ClimatePartner

Report

Corporate Carbon Footprint

Jan 2023 - Dec 2023

August 2024

EXASOL AG

Corporate Carbon Footprint

EXASOL AG has worked with ClimatePartner to calculate a corporate carbon footprint (CCF). The CCF reflects the total CO_2 emissions released 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, for example, one or more locations of the company. This CCF is for the calculation **Corporate Carbon Footprint 2023**. The calculation was based on the guidelines of the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (GHG Protocol).

CCF - 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 for any climate action starts with calculation: A company that knows their carbon footprint also knows which parts of their business 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. Annual CCF reports allow companies to check their progress against reduction targets and to identify areas where emissions can be further reduced.

Results

The following emissions were calculated for **Corporate Carbon Footprint 2023** for the period **Jan 2023 - Dec 2023**:

CO_2 emissions

	Result
Overall results	680.72 t CO_2

By comparison

The Emissions correspond to the carbon footprint of 78 Europeans.

One person in Europe emits an average of 8.7 t of CO_2 per year [1]

1) Source: EEA 2019, European Environment Agency: EEA greenhouse gas - data viewer, EU-27 value for total emissions with international transport (CO_2e), https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer (retrieved 01/31/2022.)

Our calculation approach

Principles

In preparing the corporate carbon footprint and this report, five basic principles were observed in accordance with the GHG Protocol:

Relevance: The calculation should account for all greenhouse gas (GHG) emissions that appropriately reflect the company's carbon footprint. This report is designed to support internal and external decision-making.

Completeness: The report must include all GHG emissions within the selected system boundaries. Any significant exclusions of data must be clearly documented, disclosed, and justified.

Consistency: Consistent methodologies are used so that the company's emissions can be compared over time.

Transparency: All important aspects of a company are recorded objectively, and any assumptions, data gaps and resulting extrapolations or data exclusions are presented clearly and openly in this report.

Accuracy: The calculations of GHG emissions are designed to ensure that they are neither over- nor undervalued. The report aims to be as accurate as possible and to minimise uncertainties, so that the company can make appropriate decisions.

Data collection and calculation

CO_2 emissions were calculated using the company's 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.

CO_2 equivalents

The corporate carbon footprint calculates all emissions as CO_2 equivalents (CO_2e), which this report also refers to as "CO_2".

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 (CO_2), methane (CH_4), nitrous oxide (N_2O), 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 CO_2 equivalents (CO_2e) 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 CO_2 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 CO_2 over 100 years. [2]

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.

2) 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)

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:

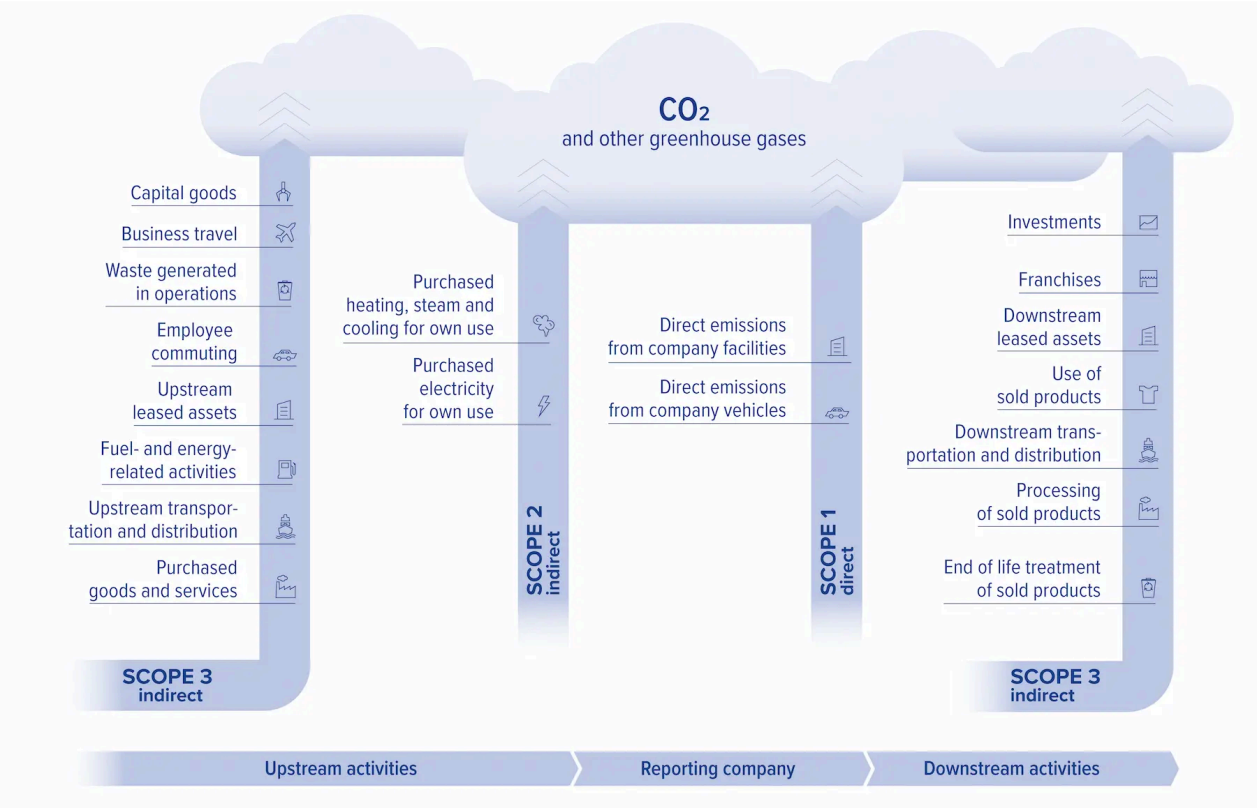
Scope 1 includes all emissions generated directly, for example by company-owned equipment or vehicle fleets.

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.

Figure

Activities divided by scope

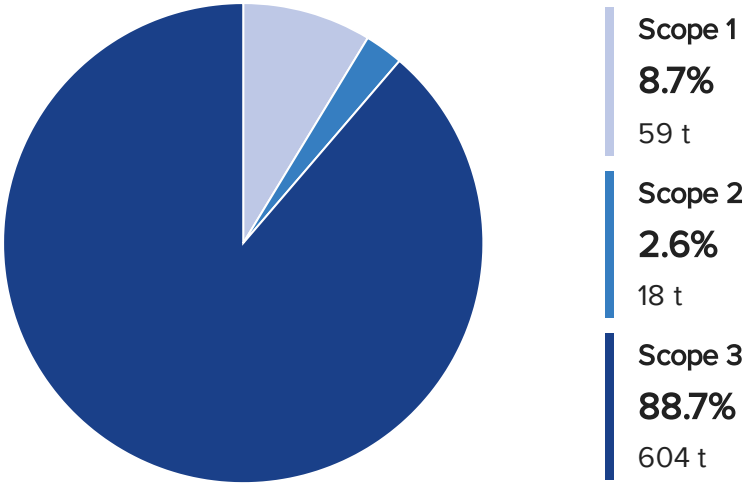


Largest emission sources - greatest potential for reduction

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.

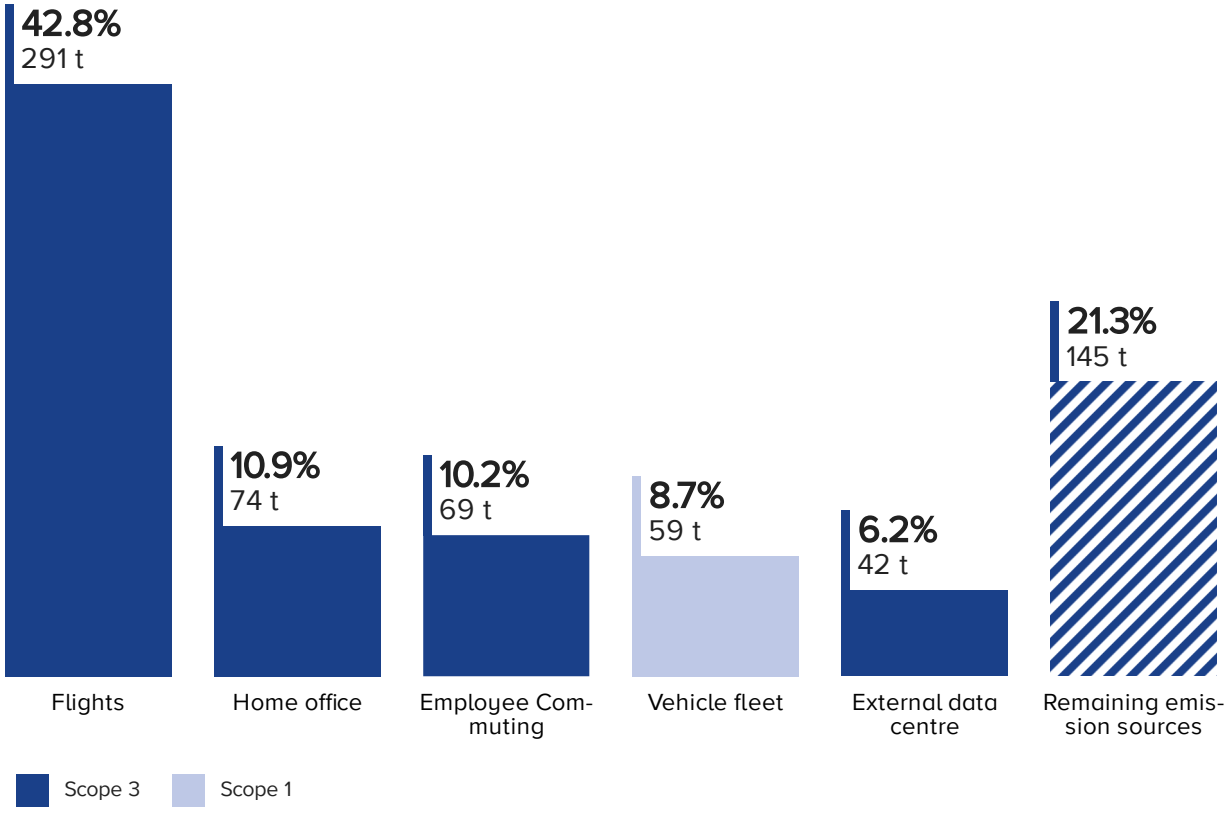
Figure

CO_2 emissions categorised by scope 1, 2, and 3



Figure

The largest CO_2 emission sources



CCF Results Table: Corporate Carbon Footprint 2023

Overall results for the period **01/2023 - 12/2023**

Emission sources	t CO_2	%
Scope 1	**59.08**	**8.7**
Direct emissions from company vehicles	59.08	8.7
Vehicle fleet	59.08	8.7
Scope 2	**17.69**	**2.6**
Purchased heating, steam, and cooling for own use	13.14	1.9
Heat (purchased)	13.14	1.9
Purchased electricity for own use [3]	4.56	0.7
Electricity (vehicle fleet)	4.56	0.7
Electricity (stationary)	0.00	0.0
Scope 3	**603.94**	**88.7**
Business travel	353.24	51.9
Flights	291.20	42.8
Hotel nights	30.39	4.5
Rental and private vehicles	26.05	3.8
Rail	5.59	0.8
Employee commuting	143.24	21.0
Home office	73.86	10.9
Employee Commuting	69.38	10.2
Purchased goods and services	83.24	12.2
External data centre	42.28	6.2
Electronic devices	35.66	5.2
Food and drink	5.10	0.7
Office paper	0.10	0.0
Water	0.10	0.0
Fuel- and energy-related activities	20.03	2.9
Upstream emissions vehicle fleet	15.69	2.3
Upstream emissions heat	2.65	0.4
Upstream emissions electricity	1.69	0.2
Waste generated in operations	4.19	0.6
Operational waste	4.00	0.6
Transport to disposal facility	0.19	0.0
Overall results	**680.72**	**100.0**

3) Calculated using the market-based method. Emissions calculated using the location-based method are 14.87 t CO_2.

Next steps

The company should now use the findings of the calculation for effective climate protection. For this purpose, reduction targets must be defined and implemented, climate projects must be financed and the climate protection commitment must 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.

Implement reduction measures

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:

Decrease activities that emit greenhouse gases, for example, by reducing energy consumption, 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 that have lower emission factors, for example, by switching to a green electricity tariff.

The following section lists some the options for taking climate action.[4]

Scope 1 + 2

- **Use renewable energy sources** by switching to biogas, green electricity, etc.
- **Use more climate-friendly refrigerants** by switching to ammonia, propane, etc.
- **Increase energy efficiency** through newer machines, 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 climate-friendly raw materials** such as plant-based, regional and recycled raw materials
- **Choose more climate-friendly options in daily activities,** such as taking the train over flights or choosing a company bicycle over 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 continual training opportunities, etc.

4) 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. The implementation of some CO_2 reduction measures require fundamental changes and take time. Therefore, the financing of climate projects in addition to the reduction of emissions is urgent and necessary. In this way, companies take responsibility for the emissions they are still emitting today, while continuously reducing their emissions.

More than just climate action

Offset projects function in different ways. Some remove CO_2 from the atmosphere, for example, through reforestation projects, whilst others prevent further CO_2 emissions, for example, through the expansion of renewable energies.

In addition, our high-quality carbon offset 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 the climate.

Verified emissions savings

The exact amount of CO_2 saved by each project is determined by independent organisations. The project developers can then sell these CO_2 savings in the form of certified emission reductions. The resulting income then finances the project, which would be unable to function without it. Further information is available at: https://www.climatepartner.com/en/carbon-offset-projects

Communicate transparently

In climate protection, it is important to share successes and make visible what the company has achieved in each of the five steps in climate protection - calculate, set targets, implement measures, finance climate projects, communicate. This gives consumers, business partners or anyone interested an overview of where the company stands in climate protection. For example, this can be done with our ClimatePartner certification label and the Climate-ID website.

	t CO_2
Overall results	**680.72**
Already CO_2 compensated	0.00
Not yet CO_2 compensated	680.72
CO_2 emissions to be offset incl. 10% safety margin	**748.79**

Effective climate action

Our ClimatePartner team are happy to help you take further climate action!

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Imprint

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