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Cradle-to-gate Product Carbon Footprints for BASF raw materials

The calculation of a cradle-to-gate Product Carbon Footprint (PCF) shall follow the relevant PCF standard ISO 14067:2018 and be conducted by a trained LCA analyst. If needed, PCF calculation can be carried out by external LCA consultants. Please see our webpage for recommended LCA consultants. A critical review of your PCF calculation by a third party is recommended but not mandatory.

To improve the comparability of PCF results we ask you to follow the methodology principles laid down in the **BASF Method for Product Carbon Footprints**. Particular attention shall be paid to the decision tree logic for allocation of multi-output processes.

In summary, the following needs to be considered when calculating and communicating cradle-to-gate PCF values to us:

- Refer to 1 kg of unpacked product supplied to BASF not including the emissions from transport to BASF premises
- Cover all product-related GHG emissions and removals from cradle-to-gate (see Annex for definition and system boundaries)
- Include all six Kyoto greenhouse gases (plus NF_3)
- Use GWP 100 factors from the IPPC 5th assessment report (IPCC 2013)[1]
- Use data of high quality and good representativeness that is up-to-date and reflect the geography and the technology that is specific to the product that you supply to BASF
- Consider primary data for all processes under your ownership (Scope 1) and market- or location-based emission factors for purchased energy (Scope 2)
- For raw materials and utilities (Scope 3) consider either supplier-specific PCF data (preferably) or PCF data from LCA databases, e.g. GaBi LCA databases
- If your product is based on biomass, please separately calculate and report i) a PCF only considering the fossil GHG emissions[2] and ii) a PCF including biogenic emissions and removals[3]
- Report the cradle-to-gate GHG emissions that are specific to the product(s) that you supply to BASF. For products which are produced on-site and supplied via pipeline to BASF, please provide data specific for this on-site operation. Please do not report any generic data from LCA databases or industry average values
- If you supply several products to BASF, please provide one value per product

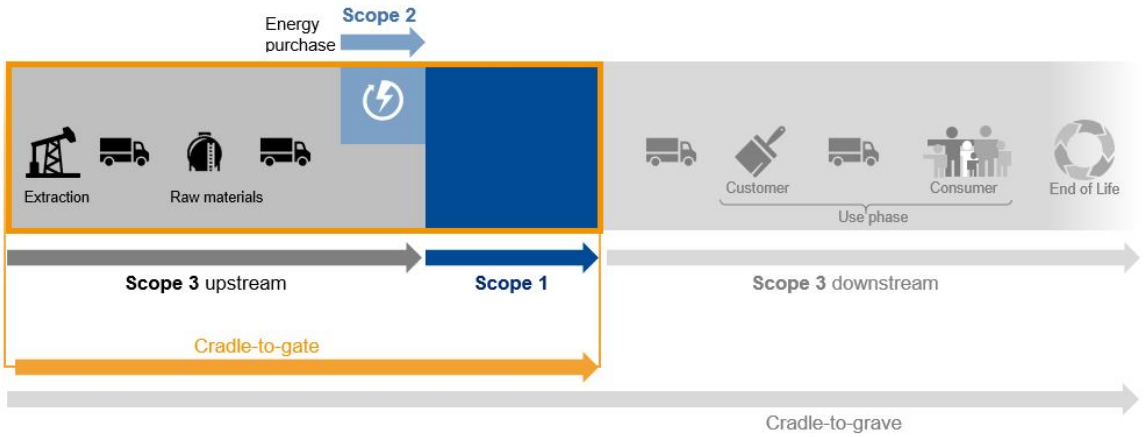
[1] without climate-carbon feedback; .https://www.ipcc.ch/assessment-report/ar5/

[2] Including CO_2 emissions from land use and land use change

[3] GHG removal means withdrawal of a GHG from the atmosphere. This happens, for example, when CO_2 is stored in biomass as part of a products' life cycle

Annex

Definition and system boundaries: cradle-to-gate PCF



The cradle-to-gate or partial Product Carbon Footprint (PCF) is the sum of GHG emissions[4], expressed as CO_2 equivalents, from the extraction of the resources up to production of the final product. It includes all product-related direct GHG emissions from production processes that are owned or controlled by the reporting company (Scope 1) as well as emissions from the generation of purchased energy such as electricity and steam (Scope 2) and use of raw materials consumed by the product-processing plants (upstream Scope 3).

[4] This includes GHG removals, i.e. withdrawal of GHG from the atmosphere.