

# EU support to Algae Sector Developments

Maris Stulgis

Policy Officer

European Commission's Directorate-General  
for Maritime Affairs and Fisheries





# EU Support to Algae Sector Developments

*LOCALITY, REALM, SEAMARK,  
CIRCALGAE and AlgaeProBANOS  
collaborative webinar:*

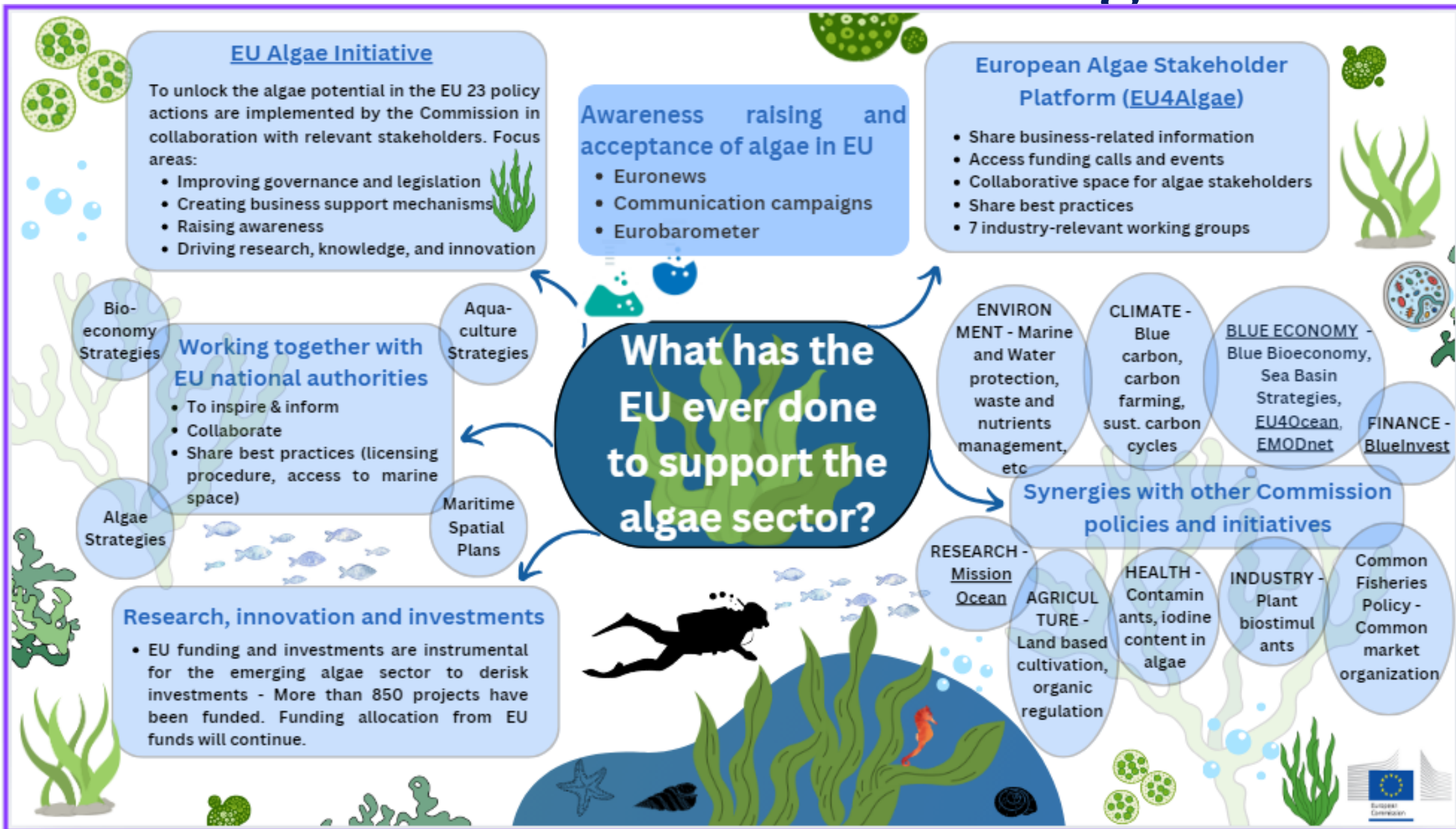
**Maris STULGIS**

**[Maris.stulgis@ec.europa.eu](mailto:Maris.stulgis@ec.europa.eu)**

Policy Officer, EC's Directorate-  
General for Maritime Affairs and  
Fisheries

*Harmonizing Algae-based LCAs – Selecting  
Systems and Data Providers*

# What the EC does for the EU algae sector



*Raise algae  
sector credibility  
by LCA*



**Blue Bioeconomy - Towards a Strong  
and Sustainable EU Algae Sector**  
“EU Algae Initiative”  
SWD

## LIMITED KNOWLEDGE ON RISKS AND IMPACTS OF AN EXPANDED ALGAE PRODUCTION

- + **LCA** – an approach to understand and **assess environmental impacts** of growing algae industry and steps **how to act** on them;
- More actions needed – the assessment of impact on local biodiversity, environmental footprint and proposals for compensation measures;
- More studies and monitoring programs are needed to better understand and assess **potential negative effects** and proposing **risk mitigation strategies**.
- An LCA study for each product need to be made to determine the net carbon balance of each product and thus its impact on the environment.

*Scientific proof  
needed to provide  
sustainable  
decisions*



**Blue Bioeconomy - Towards a Strong and  
Sustainable EU Algae Sector  
“EU Algae Initiative”**

## **SUPPORTING THE IMPROVEMENT OF BUSINESS ENVIRONMENT Action 8C**



The Commission intends to work with algae industry and Member States to:

Support *LCA* of environmental and climate impact of algae cultivation and production by considering the development of monitoring methodologies and indicators to measure environmental impact and sustainability from seaweed cultivation.



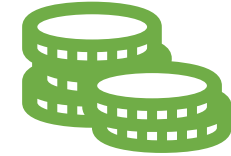
## Life Cycle Thinking (LCT)

- The basic concept referring to the needs of assessing burdens of products/sectors/projects adopting a holistic perspective, from raw material extraction to end of life

## Life Cycle Assessment (LCA)



- Aims to provide valuable, comprehensive and quantitative information on the environmental performance of goods and services used to assess and support sustainable production and consumption.
- Scientific basis for policies on products design, consumer information, public procurement, waste management, energy, and food supply.



## Life Cycle Costing (LCC)

- Defined as an economic assessment considering all agreed projected significant and relevant cost flows over a period of analysis expressed in monetary value

# Implementation of LCT, LCA, LCC in EU policies

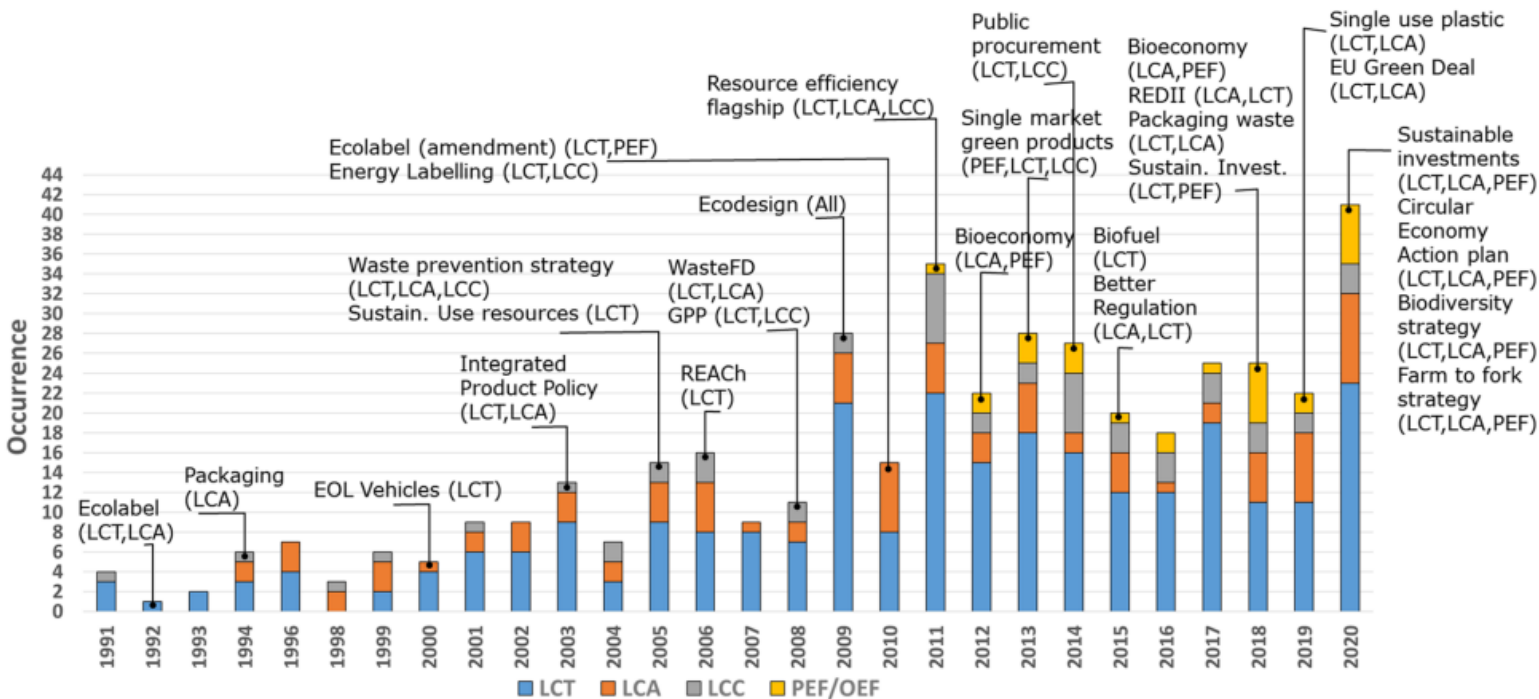
(Sala et al. 2020)

The EU has already made significant steps to integrate life cycle into its policies;

LCA provides the best available framework for assessing the potential environmental impact of products. However, there is a need for more consistent data and harmonisation on LCA methodologies;

A few barriers still limit the use of LCA in policies, as access to data and the lack of widespread technical knowledge on LCA.

Environmental Footprint methods as recommended LCA framework by the EC



\* Sala, S., Amadei, A.M., Beylot, A. et al. The evolution of life cycle assessment in European policies over three decades. *Int J Life Cycle Assess* 26, 2295–2314 (2021). <https://doi.org/10.1007/s11367-021-01893-2>

## Life Cycle Assessment & harmonisation need



- *LCA (as based only on ISO standards) leaves too much freedom*
- *Not directly suitable for policy making*



Same product



Different results

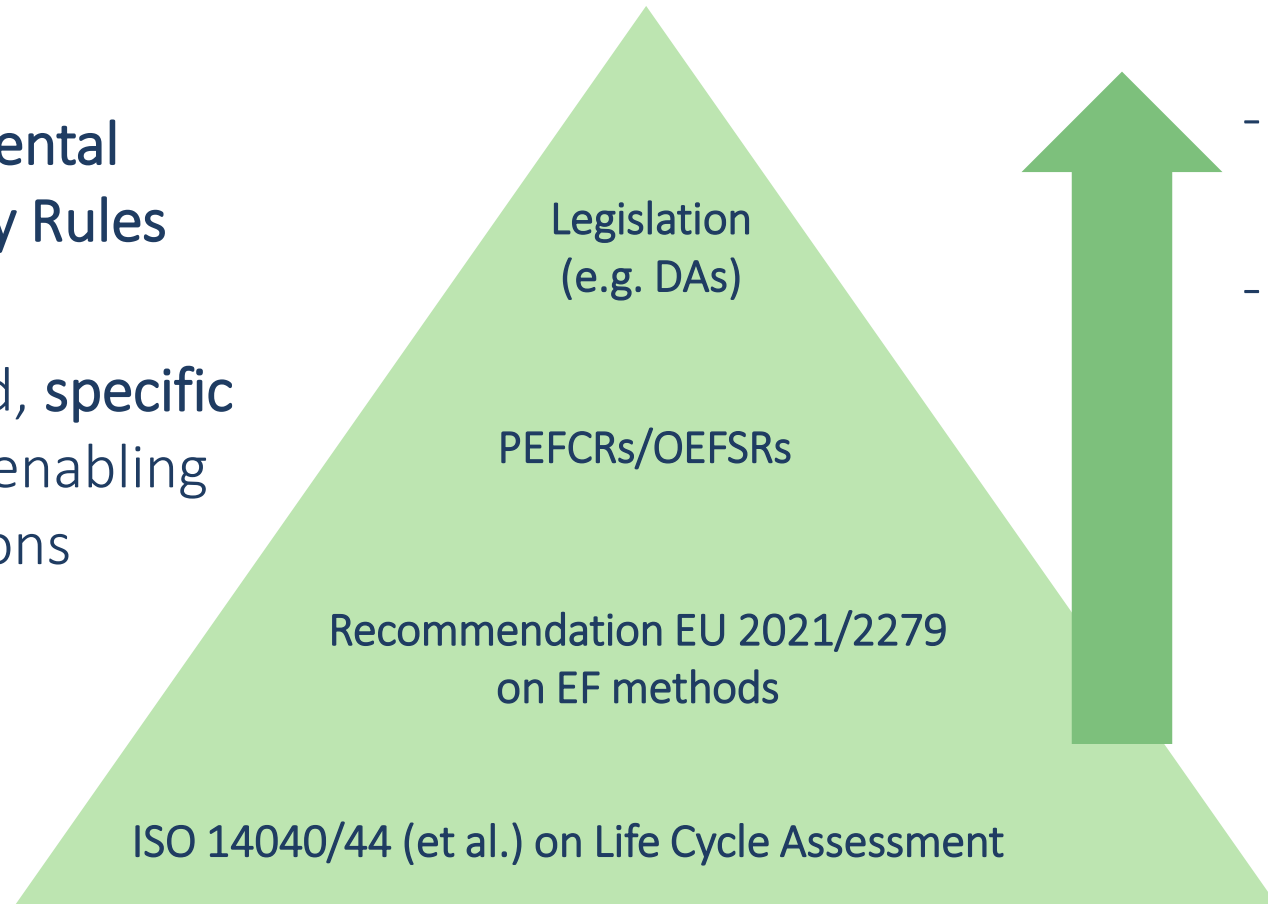
- impact assessment methods
- modelling (e.g. system boundaries, allocation, end of life)
- data
- interpretation



## EF methods in the LCA & EU policy context

### Product Environmental Footprint Category Rules (PEFCR):

Industry-endorsed, **specific rules per sectors**, 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*

# 1. LCA & Environmental Footprint methods



## The EF journey

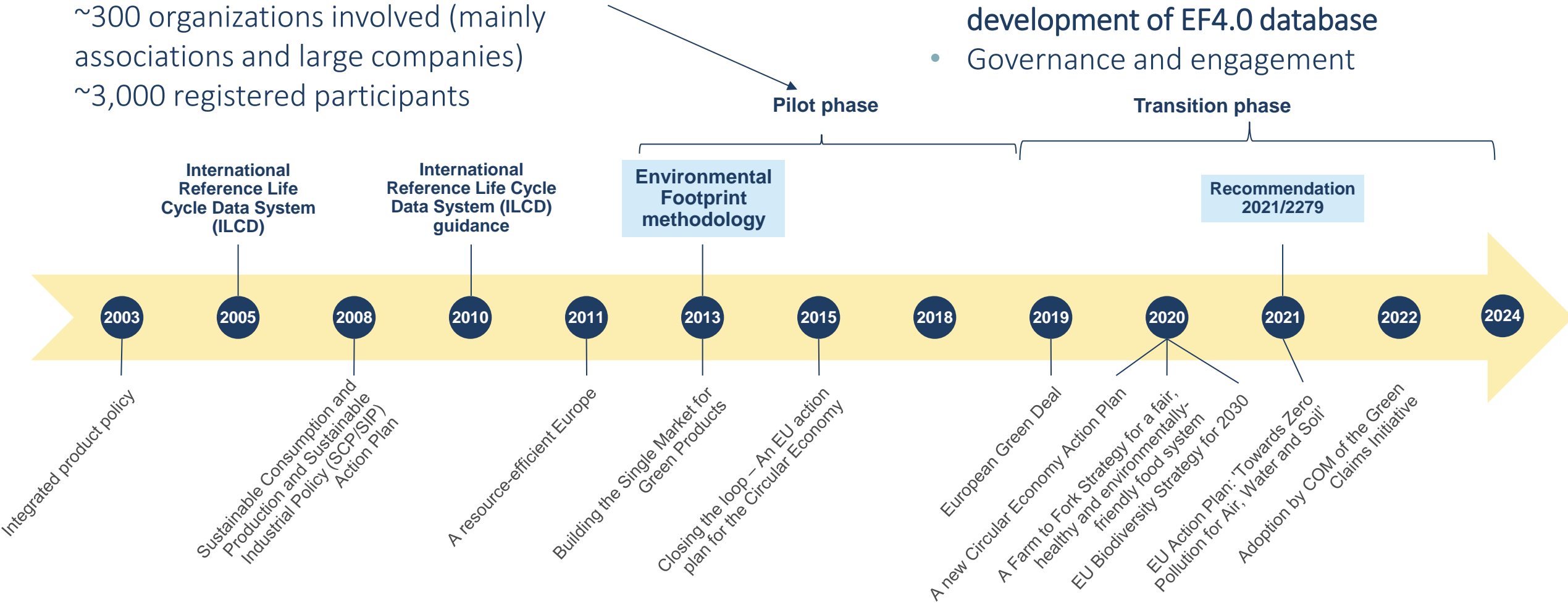
21 PEFCR/OEFSRs

~300 organizations involved (mainly associations and large companies)

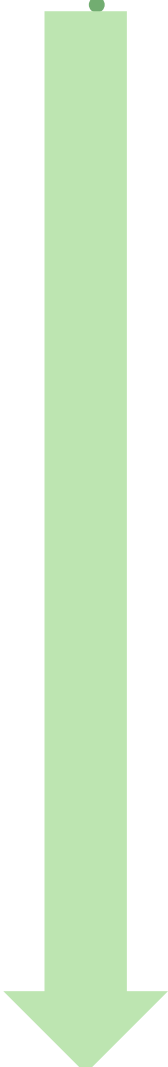
~3,000 registered participants

### Developments:

- Progress / finalisation of PEFCR/OEFSRs
- Monitor and mainstream implementation
- **Update of EF methods in 2025 & development of EF4.0 database**
- Governance and engagement



## Tentative timeline for the review of the EF methods

- 
- Q4 2024** Finalisation of milestones developed by TAB/WGs, EU Survey and discussion of other topics
  - DEC 2024** Launch of ISG discussions on recommendations and preferred way forward
  - Q1/Q2 2025** Presentation of proposed changes to TAB/Steering group
    - Further methodological/rule refinement (involvement of ISG)
  - Q3 2025** Targeted stakeholder consultation
  - Q4 2025** Inter-service consultation on draft recommendation
  - Early 2026** Formal adoption of new EF recommendation
    - Longer-term developments

### Life Cycle Impact Assessment



Normalisation



Weighting



Single score

+  
Additional  
environmental  
information

## Methodological developments (1)

Review based on scientific progress, experience in application, input of experts/stakeholders, incl:

- End of life modelling and circularity aspects
- Harmonisation of Carbon Footprint methods
- Biogenic vs. fossil C accounting, linked to LULUC and CRCF
- Revision of **other impact categories** and addressing **regionalization** (e.g. water scarcity, soil quality)



## Methodological developments (2)

Review based on scientific progress, experience in application, input of experts/stakeholders, incl:

- Biodiversity impacts
- Normalization, weighting and aggregation
- Enhanced modelling rules for agrifood systems
- Integration of additional and/or non-LCA-based information (e.g. microplastics, fish stock depletion)



THANK YOU!



European  
Commission