SEEA Central Framework 2028 update

Guidance Note B2

‘Treatment of losses (in physical flow accounts)’

SEEA-CF Technical Committee 19 Nov 2025

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Introduction

Scoping note:

- **clarify the terminology and conceptual issues**

Structure of guidance note

1. Introduction
2. Review of ‘losses’ in international statistical guidelines (see draft guidance note)
3. Proposal to clarify the relation between the <u>four SEEA-categories of losses</u> and the <u>SEEA-typology of physical flows</u> (natural inputs, products, residuals)

Current SEEA-CF …

…uses the term 'losses' in at least three distinguishable ways:

a) General meaning: denoting certain physical flows and /or describing their characteristics;

b) 4 categories of losses according to their stage on the production chain;

c) Utilitarian characterization of losses: => recording recommendations (whether to record or not).

Current SEEA-CF …

- Utilitarian characterization of losses:

Loss Description	Recording Recommendation
(a) losses that may be necessary for maintaining safe operating conditions (§3.100)	No clear recommendation whether to record or not in §§3.100-3.103
(b) losses that are unwanted (§3.100) and avoidable in the interest of the related economic unit (§3.102)	Clear recommendation to record (§3.102)
(c) losses of no interest to the related economic unit (§3.102)	Recommendation not to record (§3.102) Notably: this also implies not to record those flows when they enter the economy in form of natural inputs.

- Benefit unclear => should be removed (Task tem B discussion 7 Oct 2025)

Current SEEA-CF …

- SEEA-typology of losses (according to stage of production):
  - > … during extraction
  - > …during distribution
  - > …during storage
  - > …during transformation
- Task team B discussion 8 Oct 2025: describe by means of natural inputs, products, residuals, focus on
  - > Losses during electricity imports (exact point of loss)
  - > elaborate further on losses during storage

Losses during extraction

General definition:

- Extraction is the physically-balanced process whereby natural inputs are converted into products.
- It is the difference between the physical volume of natural input necessary to physically obtain the wanted extraction good and the physical volume of the extraction good itself leaving the extraction process as output.
- E.g., combustion oxygen for machines is excluded.

Losses during extraction

Recording:

- Extraction losses are residuals, supplied by the extracting industry
- …taken up by the environment or by specific intra-economy physical stocks such as e.g., mining dumps, mining waste deposits, leachate water reservoirs.
- natural resource residuals (=specific SEEA-class of residuals) IF released to environment

Losses during transformation

General definition:

- Transformation is the physically-balanced process whereby <u>product inputs</u> are converted or transformed into <u>product outputs</u>. The physical amount of input products not ending up physically in the indented output products is a <u>residual</u>.
- … that either remains in the economy or is released to the environment by the very same transformation process.
- Amounts of energy and material forms resulting from physical processes of transformation that are not available for human use, temporarily or forever.

Losses during transformation

Problem:

- All production and ‘current’ consumption activities are transformation processes releasing residuals. Originally, only energy statistics employ ‘transformation losses’.
- Option: only label those residuals ‘transformation losses’ that arise during conversion from ‘primary’ to ‘secondary’ energy products.

Losses during transformation

Recording:

- Transforming <u>industry</u> supplies residuals
- …taken up by the <u>environment</u> or by specific <u>intra-economy physical stocks</u>

Losses during distribution

General definition:

- Short: Distribution losses are products or residuals that during translocation between points A and B become unavailable to the owner.
- Distribution is a physically-balanced process within the economy, whereby a product or residual is translocated from point A (origin) to point B (destination) without any physical transformation.
- The ‘loss’ may be defined as the difference between the physical amount sent off at point A and the physical amount reaching point B (supposed destination).

Losses during distribution

Recording:

- Distribution losses are assigned to the owner of the distributed item (supplier of residual or product)
- … residual is taken up by environment.
- Product theft: apply SNA (product is further used)
- International trade: time of change in ownership according to SNA

Losses during storage

General definition:

- Losses during storage are unintended and/or unavoidable removals from intra-economy physical stocks of products and/or residuals that are no longer under control of or available to the economic owner for use.

Losses during storage

Recording:

- supply of residual/products by the respective physical stock (product inventories, consumer durables)
- case of <u>theft:</u> use of ‘storage-lost’ goods by the using economic unit (production activity, ‘current’ consumption activity, rest of the world).
- use of ‘storage-lost’ residuals by the environment.

Preliminary conclusion – for discussion

- Losses can be described by means of SEEA-typology of physical flows (natural inputs, products, residuals).
- Classifications of residuals may use ‘losses’ for labels