Checklist to Evaluate the Quality of an LCA Study

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?

Allocation for co-products

- Are the rules for allocation stated and has the stepwise procedure (see clause 6.5.2 of ISO 14041) 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?

International Stainless Steel Forum Rue Colonel Bourg 120 B-1140 Brussels Belgium

T: +32 (0) 2 702 89 00 F: +32 (0) 2 702 89 12 Email:info@issf.org www.worldstainless.org

- Are allocation procedures consistent across the study scope?
- Is the distinction between waste and co-products clear?

Transportation

- 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?
- Where impact assessment is applied are the LCI results also available?

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?