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Towards a CE monitor for Flanders

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DEPARTEMENT
ECONOMIE
WETENSCHAP &
INNOVATIE



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Contents



1. A monitor?
2. Our approach
3. Next steps

1. A monitor?



Why to measure CE?

Are we on track?
Effects of policy?

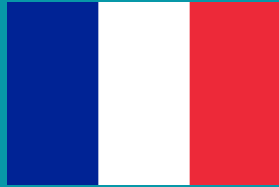
What is measured already?



1. Indicator sets from resource efficiency and waste management:
material flows – waste – involved economy



Europe



France



the Netherlands

2. Indicators describing circularity of products

Material Circularity Indicator (EMcAF), Circularity check (ecopreneur.eu), etc.

2. Our approach



MACRO

MICRO

A bridge between macro and micro

1. From only macro or micro data the feedback for policy is not sufficiently direct
2. Via a perspective of systems fulfilling societal needs we are able to ...

... pick up evolutions in an early stage

- impact of policy measures
- effects of innovation

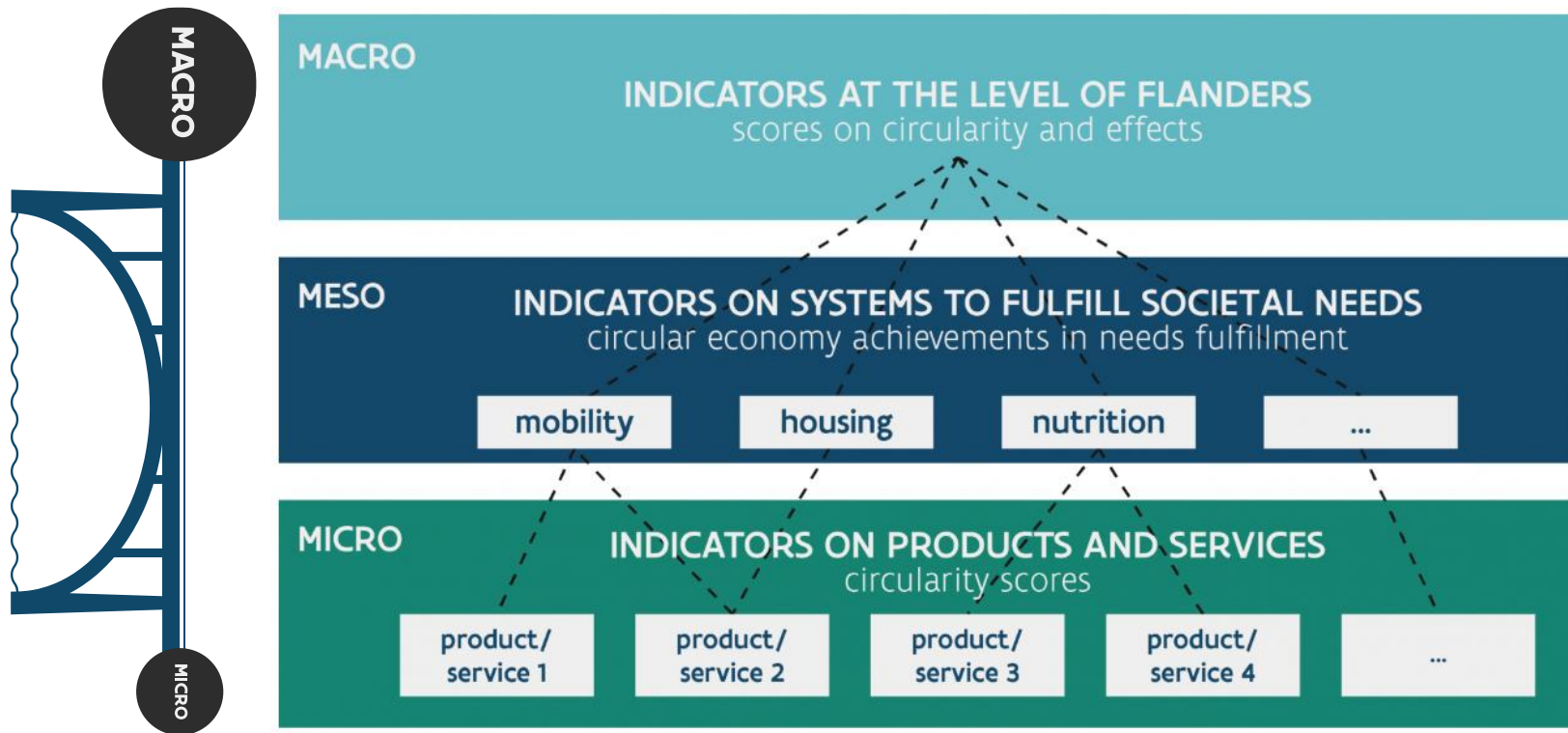
... incorporate the roles of the diverse actors

Emphasis on consumption

A shopping cart is the central focus of the image, positioned on a paved path. The background is a soft-focus outdoor scene with green foliage and a person's legs in the distance, suggesting a park or a shopping area. The lighting is bright and natural, creating a warm atmosphere.

- No CE transition without **changing ways to fulfill needs**
- **Consumers determine** final fulfillment of needs
- Necessary **addition** to existing indicators
- **Policy** will have a more direct impact
- **Footprint perspective**: reality of material consumption and related impacts

Building up the monitor



MACRO

MICRO

MEASURING MACRO EFFECTS

Environment

Economy & society

MACRO

MICRO

MEASURING MACRO EFFECTS

Environment

Economy & society

- consumption of materials: Raw Material Consumption
- greenhouse gas emissions: carbon footprint

MACRO

MICRO

MEASURING MACRO EFFECTS

Environment

Economy & society

- self-sufficiency (European framework)
- employment
- innovation



MACRO

MICRO

MEASURING MACRO EFFECTS

**Applying products and materials as long as possible at
the highest possible level**

Indicators on e.g.

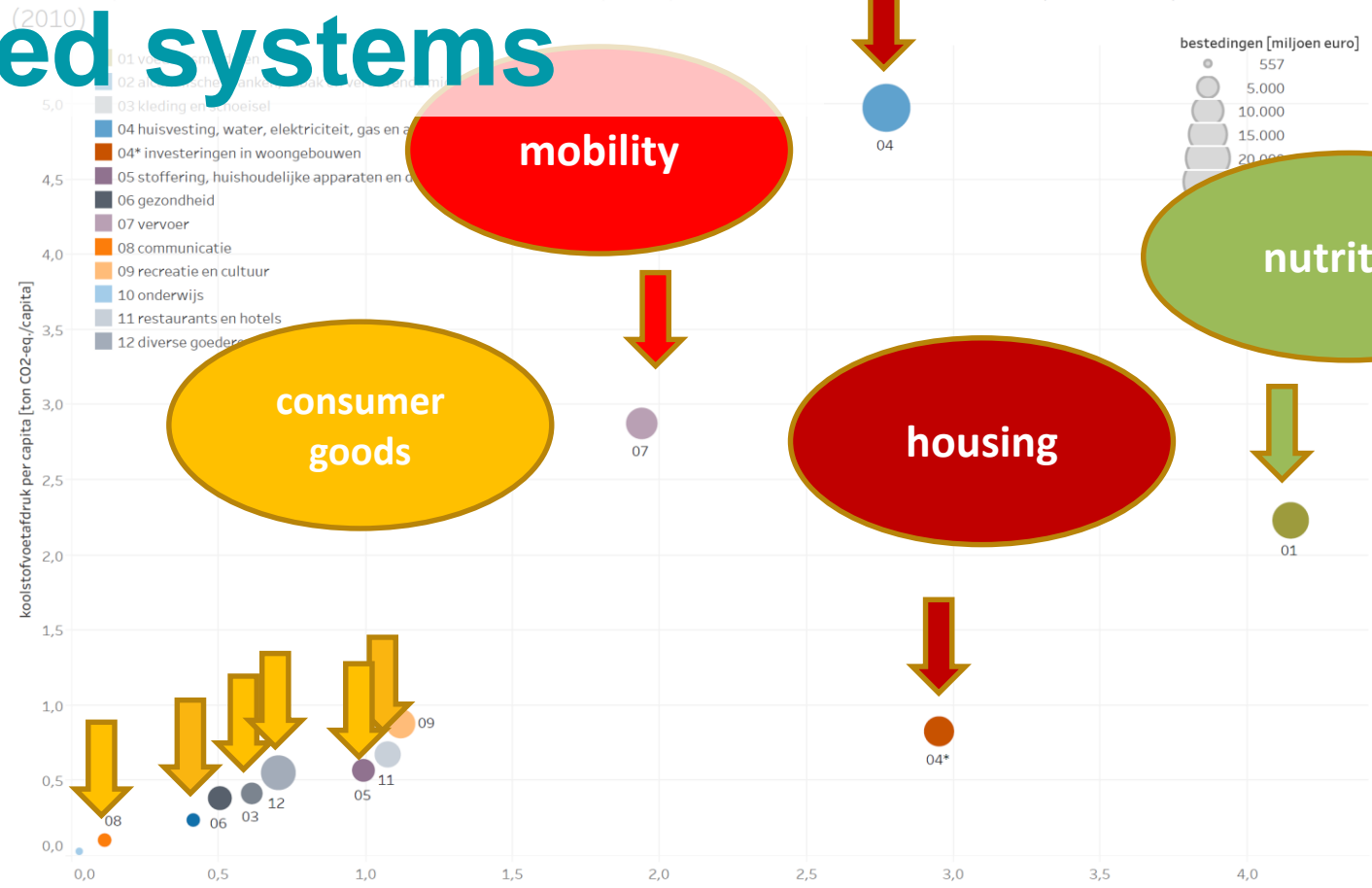
- **material input**
- **waste production**
- life time extension
- use of recycle
- reuse
- sharing systems
- dematerialisation
- recyclability
- ...



Need systems

Vlaamse primaire materialen- en koolstofvoetafdruk per capita van de Vlaamse huishoudens per consumptiedomein (2010)

Carbon footprint per person



Material footprint per person

CE in mobility

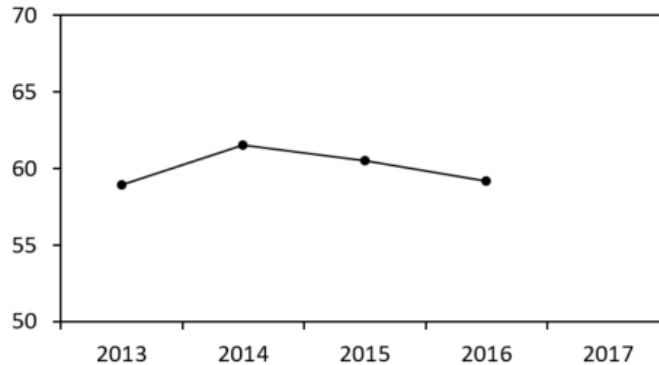


How many kilometers are we making?

With how much and which vehicles?

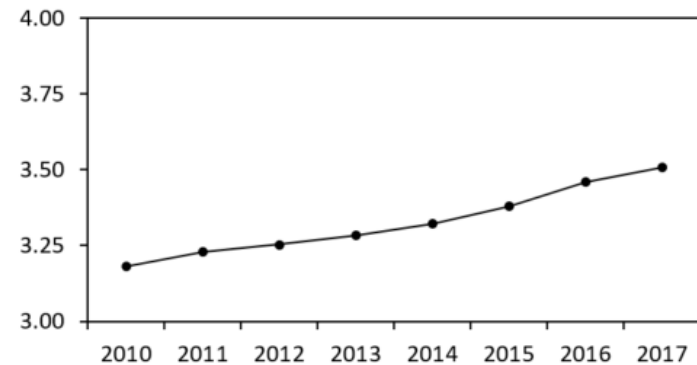
example: personal cars

The need: person-kilometers traveled by car [10^9 km/year]



Source: Dept. MOW

The stock: total amount of cars [millions]

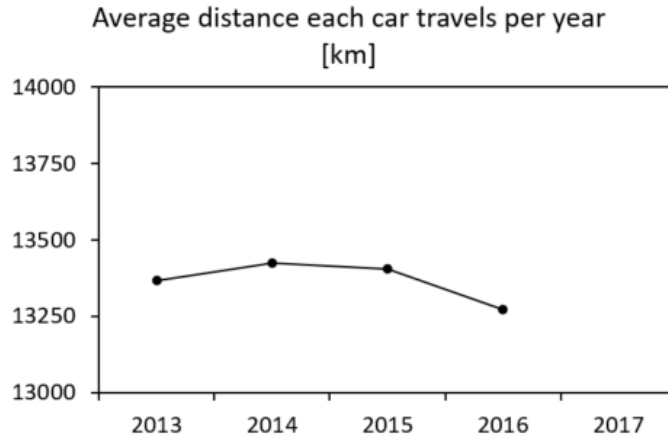


Source: DIV

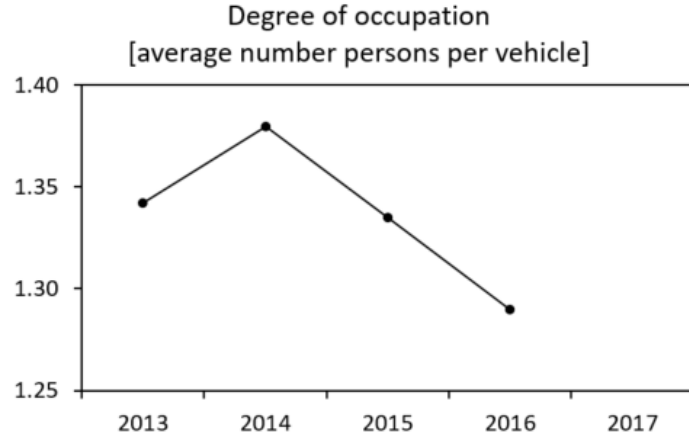
CE in mobility



Intensity and efficiency of use?



Source: Dept. MOW, DIV

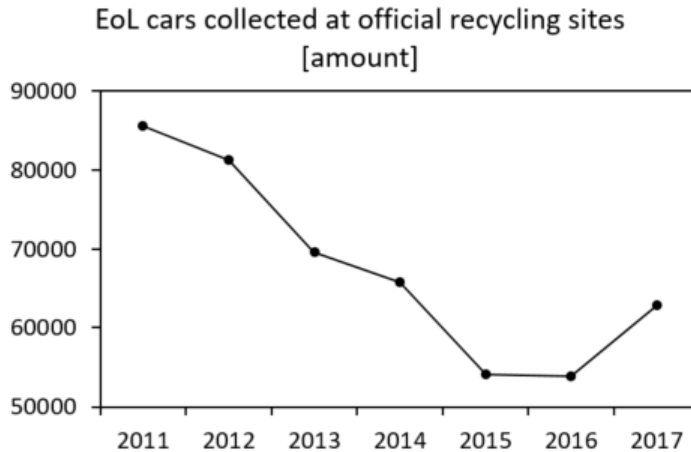


Source: Dept. MOW

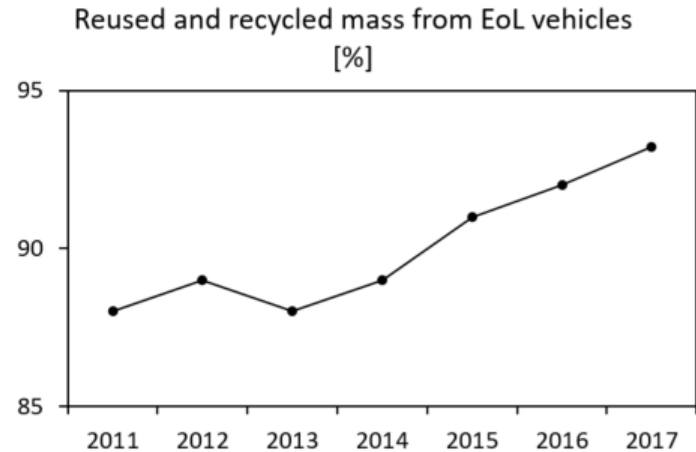
CE in mobility



To which extent do we control the EoL stage?



Source: Febelauto



Source: Febelauto

CE in mobility



Composition of newly built vehicles?

Car production: mass, composition, lifetime, recyclability

Specifically for electric vehicles: batteries, engines

Exhaust of car park?

3. Next steps

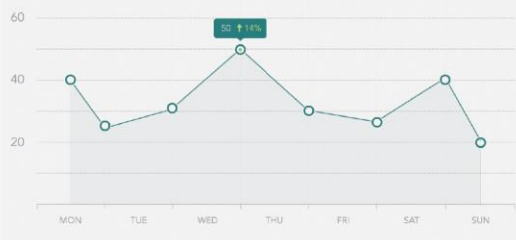


Conceptual CE monitor



Macro

Direct material input



Raw Material Consumption



CO2-footprint



Behoeften



Producten/diensten



Next steps



From first concept of CE monitor:

- further data gathering en interpretation
- interaction with policy makers
- refined set of indicators per need system

Complementary activities in research lines and short-term assignments

- development of new micro indicators
- interpreting and refining existing macro indicators



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Thank you!

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A conceptual basis

Milestone:

concept approved on workshop June 27, 2018

next:

- data gathering
- elaboration of the monitor
- stakeholder interaction

PUBLICATION ONLINE:
ce-center.be





Material footprint

= consumption in weight of minerals, fossil raw materials, biomass and metals occurring worldwide in order to fulfill a consumption demand

Carbon footprint

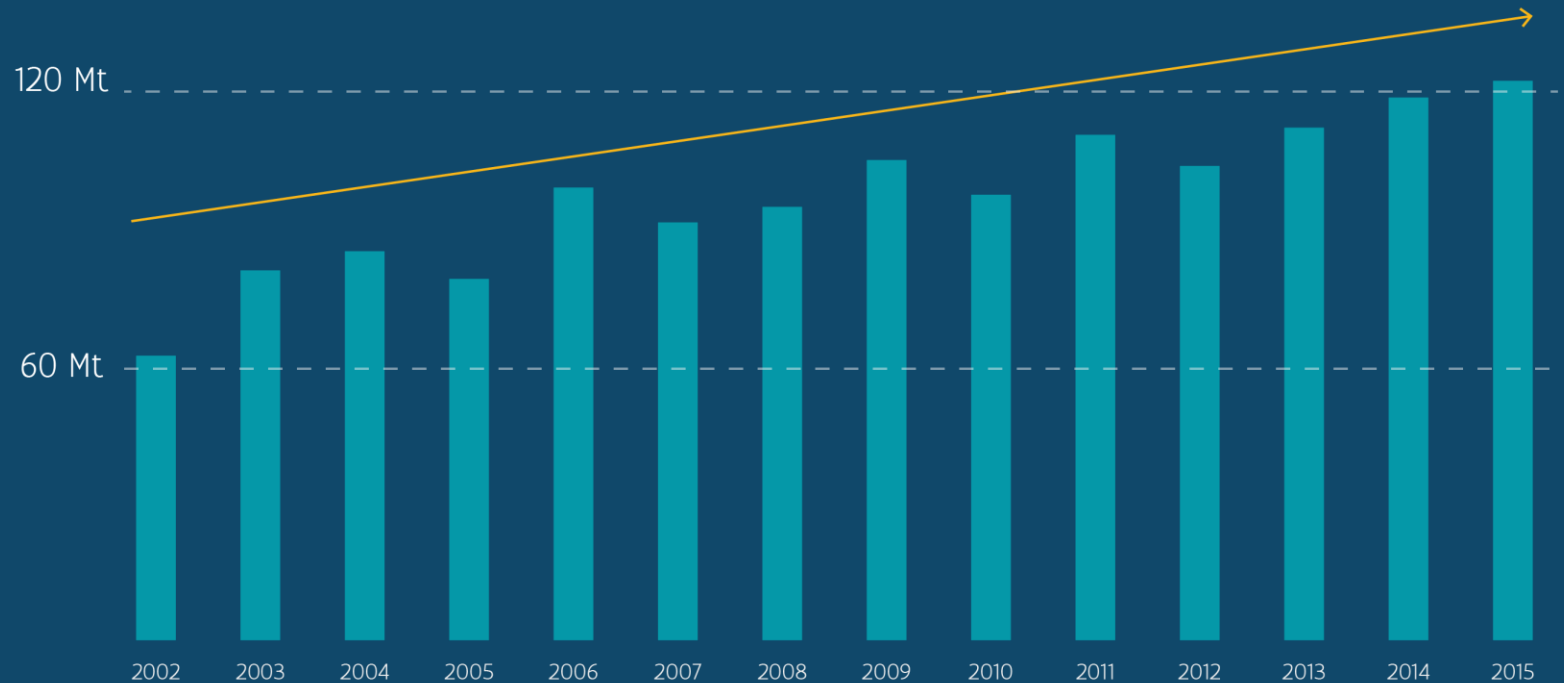
= greenhouse gas emissions occurring worldwide in order to fulfill a consumption demand

Take into account:

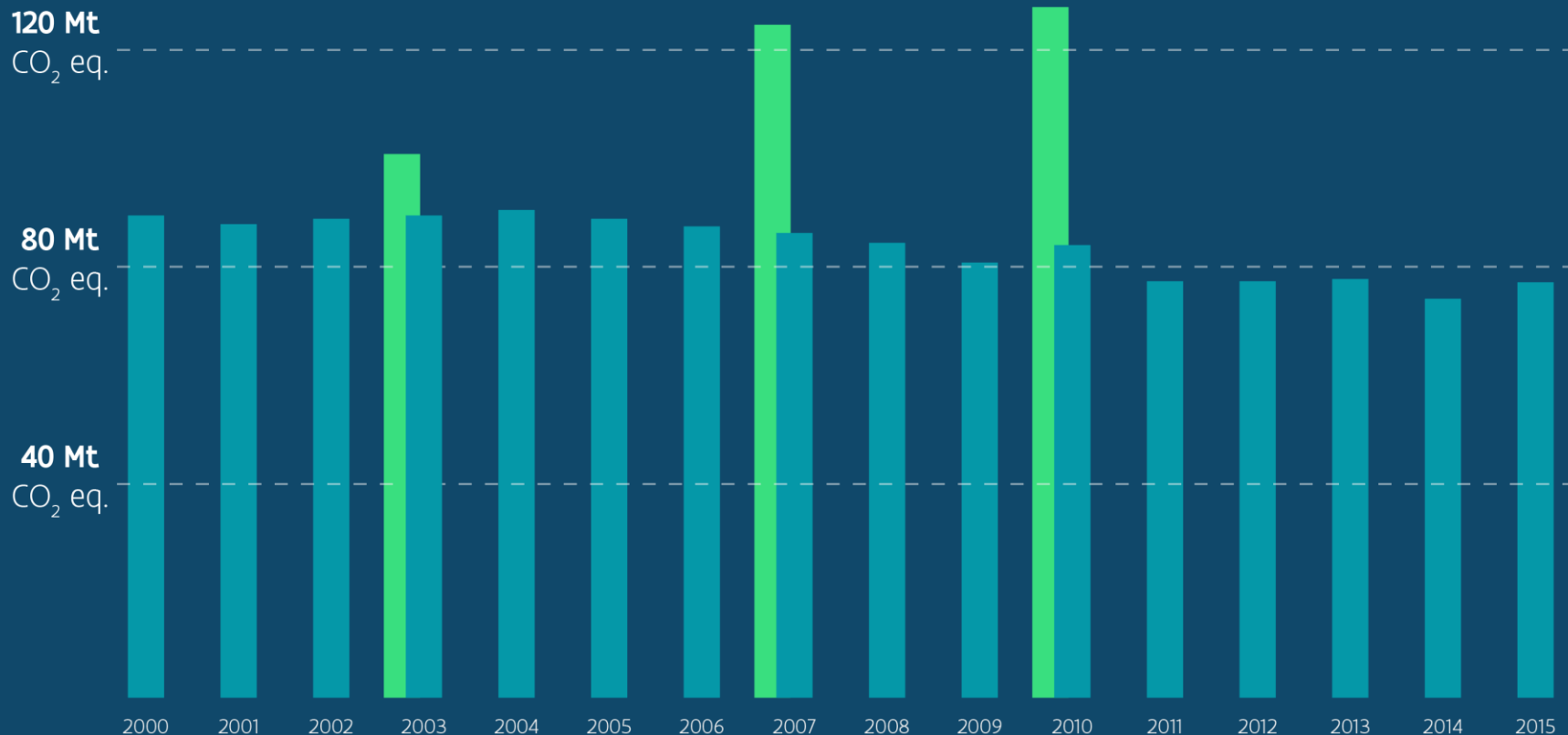
- mining and cultivating raw materials
- their processing into products
- production means needed for that
- impact during use
- all transport
- processing of waste



Raw material consumption Vlaams Gewest: in stijgende lijn



Broeikasgas-emissies Vlaams Gewest: gemengd beeld



CE in mobility



Footprints of consumption domain mobility

2010 data:

material footprint = 12161 kton of primary materiaal

carbon footprint = 9573 kton CO₂-eq.