Life Cycle Inventory Database for Steel Industry Products

Frequently Asked Questions

This non-exhaustive checklist is inspired to a large extent by the ISO 14040 series of international standards and highlights some common risks or sources of errors and misinterpretation when performing or reporting a life cycle assessment (LCA) study.

Goals

- Are the goals of the study well defined?

Scope

- Is the function and functional unit clearly stated?
- Are comparative systems functionally equivalent?
- Is the system boundary clear (cradle-to-grave or -gate etc)?
- Is the scope of data and impact categories consistent with the study goals?

Quality of life cycle inventory (LCI) data

- Are the data based on achieved and measured performance? If not, are the assumptions realistic?
- Are the data relevant in terms of time, location and technology?

Energy

- Is the high or low calorific value used in calculations and uniformly applied?
- Is primary energy (i.e., extracted from the earth) used and are the different energy sources clearly defined?
- In particular, are renewable and non-renewable sources identified?
- What assumptions are made for electric power generation?
- Are they relevant to the goals?
- Are the production, delivery, fuel and feedstock energies included?

Dealing with multi-product systems

- Are the rules for allocation stated and has the stepwise procedure for selecting the method been applied?
- Where allocation could not be avoided (e.g., by system expansion) are the methods based on physical relationships? Has partitioning by economic value been avoided whenever possible?
- Are allocation procedures consistent across the study scope?
- Is the distinction between waste and co-products clear?

Transport

- Have significant transport steps been included?
- Are the means of transport and distances realistic?
Recycling

- Does the study take account of recycling and is the methodology for credits appropriate?
- Are the recycling process stages included?
- Are recycling rates derived from actual data?
- If not are the assumptions realistic?

Life cycle impact assessment

- What impact categories are considered and is the LCI scope consistent with this?
- Are the impact assessment methods technically valid and internationally accepted?
- Have value choices (e.g., weightings) been used and on what basis?
- Are weighting methods avoided where comparative assertions will be available to the public?

Interpretation

- Have the results of the LCI/LCA study been evaluated in terms of completeness, consistency and sensitivity to data uncertainties, allocation rules and value-choices?
- Are the conclusions consistent with the requirements of the goal and scope of the study?
- Are the recommendations based on the final conclusions of the study?

Reporting

- Is a methodology report available to third parties?
- Is the report transparent and clear regarding the methods and data used?
- Are the LCI results also available where impact assessment is applied?

Critical review

- Has a critical review been carried out?
- Are the critical reviewers independent and knowledgeable?
- Is the critical review report included in its entirety in the study report?

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