Webinar 3: Co-creation process on CE Monitoring

- Welcome! We will start at 9.30am.
- Thanks for checking audio / video settings. While not presenting we kindly ask you to **mute yourself and switch off your camera**.
- Note that this webinar **will be recorded** for documentation purposes and to inform other interested country representatives.

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Agenda overview

9.30 - 9.40 Introduction and current status of co-creation process *(Peder Jensen, EEA)*

9.40 – 9.55 Highlights of collective assignments and Q&A *(Bettina Bahn-Walkowiak, ETC)*

9.55 – 11.35 Presentations on solution, good practice, future options. Gathering of suggestions from the audience

- **Estonia**: Study on Mapping CE indicators in Estonia *(Mihkel Krusberg)*
- **Spain**: CE Deal "España Circular 2030" *(Carmen Durán)*
- **Germany**: The use of footprint indicators in CE monitoring *(Philip Nuss)*
- **Belgium / Flanders:** Development of a CE monitor in Flanders *(Luc Alaerts)*

11.35 – 11.50 Short interactive group surveys *(Dirk Nelen and Nora Brüggemann, ETC)*

11.50 – 12.00 Closing and next steps (*Peder Jensen, EEA*)

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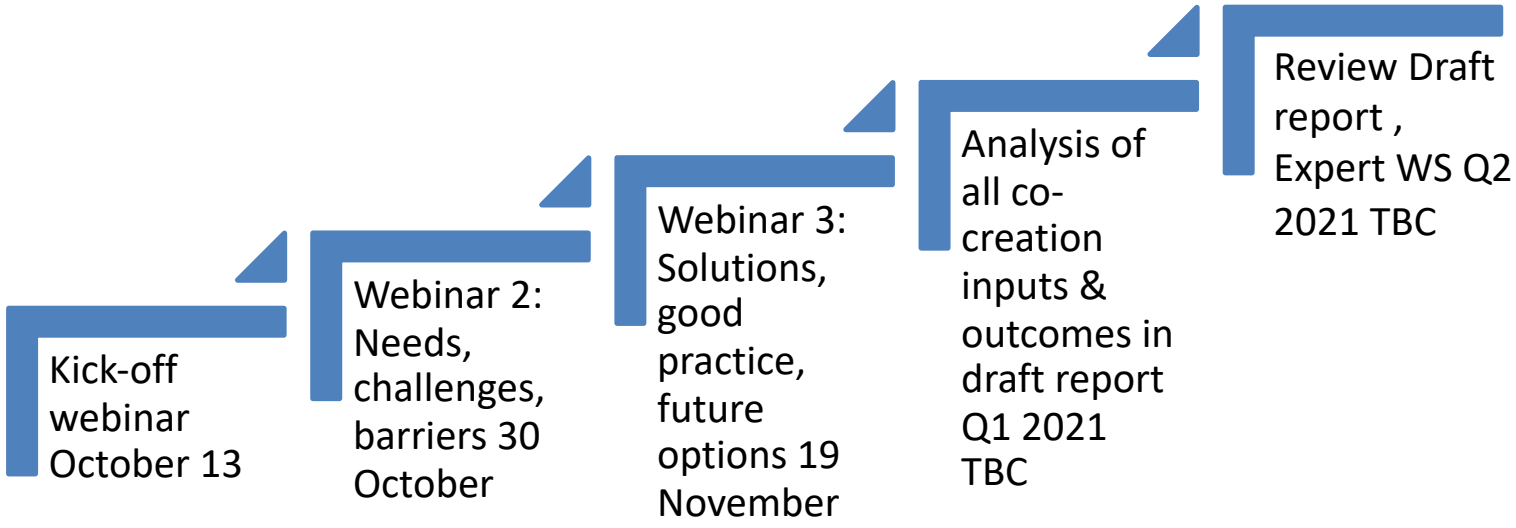
Where are we now ? Co-creation process on CE Monitoring

15 countries, approx.
35 participants overall



Inputs gathered in

Kick-off webinar	Webinar 2	Webinar 3
Status in countries	Reflections on EU CE monitoring framework	Reflections on CE indicators across policy cycle
Most important issues to be addressed	4 country presentations + suggestions	4 country presentations + suggestions + poll questions

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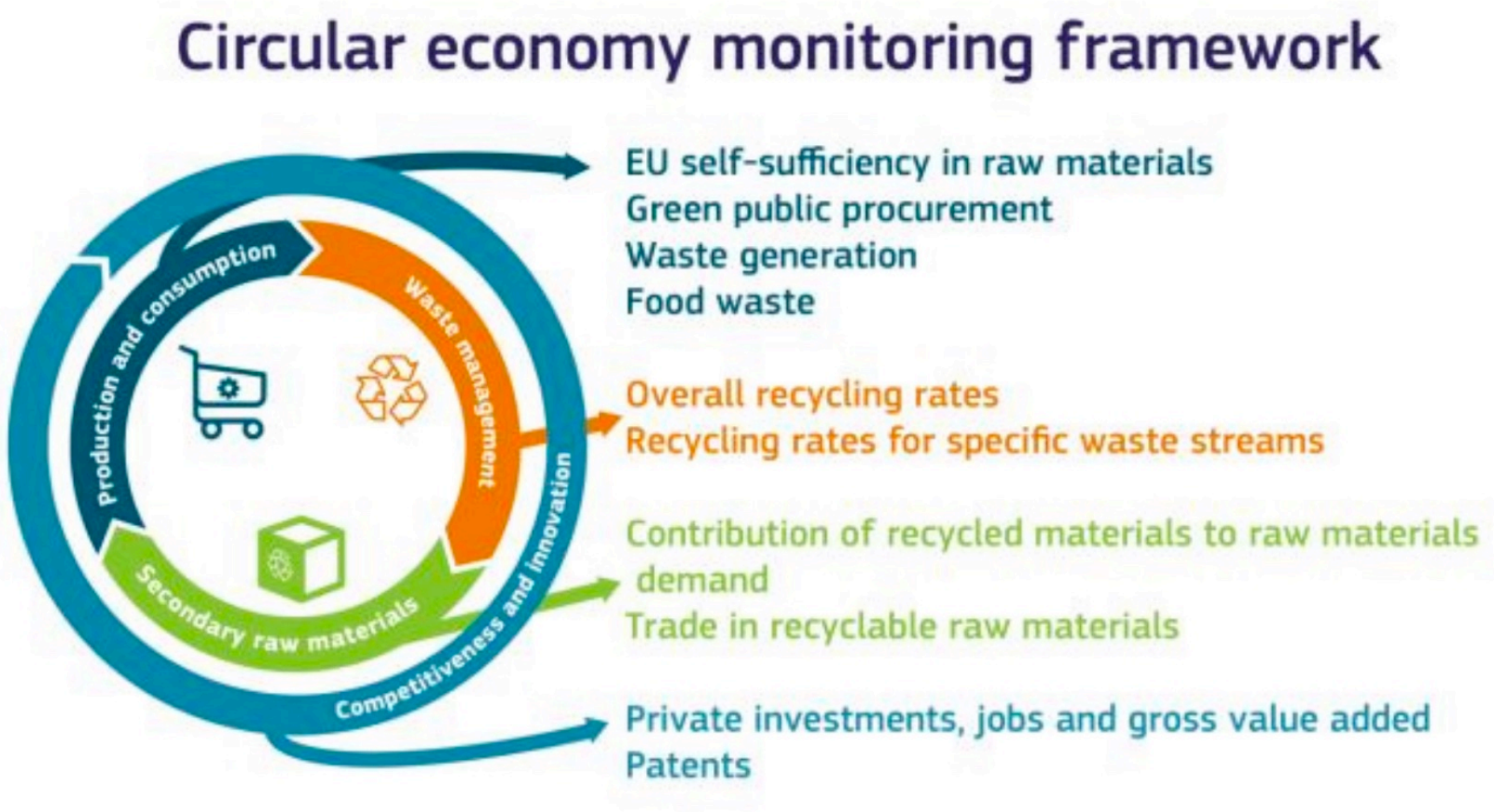
Analysis of your responses to homework questions



Thanks for your responses !!

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… the intention is to collectively learn …

Two homework questions were given:

- **Choose one CE policy objective** (e.g. CE Jobs, zero final waste, less dependency on natural resources, CE's contribution to climate change, etc.)
- **Provide some examples** of

  (a) existing and
  (b) potential future options

  for indicators useful across the policy cycle (agenda setting, policy formulation, decision making, policy implementation and policy assessment)

Choose one CE policy objective

Responses:

- jobs
- zero final waste
- empowering consumers
- climate change
- decoupling

Provide some examples of existing indicators (selection) – what we know

General:

- National CE strategies, eco-innovation

Jobs:

- (at national scale) Number of share of employees in CE sectors; employment in reuse centres

Zero Waste:

- EU Ecolabels; EMAS; turnover by repair sector (NACE)

Consumers/Households:

- Household equipped with white goods; household expenditure; households vehicle ownership; material footprint of households, food self-sufficiency;
- Public awareness (on EE and sustainable transport)

Provide some examples of of future options (1) – what we want to know

Jobs:

- CE services
- extend NACE code
- include qualitative aspects
- base on requirements for subsidies

Consumer behaviour:

- numbers of used products bought
- numbers of products bought with a longer lifespan
- willingness to take them for repair, if needed
- products' sharing
- networks of repair services (size, purpose and frequency of use)
- consumers' awareness of the existing infrastructure like re-use centres, car sharing, tool workshops and sharing…

Provide some examples of of future options (2)

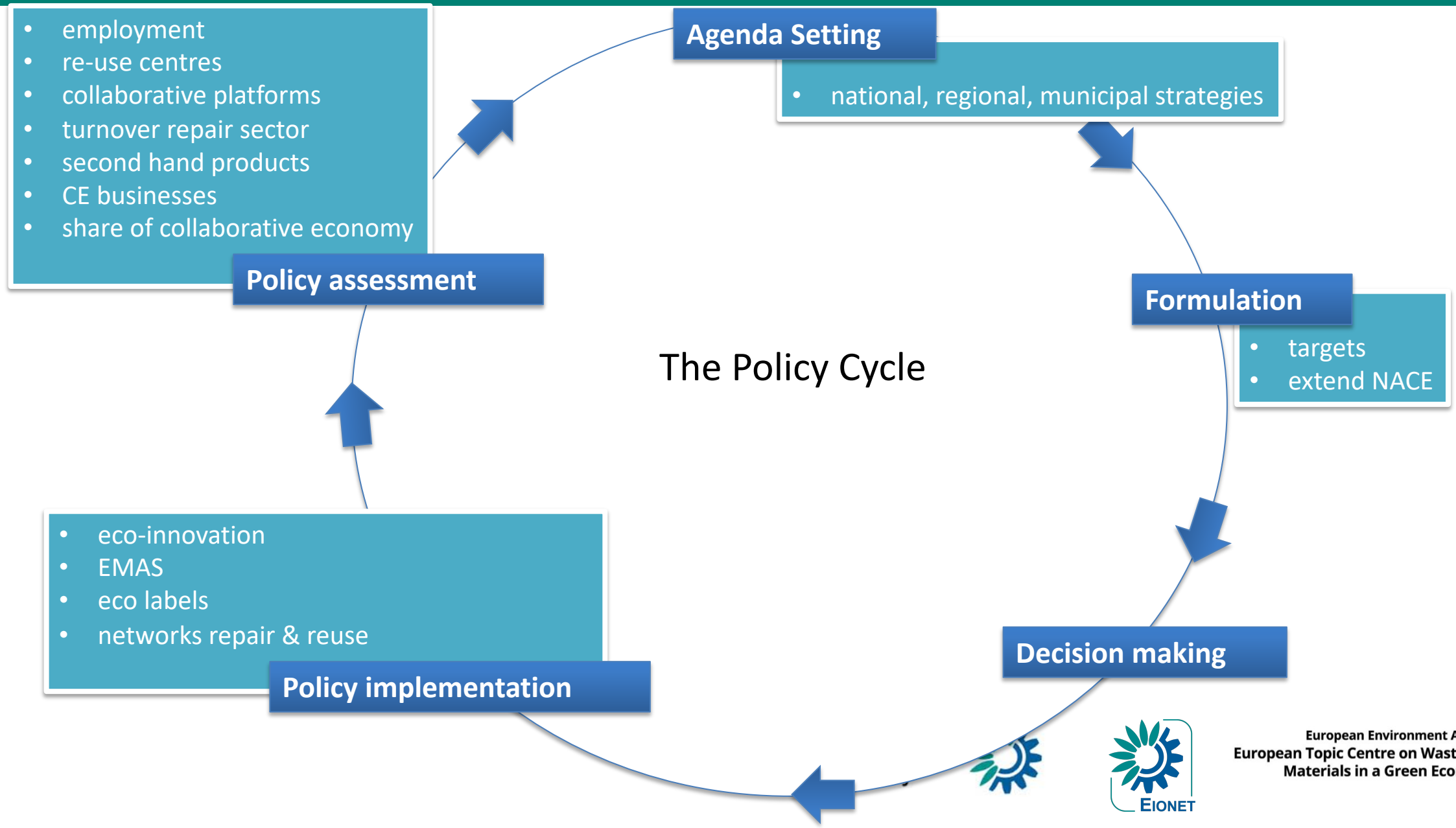
Zero waste:

- domestic collaborative economy platforms
- Start-ups in shared mobility business models
- share of collaborative economy in sectoral GDPs
- employment in collaborative economy
- cost reduction as a result of resource efficiency activities
- numbers of industrial and municipal symbiosis

Contribution to combat climate change / reducing resource dependency:

- regional and municipal CE strategies
- number of CE businesses

Indicators in the policy cycle



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Presentations on challenges and gathering of suggestions from the audience

- Each country will present 10 minutes
- Please “Raise hands” via the Teams control panel when you like to react by sharing relevant experiences, offer suggestions or give answers.
- Kindly share questions via the chat function.

REPUBLIC OF ESTONIA
MINISTRY OF THE ENVIRONMENT

STUDY "MONITORING CE & POSSIBLE INDICATORS IN ESTONIA"

Mihkel Krusberg
Ministry of Environment of Estonia
Adviser
18.11.2020

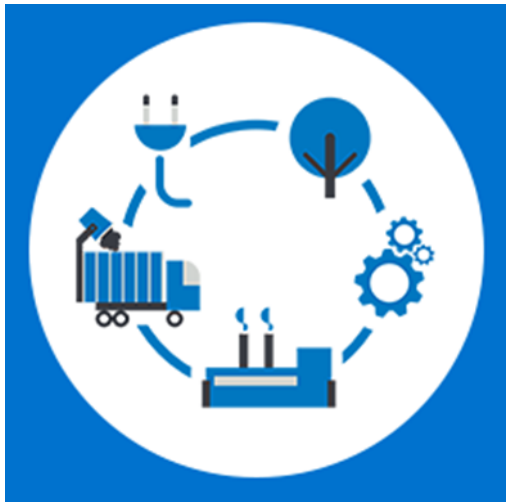
Background of study

- 1. step in CE strategic document and CEAP in EE
- Define CE in Estonia and map CE indicators
- Prepatory study for CE potential study (ongoing)
- Possible indicators data sheets:

https://ringmajandus.envir.ee/sites/default/files/Strateegia%20-%20fotod/3%20Indikaatorite%20andmefailid%20050719.zip

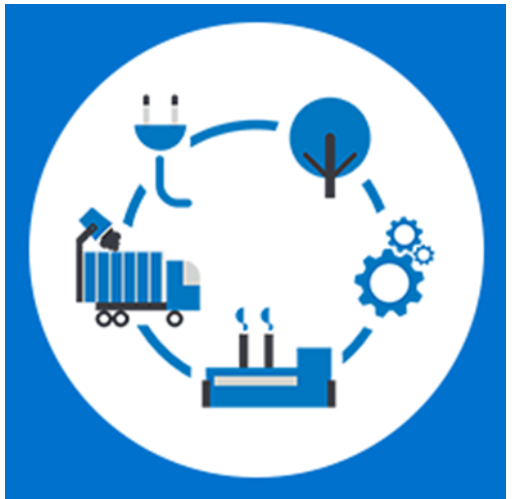
Results

- CE principles in EE defined
- Possible CE monitoring indicators identified (29)
- Data availiability and quality, data sheets, sources
- Devided in 4 categories:
  - Input
  - Activities
  - Output
  - Results



Input – 6 indicators

- Gross investment in tangible goods in CE sectors
- Early stage investments in waste and recycling
- ERDF investments in CE

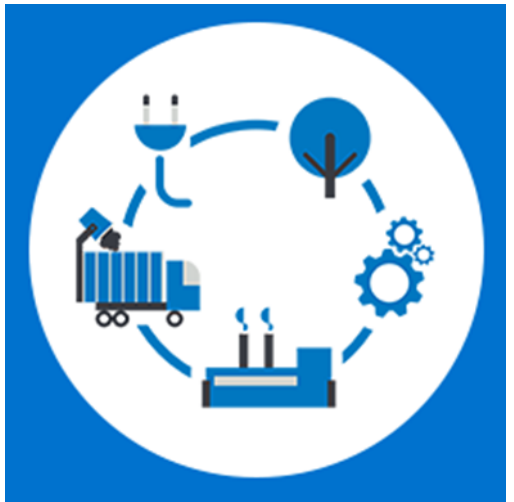


Activities – 9 indicators

- EU Ecolabels
- Contribution of recycled materials to raw materials demand
- Introducing recyclable products by innovating

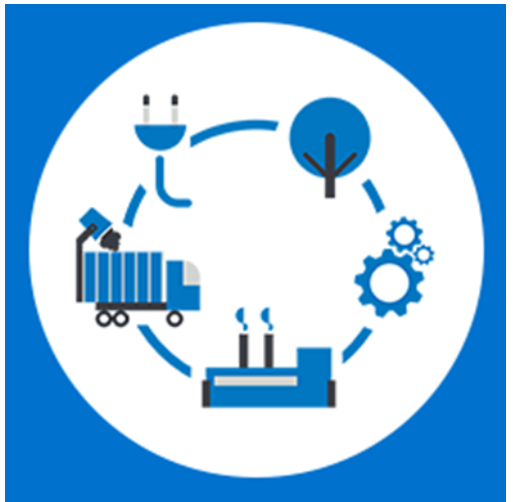
Output – 6 indicators

- CE related articles in electronic news
- Patents related CE
- Startups in shared mobility business models



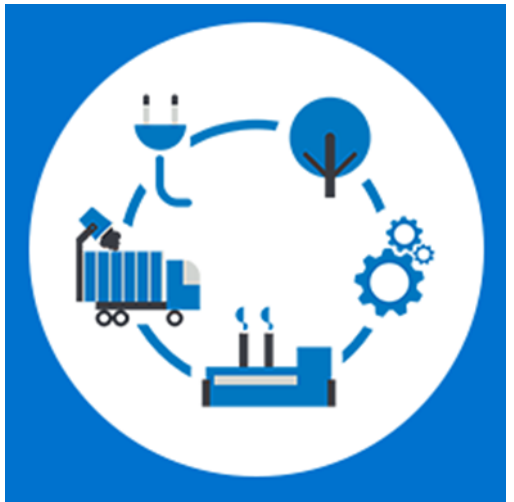
Results – 8 indicators

- Share of collaborative economy in sectoral GDPs
- Employment in collaborative economy
- Cost reduction as a result of resource efficiency activities



Indicator assessment

- Validity
- Relevance
- Consistency and reliability
- Measurability
- Clarity
- Comprehensiveness
- Cost-effectiveness
- Comparability
- Long term stability



REPUBLIC OF ESTONIA
MINISTRY OF THE ENVIRONMENT

Thank you!
Questions?

Mihkel Krusberg
Mihkel.Krusberg@envir.ee

https://ringmajandus.envir.ee/en

Pre-information: ESTONIA

- EE is preparing its own CE strategic approach and CEAP by end 2021
- First step: Study „Monitoring CE and possible CE indicators in Estonia“ to define CE in Estonia and map CE indicators.
- https://ringmajandus.envir.ee/index.php/en/creating-strategy-and-action-plan-circular-economy-estonia
- Question to participants: How to start and progress on national CE monitoring framework process? e.g. first indicators mapping or strategy or something else

Republic of Estonia
Ministry of the Environment

European Environment Agency

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España Circular 2030

Circular Economy Spanish Strategy

https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/espanacircular_2030_executivesummary_en_tcm30-510578.pdf

GOALS for 2030

- Reducing by 30% domestic material consumption in relation to national GDP, taking 2010 as a reference.
- Reducing waste by 15% with regard to 2010 waste levels.
- Reducing food waste throughout the entire food chain: 50% reduction per person in retail and households and 20% in production chains and supplies from 2020, thus advancing towards the Sustainable Development Goal (SDG).
- Promoting reuse and reuse enabling activities until reaching 10% of municipal waste.
- Reducing greenhouse gas emissions to under 10 million tonnes of CO2eq.
- Improving water use efficiency by 10%.

Decalogue of Strategic Objectives

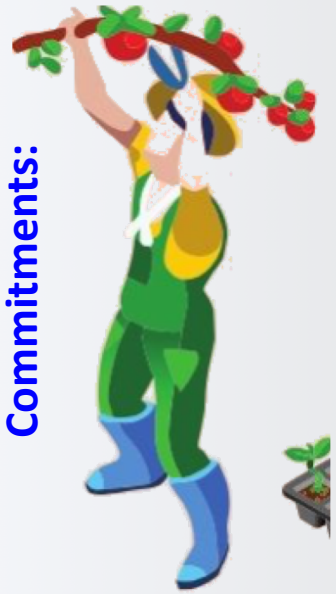
10. Indicators: Promoting the adoption of common, transparent and accessible indicators that enable to know the degree of implementation of circular economy initiatives, especially their social and environmental impact.

Promote CE

- Productive sector: economic and social agents
- Consummers

- CE Pact:
  https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/pacto/
- CE Newsletter
  https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/boletin_julio_20200724_v2_baja_tcm30-510832.pdf
- Catalogue of Good practices
  https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/pacto/

Commitments:



1. To advance in the reduction of the use of non-renewable natural resources, reusing in the cycle of production the materials contained in the residues as secondary raw materials, provided that the health of the people and the protection of the environment are guaranteed.

2. Promote the analysis of the life cycle of products and the incorporation of eco-design criteria, reducing the introduction of harmful substances in their manufacture, facilitating the reparability of the goods produced, extending their useful life and enabling their recovery at the end of its life .

3. To promote the effective application of the principle of hierarchy of waste, promoting the prevention of its generation, encouraging reuse, strengthening recycling and favoring its traceability.

4. Promote guidelines that increase innovation and overall efficiency of production processes, through the adoption of measures such as the implementation of environmental management systems.

5. Promote innovative forms of sustainable consumption, including sustainable products and services, as well as the use of digital infrastructures and services

6. Promote a responsible consumption model based on the transparency of information on the characteristics of goods and services, their duration and energy efficiency, through the use of measures such as the use of eco-labels.

7. Facilitate and promote the creation of appropriate channels to facilitate the exchange of information and coordination with administrations, the scientific and technological community and economic and social actors, so as to create synergies conducive to transition.

8. Disseminate the importance of moving from the linear economy to a circular economy, promoting transparency of processes, awareness and awareness of citizens.

9. Encourage the use of common, transparent and accessible indicators that allow to know the degree of implementation of the circular economy.

10. Promote the incorporation of social and environmental impact indicators derived from the operation of companies, so that they can be evaluated beyond the economic benefits generated by them, as a consequence of their commitment to the circular economy.

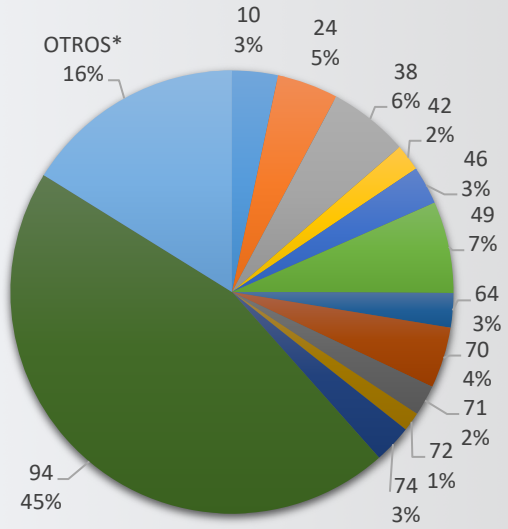
Dissemination and awareness

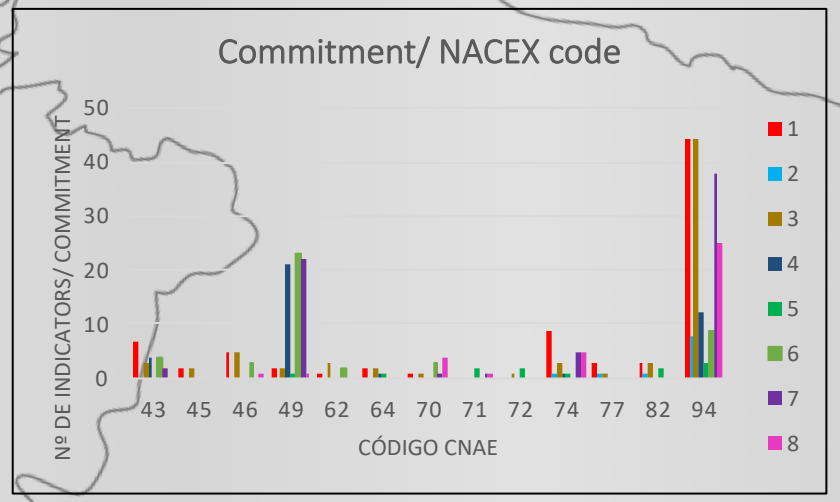
GOBIERNO DE ESPAÑA
MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO
AGENDA 2030

Circular Economy Deal

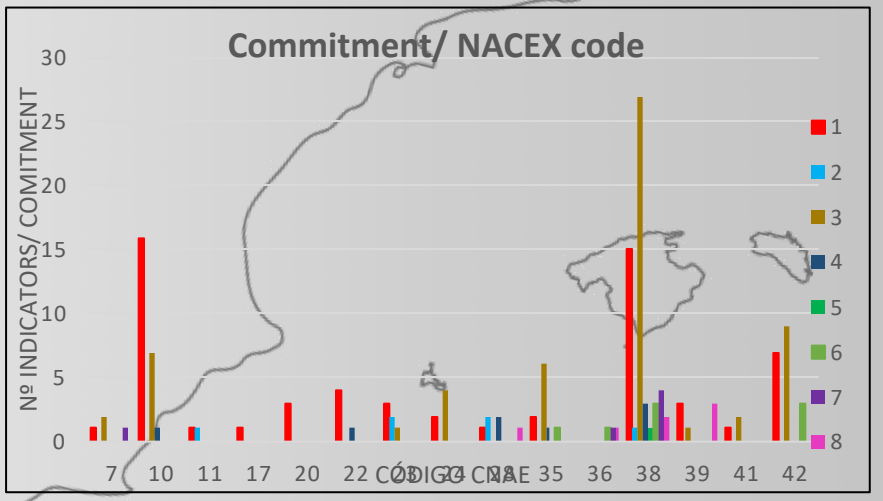
Spanish Instruments: Pact for a Circular Economy

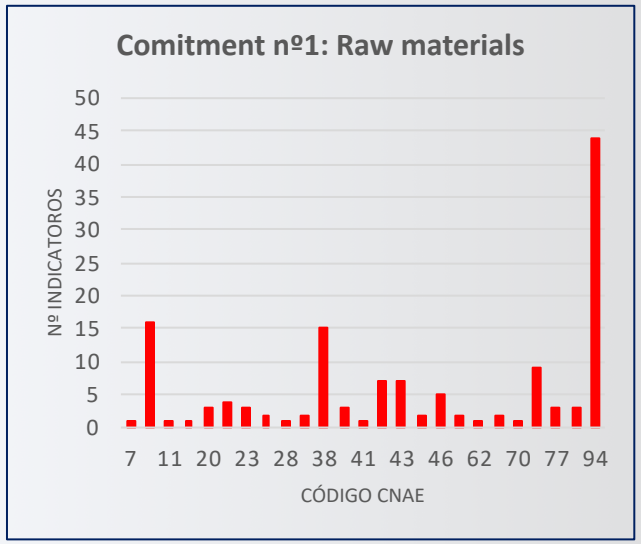
Number of stakeholders by NACEX code





1	Raw materials
2	Lifecycle and ecodesign
3	Waste and by-products
4	Improvement and innovation
5	Sustainable consumer
6	Transparency and information
7	Collaboration and formation
8	Dissemination and awareness





INDICADOR	DESCRIPCIÓN DEL INDICADOR	UNIDADES
IHC (kg CO2/TP)	Indicador de Huella de Carbono: Cantidad (kg) de CO2 equivalente emitidas a la atmósfera por cada tonelada de producción. Valor de 2016 calculado con herramienta de cálculo del Registro de huella de carbono del Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente. (Herramienta de año 2017 no publicada aún).	kg/Tm
Consumo de agua	Consumo de agua (expresado como hl de agua consumida por hl de cerveza producida)	hL/hL
Consumo total de energía	Consumo total de energía (térmica+eléctrica), expresada en MJ por hl de cerveza producida	MJ/hL
Emisiones CO2	Emisiones CO2 (alcance 1+2) expresadas en kg por hl de cerveza producida	kg/hL
Incorporación de material reciclado en envases de plástico de un solo uso comercial-industrial.	Este indicador nos muestra la relación del peso de los envases de un solo uso que contienen material reciclado/total del peso de envases de un solo uso, referente a los envases comerciales e industriales del sector del plástico adheridos al Plan Empresarial de Prevención (PEP 2016-2018) de Cicloplast.	%
Porcentaje de agua consumida que es agua reciclada y reutilizada.	Porcentaje de la captación total de agua de FCC Construcción que es reutilizada en la propia obra.	%
Eficiencia hídrica	Porcentaje del consumo de agua procedente de fuentes alternativas sobre el consumo hídrico total de las actividades prestadas dentro del perímetro operacional	%
Eficiencia energética	Huella de carbono de los procesos de tratamiento de residuos (alcance 2). Un coste ambiental bajo en la reintroducción de materiales en el circuito de reciclaje es un elemento a considerar en el ciclo de vida de estos materiales. Toneladas equivalentes de CO2 por tonelada de residuo procesada.	Tm CO2 eq./Tm
Eficiencia hídrica	Huella hídrica de la gestión de RAEE. Un coste ambiental bajo en la reintroducción de materiales en el circuito de reciclaje es un elemento a considerar en el ciclo de vida de estos materiales. Metros cúbicos consumidos por tonelada procesada.	m3/Tm
% En peso de materias primas reutilizadas	En este indicador medimos el peso de aquellos componentes que tienen una procedencia del reciclaje partido del peso total del mueble	%

What recommendations would you give a company to make its own indicator scheme

We still face a challenge in preparing a guideline of micro level indicator's scheme. What recommendation will you have for us?

What recommendations would you give to a company to make its own indicator's scheme?

Thank you

https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/pacto/

Bzn-eeec@miteco.es

Pre-information: SPAIN

Title: CE Deal, **España Circular 2030**

SDG Targets: 126/ 17.17

Summary:

Initiative to promote CE indicators at micro level.
Indicators are **chosen by the entities themselves**, for this they have to choose those that may be more **interesting to achieve the objectives proposed in the decalogue (Pact for CE)**, and adjust, to the best possible extent, to the **reality of their professional activity**.
The indicators will make it possible to **determine the evolution of the environmental policies applied in their entities, and the results obtained in each of the years of operation must be submitted.**

Questions to participants:

We still face a challenge in preparing a guideline of micro level indicator's scheme. What recommendation will you have for us?

What recommendations would you give to a company to make its own indicator's scheme?

Für Mensch & Umwelt

Umwelt Bundesamt

EEA Co-creation process on CE monitoring: Session on solutions, good practices, future options (19th November 2020)

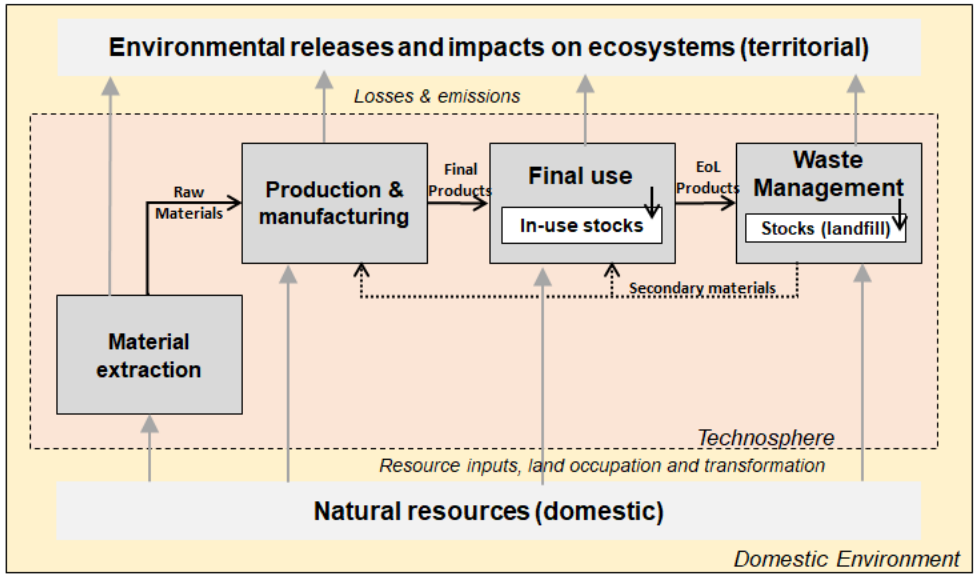
The use of footprint indicators in circular economy monitoring

Philip NUSS, Jens GÜNTHER, and Michael GOLDE

German Environment Agency (UBA)

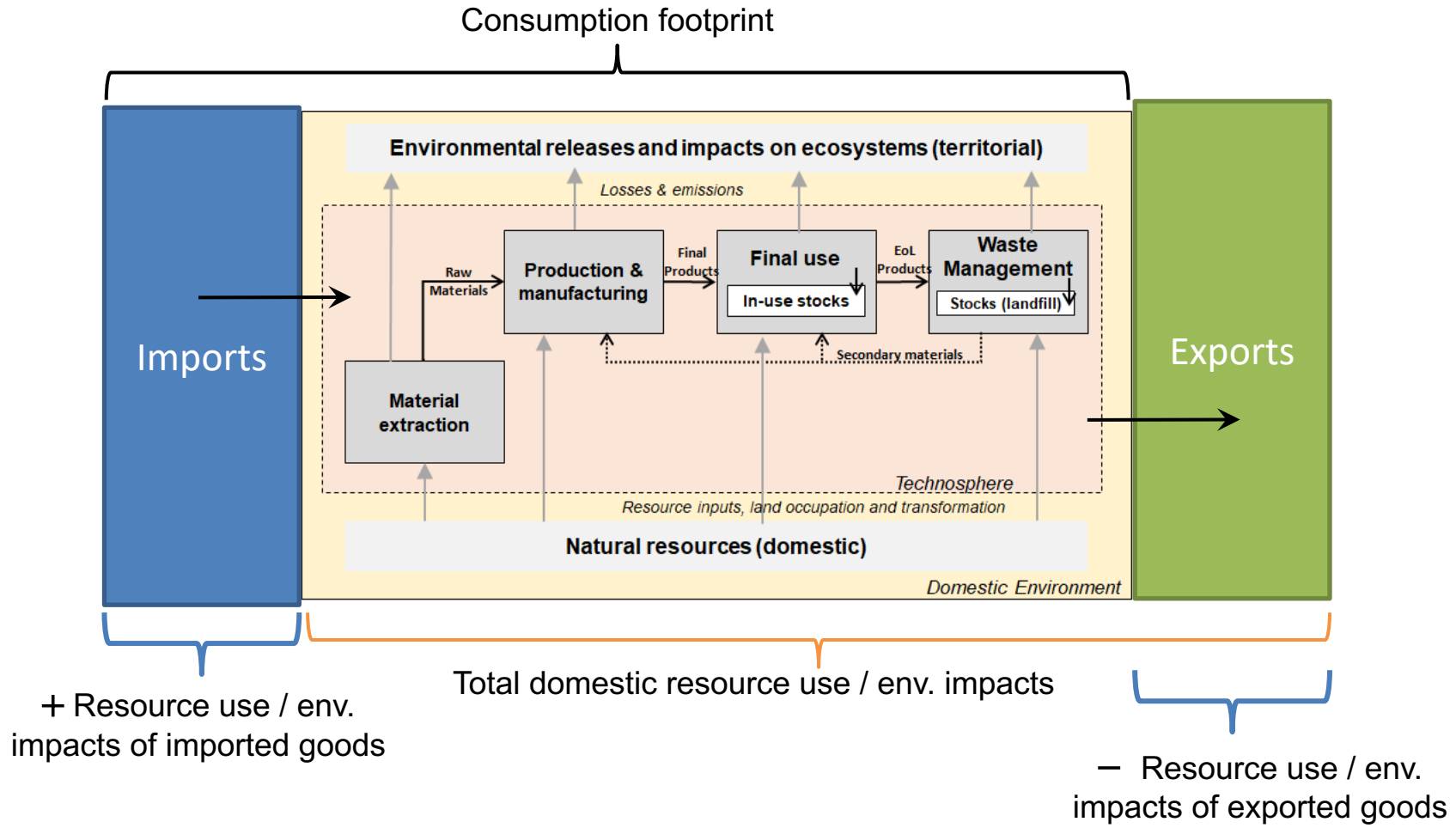
Disclaimer: This presentation does not necessarily reflect the opinion or the policies of the German Federal Environment Agency (UBA).

What are footprint indicators?



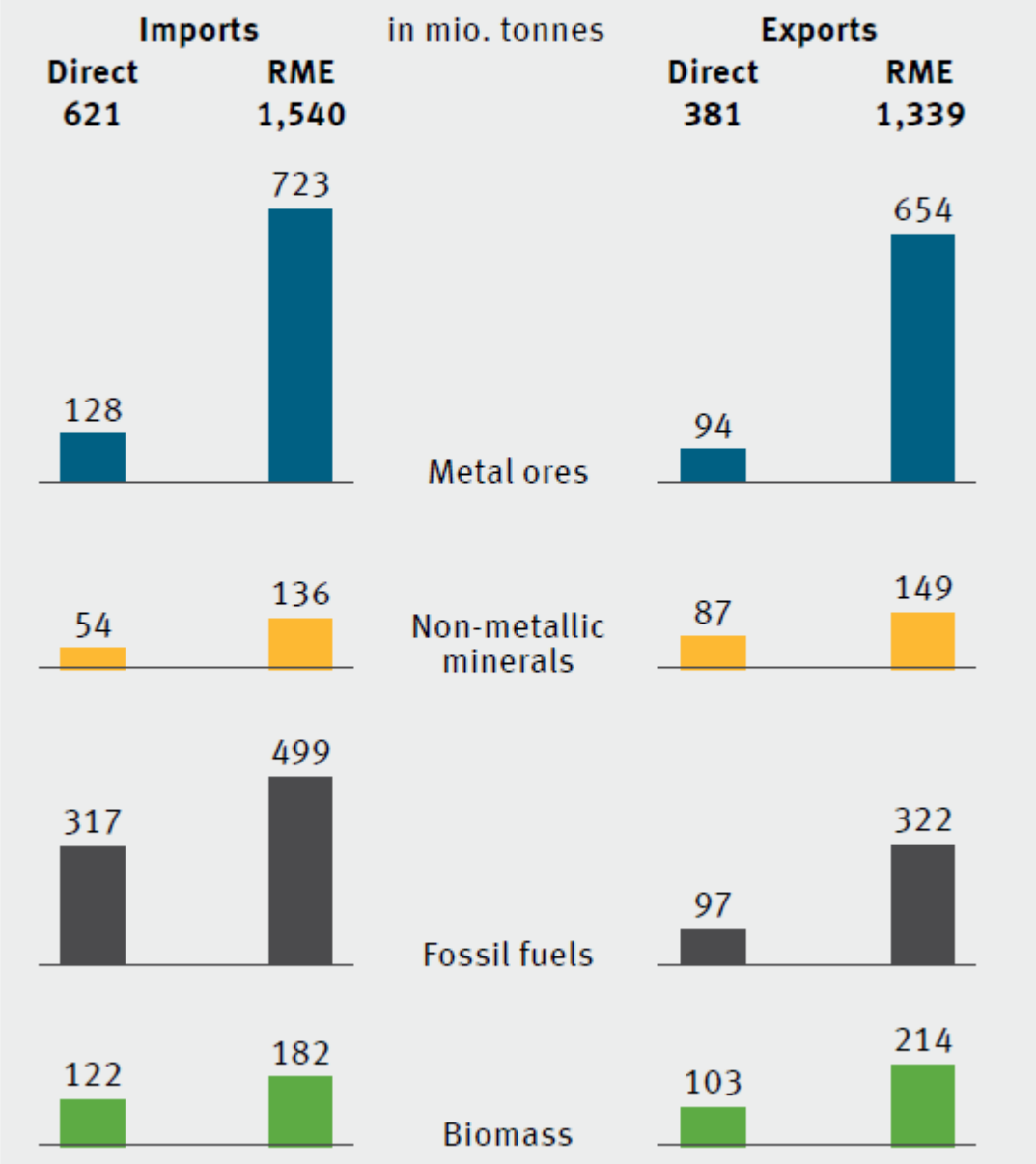
Source: UBA 2020 (in preparation)

What are footprint indicators?



Source: UBA 2020 (in preparation)

Example: Comparison of imports/exports by weight vs. raw material equivalents (RME)



Source: UBA 2018: The Use of Natural Resources: Report for Germany 2018 (based on Destatis data)

Example: Land footprint

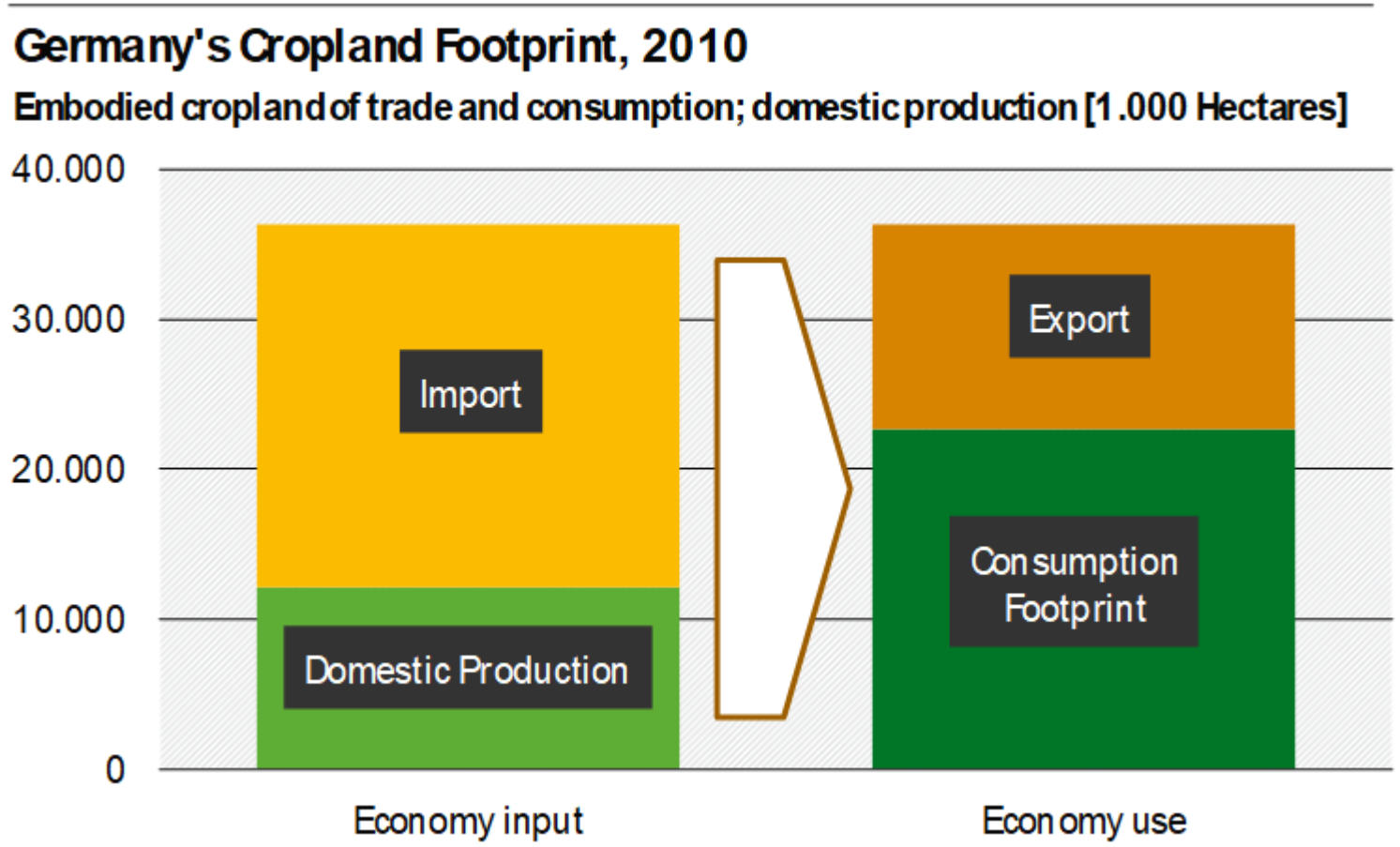
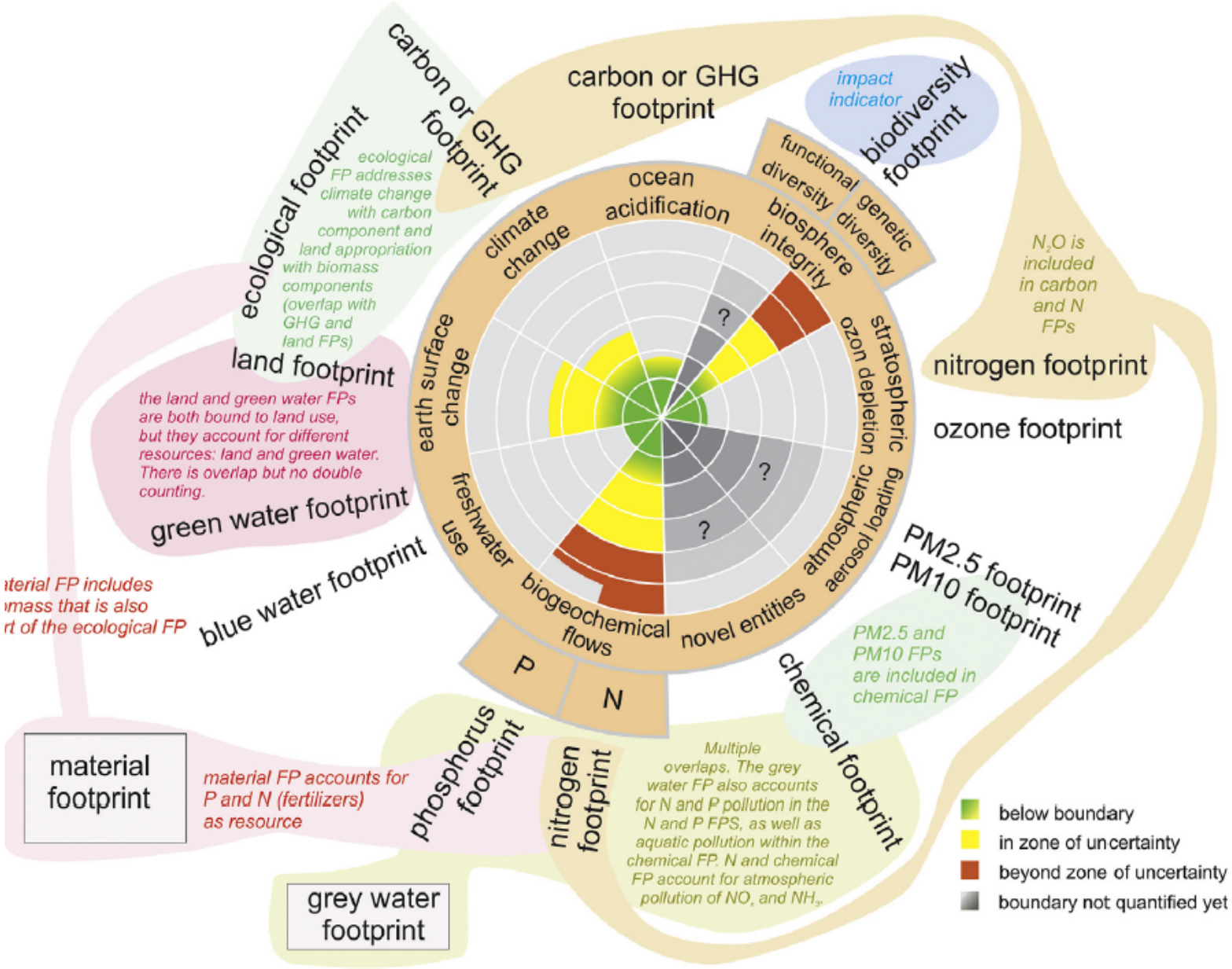


Figure based on data generated in: UBA 2017: Quantifying the land footprint of Germany and the EU using a hybrid accounting model (based on hybrid accounting combining the LANDFLOW model and Exiobase MRIO)

Relevance to Planetary Boundaries



Source: Vanham et al (2019): Environmental footprint family to address local to planetary sustainability and deliver on the SDGs, Sci. Tot. Env. Vol 693, 133642

Methods used *(hybrid approaches exist)*

- **Multi-regional input output (MRIO) tables w/ environmental extensions**
  - EORA (180 countries, 20-500 sectors), EXIOBASE (48 countries + RoW, 160 sectors), GTAP (140 countries, 57 sectors), WIOD (40 countries + RoW, 35 sectors), ICIO (64 countries, 48 sectors)
  - Examples: UNEP IRP MFA database, SCP-HAT, FINEPRINT, PANORAMA, etc.

Pros: International supply chains can be tracked,

Cons: time-intensive to update, no “official” database yet, Future updates unclear

- **Coefficient-based approaches (national IO tables)**
  - Example: Destatis RME calculations, carbon footprint

Pros: less time-intensive, often updated by statistical offices

Cons: Often domestic technology assumption used, limited comparability

- **Life-cycle assessment (LCA) based approaches**
  - Example: JRC environmental footprint

Pros: bottom-up approach (LCA and trade data) allows for detailed assessments

Cons: So far only available at EU-level, requires LCI data

Views from EC and EPAs

- New EC CE monitoring framework attempts to incorporate footprint indicators

" development of indicators on resource use, including consumption and material footprints to account for material consumption and environmental impacts associated to our production and consumption"

Presentation of the European Commission on 3rd November during the 5th European Resources Forum (ERF)

- Bellagio principles highlight 4 types of indicator groups:
  - (1) material and waste flows, (2) environmental footprints, (3) economic and social impacts, (4) policy and process indicators

> *Environmental footprint indicators* to capture the impacts across the full value chain of products and the full life cycle of materials, so that spill-over effects are assessed and planetary boundaries are respected.

- EPA paper 2017 „Input to the European Commission from European EPAs about monitoring progress of the transition towards a circular economy in the European Union"
  - Material footprint (RMC) and other environmental impacts / resource categories

Conclusions & Future Options

Summary

- Footprint indicators can help to highlight if resource use or environmental impacts are outsourced. Multiple footprints can be mapped (raw materials, water, land, carbon etc.) to highlight (environmental) burden shifting
- Allow for different perspectives (consumption, production, etc.).
- MRIO approach allows for a holistic view of supply chains.
- Provide complementary information to “traditional” MFA indicators (e.g., recycling) and link to wider discussion on environmental impacts and global resource use

Challenges

- Availability of data
- Lack of a commonly accepted approach and data sources (e.g., at UN or EU-level)
- Footprint perspective not yet common (e.g., in climate policy) and countries might have other priorities in indicator development

Conclusions & Future Options

Future options:

- EPAs could elaborate on the importance of footprint indicators in final EEA report including:
  - Need for a universally accepted approach/database (e.g., at EU, OECD, or UN level) to allow comparability across countries
  - Options for locating such indicators in a CE monitoring framework
  - Clearly highlight connection to science-based targets discussion

Possible discussion points

- What are examples for the use of footprint indicators in your country/institution?
- From your point of view, what are the major challenges in incorporating footprint indicators into CE monitoring?
- How should the EPAs go forward in their recommendation for a monitoring framework and how could we initiate increased development and use at EU- and MS-level?

Pre-information: Germany

The use of footprint indicators in circular economy monitoring

- Details: The presentation will briefly summarize the importance of footprint indicators in policy making to avoid shifting of natural resource use and environmental impacts abroad. Ideas for further implementation of footprint indicators in resource policy and circular economy monitoring will be discussed, and current challenges highlighted.
- Questions to participants:
  - What are examples for the use of footprint indicators in your country/institution?
  - From your point of view, what are the major challenges in incorporating footprint indicators into CE monitoring?

STEUNPUNT CIRCULAIRE ECONOMIE

Development of a CE monitor in Flanders

Luc Alaerts, Veerle Vermeyen, Karel Van Acker

November 19, 2020

DEPARTEMENT ECONOMIE WETENSCHAP & INNOVATIE

SAMEN MAKEN WE MORGEN MOOIER OVAM

KU LEUVEN

Universiteit Antwerpen

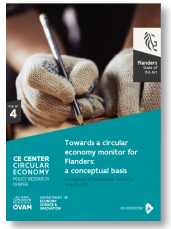
UNIVERSITEIT GENT

vito vision on technology

Building a CE monitor

CE policy research centre

- academic consortium funded by the Flemish administration
- building up a knowledge basis for policy
- CE monitor most tangible deliverable (due by 2021)
- approach monitor
    - concept approved by stakeholders
    - filling in with indicators
        - understanding available data
        - gap analysis



SAMEN MAKEN WE MORGEN MOOIER
OVAM

DEPARTEMENT ECONOMIE WETENSCHAP & INNOVATIE

KU LEUVEN

Universiteit Antwerpen

UNIVERSITEIT GENT

vito
vision on technology

ce-centre.be
(all publications available in English)

Development of concept

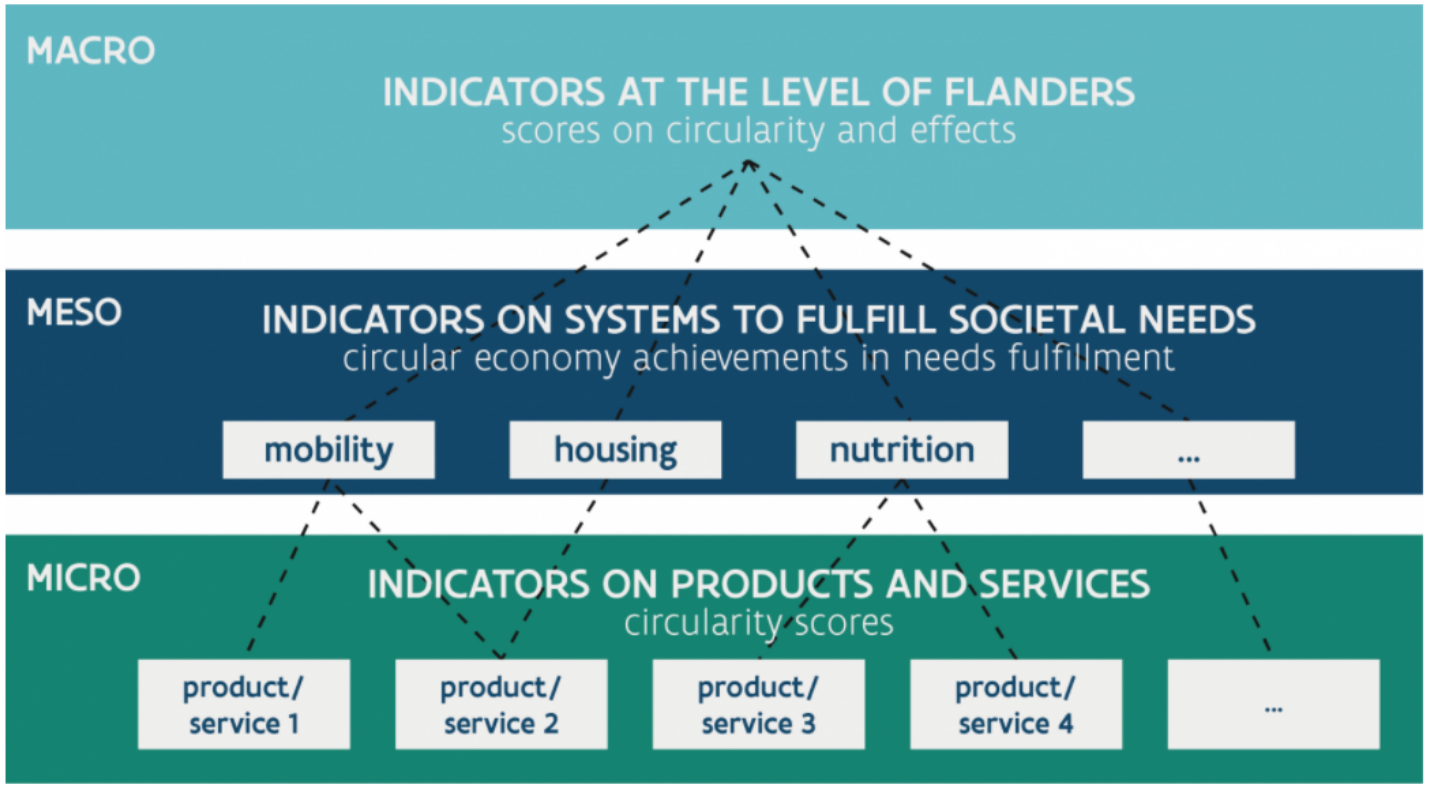
macro and micro CE indicators: two separate worlds

-> how to deliver more direct policy ***feedback***?

-> circular business models? ***'function'*** approach?

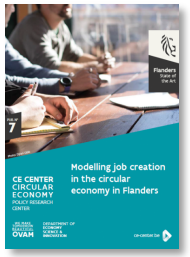
"Systems to fulfill needs"

- CE transition: towards different ways to fulfill needs with products and services
- need systems in order to obtain more detail
- major part of material consumption and impacts is covered by four need systems
- *footprint* and *life cycle* perspective

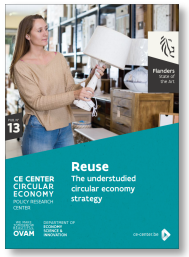


Draft macro layer

Employment in CE updated



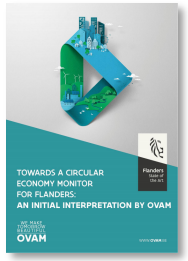
Measurement of Reuse



Four key indicators updated

DMI – RMI – DMC – RMC

Available indicators on materials & waste

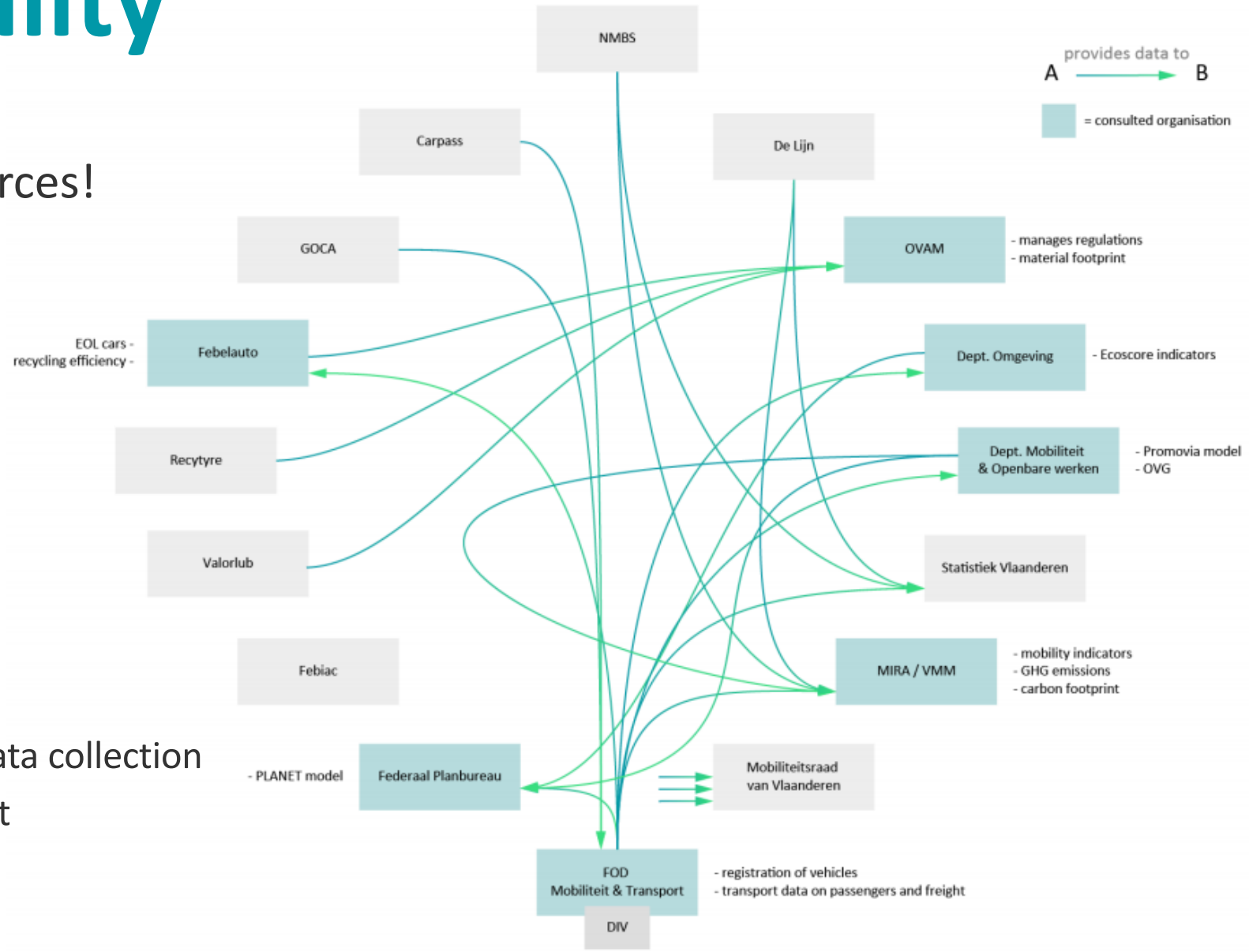


Conclusion: increasingly better realizations in keeping materials in the cycle and employment; absolute consumption of primary raw materials still increases

CE in mobility

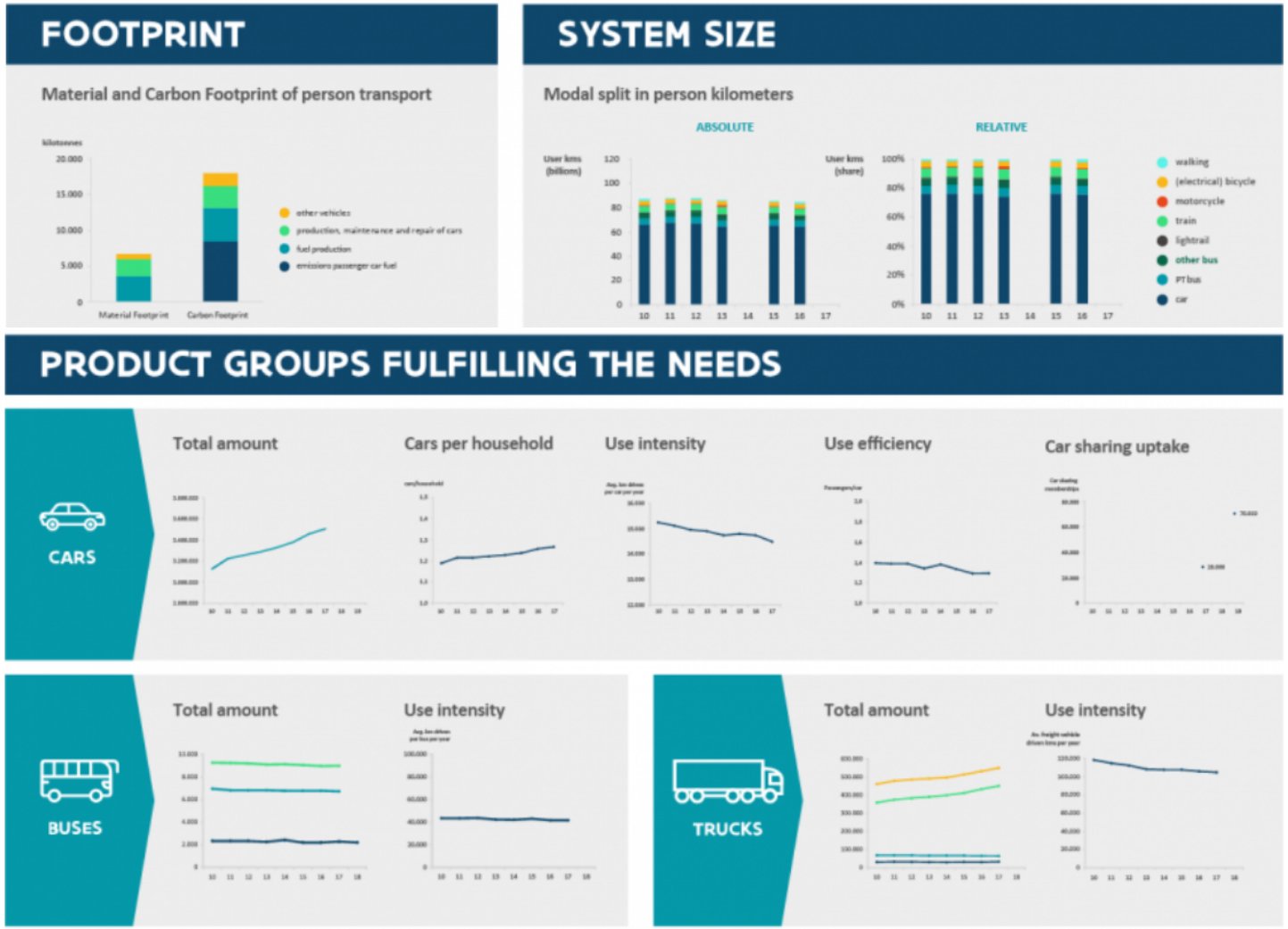
large range of data sources!

<u>data landscape:</u>



- understanding current data collection
- stakeholder management

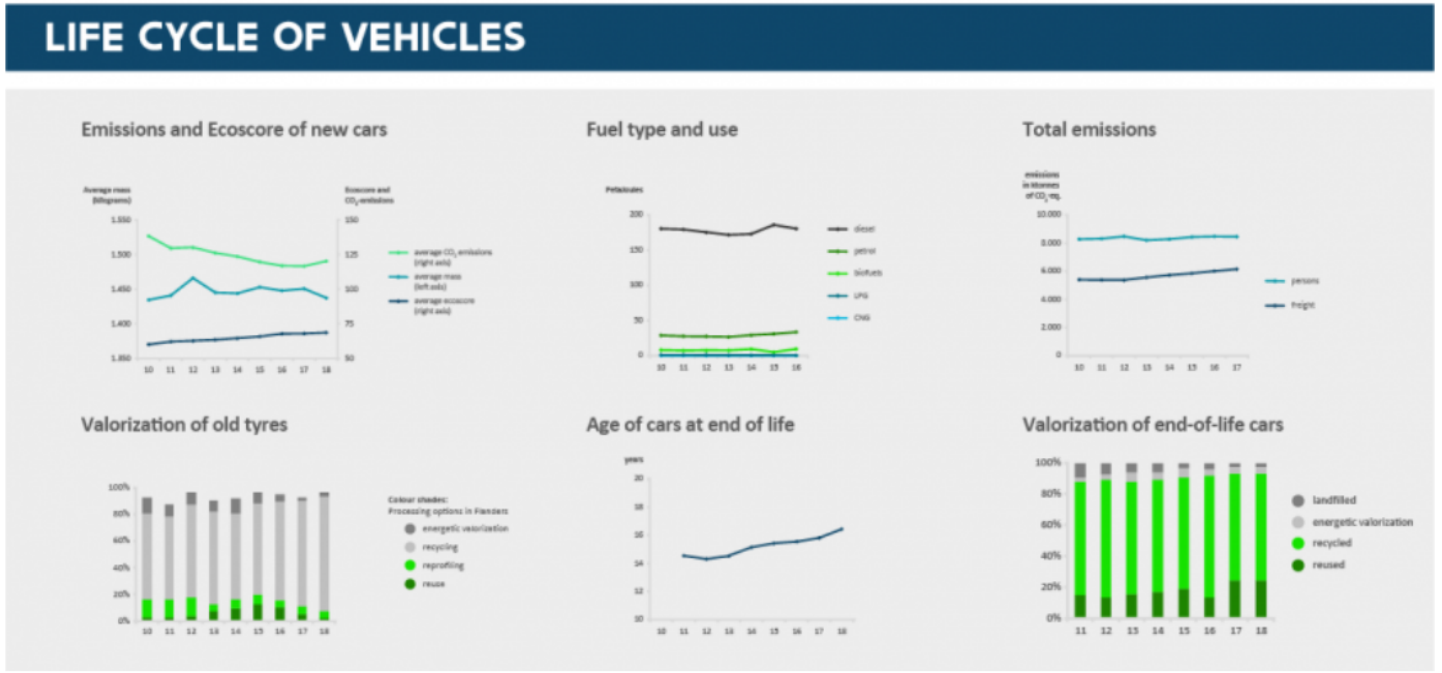
CE in mobility



- **Huge material and carbon footprints**: 11 and 20% of household consumption
- **85 billion kilometers** are traveled yearly, ca. 75% of which by **passenger car**
  - this demand is delivered by an **increasing amount of cars** which are **not more intensively used neither carry more passengers**
  - decreasing amount of buses
- substantial **increase of vans** and **decreased use intensity of all freight vehicles**

https://ce-center.vlaanderen-circulair.be/nl/publicaties/publicatie-2/10-circular-economy-indicators-for-person-mobility-and-transport

CE in mobility



The more detailed indicators show at least some good news:

- **new cars**: slight increase of average weight; **steady increase of theoretical environmental performance**
- huge amounts of fuels consumed, causing almost half of the carbon footprint
- **tyres: high collection efficiency**, but severe downcycling and decreasing reuse and repair
- **EoL cars: increase in age, more reuse and recycling**

https://ce-center.vlaanderen-circulair.be/nl/publicaties/publicatie-2/10-circular-economy-indicators-for-person-mobility-and-transport

Data gathering and governance

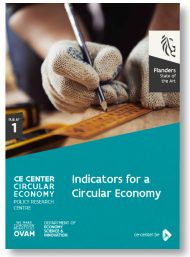
- added value of bringing together facts on vehicles and their use:
  - not available before
  - provides perspective on material repercussions
- towards a version 2.0: composition and management of batteries and electrical engines
- for cars, almost all information is essentially present - the data displayed a *large diversity* and were spread over a *large range* of sources
- currently *no central management* of data
- *stakeholder interaction* has been essential to obtain the current results

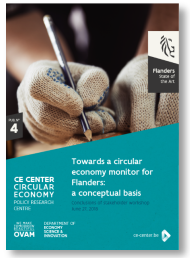
***-> overcoming protection of privacy and commercial position**, to be able to access more data*

-> towards a data governance that enables bringing together and manage data from different stakeholders in a safe and collaborative way

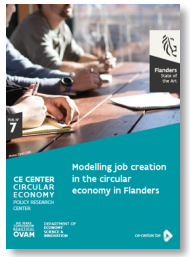
Further work

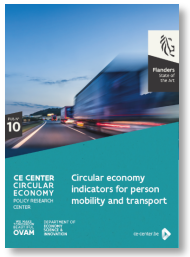
- publications on measuring CE

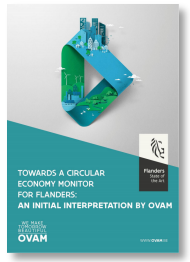


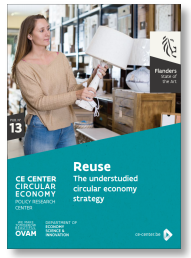












- upcoming publications
  - indicators in other need systems: consumption goods, housing, nutrition
  - macro layer: longlist of possible indicators available; definitive selection in progress
  - material flows in Flanders: key indicators updated; detailed analysis in progress

https://ce-center.vlaanderen-circulair.be/nl/circulaire-economie-monitor-vlaanderen
(all publications available in English)

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DEPARTEMENT ECONOMIE WETENSCHAP & INNOVATIE

SAMEN MAKEN WE MORGEN MOOIER OVAM

KU LEUVEN

Universiteit Antwerpen

UNIVERSITEIT GENT

vito vision on technology

Pre-information: BELGIUM / FLANDERS

Development of a CE monitor in Flanders

- Focus of presentation: The overall CE monitoring framework for Flanders (to be ready end of 2021) and the yet most advanced part of it : mobility.

- Question to participants : How to overcome data (sharing) bottlenecks and how to set up a data governance dedicated to CE monitoring?

Interactive survey

1. Please grab your laptop or smart phone.
2. Visit **www.menti.com** and enter the code **79 19 48 0.**

   Alternatively scan the code or go to

   https://www.menti.com/gxi42e3t3r .

3. Then answer we would like you to answer 3 different questions. We will guide you!

European Environment Agency

EIONET

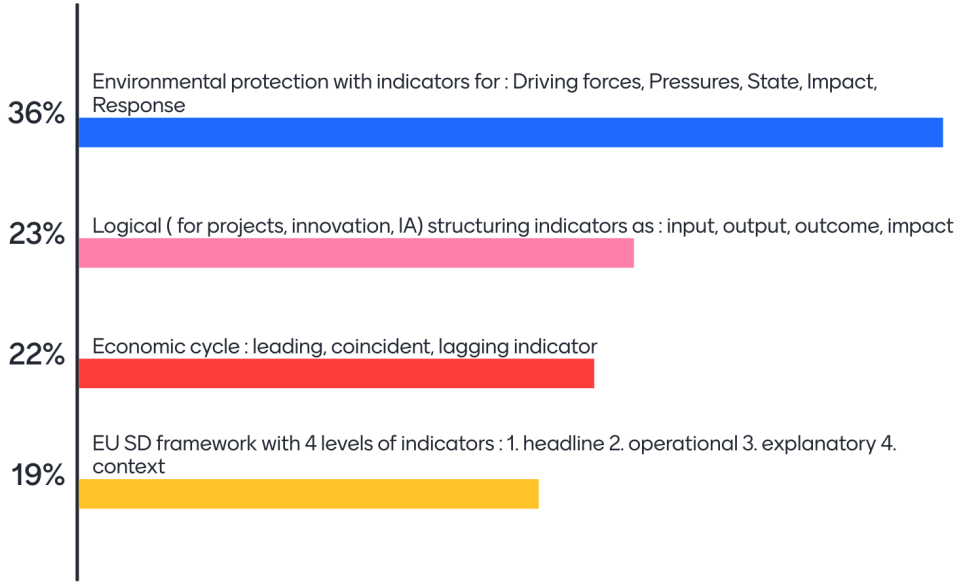
European Environment Agency
European Topic Centre on Waste and Materials in a Green Economy

Interactive survey - Outcomes

Go to **www.menti.com** and use the code **79 19 48 0**

Mentimeter

Which framework structure and type of indicators would be best for CE monitoring



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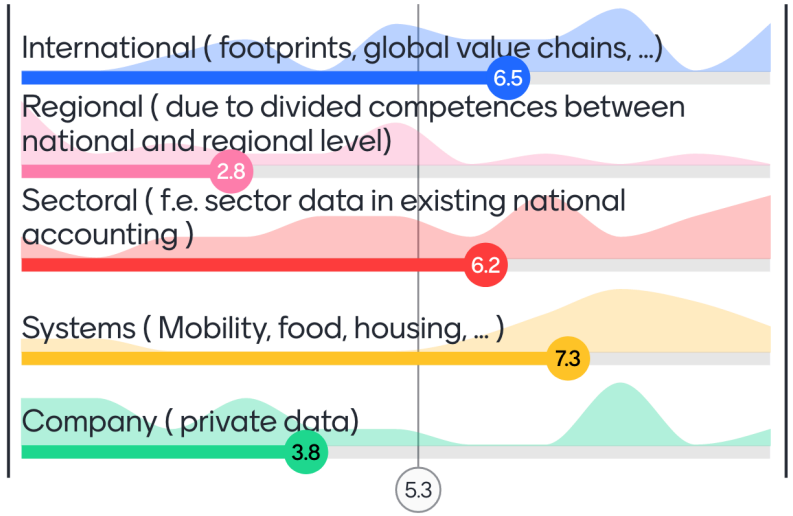
Interactive survey - Outcomes

Go to **www.menti.com** and use the code **79 19 48 0**

Mentimeter

Assuming the national scale as given need , which other levels deserve most attention for further elaboration of a CE Monitoring Framework?



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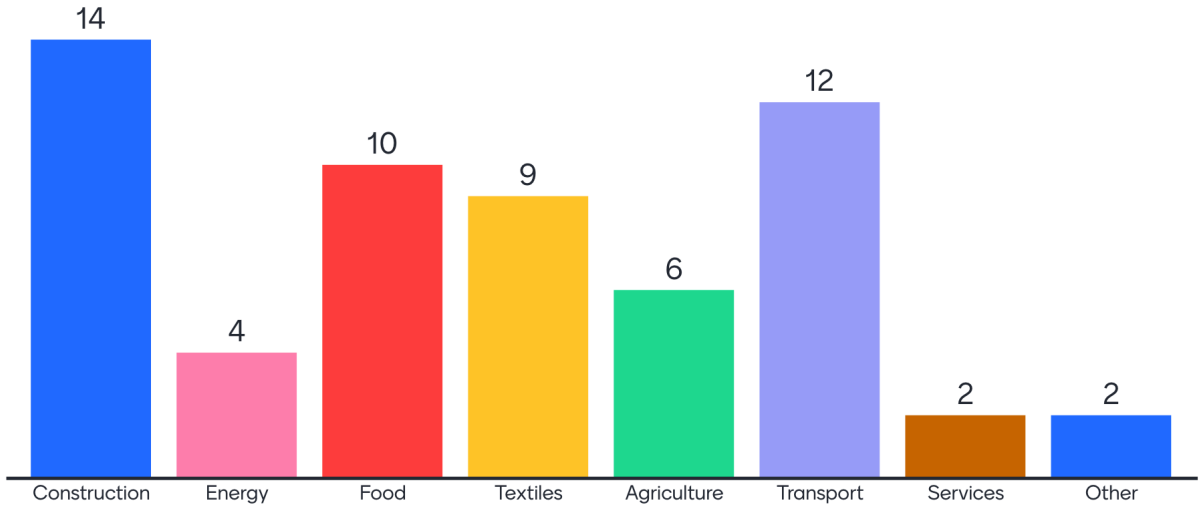
Interactive survey - Outcomes

Go to **www.menti.com** and use the code **79 19 48 0**

Mentimeter

In case of sector-specific CE monitoring: which sectors would you prioritise?



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Next steps

- Reflecting on co-creation process itself at NRC Workshop 26 November 2020
- Draft report co-creation outcomes, based on analysis of all inputs gathered through webinars 1-3, homework responses and literature Q1 2021 (TBC)
- Review draft report, Expert Workshop and final report Q2 2021 (TBC)

➢ **EEA/ETC** to upload Webinar 3 recordings and presentations

➢ **Countries**: still possible to submit homework response and relevant literature to theo.geerken@vito.be .

Thank you for your participation and looking forward to continuing the co-creation with you!

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