

Novecare - Functional Documentation

Overall principle and target

The Product Carbon Footprint digital tool by Syensqo is designed to automatically compute the Product Carbon Footprint of all products sold by Syensqo with the finest granularity possible while respecting ISO standard 14067 and TFS guidelines. The final purpose of this tool is to disclose this information with clients. Results of the PCF Digital Tool might also be used for strategic internal purposes.

The tool is focusing on the Life Cycle Impact Assessment (LCIA) of climate change, expressed in the unit kilogram of CO₂ equivalent. The characterization factors used is the 100-year GWP characterization factors and more precisely the AR 6 GWP-100 characterization factors of the IPCC AR6 Climate Change 2021 Physical Science Basis. When a new version of the IPCC reports will be released, the PCF Digital Tool will be updated accordingly.



Main Contacts

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System boundaries and declared unit

The PCF Digital Tool performs a "cradle to gate" assessment thus comprising all processes of extraction, manufacturing, and transportation, until the product leaves the factory gate. Hence, direct emissions (scope 1), indirect GHG emissions associated with the purchase of energy (scope 2) and other emissions happening upstream in the value chain are taken into account. In the last category, emissions related to raw materials manufacturing (scope 3.1), upstream emissions related to energy (scope 3.3), raw materials transportation (scope 3.4), and emissions related to waste treatment (scope 3.5) have been taken into account.

Manufacturing of production equipment, infrastructure, R&I activities, employee commuting are excluded from the perimeter. Packaging of final products and intermediates is not included in the calculation.

The PCF is defined for a given material, produced in a given plant and a given calendar year. The declared unit of the PCF is 1 kg of unpackaged product at the factory gate. If applicable, the solvent or water used for dilution are included in the declared unit.

When appropriate, the business may decide to aggregate PCFs to a wider geographical or temporal level. This aggregation must take into account volumes associated with each PCF and hypothesis must be clearly expressed to the client.

Data sources

Activity data used by the PCF Digital Tool come from the Bill Of Material (BOM), the SERF emission reports and Cerise (Energy and CO₂ report).

Emission factor data used by the PCF Digital Tool come from Ecolnvent, SimaPro internal database, Cerise (Energy and CO₂ report) and supplier's data. Emission factors in Cerise are sourced in external databases like IEA, DEFRA, Ecolnvent. To avoid any confusion only one version of Ecolnvent will be used to report the PCF of a given year.

To ensure data quality and consistency, data checks and data processes have been implemented on all data streams by the data governance team. This includes (but is not limited to) BOM and raw materials creation, Energy quantities accounting, Raw material mapping, PCF validation etc...

General assumptions and limitations

The Product Carbon Footprint is provided in good faith, based on assumptions, most suitable methodology and data available at the date of issue. However, Syensqo reserves the right to revise the Product Carbon Footprint declaration at any time and to issue superseding declarations as industrial processes, methodology and data may change over time.

The Product Carbon Footprint digital tool only allows the calculation of simple Product Carbon Footprints and is not able to perform economic allocation for example.

The overall cut-off is set to 5%, meaning that excluded contributions shall not overpass 5% of the total PCF.

Raw materials coverage shall be over 98% of the mass. Catalyst and precious metals, which are known to have important contributions, cannot be excluded.

For the waste treatment with energy recovery, the reverse cut-off approach is used (all burden allocated to waste generation process).

A validation process has been implemented to ensure quality of the results. This includes completeness checks but also some risks analysis to make sure that Product Carbon Footprint results are reliable.

A new PCF value will be available every year. For a given year, Syensqo reserves the right to revise the Product Carbon Footprint declaration at any time and to issue superseding declarations as industrial processes, methodology and data may change over time.

To Go Further

To understand how calculations are performed, see [PCF Methodology Calculation for Novecare](#)