

Critical review statement

for the study

Life cycle assessment of chemically recycled polyamide multi-layer packaging by using the example of a mozzarella cheese packaging

Background

The life cycle assessment (LCA) study “Life cycle assessment of chemically recycled polyamide multi-layer packaging by using the example of a mozzarella cheese packaging” was commissioned by BASF and carried out by Sphera.

The study was critically reviewed by an international panel of experts comprising:

- Adisa Azapagic (Panel Chair), Ethos Research, UK;
- Benedikt Kauertz, ifeu, Germany; and
- Simon Hann, Eunomia Research & Consulting Ltd., UK.

All members of the critical review panel (CRP) were independent of any party with a commercial interest in the study.

The aim of the review was to ensure that:

- the methods used to carry out the LCA study are consistent with the ISO 14040:2006 14044:2006 and 14067:2018 standards;
- the methods used are scientifically and technically valid given the goal of the study;
- the data used are appropriate and reasonable in relation to the goal of the study;
- the interpretation of the results and the conclusions of the study reflect the goal and the findings of the study; and
- the study report is transparent and consistent.

Critical review process

The critical review process involved the following:

- a review of the goal and scope definition at the outset of the project;
- a review of a draft version of the report according to the above criteria and recommendations for improvements to the study and the report; and
- a review of a revised report, which then became the final report and to which this critical review statement refers.

The CRP did not review the LCA models developed by Sphera for the purposes of this project and hence all the findings of the critical review are based solely on the LCA report that was made available to the CRP during the course of the critical review.

The working atmosphere of the project was constructive. The necessary data were provided to the CRP and the issues raised were discussed. Most comments made by the CRP were addressed by the practitioner.

Conclusion of the critical review

The CRP confirms that this LCA study followed the guidance of and is consistent with the international standards for Life Cycle Assessment (ISO 14040:2006 and 14044:2006) and for Carbon Footprint of Products (ISO 14067:2018) as follows:

- the methods used are scientifically and technically valid as far as possible given the goal of the study and the assumptions;
- the data used are appropriate and reasonable in relation to the goal of the study;
- the interpretation of the results and the conclusions of the study reflect the goal and the findings of the study; and
- the study report is largely transparent and consistent.

This critical review statement is only valid for the final LCA report as presented to the CRP.

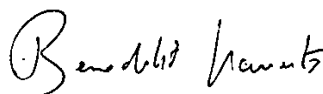
Communication of the study results

The following aspects should be mentioned when communicating the results of the study to external stakeholders:

- The findings of the study are specific to the case study (mozzarella packaging) and the geographical setting (Germany) considered in the study and cannot be generalised beyond that.
- Some of the assumptions (e.g. system expansion) affect the results, interpretation and conclusions of the study. Therefore, it is of utmost importance that these and their influence on the results and conclusions are described transparently, whenever the study or its parts are disclosed to any stakeholders to avoid any potential misinterpretation of the study.
- It should always be mentioned that the study is based on a mass balance approach. Although this has been applied rigorously, it is important to state this clearly in any future communication to maintain the transparency of the study.
- The comparison of the scenarios and alternatives considered in the study is based on the subjective assumptions on the “significance” of the differences in the impacts. This should be borne in mind when interpreting the results.
- Whenever a reference is made to the review of the study and its outcome, it should also be mentioned that the critical review statement is available upon request.



Adisa Azapagic
Panel Chair



Benedikt Kauertz
Panel Member



Simon Hann
Panel Member

December 2022
