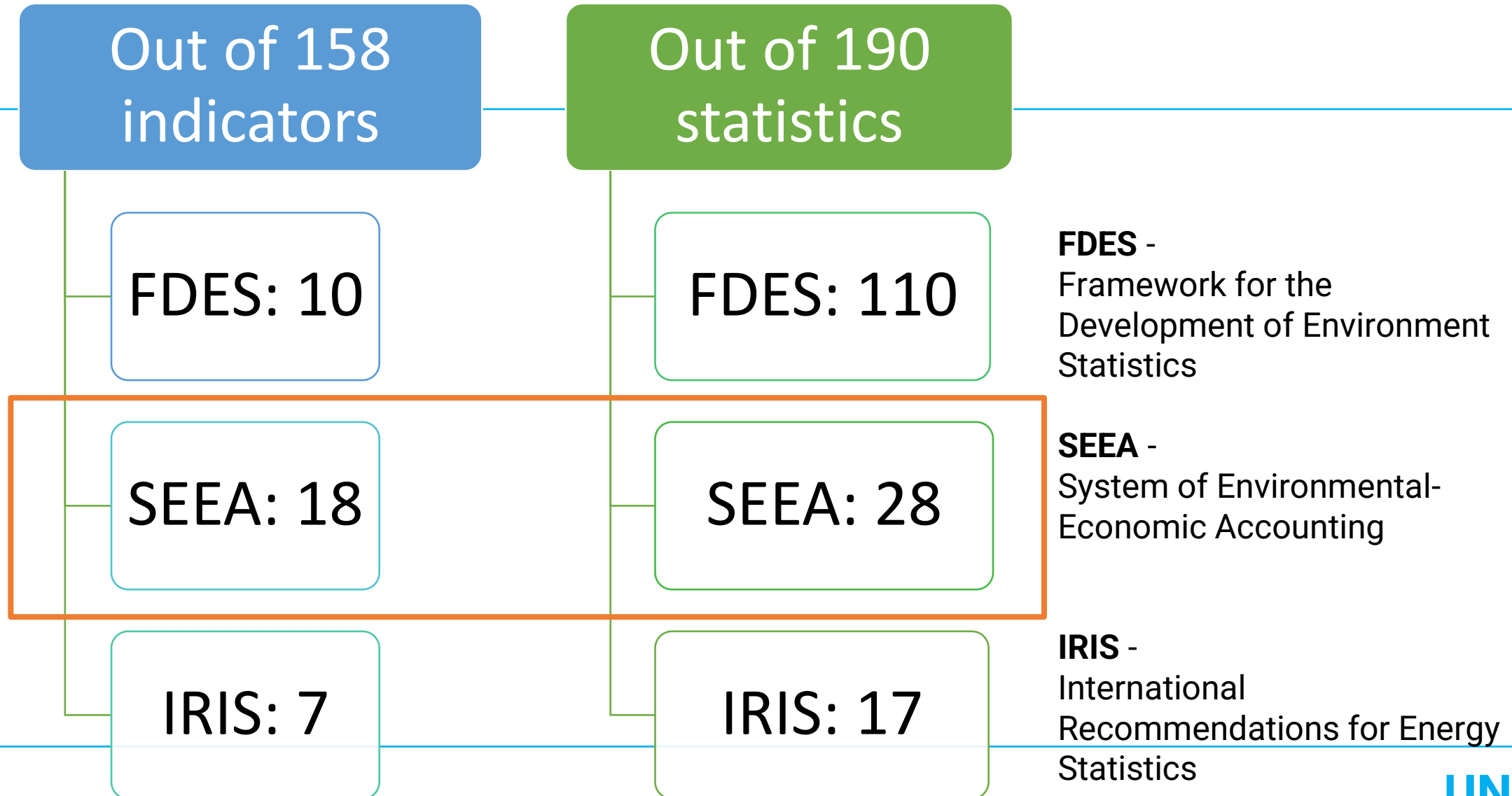


Climate Change Statistics and Indicators and the System of Environmental-Economic Accounting

Session 4: Climate Change Statistics: Diving into the Global Set of Climate Change Statistics and Indicators

National Workshop on Strengthening the Measure of Progress in Disaster Risk Reduction in Sub-Saharan Africa through the Sendai Framework Monitoring Process and Enhanced Disaster Loss Data

Relevant statistical frameworks



The System of Environmental-Economic Accounting (SEEA)

<https://seea.un.org/>

- **The System of Environmental-Economic Accounting (SEEA)** is a framework that integrates economic and environmental data to provide a more comprehensive and multipurpose view of the interrelationships between the economy and the environment.
- It contains the internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics and accounts.
- The SEEA framework follows a similar accounting structure as the System of National Accounts (SNA).

Climate Change Indicators and Statistics linked to SEEA



SEEA Central Framework

- 10 indicators
- 13 statistics



SEEA Ecosystem Accounting

- 8 indicators
- 15 statistics

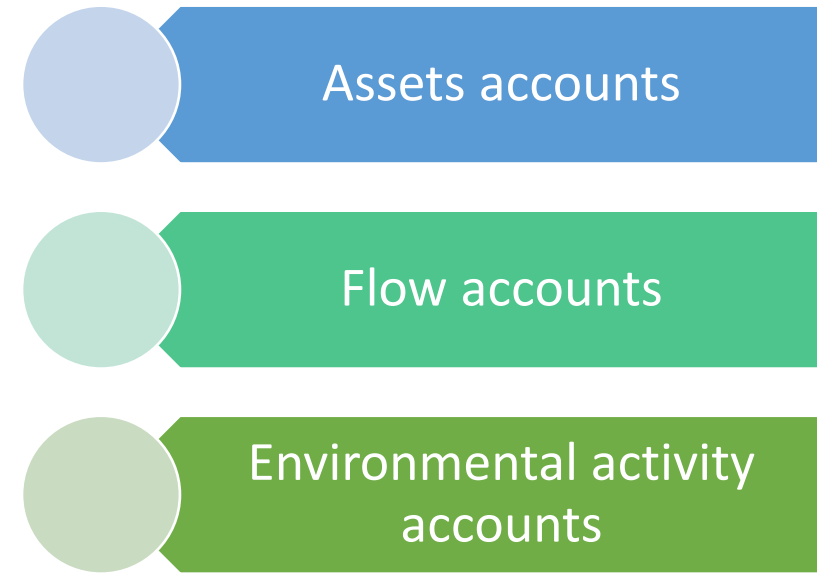
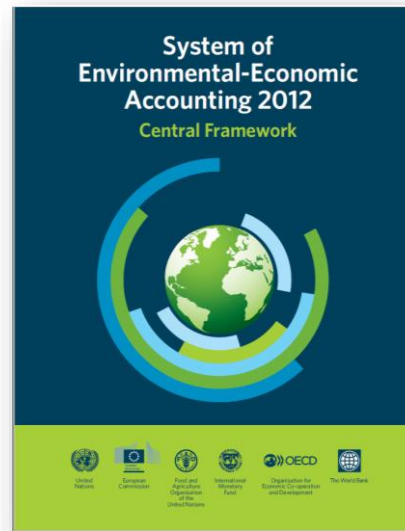
SEEA Central Framework (1/2)

<https://seea.un.org/content/seea-central-framework>

System of Environmental-Economic Accounting – Central Framework (SEEA CF)

adopted in 2012

provides tools for describing **stocks** and **changes in stocks** of environmental assets (water, land, energy, timber, etc.), as well as supporting **environmental activities**



SEEA Central Framework (2/2)

<https://seea.un.org/content/seea-central-framework>

Flow Accounts

Describe the flows of materials and energy that come:

- from the environment to the economy,
- are used in the economy, and
- pass as residuals from the economy to the environment.

Can be presented as material flows accounts, water accounts and energy accounts.

Asset Accounts

Measure the quantity and value of environmental assets and record changes in those assets over time.

Consider the following environmental assets: mineral and energy resources, land, soil resources, timber resources, aquatic resources, other biological resources, and water resources.

Environmental Activity

Encompass those economic activities whose primary purpose is to reduce or eliminate pressures on the environment or to make more efficient use of natural resources.

Cover environmental protection expenditure, environmental goods and services, environmental taxes and subsidies, permits and licenses to use environmental assets.

Examples of the SEEA CF accounts

Linked to the Climate Change Statistics and Indicators of the Global Set

Land Accounts:

- Increase in forest area
- Forest area: Total
- Forest area as a proportion of total land area
- Expansion of agriculture areas
- Expansion of built-up areas

Air Emission Accounts:

- Total greenhouse gas emissions from the national economy
- Carbon footprint

Environmental taxes and subsidies accounts:

- Energy and transport taxes

Environmental Expenditure Accounts:

- Environmental protection expenditure

Environmental good and services accounts:

- Trade in low-carbon technology products

SEEA Ecosystem Accounting (1/2)

<https://seea.un.org/ecosystem-accounting>

System of Environmental-Economic Accounting – Ecosystem Accounting (SEEA EA)

adopted in 2021

takes a spatial approach to accounting which identifies the location and size of **ecosystem assets**, the **ecosystem services** provided, and the location of beneficiaries



Ecosystem extent
accounts

Ecosystem condition
accounts

Ecosystem services
accounts

SEEA Ecosystem Accounting (2/2)

<https://seea.un.org/ecosystem-accounting>

Ecosystem Accounts

Take a spatial approach to accounting which identifies the location and size of ecosystem assets and the ecosystem services provided.

- Ecosystem extent accounts record the total area of each ecosystem (terrestrial, freshwater and marine ecosystems).
- Ecosystem condition accounts measure the quality of an ecosystem measured in terms of its abiotic and biotic characteristics and how they have changed.
- Ecosystem services: providing, regulating, cultural.

With focus on Climate Change

As described in Chapter 13 of the SEEA EA:

- Ecosystem extent accounts can be linked to emissions from land use, land use change and forestry (LULUCF).
- Condition accounts provide information on carbon storage in ecosystems, such as soil organic carbon and dry matter productivity.
- Ecosystem services accounts can also provide information on global climate regulation ecosystem services.

Examples of the SEEA EA accounts

Linked to the Climate Change Statistics and Indicators of the Global Set

Ecosystem extent accounts

- Area of ecosystems
- Area (length) of storm mitigation ecosystem services
- Area of coastal protection services
- Area of river flood mitigation services
- Reduction in the extent of natural and semi-natural ecosystems
- Increase in area affected by coral bleaching

Condition accounts

- Carbon stocks in biomass

Ecosystem services accounts

- Crop provisioning services
- Livestock provisioning services

Global Footprint Tool

Home page

Global Footprint Tool



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[Gloria MRIO](#)

[Metadata](#)

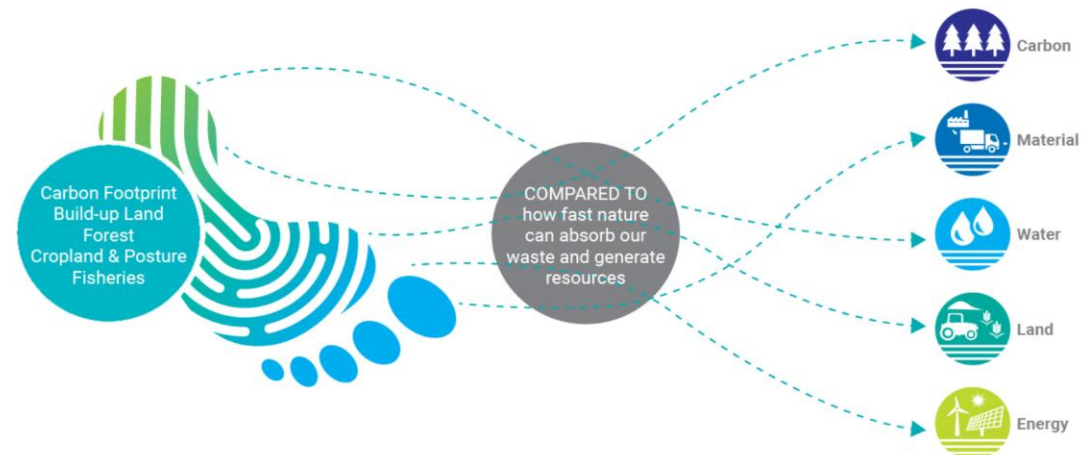
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[Footprint Calculator](#)

Global Footprint Tool (GFT)

The Global Footprint Tool (GFT) allows statistical offices and other entities to calculate their countries' environmental footprints, such as Carbon, Energy, Land, Material, and Water, across several domains at a high quality, commensurate with the requirements of statistical reporting. The GFT also enables countries to report data on SDG Indicators **8.4.1/12.2.1** on Material Footprint.



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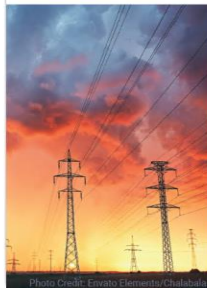
The Metadata section provides detailed information on the various footprints calculation. This can help you understand the metrics and methods behind your footprint calculations.



Carbon



Energy



Land



Material



Water





User Guidelines

Creating an Account:

- Go to the Global Footprint Tool page.
- Click the **Footprint Calculator** button at the top right.
- Click **Register**.
- Complete the sign-up form with: **First Name, Last Name, Institution, Country, Email Address, Username and Password**
- Click **SUBMIT** to submit your registration.
- After verification, you will receive a confirmation email.

Logging In:

- Return to the **Global Footprint Tool** page.
- Click the **Footprint Calculator** button.
- In the pop-up window, click **Login** (redirects to the login form).
- Enter your credentials from the confirmation email.
- Upon successful login, you'll be redirected to the Home page and the View Jobs tab.

Contact us

Global Footprint Tool

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Footprint calculator

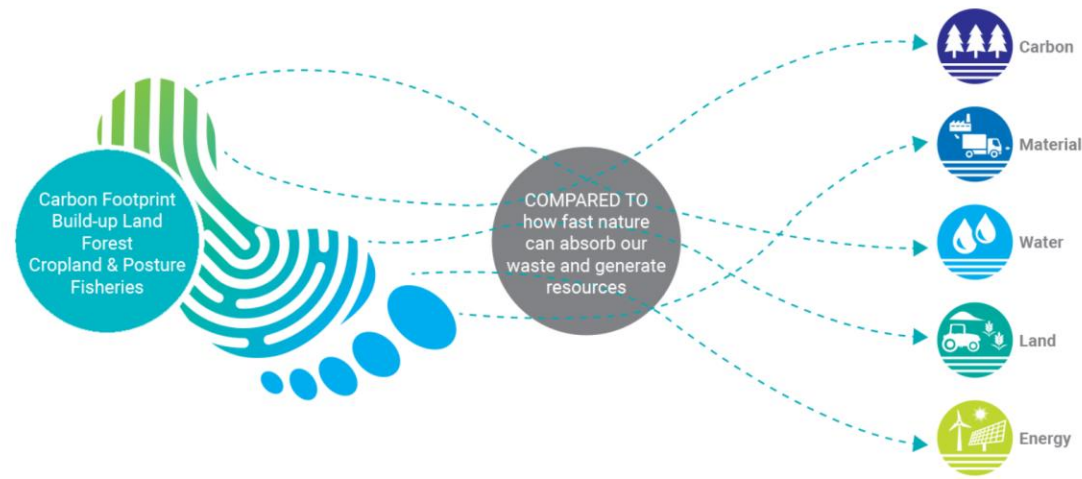
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Logged in: View jobs

Global Footprint Tool



View Jobs [Create Job](#) [Metadata](#) [Guidelines](#)

List of Jobs

Job ID	State	Status	Actions
1	Terminated	Completed	Delete Download
2	Terminated	Completed	Delete Download



SYSTEM OF ENVIRONMENTAL ECONOMIC ACCOUNTING

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OECD-
UNECE
Seminar on**

SEEA Implementation

 18 March 2025 to 20 March 2025

New Articles

Thank you



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