

SESSION 5 and 6: BREAK-OUT SESSION ON

Review Beyond LCA for Perovskites, Emerging PV and PV Technologies Issues in Reporting of Current LCA Studies

Day 2

13-14th March, 2023

LCA Methodology Harmonization Workshop, Brussels.

Organized by



LCA Methodology Harmonization Workshop, Brussels, 2023

Defining the Outcome

What are the major issues that you see in the comparison of LCA studies in this topic?

- Prospective LCA:
 - Many approaches due to lack of standardized methodology, hampering comparison.
 - Not conducted in the 11 EU projects, so emerging PV LCA projects are benchmarked using past learning rate, production capacity and electricity mix.
 - Need for prospective background data (e.g. learning rate) for the modelling
- Criticality:
 - The term Criticality is not standardized. People interpret it in different ways.
 - It is a new field, so researchers should also have the freedom to explore different approaches of criticality.
 - Lack of data for the supply chain of perovskite or emerging PV; need of consolidated scenarios.
 - Currently there are not established cooperation between institutes conducting Criticality assessment.
- Sustainability Labels:
 - As EPDs are Type III certificates, the lack of a standard solar irradiation, impact assessment method etc. can lead to misleading results for the economic actors.
 - Eco-Design lacks PV specific use phase rule (PCR).

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Defining the Outcome

What are the major issues that you see in the comparison of LCA studies in this topic?

- Reporting Issues:
 - Aggregated results decrease transparency and comparability of LCA deliverable.
 - The GWP of the used electricity mix for production along with the name of the location. Without this, it is hard to locate if the GWP is allocated to the materials or the production electricity.
 - Critical review or peer reviewed publication not in practice.

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Defining the Outcome

What are the main challenges in reaching harmonization?

- Prospective LCA:
 - How and who to take initiative to standardize the prospective LCAs?
 - How to collect prospective background data?
- Criticality:
 - Resources (time and personal) and unique selling point (every institute might want to try their own methodologies)
- Sustainability Labels:
 - Resources (time and personal), own monetary structure and unique selling point (every institute might want to try their own methodologies)
- Reporting:
 - Confidentiality

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Defining the Outcome

What do you see as next steps and who should do it?

- Prospective LCA:
 - Suggest shared database for foreground inventory change proxies
 - Agree on background (foreground scenarios to present)
- Criticality:
 - Identify and establish cooperation between EU projects. Fraunhofer ISE (Estelle G.) can take the first initiative.
- Sustainability Labels:
 - Reaching out the certification institutes (EPD International, Eco-Design) to highlight and explain the issue. Fraunhofer ISE (Abeer A. K.) can take the first initiative.
- Reporting:
 - Encourage transparent reporting without aggregation (as much as possible) within EU projects.
 - Encourage reporting of GWP of production electricity mix within EU projects.
 - Every project representative is expected to implement these in their EU projects.
 - Encourage critical reviews with different EU projects, with respect to consortium boundaries.