



STEUNPUNT
CIRCULAIRE
ECONOMIE

PRC Closing Summit – November 22, 2021

Circular Material Use Rate indicators

A Flemish macro-economic perspective

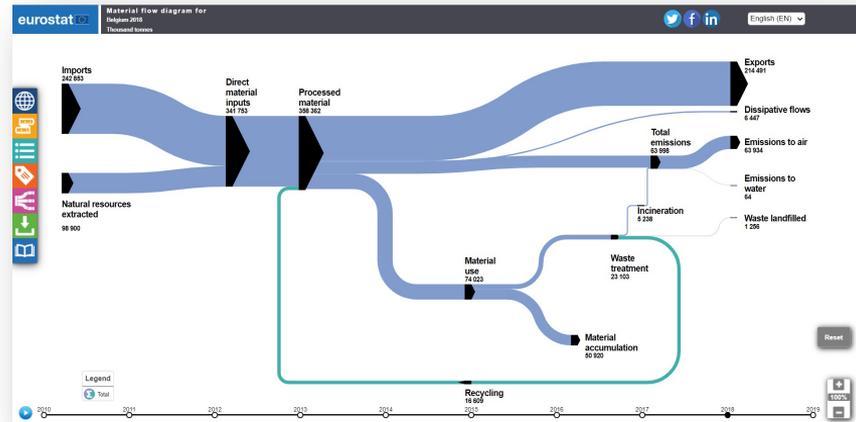
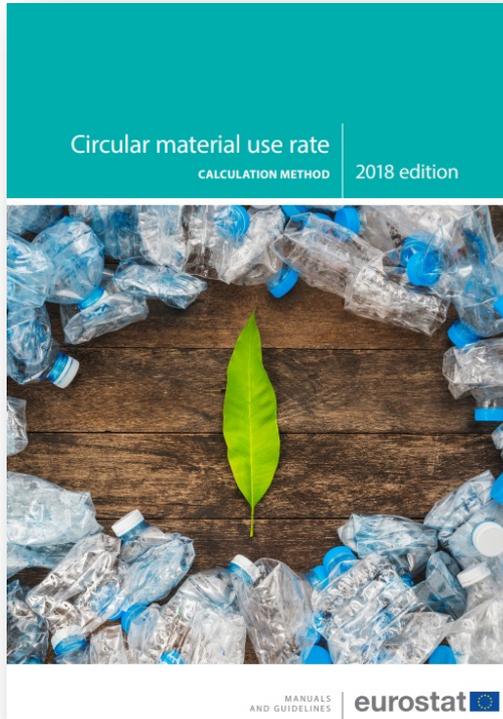


The overall circularity of Flanders

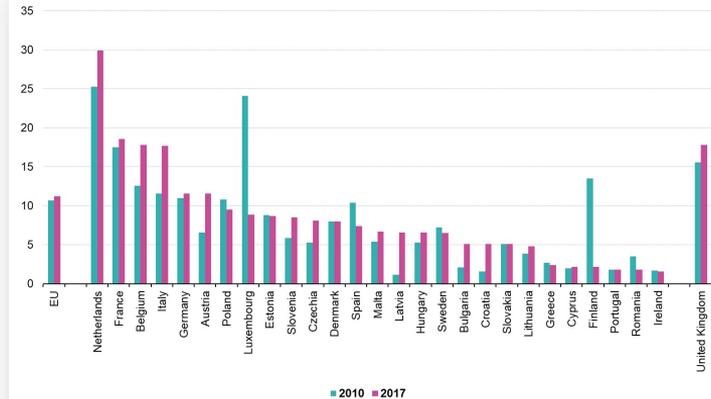


- Circular material use rate (CMUR) is one of the indicators of the EC's Circular Economy Monitoring Framework.
- Goal of the CMUR is **to assess the overall circularity of Flanders.**
=
$$\frac{\text{circular use of materials}}{\text{overall use of materials}}$$
- It is the **share** of material resources used which came from recycled products and recovered materials, thus saving extractions of primary raw materials.
- Methodological trade-off between **benchmarking** and **Flemish specific context.**

Benchmarking



Circular material use rate in 2010 and 2017



Source database: env_ac_cur

eurostat

Specific Flemish context



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Wat zoekt u? **ZOEKEN**

Home > Afval & materialen > Rapportering en consultatie bedrijfsafval- en materialengegevens

Rapportering en consultatie bedrijfsafval- en materialengegevens

Er bestaan diverse rapporteringsverplichtingen met betrekking tot bedrijfsafvalstoffen en materialen. Hier vindt u een overzicht van de rapporteringen en de statistieken.

- Productie van bedrijfsafvalstoffen**
 - IMIV-melding van bedrijfsafvalstoffen en grondstoffen
 - Webtoepassing voor rapportering door producenten via IMIV
 - Verwerking van de gerapporteerde gegevens tot Vlaamse statistieken
- PRTR**
 - Wat is PRTR?
 - Webtoepassing voor rapportering van gegevens via IMIV
 - Consultatie van gerapporteerde gegevens
- Verwerking van bedrijfsafvalstoffen**
 - IMIV-melding van afvalstoffen door verwerkers
 - Webtoepassing voor rapportering door verwerkers via IMIV
- Monitoringstelsel Duurzaam Opervlaktedestoffenbeleid (MDO)**
 - Wat is MDO?
 - Enkele cijfers uit het MDO jaarverslag
- Rapportering (AEEA)**
 - Iedereen die AEEA inzamel, verhandelt, maakt, uitvoert naar het buitenland, verwerkt
- Tarieven en capaciteiten voor sorteren en verbranden**
 - Algemene informatie
 - Publicatie-tekstbestanden tot

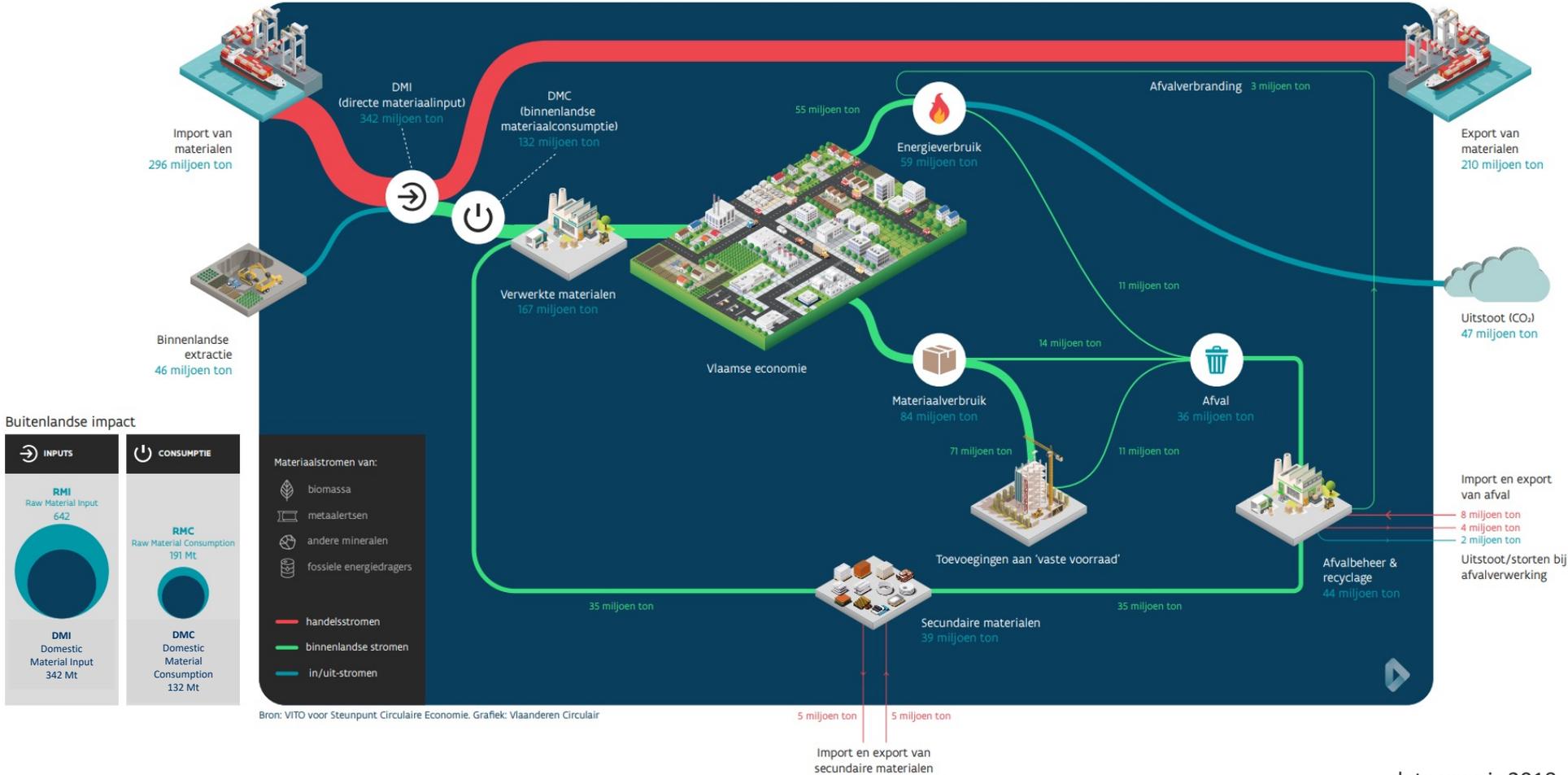


CMUR indicator for Flanders



- In this presentation, the focus is on benchmarking.
- Two-step procedure:
 - Develop a macro-economic framework on material flows in Flanders
 - Derive scale indicators and circularity rates
- In the background report:
 - Adaptations to the Flemish context
 - Improved alignment with Flemish statistics

MATERIAALSTROMEN IN VLAANDEREN



A few remarks to the framework



(1)

- Open Flemish economy
 - Transit is excluded
 - Estimated share of re-exports is about one-third
 - Separate monitoring of trade in waste and secondary materials
- Emissions ('uitstoot') include the energetic conversion from fossil energy carriers and biomass (food and feed)



A few remarks to the framework

(2)

- Direct derivation of scale indicators
 - Sankey diagram
 - Data reflect on one year, trend monitoring possible
- (huge) Built-up of stocks (≈ 60 Mt)
- Framework on cross border material flows and domestic flows
 - No data on foreign production chain (e.g. recycled content of imported products)

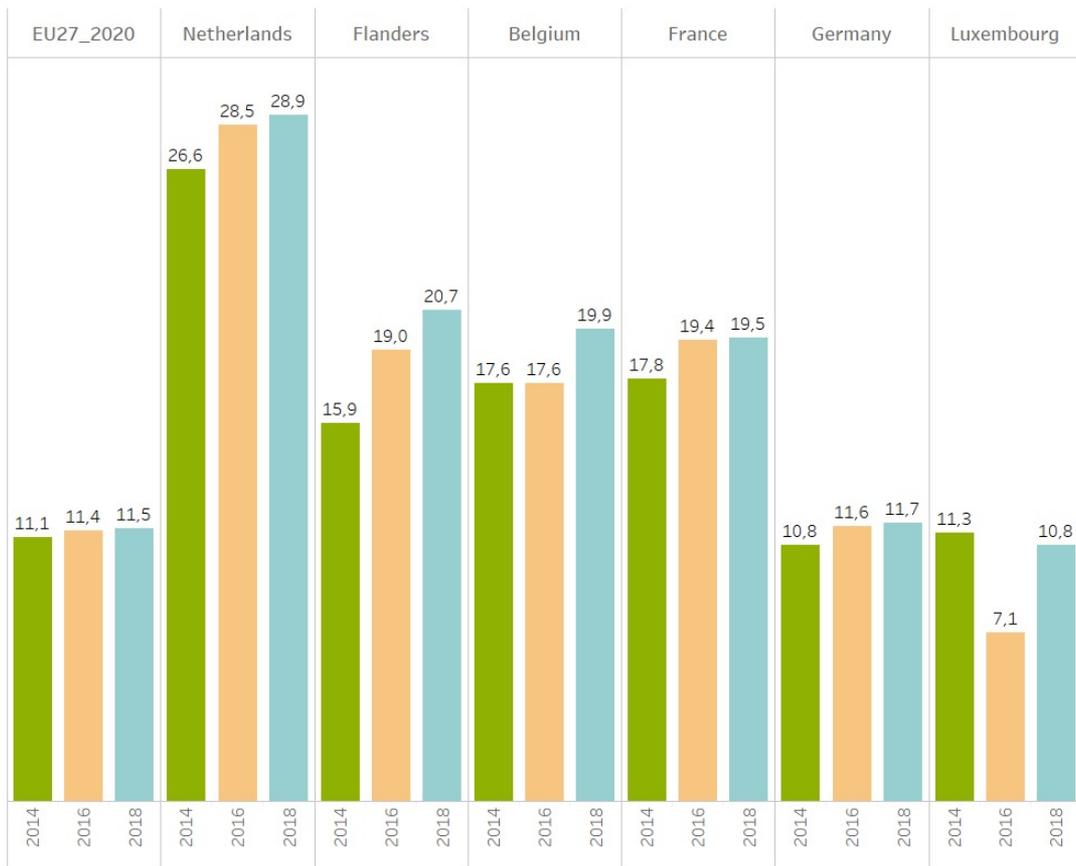
Derivation of the circularity rates

- Circular material use rate
 - ‘secundaire materialen’ / ‘verwerkte materialen’
 - = 35 Mt / 167 Mt
 - = **20.7%** (2018)



Benchmarking the CMUR

indica



Source: Eurostat, [EU circular material use rate - Products Eurostat News - Eurostat \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1)

Circularity rates per material category



- CMUR biomass = **17.3%**
 - High share to energetic use, feedback loop is mainly wood
- CMUR non-metallic minerals = **43.2%**
 - Large share to stock built-up
- CMUR metals = **10.5%**
 - Large share to stock built-up
- CMUR fossil energy carriers = **5.2%**
 - High share to energetic use, feedback loop is mainly plastics

Increasing the CMUR? (1)



- In general, a higher CMUR value reflects that more secondary materials substitute primary raw materials.
- However, a higher CMUR is not per definition desired and equally a lower CMUR is not per definition undesired.
- Long term goal = using less materials
 - Instead of increasing CMUR with increasing DMC

Increasing the CMUR? (2)



- Improving the CMUR
 - Increasing the feedback loop
 - Transition to renewable energy (temporarily increasing the demand for infrastructure related materials)
 - Increasing the production efficiencies
 - Extending the lifespan of products (e.g. product-service systems)

Conclusions and outlook (1)



- The CMUR as such measures whether we go in the right direction, but at the macro-economic level.
- Keep in mind the longer term concept of keeping materials in the loop, first as products, then as parts, then as materials (recycling) and only then as waste for backfilling, incineration, landfilling.
- Economy-wide nature of the CMUR: the effects of individual actions of governments, businesses and citizens are not directly visible.

Conclusions and outlook (2)



- The CMUR should be accompanied by **micro-level pointers** (i.e. micro/meso level indicators focusing at specific consumer needs) to help us understand and monitor the smaller changes within our economy.
- R-strategies like reuse, remanufacturing, recycling, which focus on **maintaining the value of the stock of materials**, can be considered as means/ways to reduce material extraction and waste flows.
- Different R-strategies have an effect on different components of the CMUR.



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KU LEUVEN

