How to Stimulate Substitution and the Role of Emission Control

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101036756.

PFAS complexity

- Thousands of PFAS with diverse uses
- Information asymmetry slows substitution
- Data on uses and alternatives often incomplete
  - Expertise needed to assess risks and function/performance
  - One-by-one assessment → slow/uncertain
  - High risk of uninformed decisions

Lithium-ion batteries = complex use

- PFAS in separators, binders, electrolytes, etc.
- Proprietary formulations → limited transparency
- Diverse chemistries → no universal alternative
- Independent verification difficult
- Technical, economic or legal barrier?
- Result: substitution stalls

Possible solution

- Innovation & substitution hubs
  - National level (e.g., in Sweden)
- Support SSbD-aligned innovation
- Independent capacity
- Safe space for collaboration
  - Share expertise, tools & data
  - But sharing is not always possible

Emission control (RO3)

- Emission control ≠ substitution
  - Zero emissions only via substitution
  - Only a fraction lifecycle releases controlled
- PFAS accumulate due to persistence
- Emission factors scale with production
  - Prefer emission caps
  - Caps tightened with BAT

The way forward

- Strong regulation drives innovation
- Substitution as default
- Hubs spread tools, knowledge & data
- Strict emission caps for PFAS manufacturing
  - Temporary essential uses only
  - Better emission characterisation