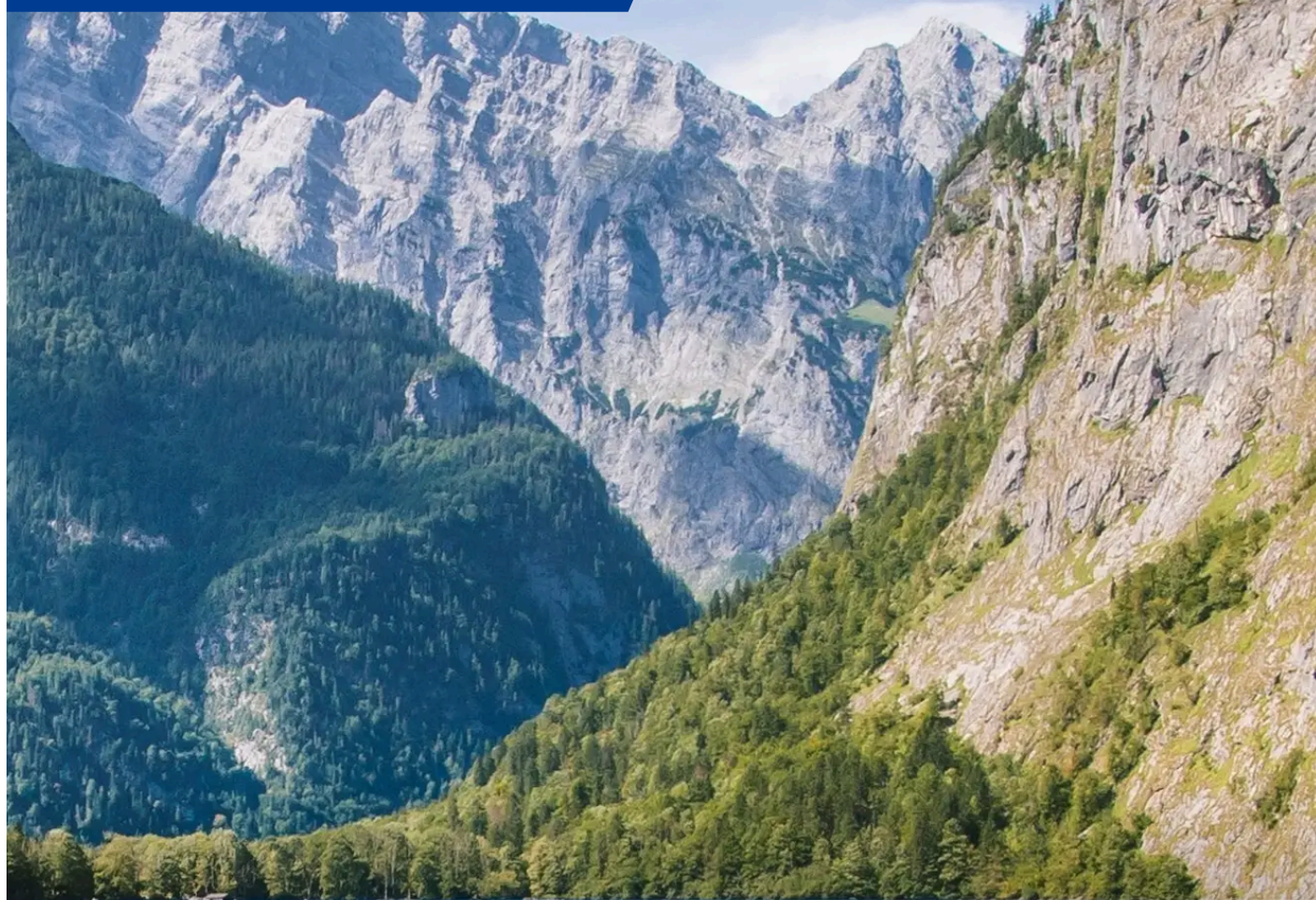


Report

Corporate Carbon Footprint

Jan 2024 - Dec 2024



August 2025

OptiMel Schmelzgußtechnik GmbH

Introduction

OptiMel Schmelzgußtechnik GmbH has worked with ClimatePartner to calculate a corporate carbon footprint (CCF). The CCF reflects the total CO₂ emissions generated by a company within the defined system boundaries over a specified period of time. A CCF can also refer to only part of a company, such as one or more of its locations. This CCF is for the calculation **OptiMel CCF 2024**.

The calculation was based on the guidelines of the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (GHG Protocol).

Carbon footprint calculation - the basis for climate action

Calculate, reduce, finance climate projects - these are the crucial steps to tackling climate change in accordance with the Paris Agreement.

The foundation of all climate action is calculating emissions. A company that knows the carbon footprint also knows the areas which cause emissions and how high the emissions are.

At the same time, a carbon footprint helps companies to understand which areas have the greatest potential for avoidance and reduction, to set reduction targets, and to develop and implement appropriate reduction measures. Regular calculations allow companies to check their progress against reduction targets and to identify areas where emissions can be further reduced.

Carbon footprint result

The following emissions were calculated for **OptiMel CCF 2024** for the period **Jan 2024 - Dec 2024**:

CO₂ emissions

Result	
Overall result	112.53 t CO ₂

By comparison



The emissions correspond to the carbon footprint of a car that has driven 568,321 km. On average, a standard car releases per 100 km driven 19.8 kg CO₂.

Methodology of the calculation

Principles

In preparing this carbon footprint and this report, five basic principles were observed in accordance with the Greenhouse Gas Protocol Accounting and Reporting Standard (GHG Protocol):

Relevance: The carbon footprint appropriately reflects the GHG emissions of the subject and enables the user to make informed decisions.

Completeness: The carbon footprint covers all GHG emissions within the selected system boundaries. If relevant emission sources were excluded, this is documented and justified.

Transparency: All relevant aspects are addressed and documented in a factual coherent, clear, and understandable manner.

Consistency: Comparable methodologies are implemented so that emissions can be tracked over time. Changes in data, system boundaries, or methods are transparently documented.

Accuracy: The calculation of GHG emissions is not systematically too high or too low and uncertainties are minimised. The information provided is accurate enough to allow users to make informed decisions.

Data collection and calculation

CO₂ emissions were calculated using consumption data and emission factors researched by ClimatePartner. Wherever possible, primary data were used. If no primary data were available, secondary data from highly credible sources were used. Emission factors were taken from scientifically recognized databases such as ecoinvent and DEFRA.

CO₂ equivalents

The carbon footprint calculates all emissions as CO₂ equivalents (CO₂e), which this report also refers to as "CO₂".

This means that all relevant greenhouse gases, as stated in the IPCC Assessment Report, were taken into account in the calculations. These include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).

Each gas has a different ability to warm the earth's atmosphere, and each remains in the atmosphere for different lengths of time. To make their effect comparable, they are converted to CO₂ equivalents (CO₂e) as a basic unit and multiplied by their global warming potential (GWP).

The GWP describes how strong a gas can warm the atmosphere compared to CO₂ over a period of time, usually 100 years.

For example, methane has a global warming potential of 28, so the warming effect of methane is 28 times greater than CO₂ over 100 years.¹

¹) Source: Intergovernmental Panel on climate change, "Climate Change 2021 The Physical Science Basis", S. 1842, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf (retrieved on 31.01.2022)

Electricity: market-based and location-based approaches

Emissions for electricity were calculated using both the market-based method and the location-based method. This dual reporting approach is recommended by the GHG Protocol.

For the market-based method, the company provided specific emission factors for the electricity they purchased, if available. If these specific factors were not available, factors for the residual mix in the country of operation were used, or, if this was unavailable, the average grid mix of the country was used.

The report also states the location-based method. In this method, the average electricity grid mix for the country is calculated. This enables a direct comparison of the company's values with the country-specific average.

Operational system boundaries

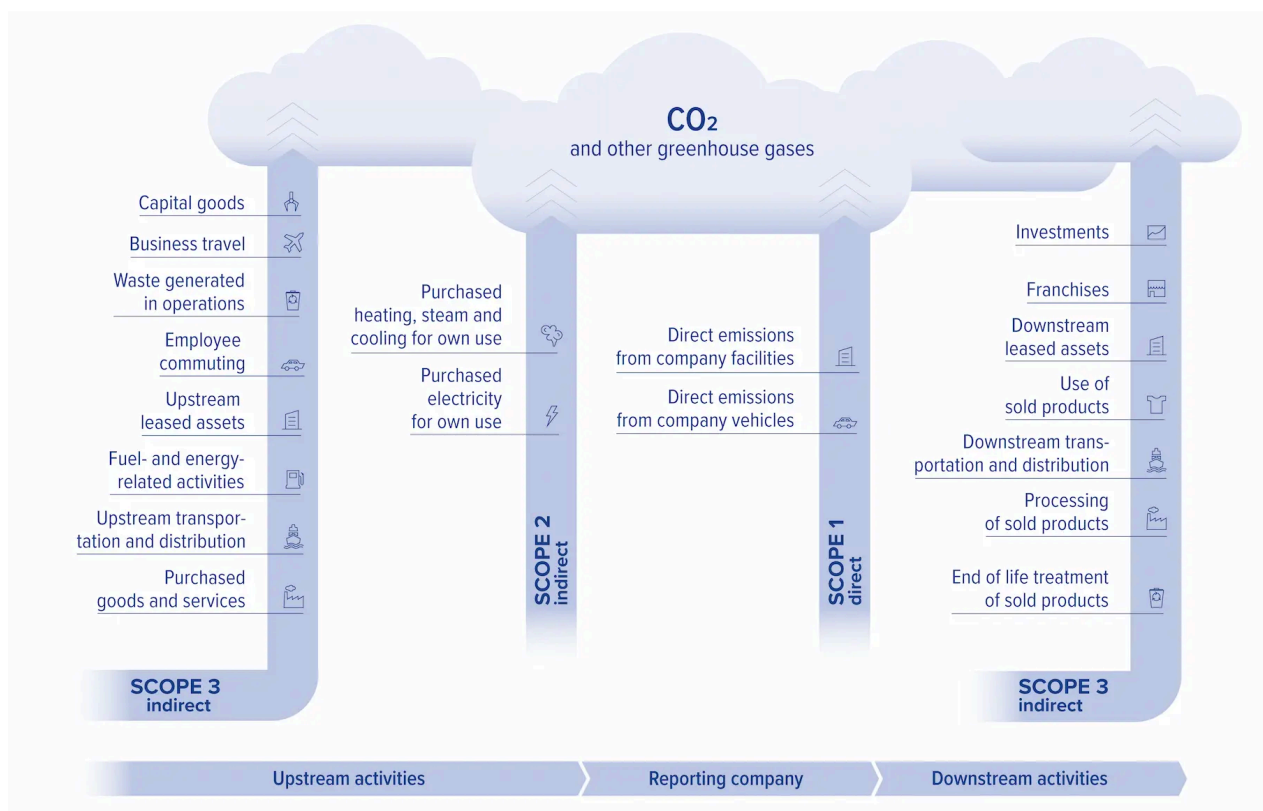
Operational system boundaries indicate which activities are covered by the carbon footprint. The various emission sources have been divided into three scopes in accordance with the GHG Protocol:

Scope 1 includes all emissions generated directly, for example by company-owned equipment or vehicle fleets.

Scope 2 lists emissions generated by purchased energy, for example electricity and district heating.

Scope 3 includes all other emissions that are not under direct corporate control, such as employee travel or product disposal.

Activities divided by scope



Carbon footprint results per scope

The following emissions were calculated for **OptiMel Schmelzgußtechnik GmbH** for the period **Jan 2024 - Dec 2024**

Emission sources	t CO ₂	%
Scope 1	4.16	3.7
Direct emissions from company vehicles	4.16	3.7
Vehicle fleet	4.16	3.7
Direct emissions from company facilities	0.00	0.0
Heat (self-generated)	0.00	0.0
Scope 2	15.52	13.8
Purchased heating, steam, and cooling for own use	12.64	11.2
Heat (purchased)	12.64	11.2
Purchased electricity for own use ²	2.88	2.6
Electricity (vehicle fleet)	2.88	2.6
Electricity (stationary)	0.00	0.0
Scope 3	92.84	82.5
Employee commuting	61.41	54.6
Employee Commuting	58.27	51.8
Home office	3.14	2.8
Fuel- and energy-related activities	14.87	13.2
Upstream emissions vehicle fleet	6.80	6.0
Upstream emissions heat	6.34	5.6
Upstream emissions electricity	1.73	1.5
Business travel	13.69	12.2
Flights	12.66	11.3
Hotel nights	0.76	0.7
Rental and private vehicles	0.27	0.2
Purchased goods and services	1.90	1.7
Food and drink	1.02	0.9
Electronic devices	0.48	0.4
Office paper	0.36	0.3
Water	0.04	0.0
Waste generated in operations	0.99	0.9
Operational waste	0.98	0.9
Transport to disposal facility	0.01	0.0
Overall result	112.53	100.0

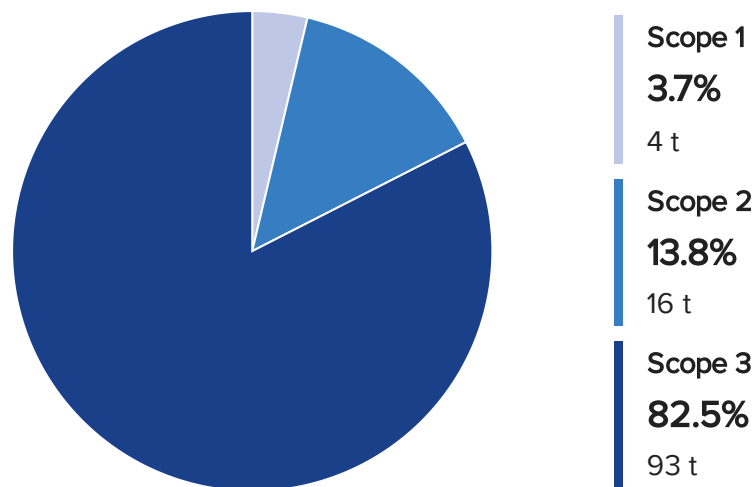
2) Calculated using the market-based method. Emissions calculated using the location-based method are 17.08 t CO₂.

Largest emission sources - greatest potential for reduction

The CCF makes it possible to identify the largest emissions sources, also called hotspots. These are the most impactful areas to target when planning reductions.

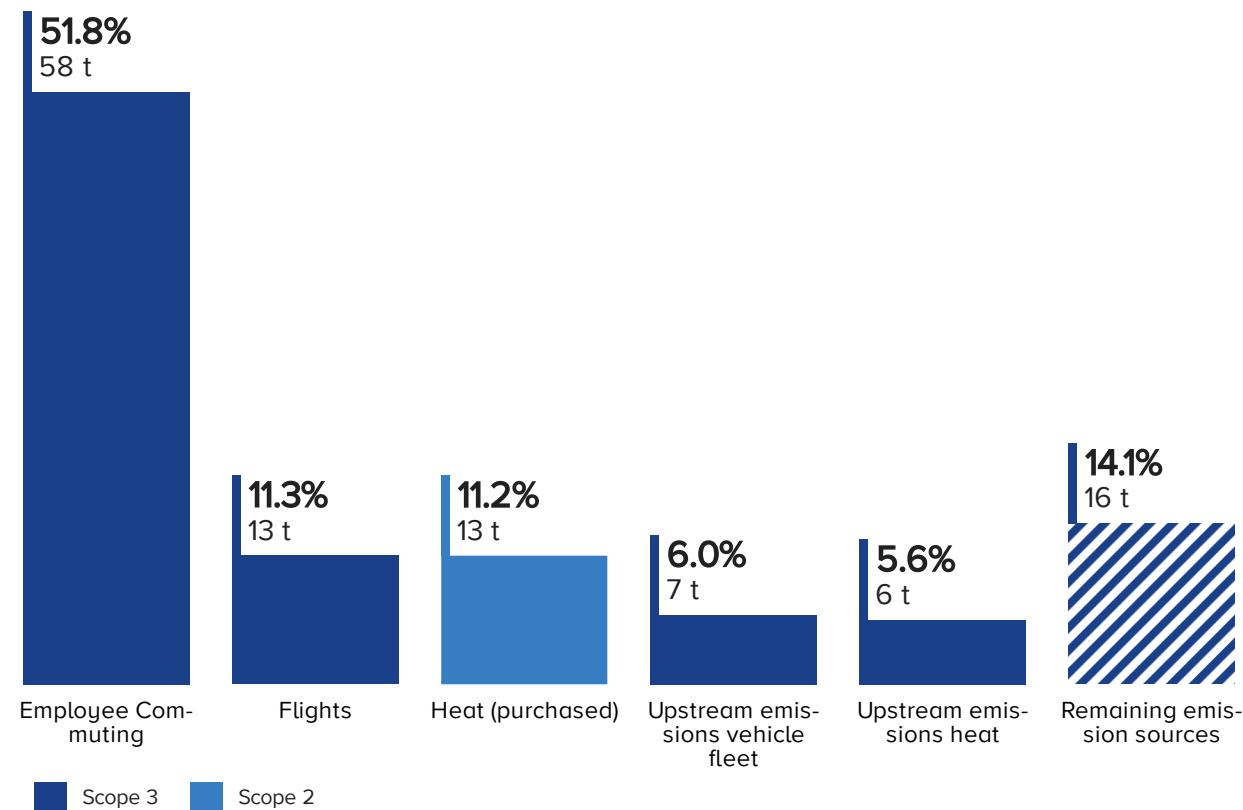
Figure

CO₂ emissions categorised by scope 1, 2, and 3



Figure

The largest CO₂ emission sources



Next steps

Comprehensive climate action consists of five steps: measure carbon footprint, set reduction targets, implement reductions, finance climate projects and communicate transparently. By calculating the carbon footprint, it is possible to identify the potential for mitigating and reducing emissions and on this basis finance climate projects. Therefore, the company should now use the findings of the calculation for effective climate action. For this purpose, reduction targets should be defined and reduction measures implemented, climate projects should be financed and the climate action commitment should be communicated transparently.

Set reduction targets

The concentration of greenhouse gases in the atmosphere is responsible for global warming so we must reduce our emissions as quickly and broadly as possible. Defining clear and measurable reduction targets are the best way to start. A reduction plan detailing specific actions and team responsibilities will help the organisation to make quick and meaningful progress.

A creative and courageous approach is needed. Reduction targets should be ambitious and reflective of current scientific and technological understanding. ClimatePartner recommends differentiating between short-, medium-, and long-term reduction targets because some measures can be implemented quickly whilst others take time, for example, making changes to processes, product design and supply chains. Creating reduction plans is a continuous, iterative process that should be an integral part of the corporate strategy.

Mitigate and reduce emissions for companies

In general, any reduction measures should be relevant to the needs of the company; there are no standard solutions. The corporate carbon footprint enables you to identify reduction potentials and use this knowledge to define individual reduction measures.

In general, there are two ways to reduce emissions:

Reduce activities that emit greenhouse gases, for example, by reducing energy consumption, the use of raw materials, or the number of business trips taken by employees.

Reduce the intensity of emissions by selecting services, raw materials, and energy products with lower emission factors, for example, by switching to a green electricity tariff.

The following section lists some of the options for taking climate action.³

Scope 1 + 2

- **Use renewable energy sources** by switching to biogas, green electricity, etc.
- **Use more low-emission refrigerants** by switching to ammonia, propane, etc.
- **Increase energy efficiency** through newer machinery, etc
- **Optimise processes and products** through new procedures, improved product design, etc.

Scope 3

- **Conserve resources** through avoidance, such as making fewer business trips, using less packaging, producing less waste, etc.
- **Use more low-emission raw materials** such as plant-based, regional and recycled raw materials
- **Choose low-emission options in daily activities**, such as taking the train instead of flying or choosing a company bicycle instead of a company car, etc.
- **Engage with your suppliers** and encourage them to take more climate action by sharing best practices, knowledge, etc.
- **Engage your employees** by offering incentives to implement climate-friendly measures, providing ongoing training opportunities, etc.

3) This overview does not guarantee completeness. Each measure must be assessed for appropriateness to the specific company.

Finance climate projects

We must act now to tackle emissions globally and limit global warming to 1.5 °C. Some of the measures to reduce CO₂ require fundamental changes. They will take time to implement. It is therefore urgent and necessary to finance climate projects in addition to reducing emissions. In this way, companies can take responsibility for their current emissions, while continuing to reduce them.

More than just climate action

Climate projects work in different ways. Some remove CO₂ from the atmosphere, for example, through reforestation projects, while others prevent further CO₂ emissions, for example, through the expansion of renewable energy.

In addition, our high-quality climate projects promote the economic, social, and sustainable development of the region. Each of our projects is certified according to international standards, thus ensuring that they improve the lives of local communities as well as mitigate climate change.

Verified emissions savings

The exact amount of CO₂ saved by each project is verified by independent organisations. Project developers can then sell these CO₂ savings in the form of certified emission reductions.

The resulting income then finances the project, which would not be able to operate without it. Further information is available at: <https://www.climatepartner.com/en/carbon-offset-projects>.

Financial contribution

	t CO ₂
Overall result	112.53
Confirmed contribution to climate projects	0.36
Remaining contribution to climate projects	112.17
Equivalent financial contribution to climate projects incl. 10% safety margin	123.39

The 10% safety margin is applied to cover the uncertainties in the underlying data that naturally arise from the use of database values and assumptions.

Communicate transparently

In climate action it is important to share successes and make visible what the company has achieved in each of the five steps in climate action – calculating, setting targets, implementing measures, financing climate projects, communicating transparently. This gives consumers, business partners and other interested parties an overview of where the company stands in climate action.

Imprint

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August 2025

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