

Big foot on a small planet

Background information for instructors

The ecological footprint

The ecological footprint was developed in the 1990s as a measure of human consumption of natural resources. It counts all the resources required for everyday life and shows how much land is needed to provide all the energy and raw materials and to bind the emissions.

What the ecological footprint measures: human consumption of natural resources vs the earth's biocapacity

Every consumption of goods or services requires raw materials and energy that come from nature. Therefore, the land and water areas of the earth that we need for our energy production, our food, our clothing, etc. form the basis of human life.

→ Taken together, all the biologically productive areas that we use form our ecological footprint.

According to the concept of the ecological footprint, the most important areas of consumption include housing, food, transportation and the use of consumer goods. To meet the demand for energy and raw materials in these areas, we need six different types of productive land: Crop and pasture land, settlement areas, forest, water (fishing grounds) and energy land. Energy land refers to the land needed to bind CO₂.

→ Biocapacity refers to how much all biologically productive areas that exist on the planet can produce together.

As the productive areas of nature are not infinite, the Earth's biocapacity is limited. For example, there are natural limits to how quickly fish stocks can recover or how much carbon dioxide (CO₂) can be absorbed by forests.

→ The Earth's maximum biocapacity forms a natural limit for human consumption.

→ The ecological footprint indicates how much we are using the Earth's biocapacity.

Biocapacity and the size of the ecological footprint are expressed in global hectares (gha). The global hectare takes into account the fact that the various productive areas of the earth can produce different amounts of energy and raw materials per hectare. The global hectare is the average value. It describes the average biological productivity per hectare worldwide. This makes it possible to compare the consumption of natural resources worldwide.

The consumption of a country is then calculated by adding up all the natural areas used. The ecological footprint of the entire human population, a country, a city, a company or individual people can be calculated in the same way.

What does the ecological footprint show us?



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If humans were the only living beings that needed natural resources, each person would have an average of 1.5 gha of biocapacity at their disposal. However, since plants and animals also need resources, it is even less than that.

On a global average, however, each person consumes 2.6 gha. This corresponds to a demand for 1.7 Earths.

→ The global ecological footprint is significantly higher than the Earth's biocapacity.

At the same time, there is a big difference between countries in the Global North and countries in the Global South. If everyone lived like Europeans, it would take three Earths to sustainably enable this level of resource consumption.

→ There are major inequalities in the ecological footprint between countries.

CO2 footprint

A large part of the ecological footprint is made up of the areas required to bind the CO₂ released by activities, such as forests and peatlands.

The carbon footprint, derived from the ecological footprint, is therefore often calculated to describe the human impact on the climate crisis. This is because the amount of CO₂ that can be stored is limited and the rest is released into the atmosphere as emissions. CO₂ and other greenhouse gas emissions have an impact on the climate. The proportion of these greenhouse gases in the atmosphere has been greatly increased by the capitalist economy over the past 200 years, in particular through the burning of oil, coal or gas and through animal husbandry and agriculture.

→ The amount of greenhouse gases caused is called the CO₂ footprint. → Just like the ecological footprint, the carbon footprint can also be calculated for a product, the consumption of a person, a country, a region or the whole world.





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About the Video:

Deutsche Welle (2021): Planet A: Why Big Oil loves to talk about your carbon footprint, Minute 0:00-03:14. <https://www.youtube.com/watch?v=vqZVCEnY-Us> (07.01.24)

In 2004, British Petroleum (BP), the second largest private oil company in the world, published the first carbon footprint calculator. It was designed to enable consumers to work out how their personal lives were to blame for climate change. It was an advertising campaign that tried to draw attention away from the massive carbon footprint of oil companies and instead focus on individuals.

Sources:

- Beyers, B.; Kus, B.; Amend, T.; Fleischhauer, A. (2010): Großer Fuß auf kleiner Erde? Bilanzieren mit dem Ecological Footprint – Anregungen für eine Welt begrenzter Ressourcen. Zweite, leicht veränderte Auflage, in: Nachhaltigkeit hat viele Gesichter, Nr. 10. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Eschborn 2010
- Deutsche Welle (2021): Planet A: Why Big Oil loves to talk about your carbon footprint. <https://www.youtube.com/watch?v=vqZVCEnY-Us> (07.01.24)
- Global Footprint Network: <https://www.overshootday.org/how-many-earths-or-countries-do-we-need/> (07.01.24)
- Global Footprint Network (2010): Ecological Footprint Atlas 2010
- Augustin, K. (2022): Wir haben uns verrechnet. Ökologischer Fußabdruck und Klimakrise. <https://taz.de/Oekologischer-Fussabdruck-und-Klimakrise!/5892875/>
- Schneider, G. / Toyka-Seid, C. (2024): Ökologischer Fußabdruck. <https://www.bpb.de/kurz-knapp/lexika/das-junge-politik-lexikon/321523/oekologischer-fussabdruck/> (07.01.24)
- Wahn & Sinn (2021): Das Märchen vom CO2 Fußabdruck. https://www.youtube.com/watch?v=rqqUWQm_G3I (07.01.24)

