



# Environmental Footprint methods: overview, applications and outlook

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# A need for harmonization in LCA



Standardised by ISO 14040/44



Same product



Different results

- impact assessment methods
- modelling (e.g. System boundaries, allocation, EoL)
- background data
- interpretation

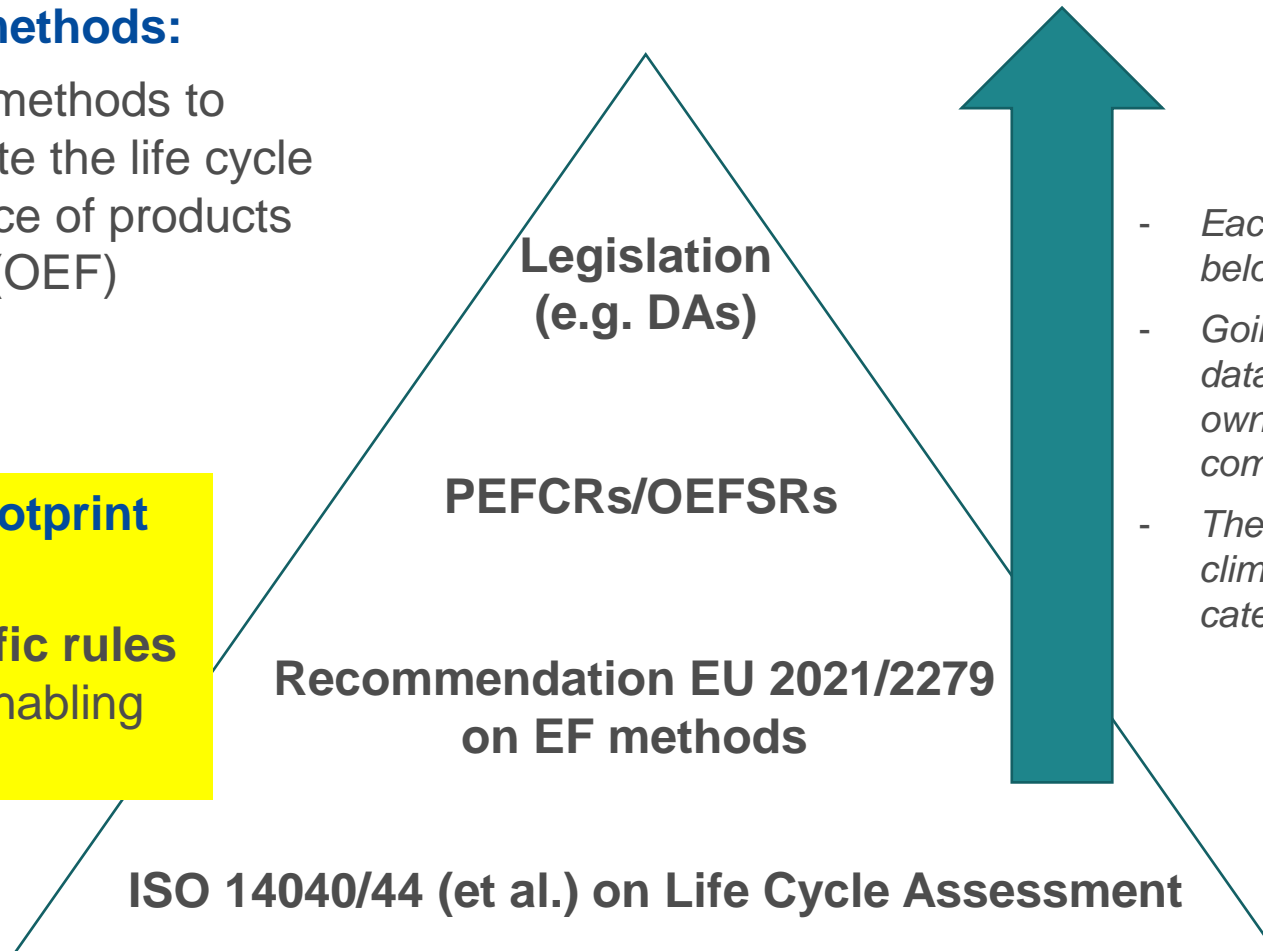
# EF methods in the LCA and EU policy contexts

## 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

# 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

# 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

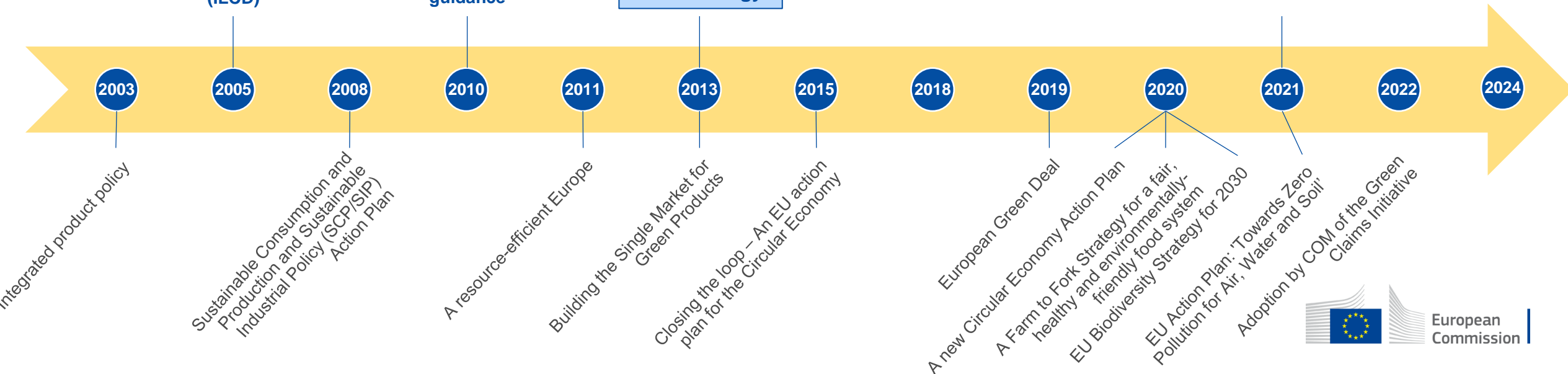
Transition phase

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:

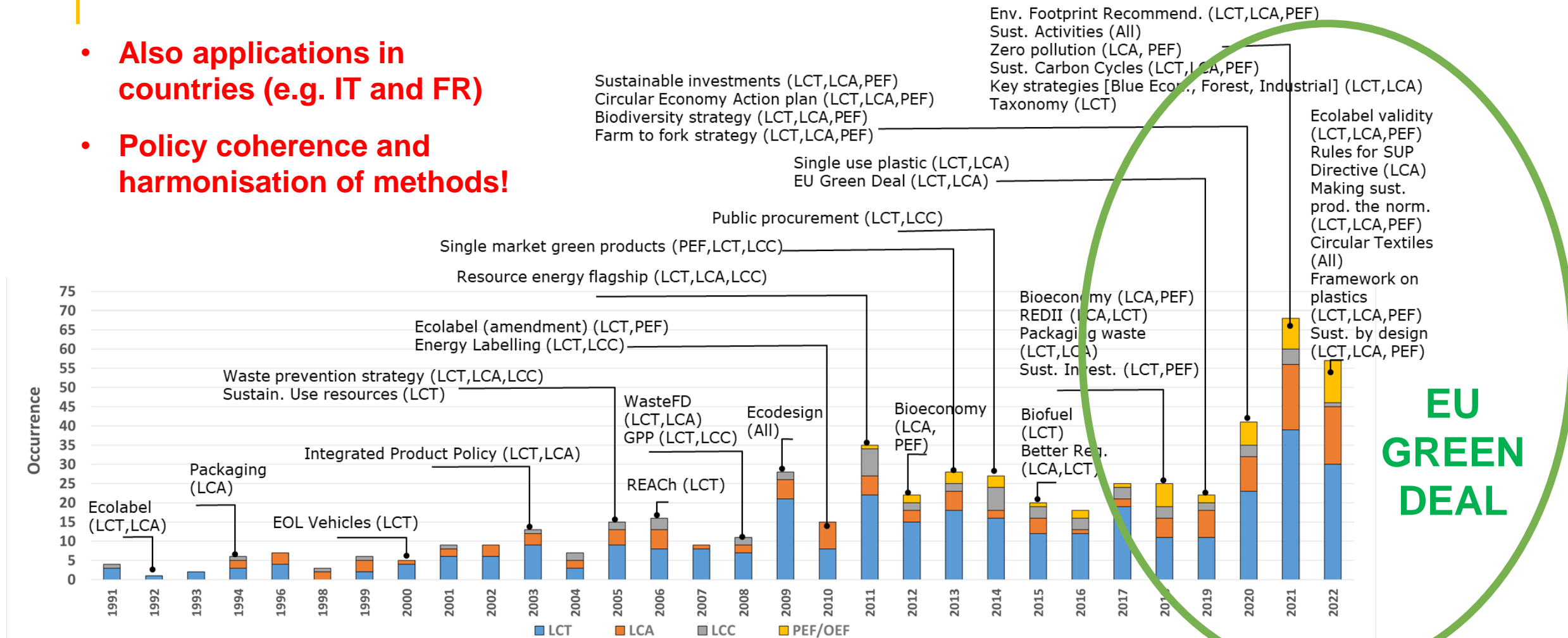
12. Aircrafts, drones and VTOL (EASA), 2024-2025
13. Tourism (GROW), 2025
14. Space (DEFIS), 2026

## 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)

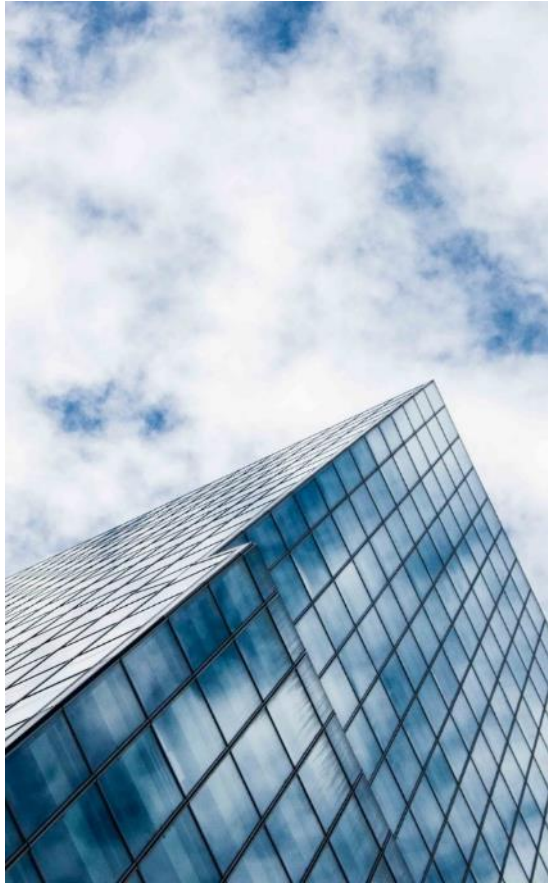
# Increasing use of LCA/EF methods in EU policies

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



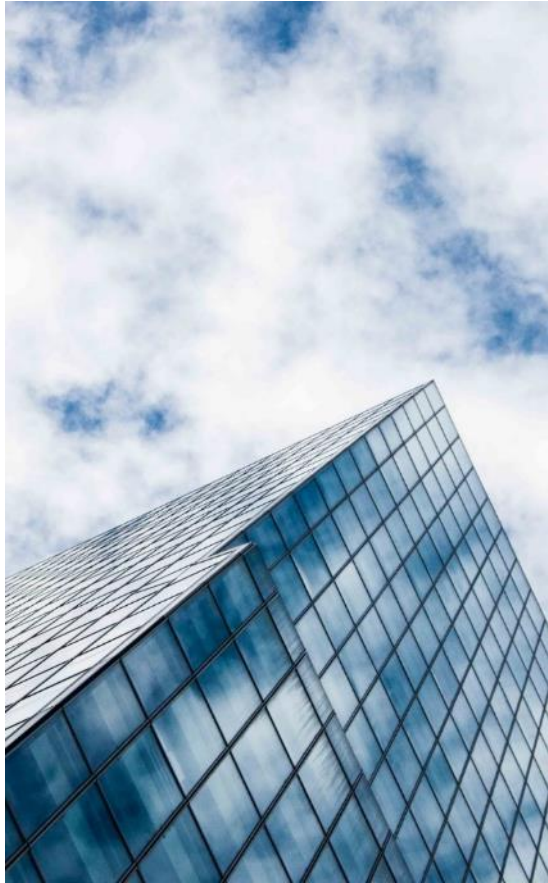
Updated from Sala et al. (2021). The evolution of life cycle assessment in European policies over three decades. *The International Journal of Life Cycle Assessment*, 26, 2295-2314.

# Examples of EU policies (1)



- **Batteries Regulation and Ecodesign implementing measures for PV**
  - Carbon footprint calculation based on PEF (and related PEFCRs)
  - Similar approach under discussion for NZIA and ELV
- **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

# Examples of EU policies (2)



- **Regulation on Eco-design for Sustainable Product**

- Introduction of information/performance requirements beyond energy-efficiency
- Ecoreport tool and PEF amongst the reference tools for analysing the impacts of products
- PEF also suitable for setting requirements on carbon/environmental product declarations
- Work on a PCF methodology building on ETS/CBAM and PEF

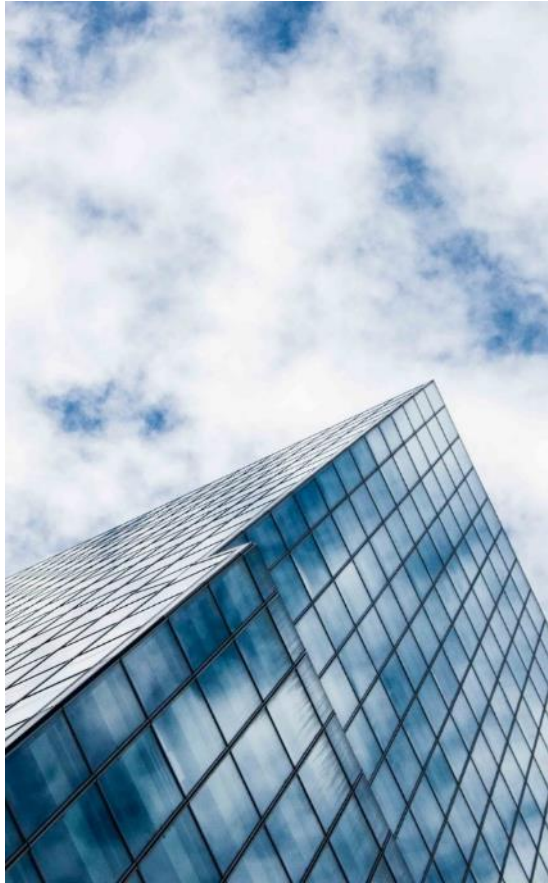
- **ETS/CBAM**

- CO<sub>2</sub>,eq trade instruments, covering Scope 1 and 2 emissions (ETS/CBAM) and partly Scope 3 emissions (CBAM)

- **Construction Products**

- Carbon and environmental footprint requirements under CPR relying on EN15804 (alignment with PEF being discussed)
- Energy Performance of Buildings Directive - calculation of whole life-cycle CO<sub>2</sub> emissions based on Level(s) which refers to EN15804 and PEF

# Examples of 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

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



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