SOCIAL SCIENCE FACTORS FOR DECARBONIZATION

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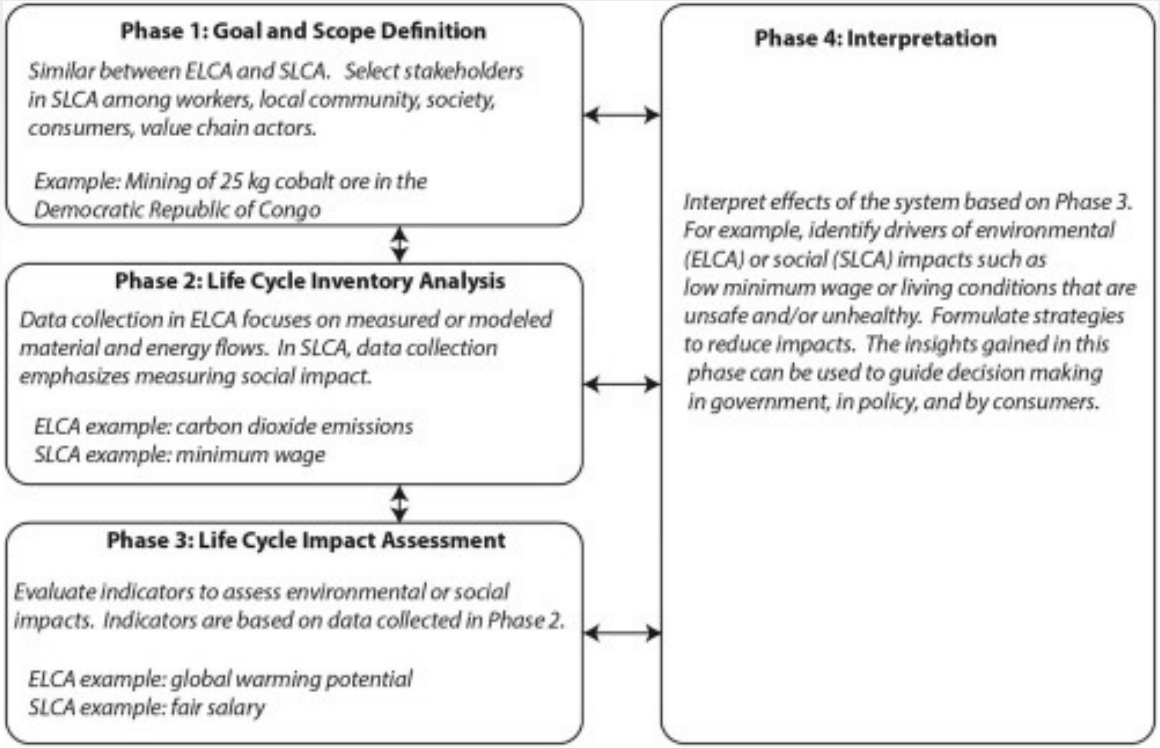
Key questions

- How does policy assess social and environmental benefits?
  - Recent policies have stressed life-cycle greenhouse gas emission thresholds – biofuels, hydrogen, building materials, etc.
- What does society expect of industry beyond the required permitting processes, NEPA, environmental impact statements?
- What do communities want to know? What information are they looking for and how can it best be provided?

Parallels between attributional environmental LCA and SLCA



Bamana G, Miller JD, Young SL, Dunn JB. Addressing the social life cycle inventory analysis data gap: Insights from a case study of cobalt mining in the Democratic Republic of the Congo. *One Earth.* 2021. doi: 10.1016/j.oneear.2021.11.007

Differences between ELCA and SLCA

- Stakeholder categories
  - Local community
  - Workers
  - Society
  - Consumer
  - Value chain actors
  - Children
- Data!

- Indicators
  - Safe and Healthy living conditions

Tension between urgency of climate change, time to build relationships with communities and interact with them in ways that inform social science and engineering research.

Recommendations for improvements in social life cycle assessment

Generic Indicator	Potential Data Sources
Child Labor	Worksite survey, household survey
Delocalization	Land-related court claims
Safe and healthy living conditions	*co-benefit?* Remote sensing-based analyses of changes in land use Cross-culturally validated scales that measure water insecurity

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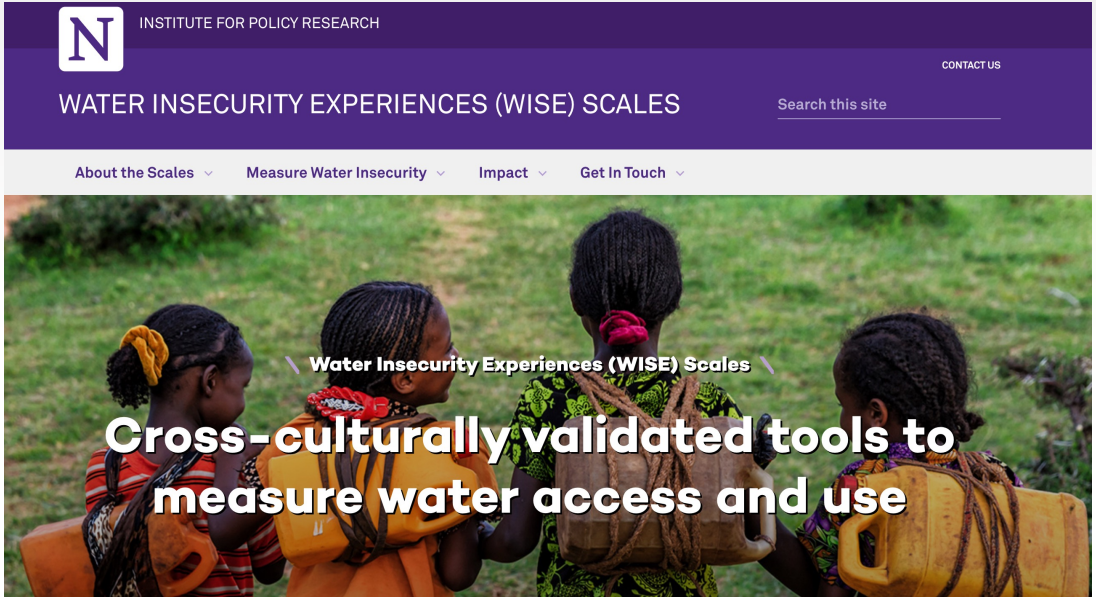
Robust data sources must be developed

- Local data are ideal
- Social science-based methods including quantitative scales for indicators like water scarcity



https://www.ipr.northwestern.edu/wise-scales/