CARBON
connect

Carbon Footprinting (Your Corporate Carbon Footprint)

carbon-connect AG: Your expert for effective climate protection, carbon footprinting and carbon offsetting.

Carbon Footprinting / Your Corporate Carbon Footprint

Discover more about the calculation principles of your corporate carbon footprint:

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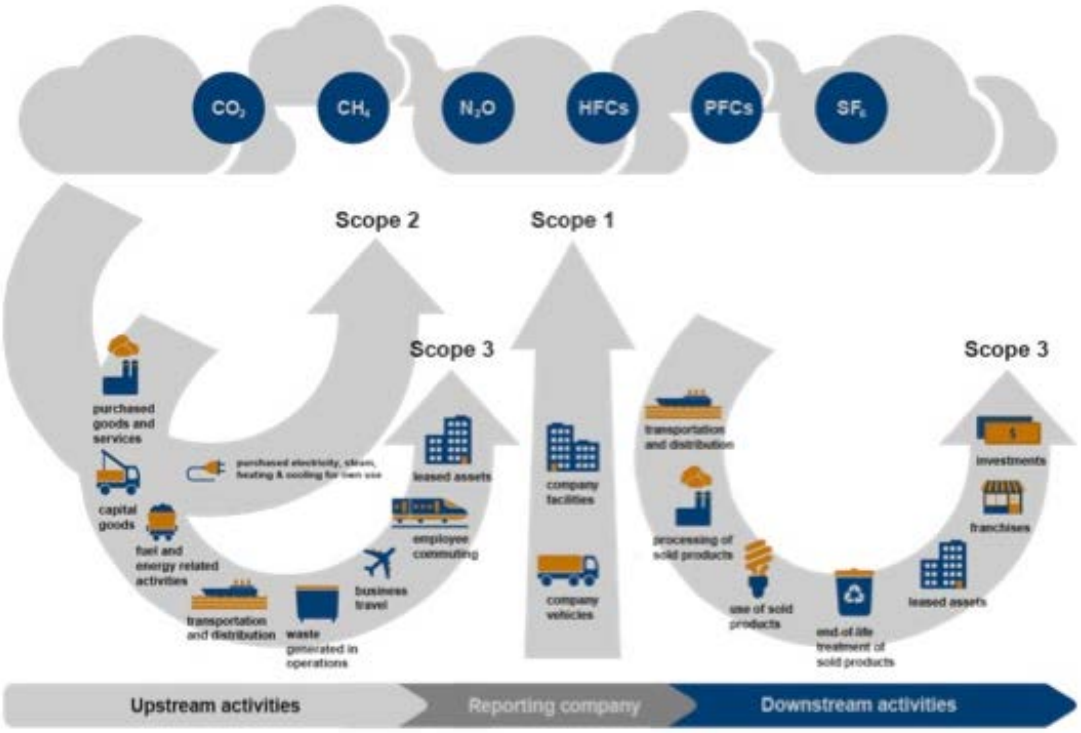
Introduction

carbon-connect AG measures your company's individual CO_2 footprint, also known as the Corporate Carbon Footprint. We create a CO_2 account for your company's carbon footprint according to the Greenhouse Gas Protocol. This is a widely used and internationally recognized standard for the measurement of carbon footprints of companies and organizations. According to the GHG (Greenhouse Gas Protocol), a distinction has to be made between different categories of CO_2 emissions. **These categories** are also referred to as **scopes,** and break down CO_2 emissions into direct, indirect, and other CO_2 emissions.



Index: Abbreviations

CO2e	CO_2-equivalents
DEFRA	Department for Environment, Food and Rural Affairs
GEMIS	Global Emission-Model
GRI	Global Reporting Initiative
IPCC	Intergovernmental Panel on Climate Change

You will find our index on www.carbon-connect.ch.

Accounting structure according to the Greenhouse Gas Protocol (GHG)

Scope 1 (direct emission)

Scope 1 includes all greenhouse gas emissions that occur directly in organizations, e.g. the emission of fossil fuels for heating or the operation of their own fleet (vehicles). In addition, Scope 1 takes into account emissions from coolants as well as leaks from air conditioning systems.

The use of fuels (heating oil, natural gas, coal and wood pellets etc.) for the heating of buildings is accounted as one of the greenhouse gas emissions from stationary combustion. The factors for this emission accounting come from DEFRA.

The accounting for fleet includes all greenhouse gas emissions generated by company-owned vehicles such as cars, trucks and vans. Again, we refer to the emission figures according to DEFRA.

The accounting for air conditioning systems includes greenhouse gas emissions which arise during the initial filling with coolants, the replenishment as well as through leaks or the leakage of coolants.

Electricity fed-in from renewable energy sources is accounted as a saving on one's own emissions or deducted as a decrease in CO2 in the accounting structure. Purchased electricity from renewable energies is weighed according to DEFRA and GHG Protocol with a CO2 value of 0.

Scope 2 (indirect emission)

Scope 2 summarizes all indirect greenhouse gas emissions caused by providing energy to an organization. The accounting of external power supply companies includes the power supply of an organization and the purchase of district heating and district cooling.

Power consumption includes the greenhouse gas emissions caused by the purchased power and is strongly depending on the electricity mix. A country-specific power mix can also be used for the calculation.

Scope 3 (further indirect emissions)

Scope 3 records all other greenhouse gas emissions that an organization causes by its activities. These include the use of products and services, support materials such as paper, organized events and business trips. Also included are transports to Scope 3.

Employee driving includes greenhouse gas emissions from employees driving to work and home with non-company vehicles, or greenhouse gas emissions from public transport.

Business travel includes all greenhouse gas emissions generated by vehicles and other means of transport such as trains, rental cars, public transport, taxi and aircraft. There are also overnight stays during business trips to hotels.

Emissions from paper consumption are calculated using the total used weight.

The disposal of waste also generates greenhouse gas emissions.

This short summary of scopes / categories covers almost all dealers and service providers. For the manufacturing industry, the recording of material consumption and other areas have to be considered.

Used emission factors

The majority of the emission factors used are taken from the DEFRA's database (Department for Environment, Food and Rural Affairs), a UK agency. Since 2013, UK listed companies are required to publish their greenhouse gas emissions.

Individual conversions of consumption data (for example, power consumption or fuel consumption) are calculated using emission factors. We are guided by the IPCC here, and the greenhouse gases recorded in the Kyoto Protocol: CO_2, CH_4, N_2O, HFCs, PFCs and SF_6. The following table illustrates the corresponding greenhouse gas potentials in CO_2e.

Incorporated greenhouse gases with greenhouse gas potentials acc. IPCC

Green House Gases according to the IPCC

Green House Gases	Green House Gases potential (CO2e)
Carbon monoxide (CO_2)	1
Methane (CH_4)	25
Nitrous Oxide N_2O	298
Hydrofluorocarbon (HFCs)	Up to 14800
Fluorinated Gases (PFCs)	Up to 9200
sulfur hexafluoride	Up to 22800

What does 1 ton of CO_2 mean?

The volume of one ton of CO_2 is about 500 cubic meters, or the size of more than 6,000 medium garbage bags.

With an average fuel consumption of 8.5 liters, you just cover under 5,000 km by car and emit 1 ton of CO2. If you ride double the distance by a coach, you can travel twice as far with the same amount of fuel. By train, a traveler travels 450,000 km to leave a carbon footprint of 1 ton.

4 flights from Zurich to London and back cause 1 ton of CO2 per person.

A beech that has been growing for over 80 years and has a total height of over 23 meters and a trunk diameter of 30 centimeters, clears about 1 ton of CO2 over this time.

The 2000-watt society has two goals: The reduction of the average power to 2000 watts per capita and also to reduce the it to 1 ton of CO2 per capita a year.

Carbon-connect AG thinks long term and acts sustainable. We are aware of our responsibility towards the environment and society. Our goal is a prosperous economy that is ecological as well as competitive and innovative.

In the procurement of goods and services we take environmental and social responsibility. For further tips and advice please visit www.carbon-connect.ch