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General Principles of SEEA

National Workshop on Shared Environmental Information Systems (SEIS) and
Environmental Statistics for the Sustainable Development Goals (SDGs)

11-14 June 2018, Bishkek, Kyrgyzstan

FORESTS

Birgit Lia Altmann

Associate Economic Affairs Officer

Forestry and Timber Section

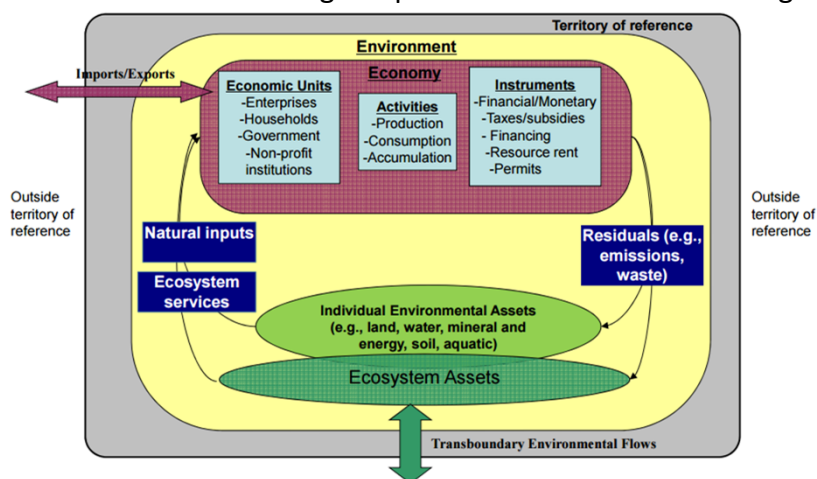
UN Economic Commission for Europe (ECE)



What is environmental accounting?

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Environmental Accounting = Expansion of national accounting



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What is SEEA?


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SEEA 2012 – an internationally accepted standard

The System of Environmental-Economic Accounting Central Framework:



- was adopted in 2012 as an **international statistical standard** by the UN Statistical Commission
- is already used in **54 countries**
- adheres to the **principles of the System of National Accounts (SNA)**
- provides **standard terminology, definitions and classifications** for environmental accounting




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How does it fit in with other standards?

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SEEA-Water
System of Environmental-Economic Accounting for Water

SEEA-Energy

(forthcoming)

SEEA-Agriculture, Forestry and Fisheries

(forthcoming)

Others

(forthcoming)




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What is the link between SEEA and SNA?

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SEEA applies the accounting concepts, structures, rules and principles of the SNA to environmental information

SNA = SEEA

- Production boundary
- Definition of products
- Territory / residential approach



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What are differences?

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SEEA applies two variations in the recording of product flows compared to the SNA:

SNA \neq SEEA

- Physical flows
- Own-account production
 - Goods sent to other countries




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What are differences?

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Example: Own-account production

The SEEA Central Framework has a different approach to the treatment of own-account production and consumption compared to the SNA.

SNA



.....

- Production of goods for own final use (e.g. own account capital formation)
- Intra-enterprise flows related to ancillary activities

SEEA


.....

- Production and use of goods and services on own-account within enterprises
- Production of energy (e.g. through the incineration of waste) for own intermediate consumption
- Abstraction of water by an establishment for own intermediate consumption

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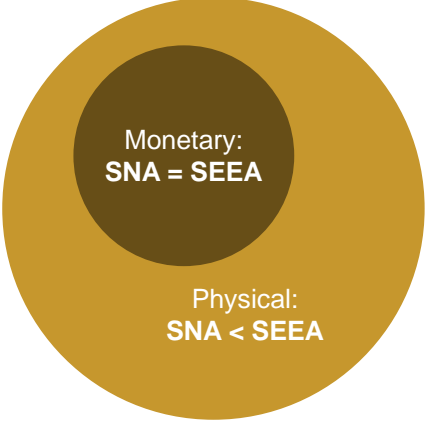
What are differences?



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Valuation in the SEEA

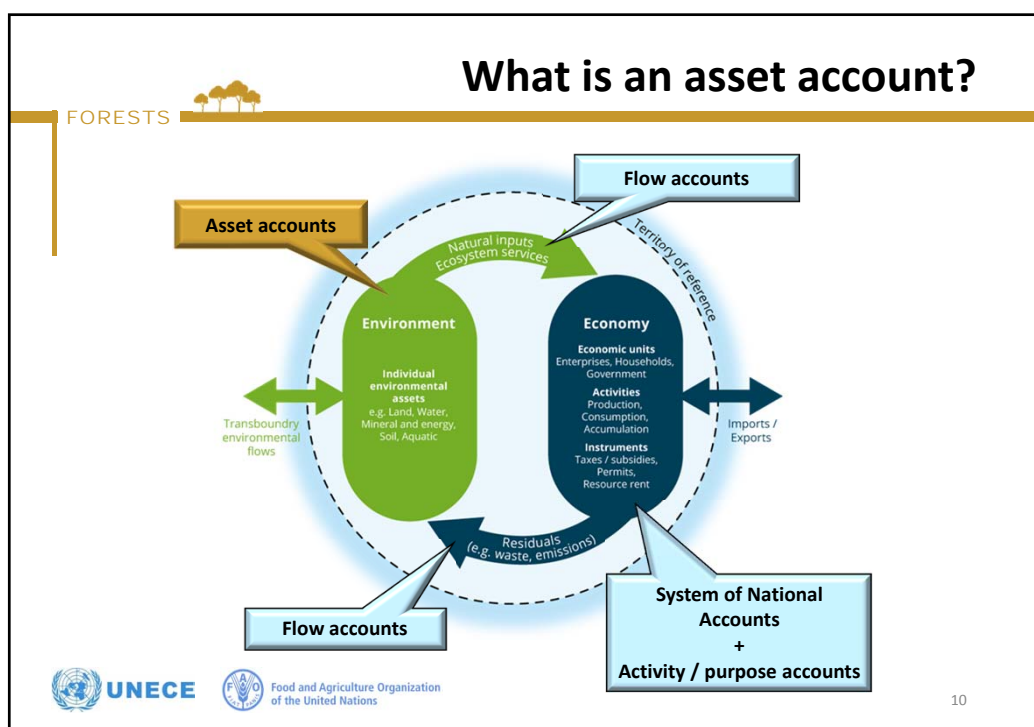
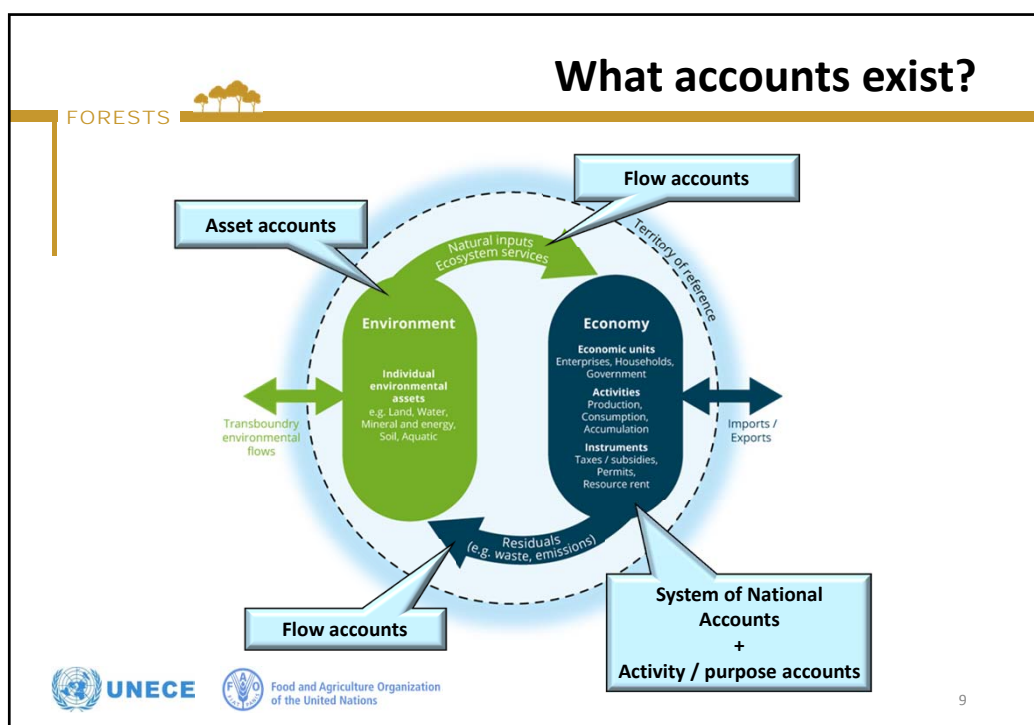
The SEEA adopts the same market price valuation principles as the SNA and provides guidance on the valuation of renewable and non-renewable natural resources and land:

- In **monetary terms**, the asset boundaries of the SEEA and the SNA are the same. Only assets - including natural resources and land - that have an economic value following the valuation principles of the SNA are included in the SEEA.
- In **physical terms**, the asset boundary of the SEEA is broader and includes **all natural resources and areas of land that may provide resources** and space for use in economic activity. Environmental assets that have no economic value should be clearly distinguished.



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What is an environmental asset?

“Environmental assets are the naturally occurring living and non-living components of the Earth, together comprising the bio-physical environment, that may provide benefits to humanity.”

SEEA Central Framework





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What is an environmental asset?


Assets

- Items of **value to the society**
- In economics: assets have long been defined as **stores of value** that also provide **inputs to production processes**
- motivation for considering **environmental assets**:
 - concern that current patterns of economic activity are **depleting and degrading** them more quickly than those assets can be regenerated
 - concern about their **long-term availability**
 - Current generations may be seen as “stewards” for the range of environmental assets on behalf of future generations → **sustainable use of resources**



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What is included?

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Scope

- components that **make up the environment** and may **provide resources** for use in economic activity
- Resources may be **harvested, extracted or otherwise moved** for direct use in economic **production, consumption or accumulation**

Physical:
record all assets

- Mineral and energy resources
- Land (Forests)
- Soil resources
- Timber resources
- Aquatic resources
- Other biological resources
- Water resources


Monetary:
record only assets
with monetary value

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What is included?

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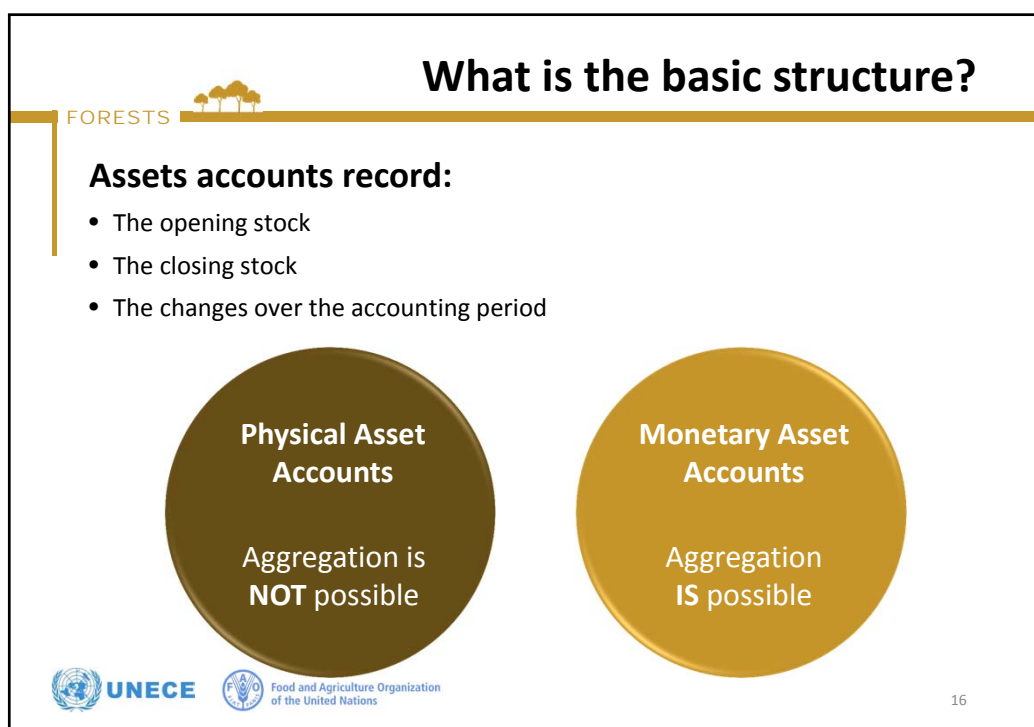
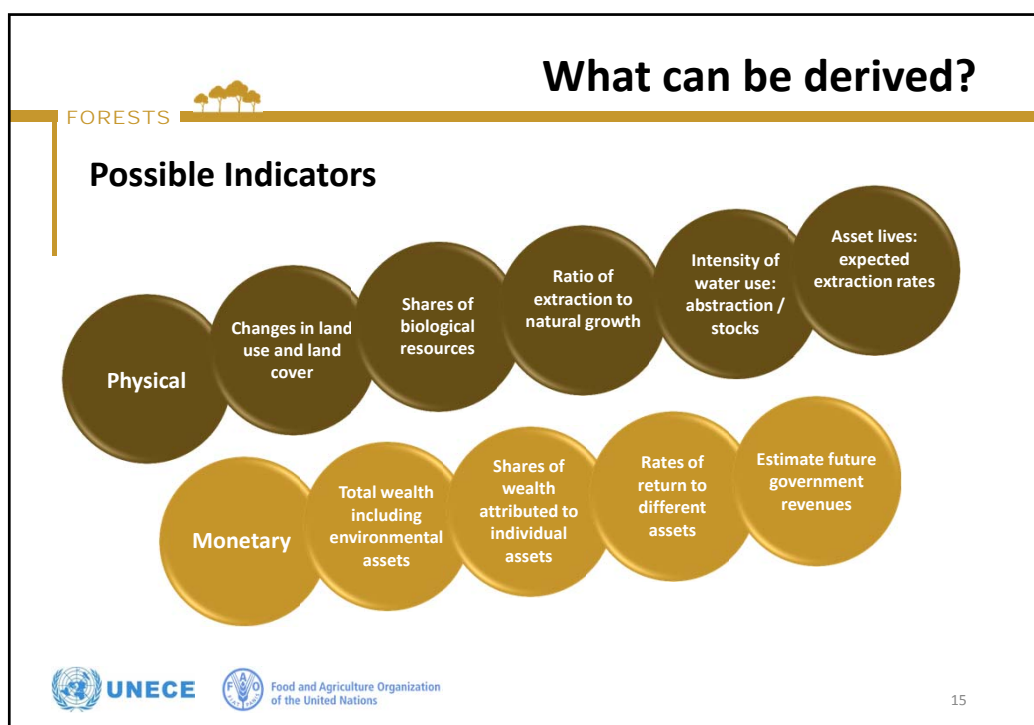
Classification of environmental assets in the SESA Central Framework

1	Mineral and energy resources
1.1	Oil resources
1.2	Natural gas resources
1.3	Coal and peat resources
1.4	Non-metallic mineral resources (excluding coal and peat resources)
1.5	Metallic mineral resources
2	Land
3	Soil resources
4	Timber resources
4.1	Cultivated timber resources
4.2	Natural timber resources
5	Aquatic resources
5.1	Cultivated aquatic resources
5.2	Natural aquatic resources
6	Other biological resources (excluding timber resources and aquatic resources)
7	Water resources
7.1	Surface water
7.2	Groundwater
7.3	Soil water





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What are changes in stock?

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1) Additions to stock

Growth in stock	Increases in the stock over an accounting period due to growth
Discoveries of new stock	Arrival of new resources to a stock through exploration and evaluation
Upward reappraisals	A reassessment due to the use of updated information
Reclassifications	Changes because an asset is used for a different purpose

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What are changes in stock?

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2) Reductions to stock

Extractions	Physical removal or harvest through a process of production
Normal reductions	Expected losses due to natural deaths of biological resources
Catastrophic losses	Large-scale events that destroy a large number of assets
Downward reappraisals	Reassessments due to the use of updated information
Reclassifications	Occur when an environmental asset is used for a different purpose

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What does it look like?

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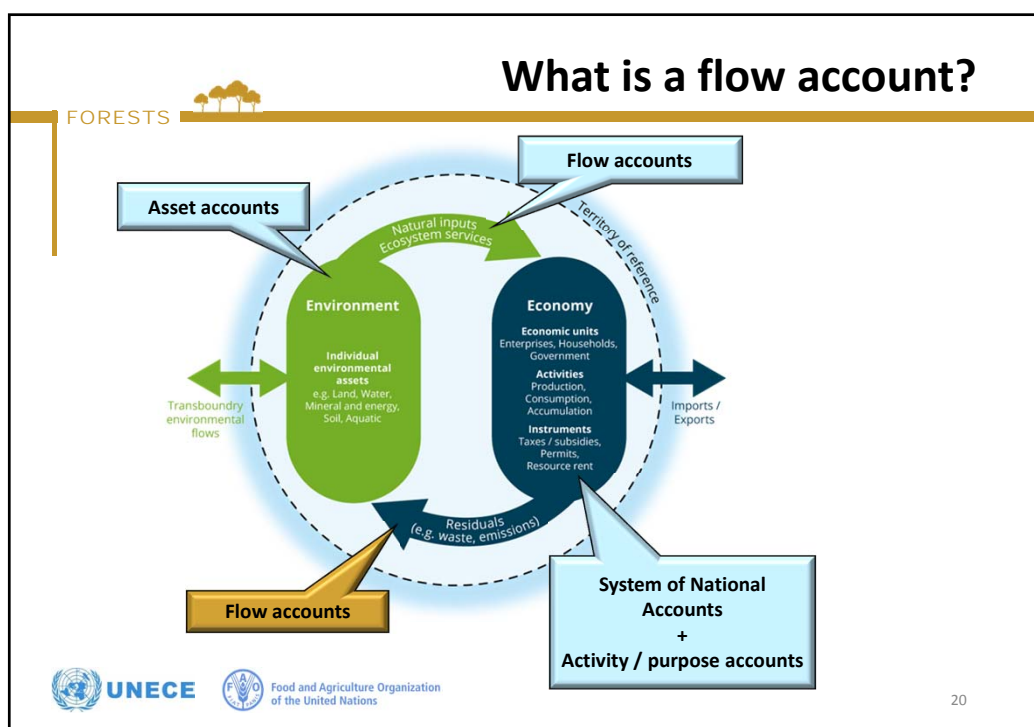
Basic form of an asset account

Opening stock of environmental assets
Additions to stock
Growth in stock
Discoveries of new stock
Upward reappraisals
Reclassifications
<i>Total additions of stock</i>
Reductions of stock
Extractions
Normal loss of stock
Catastrophic losses
Downward reappraisals
Reclassifications
<i>Total reductions in stock</i>
Revaluation of the stock ^a
Closing stock of environmental assets

^a Only applicable for asset accounts in monetary terms.

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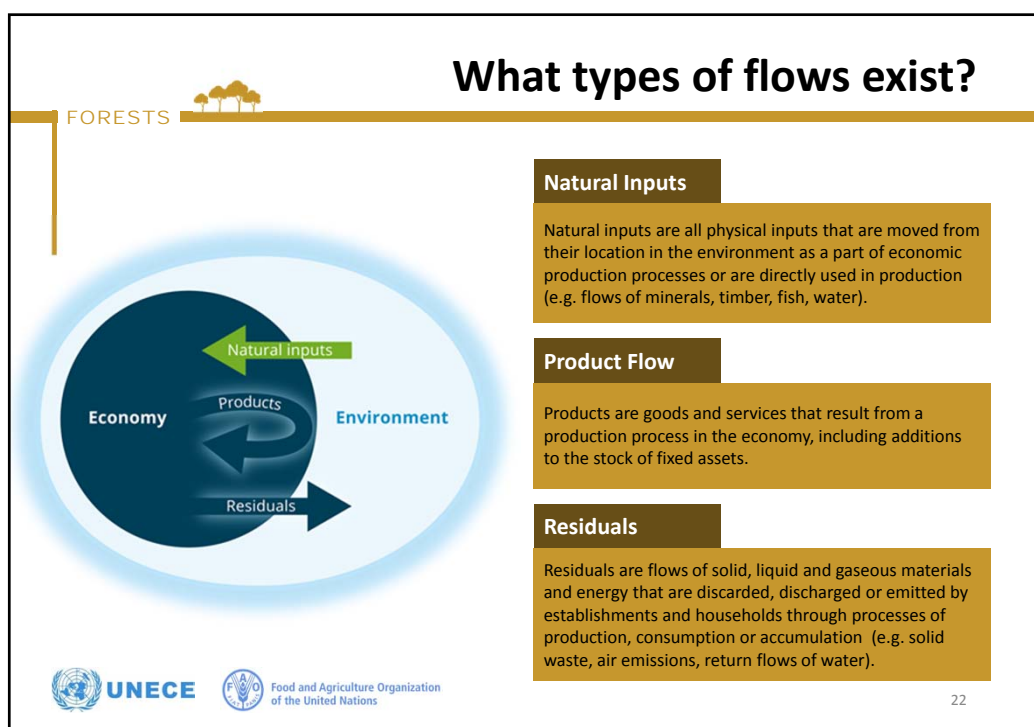


Basics structure from SNA


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	Industries	Households	Government	Accumulation	Rest of the world	Total
Supply table						
Products	Output				Imports	Total supply
Use table						
Products	Intermediate consumption	Household final consumption expenditure	Government final consumption expenditure	Gross capital formation (including changes in inventories)	Exports	Total use
Value added						

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Residuals?

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4 types of residuals

Dissipative uses of products	Residuals deliberately released as part of production
Dissipative losses	Indirect results of production and consumption activity
Natural resource residuals	Residuals that immediately return to the environment
Losses	Losses during extraction, distribution, storage or transformation

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Important principles

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Accounting and balancing identities

Flows of materials into an economy must equal the flows of materials out of an economy plus any net additions to stock in the economy.	Input-output identity
Within the economy, the amount of a product supplied must also be used with the economy, or exported.	Supply and use identity




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What does it look like?

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	Industries	Households	Accumulation	Rest of the world	Environment	Total
Supply table						
Natural inputs					Flows from the environment	Total supply of natural inputs
Products	Output			Imports		Total supply of products
Residuals	Residuals generated by industry	Residuals generated by final household consumption	Residuals from scrapping and demolition of produced assets			Total supply of residuals
Use table						
Natural inputs	Extraction of natural inputs					Total use of natural inputs
Products	Intermediate consumption	Household final consumption	Gross capital formation	Exports		Total use of products
Residuals	Collection and treatment of waste and other residuals		Accumulation of waste in controlled landfill sites		Residual flows direct to environment	Total use of residuals








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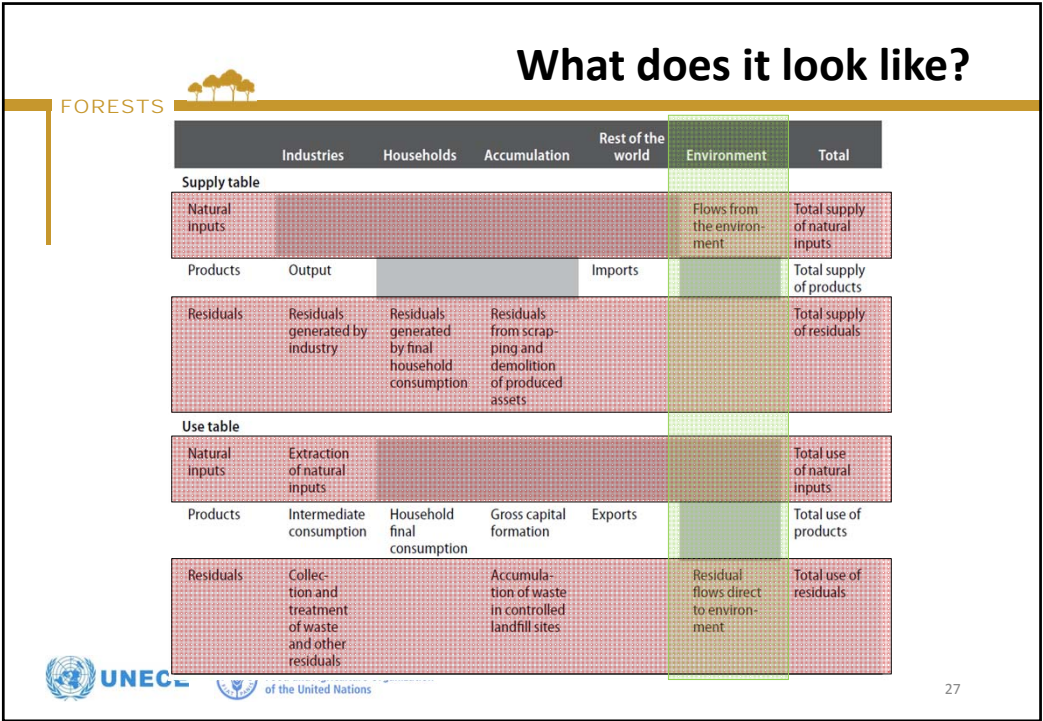
What does it look like?

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Thank you!

birgit.altmann@unece.org

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