

Indicator 8.4.1/12.2.1: Material footprint, material footprint per capita, and material footprint per GDP

Construction of Environmental SDG Indicators
Dominican Republic

Agenda 2030 on Sustainable Development

8 DECENT WORK AND ECONOMIC GROWTH



Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Target 8.4: Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Goal 12. Ensure sustainable consumption and production patterns

Target 12.2: By 2030, achieve the sustainable management and efficient use of natural resources

Indicator 8.4.1 / 12.2.1 Material footprint, material footprint per capita, and material footprint per GDP

Rationale

What is the indicator about

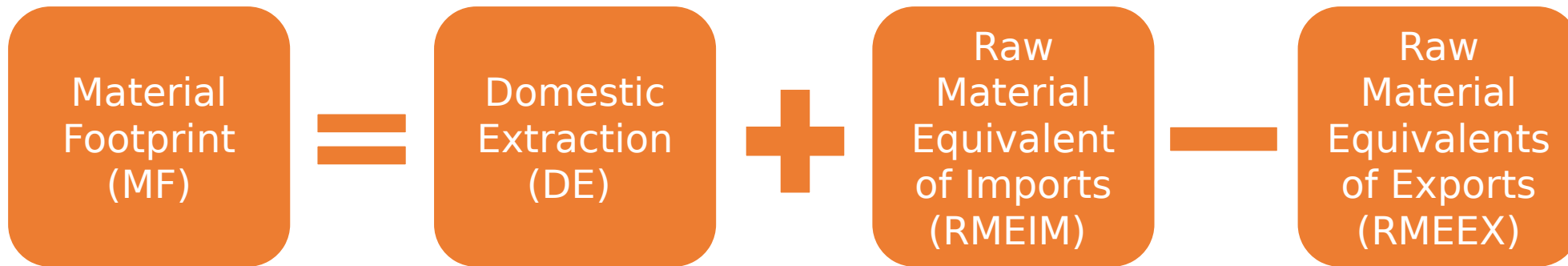
Indicators of direct material flows, such as the domestic material consumption, do not account for all global material flows related to final consumption in a country or region, as indirect (or embodied) materials of imported and exported products are not considered.

Hence, indicators of direct material flows cannot account for the actual environmental consequences generated by the consumption of certain products, as material flows can be located in other regions of the globe.

Assessing global material use related to final consumption requires other material flow account-based indicators, such as **material footprint**. Thus, domestic material consumption reports the actual amount of material in an economy, while material footprint – the virtual amount required across the whole supply chain to service final demand.

Methodology (1/2)

Material Footprint (MF) is the attribution of global material extraction to domestic final demand of a country. The total material footprint is the **sum of the material footprint for biomass, fossil fuels, metal ores and non-metal ores.**



For the attribution of the primary material needs of final demand a global, multi-regional input-output (MRIO) framework is employed (Wiedmann et al. 2015). It is based on the EORA MRIO framework developed by the University of Sydney, Australia (Lenzen et al. 2013) which is an internationally well-established and the most detailed and reliable MRIO framework available to date.

Methodology (2/2)



UNEP (2021). The use of natural resources in the economy:

A Global Manual on Economy Wide Material Flow Accounting
(UNEP, 2021)

Based on data from national and international (UNSD, FAOSTAT, IEA, etc.) data sources

Data collection

UNEP International Resource Panel provides estimation of Material footprint and Domestic material consumption for all countries

UNEP communicates with countries (develops a questionnaire; sends them a pre-filled questionnaire for review or replace the data with national data if possible)

Countries review / replace the data with national data, if possible/needed, and send their feedback to UNEP

UNEP, in collaboration with UNEP-IRP, analyzes the replacement data and prepare it for publishing in various platforms (WESR, SDG Global database)

Data release

Available indicators:

- Material footprint, by type of raw material (tonnes)
- Material footprint per capita, by type of raw material (tonnes)
- Material footprint per unit of GDP, by type of raw material (kg per constant 2015 USD)

First reporting cycle: 2021

Availability of time series: Data is available for 2000-2019

Disaggregation: Global, regional and (national) scales

Access the indicator

SDG Global database:

<https://unstats.un.org/sdgs/UNSDG/IndDatabasePage>

EN_MAT_FTPRPG

EN_MAT_FTPRPC

EN_MAT_FTPRTN

+ Indicator 8.4.1, 12.2.1, Series : Material footprint per unit of GDP, by type of raw material (kilograms per constant 2015 United States dollar) **EN_MAT_FTPRPG**

+ Indicator 8.4.1, 12.2.1, Series : Material footprint per capita, by type of raw material (tonnes) **EN_MAT_FTPRPC**

+ Indicator 8.4.1, 12.2.1, Series : Material footprint, by type of raw material (tonnes) **EN_MAT_FTPRTN**

8 Indicator 8.4.1-12.2.1: Material footprint, material footprint per capita, and material footprint per GDP

Thank you



Dany Ghafari
SDG and Environment Statistics Unit, Science Division
dany.ghafari@un.org

United Nations Avenue, Gigiri
PO Box 30552 - 00100 GPO Nairobi, Kenya

www.unep.org