

Critical review according to ISO standards: Requirements, strengths, weaknesses and scaling-up

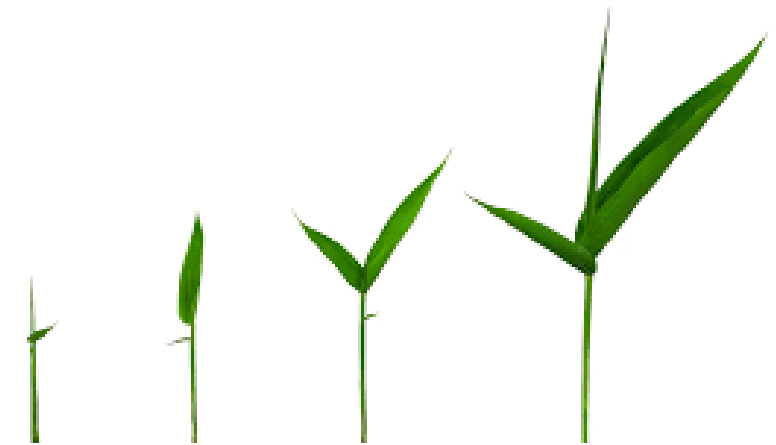
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Overview

- Introduction: technical requirements
- Strengths and weaknesses
- Scaling up



Introduction

- Critical review is standardised by ISO 14040/44 and 14071
- Critical review is mandatory for LCA studies intended for use in comparative assertions to be disclosed to the public
- Increasingly, critical review is being performed for B2B communications and internal use to increase robustness and credibility of LCA studies

Scope of critical review

- The methods used in LCA study are consistent with ISO standards
- The methods are scientifically and technically valid
- The data are appropriate and reasonable in relation to the goal of the study
- The interpretation reflects the goal of the study and limitations
- The study report is transparent and consistent

Carrying out a critical review

- The review can be performed by an expert or a panel of experts
- It can be performed concurrently or at the end of the study
- It can include or exclude an assessment of the life cycle inventory model and/or individual data sets
- It shall refer only to one specific LCA study – if a new version of the report is produced, the critical review no longer applies

Strengths and weaknesses

○ Single expert

- S: Streamlined, quicker, cheaper for commissioner
- W: Some issues may be missed

○ Panel

- S: May result in a more robust review
- W: May prolong the process, potential disagreement within the panel, more expensive for commissioner

Strengths and weaknesses

- Performed concurrently
 - S: Early detection of any issues, less work for practitioners
 - W: May prolong the process, more work for reviewers, more expensive for commissioner

- Performed at the end of the study
 - S: May be faster (if a good quality study), less work for reviewers, cheaper for commissioner
 - W: May require major changes prolonging the work, more work for practitioners

Strengths and weaknesses

- Assessment of LCI model and/or individual data sets
 - S: Increases the robustness and reliability of the study
 - W: Prolongs the process, more work for reviewers, more expensive for commissioner

- Applicability to one specific study
 - S: Ensures robustness of the study
 - W: Each study has to be reviewed individually, takes time and resources, more expensive for commissioner

Other key issues

- Quality and expertise of practitioners carrying out the study
- Quality, expertise and efficiency of panel chair and reviewers
- Involvement of study commissioner
- Collaboration between practitioners, reviewers and commissioner

Fitness for purpose of critical review

- It is generally fit for the purpose it serves – i.e. to assure quality of each individual study
- It is more suited for large organisations with financial resources
- This limits wider use of LCA by a wider variety of users
- How could critical reviews be scaled-up?

Scaling-up critical reviews

- Critical review category rules (CR²)
 - Develop a technical specification akin to product category rules
 - Could be applicable to defined ‘families’ of products, technologies, activities
 - Robust review of a ‘base case’
 - Follow a ‘light touch’ review process for variations/additions/updates to the base case
- Benefits
 - Scalable, faster, accessible, cheaper → greater spread of LCA in practice driving environmental improvements

Should critical reviews be scaled-up?

- Disadvantages
 - Less robust studies and claims
 - Lower stakeholder acceptability and trust
 - Potential for misuse

- Potential outcome
 - LCA discredited (again)

- One potential mitigation option
 - Publish studies in academic journals for further critical reviews and acceptance by practitioners