CLIMATE REPORT 2024

Climate Goals, Emission Levels and Future Initiatives

Frenzelit

creating hightech solutions

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Frenzelit Climate Report 2024

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, 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 everything we do here at Frenzelit, including the creation of new materials, innovative products and a wide range of practical applications. Both independent research into fundamental principles and formulations and the development of new technologies aim to address specific market and customer demands. One of our key priorities is replacing critical raw materials with more sustainable alternatives, which is why we are already able to offer PFAS-free gaskets with excellent mechanical and chemical performance.

Our goal: Carbon neutrality by 2035

We have continued to revise and sharpen our climate goals over the years. Since 2023, our overarching goal has been to achieve carbon neutrality for our Scope 1 and 2 emissions in Germany by 2035. To achieve this target, we are continually reducing our emissions with the goal of eliminating them as soon as possible. One major milestone on this path was our switch to 100% green electricity. Since early 2023, all the electricity we use in Germany has come exclusively from renewable sources with certified guarantees of origin. This transition has already enabled us to completely eliminate our Scope 2 emissions in Germany and significantly reduce our overall carbon footprint. Over the next few years, we plan to further electrify our production processes and gradually cut down on our gas consumption. Compared with our 2022 baseline year, which serves as the reference for our emissions calculations, we have already reduced our combined Scope 1 and 2 emissions by 50%.

Since the end of the COVID-19 pandemic, we have consistently reduced our emissions year after year. The same holds true for 2024, though it is worth noting that the current economic environment and lower capacity utilization at our plants also contributed to the reduction.

Our initiatives to date

As in previous years, we continued our efforts in 2024 to reduce emissions and minimize energy consumption. In recent years, we have implemented a number of initiatives to bring us closer to our goal of achieving 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 our employees health-promoting and environmentally conscious options, such as leasing a company bike.

Since January 2023, all the electricity we use has come exclusively from renewable European sources, and we have expanded the photovoltaic systems at our Himmelkron location by around 465 kWp. The electricity generated is expected to cover about 16% of our energy needs in Himmelkron. Any surplus power we produce is fed back into the grid. We also offer electric company vehicles. The first fully electric cars are already in use, with more to follow next year.

In 2024, we also launched a "Continuous Improvement Process" focused on waste with the goal of halving our total waste output over the next few years. As part of this initiative, we worked with various production departments to record current waste volumes and develop and implement reduction measures. We are particularly committed to establishing closed-loop recycling to reduce both waste and raw material consumption.

To reduce emissions during procurement, we prioritize short transport routes and source most of our raw materials from within Europe whenever possible. The introduction of a paperless office concept has helped us cut paper consumption across the company. We also rely on our extensive remote work policy and digital meetings to avoid unnecessary travel and related emissions.

Due to the economic situation, there were few major investments in 2024. Nevertheless, we implemented several smaller low-cost improvements, including optimizing heating water temperatures, fixing compressed air leaks and installing motion sensors for stairwell lighting. These efficiency measures had only a minor impact on our Scope 1 and 2 emissions as production continued without interruption.

Climate indicators

Emission factors

This report includes the emissions of the Bad Berneck and Himmelkron locations 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 2024. Our key indicators for electricity and natural gas were calculated based on the quantities consumed and the emission value per kilowatt-hour (kWh).

GHG source of emissions	Emissionsfactor Germany	Emissionsfactor Czech Republic	Emissionsfactor USA	Emissionsfactor India
Electricity [g/kWh CO2e]	0[1]	370	301	148
Natural gas [g/kWh CO2e]	190	200	315	No use of gas
Solvents [g/kWh CO2e]	1.06	No use of solvents		
Fuel [g/kWh CO2e]	2.64			

Table 1: Emission factors used

Emission levels

Location	Unit	Electricity	Natural gas	Fuel	Solvents	*Total*
Bad Berneck ()	t CO_2e	0[1]	2227	204	123	2554
Himmelkron ()	t CO_2e	0	579		8	587
Dolní Rychnov ()	t CO_2e	45	47		-	92
Lexington ()	t CO_2e	147	63	17	-	227
Bangalore ()	t CO_2e	3	-	8	-	11
Total	t CO_2e	195	2916	229	131	3471

Table 1: Emissions by location

Location	Unit	Scope-1[2]	Scope-2[3]	*gesamt*
Bad Berneck ()	t CO_2e	2554	0	2554
Himmelkron ()	t CO_2e	587	0	587
Dolní Rychnov ()	t CO_2e	47	45	92
Lexington ()	t CO_2e	80	147	227
Bangalore ()	t CO_2e	8	3	11
Total	t CO2e	3276	195	3471

Table 2: Emissions by scope (locations)

[1] 100% green electricity – consequently, no emissions

[2] Includes the direct release of harmful greenhouse gases (gas fuel)

[3] 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	22	137	38	-	197
	Industry (ID)	t CO2e	0	2360	37	131	2528
	Expansion Joints (ED)	t CO2e	22	100	95	-	217
	Central Divisions (CD)	t CO2e	0	257	32	-	289

Table 3: 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	175	22	197
	Industry (ID)	t CO2e	2528	0	2528
	Expansion Joints (ED)	t CO2e	195	22	217
	Central Divisions (CD)	t CO2e	289	0	289

Table 4: Emissions by scope in business divisions in Germany and the Czech Republic

Reduction in emissions

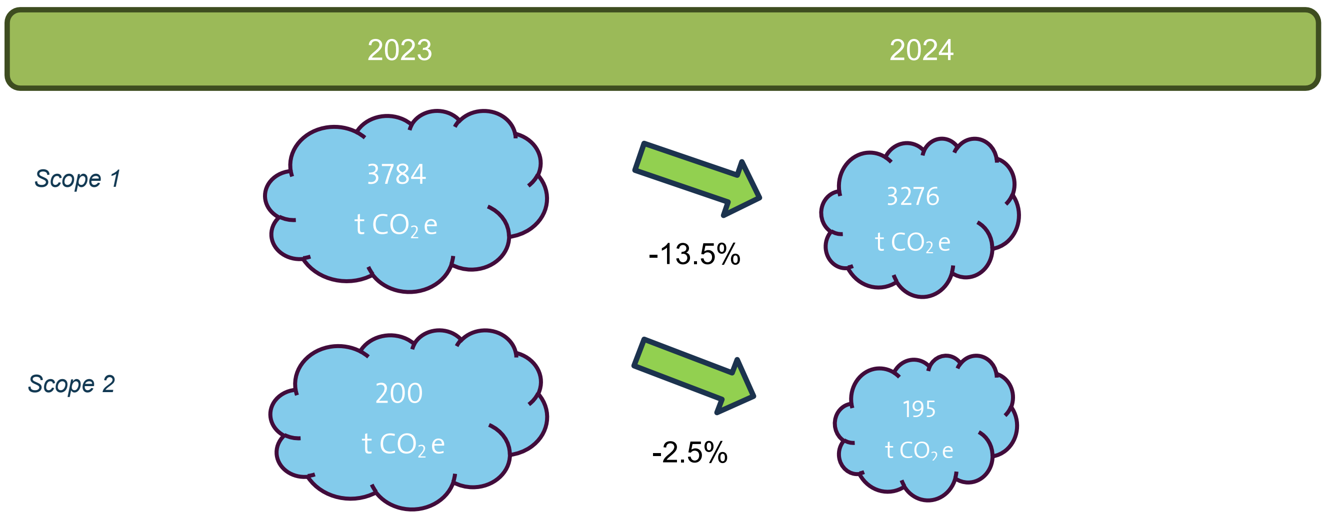

Figure 1: Reduction in emissions

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 emissions 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	2022	2023	2024
Electricity [t CO_2e]	2703	200	195
Natural gas [t CO_2e]	3780	3305	2916
Fuel [t CO_2e]	247	281	229
Solvents [t CO_2e]	253	197	131
Total [t CO_2e]	6983	3984	3471

Table 5: Development over the past three years

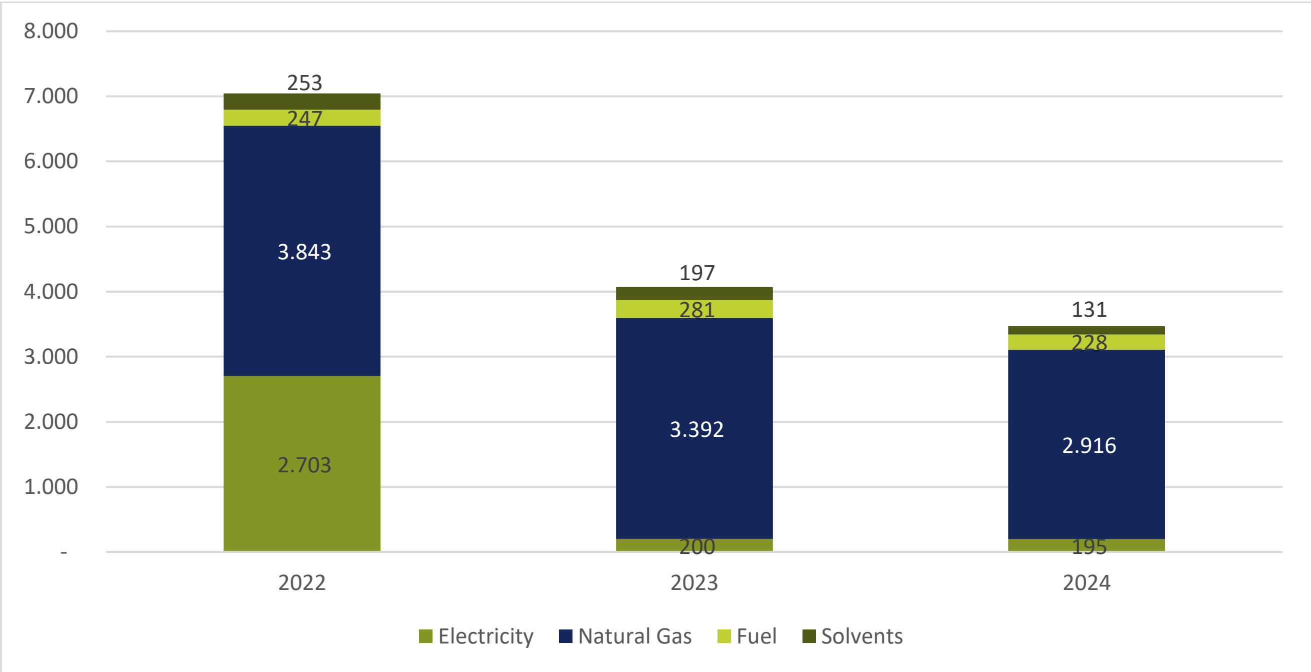

Figure 2: Emissions development over the past three years

Our near-term initiatives

- Expanding the metering network to the machine level to measure energy and resource consumption with greater precision
- In parallel with the network expansion: Implementing new energy management software
- Installing free cooling systems to supplement the existing cooling equipment and reduce power consumption
- Increasing the use of waste heat through heat recovery
- Developing a Scope 3 reduction strategy
- Validating our targets through the Science Based Targets initiative (SBTi) to ensure alignment with the Paris Agreement – our official commitment was published in autumn 2024
- Determining our product carbon footprints

Rating portals

More sustainability for your process

Sustainability goes far beyond environmental protection alone. We take key environmental aspects into account in our production, such as CO_2 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.