Finnish applications of MFA and Waste Statistics in measuring Circular Economy

Heidi Pirtonen, Statistics Finland
heidi.pirtonen@stat.fi
31 March, 2022

Contents

1. Circular Economy in Finland
   - Strategic Programme for Circular Economy: Objectives and Monitoring

2. Measuring Circular Economy in Statistics Finland
   - Applications of Waste Statistics
   - Applications of Material Flow Accounts
   - Other Circular Economy Indicators

3. Current indicator development

1. Circular Economy in Finland

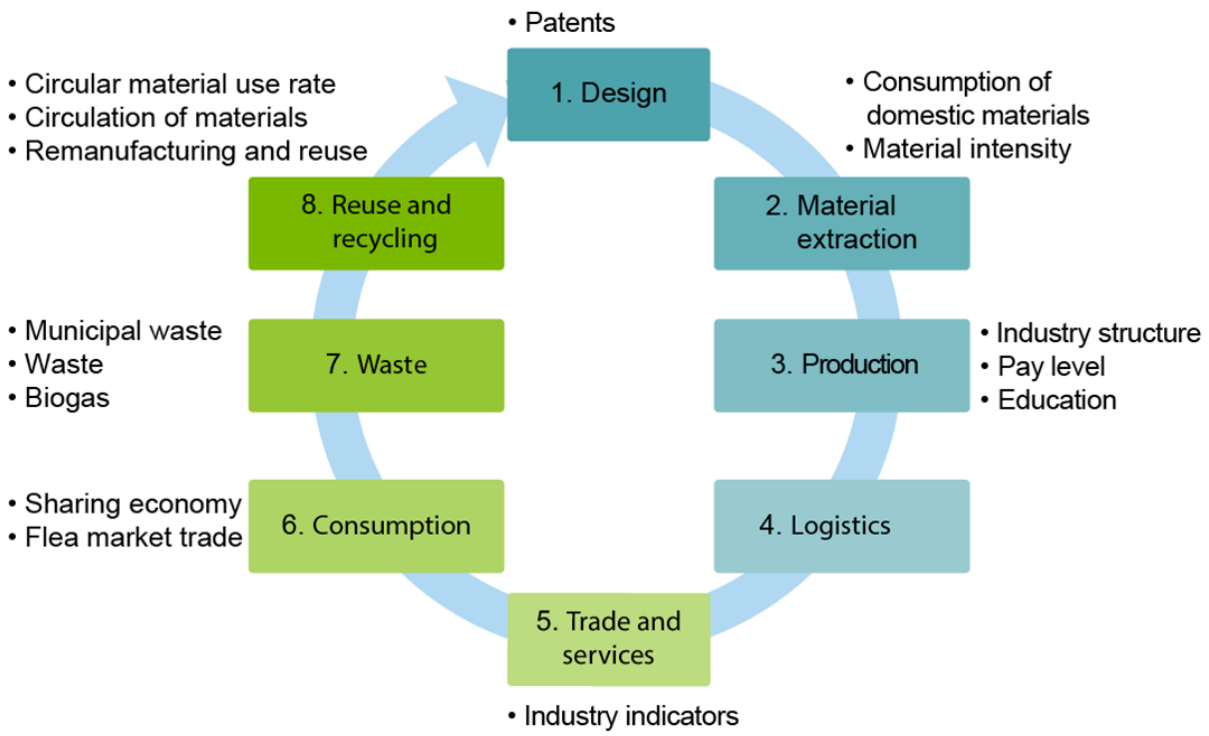
- Strategic Programme for Circular Economy (2021):
  - **Vision:** “Finland in 2035: Our economic success is founded on a carbon-neutral circular economy society”
- **Objectives:**
  - The consumption of non-renewable natural resources will decrease, and the sustainable use of renewable natural resources may increase to the extent that **the total consumption of primary raw materials in Finland in 2035 will not exceed what it was in 2015**. Natural resources used to manufacture products for export are not covered by the objective
  - The **productivity of resources** will double by 2035 from what it was in 2015
  - The **circular material use rate (CMU)** will double by 2035

Programme monitoring / indicators

- **Domestic material consumption DMC**
- **Material input required for domestic end-use material-specifically RMC**
- **Resource profitability (GDP/RMC)**
- **Circular material use rate CMU**
- Turnover of circular economy sectors and number of enterprises
- Eco-innovations
- Innovative public procurements
- Municipal, packaging and construction waste and recycling rate
- Circular Economy Barometer: A survey and interview-based study for companies and consumers on attitudes and operating models that support the circular economy

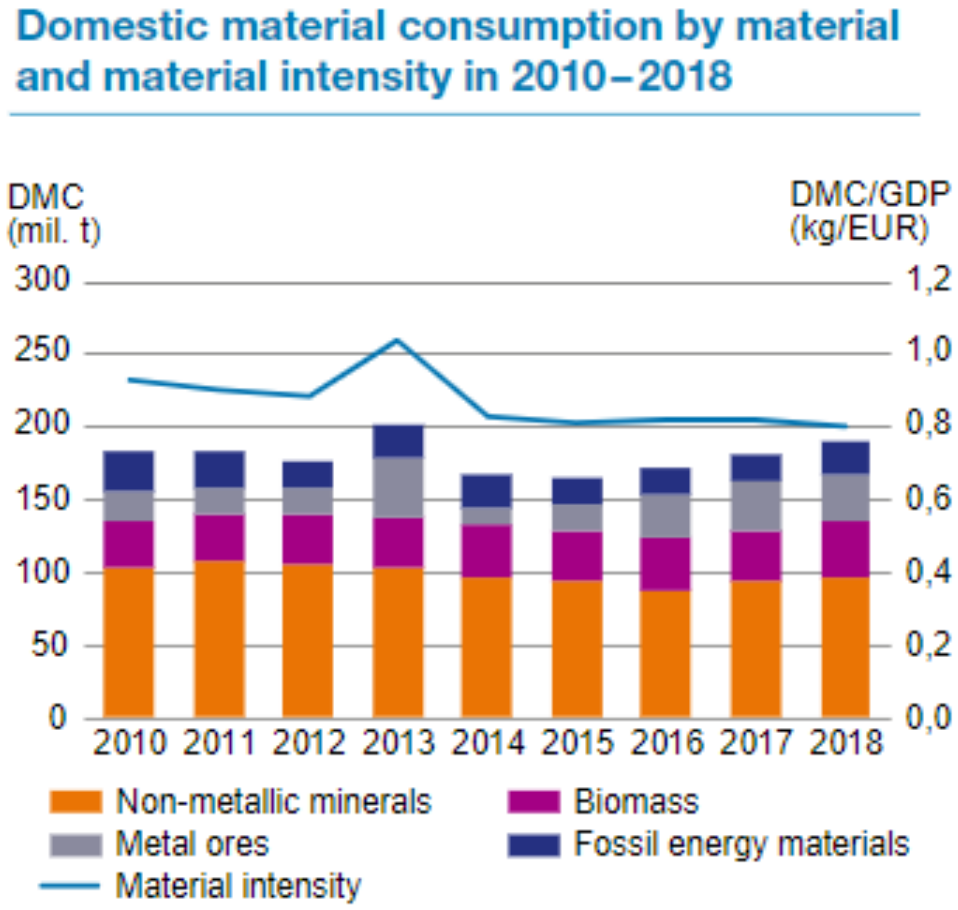
2. Measuring Circular Economy in Statistics Finland

- Circwaste project 2019-2020:
  - Circular economy business indicators
- Emphasis on business and utilizing existing data
- A framework with eight activities and 15 indicators
- Indicators are being updated 2022-2023
- Applications of MFA and Waste statistics next



Material Extraction

- Domestic Material Consumption DMC
  - By material type
- Material Intensity DMC/GDP
  - Kg/eur

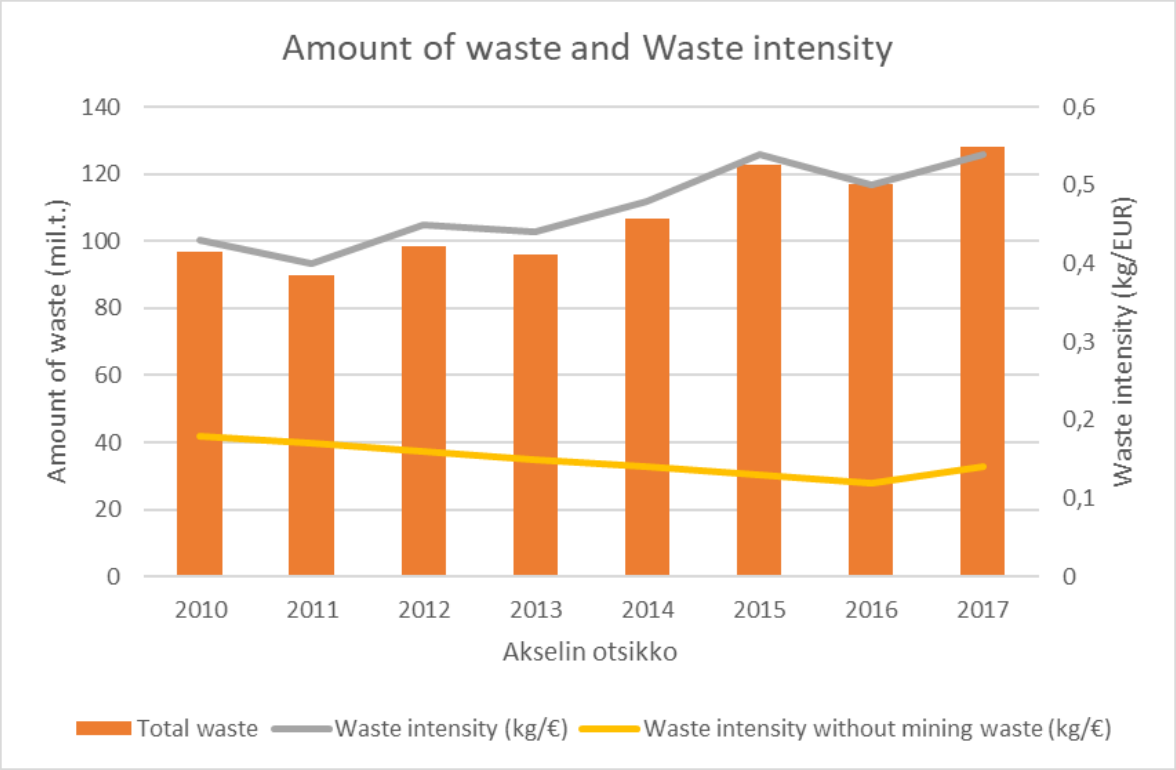


Statistics Finland

Waste

- Amount of waste
- Waste intensity
  - Also without mining waste

- In the CE programme: *Municipal, packaging and construction waste and recycling rate*



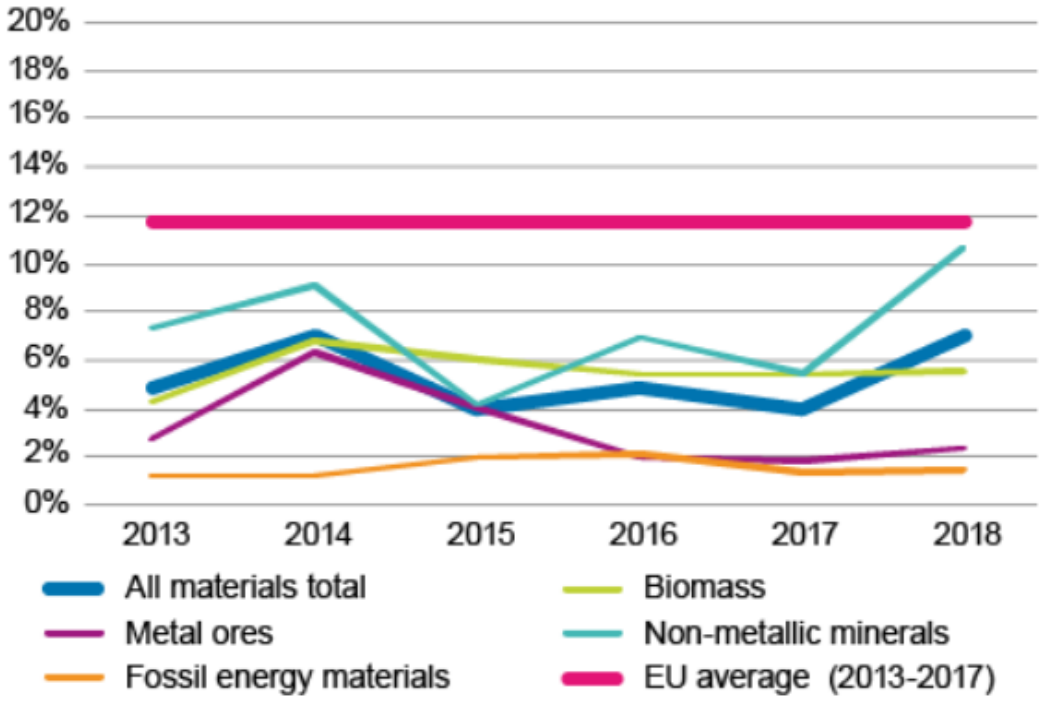
Statistics Finland

Reuse and Recycling

- Circular material use rate (CMU): the ratio of the circular use of materials to the overall material use

- Based on Eurostat's calculation method 2018

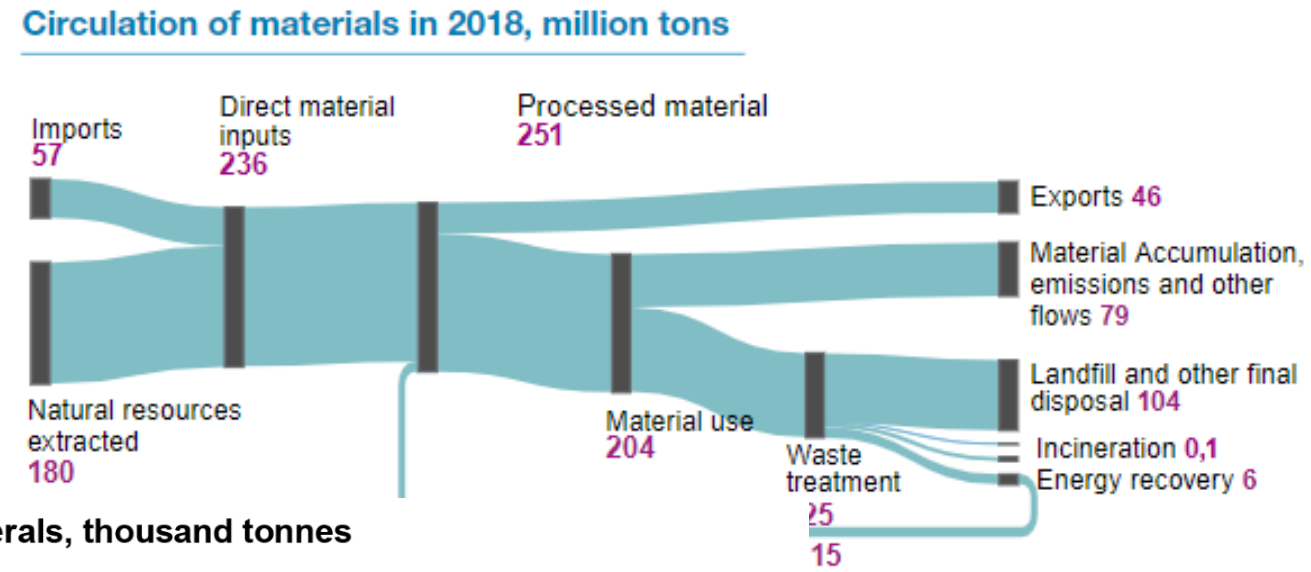
Circular material use rate by material and in total in 2013 to 2018, and EU average for 2013 to 2018

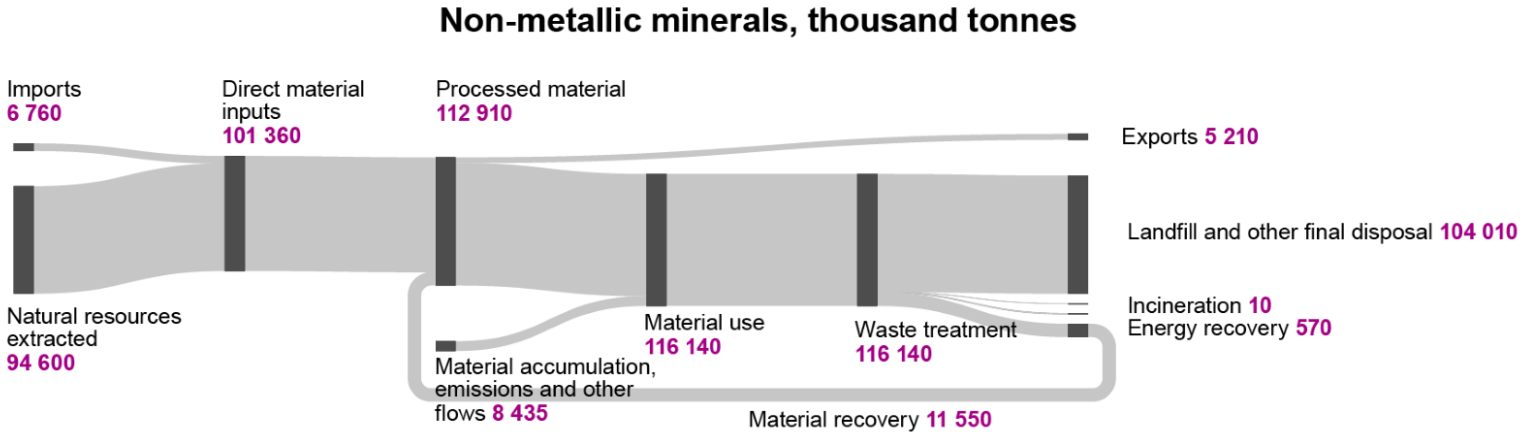


Statistics Finland

Reuse and Recycling:

- Circulation of materials in 2018
- Indicator data available also by material type
  - Only a theoretical conversion





Statistics Finland

3. Indicator updates and current development

- Circular economy business indicators updated 2022-2023

- Strategic Programme for Circular Economy
  - Domestic Raw Material Consumption RMC
    - No systematic production of the indicator
  - Statistics Finland together with Finnish Environment Institute 2022-2023
  - Time series 2000->
  - RMC can also be utilized in the development of CMU-indicator in the future

References / More info

- Eurostat: Circular material use rate, calculation method. 2018 edition https://ec.europa.eu/eurostat/documents/3859598/9407565/KS-FT-18-009-EN-N.pdf/b8efd42b-b1b8-41ea-aaa0-45e127ad2e3f
- Finnish Environment Institute: Circwaste-project https://www.syke.fi/en-US/Research__Development/Research_and_development_projects/Projects/CIRCWASTE__Towards_Circular_Economy_in_Finland
- Ministry of the Environment: Strategic programme to promote a circular economy https://ym.fi/en/strategic-programme-to-promote-a-circular-economy
- Statistics Finland: Circular economy http://www.stat.fi/tup/kiertotalous/index_en.html
- Statistics Finland: Economy-wide material flow accounts http://www.stat.fi/til/kanma/index_en.html
- Statistics Finland poster presentation: Recycling data for a better world https://www.youtube.com/watch?v=CfPxY8LO9Uk
- Statistics Finland: Waste statistics http://www.stat.fi/til/jate/index_en.html

Thank you!