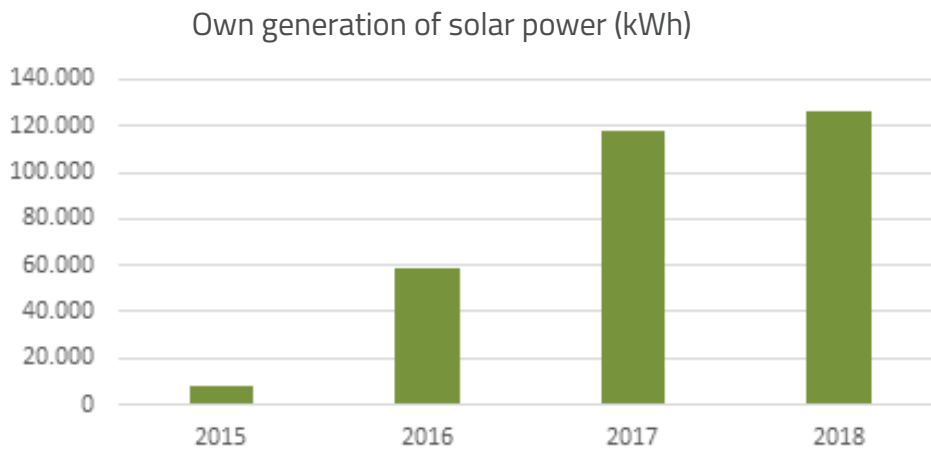


### Energy consumption

Specific energy consumption, which includes electricity and gas consumption, improved by 1.5 % to 394 kWh/t in the year under review. The significantly lower gas consumption in 2018 compensated for the slight increase in specific electricity consumption. The positive trend of recent years thus continued in 2018. Overall, specific energy consumption has fallen by 12 % over the past six years.

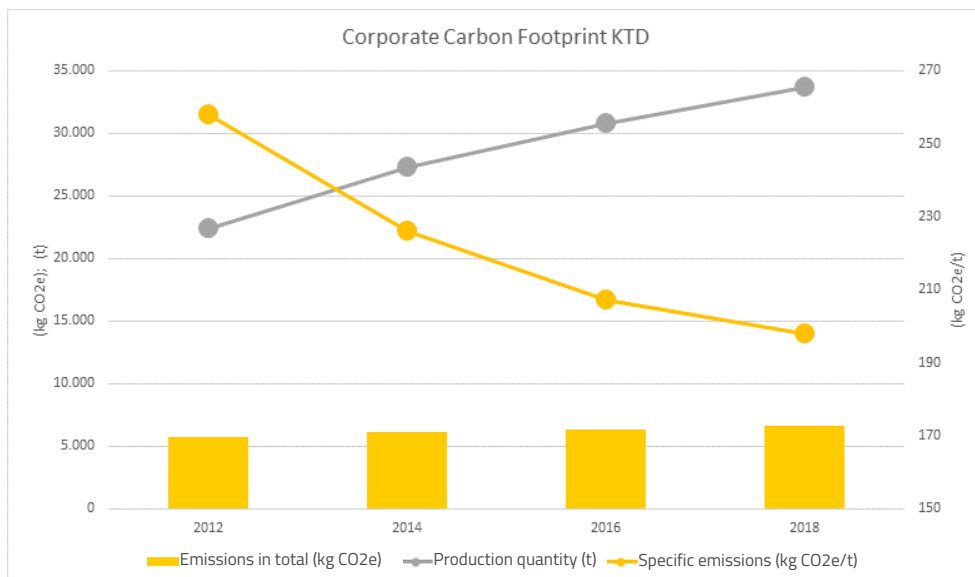
### Renewable Energies

The use of low CO2 energy sources is an essential approach to generate CO2 neutral growth. By expanding our photovoltaic area in 2017, we were able to generate a total of 126,446 kWh of emission-free electricity in 2018. Last year we were able to reduce our CO2 footprint by 61.8 tonnes.



### Greenhouse Gas Emissions

Thanks to the significant improvement of our energy efficiency and reduced emission factors of german electricity generation, we have consistently reduced our CO2-emissions (Corporate Carbon Footprint) by more than 23 % during the last six years.



### 2018 input/output balance sheet

This balance sheet is an important component of environmental reports and is recommended by ISO 14001. It visually summarizes important factors of the entrepreneurial activity.

The following core indicators are used for the monitoring and control of performances. They are partly derived from the EMAS requirements (Eco-Management and Audit Scheme) and also relate to the direct environmental protection and work safety aspects of our company. These measurable key areas enable a transparent presentation with respect to improvements and effectiveness.

### 2018 input/output balance sheet for the Waldkraiburg location

Input	Quantity	Unit	Output	Quantity	Unit
Material consumption Production	33.270	t	Production quantity	33.021	t
			Greenhouse gas emissions CO <sub>2</sub> -equivalent, direct (natural gas)	5.842	t
			CO <sub>2</sub> -equivalent, indirect (electricity)	369	t
				5.473	t
<b>Energy</b>	13.182	MWh	<b>Waste</b>	337	t
Electricity	11.319	MWh	Non-hazardous	295	t
Natural gas	1.863	MWh	Hazardous waste (incl. Luwax)	42	t
<b>Water</b>	22.167	m <sup>3</sup>	<b>Sewage</b>	22.167	m <sup>3</sup>
Potable Water	3.773	m <sup>3</sup>	Canalization	12.907	m <sup>3</sup>
Fully softened water	18.394	m <sup>3</sup>	Evaporation	9.260	m <sup>3</sup>



Core indicators for environmental performance  
at the Waldkraiburg location in 2018

Indicators	Definition	Dimension	Value
Material efficiency	Production quantity / yield Material consumption (production)	t / t	0,986
Electrical efficiency	Electricity / production quantity	kWh / t	324
Cooling efficiency	Heat of evaporation / production quantity	kWh / t	151
Heating efficiency	Heating energy / (daily temperature figure x heated area)	kWh / (Kd x m <sup>2</sup> )	64
Water	Fresh water / production quantity	l / t	624
Emissions	CO <sub>2</sub> - equivalent / production quantity	kg / t	184
Waste	Waste / production quantity	kg / t	10

### Summary

We at KRAIBURG TPE are sincerely and seriously engaged in minimizing environmental impacts and improving occupational health and safety. Our core indicators show mainly positive results for 2018. It is our commitment to continue this development in 2019. In the future, the global challenges associated with climate, environment and energy will increase and we will address them. We see our policy of „avoiding accidents, conserving resources, reducing environmentally harmful waste and emissions“ as an incentive to do our best every day to continue to meet our responsibility to present and future generations. The change of system towards a climate-friendly society remains a challenge. We are therefore looking into the issues of CO<sub>2</sub> reduction, recycling and biodiversity. We see sustainable development as maintaining a balance between economic success, ecological action and social responsibility.

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