



Safe and sustainable by design chemicals and materials

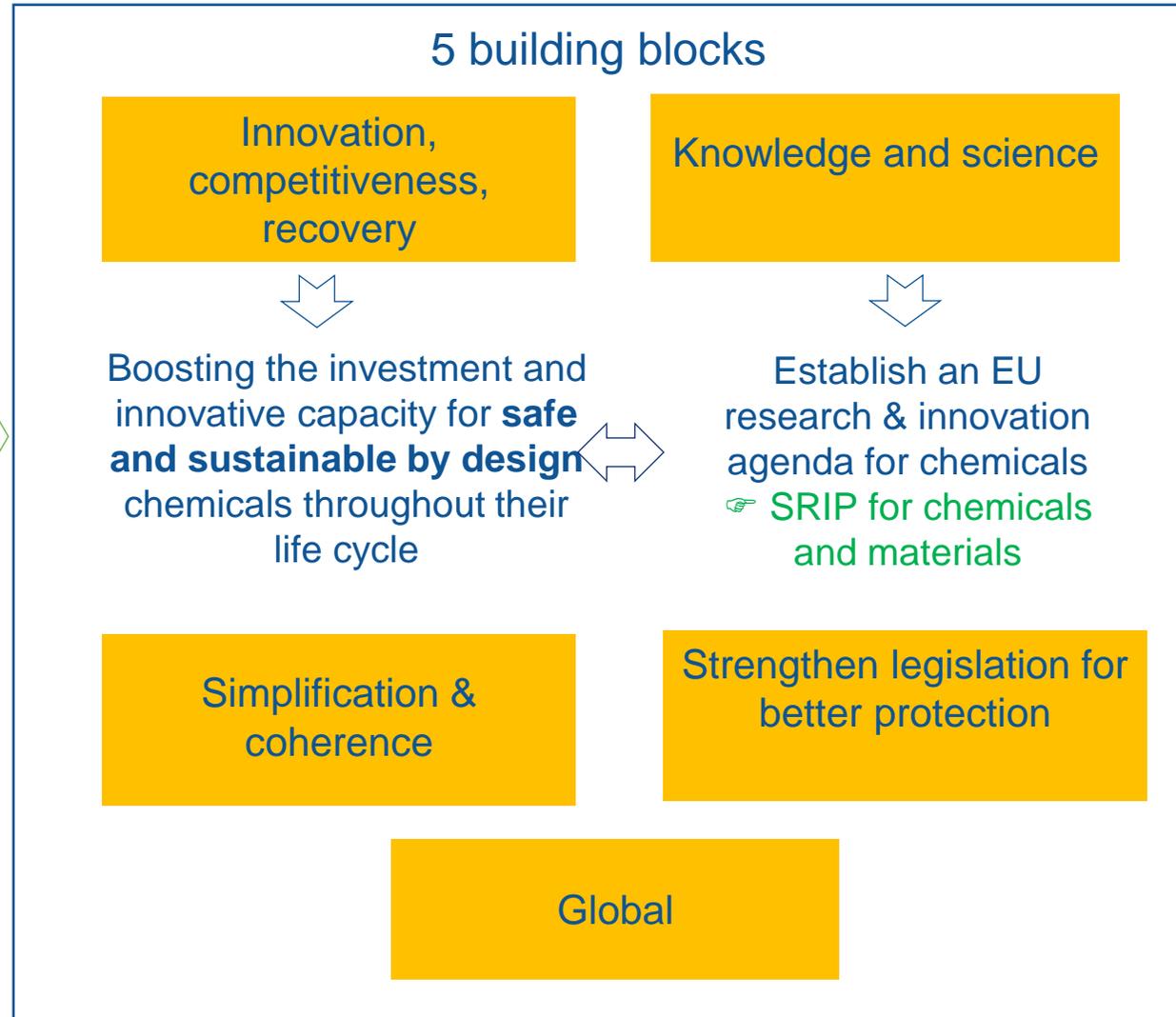
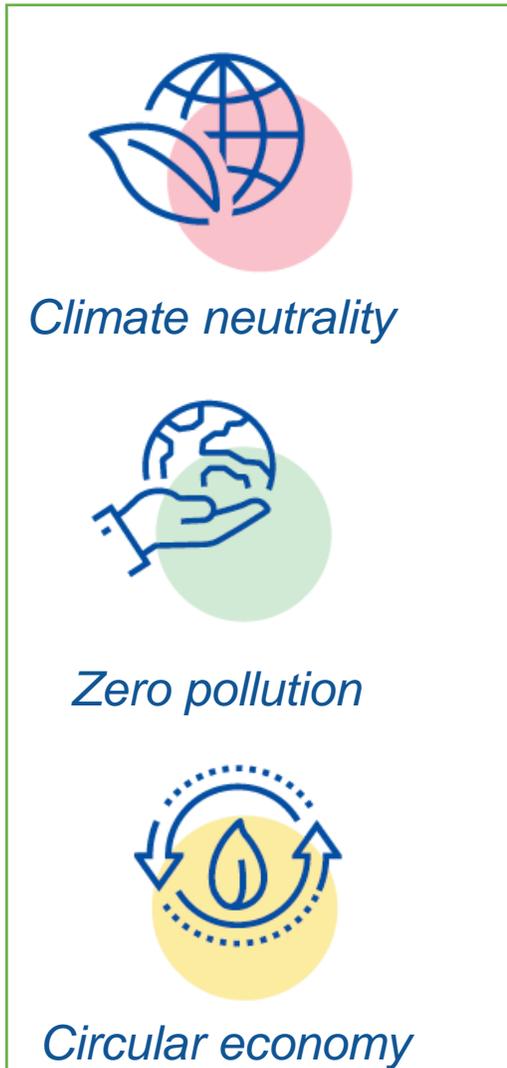
NIA Symposium

23 November 2022

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Directorate-General for Research and Innovation*

R&I in the Chemicals Strategy for Sustainability

The Green Deal



Chemicals Strategy for Sustainability

Strategic R&I Plan for chemicals and materials



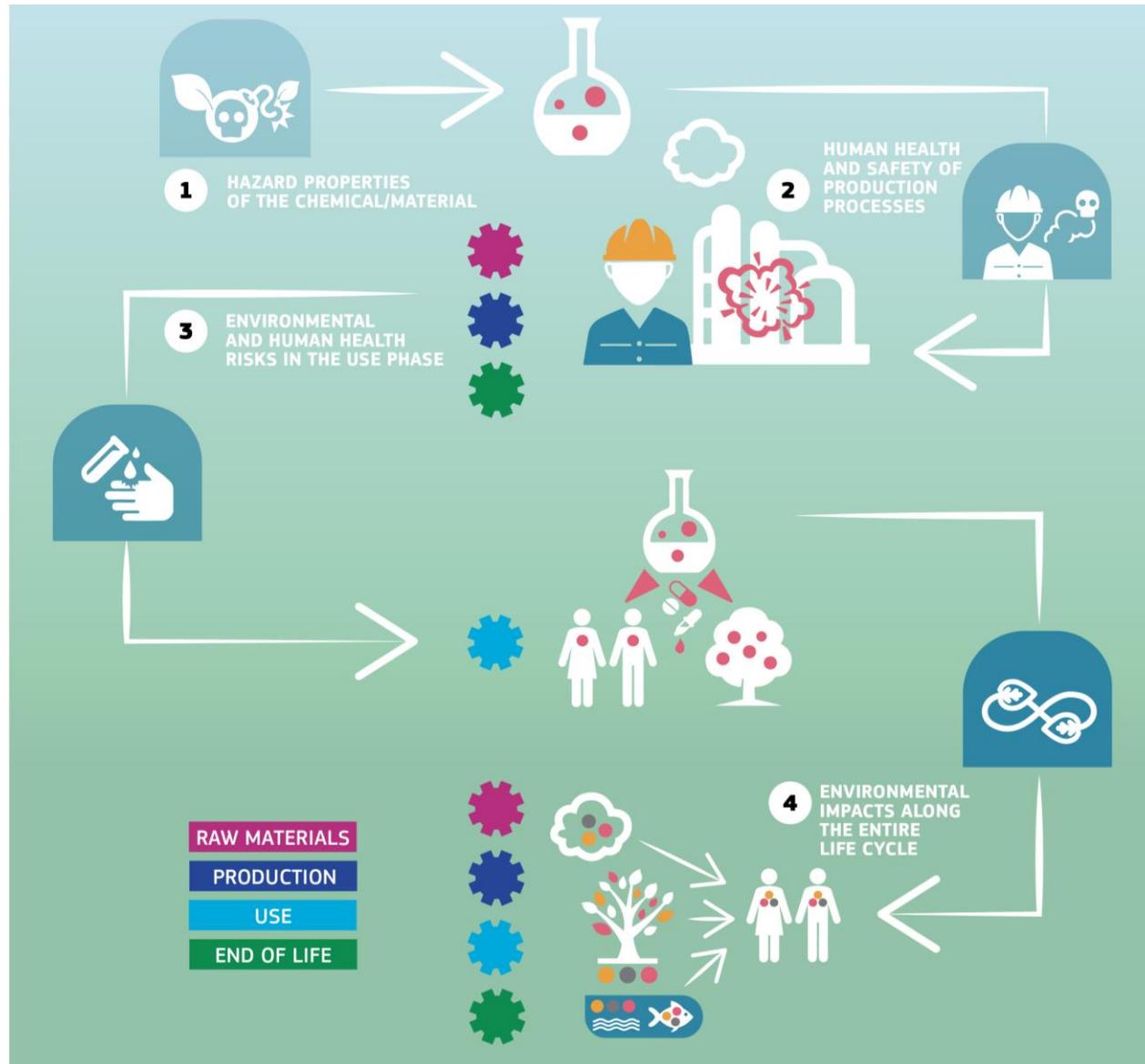
- Published in October 22: <https://ec.europa.eu/assets/rtd/srip/2022/>
- Contributes to the transition to climate neutrality and the zero-pollution ambition
- Highlights the R&I areas crucial for making chemicals and materials safe and sustainable
- Input for different funding programmes (EU, national or industrial)
- Based on extensive consultations with different stakeholder groups – thanks for your contribution!

SSbD Framework

Safe and sustainable by design (SSbD) is an approach to the design, development and use of chemicals and materials that focuses on providing a **function** (or service), while **reducing harmful impacts** to human health and the environment.



Safety and sustainability assessment steps



Step 1: Hazard assessment of chemical/material



Step 2: Human health and safety aspects in the chemical/material production and processing phase



Step 3: Human health and environmental effects in the final application phase (direct exposure)



Step 4: Environmental sustainability assessment (Life Cycle Assessment)

Commission Recommendation on the 'safe and sustainable by design' assessment framework

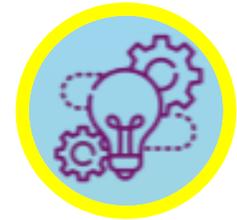
- Expected for end of year 2022
- Proposes a **reference assessment framework** for the SSbD chemicals and materials applicable to **research and innovation activities**
- Addressed to **Member States, industry, academia and Research and Technology Organisations**
- More **testing** of framework needed (theoretical and practical) as well as development of **tools**
- **Feedback loop with stakeholders** to refine SSbD framework and start setting SSbD criteria



Expected impacts of the SSbD framework

➔ Enabling change through R&I

- **Steering innovation** towards the green industrial transition
- **Substitute (as far as possible) or minimise the production and use of substances of concern**, in line with and beyond upcoming regulatory obligations
- **Minimising the impact on health, climate and the environment** (air, water, soil) during sourcing, production, use and end-of-life of chemicals and materials



Expectations from industry, academia & RTOs

- Support the testing phase by using the framework in R&I processes for developing chemicals or materials.
- Increase the availability of high-quality FAIR data for SSbD assessment – whilst respecting IPR
- Support the development, improvement and usability of assessment methods, models and tools
- Support the development of professional training and educational curricula to ensure the teaching of the skills required to implement the framework.



Expectations from MS

- Promote the framework in national R&I programmes to support the testing period
- Increase the availability of high-quality FAIR data for SSbD assessment through R&I programmes and policies
- Support the development, improvement and findability of assessment methods, models and tools
- Support the development of educational curricula on skills related to safety and sustainability of chemicals and materials



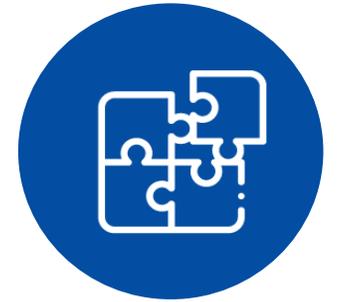
EC support

- Funding through EU programmes
 - PARC toolbox
 - IRISS network and roadmaps for value chains
- Methodological guidance from JRC



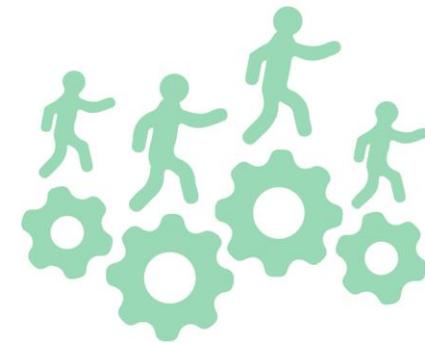
EU related initiatives

- REACH, CLP
- Ecodesign for Sustainable Products
- EU Eco-label
- Green public procurement
- Green claims – products/organisation environmental footprint
- Products specific (e.g. batteries)
- Sustainable finance/taxonomy



Ongoing testing activities

- Three case studies carried out by JRC and industry: plasticisers, surfactants and flame retardants
- Workshop in Feb 2023
 - present and discuss outcome of case studies
 - next steps in testing phase
 - Present reporting template



Next steps

- Testing phase: reporting periods and workshops for guidance – 1 per year in 2023 (Q2?) and 2024
- **R&I funding opportunities** in HE (Nov 2022)
- Update of framework - 2025



Be a best mover on sustainability



- continue developing methods for the framework
- use the framework and share your findings with us
- make it a joint success!

Follow developments on:

https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/key-enabling-technologies/advanced-materials-and-chemicals_en

Thank you



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