

Review of: "Revisiting the challenges of ozone depletion from a prospective LCA perspective"

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Potential competing interests: No potential competing interests to declare.

The manuscript is well-structured, with a clear focus on the relevance and challenges of prospective life cycle assessment (LCA) for the ozone depletion potential (ODP). The authors have done a thorough literature review, highlighting the importance of accurate background databases, the intricacies of midpoint and endpoint characterization, and the interlinkages with other impact categories. The proposed strategies and future outlook add value by suggesting potential solutions and directions for future research. However, there are a few areas that could be expanded or clarified.

1. Stakeholder Perspectives: While the technical and scientific aspects are well discussed, the manuscript could benefit from addressing the perspectives of different stakeholders. This could include policy-makers, industry representatives, and civil society organizations. Understanding their viewpoints and possible barriers to implementing ODP-mitigating strategies could help make the suggested strategies more robust and practical.

2. Policy Implications: The manuscript mentions the Montreal Protocol and its impact on ozone depletion, but it could delve deeper into the policy implications of the findings. How could insights from integrating scenario- and time-specific CFs and time series of emissions of ODS thanks for pLCA inform policy-making, both at the national and international level? Are there any recommendations for policy adjustments based on these future findings?

3. Emerging Technologies: The manuscript could consider the expected impact of emerging technologies on ozone depletion. For instance, how might advancements in renewable energy technologies or carbon capture and storage affect ODP?

4. Uncertainties: While the manuscript acknowledges some uncertainties, it could provide a more comprehensive discussion on the various sources of uncertainty in ODP assessment. This could involve uncertainties related to data availability, methodological choices, and future scenarios.

By addressing these areas, the manuscript could provide a more comprehensive view of the challenges and potential solutions related to prospective LCA for ODP.