KRAIBURG TPE

CUSTOM-ENGINEERED TPE AND MORE

REPORT 2019 ENVIRONMENTAL PROTECTION, WORK SAFETY AND ENERGY

KRAIBURG TPE GmbH & Co. KG

Location Waldkraiburg

Preface

At our site in Waldkraiburg, KRAIBURG TPE has been certified according to environmental standard ISO 14001 since 2002 and according to the energy standard ISO 50001 since 2013. Our integrated management system, which undergoes an annual review by auditors, is in line with the environmental and energy standard. Our "Policy of Quality, Environmental Protection, Industrial Safety and Energy Conservation of KRAIBURG TPE" ("policy") clearly reinforces our comprehensive commitment to environmental protection and responsible handling of resources.

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

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

Based on the following facts and figures, we want to present our achievements in the areas of environmental protection, work safety and energy management.

Oliver Zintner
Director EMEA

Darijo Mijolović
Director Corporate QSEE

Area of Application

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

Facility T - Friedrich-Schmidt-Strasse 2 in 84478 Waldkraiburg
including office-building, production, infrastructure facilities and premises

Facility K - Teplitzer Strasse 20 in 84478 Waldkraiburg
including production and infrastructure facilities

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 is 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 Materials

Based on an internal hazardous material directive it is ensured that no raw materials classified as harmful (e.g. carcinogenic, mutagenic or acutely toxic substances) are utilised within KRAIBURG TPE.

Dangerous Goods

Legal compliance is ensured by specifically assigned persons who monitor dangerous goods.

Noise Protection

In certain areas of production, we observe 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 line are administrated in a system.

Work Safety / Accidents

In order to learn from accidents and events, we have conducted a detailed analysis. The accidents and events are comprehensively clarified together with the persons concerned, so that we can use these findings to deduce proper measures. The work accident figures are important indicators for the risk of accidents at the location in Waldkraiburg. They are also an indicator of how effectively we implement our policy of "preventing accidents". The LTIF (Lost Time Injury Frequency) indicator reflects the number of accident-related lost working hours per year. We have not yet entirely reached our ambitious goals and have therefore implemented various measures to establish a distinct and visible safety culture in the company in order to demonstrate positive progress in this area.

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. Exercises and drills are performed on a regular basis and measures for improvement are identified. In 2019, a large crisis management exercise was conducted jointly with the local police, the fire brigade as well as the rescue service. The fire protection officer randomly inspected our compliance with fire protection regulations.

Environmental Conditions

The 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 target 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. In 2019 we have enhanced the biological value of or premises by creating a wildflower strip.

Environmental Accidents / Environmental Aspects

We did not have any environmental accidents with relevant effects on the environment in 2019. The assessment of environmental aspects has been adjusted to meet the requirements of the 14001:2015 standard. In addition, the internal process for “determining environmental aspects” has been optimised.

Waste and Emissions

A central goal of the environmental management is the reduction of waste and emissions. The Circular Economy & Waste Act regulates proper waste disposal for all producers, owners and disposers of waste. The principle of „avoiding waste over reuse over disposal" applies. The amount of waste per ton of produced material (specific waste amount) has been on a constantly low level over the past years. In 2019 the value was 10.5 kg/t. Additionally, we were able to save another 75,000 disposable paper cups in 2019. In total, this results in 95,000 saved paper cups since start of the implementation of this measure.

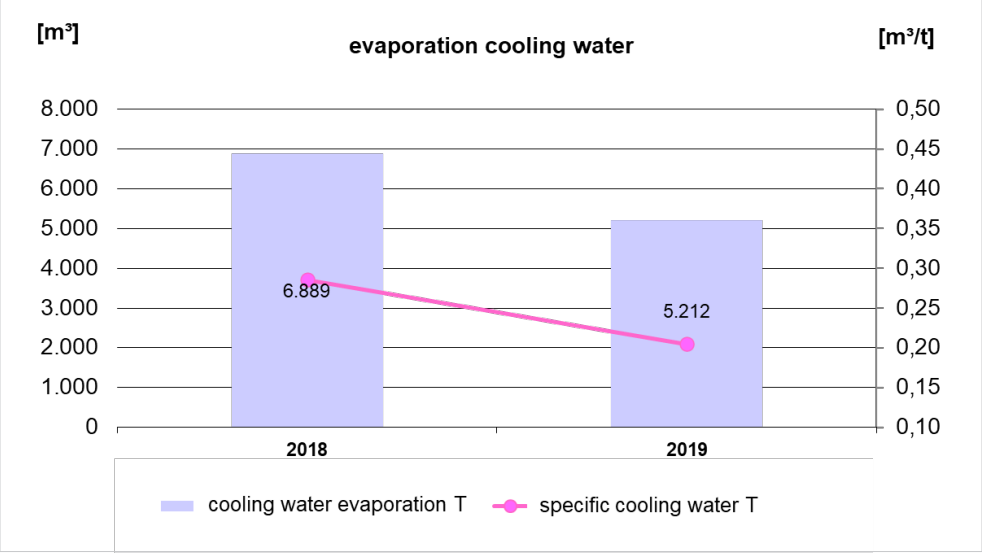
Recycling

An important environmental aspect is the recyclability of our products. We make use of this property internally. Instead of disposing TPE waste (e.g. returned shipments, starting material during production, etc.), we recycle it by nearly 100 %. We have once again achieved very good results in the recycling quota.

The recycling and concept of material cycles should not be limited to internal business processes only, but instead should be expanded. The social transformation from a linear economy to sustainable thinking and acting in closed cycles represents a huge challenge. KRAIBURG TPE has accepted this challenge of a sustainable circular economy by a holistic approach. Apart from an ecological awareness, energy efficiency and resource conservation, we take into account the composition of our products as well.

Water Consumption

Our strategic target is to continuously reduce our specific water consumption. Over the last five years, we managed to keep the total specific water consumption on a constantly low level of 0.7 m³/t. The optimization of the cooling towers within the facility T in 2019 lead to a significant reduction of evaporated water.



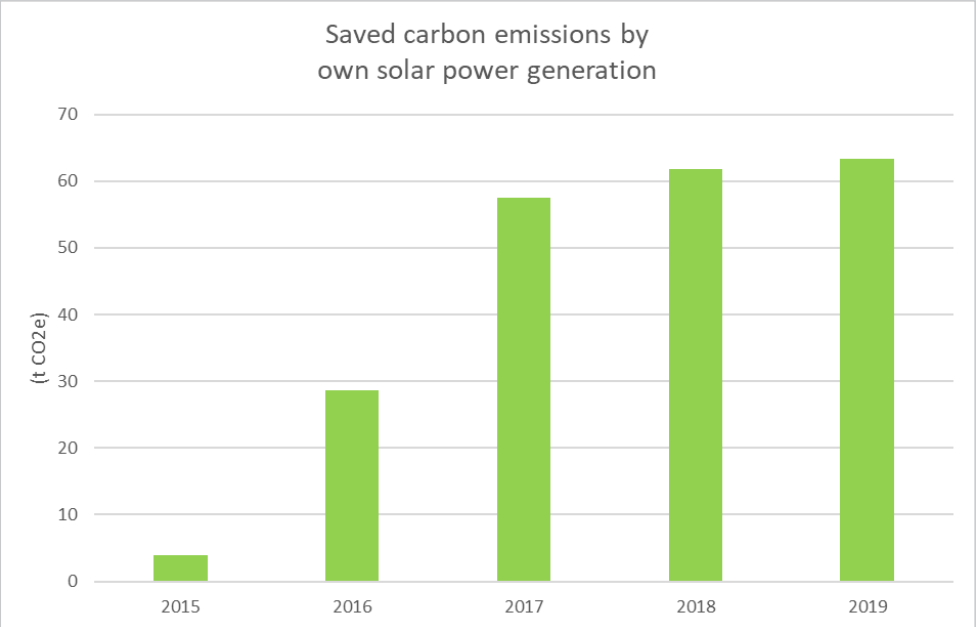
Energy Consumption

Specific energy consumption, which includes electricity and gas consumption, rose by 7.5 % to 426 kWh/t in the year under review. Overall, specific energy consumption has fallen by 8.4 % over the past seven years.

In order to secure the best possible energy efficiency, in 2019 we have started to develop an „Energy Strategy 2030" for the site in Waldkraiburg.

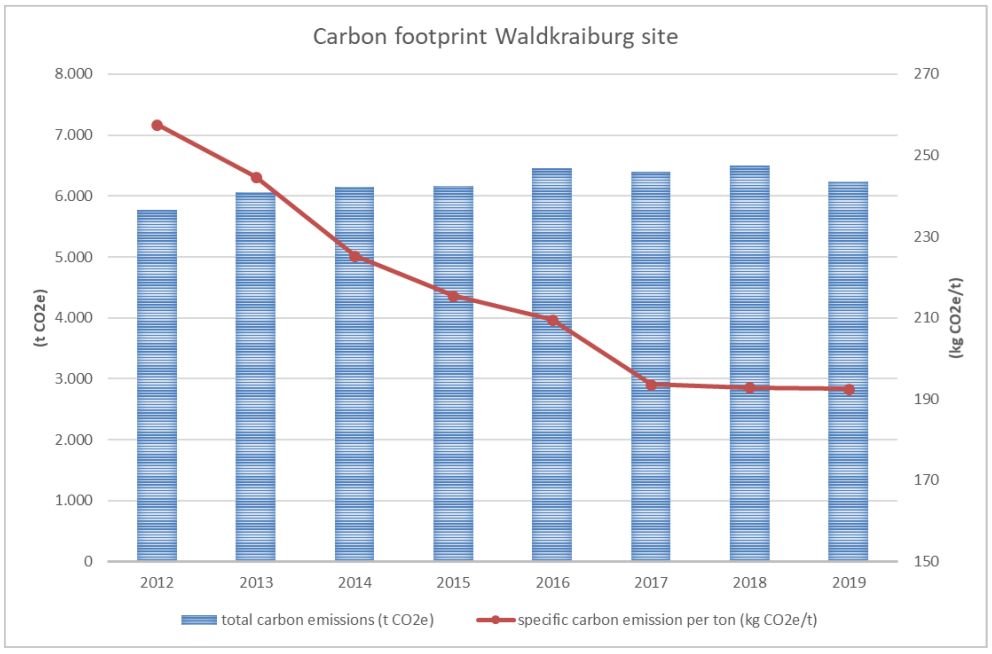
Renewable Energies

By expanding our photovoltaic surface area in 2017, we were able to generate a total of 129 MWh of emission-free electricity in 2019. Thus, last year we were able to reduce our carbon emissions by 63 t of CO_2. The following chart shows the saved amount of carbon emissions by own solar power generation over the past years.



Carbon Emissions

Thanks to the continuously positive development of our energy efficiency and reduced emission factors of Germany´s electricity generation, our specific CO_2-emissions from electric power and natural gas consumption decreased by 25 % over the last eight years.



Input/Output Balance Sheet

This balance sheet is an important component of environmental reports and is recommended by ISO 14001:2015. It visually summarises important factors of the entrepreneurial activity.

Input	Quantity	Unit		Output	Quantity	Unit
Material consumption (production)	31.956	t		Produced quantity	31.761	t
				Waste	340	t
				Non-hazardous	286	t
				Hazardous	54	t
Energy consumption	13.299	MWh		**Carbon-emissions**	5,605	t CO_2
Natural gas	10.993	MWh		from natural gas	456	t CO_2
Electricity	2.305	MWh		from electricity	5,149	t CO_2
Water consumption	22.949	m^3		**Water drainage**	22.949	m^3
Softened water	16.389	m^3		Sewage	15.854	m^3
Unsoftened water	6.560	m^3		Evaporation	7.095	m^3

Core Indicators

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

Indicator	Formula	Value	Unit
Material efficiency	$\frac{\text{production quantity [t]}}{\text{material consumption in production [t]}}$	0,994	1
Specific electricity consumption	$\frac{\text{electricity consumption [kWh]}}{\text{production quantity [t]}}$	342	$\frac{\text{kWh}}{\text{t}}$
Cooling efficiency	$\frac{\text{evaporative heat [kWh]}}{\text{production quantity}}$	151	$\frac{\text{kWh}}{\text{t}}$
Specific heat consumption	$\frac{\text{natural gas consumption [kWh] * 1,000}}{\text{degree days figure [Kd] * heated surface [m}^2\text{]}}$	59	$\frac{\text{Wh}}{\text{Kd * m}^2}$
Specific water consumption	$\frac{\text{water consumption [m}^3\text{] * 1,000}}{\text{production quantity [t]}}$	723	$\frac{\text{l}}{\text{t}}$
Specific carbon-emissions	$\frac{\text{carbon emissions [kg]}}{\text{production quantity [t]}}$	193	$\frac{\text{kg}}{\text{t}}$
Specific waste consumption	$\frac{\text{waste quantity [kg]}}{\text{production quantity [t]}}$	10,49	$\frac{\text{kg}}{\text{t}}$
1000-men-quota	$\frac{\text{number of (declarable accidents * employees)}}{\text{1,000}}$	8,36	1
Lost-time-injury-frequency	$\frac{\text{number of lost time injuries * 1,000,000}}{\text{number of planned annual working hours}}$	15,46	1

Summary

We at KRAIBURG TPE are sincerely and seriously engaged in environmental aspects, energy subjects, health, and occupational safety. Our core indicators show mainly positive results for 2019. We see our policy of „avoiding accidents, conserving resources, reducing environmentally harmful waste and emissions" as an incentive to do our best every day and to continue to meet our responsibility to present and future generations. The change towards a climate-friendly society remains a challenge. We therefore work on sustainability topics such as CO_2-reduction, recycling, and circular economy. We see sustainable development as maintaining a balance between economic success, ecological action, and social responsibility.

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