



# Environmental Footprint methods: overview, applications and outlook

European Sustainable Nutrient Initiative – 19/09/2024

*Mauro CORDELLA*

*DG Environment, European Commission*

# Life Cycle Assessment (LCA)



Standardised by norms ISO 14040/44,  
LCA aims to avoid problem shifting

BUT



Same product



Different results

- background data
- impact assessment
- modelling (e.g. EoL)
- interpretation

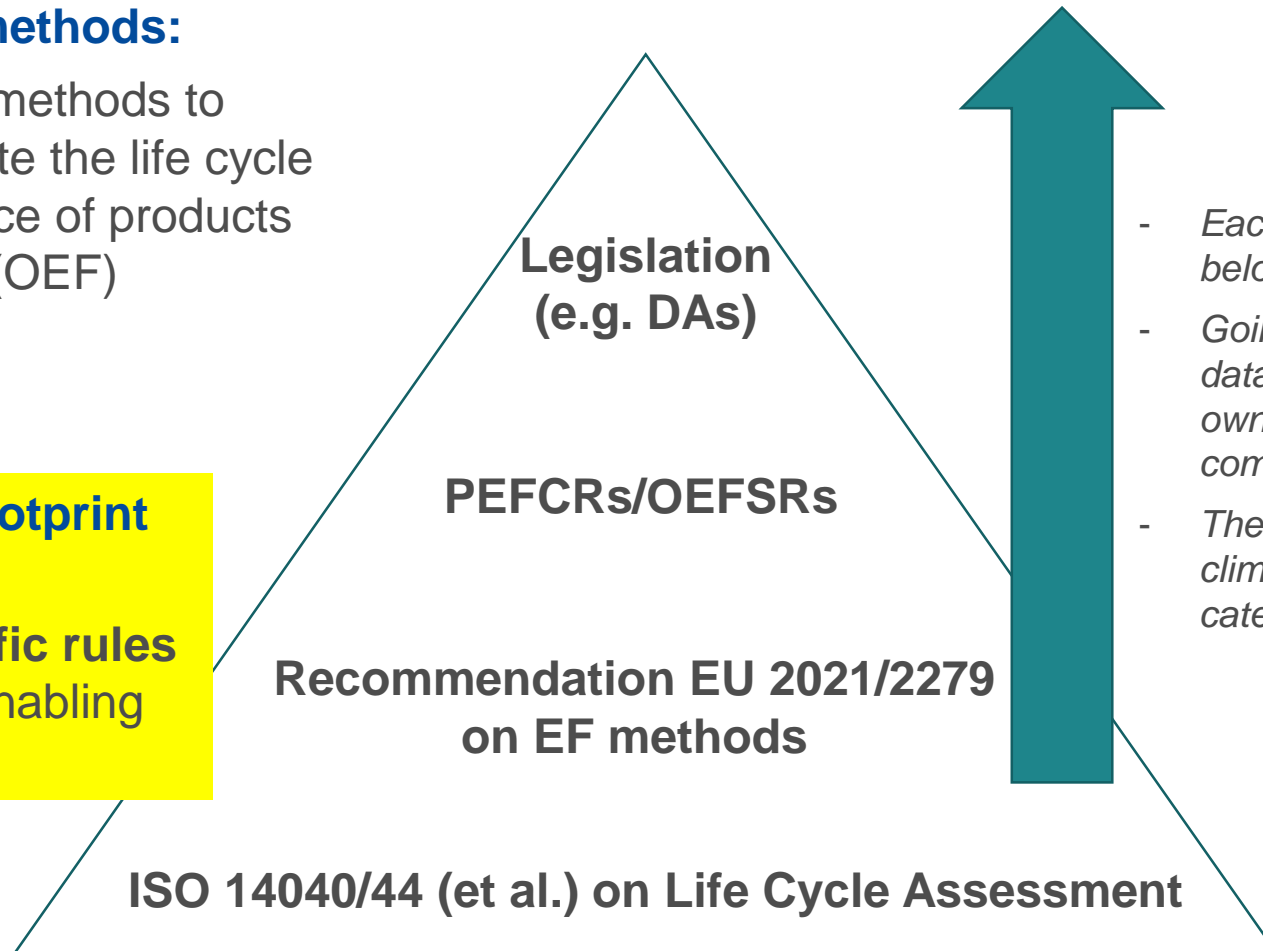
# EF methods in the LCA and EU policy contexts: ideal scenario

## Environmental Footprint methods:

- LCA-based, harmonized methods to measure and communicate the life cycle environmental performance of products (PEF) and organisations (OEF)

## Product Environmental Footprint Category Rules (PEFCR):

- Industry-endorsed, **specific rules per product category**, enabling reliable comparisons



- Each layer aims to build on the one below
- Going up, further methodological and data specifications leave less space for own assumptions and enhance reliability, comparability and verifiability of LCAs
- The current version of the EF cover climate change and other 15 impact categories

# The EF journey

**21 PEFCR/OEFSRs** for certain products and organizations  
 ~300 organizations involved (mainly associations and large companies)  
 ~3,000 registered participants

## Developments:

- Mainstreaming EF methods
- Progress/finalisation of PEFCR/OEFSRs
- Scientific developments & EF4.0 database
- Governance and engagement

Pilot phase

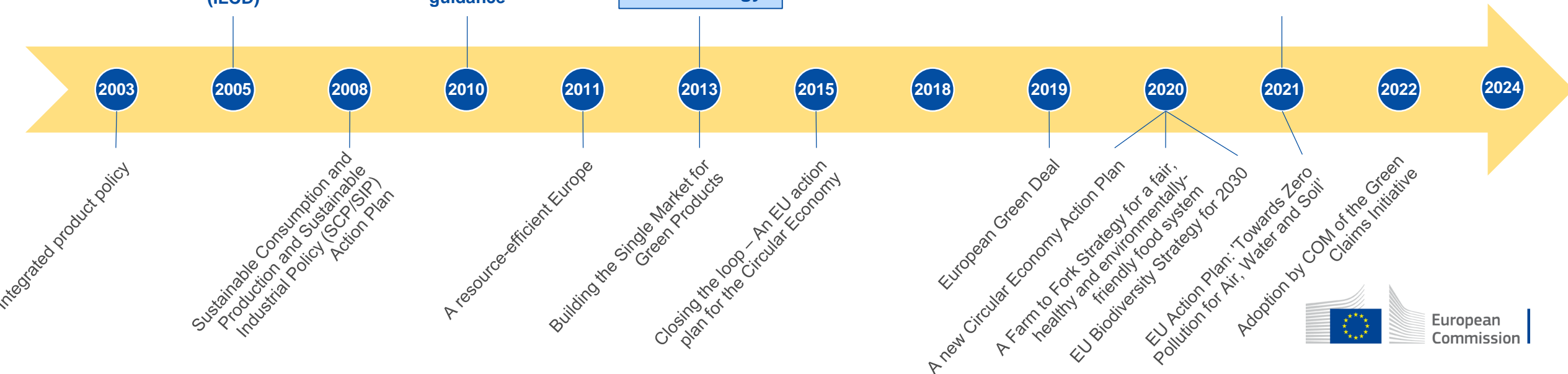
Transition phase

International Reference Life Cycle Data System (ILCD)

International Reference Life Cycle Data System (ILCD) guidance

Environmental Footprint methodology

Recommendation 2021/2279



# PEFCR/OEFSRs

## Current situation

### **New PEFCRs expected for 2024-2025**

1. Aquaculture and marine fish
2. Apparel & Footwear (linked to ESPR)
3. **Cut Flowers and potted plants**
4. **Synthetic turf**

### **Updates expected for 2024-2025**

5. **Copper (OEFSR)**
6. Pet food
7. Feed for food-producing animals
8. Beer
9. Pasta
10. Dairy products
11. Batteries and accumulators

### **Other PEFCRs:**

12. Aircrafts, drones and VTOL (EASA), 2024-2025
13. Tourism (GROW), 2025
14. Space (DEFIS), 2026

### **Shadow PEFCRs:**

- Developed by industry independently from EC
- Not to formally follow all EF procedures/rules (adaptations possible)
- Can be reference for further developments, incl. EF processes and uses (when relevant)

# Uses of EF methods

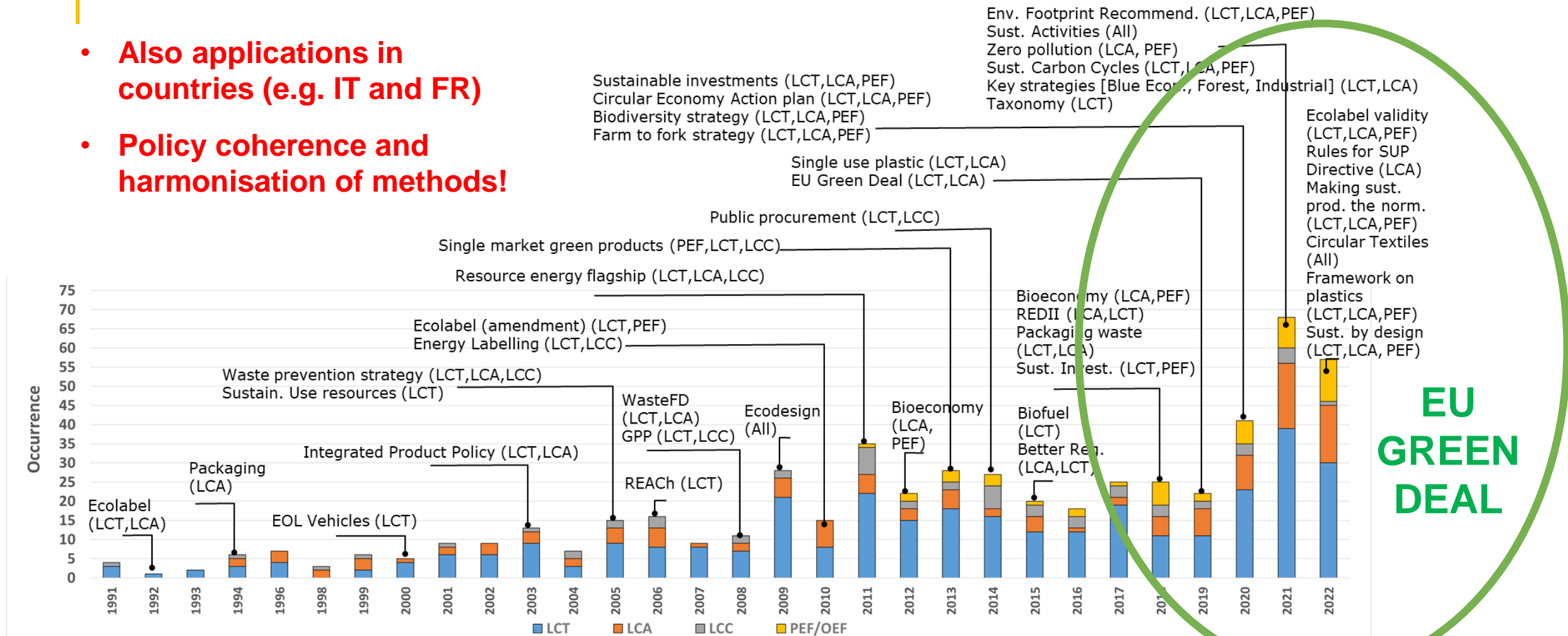
1. **Communication of the environmental footprint (\*)**
2. **Analysis and reduction of environmental impacts of products and organizations**
3. **Development, implementation and evaluation of policies and initiatives**

**(\*) European Green Deal – 12/2019:** Reliable, comparable and verifiable information also plays an important part in enabling buyers to make more sustainable decisions and reduces the risk of ‘green washing’

**(\*) Circular Economy Action Plan – 3/2020:** The Commission will propose that companies substantiate their environmental claims using Product and Organisation Environmental Footprint methods

# Increasing use of LCA/EF methods in EU policies

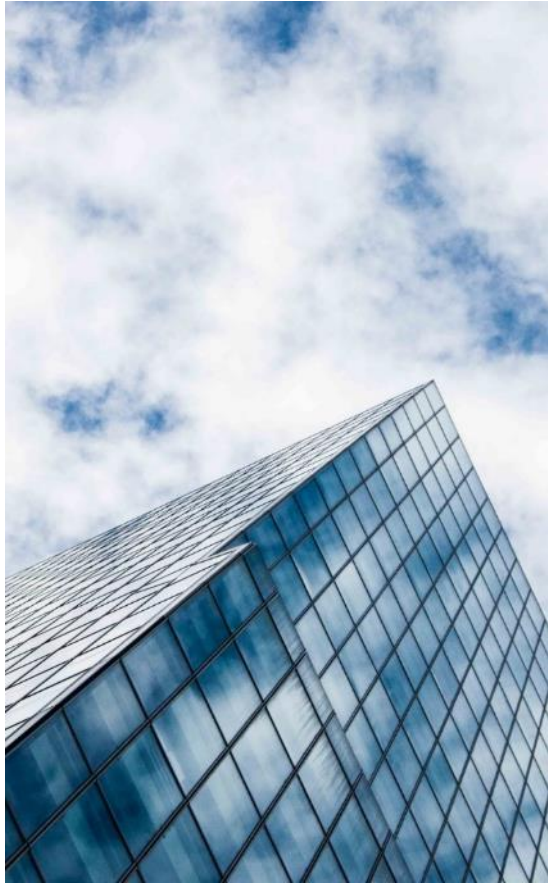
- Also applications in countries (e.g. IT and FR)
- Policy coherence and harmonisation of methods!



Updated from Sala et al. (2021). The evolution of life cycle assessment in European policies over three decades. *The International Journal of Life Cycle Assessment*, 26, 2295-2314.



# Focus on EU policies (1)



- **Batteries Regulation and revision of PV ecodesign regulation**
  - Carbon footprint calculation based on PEF
- **Critical Raw Materials Act**
  - Proposal for environmental footprint declaration for CRMs entering the EU market, focus on most relevant impact categories based on PEF
- **Green Claims Directive proposal**
  - PEF is an appropriate method to comply with the requirements of GCD
  - Empowerment for the Commission to adopt delegated acts with product category rules

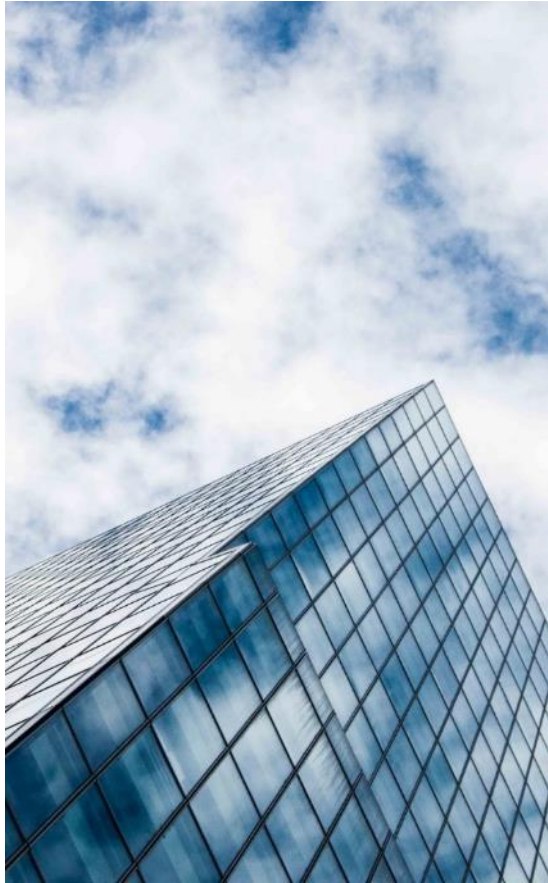


# Focus on EU policies (2)



- **EU Ecolabel**
  - PEF/LCA used to identify criteria areas
- **Regulation on Eco-design for Sustainable Product**
  - Introduction of mandatory ecodesign requirements (information/performance) beyond energy-efficiency (circularity)
  - Ecoreport tool and PEF amongst the reference methods for setting ecodesign requirements for products and developing carbon/environmental product declarations
- **Construction Products**
  - Carbon and environmental footprint requirements under CPR relying on EN15804 (further alignment with PEF being discussed)
  - Energy Performance of Buildings Directive - introduces calculation of whole life-cycle CO2 emissions based on Level(s) which refers to EN15804 and PEF

# Focus on EU policies (3)



- **Taxonomy Regulation**
  - Definition of criteria and carbon footprint thresholds for sustainable activities
- **CSRD**
  - ESRS for climate change, pollution, water, biodiversity&ecosystems, circular economy
- **Chemicals safe and sustainable by design**
  - PEF used to evaluate environmental impacts of chemicals
- **EU Space Law proposal**
  - PEFCR preparation envisaged
- **Consumption footprint indicator (EU CE monitoring framework)**
  - PEF as underlying methodology

# Outlook for EF methods (1)

- Transition period to be closed by 2025 – review of EF Recommendation (text, procedures, methods)





## Outlook for *EF* methods (1)

- Transition period to be closed by 2025 – review of EF Recommendation (text, procedures, methods)

### ***Advancement in IA:***

- *Biodiversity (inclusion as new impact category )*
- *Strengthen of some existing categories (e.g. water scarcity)*
- *Revision of existing indicators (e.g. climate change, land use, toxicity impacts)*
- *Adjustment of weighting (for the single score)*
- *Guidance for additional information (e.g. microplastics, fish stock, etc.)*

### ***Advancement in key modelling aspects:***

- *(Biogenic) carbon accounting*
- *Guidance on End-of-life (CFF)*
- *Modelling of agricultural practices*





## Outlook for EF methods – part 2

- New EF4.0 database (2026-2027)
- Review of governance (e.g. update of EF TAB via [Register of Commission expert groups](#))
- Finalisation of PEFCRs and WP for future years
- Support to harmonised applications of EF methods across EU polices, e.g.
  - *Preparation of eco-design rules for specific product groups*
  - *Substantiation of green claims*

# Thank you

***Circular economy:*** [Circular economy \(europa.eu\)](https://europea.eu)

***Environment Footprint methods:*** [Environmental Footprint methods \(europa.eu\)](https://europea.eu)

***JRC website:*** [European Platform on LCA | EPLCA \(europa.eu\)](https://europea.eu)

***Green claims:*** [Green claims \(europa.eu\)](https://europea.eu)



© European Union 2020

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.

Slide xx: [element concerned](#), source: e.g. [Fotolia.com](#); Slide xx: [element concerned](#), source: e.g. [iStock.com](#)

