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Towards Circular Economy Measurement

Update on the work of the UNECE Task Force and the OECD expert group

Work in progress… selected examples!

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OECD and UNECE joined forces to draft joint guidelines for measuring circular economy

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Expert Group on information for a Resource Efficient and Circular Economy

Continuation of WPEI and WPRPW work initiated in 2018-19

Harmonised framework for monitoring progress and supporting policy development and evaluation

Guidance on how to produce, use and communicate CE information

Co-ordination and joint work

Envisaged goal:

Joint guidelines on measuring circular economy

UNECE

Task Force on measuring circular economy

Draft practical guidelines for measuring circular economy)

Coordination and collaboration with other international organisations / expert groups

Platforms for exchange of experience and knowledge (e.g. joint OECD/UNECE SEEA Seminar

- UNCEEA
- Eurostat: EU-Monitoring FW
- Bellagio Process
- UNEP: EW-MFA
- PACE
- ISO

OECD work areas and outputs

Harmonised framework
for monitoring progress and supporting policy development and evaluation

- **Stocktaking**
- *Conceptual monitoring framework: quantitative, qualitative aspects*
- *Harmonised set of indicators*

Current work focus

Guidance
on how to produce, use and communicate CE information

- **Good practices**
- *How to mobilise underlying data*
  How to link datasets (SEEA)
- *How to use, interpret and communicate CE information and indicators*

Plus a feasibility study on the establishment of an integrated database on waste, materials and the circular economy

Main objectives and activities of the UNECE Task Force on Measuring Circular Economy

- Main objective: draft practical guidelines for measuring circular economy, including:
  a) Definition of the measurement scope;
  b) Clarification of key terms and definitions;
  c) Identifying key statistics and indicators needed from the policy point of view;
  d) Identifying data sources for measuring circular economy, with particular attention on SEEA and FDES;
  e) Describing the required institutional collaboration.
- Other objectives:
  a) Contribute to the coordination and collaboration of international organisations' related work; and
  b) Provide platforms for exchange of experience and knowledge (e.g. through Joint OECD/UNECE Seminars on SEEA Implementation).

Joint work of OECD and UNECE Expert Groups

- Work proceeds in parallel (2021-22)
- Complementary expertise, multiple synergies
- Split into three interrelated Work Packages (WP)
  - WP1: Conceptual monitoring framework (OECD, EEA)
  - WP2: Statistical measurement framework (Italy)
  - WP3: CE indicators (UNEP)

A working definition to guide the monitoring of progress

- **Agreed principles**
  - A hierarchy of definitions
  - A simple headline “definition” that, while pointing at the key purposes of a CE, is general enough to serve both policy needs and measurement needs
  - Accompanied with short explanations and references to underlying mechanisms and strategies
  - To be adapted as appropriate to specific needs: country needs, specific sectors or materials
  - To be expanded with details needed to guide statistical measurement
  - To be complemented with a glossary of terms and definitions
- **Proposed headline working definition**
  - Inspired by existing definitions (in particular OECD, EU/EEA, UNECE TF WP2)
  - Building on discussion outcomes

Proposed headline working definition

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

A circular economy is an economy where:

- **the value of materials in the economy** *[for the economy and society]* **is maximised and maintained for as long as possible**

  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.

- **the input of materials and their consumption is minimised**

  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 generation of waste is minimised** *[prevented] [waste is prevented from being generated]* **and negative environmental impacts reduced throughout the life-cycle of materials**

  By referring to the life-cycle of materials,
  (i) waste prevention at all stages of the life-cycle is reflected
  (ii) all associated environmental impacts are reflected, including the generation of pollutants (residuals), impacts on climate, biodiversity, natural capital stocks, etc.

(alternative wording in *italics* and between brackets)

“Translation” of the headline definition in statistical terms (UNECE TF WP2)

The proposed headline definition will receive annotations which will explain the used terminology in statistical terms and their definitions.

For example:

- “Value” refers to different types of values such as revenues, savings, productivity, sustainability, satisfaction, empowerment, engagement, experience, trust
- “Input of materials” refers to input of natural resources (SEEA terminology)
- “Generation of waste” refers to generation of residuals (SEEA terminology)
- Etc.

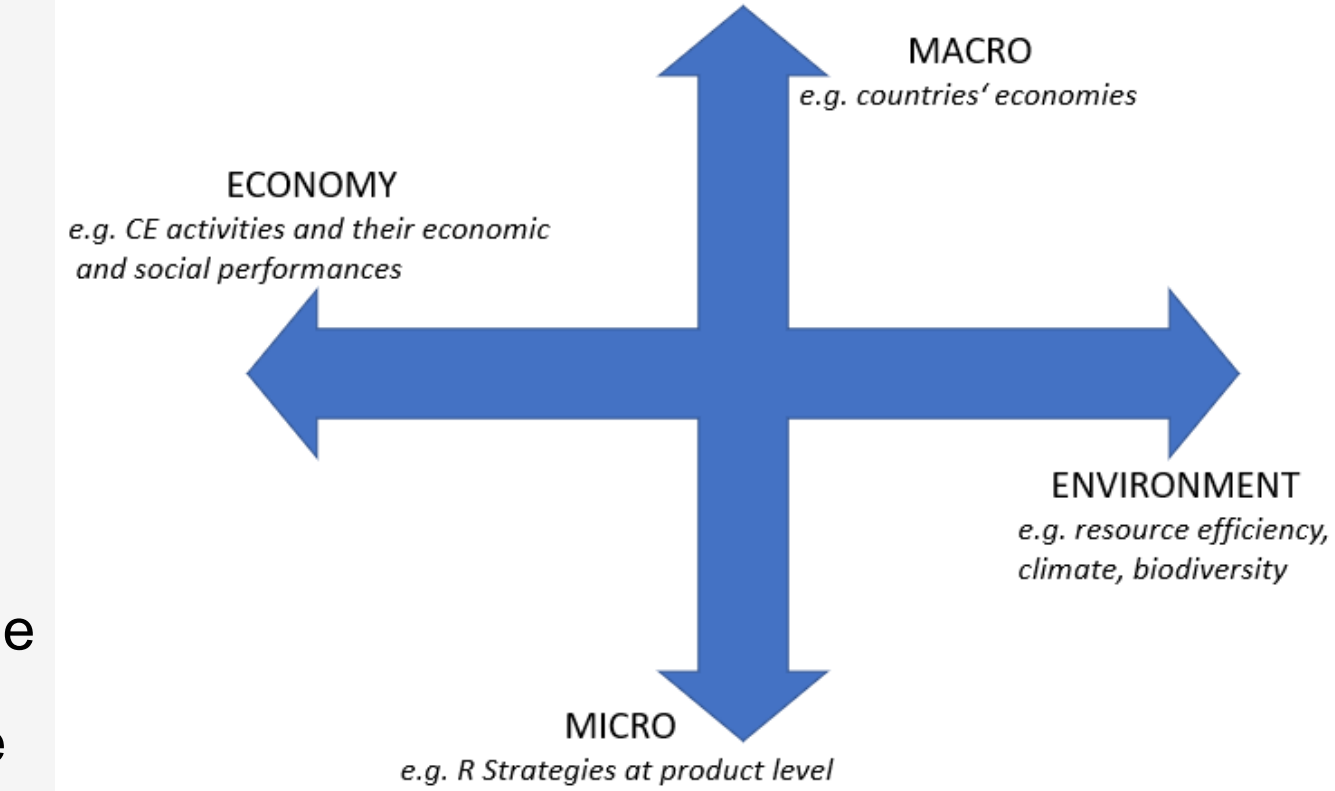
Measurement scope (UNECE TF WP2)

The proposed measurement scope takes into account the different dimensions of a circular economy.

Special consideration of issues related to

- Energy
- Water
- Measurement of environmental impact

These issues are related with CE, but only selected aspects are in the proposed measurement scope (e.g. water abstraction, but not the full water cycle)



Data Indicators Reporting

Conceptual monitoring framework – Proposed building blocks

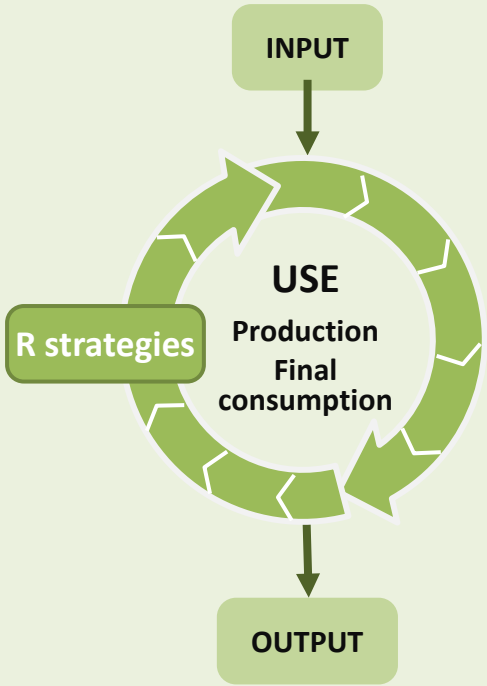
Responses and actions

Policies, measures, framework conditions

- Innovation & technology development
- Economic instruments: pricing& taxation, subsidies, investment, expenditure
- Other instruments: regulations, standards, procurement, labelling
- Education and training
- Target setting
- Governance

Material life-cycle and value chain

Production and consumption



Interactions with the environment

Environmental effectiveness

Natural resource implications

- Natural asset base/ resource stocks
- Unused extraction

[link to input flows]

Other environmental implications

- Climate (energy)
- Air, water, land & soil
- Biodiversity

[link to output flows]

Socio-economic opportunities

Economic efficiency and social equity

- Supply security
- New markets & trade: products, technologies, circular business models
- Labour markets, jobs
- Skills, awareness
- Consumer behaviour
- GDP, value added, income
- Distributional aspects

Selection of indicators for each of these building blocks (UNECE TF WP3)

- WP3 is in the process of identifying indicators for each of the building blocks and its sub-categories.
- Taking into account several existing indicator frameworks, including SDGs, Eurostat, PACE, ISO, OECD, some national indicator frameworks and others.
- An indicators inventory was developed, currently including 643 indicators (with duplications)
- Main objective: Small set of “core indicators” recommended for regular production + recommended contextual and operational indicators
- Selection criteria for core indicators: Relevance, methodological soundness, data availability.
- Currently 22 core indicators proposed

Role of SEEA (UNECE TF WP2)

Strengths:

- Tackles environmental-economic effects for a whole economy: environmental-economic analyses at the macro and meso level.
- International statistical standard
- Ability to combine different environmental and economic information (e.g. from National Accounts) – provides CE relevant insights that are not available when individual statistics are considered.

Limitations:

- Less suitable for the measurement of processes related to the transition towards a CE: consumer behavior, innovative economic activities or product design, product lifespan, etc.
- Level of detail in the SEEA classification is limited due to its macro-economic approach. SEEA is not very suitable to obtain information on specific products or production processes: e.g. specification of second-hand or bio-based commodities.
- Transactions between households, e.g., supply and use of secondary goods, are not considered, because these transactions take place within a single economic entity.
- Recycling within an industrial plant is not recorded. Also, the sale and purchase (as a secondary good) of capital goods within an industrial sector is not recorded

Conclusions and next steps

- A draft headline definition of a circular economy has been developed
- It will be accompanied with annotations explaining it from the measurement point of view
- Drafts exists also for:
  - Monitoring framework
  - Measurement scope
  - Core indicators
  - Strengths and limitations of SEEA
- More needs to be done on:
  - Related classifications
  - Other statistical standards
- OECD and UNECE are currently integrating draft results and discussing open issues with their expert groups
- Draft report expected to be available end of 2022