The standard LCA (Micro scale)

Goal and scope
Product oriented

LCA of a product of typology X, assuming a use for Y years, produced in country Z, etc.

Life Cycle Inventory
For each stage of the life cycle of a product (e.g. resource extraction, manufacturing, use, etc.) data on resources used (e.g. metals, crude oil) and emissions released into the environment (e.g. CO₂, benzene, organic chemicals) are collected in an inventory.

The Consumer Footprint (Micro scale, BOTTOM UP)

LCA of a selection of products representative of the consumption of an average EU citizen

- Focusing on resources used and emissions released during the production and consumption of a number of products belonging to selected consumption areas (food, mobility, housing, household goods and appliances).
- Combining life cycle data (environmental profiles of products) with consumption statistics.

The Consumption Footprint (Macro scale, TOP DOWN)

Economy wide assessment of apparent consumption in the EU

- Focusing on resources used and emissions due to production and consumption activities in all sectors in one year, considering.
- EU domestic emissions, based on environmental statistics.
- Emissions embodied in trade, based on life cycle inventories of representative imported/exported products (based on trade statistics) or, alternatively, obtained with an Environmentally Extended Input-Output Approach

How are the Consumer Footprint and the Consumption Footprint calculated?

Environmental impacts of EU consumption

The Consumer Footprint and the Consumption Footprint indicators, developed by the European Commission, monitor EU progress towards decoupling economic growth from the use of resources and their environmental impacts, by assessing the environmental impacts of EU consumption. The 2 sets of indicators are essential to understand drivers and impacts in relation to the Sustainable Development Goal (SDG) 12 on responsible consumption and production and SDG 8 on sustainable economic growth.

Key features of the indicators

**Bottom-up and Top-down approaches**

The Consumer Footprint refers to the impacts of goods purchased by citizens (micro scale), whereas the Consumption Footprint assesses the impacts of consumption at the macro-scale (overall impact across the EU) and at the meso-scale (impact associated with each country and sector).

**Consumer Footprint**

Assessment of lifestyles and eco-innovations in the most relevant areas of consumption (food, mobility, housing and household goods, including electronic appliances).

**Consumption-oriented accounting**

This approach goes beyond a production-oriented accounting and allocates environmental impacts to the final users of products and services.

**Beyond carbon footprint**

The indicators are based on Life Cycle Assessment methodology and assess potential impacts considering 16 environmental impact categories, linked to relevant SDGs.

**Link to the Planetary Boundaries (PBs)**

The results can be compared with the PBs (“Living well, within the limits of our planet”, 7th Environmental Action Programme).
The EU Consumer Footprint calculates the environmental impacts of an average EU consumer. It covers 5 key consumption areas: Food, Housing, Mobility, Household goods, and Appliances. Each area is modeled on a Basket of representative Products. The 5 baskets include more than 100 life cycle inventory models of products that are used and consumed by the European citizens.

What can the Consumer Footprint tell us?
Which are the areas of consumption responsible for the highest environmental impacts? Which categories of impacts are affected? And which is their link with the Sustainable Development Goals?

Environmental impacts due to the consumption of an average EU citizen compared to the Planetary boundaries.

Why Life Cycle Assessment (LCA)?
The environmental impacts of consumption are assessed by means of modeling production and consumption in the EU, through the application of Life Cycle Assessment.

Production
Products’ characteristics, production chains, structure of the economy

Infrastructures
Presence and typology of infrastructures (including those for waste management and waste water management)

Consumption
Product selection and use of the products by EU citizens

Environmental impacts
Contribution of different areas of consumption to the overall EU impacts

Abbreviations for the environmental impact indicators: CC = Climate change; ODP = Ozone depletion; HTOD = Human toxicity, non-cancer; HTOD, c = Human toxicity, cancer; PM = Particulate matter; IR = Ionising radiation; PEC = Photocatalytic ozone formation; AC = Acidification; terrestrial; TSU = Eutrophication, terrestrial; FEU = Eutrophication, freshwater; MEU = Eutrophication, marine; ECOX = Freshwater eutrophication; LU = Land use; WU = Water use; FRD = Resource use, fossil; MRE = Resource use, mineral and metals.