

Social LCA evolution – Its uptake in Sustainability Assessment Approaches

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DISCUSSION FORUM ON
LIFE CYCLE ASSESSMENT

DF86 -Safe- and

Design





WRFA in a nutshell

Empowering multi-stakeholder innovation for sustainable resources

- WRFA is an international non-profit organisation, based in St Gallen, Switzerland.
- Founded in 2012 as a spin-off of the Swiss Federal Laboratories for Materials Science and Technology (Empa)
- Strong focus on material resources: minerals & metals, plastics and CRM.

OUR ACTIVITIES

<p>Forum WRF Conferences</p>  <p>An inclusive space for a solutions-oriented dialogue.</p>	<p>Projects</p>  <p>Mobilizing concerted action for sustainable resource use.</p>	<p>Knowledge</p>  <p>Co-creation of knowledge, accessible as a global public good.</p>
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Rethinking Value - Resources for Planetary Wellbeing
 4-6 September 2023, Geneva & Online
www.wrf2023.org

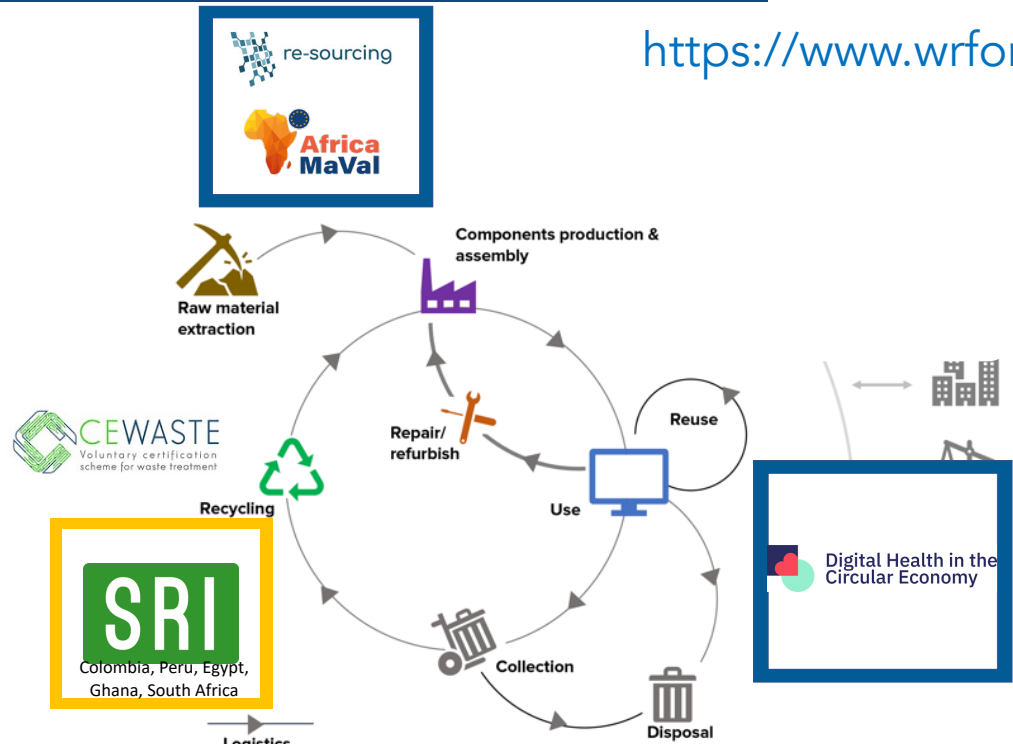
WHAT WE DO

- Convening of ISO 59014 standard on Sustainability and Traceability of Secondary Materials
- UNEP Eco-Innovation Supplement for Electronics
- Management of POPs in plastics, UNIDO



EUROPEAN AND SWISS FUNDED (A SELECTION)

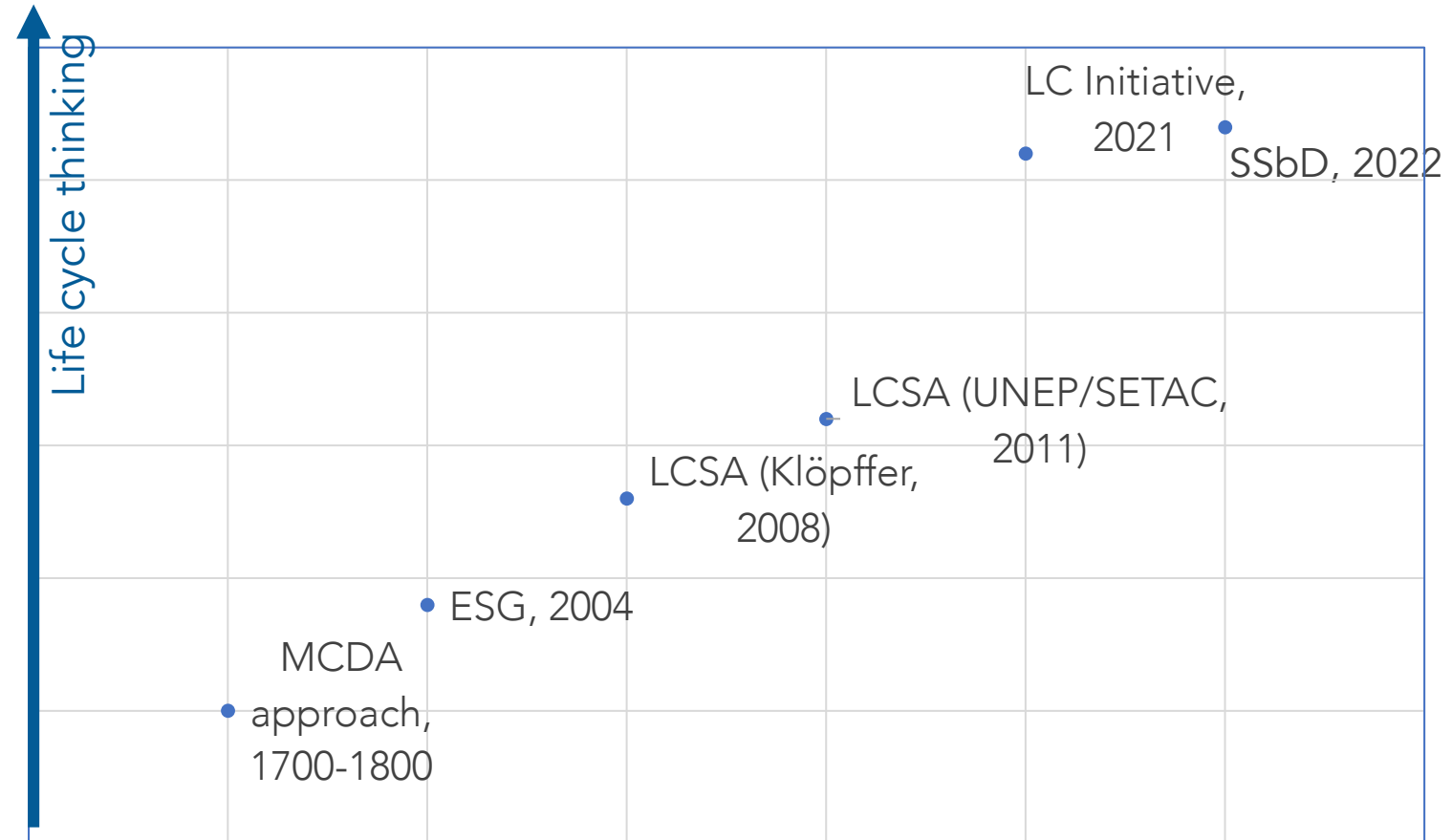
<https://www.wrforum.org/>





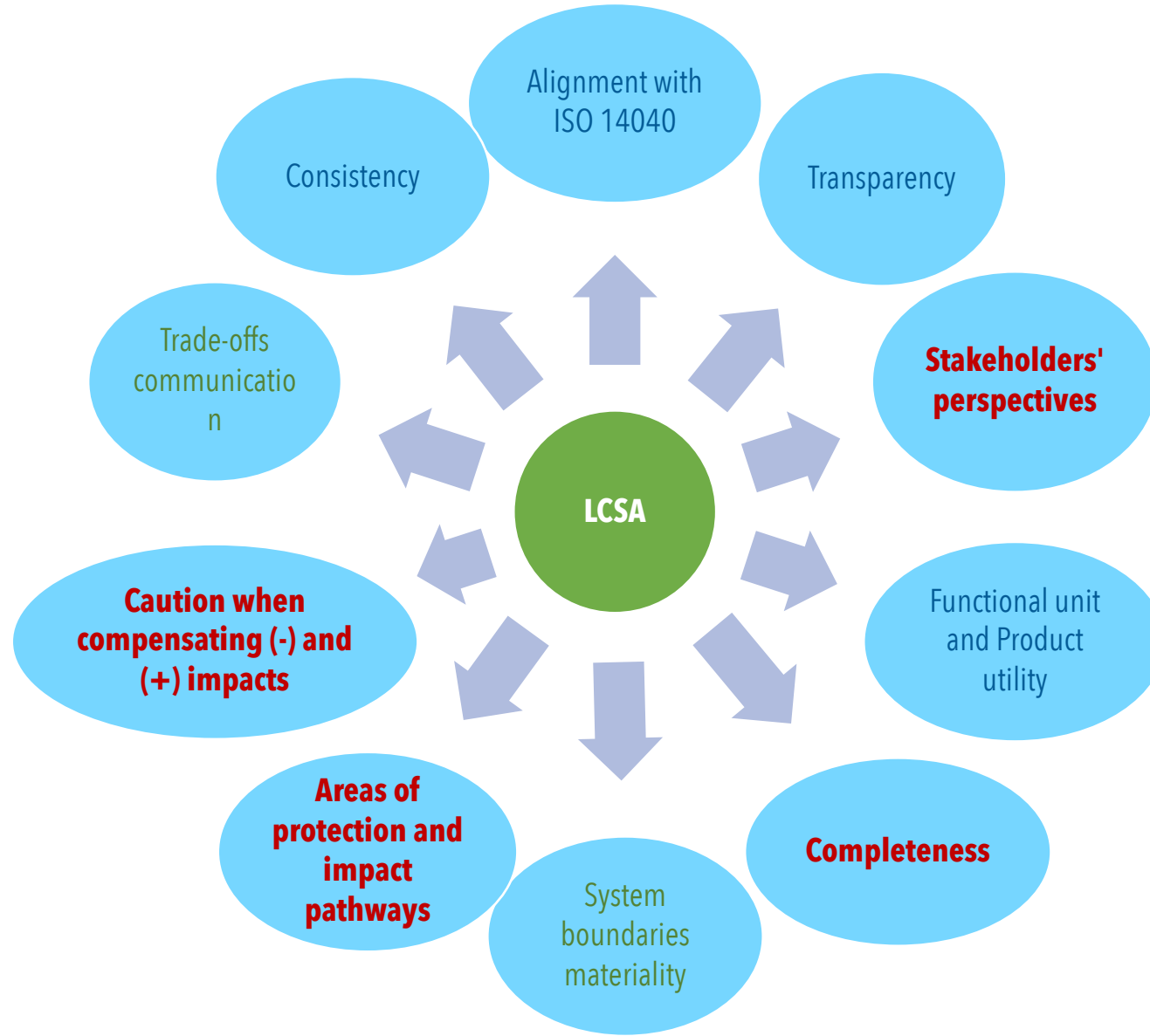
Sustainability assessment approaches

- a. Multi-Criteria Decision Analysis (MCDA)
- b. Environment, Social & Governance (ESG) (Global Compact, 2004)
- c. Safe and Sustainable by Design (SSbD) (EC JRC, 2022)
- d. Life cycle sustainability assessment
 - d.1 W. Klöpffer, 2008: LCSA of products
 - d.2 UNEP/SETAC, 2011: Towards a LCSA
 - d.3 Life Cycle Initiative, 2021: Ten Principles for LCSA



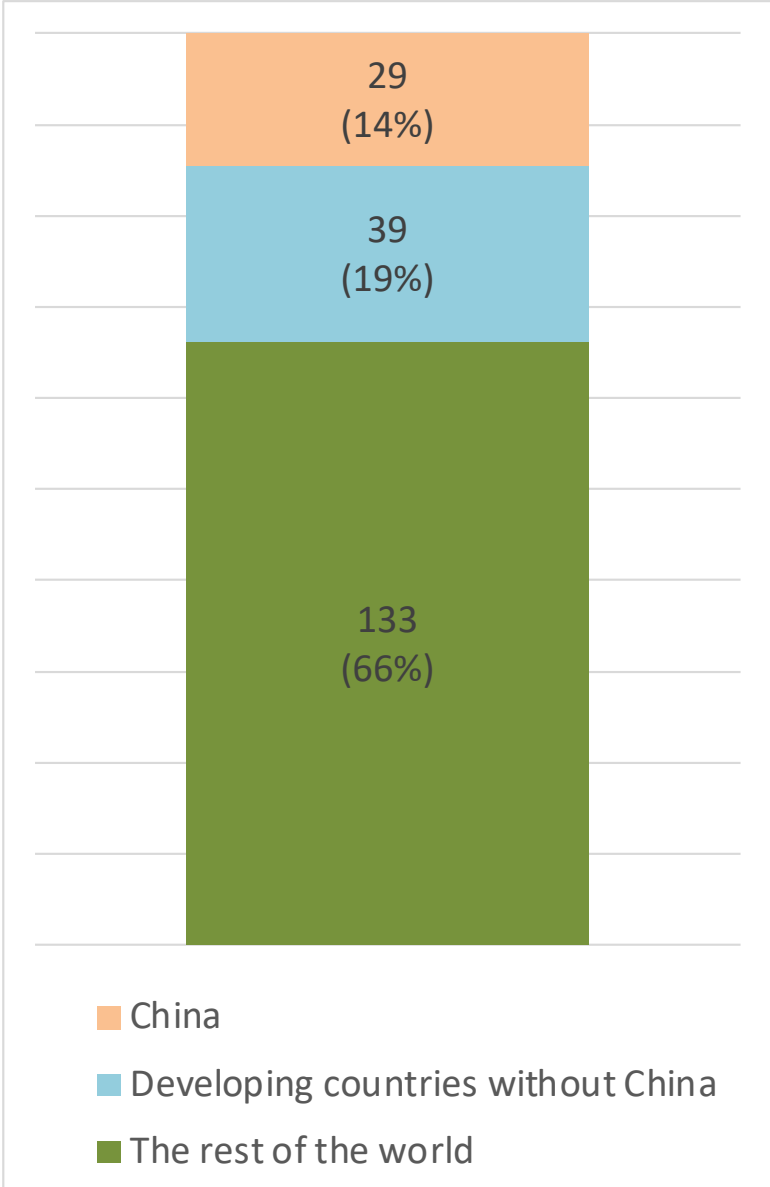


Life Cycle Initiative's Principles for LCSA (Valdivia et al., 2021)





LCSA studies published as of 2022 (Valdivia et al, 2024)



202 studies



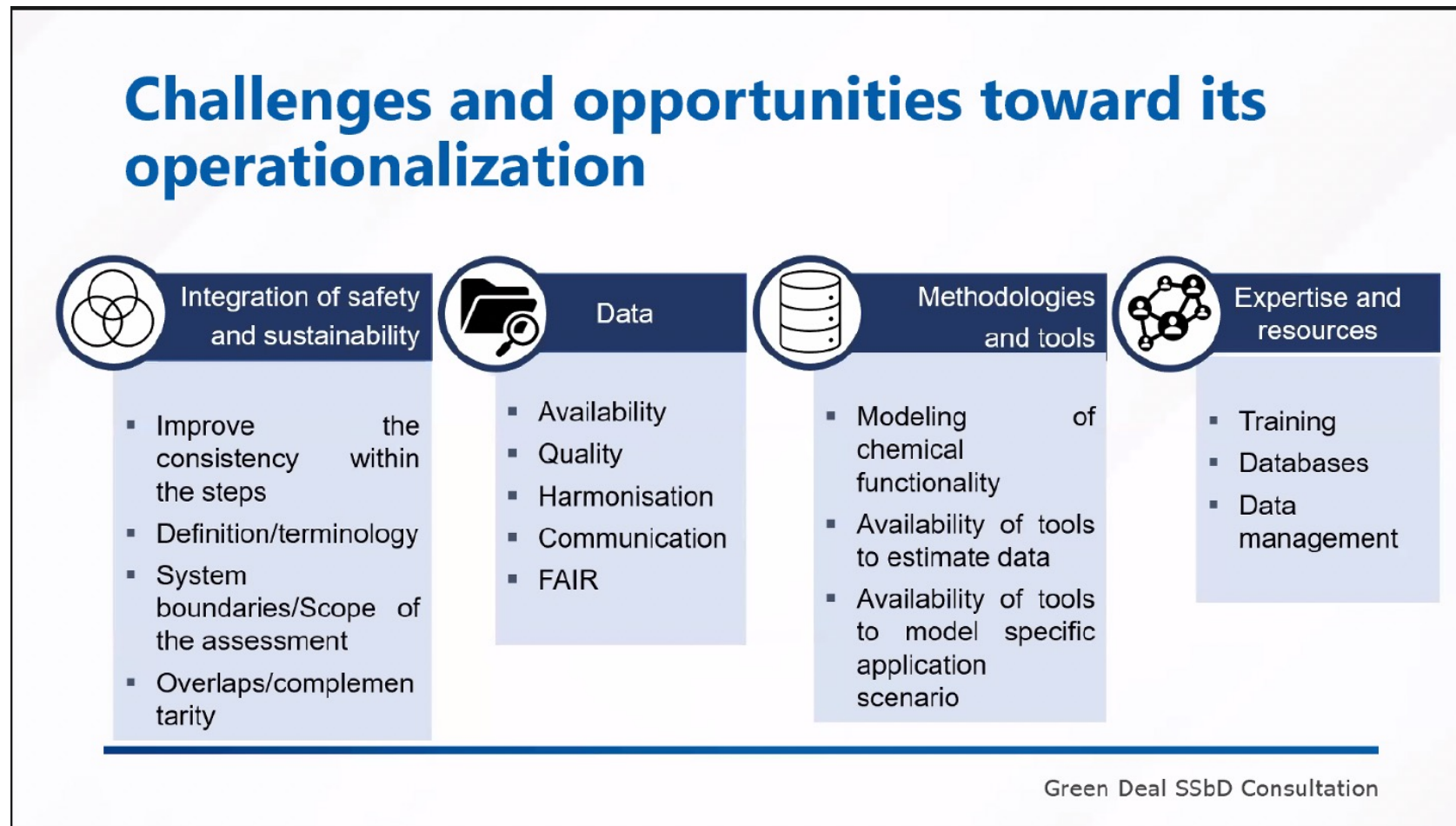
Completeness, stakeholder perspective, AoP and caution when compensation (Leroy-Parmentier et al., 2023)

- **Completeness.** 88% consider the three dimensions of sustainability.
- **Stakeholder perspective.** 64% did not cover the stakeholders' perspective approach
- **AoP.** Only 1% defined an overarching Area of Protection and 34% did it partially
- **Caution when compensation.** Weak or no attention to caution when compensating impacts: negative with positive or with no-impacts



Safety and Sustainability by Design (2022): Scope & challenges

- The SSbD Framework assesses health, environmental, social, and economic impacts requiring integrated approaches

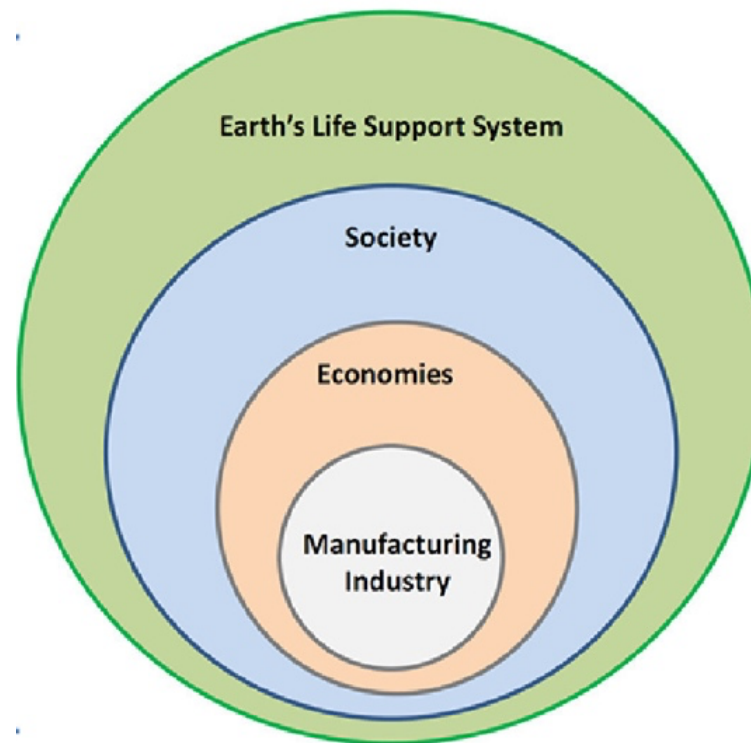


EC JRC, 2023



Safety and Sustainability by Design (2022): Challenges

- *Insufficient guidance in the existing framework for a social assessment and social criteria.* Environmental LCA is and should remain the analytical backbone of life cycle thinking behind LCSA approaches, the assessment toolbox for any LCSA cannot neglect the social dimension.



Absolute sustainability (Hauschild et al. 2020)



Key aspects for social sustainability assessment in SSbD. Recommendations based on healthcare products

- A sector with strict medical regulations and high use of chemicals in health products
- Stakeholders:
 - All
 - Health and safety issues
 - **Comprehensiveness.** In chemicals and materials value chains actors are impacted along the life cycle. Health and safety concern actors such as consumers incl children, manufacturing workers, community, end-of-life workers.



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 - Social acceptance
 - Responsible communication
 - **Comprehensiveness.** In chemicals and materials value chains actors are impacted along the life cycle. Health and safety concern actors such as consumers incl children, manufacturing workers, community, end-of-life workers.
- Suitable methodologies e.g. for ‘social acceptance’.



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 - Social acceptance
 - Responsible communication
 - Workers
 - Gender aspects women in condition
 - Education
 - Users/consumers (patients)
- **Stakeholders perspective beyond manufacturing workers.** In chemicals and materials value chains other actors are impacted along the life cycle. Health and safety concern also actors such as consumers incl children, community, end-of-life workers. Other impacts than H&S include, e.g., for healthcare products



Key aspects for social sustainability assessment in SSbD. Recommendations based on healthcare products

- A sector with strict medical regulations and high use of chemicals in health products
- Stakeholders:
 - Users/consumers (patients)
 - Clinical benefits (adults, women, children)
 - Affordability
 - **Positive impacts.** In the healthcare sector the use of chemical is intrinsic to treatments with clinical benefits for patients. How to address these impacts.
 - **Caution when compensating negative with positive (or no) impacts.**



Key aspects for social sustainability assessment in SSbD.

Recommendations based on healthcare products

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Beyond the social impact categories in the UNEP, 2020 Guidelines and SSbD, 2022.

Stakeholder categories	Worker	Local community	Value Chain Actors	Consumers	Society	Children
Impact categories	1. Freedom of Association and Collective Bargaining 2. Child Labor 3. Fair Salary 4. Working Hours 5. Forced Labor 6. Equal opportunities/ Discrimination 7. Health and Safety 8. Social Benefits/Social Security 9. Employment relationship	1. Access to material resources 2. Access to immaterial resources 3. Delocalization and Migration 4. Cultural Heritage 5. Safe & healthy living conditions 6. Respect of indigenous rights 7. Community engagement 8. Local employment 9. Secure living conditions	1. Fair competition 2. Promoting Social Responsibility 3. Supplier relationships 4. Respect of intellectual property rights 5. Wealth Distribution	1. Health & Safety 2. Feedback Mechanism 3. Consumer Privacy 4. Transparency 5. End-of-Life Responsibility	1. Public commitments to sustainability issues 2. Contribution to economic development 3. Prevention & mitigation of armed conflicts 4. Technology development 5. Corruption 6. Ethical treatment of animals 7. Poverty alleviation	1. Education provided in the local community 2. Health issues for children as consumers 3. Children concerns regarding marketing practices



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- ISO 14075 consistent





Adopting recent ISO Social LCA developments: ISO 14075

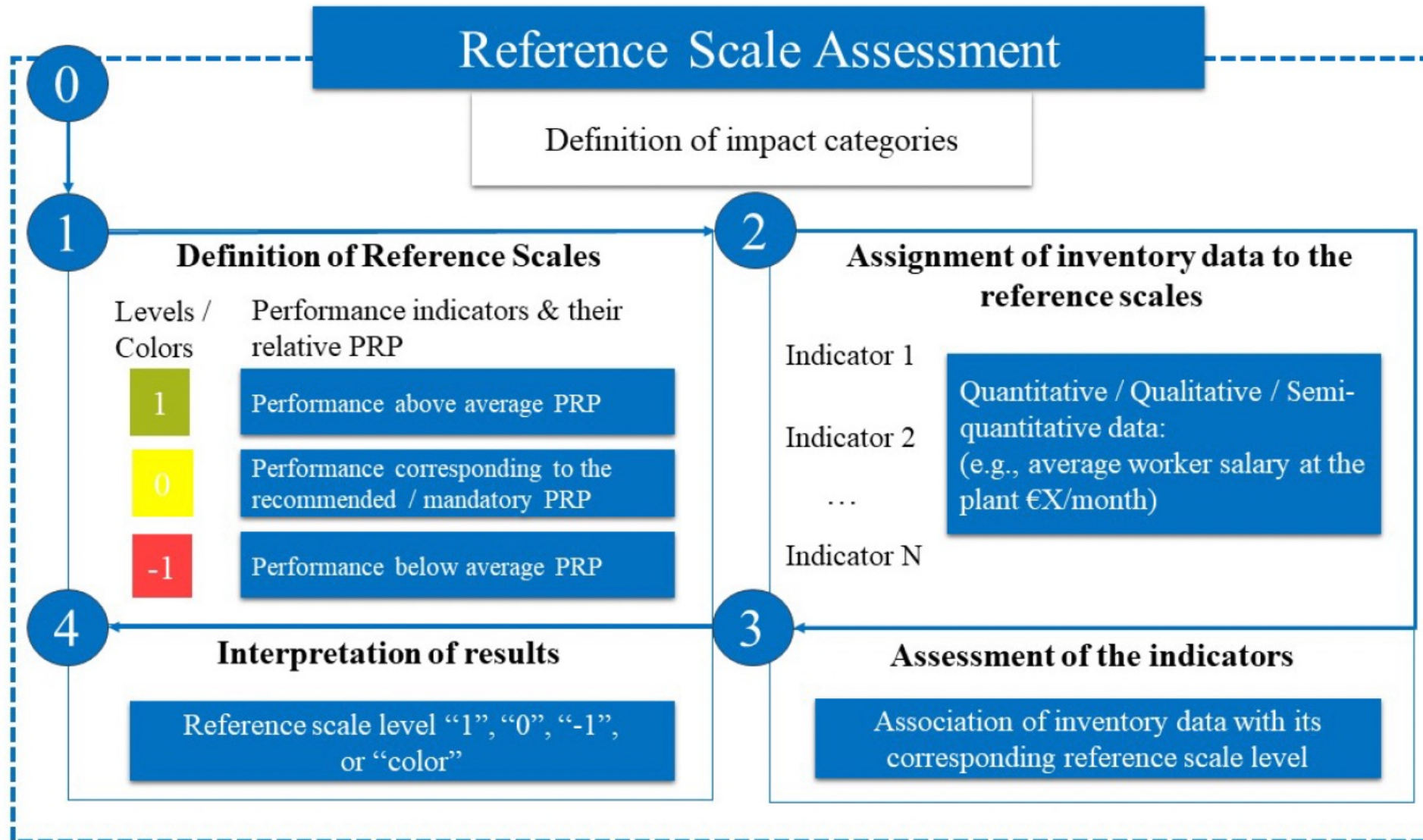
ISO/FDIS 14075 establishes:

- *Reference scale assessment (S-LCPA) is an optional phase of S-LCA, parallel to S-LCIA. The choice to perform either a reference scale assessment or an S-LCIA shall be justified.*

The S-LCPA aims at assessing the social performance of the product system based on specific reference scales. Reference scales are ordinal scales comprising several levels. Each level corresponds to a performance reference point (PRP).

- *The S-LCPA results to a score value according to an established pre-determined reference scales for each impact subcategory or subcategory indicator; the reference scale is defined according to international and/or national norms, or according to best practices*

Representation of the reference scale assessment (ISO/FDIS 14075)

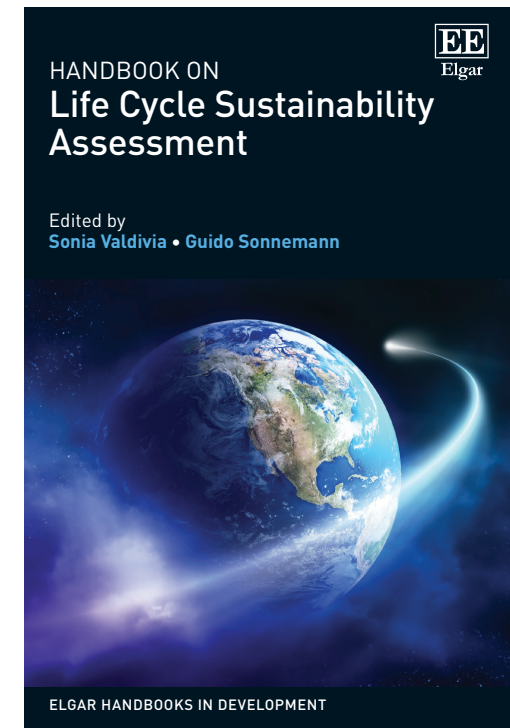




Outlook for LCSA

- *Update basing on ISO*
- *Uptake the stakeholder perspectives along the life cycle. Participatory Approaches for Enhancing the Quality and Uptake*
- *Capacity Building and Technical Assistance for Integrating a Product-Level Life Cycle Sustainability Perspective in Sustainable Consumption and Production (SCP) and Policies*
- *From LCM towards Life Cycle Sustainability Management (LCSM) Integrating ESG*
- *Social Product Declaration can support communication*
- *Using Advanced Digital Technologies for Visualisation and Communication*

Based on Sonnemann, Valdivia & Neuhaus (2024)



Thank you for your attention!

