



National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport



Integral assessment of safety and sustainability

RIVM

Dutch National Institute for
Public Health and the
Environment

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RIVM - Committed to health and sustainability

Centre for Safety of Substances and Products (VSP)





RIVM increases the quality of circular solutions. We help the business community and government authorities in making choices and resolving dilemmas.



Dealing with hazardous substances and sustainability in a circular economy

Highlighting three different tasks of RIVM:

- Role in supporting substitution of hazardous substances
- Developing and comparing methods for assessing safety and sustainability in a circular economy
- Designing for safety and sustainability (scientific method development)



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Task 1: Role in substitution



Supporting substitution of hazardous substances

- National Policy Substances of Concern (includes REACH)
 - Determine environmental norms for competent authority
 - Reduction and prevention of emissions
- REACH restriction and authorisation (member state competent authority, evaluations and submissions)
- Safe Chemicals Innovation Agenda, e.g.
 - Stakeholder dialogue antifouling
 - Biobased alternatives for substances of concern (e.g. solvents)
- Support for substitution (SME REACH Helpdesk website)



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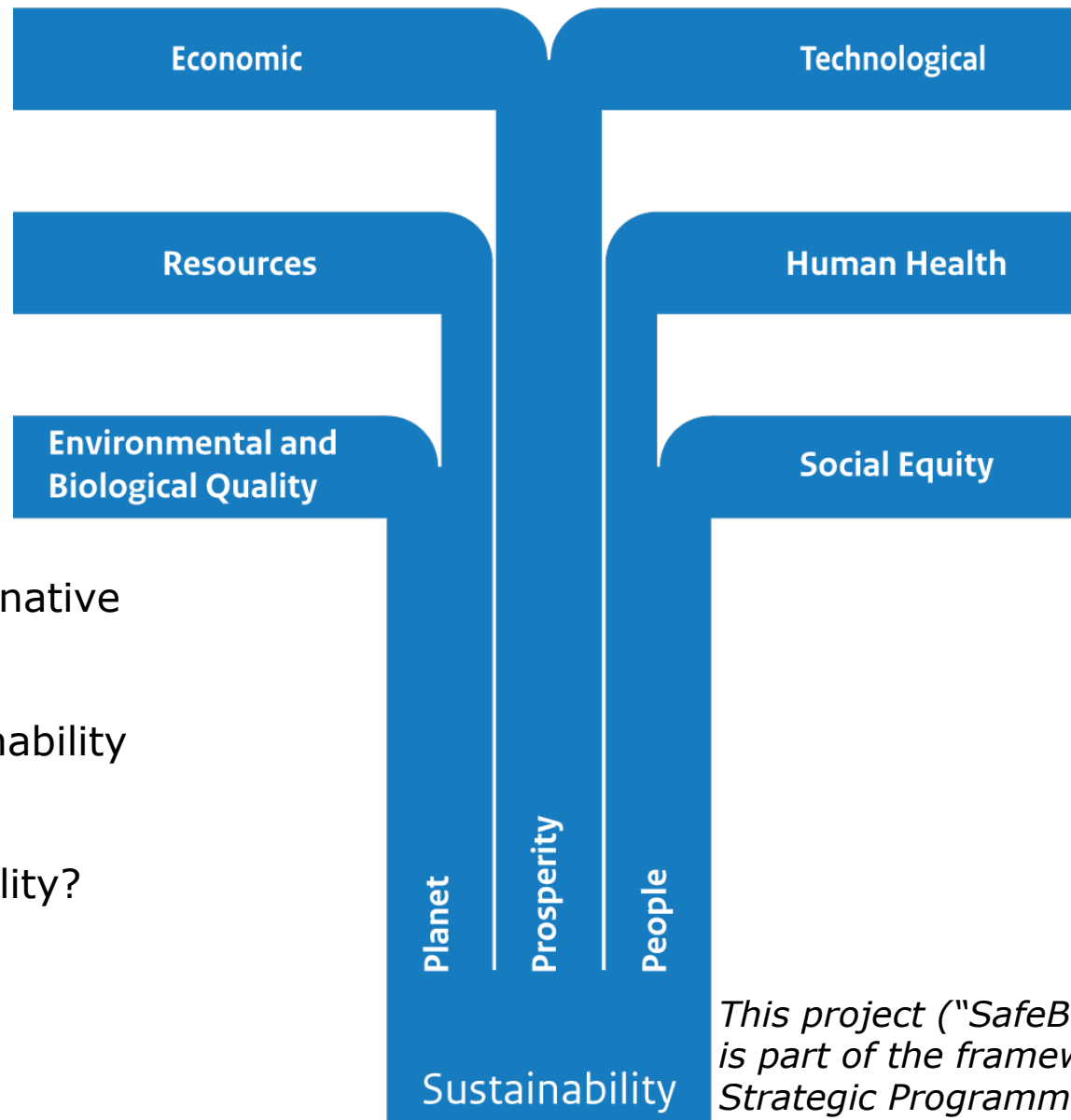
Task 2: Sustainability methods



Sustainability methods

- How is safety included in sustainability methods?
- How can chemicals from R&D to commercial phase be assessed?

Method inventory

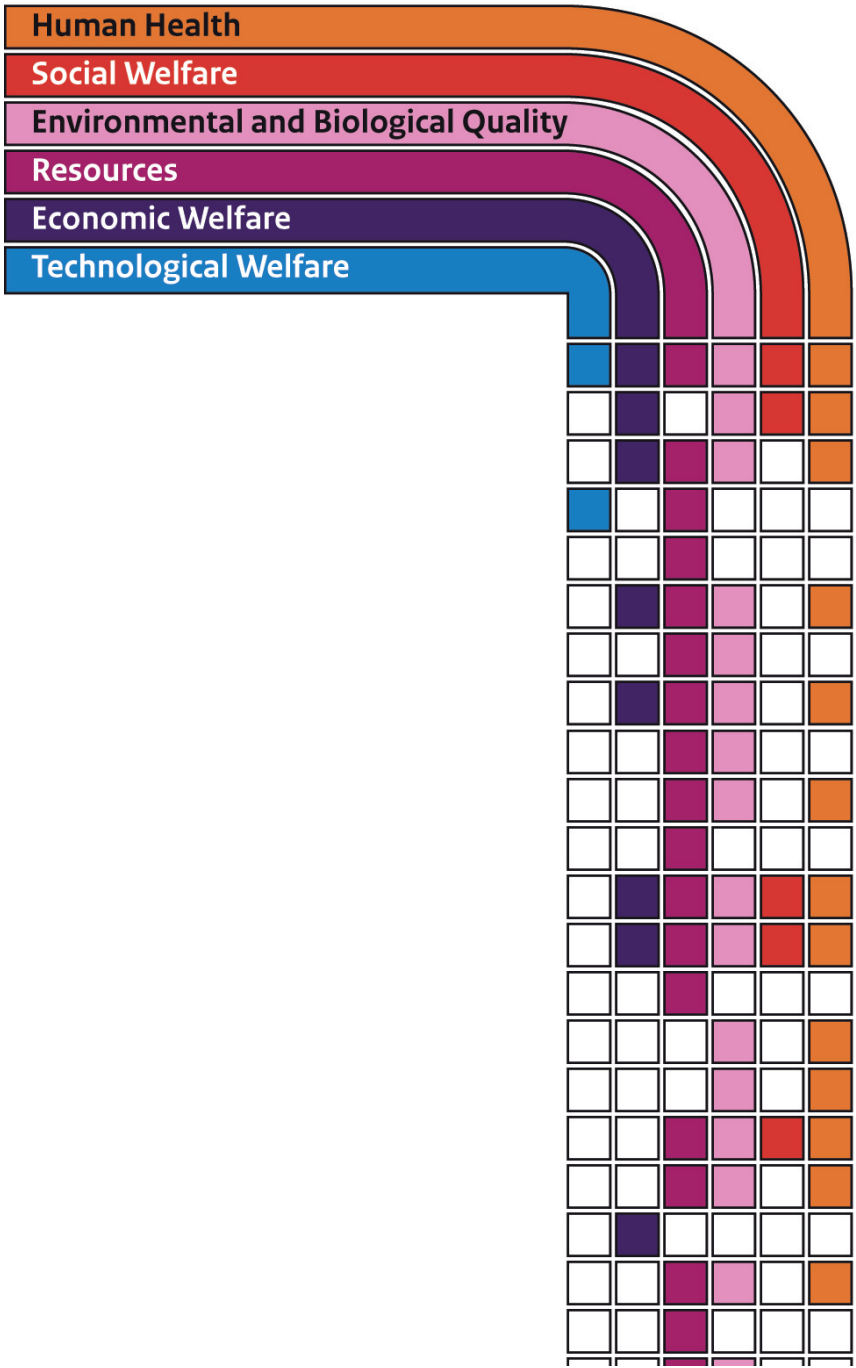


As part of an alternative assessment:

Comparing sustainability aspects?

What is sustainability?

This project ("SafeBBE" 2015-2018) is part of the framework of RIVM Strategic Programme (SPR).



Method inventory: Sustainability subjects

Methods

- Bioref-Integ
- Cramer Criteria
- Decision framework for chemical process design
- Driving Force Analysis
- E-factor
- Eco-Costs / Value Ratio (EVR)
- Ecological Footprint
- Ecoscale
- Emergy analysis
- EU Ecolabel
- Exergy analysis
- Fairtrade Standards for Small Producer Organizations
- GBEP Sustainability Indicators for Bioenergy
- Global material economy
- GreenScreen for Safer Chemicals
- GreenWERCS
- Guide on Sustainable Chemicals
- Life Cycle Assessment (LCA)
- Life Cycle Costing (LCC)
- Life Cycle Metrics for Chemical Products
- Material Flow Analysis

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Measuring Impacts





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Task 3: Designing for safety and sustainability



Designing inclusively for a safe and sustainable circular economy transition (DIRECT)

- What is safe and sustainable design?
- How to estimate safety and sustainability right at the beginning of product design?

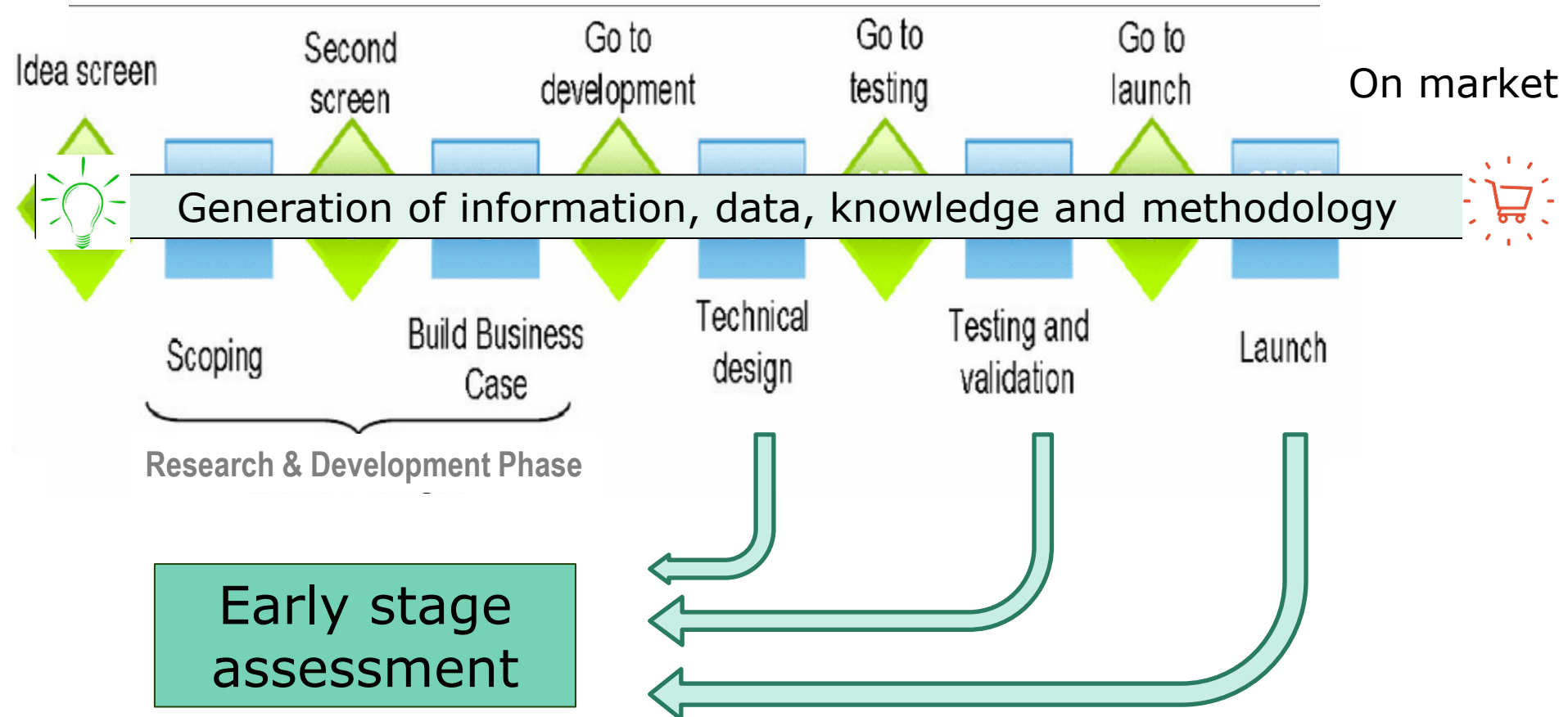
→ method development





From Idea to Product

safe & sustainable, circular design





DIRECT: results for the future

Case studies will provide general lessons for safe and sustainable circular design

Aim is to develop tools that will help designers / companies / financiers / policy makers to make decisions on safe, circular and sustainable product design





- Development of Safe-by-Design competence in cooperation with higher education
- Harmonize and simplify impact measurements (on safety, circularity & sustainability)
- Embed safe, sustainable and circular in business models
→ integral & tangible





Thank you for your attention!

We ❤️ knowledge & sharing.
Contact us!

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Links:

RIVM: www.rivm.nl/en

SME REACH Helpdesk website:

<https://www.chemischestoffengoedgeregeld.nl/content/vervanging-gevaarlijke-stoffen>

DIRECT: <https://www.rivm.nl/en/direct-circular-products-should-also-be-safe-and-sustainable>