



The myclimate Footprint Calculator

The footprint calculator quantifies the relevant greenhouse gas emissions of a typical inhabitant of Germany, Austria or Switzerland and generates their carbon footprint. The calculated greenhouse gas emissions are based on current emission factors, scientific publications and international and national statistics.

The goal is to provide users with a simple application that enables them to specify their greenhouse gas emissions by inputting a small amount of data. The calculated result can be used to raise their own awareness or to offset emissions. The resulting emissions correspond to the amount of CO₂ equivalents that can be reduced in myclimate carbon offset projects.

The calculator includes all relevant activities in the areas of mobility, food, culture, consumption and housing, as well as an automatically accruing share of public emissions.

The set of questions has been kept as simple as possible and so can only give an approximation of an individual's effective footprint. For a more comprehensive footprint with respect to housing please use the myclimate household calculator, for your mobility use the myclimate flight calculator and the car calculator, and for any cruises use the cruise calculator. You will find these here: https://co2.myclimate.org/en/offset_further_emissions

To offer a more complete perspective, in the current version myclimate includes a share of emissions for public services, alongside areas such as mobility and housing that individuals can influence personally. Such emissions cover infrastructure regularly used by all inhabitants of a country, be it administrative facilities, hospitals, swimming pools or roads.

An overview of the methodology applied can be found in this document.

Foundation myclimate

Pfingstweidstrasse 10
8005 Zurich, Switzerland
info@myclimate.org
www.myclimate.org

Methodology

General information

The carbon footprint covers relevant consumption associated with a person's lifestyle in their everyday life, leisure time and at home. All emissions are considered across their entire lifecycle and reported per year. The data forming the basis for personal CO₂ footprint calculations comes from the ecoinvent 3.6 database and additional specific sources and statistics in the areas of mobility, food, consumption, leisure and culture, as well as housing. The IPCC (Intergovernmental Panel on Climate Change) 2013 method is used as the assessment method. This method uses greenhouse gas potential over a 100-year time horizon (GWP 100a).

The climate impact is generally indicated with the unit "kg CO₂e", i.e. "kilograms of CO₂ equivalents", which adds up the effects of all relevant greenhouse gases. The most common greenhouse gas is carbon dioxide (CO₂), which is produced when fossil fuels are burned, for instance. Besides CO₂, other greenhouse gases such as methane (CH₄) and nitrous oxide (N₂O) are emitted in numerous processes.

System boundary

myclimate aims to map the resulting greenhouse gas emissions as completely as possible. Within the scope of the system boundary are both areas of life that can be influenced directly as well as public emissions. With the areas of transport, flights, food, consumption, leisure and culture, as well as housing, all relevant sources of emissions are covered. The footprint is reported per person and year, and the user is also able to offset the calculated emissions in a high-quality myclimate carbon offset project.

Calculation methodology

A user's greenhouse gas emissions are ascertained using specific statements (multiple choice) that describe individual lifestyles in the broadest sense. Such statements are linked to consumption figures that are based on statistics, values taken from literature and user behaviours.

The individual areas are explained briefly in the following section.

Means of transport: This area includes four statements that cover the bandwidth from relatively environmentally friendly behaviour to CO₂-intensive behaviour. Shares of individual mobility, the use of public transport and travel by bike/on foot are ascribed to the statements accordingly. The data behind this comes from the Swiss microcensus.

Flying: Journeys by plane in a private capacity are of relevance here. Answers range from "I never fly in a private capacity" to "I fly to long haul two to three times a year". The values forming the basis for this come from the updated myclimate flight calculator.

Food: The subject of the food section are different eating habits, ranging from "vegan" to "I eat meat in almost every meal".

Consumption, leisure, culture: This is probably the most underestimated area of life. Questions revolve around the purchasing of clothes, devices and furniture, expressed with an average outlay in euros per month, linked with the CO₂ emissions for a typical shopping basket. In addition, recreational behaviour and activities in connection with personal healthcare are associated with relatively high greenhouse gas emissions.

Housing: CO₂ emissions in the housing and energy field are essentially based on three criteria: the amount of living space per person, the construction standard of the flat or house (older structure versus renovated, energy-efficient house) as well as the heating system in use (based on fossil or renewable energy sources).

Public emissions/services: These emissions for state infrastructure are a new component of the calculation and accrue automatically for every inhabitant. The flat-rate value per person is based on statistics and values taken from literature. It is reported in t CO₂ per person and year.

All activity and consumption data is linked to background data, which means greenhouse gas emissions are calculated using current emission factors. The database used is the ecoinvent 3.6 platform, the world's largest internationally recognised database for eco-inventories, as well as scientific publications, internal empirically established values and publicly available statistics. The geographical focus of the factors is Europe, with an emphasis on Germany, Austria and Switzerland. As the footprint calculator is designed to be user friendly and has been kept simple, the results only offer an approximate representation of reality, and individual results could deviate substantially. For this reason, a safety margin of 10 per cent has been added to the results.

Data sources

- Swiss Federal Statistical Office, 2018, Mehr als 60 % des Treibhausgas-Fussabdrucks entstehen im Ausland (More than 60% of carbon footprints arise abroad).
- Swiss Federal Office for the Environment, 2011, Environmental Impacts of Swiss Consumption and Production.
- Swiss Federal Office for the Environment, 2020, Kenngrößen zur Entwicklung der Treibhausgasemissionen in der Schweiz (Key figures relating to the development of greenhouse gas emissions in Switzerland).
- German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), 2018, Klimaschutz in Zahlen (Climate Protection in Figures).
- ecoinvent database, 2020. <https://www.ecoinvent.org/home.html>.
- International Energy Agency, 2020. <https://www.iea.org/>.
- IPCC, 2013. Climate Change 2013: The Physical Science Basis.
- Klimareporting.de, 2014, Vom Emissionsbericht zur Klimastrategie – Grundlagen für ein einheitliches Emissions- und Klimastrategieberichtswesen (From emissions reports to climate strategies: principles for uniform emissions and climate strategy reporting).
- Meier T., 2013. Examining the environmental impacts of diet and nutrition using national nutrition surveys and selected environmental indicators, dissertation
- Microcensus 2018: Mobility and Transport Microcensus (MTMC), Switzerland 2015.
- myclimate flight calculator https://co2.myclimate.org/en/flight_calculators/new
- German Federal Environment Agency, 2007, Die CO₂ Bilanz des Bürgers (The Carbon Footprint of Citizens).