Sustainable Consumption and Production Hotspots Analysis Tool (SCP-HAT)
A brief guide for users

http ://scp-hat.lifecycleinitiative.org/

SCP-HAT in a nutshell

SCP-HAT is a tool to identify hotspot areas of unsustainable consumption and production. The tool analyzes a range of environmental pressures and impacts caused by domestic production. It also shows the environmental consequences of a country's consumption occurring abroad. Results from SCP-HAT can be used to set national SCP priorities.

The tool has national level indicators for over 164 countries and regions; version 3.0 of the tool (online since March 2024) covers 120 economic sectors. The period covered is 1990 to 2024, with values 2019 to 2024 extrapolated based upon economic proxies.

SCP-HAT is an analytical tool; it is not predictive. It does not assess the effectiveness of sectoral policies, nor does it generate impact assessments of future policy action. Its power lies in identifying sectors where critical action is needed to achieve sustainable development.

Sustainable consumption and production (SCP)

SCP is defined as "the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations". (Oslo Symposium 1994)

SCP policies support economic and social growth while reducing environmental harm. They promote increased resource efficiency and decouple economic growth from environmental degradation.

The main features of the SCP-HAT tool are briefly presented below.

Domestic production vs. consumption footprint

SCP-HAT presents two different SCP perspectives to analyze environmental indicators.

Domestic production ("territorial approach")

Here, environmental pressures and impacts are illustrated for the country where they physically occur. For example, SCP-HAT shows the share of greenhouse gas emissions or raw material extraction in the domestic economy.

Consumption footprint ("footprint approach")

Under the footprint approach, environmental pressures and impacts are shown for the country where the final consumption of products and services occurs. The consumption footprint looks across the whole supply chain of products, including those activities occurring outside of the country. For example, the tool shows land use beyond national borders, that is used to produce food products consumed in-country.

SCP-HAT Indicators

SCP-HAT has a wide range of indicators, covering environmental pressures, environmental impacts and key socio-economic indicators like population, gross domestic production (GDP) and human development index (HDI). Below the definitions used for each indicator.

Environmental pressures

- Raw material use: Use of renewable materials e.g. agriculture, forestry and non-renewable materials, e.g. fossil fuels, metals, and minerals
- Land use: Six land use groups: annual crops, permanent crops, pasture, extensive forestry, intensive forestry, urban areas
- Blue Water consumption: Total annual blue water consumption, e.g. water stemming from groundwater bodies or surface water sources such as rivers or lakes
- Primary energy: Use of primary energy from different energy carriers, e.g. coal and peat or nuclear

Environmental impacts

- **Mineral depletion:** compares the annual extraction rate of a raw material with the geological reserves of mineral resources
- **Fossil fuels depletion:** compares the annual extraction rate of fossil fuels with geological reserves of fossil fuels
- **Climate change (short-term):** Rate of temperature change, expressed in Global *Warming* Potential for a 100 year horizon (GWP100)
- **Climate change (long-term):** Long-term temperature rise, expressed in Global *Temperature Change* Potential for a 100 year horizon (GTP100)
- **Potential species loss from land use:** Impact of land-using production processes on biodiversity
- **Air pollution (human health):** Damage to human health from breathing in particulate matter, expressed in Disability-Adjusted Life Years (DALY)
- **Water scarcity:** Available water (per area) in a watershed after the demand of humans and aquatic ecosystems has been met. The less water, the higher the risk for water stress
- **Marine eutrophication:** Impacts of nitrogen run-off from air pollution and leach or run off from agricultural systems into rivers

120 Economic Sectors

SCP-HAT provides sector specific information for **120 economic sectors**. In the following, the 28 aggregated sector groups are listed:

- **Primary sector (resource extraction):** Agriculture; Coal, oil and gas mining; Construction material quarrying; Fishing; Forestry and logging; Ore mining;

- **Secondary sector (manufacturing):** Basic metals; Ceramics; Chemical products; Construction; Electricity, gas and water; Energy; Fabricated metals; Nutrition; Other manufacturing; Textiles; Transport equipment; Wood and Paper;

- **Tertiary sector (services):** Education, health and other social work activities; Financial intermediation and business activities; Hotels and restaurants; Other services; Post and telecommunications; Public administration; Repair and installation; Transport; Waste and recycling; Wholesale and retail trade;

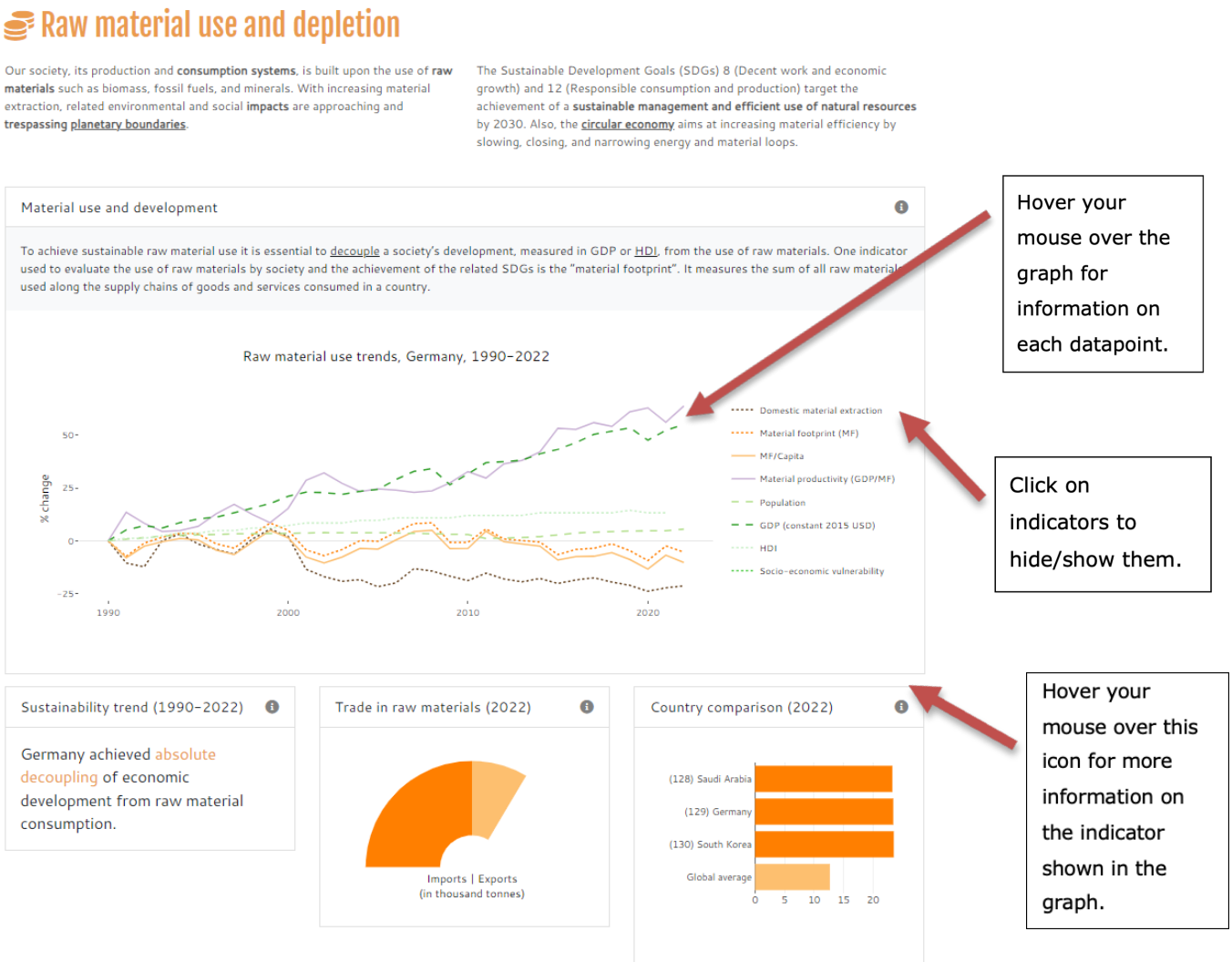
SCP-HAT Structure

SCP-HAT has two modules: each one serving different user needs:

- Module 1: Country profile
- Module 2: Hotspot identification

Module 1: Country Profile

This module gives a broad overview of how well a country is managing the environmental impacts caused by its consumption and production processes. Charts and graphs show a country's evolution across six key areas: material use and depletion, greenhouse gas emissions and climate change, air pollution and related health impacts, land use and biodiversity loss, water use and scarcity, and energy use. Users can hover over images for additional information.



Module 2: Hotspot Identification

This module provides users with a higher level of detail. Module 2 should be used to analyze where unsustainable consumption and production are occurring. Users can select to see information at the country level or by key sectors. Users can also select different indicators and timeframes. By comparing the graphs and charts, users can see which areas (in a country's economy) needs urgent political action.

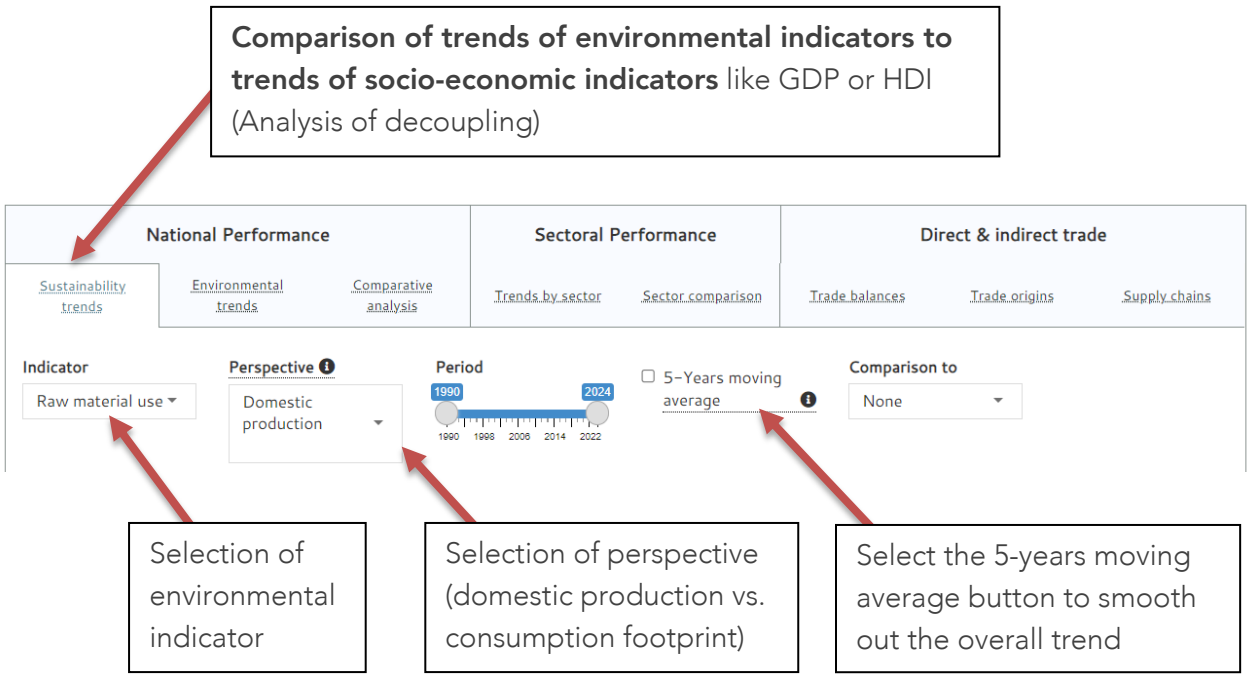
Section "National Performance"

This part of Module 2 offers three options: (a) analysis of sustainability trends, (b) analysis of environmental trends or (c) to perform comparative analysis between different environmental indicators.

Example: Sustainability Trends

Here users can analyze whether a country has achieved decoupling of economic growth from environmental degradation.

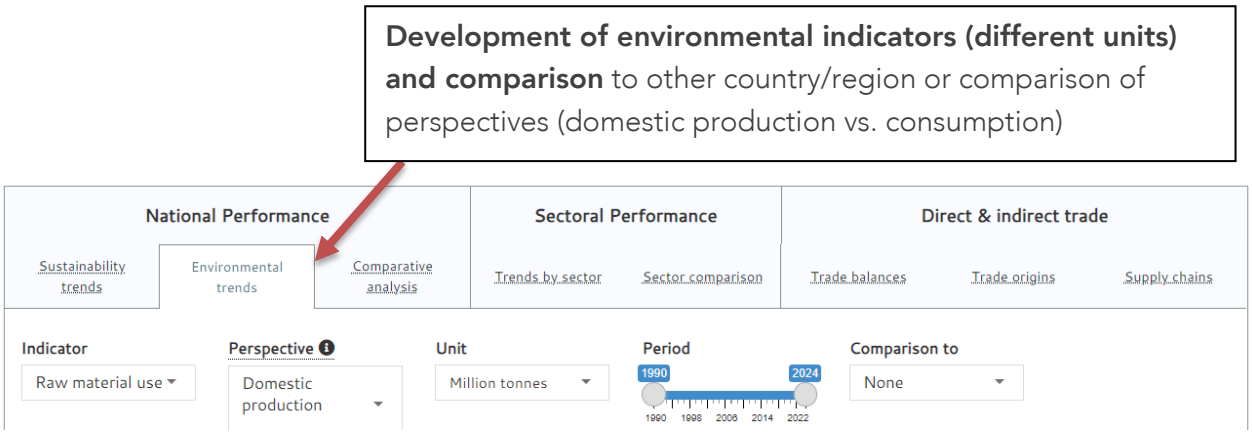
1. Click on the "Sustainability trends" tab
2. Select an indicator for environmental trends
3. Select either a domestic production or a consumption footprint perspective
4. Select the time frame that is of interest.

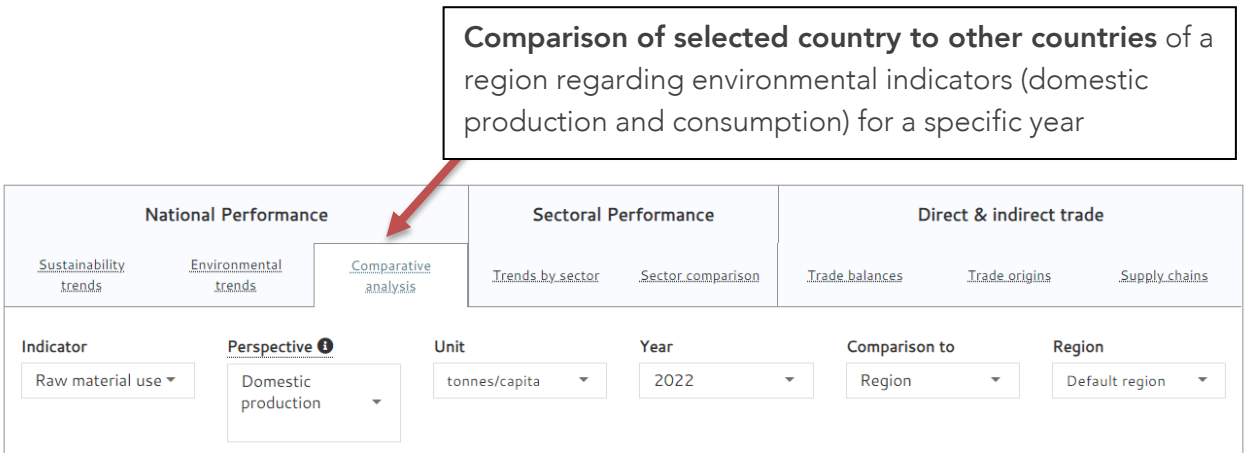


The result is a graph that details a line for each indicator selected. The Human Development Index trend, and GDP trends are automatically included, allowing one to compare these trends with any indicator selected.

The "**Environmental trends**" tab allows users to analyze the detailed development of different environmental indicators and comparing them to other countries and regions or comparing the two different perspectives (domestic production vs. consumption footprint).

The tab on "**Comparative analysis**" compares environmental indicators in a single year to other countries and regions.





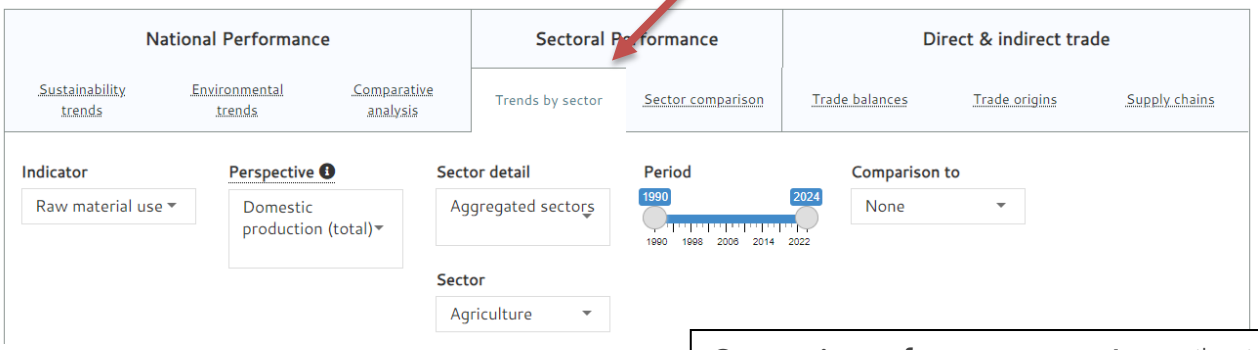
Section "Sectoral Performance"

This part of Module 2 offers the option to (a) analyze the development of different environmental indicators for specific sectors and (b) compare sectors to environmental indicators for a specific year.

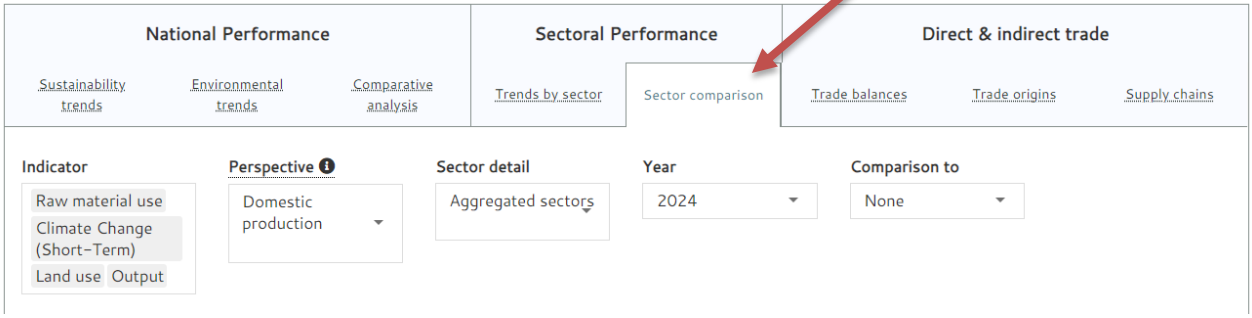
Using the tab on "**trends by sector**" users can analyze the detailed development of domestic pressures and impacts caused by a specific sector and compare these to pressures and impacts caused by other sectors in that country, to other countries or to other regions (in absolute terms/ per sector worker/ per output/ per value added). Users can also look at pressures and impacts caused along the supply of goods delivered by the selected sector to domestic or foreign final demand. In addition, the selected indicator(s) can be compared to a specific country or region.

Under "**sector comparison**", users can analyze the contribution of different sectors to the overall national environmental pressures and impacts (domestic production) or those caused along the supply of goods delivered by the selected sector to domestic or foreign final demand (consumption perspective) .

Analysis of sector groups or subsectors of a selected country regarding intensity levels of environmental pressures and impacts (domestic production and consumption) over time



Comparison of sector groups' contributions to the environmental pressures and impacts (domestic production and consumption) of a specific country for a specific year

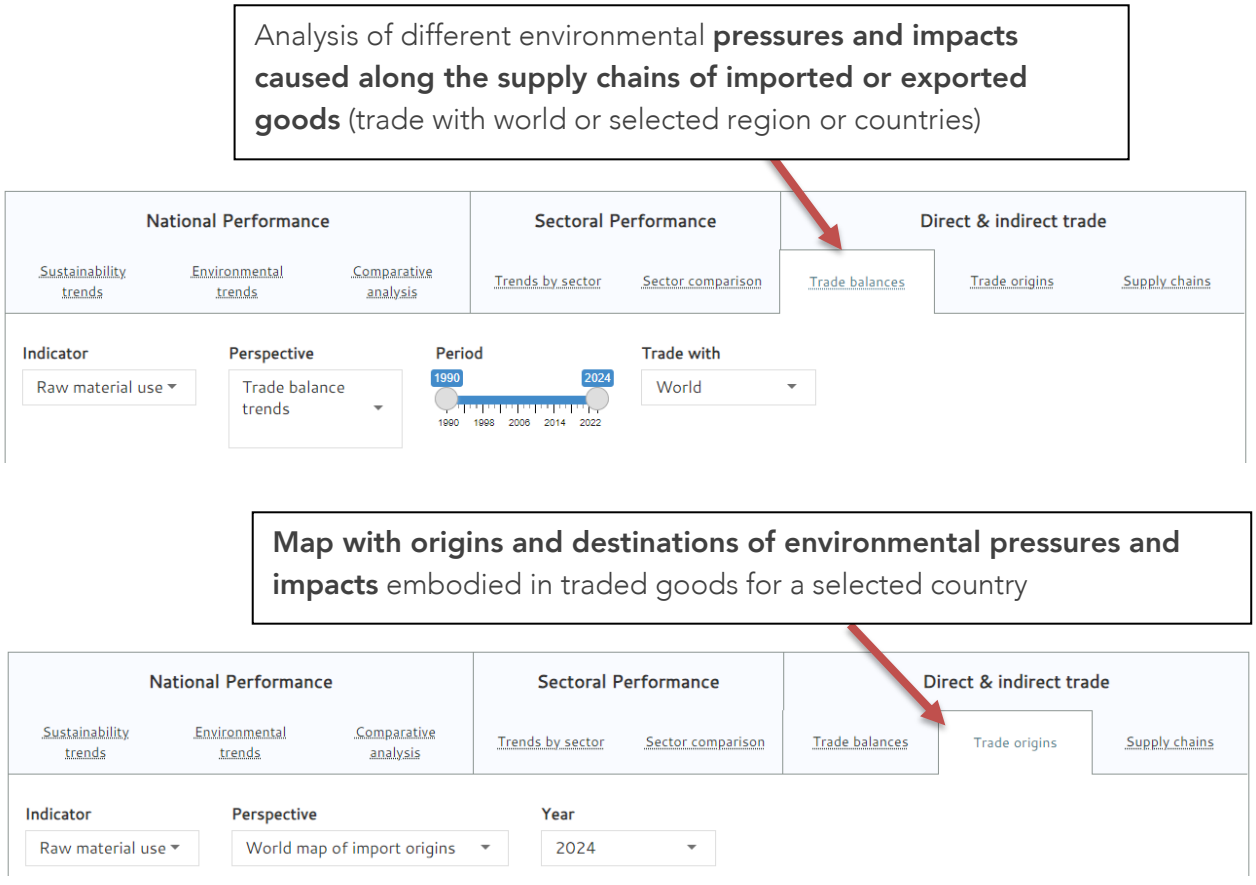


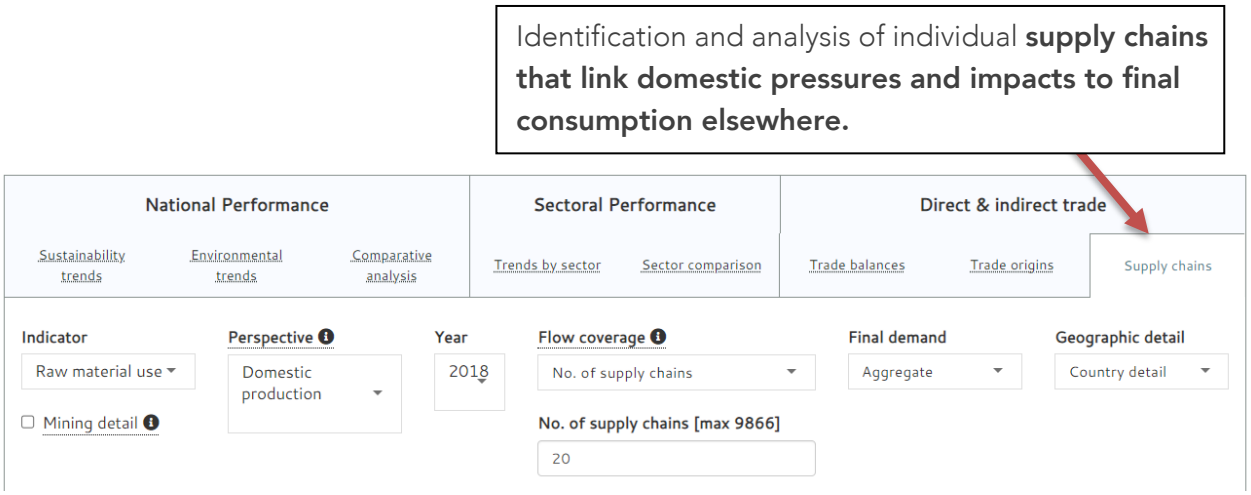
Section "Direct and indirect trade"

Here, users can see a country's dependency on foreign resources. The section offers the option (a) to analyze the different environmental pressures and impacts along the supply chains from imported and exported goods, (b) to explore the origins of a country's footprints and its contribution to footprints of other countries, and (c) to identify and analyze individual supply chains that link domestic pressures and impacts to final consumption elsewhere.

The tab "**trade balances**" compares the environmental pressures and impacts caused along the supply chains, i.e. the embodied pressures and impacts, of imported goods to those of exported goods. Users can see if a country is a net-importer (imports > exports) or net-exporter (imports < exports) of pressures and impacts. This section allows users to also investigate the pressures and impacts of a country's trade with a specific country or region.

The tab on "**trade origins**" depicts the origins of a country's footprint and its contribution to footprints of other countries on a global map.

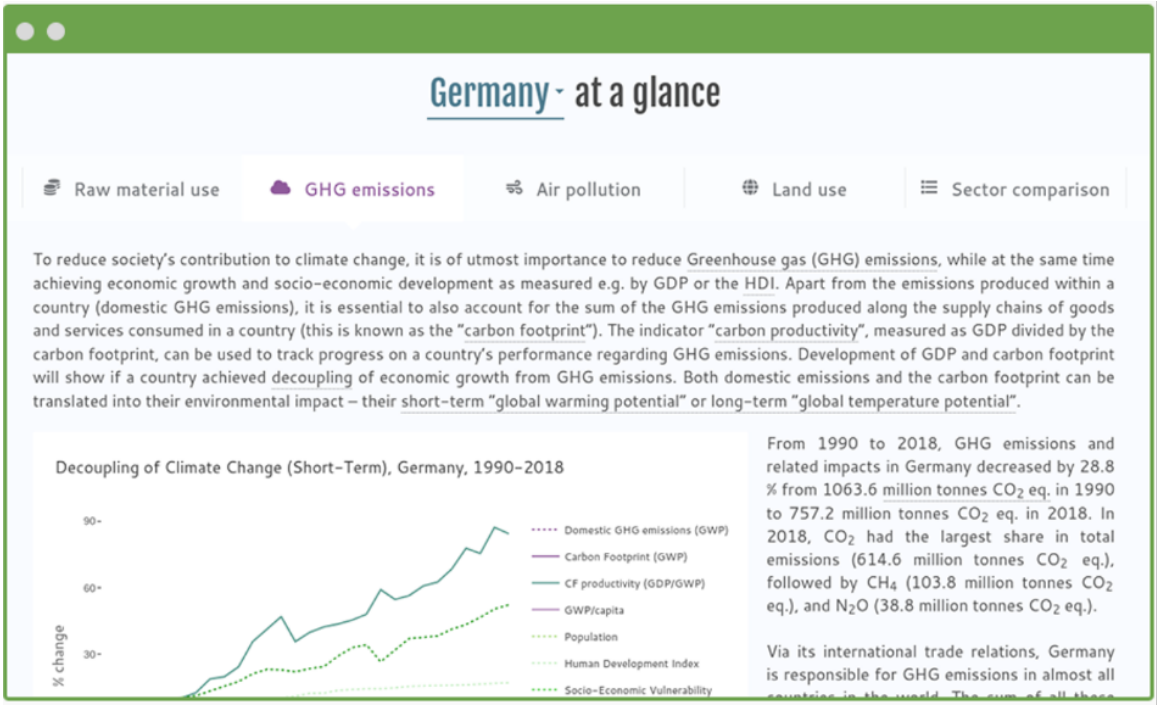




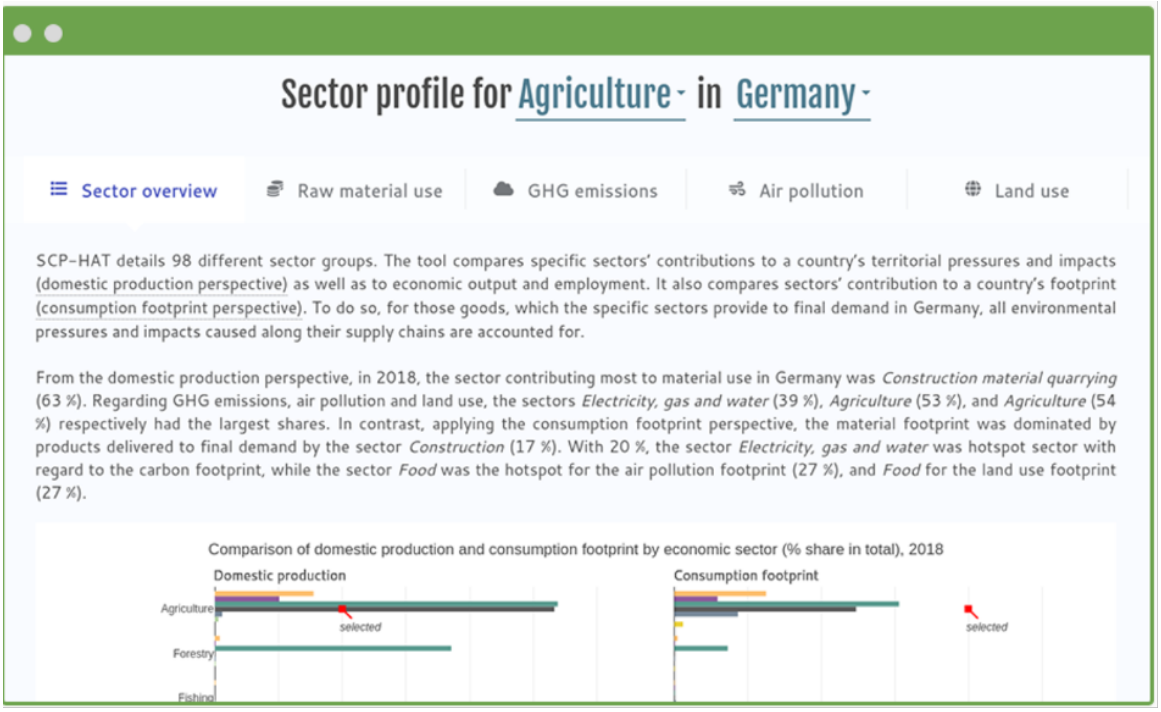
SCP-HAT Reports

To facilitate the use of SCP-HAT and support users with the interpretation of the data, especially those who are time constrained and only require a overview, SCP-HAT offers standard reports on three different pre-defined topics. These reports compile selected visualizations provided by the tool and together with automatized text explain a pre-defined topic. They are available for different countries and sectors and can be downloaded as PDF. The following reports are available:

- Country at a glance: This standard report provides insights into a country's SCP performance related to different environmental categories.



- **Sector profile:** This standard report provides insights into the SCP performance of specific sectors related to different environmental categories and allows comparison among them.



- **GHG emission hotspots:** This standard report provides insights from different perspectives into a country's SCP performance regarding GHG emissions and related climate change impacts.