

Policy application of Material Flow Accounts

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Content

- Policy questions regarding resource management (circular economy) in the Netherlands
- How Material Flow Accounting (MFA) can be applied to answer these questions
- Results for the Netherlands

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Policy questions regarding resources

European policy regarding resources:
Flagship initiative “A resource efficient Europe”



Sustainable Development Goals (SDGs):
08 Decent Work and Economic Growth (resource efficiency; decoupling)
12 Responsible Consumption and Production (use of resources; waste recycling)

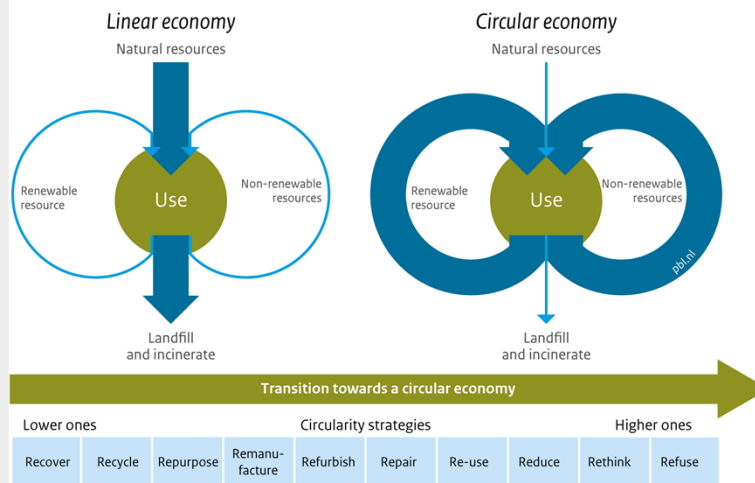


Dutch policy regarding resources:
Transition towards a circular economy.



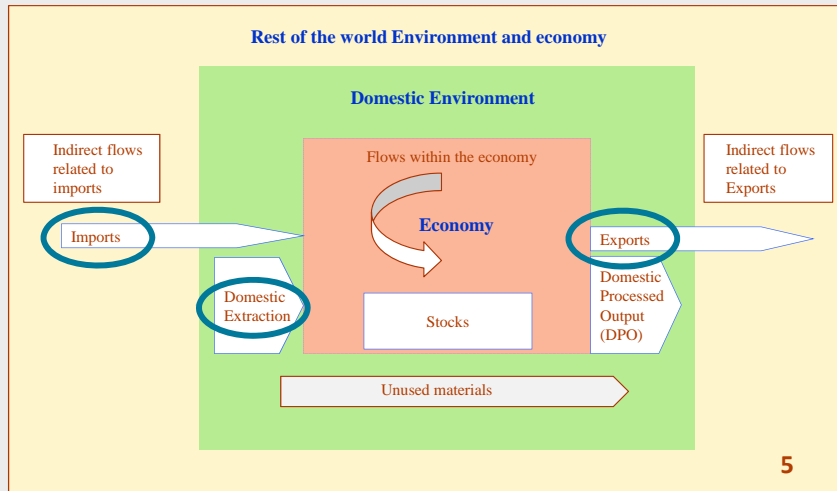
Dutch policy regarding circular economy

Figure 1
From a linear to a circular economy



Source: PBL 2016

Concept of Material flow accounts in metric tons



Material categories

Biomass

- Crops, Fodder, fish
- Timber
- Products mainly from biomass

Fossil energy carriers

- Coal, peat, other solid energy resources
- Oil and gaseous energy products
- Products mainly from fossil energy

Metallic minerals

- Iron ores
- Non ferocious iron ores
- Products mainly from metals

Non-metallic minerals

- Non-metallic minerals, raw and processed
- Products mainly from non metallic minerals

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Data sources

- **International trade data**
- **National statistics**
 - Agricultural crop statistics, Forestry statistics, Fishery statistics, Mining statistics, Mining surveys
- **Other sources:** ministries, industrial associations, business reports.
- **International data sources**
 - FAOSTAT, British Geological Survey, US Geological Survey, UN International Energy Agency (IEA), UN Industrial Commodity Production Statistics

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Guidelines



- **SEEA-CF, 2012**, chapter 3: Physical flow accounts, chapter 3.3.6 Economy Wide – Material Flow Accounts (EW-MFA)
- **OECD, 2008**, Measuring material flows volume 1 to 4.
- **Eurostat, 2017**, Economy Wide – Material Flow Accounts (EW-MFA) – compilation guide.

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Relevant MFA indicators

How many and what kind of materials are used as input in our economy?

Direct Material Input (DMI) = Domestic Extraction (DE) + Imports

How high is the materials consumption (per habitant)?

Direct Material Consumption (DMC) = DMI – Exports

Are we a net importer or exporter of materials?

Physical Trade Balance = Imports – Exports

Are we becoming more resource efficient over time?

Resource productivity = GDP/DMC

For what materials are we dependent on other countries?

Self-sufficiency = DMC/DE

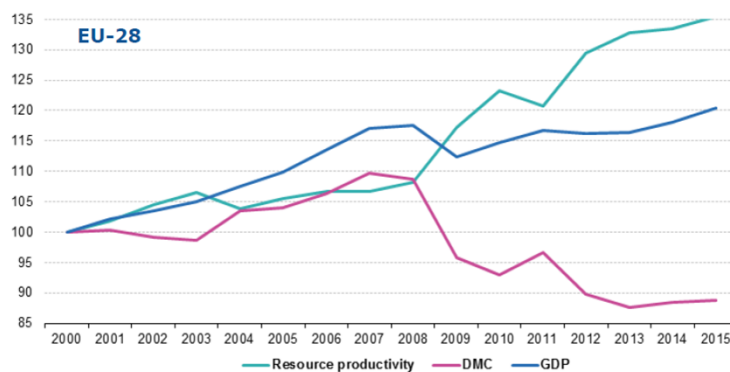
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Indicators for policy applications

Lead indicator: resource productivity

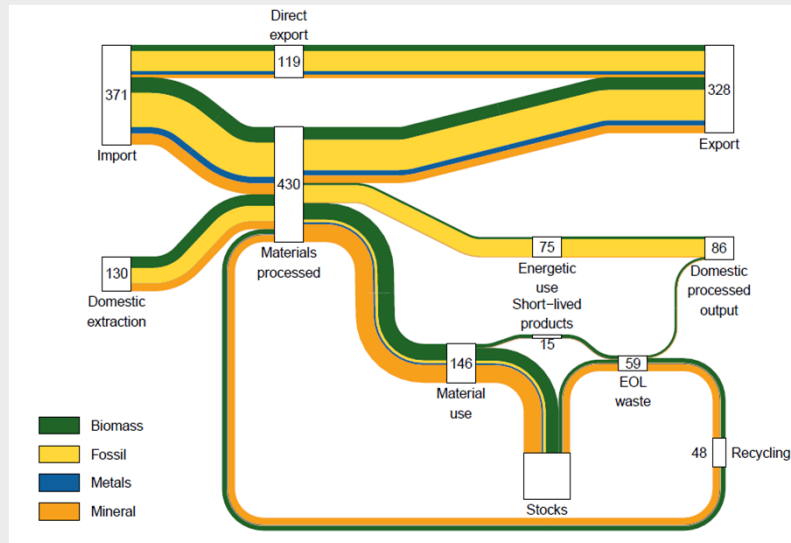
$$\text{Resource productivity} = \frac{\text{GDP}}{\text{Domestic material consumption}}$$



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Material flows in the Netherlands



Thanks for your attention!

