

Regulation of microplastics in the EU

Micro 2022

15 November 2022

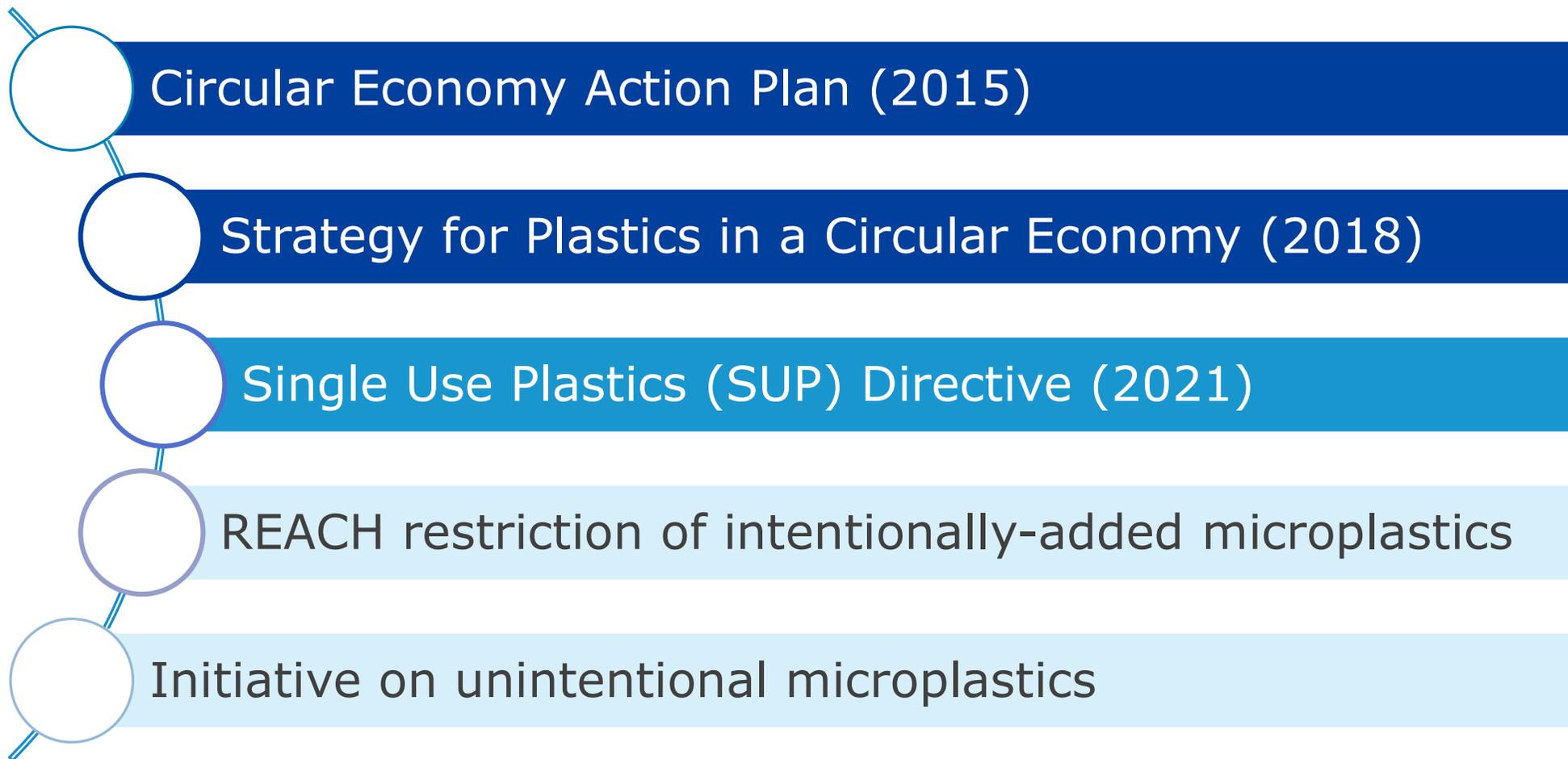
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Today's presentation

- Overview of the coordinated approach to plastics in the EU
- Proposed restriction of intentionally added microplastics in the EU under REACH
 - Uses
 - Risks
 - Proposed restriction
 - Effectiveness
 - Impact assessment
- What next?

Coordinated approach to plastics in the EU



Single Use Plastics (SUP) Directive

→ Most common marine litter items:

- Cotton bud sticks, cutlery, plates, straws and stirrers, sticks for balloons - **ban**
- Food containers – **ban on EPS**
- Beverage containers – **tethered caps**
- Cups for beverages
- Cigarette butts
- Wet wipes and sanitary items
- Packets and wrappers
- Plastic bags

} **labelling**

→ Awareness raising, waste management and clean-up obligations

- 77% plastic bottle collection by 2025 – increasing to 90% by 2029
- 25% recycled plastic in PET beverage bottles from 2025
- 30% recycled plastic in all plastic beverage bottles from 2030

SUP labelling requirements



Initiative on unintentional microplastics

https://environment.ec.europa.eu/topics/plastics/microplastics_en

- Develop labelling, standards, certification and regulatory measures across product lifecycles
 - Emissions targeted (by volume)
 - Paints; tyres; pellets; textiles and geotextiles
 - Soluble films in detergent capsules
- Expected outcome
 - An action plan for each source
 - Potential legislative measures (new/existing legislation)
 - Commission proposal expected in the first half of 2023

Development of the REACH
restriction on intentionally-added
microplastics
(2018 to 2021)

What is REACH?

<https://www.echa.europa.eu/web/guest/restriction-process>

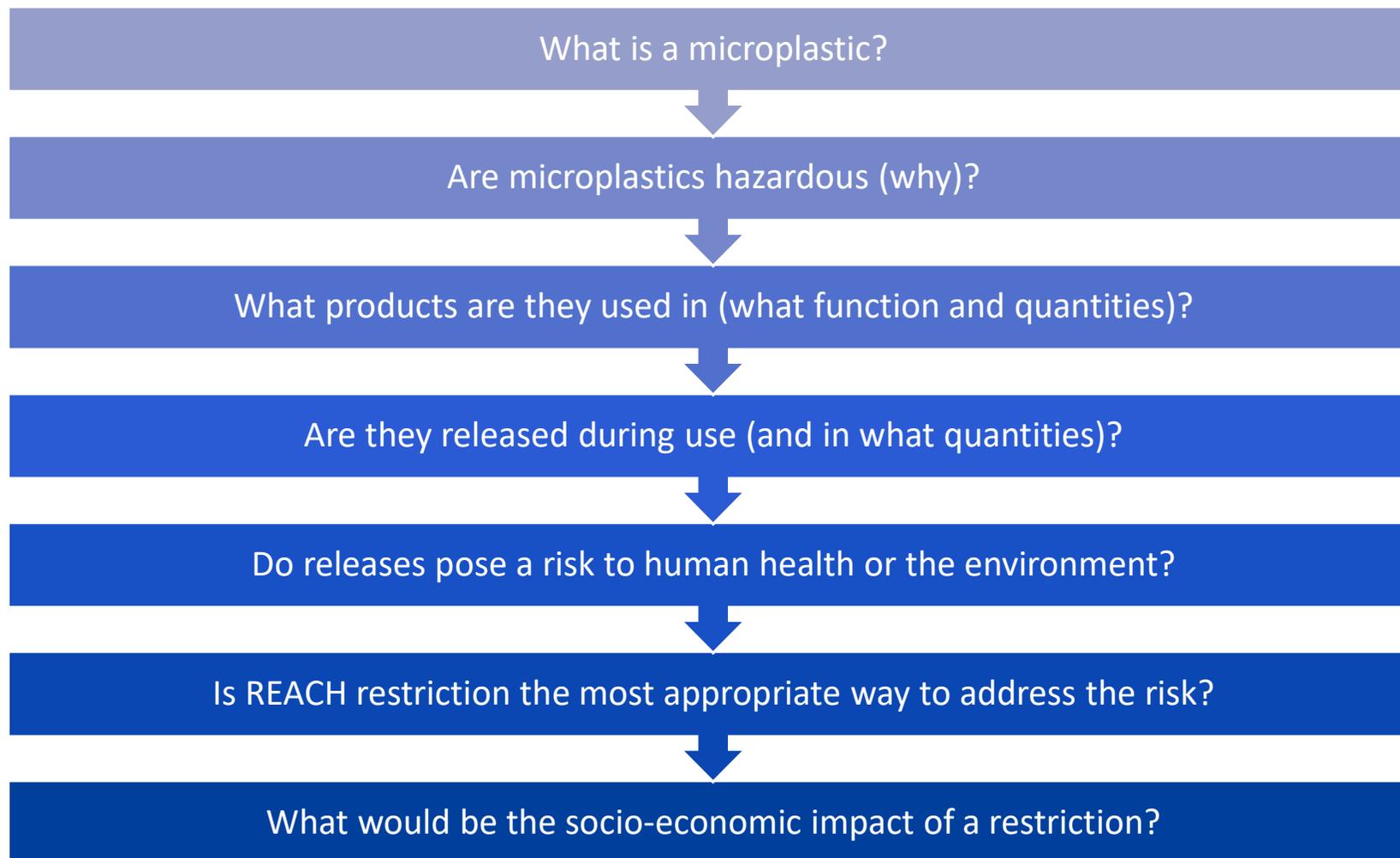
- REACH is the EU's chemical safety legislation
- REACH Restriction
 - Any conditions on the manufacture, use or placing on the market of substances, mixtures or articles
 - 'Safety net' to control risks
 - Proposed by Member States or ECHA
 - Evaluated by two scientific committees
 - Decisions by European Commission with Member States



World's most comprehensive regulation of 'intentional uses' of microplastics – state of play

- ECHA requested to prepare a proposal in February 2018
 - 12 months scientific work – calls for evidence – stakeholder workshop
 - Submitted for scientific evaluation in **January 2019**
- Scientific evaluation completed!
 - Committee for Risk Assessment (RAC) in **June 2020**
 - Committee for Socio-economic Assessment (SEAC) in **December 2020**
 - RAC supplementary evaluation (infill material) in **March 2021**
- Decision making at the European Commission ongoing
 - Draft decision published in **August 2022**
 - REACH committee meetings in September and October

Steps to develop the proposal (2018 to 2019)



What are microplastics and what is the concern?

- Microplastics are solid plastic particles composed of mixtures of polymers and functional additives. They may also contain residual impurities
- Very persistent, i.e. resistant to (bio)degradation
- Results in an increasing, irreversible, environmental pollutant stock
- Small size means particles are readily ingested; degradation to nanoplastics
- Adverse effects in laboratory ecotoxicity studies; evidence of trophic-transfer; human health effects?

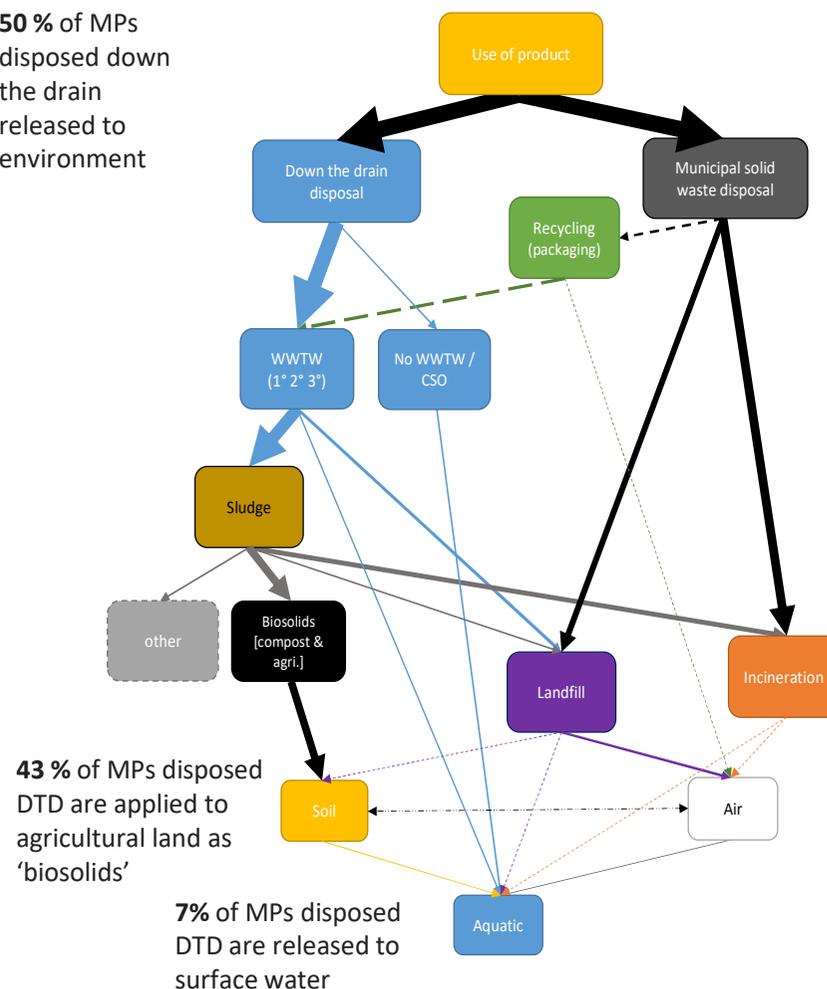


Releases (EU/EEA)

- Initial:
 - 50 000 T/year used in EU/EEA
 - 36 000 T/year released
- Revised (after consultation):
 - 45 000 T/yr (**145 000 with infill**)
 - 26 000 T/yr (**43 000 with infill**)
- Abrasive use in rinse-off cosmetic products is 0.2% of use

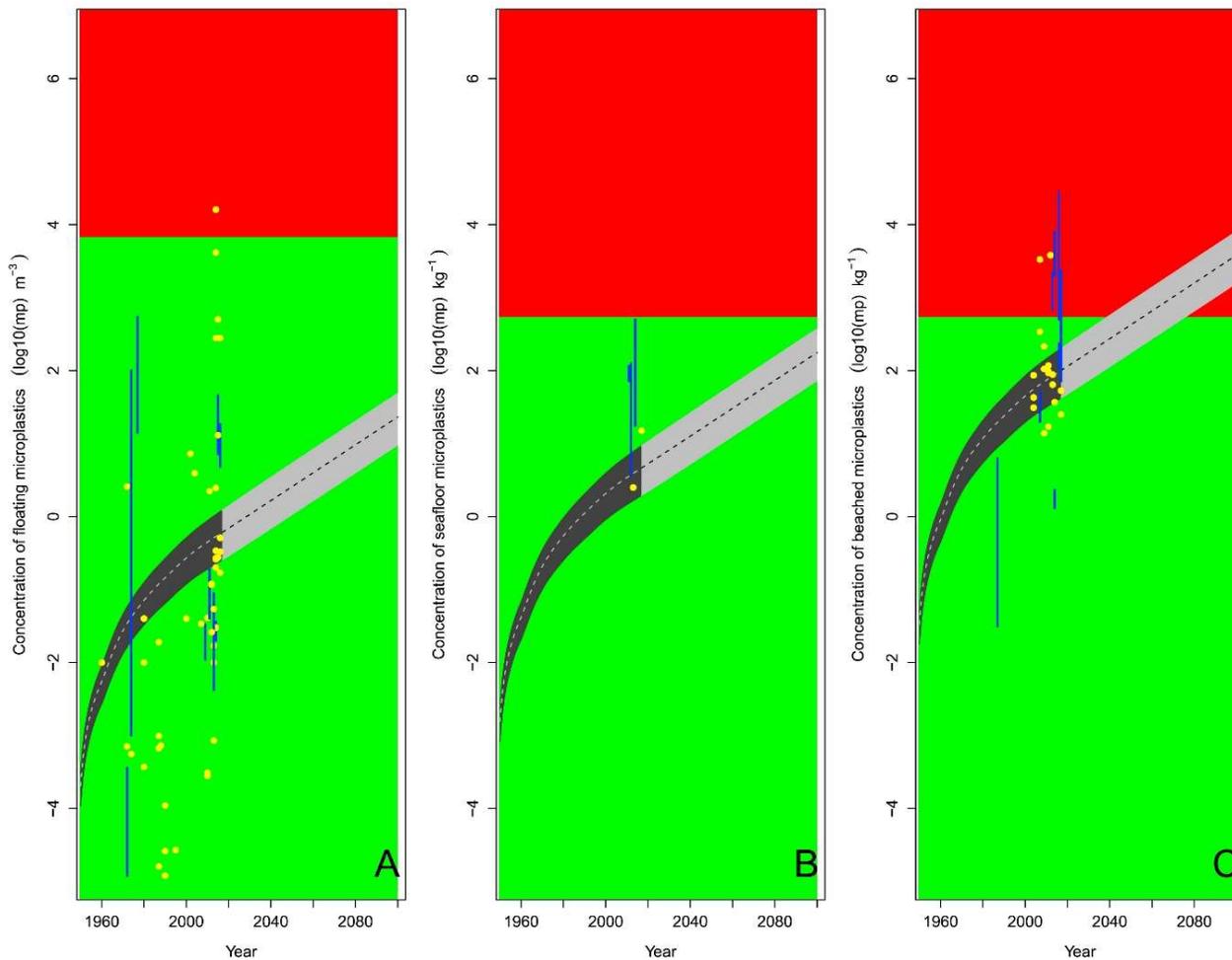
50 % of MPs disposed down the drain released to environment

6 % of MPs disposed in municipal waste are released to environment



From 'concern' to risk assessment

- Focus on risks to the environment
- Several risk assessment approaches under REACH
 1. Safe threshold-based – e.g. PEC/PNEC
 2. Non-threshold based – e.g. PBT/vPvB hazards (minimisation)
 3. 'Case-by-case' approach where 1 and 2 are impracticable
- Not currently possible to derive a robust safe threshold (PNEC)
- Accumulation over long time horizons would exceed a PNEC
- Uses of microplastics that result in releases to the environment pose a risk that is not adequately controlled and should be **minimised** – non-threshold risk assessment (similar to PBT)
 - Conclusion supported by RAC



Past, present and future projections of microplastics in the marine environment, after Everaert et al. (2018),

Environmental Pollution, 242, 1930-1938.

Proposed ECHA restriction

<https://echa.europa.eu/hot-topics/microplastics>

Microplastic definition



Prohibition on 'placing on the market'
Uses where microplastic releases to the environment are inevitable



Derogated uses (can continue)
e.g., natural polymers, biodegradable polymers, soluble polymers. Medicinal/IVDs. Can be 'conditional'



Mandatory 'instructions for use and disposal' for conditionally derogated uses
Minimise releases; enhance information flow

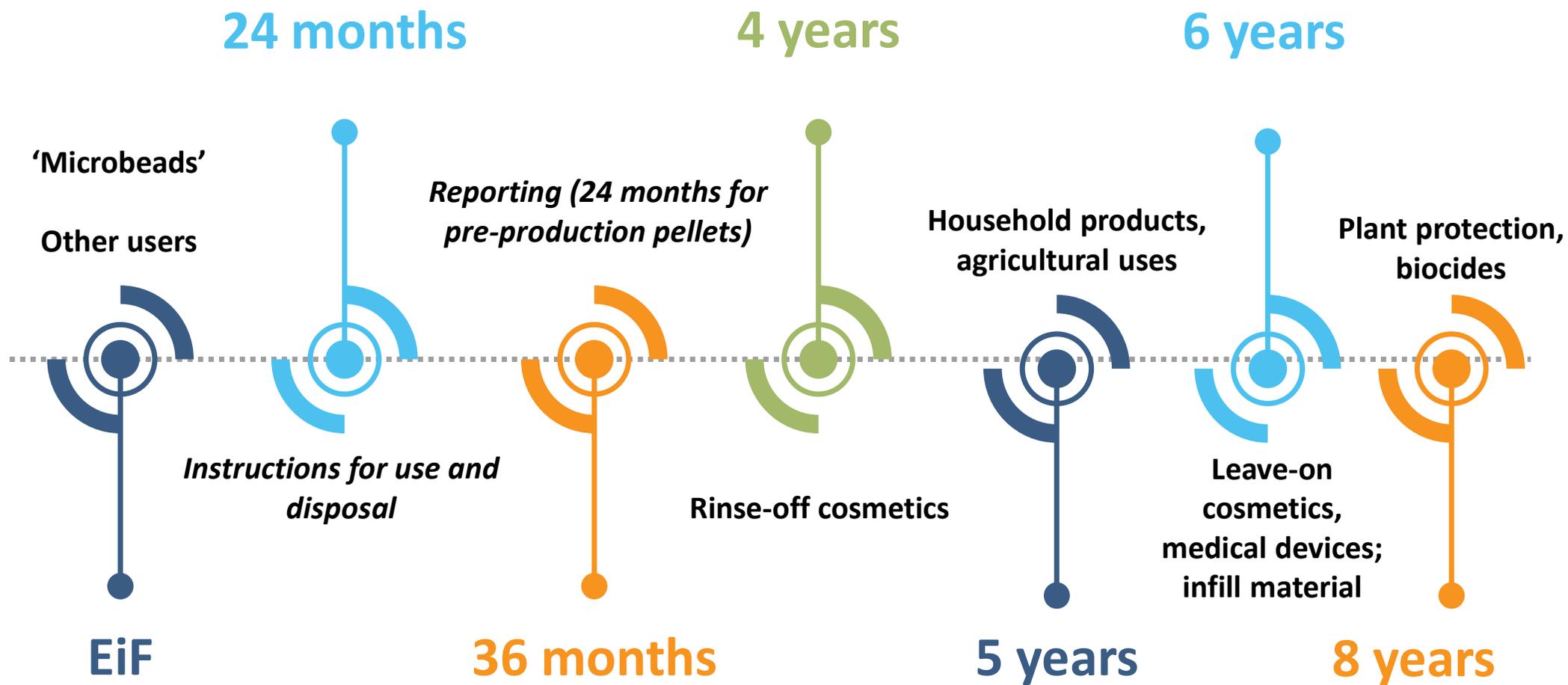


Mandatory 'reporting' for conditionally derogated uses
Polymer identity, use description, releases/year

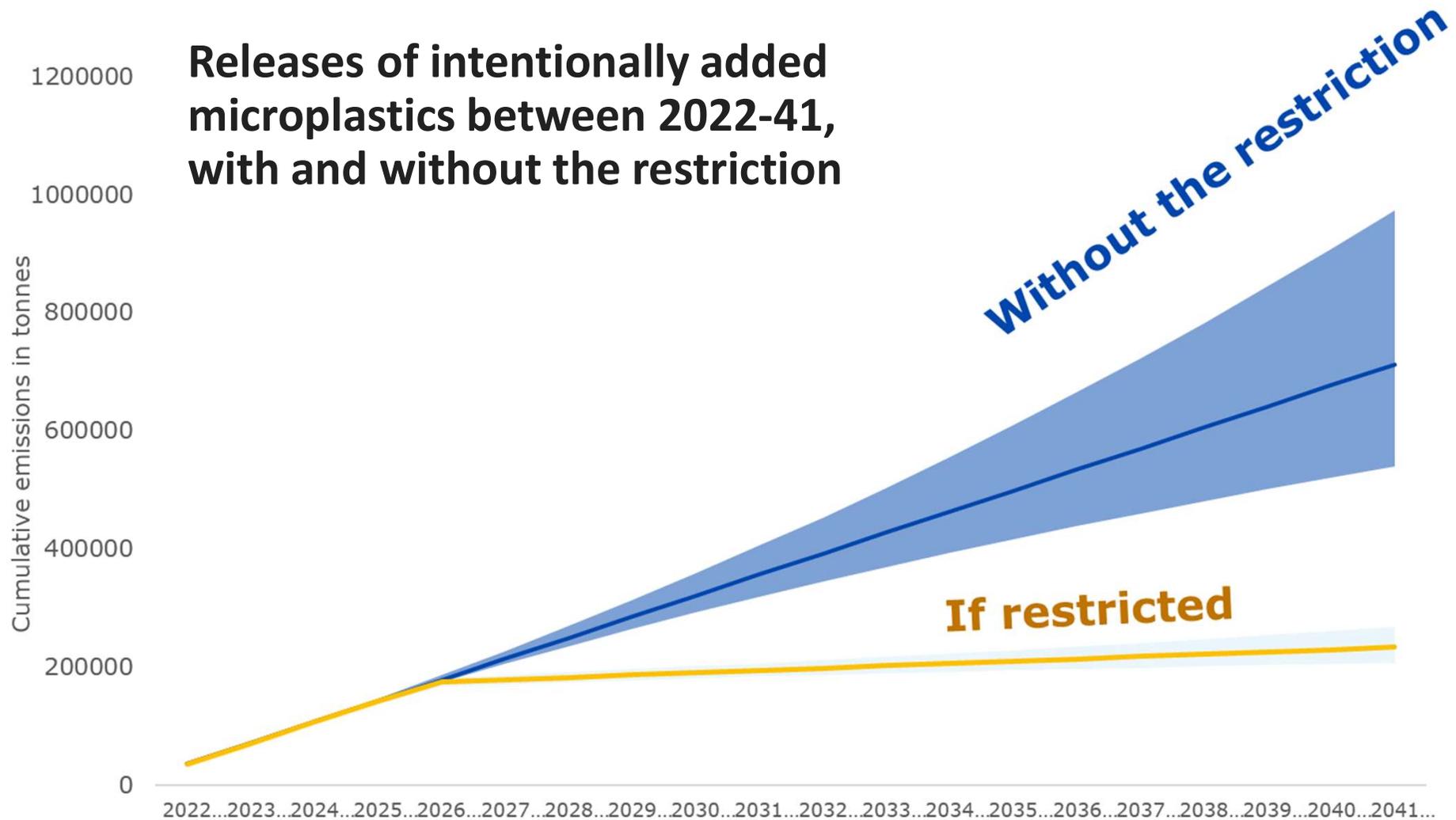
Phased implementation

Key definitions (in ECHA proposal)

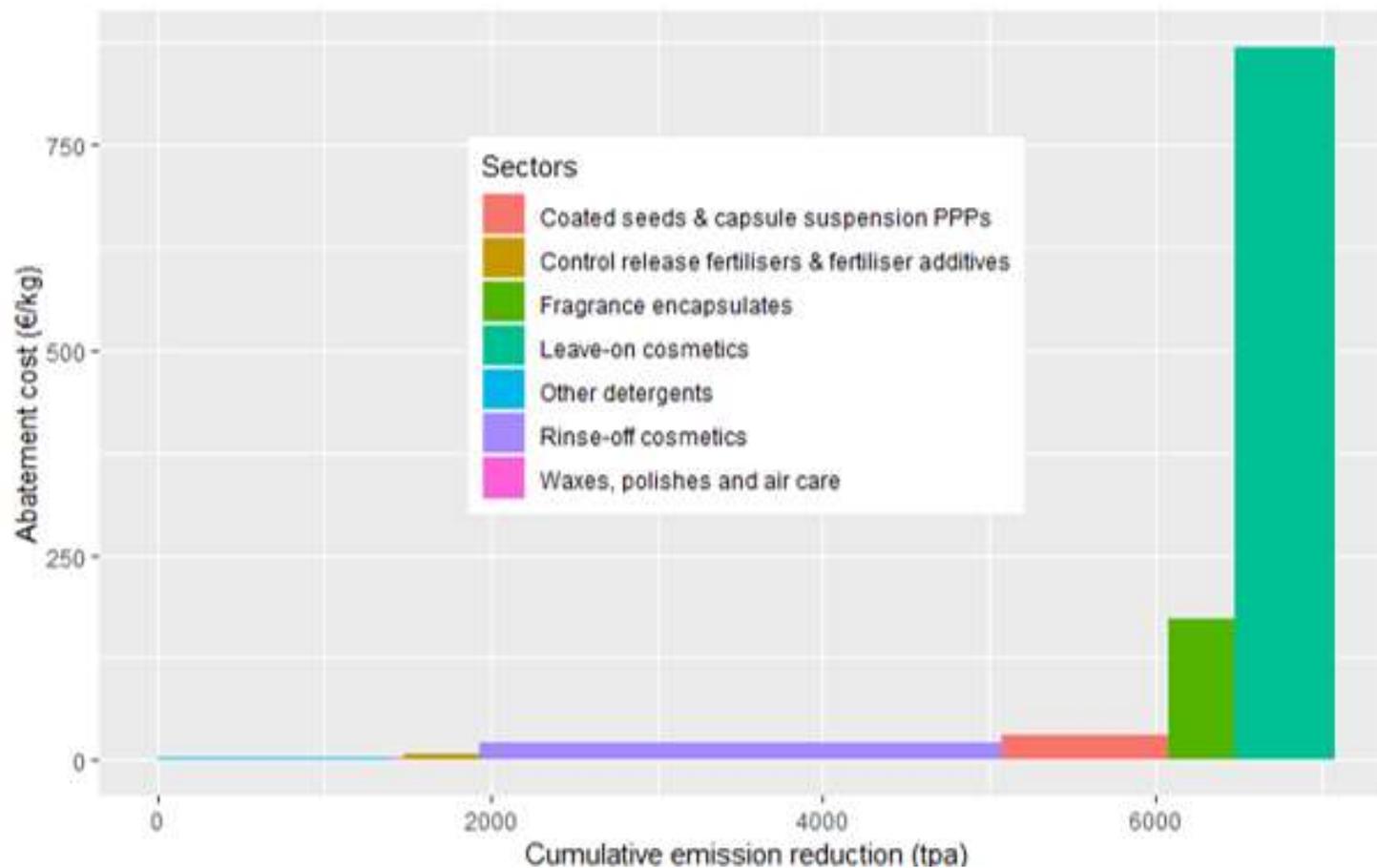
- **'microplastic'** means particles containing solid polymer, to which additives or other substances may have been added, and where $\geq 1\%$ w/w of particles have
 - i. all dimensions $0.1 \mu\text{m}^* \leq x \leq 5 \text{ mm}$, or
 - ii. a length of $0.3 \mu\text{m}^* \leq x \leq 15 \text{ mm}$ and length to diameter ratio of >3
- **'particle'** minute piece of matter with defined physical boundaries (interface); Single molecules are not particles
- **'polymer'** means as defined in Article 3(5) of REACH
- **'particles containing solid polymer'**
 - i. particles of any composition with a continuous solid polymer surface coating of any thickness
 - ii. particles of any composition with a solid polymer content of $\geq 1\%$ w/w.



Releases of intentionally added microplastics between 2022-41, with and without the restriction



Impact assessment



What next?

- Decision making continues at the EU Commission
- Scrutiny at the EU Parliament and the Council
- Entry into force 2023?



Thank you

Proposal and opinions are available on ECHA website: <https://echa.europa.eu/hot-topics/microplastics>

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