

KMC LCA Result and Carbon Cloud LCA Result¹

A comparison on native potato starch

Comparison is made by KMC

1. Standard Compliance

KMC's LCA: Follows ISO 14040 and ISO 14044. **Carbon Cloud's LCA:** It is unclear if ISO 14040 and ISO 14044 are followed, which raises questions about comparability, however it can be assumed that Carbon Cloud is following the ISO 14040 and 14044.

2. Third-Party Verification

KMC's LCA: Undergoes third-party verification, ensuring that methods and results are validated by independent experts. **Carbon Cloud's LCA:** Data is not third-party verified, meaning its methods and results are only self-validated by Carbon Cloud.

3. Scope of Assessment

KMC's LCA: Does not include transportation from warehouse to customer, focusing on the production phase only (cradle-to-gate). **Carbon Cloud's LCA:** Includes transportation from warehouse to customer, adding an extra stage to the value chain (beyond the gate). However, the transportation distance used is unclear.

4. Allocation Method

KMC's LCA: Emissions are allocated based on mass (dry matter) of all products and by-products. **Carbon Cloud's LCA:** Allocates emissions based on economic value. If by-products are deemed to have no economic value, all emissions are allocated to the main product, potentially increasing its carbon footprint.

5. Emission Factor on Potato Cultivation

KMC's LCA: Uses emission factors that reflect national potato cultivation averages. This is an area for improvement in our study. **Carbon Cloud's LCA:** Uses a higher national emission factor for potato cultivation², which impacts the overall carbon footprint, as cultivation accounts for 47% of total emissions in their study of potato starch.

Conclusion

The two results are not directly comparable due to differences in scope, allocation and methodology, which are critical for making a reliable comparison. However, considering that potato cultivation is the largest contributor to the carbon footprint in both studies, and that KMC's emission factor for potato cultivation are lower than the one used by Carbon Cloud, we can infer that our overall result would likely be lower if we matched their scope and methodology.

¹Potato starch · 2.03 kg CO₂e/kg | Verified by CarbonCloud. Visited February 5, 2025

²Potato, Denmark · 0.16 kg CO₂e/kg | Verified by CarbonCloud. Visited February 5, 2025