

# CLIMATE REPORT 2023

Climate objectives, emission values  
and future initiatives



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## Frenzelit Climate Report 2023

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## Our company

For over 140 years, Frenzelit GmbH – a family-owned company with a rich tradition – has delivered reliable, effective performance at its numerous locations. What began as a local operation has now expanded into an international corporation with locations in the US, China, India and the Czech Republic.

More than 600 employees work daily to uphold our commitment to quality in the production of gaskets, insulation, expansion joints and innovative composite materials. Our products are used throughout the industry and mobility sectors, as well as in the essential future fields of hydrogen technology, e-mobility, fire protection and renewable energies.

Frenzelit's innovative strength drives the development and refinement of products tailored to meet the unique needs of our customers. Research and development are at the heart of Frenzelit, where new materials, original product ideas and a wide range of applications are created. Both independent research into fundamental principles and formulations and the development of new technologies aim to address specific market and customer demands.

## Our objective: Carbon neutrality by 2035

We have continued to revise and sharpen our climate objectives in recent years. Now our overarching objective is to achieve carbon neutrality by 2035 in terms of the Scope 1 and Scope 2 emissions at our location in Germany. To ensure this, we will continue to reduce our emissions in order to completely eliminate them as soon as possible. We have already taken an important step in this direction by transitioning to 100% green electricity. In Germany, we now use only power generated from renewable energy sources. This has enabled us to save 3,379 kg of CO<sub>2</sub> emissions compared to the average German electricity mix.

Additionally, we launched a transformation plan to identify measures that will help us reduce our total emissions by at least 40%. The trend seen over the past few years shows that we are on the right track, emitting fewer greenhouse gases each year than the year before.

## Our measures to date

As in previous years, we continued our efforts in 2023 to reduce emissions and minimize energy consumption. Various initiatives have been implemented to bring us closer to our goal of carbon neutrality.

In autumn 2022, several employees were trained as energy scouts to serve as departmental contacts for energy-related questions. These energy scouts continue to meet every three months to identify potential savings and areas of energy waste. Their work has already resulted in addressing compressed air leaks and optimizing lighting and heating schedules. In addition to the energy scouts, monthly meetings are held with management, production leadership and the sustainability department to discuss energy efficiency measures. We offer employees the option to lease company bicycles. So far, about 12% of our colleagues have taken advantage of this opportunity, acquiring high-quality e-bikes or bicycles to improve their health while contributing to environmental protection.

Since January 2023, we have exclusively sourced green electricity from Europe. We also expanded the photovoltaic systems at our Himmelkron plants by approximately 465 kWp. The electricity generated is expected to cover about 16% of our energy needs in Himmelkron. We also offer electric company vehicles. The first fully electric vehicles are already in use, with more to be introduced next year.

We began replacing outdated and inefficient machine motors with more energy-efficient alternatives as early as 2022, and we continued the project in 2023.

To reduce emissions during procurement, we prioritize short transportation routes and source most of our raw materials from Europe. Using digital meetings has helped us avoid travel for in-person discussions, which has cut emissions even further. We have implemented an extensive remote work policy to lower emissions related to commuting. Paper consumption was significantly reduced thanks to the implementation of a paperless office concept.

# Climate indicators

## Emissions factors

This report includes the emissions of the Bad Berneck and Himmelkron sites in Germany, Frenzelit Inc. in Lexington, USA, Frenzelit s.r.o. in Dolní Rychnov, Czech Republic, and from the Frenzelit Private Limited Company in Bangalore, India, for the year 2023. Our key indicators for electricity and natural gas were calculated from the quantities consumed and the emission value per kWh.

GHG source of emissions	Emissions factor Germany	Emissions factor Czech Republic	Emissions factor USA	Emissions factor India
Electricity [g/kWh CO <sub>2</sub> e]	0 <sup>1</sup>	370	301	148
Natural gas [g/kWh CO <sub>2</sub> e]	190	200	315	No use of gas
Solvents [g/kWh CO <sub>2</sub> e]	1.06	No use of solvents		
Fuel [g/kWh CO <sub>2</sub> e]	2.64			

Table 1: Emissions factors used

## Emission values






Location	Unit	Electricity	Natural gas	Fuel	Solvents	Total
Bad Berneck 	t CO <sub>2</sub> e	0	2620	254	188	3062
Himmelkron 	t CO <sub>2</sub> e	0	635		10	645
Dolní Rychnov 	t CO <sub>2</sub> e	46	50		-	96
Lexington 	t CO <sub>2</sub> e	152	0	19	-	171
Bangalore 	t CO <sub>2</sub> e	2	-	8	-	10
<b>Total</b>	t CO <sub>2</sub> e	200	3305	281	198	3984

Table 2: Emissions by location






Location	Unit	Scope 1 <sup>2</sup>	Scope 2 <sup>3</sup>	Total
Bad Berneck 	t CO <sub>2</sub> e	3062	0	3062
Himmelkron 	t CO <sub>2</sub> e	645	0	645
Dolní Rychnov 	t CO <sub>2</sub> e	50	46	96
Lexington 	t CO <sub>2</sub> e	19	152	171
Bangalore 	t CO <sub>2</sub> e	8	2	10
<b>Total</b>	t CO <sub>2</sub> e	3784	200	3984

Table 3: Emissions by scope (locations)

<sup>1</sup> 100% green electricity, consequently no emissions

<sup>2</sup> Includes the direct release of harmful greenhouse gases within the company (gas and fuel)

<sup>3</sup> Includes the indirect release of harmful greenhouse gases by energy suppliers (electricity)



Company/Division		Unit	Electricity	Natural gas	Fuel	Solvents	Total
Frenzelit GmbH  + Frenzelit s.r.o. 	Mobility (MD)	t CO2e	23	133	25	-	181
	Industry (ID)	t CO2e	0	2842	79	197	3118
	Expansion joints (ED)	t CO2e	23	110	89	-	222
	Central divisions (CD)	t CO2e	0	221	57	-	278

Table 4: Emissions by division in Germany and the Czech Republic



Company/Division		Unit	Scope 1	Scope 2	Total
Frenzelit GmbH  + Frenzelit s.r.o. 	Mobility (MD)	t CO2e	158	23	183
	Industry (ID)	t CO2e	3118	0	3118
	Expansion joints (ED)	t CO2e	199	23	222
	Central divisions (CD)	t CO2e	278	0	278

Table 5: Emissions by scope in business divisions in Germany and the Czech Republic

## Reduction in emissions

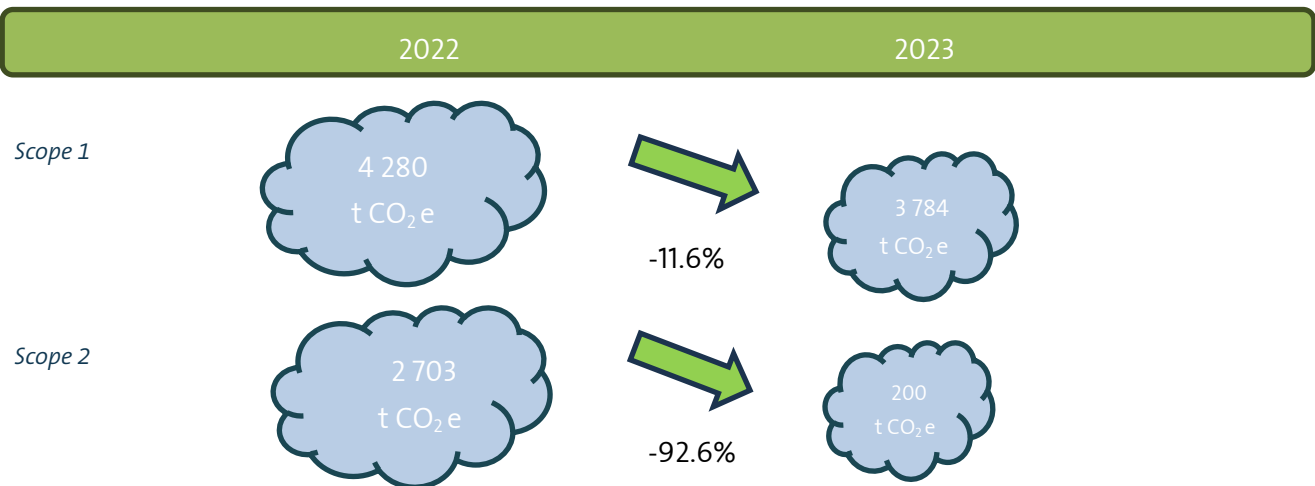


Figure 1: Reduction in emissions

## Emissions development in recent years

In recent years, we have successfully reduced our electricity, natural gas and fuel consumption, which has positively impacted our greenhouse gas balance. The introduction of green electricity in Germany, along with continuous improvements made over the past few years, has further contributed to lowering our emissions.

Source of emissions	2021	2022	2023
Electricity [t CO <sub>2</sub> e]	2 852	2 703	200
Natural gas [t CO <sub>2</sub> e]	4 351	3 780	3305
Fuel [t CO <sub>2</sub> e]	196	247	281
Solvents [t CO <sub>2</sub> e]	156	253	197
<b>Total [t CO<sub>2</sub>e]</b>	<b>7 555</b>	<b>6 983</b>	<b>3984</b>

Table 6: Development over the past three years

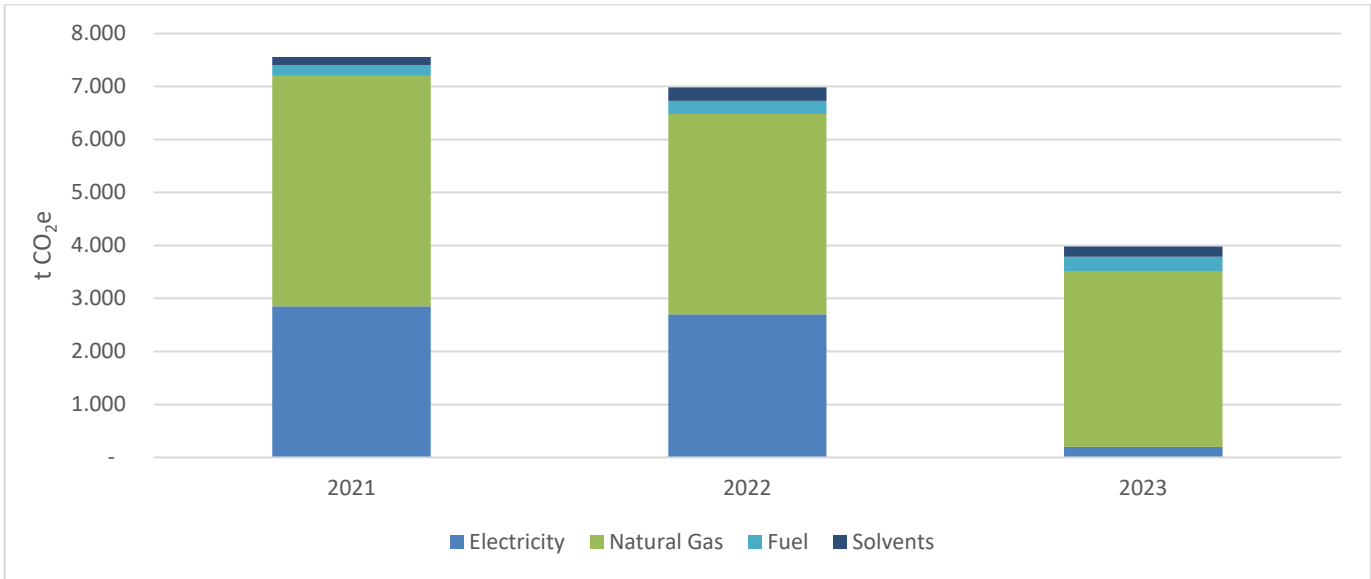


Figure 2: Emissions development past three years

## Our near-term initiatives

- ✔ Expanding the metering network to the machine level to measure energy and resource consumption with greater precision – by the end of 2025
- ✔ Implementing new energy management software – by June 2024
- ✔ Completing the transformation concept: We aim to work with a service provider to establish a clear roadmap by September 2024 that will pave the way to achieving carbon neutrality (Scope 1+2) by 2035.
- ✔ Applying to the Science Based Targets initiative (SBTi) to validate our goals and ensure alignment with the global 1.5°C target – in July 2024
- ✔ Calculating Scope 3 emissions – by July 2024

## Rating portals

### More sustainability for your process

Sustainability is more than environmental protection. We take key environmental aspects into account in our production, such as CO<sub>2</sub> reduction and resource conservation, while also striving for economic and social sustainability. We help our customers make their processes and products more sustainable. You can learn more about Frenzelit's other sustainability efforts and find us on EcoVadis, CDP, Supplier Assurance and Integrity Next.

