

# **Prerequisites for CO<sub>2</sub>e calculations in EmissionsReport**

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To compile these carbon footprint calculations, it has been necessary to make delineations and assumptions that form the basis for the results, and thus influence the final calculated  $CO_2e$  emissions. The result of the "EmissionsReport" is the total  $CO_2e$  emission for a transported quantity, based on the activities that the User enters into the Company's software.

The delineations and assumptions made are elaborated below. The purpose of the "EmissionsReport" is to visualize and aggregate  $CO_2e$  emissions in relation to choices of route, distance, and type of transport. The results cannot necessarily be compared with other  $CO_2e$  calculation methods and should only be compared with data generated in the Company's software. The Company has taken reasonable measures to ensure the accuracy and completeness of the Data. However, the Company offers no guarantees, either expressed or implied, regarding the Data's accuracy, completeness, timeliness, or suitability for specific purposes. The User is encouraged to perform their own due diligence before making decisions based on the Data.

# Data basis

Used environmental data is obtained from international transport and distribution-related databases and calculation methods, GLEC Framework V3. GLEC Framework v3 classifies logistics emissions into three areas, based on the accounting principles set out by the Greenhouse Gas Protocol. Scope 1 includes direct emissions from assets owned or controlled by the reporting company, scope 2 encompasses indirect emissions from the production and distribution of electricity, heat, and steam purchased by the reporting company, and specifically in version v3, scope 3 which includes indirect emissions from the reporting company's supply chain, such as transport emissions and product use. GLEC Framework v3 is in compliance with ISO 14083 and divides the total greenhouse gas emissions into emissions related to the energy consumption for the operation of transport or hub activities and emissions related to the provision of this energy. While emissions from transport operations - hub and transport activity - make up the tank-to-wheel (TTW) emissions (also referred to as "tank-to-vehicle" where relevant), the energy delivery emissions for energy used for transport activity or hub operations constitute the well-to-tank (WTT) emissions.

The Company's estimates include, in the current software version, the full fuel lifecycle, which consists of well-to-tank (WTT), emissions from extraction, production, and delivery of energy, as well as tank-to-wheel (TTW), emissions caused by moving the vehicle. These values are generated by Searoutes' API approach to CO2e calculations, which are provided either as modeled or default data. The type of data is always verifiable through the indicator in the last column of the EmissionsReport. See calculations methodology <a href="https://developer.searoutes.com/docs">https://developer.searoutes.com/docs</a>

Furthermore, the data originating from external sources or third parties is included, and the Company is not responsible for the accuracy or completeness of such data. Users should exercise caution and not base decisions solely on third-party data without independent verification and control.

### **Calculation Method**

EmissionsReport exclusively analyzes the environmental impact and converts greenhouse gases (as per the Kyoto Protocol) into a metric ton  $CO_2$  equivalent ( $CO_2e$ ) based on selected activities. Calculations made in connection with EmissionsReport handle data entered by the user in the provided software and associates



specific emissions related to this activity as per GLEC Framework V3 and relies on calculations supported by the GHG Protocol's accounting principles. The GLEC Framework aims to cover all freight transport and hub operations along the transport chain. This covers transport operations from national to international levels, anywhere in the world. Transfer points on a journey, such as ports or warehouses, where goods are transferred, stored, or repackaged, are also included. They are collectively classified as hubs. Furthermore, in accordance with the scope of ISO 14083, freight transport using pipelines and cable cars is added to this GLEC Framework V3.

An organization's carbon footprint from its freight transport and hub operations, according to GLEC Framework V3, is the sum of emissions from all transport chains, taking into account emissions from the organization's own operations, purchased energy, and subcontracted operations (Areas 1, 2, and 3), as well as emissions across the full fuel/energy lifecycle. This applies to organizations that are transport providers as well as their customers. GLEC Framework v3 covers all these aspects.

The GLEC Framework provides a separate approach for calculating emissions from black carbon in the "Black Carbon Methodology for the Logistics Sector". This black carbon calculation approach was developed by Smart Freight Centre, UN Climate and Clean Air Coalition, International Council on Clean Transportation, and the US Environmental Protection Agency's SmartWay team as an optional element for GLEC Framework v2 and is also included as an optional ("informative") appendix to ISO 14083.9. The Black Carbon Methodology provides a method for calculating emissions from black carbon following the same principles as the GLEC Framework.

The default conversion is always to  $CO_2e$ , which is the standard unit used to represent the global warming potential of various GHGs according to their Global Warming Potential (GWP). Therefore,  $CO_2e$  is used throughout the GLEC Framework in accordance with ISO 14083. GHGs included in ISO 14083 and GLEC Framework v3 are:

- CO2 Carbon Dioxide
- CH4 Methane
- CFCs Chlorofluorocarbons
- HFCs Hydrofluorocarbons
- NF3 Nitrogen Trifluoride
- N2O Nitrous Oxide (Laughing Gas)
- PFCs Perfluorocarbons
- SF6 Sulfur Hexafluoride
- SO2 F2 Sulfuryl Fluoride

Based on the user's input of route, provider, weight, and distance, the total  $CO_2$  equivalence burden for the particular activity is calculated. An intensity factor is always used, relating to the relationship between  $CO_2e$  and the transported quantity. The company processes the data entered by the user and expects it to always be accurate and reliable. The choice of rows in EmissionsReport is solely based on the user's input. The company is not responsible for the accuracy of the entered values.

# Assumptions

The estimates in EmissionsReport are calculated based on the environmental impact of different activities in each stage line and is accumulated so that the total CO<sub>2</sub>e emission for the entire supply chain is included. Since emission factors and databases are constantly changing and being updated over time, EmissionsReport is considered always current. Data is continuously updated and refreshed as needed. Our



software is dynamic and continuously adjusted to the latest data basis and methods. The latest version of the software will always be available through the Company.

#### Exclusions from GLEC Framework and assumptions regarding entered data:

Not included in the calculation of GHG emissions are:

- production and supply processes for refrigerants;
- waste produced;
- processes at the administrative (overhead) level in the organizations involved in transport services;
- processes for the construction of vehicles and transport or transshipment equipment (e.g., embedded GHG emissions associated with vehicle production);
- Maintenance of vehicles or transshipment and (dis)embarkation equipment and scrapping of these;
- processes for construction, service, maintenance, and demolition of transport infrastructure used by vehicles, e.g., roads, inland waterways, or railway infrastructure, or transshipment and (dis)embarkation infrastructure;
- businesses located within a hub, such as retail and hospitality services, whose functions are separable and secondary to the transport operation at the hub.

Note: The results of any kind of carbon sequestration activities or trading in GHG emissions are excluded. These are not part of the transport chain's GHG emission calculation or qualified to track progress relative to science-based targets for the transport sector, although they may be included in subsequent environmental reporting and requirements from an organization, depending on the basis on which the requirements are made.

### **Uniteam Disclaimer**

EmissionsReport and the information that it provides is solely for information regarding the estimated tons of  $CO_2e$  that the respective transportation activity is expected to emit. The company assumes no responsibility for the accuracy, completeness, or timeliness of the information. No claims can be derived from the information or guidelines provided.

The company strives to keep EmissionsReport updated with accurate and current information, but the company makes no representation or warranty for the accuracy, timeliness, suitability, and completeness of the information obtained through the calculation or whether the information is error-free.

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