

SEEA Central Framework 2028 update

Guidance Note B1/B5

'Description of PSUTs and EW-MFA'

SEEA-CF Technical Committee - meeting 19 Nov 2025

Stephan Moll (lead author)

Version: 14 Nov 2025

Introduction

- two issues for which separate scoping notes had been prepared:
 - > B1 “Description of PSUTs (physical supply and use tables)”
 - > B5 “Differences between PSUTs and EW-MFA (economy-wide material flow accounts)”

Tasks

- Scoping note B1:
 - > Enhance **consistency throughout chapter III**;
 - > Elaborate on new treatments introduced by the 2025 SNA (e.g., biological natural resources);
 - > Focus on policy relevance (e.g., circular economy);
 - > Elaborate on possible ‘new’ physical accounts that are emerging (e.g., plastics).
- Scoping note B5:
 - > clarify differences between PSUT and EW-MFA

Hypothesis

- The incoherencies throughout current SEEA-CF chapter III ...
 - > ‘framework’ (3.2-3.3) vis-a-vis ‘specific topics’
(energy 3.4, water 3.5, materials 3.6, air emissions 3.6.3, waste 3.6.5)
 - > Accounts for ‘specific topics’ developed in their specific context and often in relation to other intern. statistical frameworks (IRES, IRWS),
 - accommodating specific concepts and principles
 - partly contradicting each other
 - > ‘framework’ cannot reconcile all these specifics
- ... can be overcome by clear distinction between theory and application

Questions for discussion

- The Technical Committee is asked for agreement to the following course of action?
 - > Re-organize the structure of SEEA-CF chapter III in a way that distinguishes clearly between theoretical framework for physical flow accounts and applications thereof.
 - > Theoretical framework is fully aligned to SNA principles, and serves as a reference point for
 - > applications that may inevitably deviate from the former for reasons such as policy relevance and data constraints.

Theoretical framework

- 2012 SEEA-CF:
Physical supply and use tables (PSUT) = accounting framework
- for physical flows within economy
 between environment and economy
- Rows: 3 types of physical flows (SEEA-typology)
- Columns: 5 groupings of activities undertaken by economic units

SEEA-typology of physical flows

1. Natural inputs
 - > flows from environment to economy
2. Products
 - > SNA (general production boundary, measurement boundary)
3. Residuals
 - a. flows from economy to environment
 - b. intra-economy flows other than products

Columns: 5 groupings of activities undertaken by economic units

1. Production

2. Consumption

> 'current' final consumption

3. Accumulation

> intra-economy stocks: gross capital formation (incl. cultivated biological resources),
consumer durables, deposits of materials/energy

4. Rest of the world

5. Environment

> SEEA-CF

Theoretical framework

Table 1: Basic form of a physical supply and use table

what (activity):	production	consumption	accumulation	rest of the world	environment	total
who:	resident economic units involved in production	resident economic units involved in final consumption	resident economic units involved in accumulation	non-resident economic units	global natural resources (non-produced)	
breakdown e.g. by...:	ISIC industries	sectors relevant	to be determined	aggregated	domestic vs. rest of the world; owned vs. non-owned	

Supply table		1	2	3	4	5	6
Natural inputs	A.					supply to resident units	total supply of natural inputs
Products	B.	output		from produced assets	imports - from non-residents to residents		total supply of products
Residuals	C.	generated from production	generated from final consumption	from domestic stocks	shipments		total supply of residuals

Use table							
Natural inputs	D.	input to production (extraction)	used by resident community e.g. oxygen				total use of natural inputs
Products	E.	intermediate consumption	final consumption	to produced assets	exports - from residents to non-residents		total use of products
Residuals	F.	input to production		to deposits of residuals	shipments	released to environment	total use of residuals

supply and use are... *balanced* *balanced* *not balanced* *not balanced* *not balanced* *balanced*

balanced

Theoretical framework – questions

General

Question 1

Q: Do you agree to choose the widest scope thinkable for theoretical framework of physical flow accounts?

Question 2

Q: By default, stick to basic SNA principles such as e.g., the residence principle for the theoretical framework of physical flow accounts?

Rows:

Question 3

Q: Include flows of ecosystem services (as row category) into the theoretical framework?

Theoretical framework – issues

General links between assets and physical flows (section 2.4)

- Physical flows related to 'environment' = physical exchanges with natural capital stocks
- Link to land and soil resources
- Physical flows related to 'accumulation' = (net) changes of intra-economy physical stocks of **products**

Question 4

Q: Do you agree that the theoretical framework for physical flow accounts should record product flows related to intra-economy stocks on a net-change basis (consistent with SNA SUTs).

Pros:

Cell B.3 of the physical supply table remains null, implying that total supply of products is composed of two components – namely, output (P1) and imports (P6) – fully consistent with SNA SUTs.

In case, cell B.3 of the supply table is filled, the total supply of products is higher than P1+P6.

Transactions in used products (e.g., from fixed assets to households) or transfers of mature biological resources from inventories to gross capital formation would significantly inflate the total supply of products.

Applications of physical flow accounts

- Incomplete scope => theoretical framework serves as reference

- Balancing items - move to classifications

Auxiliary means

- Bridging items

> International trade > Residence principle and goods sent abroad for processing

- Flexible organisation and classification of rows and columns

> Policy relevance > data

- Material layers

- Concordance with monetary supply and use tables (organisation of rows & columns)

- Policy relevance: e.g. residence principle vs. territory principle

- Waste, plastics, critical raw materials

Examples of applications

Guidance note presents:

- ‘Complete PSUTs for materials’
- Economy-wide material flow accounts (EW-MFA)
- Physical energy flow accounts (PEFA)
- Air emissions accounts (AEA)
- (Waste accounts)

Examples of applications

Main question:

Question 6

Q: How far should/could SEEA-CF go in prescribing guidelines for applications of physical flow accounts?

Re-organized SEEA-CF chapter III

- The re-organized SEEA-CF chapter III ...
 - > describes in appropriate detail the theoretical framework referring to SNA and linking to other SEEA-CF accounts (e.g., asset accounts);
 - > includes a structured presentation of 'auxiliary means' to cope with constraints in applying the theoretical framework (e.g., balancing items, layers of materials, bridging items);
 - > provides an overview of common applications and examples highlighting adjustments employing the afore mentioned 'auxiliary means'.

Thank you