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Peer review history for:

Botha EE, Harding KG. Significance of international life cycle data in South African extended producer responsibility. *S Afr J Sci.* 2024;120(11/12), Art. #16384. <https://doi.org/10.17159/sajs.2024/16384>

HOW TO CITE:

Significance of international life cycle data in South African extended producer responsibility [peer review history]. *S Afr J Sci.* 2024;120(11/12), Art. #16384. <https://doi.org/10.17159/sajs.2024/16384/peerreview>

Reviewer L: Round 1

Date completed: 23 November 2023

Recommendation: Accept / **Revisions required** / Resubmit for review / Decline

Conflicts of interest: None

Does the manuscript fall within the scope of SAJS?

Yes/No

Is the manuscript written in a style suitable for a non-specialist and is it of wider interest than to specialists alone?

Yes/No

Does the manuscript contain sufficient novel and significant information to justify publication?

Yes/No

Do the Title and Abstract clearly and accurately reflect the content of the manuscript?

Yes/No

Is the research problem significant and concisely stated?

Yes/No

Are the methods described comprehensively?

Yes/No

Is the statistical treatment appropriate?

Yes/No/Not applicable/Not qualified to judge

Are the interpretations and conclusions justified by the research results?

Yes/Partly/No

Please rate the manuscript on overall contribution to the field

Excellent/**Good**/Average/Below average/Poor

Please rate the manuscript on language, grammar and tone

Excellent/**Good**/Average/Below average/Poor

Is the manuscript succinct and free of repetition and redundancies?

Yes/No

Are the results and discussion confined to relevance to the objective(s)?

Yes/No

The number of tables in the manuscript is

Too few/**Adequate**/Too many/Not applicable

The number of figures in the manuscript is

Too few/**Adequate**/Too many/Not applicable

Is the supplementary material relevant and separated appropriately from the main document?

Yes/No/**Not applicable**

Please rate the manuscript on overall quality

Excellent/**Good**/Average/Below average/Poor

Is appropriate and adequate reference made to other work in the field?

Yes/No

Is it stated that ethical approval was granted by an institutional ethics committee for studies involving human subjects and non-human vertebrates?

Yes/No/Not applicable

If accepted, would you recommend that the article receives priority publication?

Yes/No

Are you willing to review a revision of this manuscript?

Yes/No

Select a recommendation:

Accept / **Revisions required** / Resubmit for review / Decline

With regard to our policy on 'Publishing peer review reports', do you give us permission to publish your anonymised peer review report alongside the authors' response, as a supplementary file to the published article? Publication is voluntary and only with permission from both yourself and the author.

Yes/No

Comments to the Author:

Thank you for submitting a very relevant piece of work for the paper and packaging industry in light of the EPR regulations. The paper is straightforward and well-written. Just a few comments to address:

The EPR regulations were implemented in May 2021 not in 2020.

Line 170: check the cross-reference

For the South African model, why the combination of economic and mass allocation? Please justify the use of each in the different respective scenarios.

Table 4: Why is the mass out > mass in for the European scenario?

I recommend you include the inventories for scenarios 1 and 2 as supplementary information.

Author response to Reviewer L: Round 1

The EPR regulations were implemented in May 2021 not in 2020.

AUTHOR: Changed it.

Line 170: check the cross-reference

AUTHOR: Fixed it.

For the South African model, why the combination of economic and mass allocation? Please justify the use of each in the different respective scenarios.

AUTHOR: Gave an explanation as to why I chose these allocation techniques for the different value chains.

Table 4: Why is the mass out > mass in for the European scenario?

AUTHOR: This is how it is extracted from the EcoInvent database. The difference is 3.6 % so I did not consider it as a problem that would significantly influence the results.

I recommend you include the inventories for scenarios 1 and 2 as supplementary information.

AUTHOR: I cannot extract an entire dataset from EcoInvent and include it in the paper. Instead, I created two supplementary tables where I included the changes I made to the EcoInvent dataset.

Reviewer L: Round 2

Date completed: 02 May 2024

Recommendation: Accept / **Revisions required** / Resubmit for review / Decline

Conflicts of interest: None

Does the manuscript fall within the scope of SAJS?

Yes/No

Is the manuscript written in a style suitable for a non-specialist and is it of wider interest than to specialists alone?

Yes/No

Does the manuscript contain sufficient novel and significant information to justify publication?

Yes/No

Do the Title and Abstract clearly and accurately reflect the content of the manuscript?

Yes/No

Is the research problem significant and concisely stated?

Yes/No

Are the methods described comprehensively?

Yes/No

Is the statistical treatment appropriate?

Yes/No/Not applicable/Not qualified to judge

Are the interpretations and conclusions justified by the research results?

Yes/Partly/No

Please rate the manuscript on overall contribution to the field

Excellent/**Good**/Average/Below average/Poor

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If accepted, would you recommend that the article receives priority publication?

Yes/No

Are you willing to review a revision of this manuscript?

Yes/No

Select a recommendation:

Accept / **Revisions required** / Resubmit for review / Decline

With regard to our policy on '[Publishing peer review reports](#)', do you give us permission to publish your anonymised peer review report alongside the authors' response, as a supplementary file to the published article? Publication is voluntary and only with permission from both yourself and the author.

Yes/No

Comments to the Author:

The authors have submitted a much improved version of the manuscript. Specific comments are below:

Line 270 - 272: references

The differences between scenario 2 and the South African case are not clear. If all the data was changed to represent the South African case then wouldn't that result in an inventory the same as the primary data case? Please clarify. Inclusion of a detailed inventory for scenario 2 would help to clarify things.

Author response to Reviewer L: Round 2

Line 270 - 272: references

AUTHOR: Not sure what lines 270-272 refer to, but I added a reference for the sentence that addresses the factors that affect data quality. And I redid the cross-reference to Figure 4.

The differences between scenario 2 and the South African case are not clear. If all the data was changed to represent the South African case then wouldn't that result in an inventory the same as the primary data case? Please clarify. Inclusion of a detailed inventory for scenario 2 would help to clarify things.

AUTHOR: The entire dataset was not changed to SA data. Only some of the entries were changed to see how close we have to get to a complete SA inventory in order to generate fairly representative SA LCIA results. I rewrote the paragraph to make sure that I was clearer on that point. Also, I added an extra table to the supplementary information, Supplementary Table 3. This table does not give value changes to the EU dataset, but it does indicate what I changed, and what it was changed to. The values are the Primary data that can be found in Supplementary Table 2. The Ecoinvent policy does not allow me to share the entire EU dataset for WLC. I hope this helps.

Reviewer A: Rounds 1 and 2

Not openly accessible under our [Publishing peer review reports policy](#).