



BESTAANDE INDICATOREN VOOR EEN CIRCULAIRE ECONOMIE

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VITO – Unit Duurzaam Materialenbeheer

Mineraad hoorzitting: Indicatoren voor een circulaire economie – 18/5/2017





- **Bestaande indicatoren/initiatieven op Europees niveau**
 - Resource Efficiency Scoreboard
 - Raw Materials Scoreboard
- **Onderzoek van het ETC/WMGE voor het Europees Milieuagentschap**
 - Onderzoek naar nieuwe indicatoren
 - Circular Economy reports
- **Indicatoren Domestic Material Consumption en Raw Materials Consumption op Vlaams niveau**

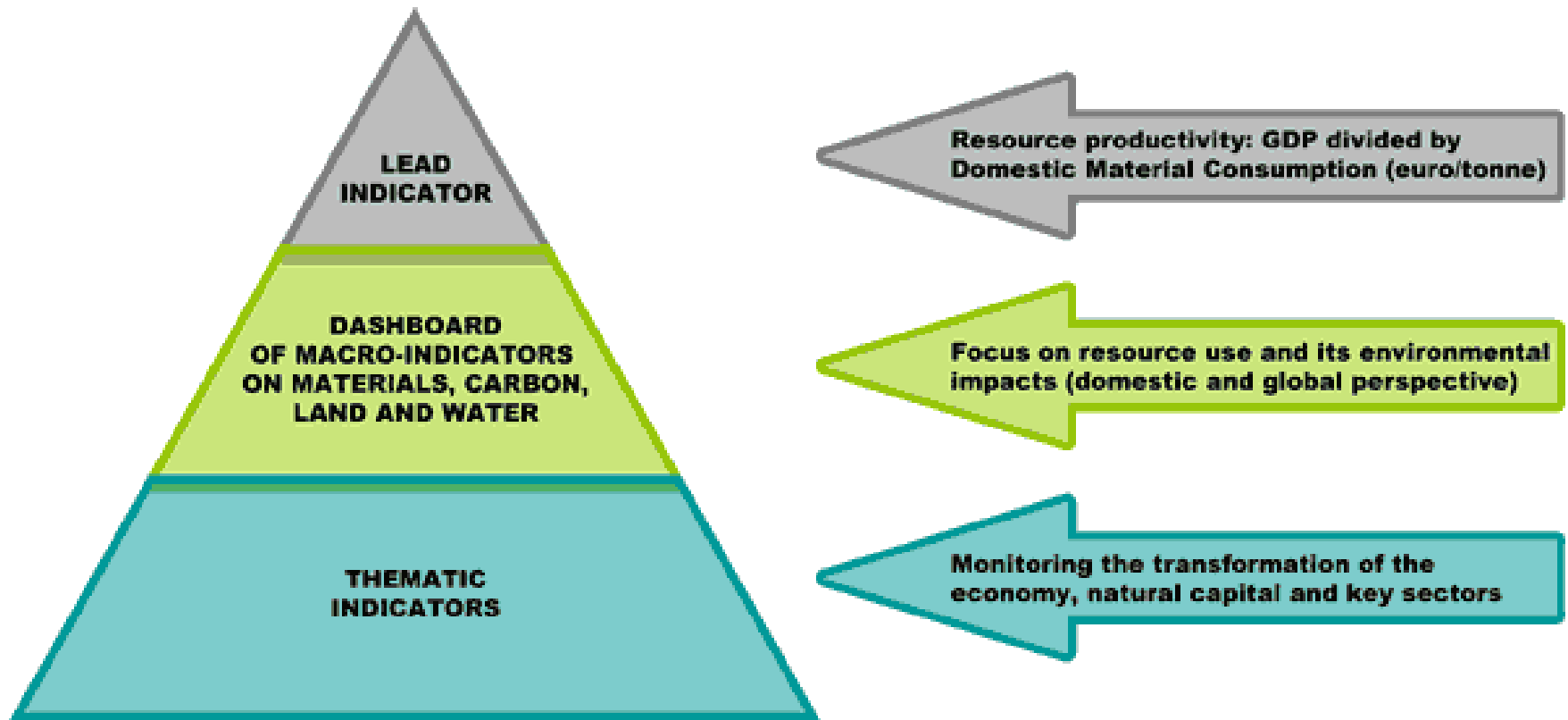
BESTAANDE INDICATOREN OP EUROPEES NIVEAU

- Nood aan **indicatoren** om voortgang van Circulaire Economie op te volgen
- **Bestaande indicatoren** → **materiaalstromen**:
 - Import, export en ontginning van grondstoffen
 - Hergebruik en recyclage
 - Recyclage indicatoren voor specifieke afvalstromen (bv. bouw en sloop afval)
- Bestaande indicatoren dekken **onvoldoende**:
 - Levensduurverlenging
 - Meer efficiënt gebruik
 - Niet-materiaalgerelateerde maatregelen (duurzame consumptie, aandeel deeleconomie, veranderingen in business modellen, etc.)

→ **Nood aan bijkomende nieuwe indicatoren**

EU RESOURCE EFFICIENCY SCOREBOARD (EURES, 2014)

<http://ec.europa.eu/eurostat/web/environmental-data-centre-on-natural-resources/resource-efficiency-indicators/resource-efficiency-scoreboard>

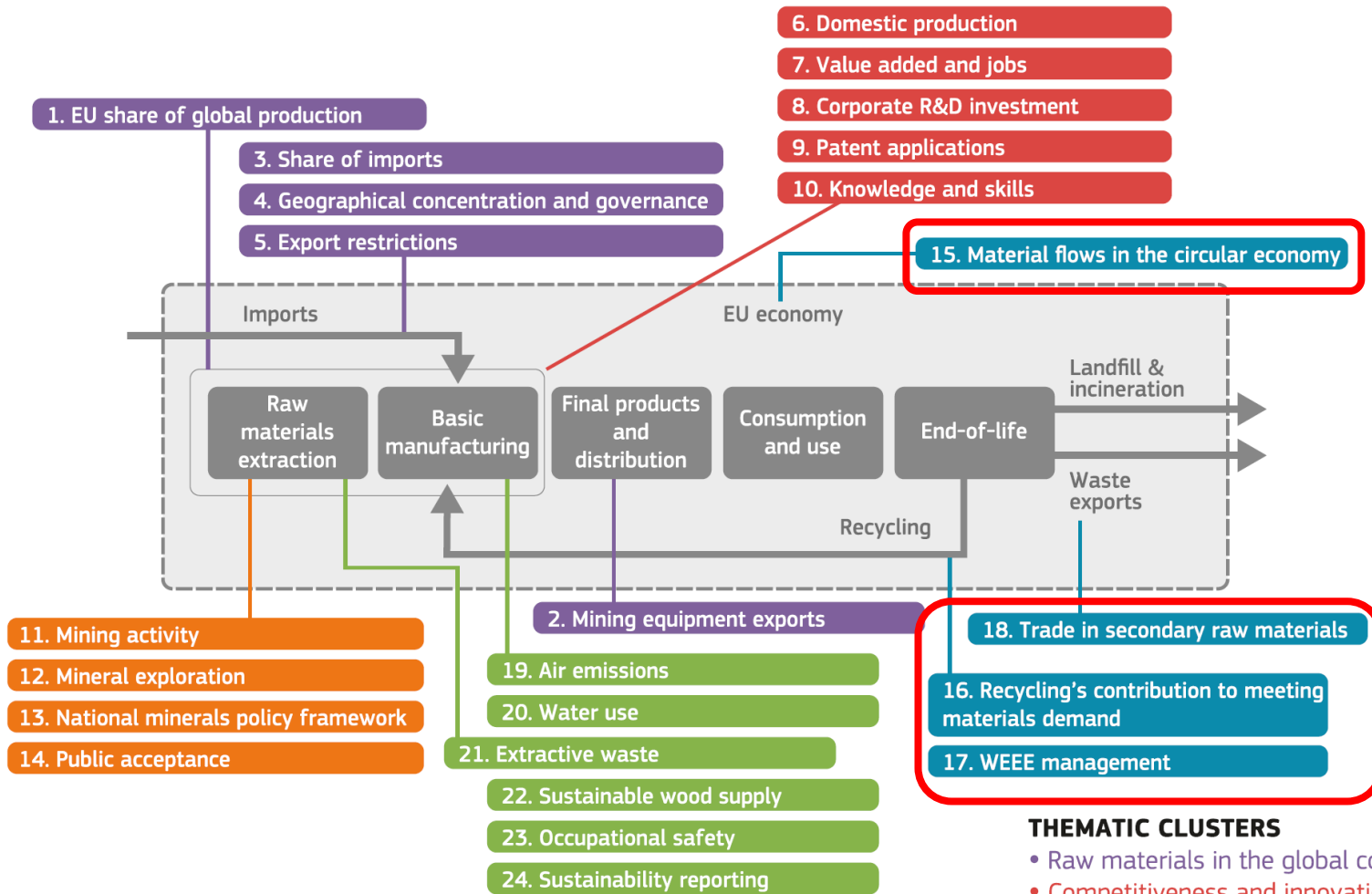


EU RESOURCE EFFICIENCY SCOREBOARD (EURES, 2014)

Indicator classification	Sub-theme	Indicator	
Lead Indicator	Resources	Resource productivity	
Dashboard Indicators	Land	Built-up areas	
		Productivity of artificial land	
	Water	Water exploitation index	
		Water productivity	
	Carbon	greenhouse gas emissions per capita	
		Energy productivity	
		Energy dependence	
		Share of renewable energy	
	Thematic Indicator 1: Transforming the economy	Waste into a resource	Generation of waste
			Landfill rate of waste
Recycling rate of municipal waste			
Recycling rate of e-waste			
Supporting research and Innovation Getting the prices right		Eco-Innovation Index	
		Environmental tax revenues	
Thematic Indicator 2: Nature and Ecosystems	Biodiversity	Energy taxes	
		Common farmland bird species	
		Areas under organic farming	
	Safeguarding clean air Land and soils	Landscape fragmentation	
		Urban exposure to particulate matter (PM10 and PM25)	
		Soil erosion	
Thematic Indicator 3: Key areas	Addressing food	Gross nutrient balance in agricultural land-nitrogen and phosphorus	
		Daily calorific intake per capita	
Key areas	Improving buildings	Household energy consumption by fuel	
		Ensuring efficient mobility	
	Ensuring efficient mobility	Average carbon dioxide emissions per kilometre from new cars	
		Pollutant emissions from transport (NO _x , PM10, volatile organic compounds)	
		Modal split of passenger transport	
		Modal split of freight transport	

RAW MATERIALS SCOREBOARD (EIPRM, 2016)

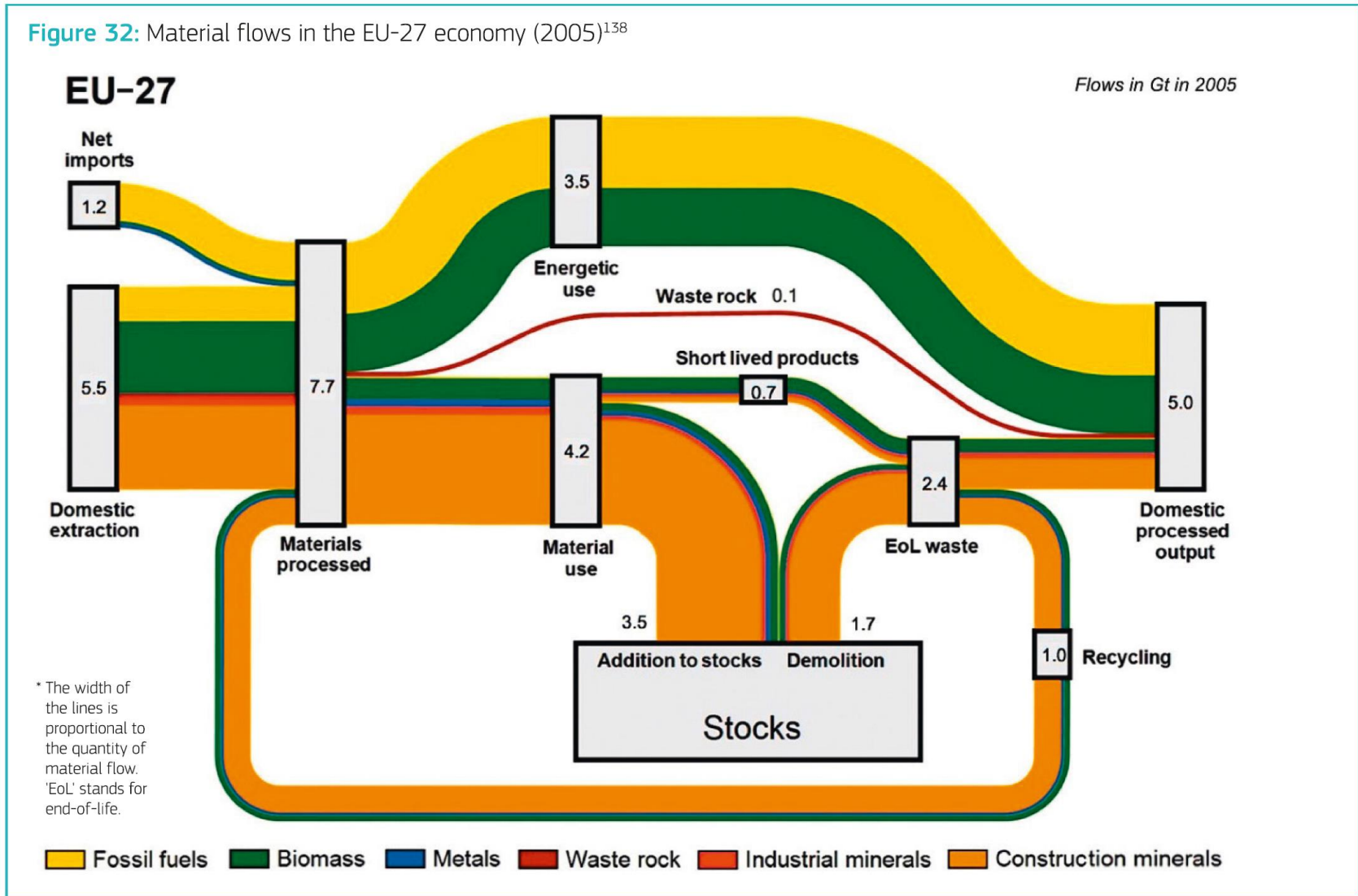
European Innovation Partnership (EIP)



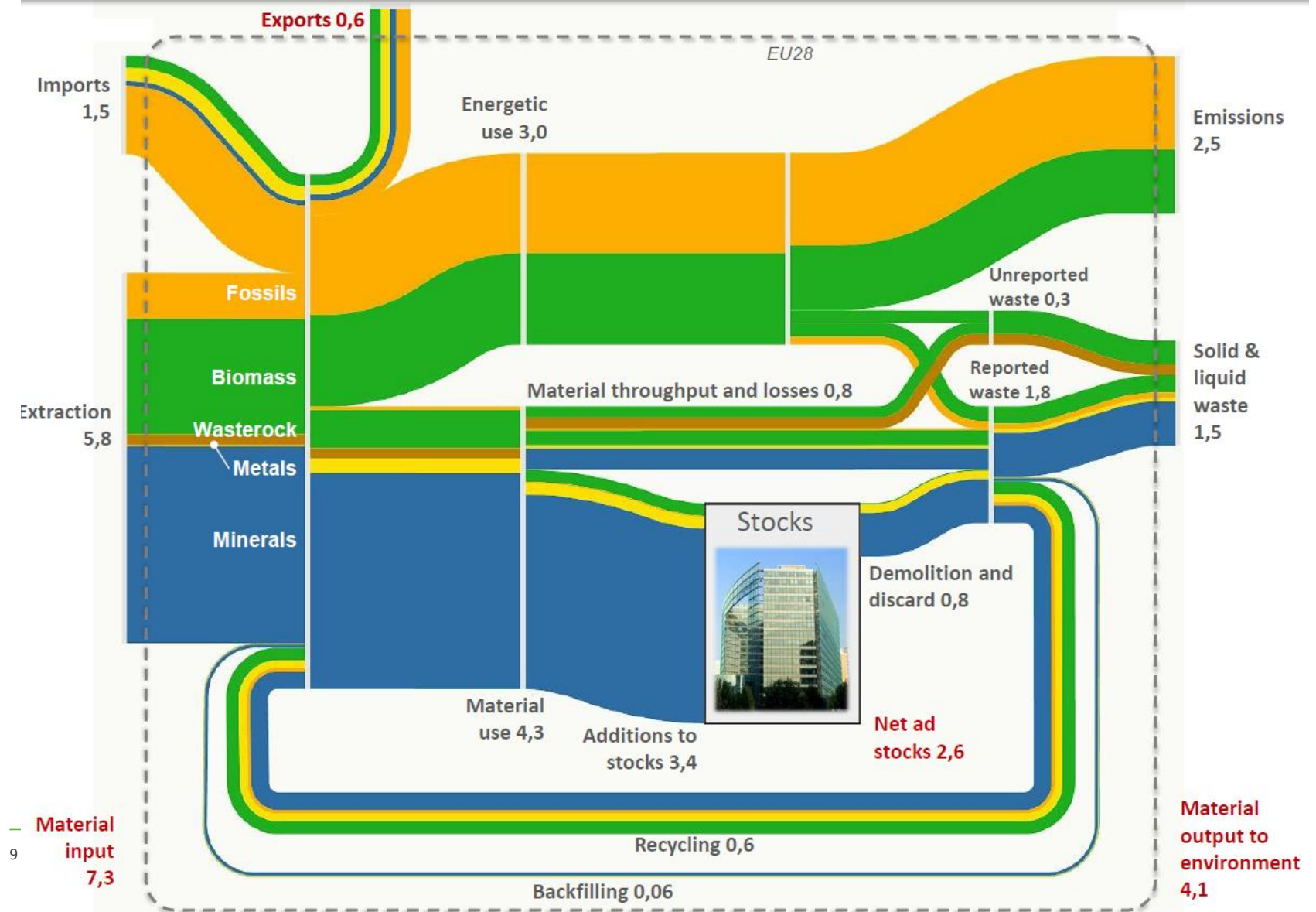
RAW MATERIALS SCOREBOARD (EIPRM, 2016)

15. Material flows in the circular economy

Figure 32: Material flows in the EU-27 economy (2005)¹³⁸



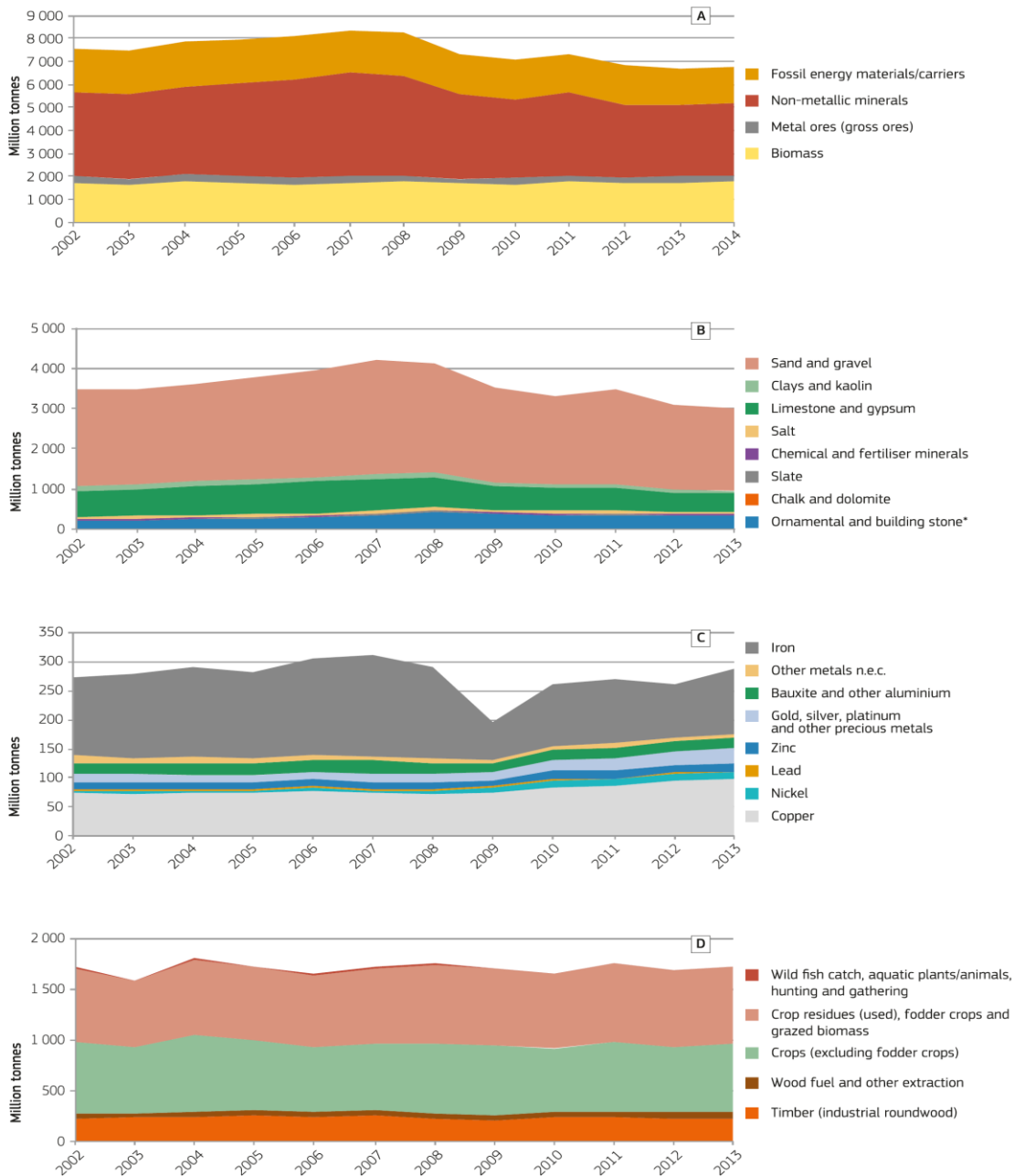
UPDATE 2014 – NIET OPGENOMEN IN RAW MATERIALS SCOREBOARD 2016



RAW MATERIALS SCOREBOARD

15. Material flows in the circular economy

Figure 33: Domestic material consumption by resource category (EU-28, 2002-2013)¹⁴²
 (A: Main raw materials groups; B: non-metallic minerals; C: metals; and D: biomass)

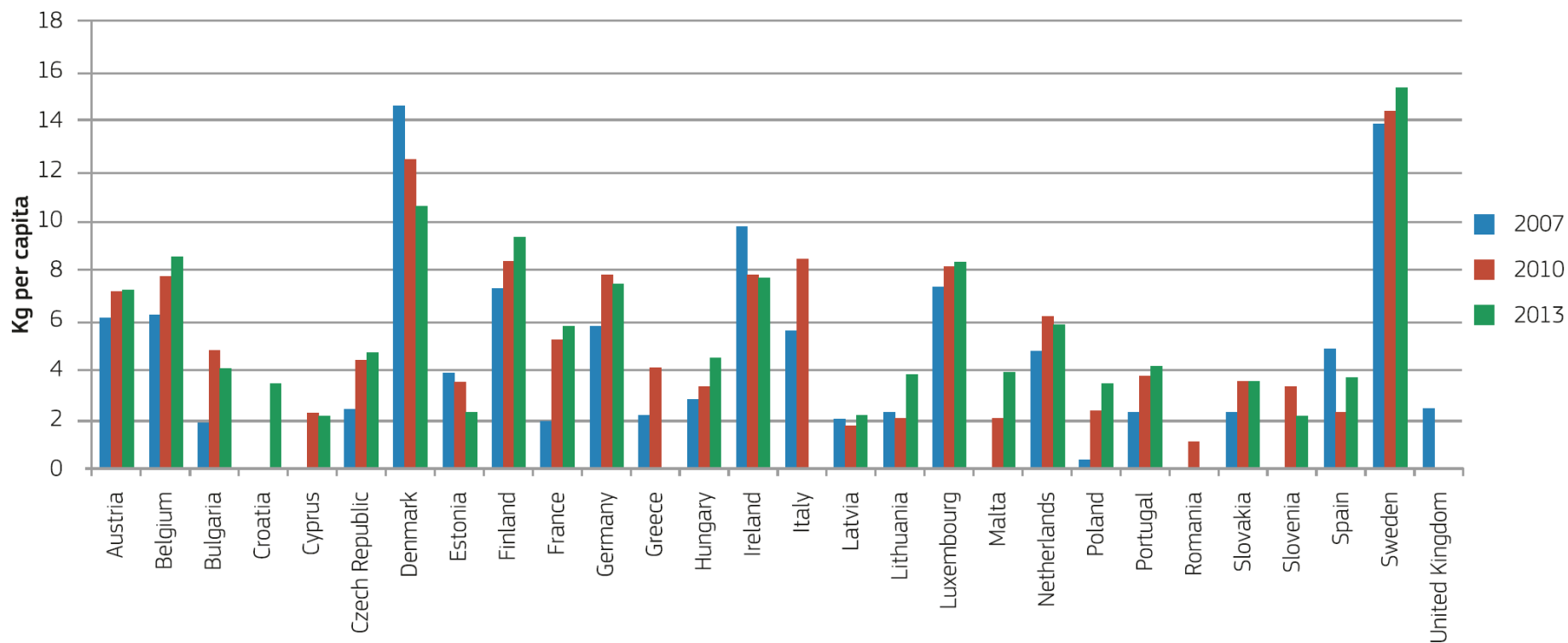


* Marble, granite, sandstone, porphyry, basalt, and other ornamental or building stone (excluding slate)

RAW MATERIALS SCOREBOARD (EIPRM, 2016)

17. WEEE management

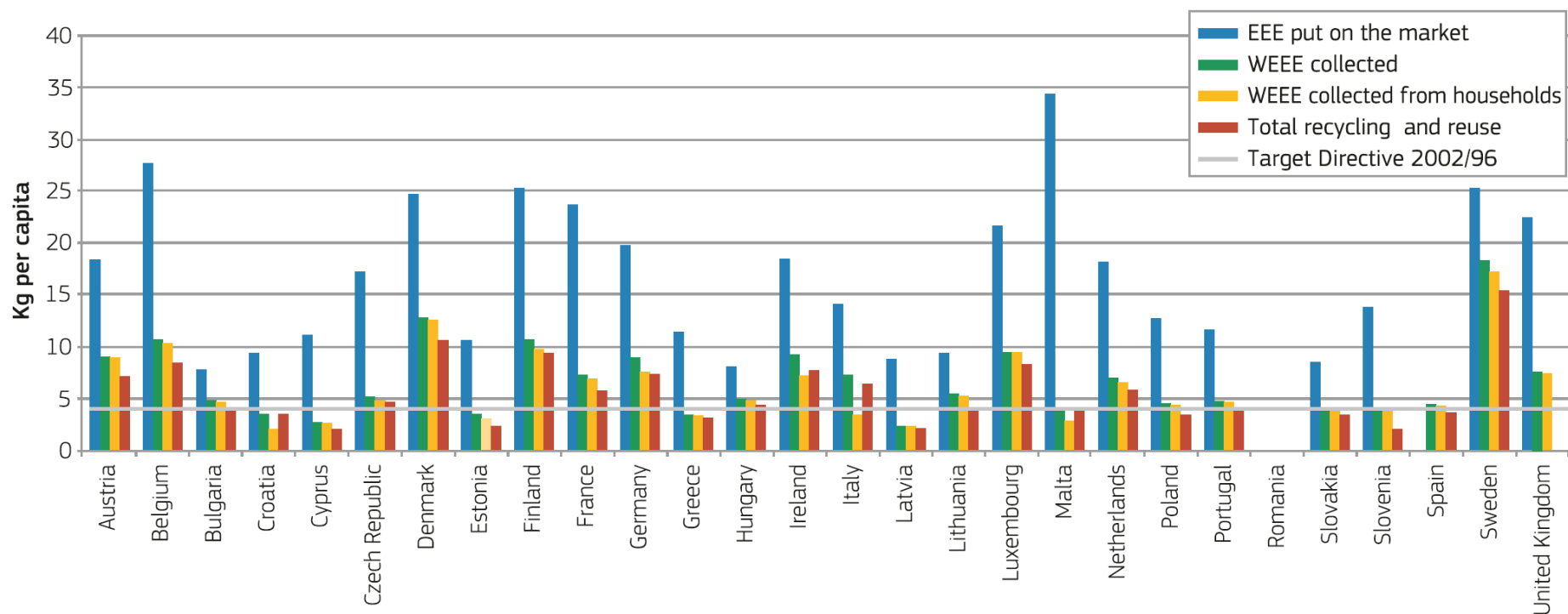
Figure 35: Reuse and recycling of WEEE per capita (EU-28, 2007-2013)¹⁵⁵



RAW MATERIALS SCOREBOARD (EIPRM, 2016)

17. WEEE management

Figure 36: Electrical and electronic equipment put on the market, WEEE collected, reused and recycled (2013)¹⁵⁹

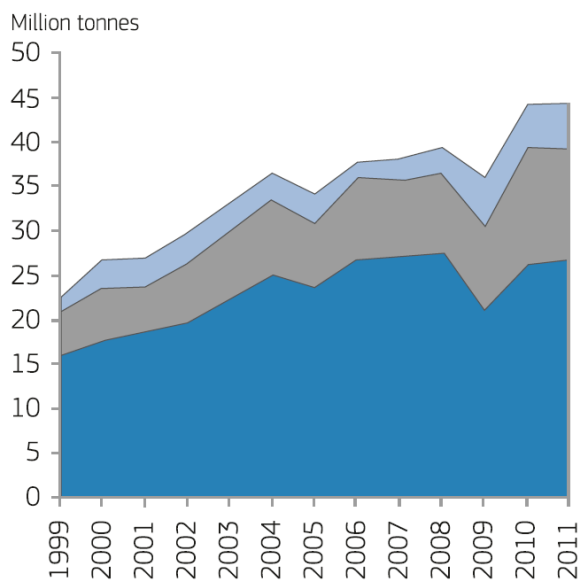


RAW MATERIALS SCOREBOARD (EIPRM, 2016)

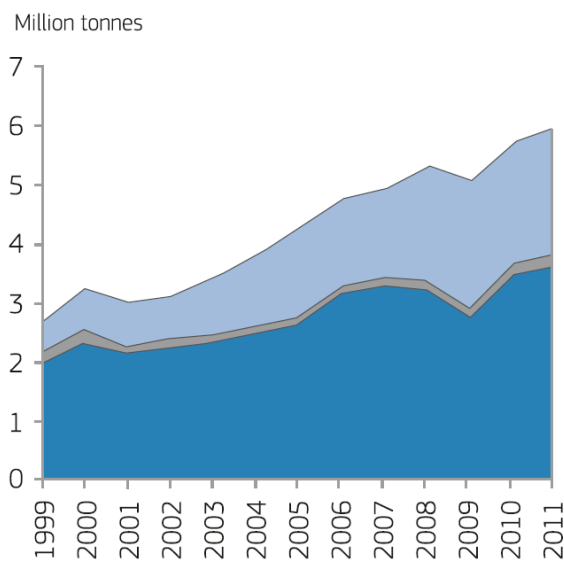
18. Trade in secondary raw materials

Figure 37: Gross exports of selected waste materials (1999-2011)¹⁶⁴

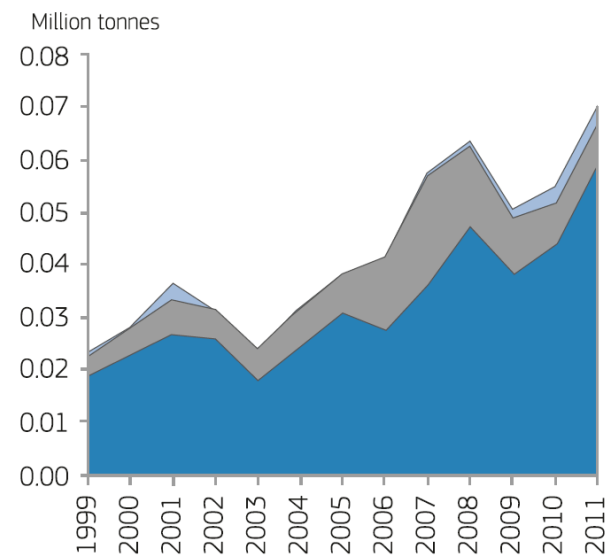
Iron and steel waste



Copper, aluminium and nickel



Precious metals waste

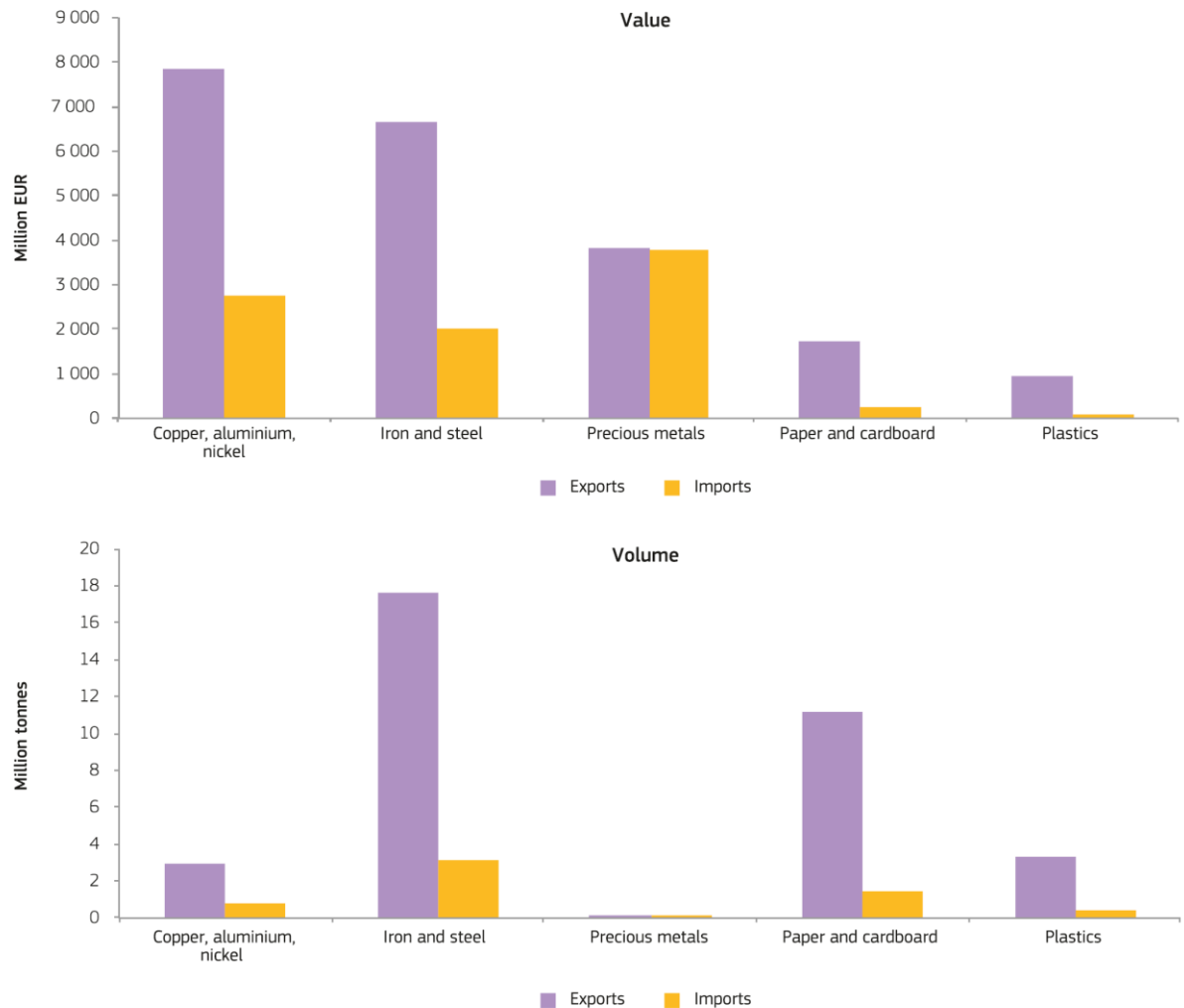


■ Exports from EU Member States to Asia ■ Exports out of the EU excl. to Asia ■ Intra-EU trade

RAW MATERIALS SCOREBOARD (EIPRM, 2016)

18. Trade in secondary raw materials

Figure 38: Trade in selected waste materials to and from the EU (2011)¹⁶⁸



Update van Raw Materials Scoreboard 2018

- Gelijkaardige voorstelling gebaseerd op meest recente data
- Nieuwe databronnen/methodologieën voor bestaande indicatoren
- Nieuwe onderwerpen/indicatoren voor sommige thematische clusters

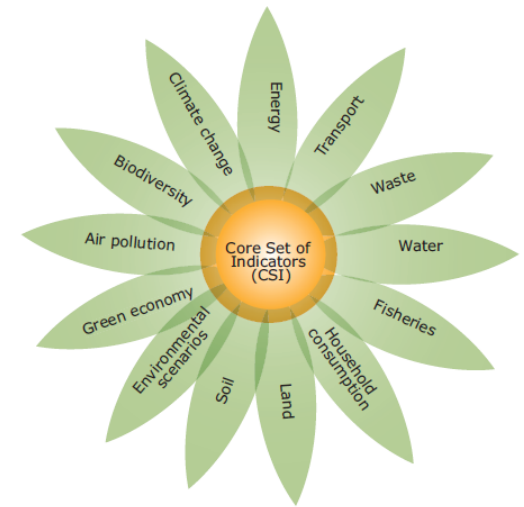
Monitoring framework for the CE

- Indicatorenset (10 indicatoren)
 - Productie en consumptie
 - Waste management
 - Secundaire materialen
 - Competitiviteit, innovatie, economie
- Op basis van **bestaande data**, ingezameld door Eurostat

ONDERZOEK VAN HET ETC/WMGE VOOR HET EUROPEES MILIEUAGENTSCHAP

- **Bestaande EEA indicatoren** focussen op Groene Economie:
 - **Core Set Indicatoren (CSI)**
 - 42 indicatoren, gestructureerd in 6 thematische gebieden
 - Keuze van thema's o.b.v. beleidsprioriteiten
 - Enkel indicatoren die regelmatig worden geüpdated door EEA
 - **State and Outlook of the Environment Report series (SOER)**
→ **Geen specifieke focus op Circulaire Economie**

Themes	Number of indicators
Air pollution	11
Biodiversity	27
Climate change	46
Energy	11
Environmental scenarios	2
Fisheries	3
Green economy	1
Household consumption	1
Land	1
Soil	1
Transport	20
Waste	2
Water	11
Total	137

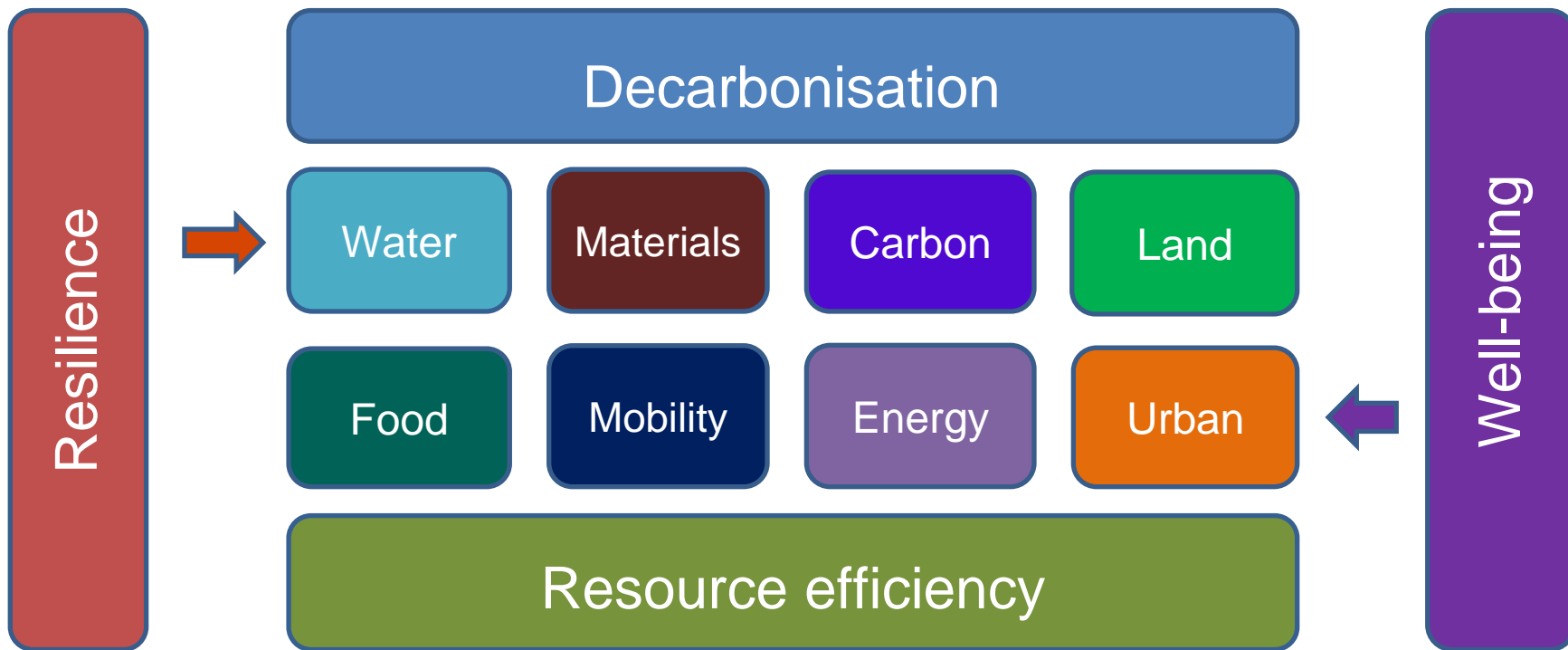


SOER 2015 to 2020



SOER 2020: framework for systemic analysis

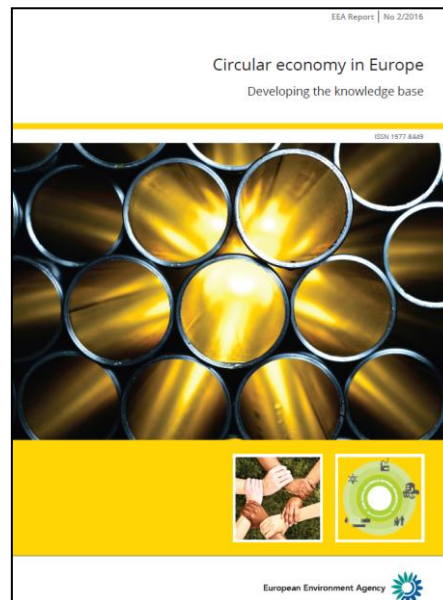
Low-carbon economy



Circular economy

Nieuwe indicatoren voor Circulaire Economie

- **EEA** wil verder kijken dan wat beschikbaar is:
 - Nieuwe manieren om transitie naar CE te monitoren (**nieuwe indicatoren**)
 - Circular Economy rapporten
 - *EEA (2016). Circular economy in Europe. Developing the knowledge base. Report No 2/2016*



ONDERZOEK VAN HET ETC/WMGE VOOR HET EUROPEES MILIEUAGENTSCHAP

Policy questions related to progress towards a circular economy from a materials perspective

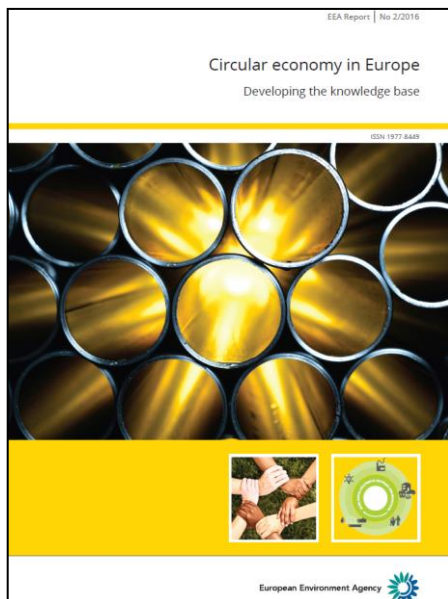
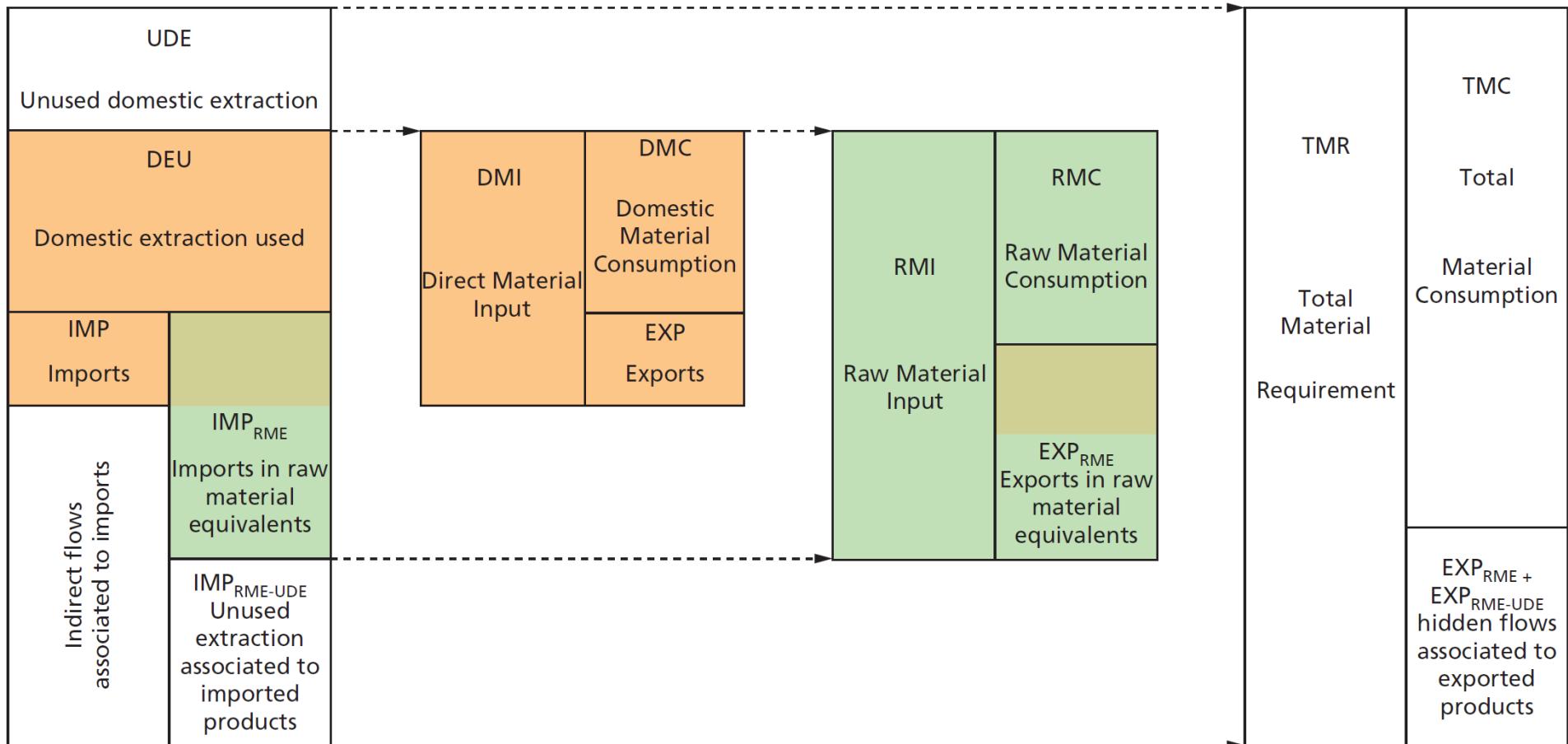


Table 3.1 Policy questions related to progress towards a circular economy from a materials perspective

Material input	Are Europe's primary material inputs decreasing?
	Are material losses in Europe decreasing?
	Is the share of recycled materials in material input increasing?
	Are the materials used in Europe sustainably sourced?
Eco-design	Are products designed to last longer?
	Are products designed for disassembly?
	Are recycled materials included in product design?
	Are materials designed to be recycled, avoiding pollution from recycling loops?
Production	Is Europe using fewer materials in production?
	Is Europe using a lower volume and number of environmentally hazardous substances in production?
	Is Europe generating less waste in production?
	Are business strategies shifting towards circular concepts such as remanufacture and service-based offers?
Consumption	Are Europeans switching consumption patterns to less environmentally intensive types of goods and services?
	Are Europeans using products for longer?
	Is European consumption generating less waste?
Waste recycling	Is waste increasingly recycled?
	How far do materials keep their value in recycling processes, avoiding down-cycling?
	How far is the recycling system optimised for environmental and economic sustainability?

INDICATOREN DOMESTIC MATERIAL CONSUMPTION EN RAW MATERIALS CONSUMPTION

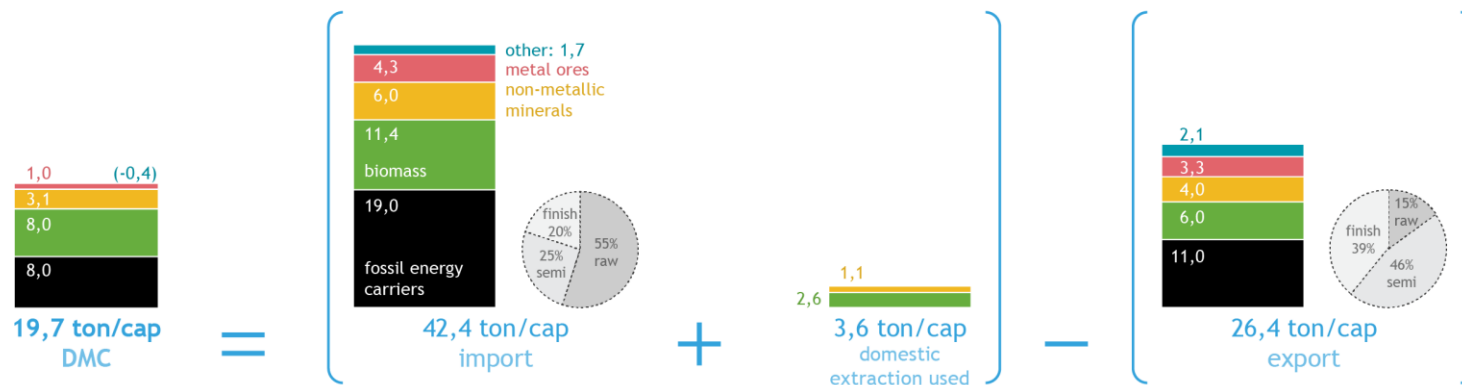


INDICATOREN DOMESTIC MATERIAL CONSUMPTION EN RAW MATERIALS CONSUMPTION

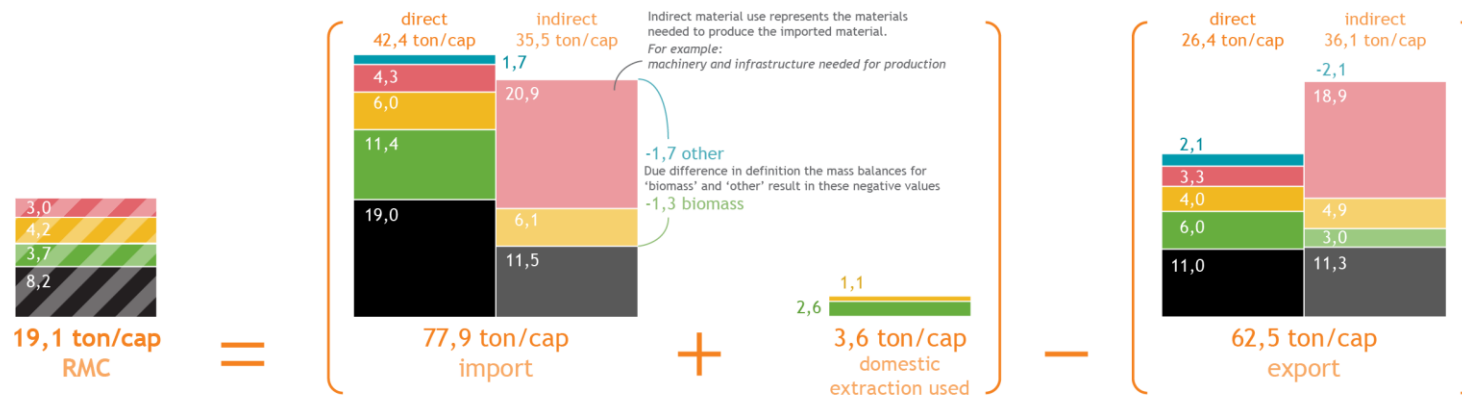
Vlaanderen heeft een open economie

Indirect materiaalgebruik gekoppeld aan fysieke materiaal- en productstromen is belangrijk

domestic material consumption (DMC): direct material use - 2015



raw material consumption (RMC): direct & indirect material use - 2015



source: Indicatoren voor een groene economie - Update van datafiche en Exceltabellen DMC en RMC, in opdracht van Departement LNE, 2016; contact: an.vercalsteren@vito.be

ENKELE ALGEMENE CONCLUSIES T.A.V. INDICATOREN

- **Indicatoren en data hebben beperkingen:**
 - Een indicator is per definitie een imperfecte benadering van een complex gegeven
 - Disaggregatie van data sets tot op beleidsrelevant detail is moeilijk
 - Meeste datasets zijn imperfect en niet compleet
- **Hoe op te lossen?**
 - Set van complementaire indicatoren
 - Niet enkel focus op materiaalgebruik, recyclage, ...
 - Ook op andere milieu-impacten
 - Link met economische en sociale indicatoren
 - Indicatoren op verschillende niveau's:
 - Producten/materialen
 - Consumptiedomeinen/sectoren
 - Productie/consumptie
 - Geografische afbakening
 - Storytelling
- **Macro- en micro-indicatoren voor CE:**
 - Macro: voor lange termijn strategieën en focus op bepaalde domeinen/systemen
 - Micro: gerelateerd aan specifieke initiatieven om voortgang van industrie, burgers en overheden zichtbaar te maken (mogelijke bijdrage aan macro-indicatoren)

VRAGEN?

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“Not everything that counts can be counted, and not everything that can be counted counts”

(A. Einstein)

