

# Review Report

March 27, 2025

Test Report Number: CF-2025-03-21267802

## Critical review of FUCHS Product Carbon Footprint Methodology

Client:

FUCHS SE  
Carbon Minds GmbH (Consultant)

Editor:

FUCHS SE - Michael Rhein  
Carbon Minds GmbH - Francesco Scalogna (Consultant)

Reviewed documents:

*Fuchs\_Methodology\_V2\_20241031.docx (22.11.2024)*  
*241114 MASTER\_PCF sheet.docx (28.11.2024)*  
*Datensatz Transportmodell Ship.pdf (15.11.2024)*  
*CF-PD\_SUS\_2.5\_ERP\_based\_PCF\_signed.pdf*

Reviewer: TÜV Rheinland Energy & Environment GmbH, Susanne Jorre, Am Grauen Stein, 51105 Köln

Internal Peer-Review: TÜV Rheinland Energy & Environment GmbH, Susanne Dunschen, Am Grauen Stein, 51105 Köln

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Project:	Critical Review of Product Carbon Footprint Methodology
Client:	<ul style="list-style-type: none"> <li>FUCHS SE</li> <li>Carbon Minds GmbH (Consultant)</li> </ul>
Main contact persons:	Dr. Michael Rhein (FUCHS, Client), Francesco Scalogna (Carbon Minds GmbH; Consultant)
Date of creation:	18.March 2025
GHG covered:	direct / indirect / CO <sub>2</sub> equivalents
Verifier:	TÜV Rheinland Energy & Environment GmbH
Reviewer:	Susanne Jorre (Sustainability Expert)
Internal peer review:	Susanne Dunschen (Sustainability Expert)
Test specification	<ul style="list-style-type: none"> <li>ISO Norm 14067:2018</li> <li>Methodology for Product Carbon Footprint Calculations for Lubricants, Greases and other Specialties developed by UEIL/ATIEL (2024)</li> <li>Together for Sustainability (TfS) -The Product Carbon Footprint Guideline for the Chemical Industry, V 3.0 2024 (Calculation Approach)</li> <li>PACT Methodology V2: Guidance for the Accounting and Exchange of Product Life Cycle Emissions, January 2023 (TfS as basis; Calculation Approach)</li> </ul>
Test criteria	In accordance with test specifications
Accounting boundary	Cradle-to-(factory) Gate
Accounting Scope	The application of the framework is to enable product carbon footprint calculation of lubricants, greases and other specialties as well as chemical products
Declared Unit	1 kg of finished unpacked product at the FUCHS factory gate

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## ***Review Statement***

TÜV Rheinland Energy & Environment GmbH (hereinafter "TÜV Rheinland") has conducted an independent review of the methodology developed by FUCHS SE (FUCHS), with support from Carbon Minds GmbH (Carbon Minds), for the calculation of Product Carbon Footprints (PCF). The scope of the review was to assess whether the methodology aligns with the general requirements of the international standard ISO 14067:2018 and the "Methodology for Product Carbon Footprint Calculations for Lubricants, Greases, and other Specialties" developed by UEIL/ATIEL (2024). FUCHS and Carbon Minds (Consultant) are responsible for the content and development of the methodology.

In addition to the PCF model and its documentation (including internal and external reporting), the review also covered an example calculation and an overview of internal training provided by FUCHS. TÜV Rheinland's conclusions are based on the assumption that the information and data provided by FUCHS are complete and accurate.

The review's purpose was to ensure that:

- The methods used are consistent with the relevant international standards and guidelines,
- The methods applied are scientifically and technically valid,
- The data utilized are appropriate and reasonable in relation to the goal of the study,
- The interpretations reflect the identified limitations and the goal of the study, and
- The methodology documentation is transparent and consistent.

Additionally, TÜV Rheinland's scope included the following aspects:

- The intended purpose of FUCHS's methodology,
- A limited desktop review of the data used, and
- A limited desktop review of FUCHS's data quality management processes.

In accordance with ISO 14067:2018 and the sector-specific methodology by UEIL/ATIEL, TÜV Rheinland concludes that the developed PCF methodology framework is scientifically sound and reflects the current state of the art. The approach and principles behind the methodology are generally appropriate for the assessment of potential climate change impacts of lubricants, greases and other specialties as well as chemical products and are additionally in accordance with the Together for Sustainability (TfS) PCF Guide V3.0 (2024), which is also a basis for compliance with the PACT Methodology V2 (2023). The data used (both primary [consisting mainly of internal and supplier data from 2022/2023] and secondary) as well as the specific

calculation models for *upstream logistic* greenhouse gas emissions and *production waste* are appropriate for the stated goal and scope of the methodology. Necessary recommendations concerning documentation were discussed during various meetings and subsequently implemented by FUCHS and Carbon Minds. Looking ahead, TÜV Rheinland recommends continuously enhancing the PCF methodology in line with advancements in science, technology, and the chemical industry, as well as updating the methodology documentation accordingly.

A certification confirming that FUCHS's methodology meets the stated requirements raises no objections from the reviewers' perspective.

Cologne, March 27, 2025

  
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