CES Guidelines for Measuring Circular Economy (prepared jointly with OECD)

PART A: Conceptual Framework, Indicators and Measurement Framework

Links with SEEA

Johanne Pakarinen (Statistics Finland)
Michael Nagy (UNECE)

UNECE

In 2021 OECD and UNECE joined forces to draft Joint Guidelines for Measuring Circular Economy

(ECE Task Force since 2021, chaired by Finland)

UNECE

Structure

Part A: Conceptual Framework, Statistical Framework and Indicators (endorsed by CES in June 2023)

- Headline definition
- Measurement scope, terms and definitions
- Relationships with existing statistical standards (e.g. SEEA, classifications)
- National and regional examples

Part B: Guide on measuring progress towards a circular economy (in development)

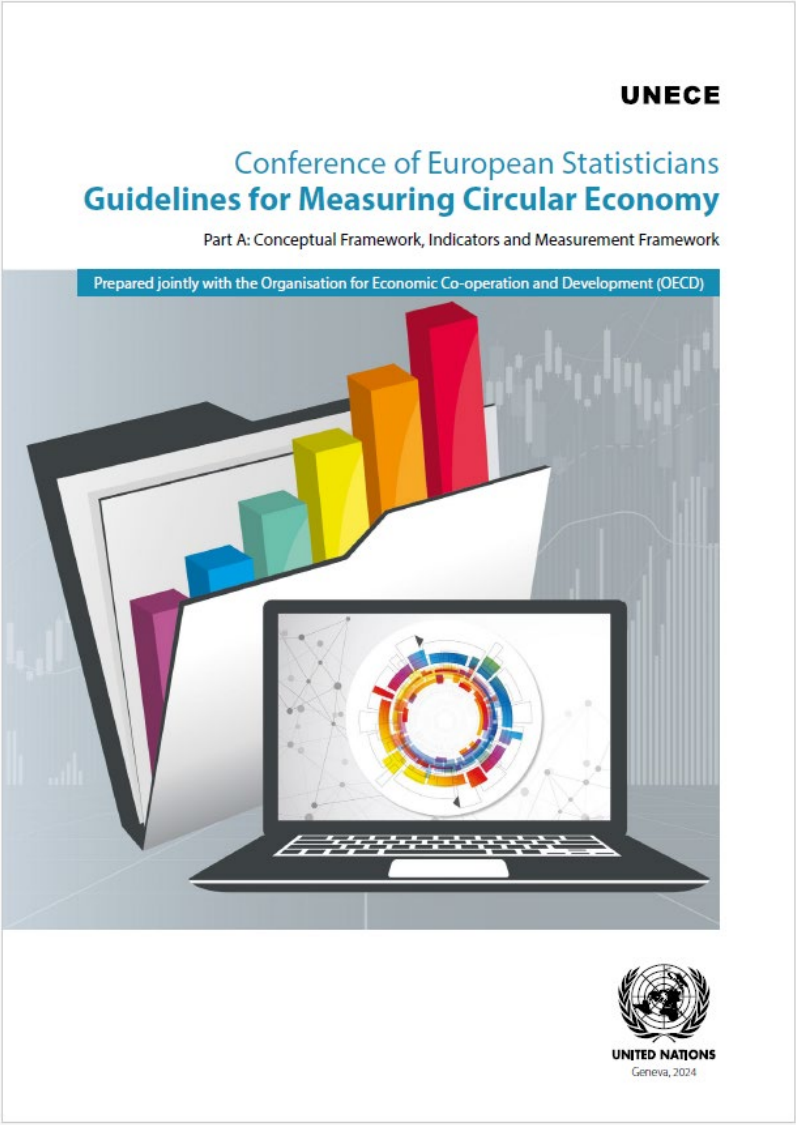
- Data sources
- Institutional collaboration
- Guidance on using indicators

Publication was launched on 15 March 2024!

- Electronic version for download: https://unece.org/statistics/publications/guidelines-measuring-circular-economy-part-conceptual-framework-indicators
- Please grab hardcopies outside the meeting room!

Table of Contents

Part A – Conceptual Framework, Indicators and Measurement Framework



The headline working definition

A circular economy is an economy where:

- *the value of materials in the economy is maximised and maintained for as long as possible;*
- *the input of materials and their consumption is minimised; and*
- *the generation of waste is prevented and negative environmental impacts reduced throughout the life-cycle of materials.*

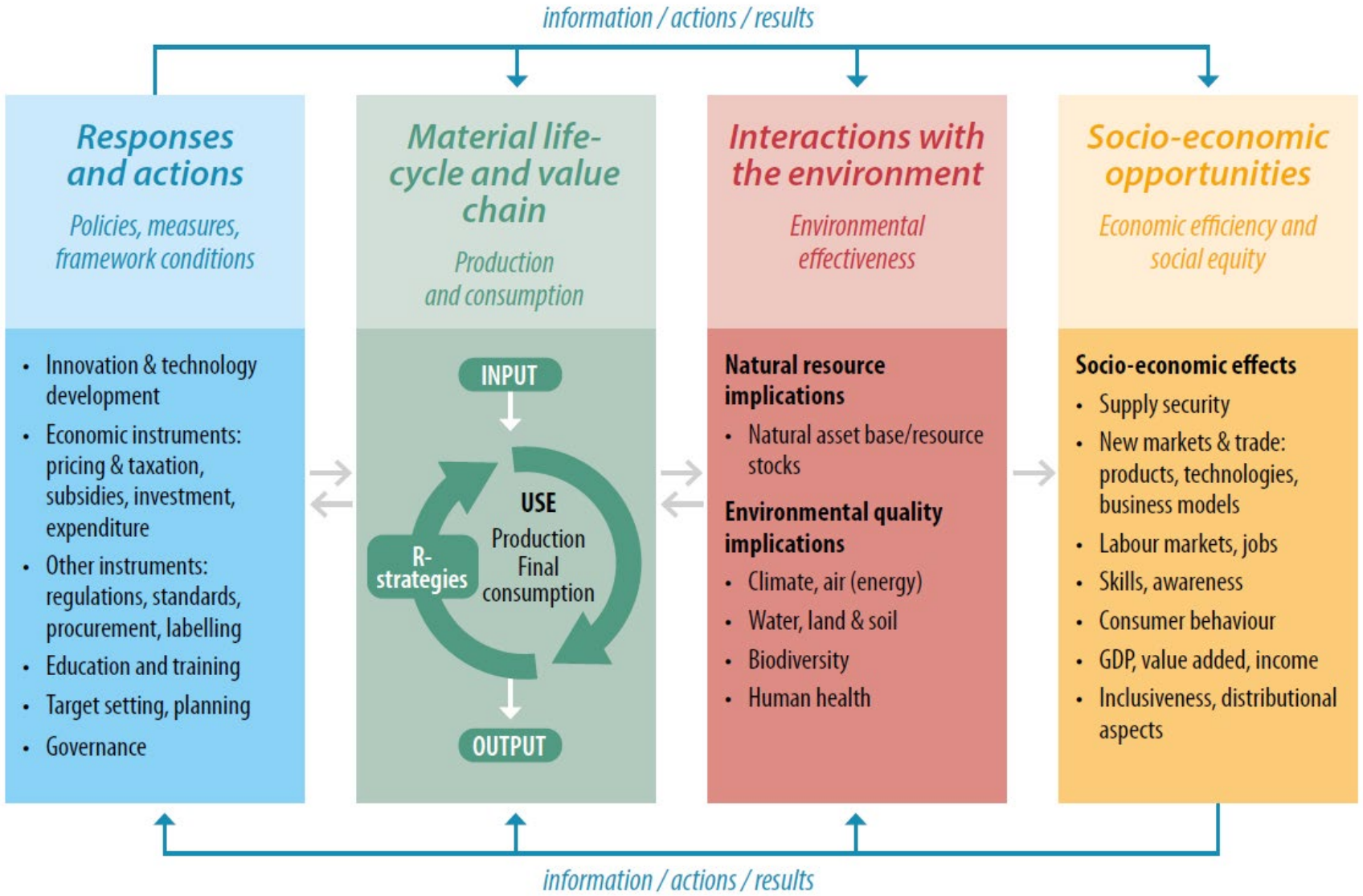
*"**Materials**" are understood to include natural resources and the materials and products derived therefrom (i.e. materials at all points throughout their life-cycles)."*

*The **"value of materials in the economy"** is understood to encompass the value for society as a whole taking into account economic efficiency, environmental effectiveness and social equity. Maintaining the value for as long as possible links to circularity mechanisms.*

***Minimising the input of materials and their consumption** contains a quantitative and a qualitative dimension. Links to the preservation of natural assets, to resource efficiency, to environmental quality*

*The **"life-cycle of materials"** is understood to include all phases of the material cycle e.g. extraction, transportation, product design, manufacture, final consumption/use, reuse, end-of-life, recovery and final disposal, as well as the associated waste management activities and R strategies. Reference to the "life-cycle" reflects waste prevention at all stages (importance of higher level Rs) and all associated environmental impacts*

Conceptual monitoring framework – building blocks



The indicator list – organized according to the 4 building blocks

UNECE

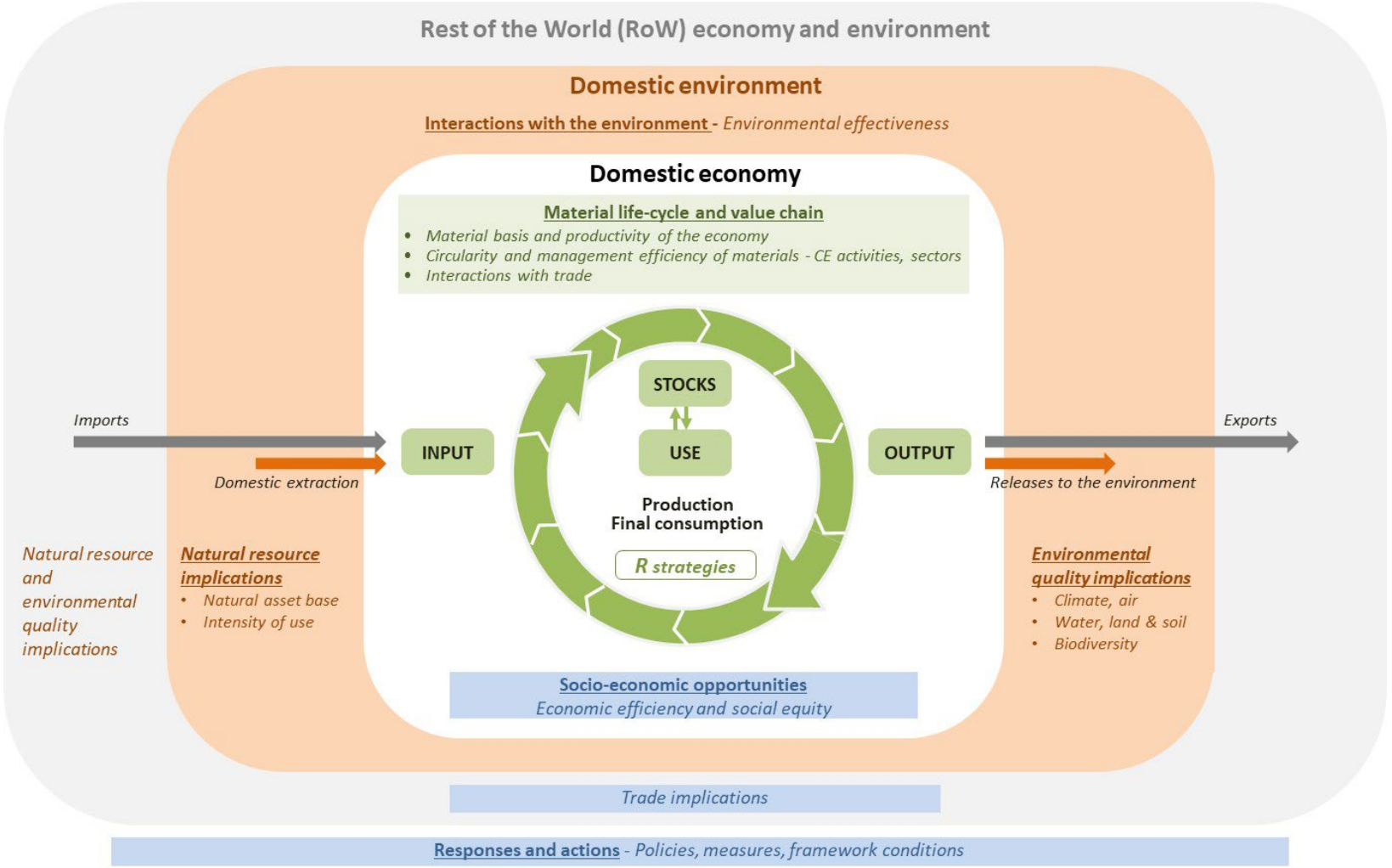
- **Characteristics**
  - Balanced coverage of main CE features
  - Reflect major trends and structural changes related to the transition towards a CE
  - Fit into an overall narrative framework while supporting more granular analysis
  - Lend themselves to being interconnected to inform about policy outcomes
- **Selection criteria to guide and validate the choice**
  - Policy relevance; analytical soundness; measurability
- **Indicator set of manageable size**
  - Builds on existing sets complemented with new/improved indicators to fill gaps
  - Distinguishes between core, complementary & contextual indicators

19 Core indicators:
- address main policy questions; provide big picture;
- point at developments that require further analysis & possible action;
- limited number;
- provide minimum reference list for international work.

Complementary indicators:
- complement the message conveyed by core indicators;
- provide additional detail (sectoral, products/materials);
- cover additional aspects, incl. country-specific.

Contextual indicators:
- inform about “drivers”, socio-economic & environmental background variables;
- facilitate interpretation in context.

Measurement framework - grounded in the SEEA



What can be measured with SEEA? (examples)

UNECE

Responses and actions

- Subsidies/taxes
- Investments

Material life-cycle and value chain

- Waste, material flows
- Resource efficiency
  - Circular Material Use Rate (CMUR)
  - (GDP/DMC)
- Index Decomposition Analysis (IDA)

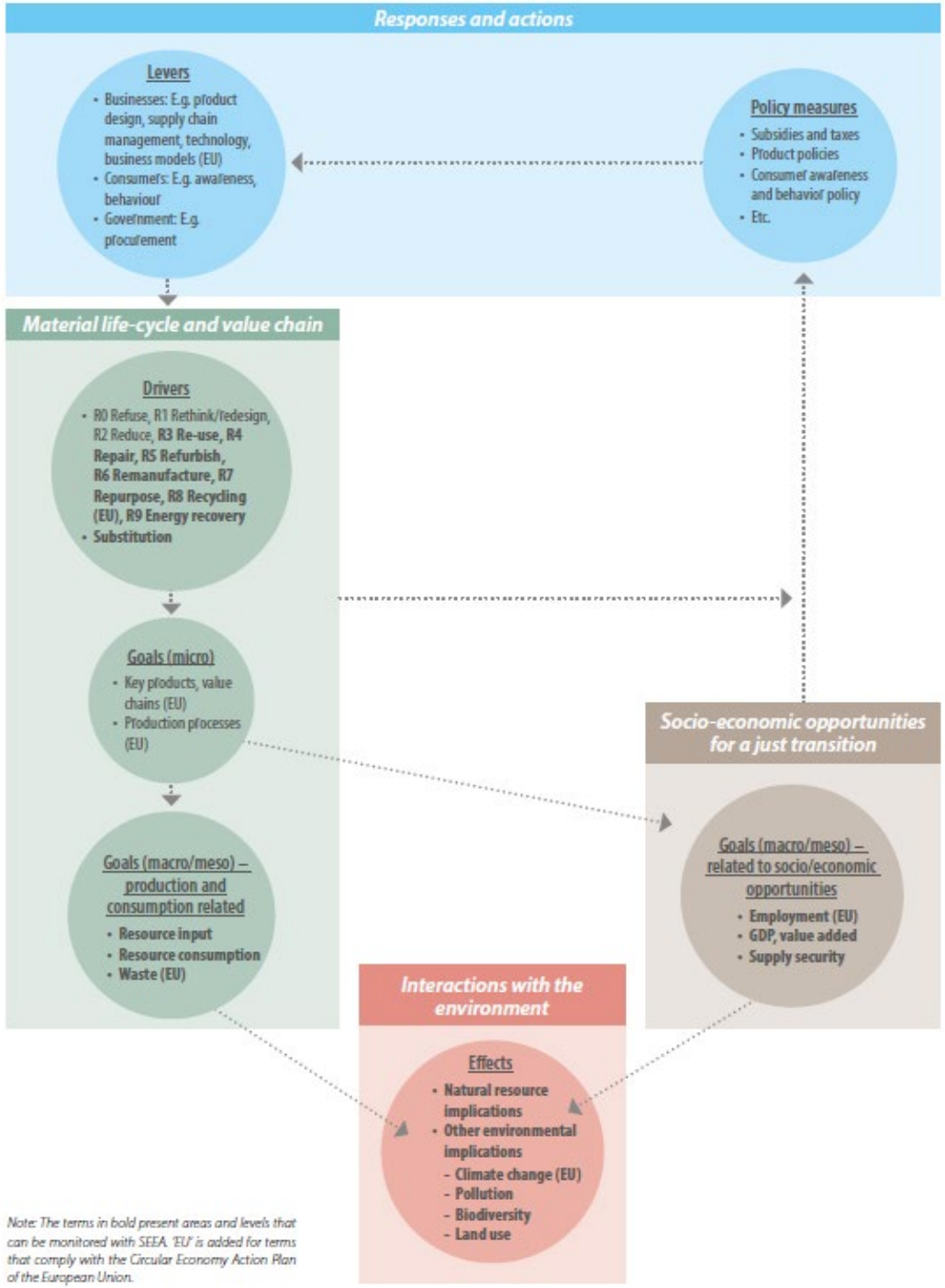
Interactions with the environment

- Natural resource implications
- Other environmental implications
  - Climate change: emissions, energy
  - Pollution: water
  - Biodiversity, ecosystems
  - Land use/cover

Socio-economic opportunities (macro/meso)

- Employment
- GDP, value added
- Supply security

- SEEA is best suited for analyzing the **drivers** of CE
- Enables the **combination of data from different SEEA accounts** and the integration of environmental and economic data (e.g., from National Accounts)
- Provides a basis for harmonised indicators
- international standard → internationally comparable statistics for CE insights
- Provides CE relevant insights that are not available when individual statistics are considered.



CE transition, from levers to environmental impacts

- Guidelines - Figure 15
- The terms in bold present areas and levels that can be monitored with SEEA. ‘EU’ is added for terms that comply with the Circular Economy Action Plan of the European Union.

Some limitations of SEEA for CE measurement

- Less suitable for measuring specific aspects and actions of a CE transition and specific products or production processes
  - Consumer behavior, innovative economic activities or product design, product lifespan, material composition of products, etc.
  - Intra-company flows, transactions between households, etc.
- Recommended international classifications used in SEEA lack detailed information on specific products or production processes
  - Relevant distinctions for e.g., second-hand or bio-based commodities do not exist.
- Timeliness may be an issue
- Other data sources and methods need to be exploited, including new and innovative sources and methods