

# Experiences of developing social circular economy indicators in Finland

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Circwaste Final seminar 27.10.2023

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# Measuring the social side of the CE transformation

- Besides the environmental and economic, important to consider
  - Social impacts of the CE
  - Socio-cultural and behavioural change into CE
- No established indicators or way to measure the social side
- Previous research & indicator frameworks
  - Focus on the environmental & economic
  - Narrow focus on the social (e.g. employment)
  - Holistic frameworks lack of empirical examples
  - E.g. Mies and Gold, 2021; Padilla-Rivera et al., 2020; 2021; Schröder et al. 2020; Walker et al. 2021

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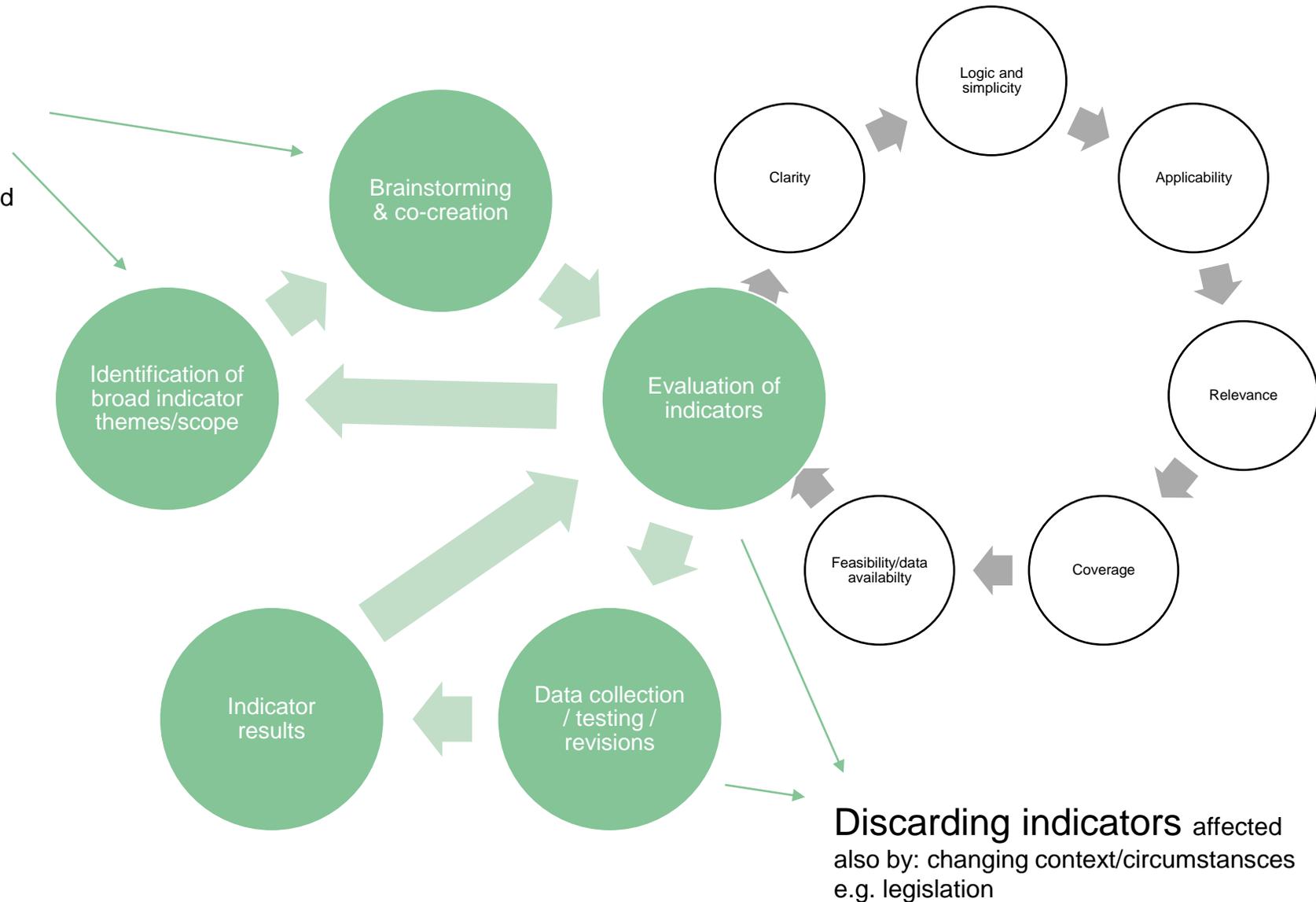
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# Developing social CE indicators in Finland

- "Holistic empirical" case study
- What kind of social CE indicators can be developed?
  - "Holistic": should be related to CE & social aspects
  - "Empirical": should be based on readily available secondary data
  - Regional approach: indicators should enable sub-national monitoring
  - Global impacts not included
- Method:
  - Expert elicitation (n=12) of possible indicators based on concepts and frameworks: CE, SDGs, SIA, social sustainability, sharing economy
  - Piloting: compiling data, analysis of results, revising indicators, compiling data, analysis, revising...
  - Over 3 years' process

## Adding new indicators,

Indicator needs affected by context specific circumstances related to the society environment and economy



# 12 indicators proceeded to full piloting

## Social impacts

### Employment

- Volume of employment in CE
- Median pays in CE jobs
- Background education in CE jobs
- *Employment of vulnerable groups*

### Education

- *CE higher education*

### Accessibility of services and infrastructure

- *Accessibility of bring sites for plastic packaging waste*, WEEE & reusable textiles
- Accessibility of biomethane fuel stations

## Socio-cultural change

### Sharing economy

- Bicycle-sharing
- *Library items*
- Joint-use school spaces (indicator discarded after piloting)

## Gaps and limitations (data availability)

### Social aspects:

Health and wellbeing  
Participation  
Awareness

### Circular economy:

Reuse  
Repair  
Peer-to-peer activities

# Employment of vulnerable groups

- Quality of employment: who are those employed in the CE jobs?
- Employment of vulnerable groups in the CE jobs through social employment & subsidies
- Targeted at groups facing barriers to employment: long-term unemployed, uneducated youth, immigrants, people with disabilities
- Reuse and recycling one of the most important sectors for social employment (appr. 5% of subsidised workers, 3800)
- Importance of the CE increasing steadily



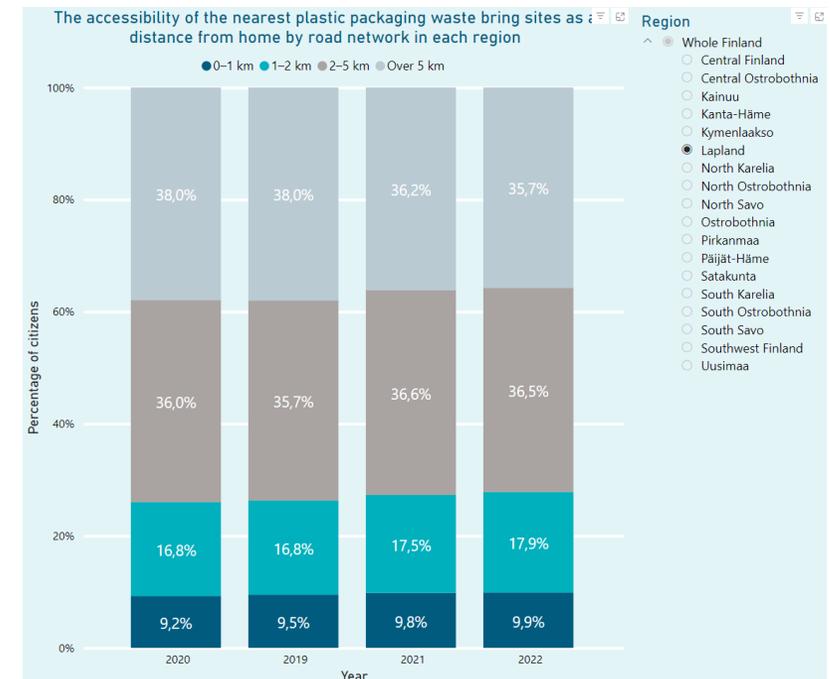
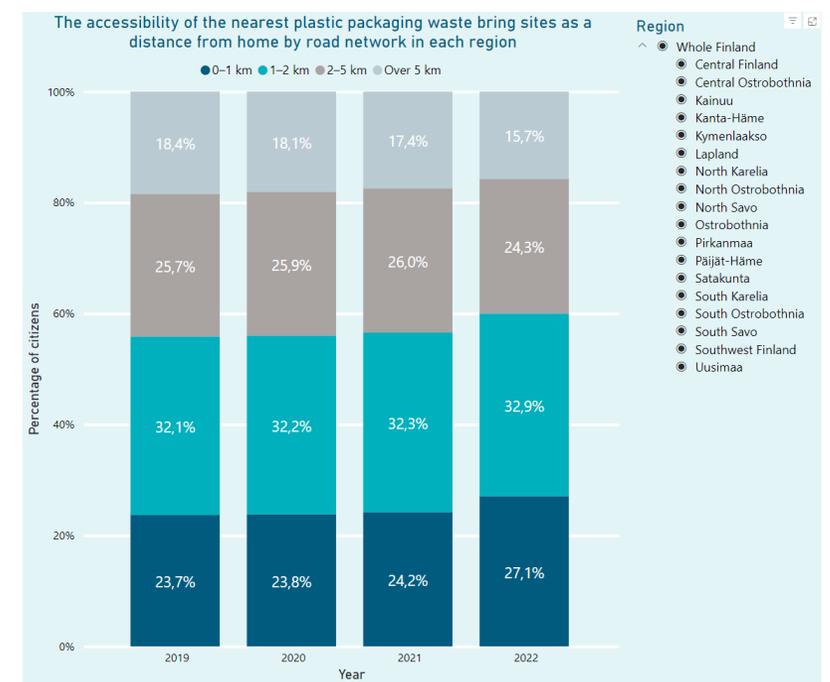
# Education: CE in higher education

- Is the CE related capacity growing in the society?
- CE related education offered by the universities of applied sciences
- Data sources: online study guides of Finnish UAS's & directly contacting schools
- "circular economy" mentioned in the course name or description
- CE education offerings increasing



# Accessibility of bring sites

- Are CE services and infrastructure equally accessible to all?
- Accessibility of plastic packaging waste bring sites
- Measured by road distance from home
- Accessibility has improved, but but big differences between urban and rural areas







# Lessons learned

- Indicators provide a limited snapshot of CE development
- Small steps towards socially sustainable CE in Finland
- Identified challenges:
  - General data availability and quality
  - Difficult to measure circular developments with linear data (data based on linear logic and classifications)
  - Quantifying the qualitative – need for user-oriented data
  - How to link CE development to particular social outcomes?
  - Is the change positive or negative?
- Take home message: the method for measuring the social side as an ongoing and iterative process adapted to local conditions and open for change

Full study: Pitkänen et al. 2023. How to measure the social sustainability of the circular economy?  
Journal of Cleaner Production, 392, 136238.

Indicators in [www.circwaste.fi](http://www.circwaste.fi) > monitoring

# Thank you!

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