
COMMON METHODOLOGY ON CARBON FOOTPRINT CALCULATION IN MSF

Guideline report

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Documentation presentation

This document should be somehow an 'overarching' document, listing for instance all the hyperlinks to the section existing documents, stating movement wide the decisions that have been made (or should be), regarding the organisational scope, the categorization, the use of some datasets (Supply PBI), the extrapolations (waste, commuting), etc. and to express clearly what the Movement Carbon accountant requests from the Sections in terms of (ideal) granularity and exhaustivity, etc.

Methodological guidance

This report will expose methodological principles focusing on the following points:

- The concept of internal and external emissions (Scope 1, 2 and 3);
- The scope of the sources of emissions to be accounted for;
- The data to be used and the way to process;

Note that all methodological principles are based on the following standard: **GHG protocol & ISO 14064-1**

Why a common methodology in MSF?

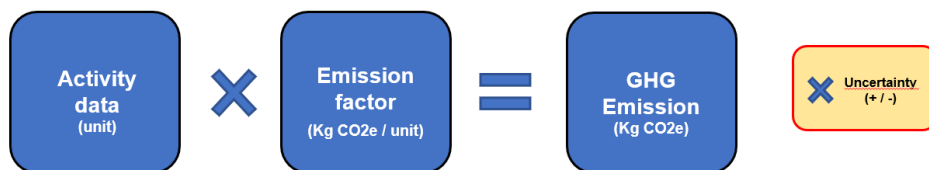
For 2019, the first year in which MSF entities have calculated their baseline, methodologies used were different across the movement.

Of course, it follows the **GHG Protocol methodology** (GHG Protocol), particularly concerning relevance, comprehensiveness, consistency, transparency, and accuracy. Nevertheless, **to be able to aggregate and compare data**, we must ensure the way we process.

Moreover, entities **need guidance** to be able to estimate their emissions, and tools to do it in an easy and more automatic way.

The classification and terminology of the emissions calculation tool developed by the ICRC in collaboration with various players in the aid sector are followed and will be adapted to MSF Context. This tool forms the basis of a reference framework for the humanitarian sector which enables more relevant reporting of the footprint using common emission factors.

The calculation methodology is not intended to change. As a summary, activity data is collected (€, km travelled, litres of fuel consumed, etc.) to calculate MSF's GHG emissions. These data are multiplied by an emission factor to calculate their equivalence in terms of the quantity of CO₂ emitted. As different gases have different global warming potentials (GWPs), they are converted into CO₂ equivalents to simplify reporting. It should be noted that emission factors are established by measuring the emissions linked to the life cycle of products or services, i.e. the emissions required for their manufacture, operation and disposal.



Uncertainty: It is recommended that elements of uncertainty are taken into account. The latter is a function of two criteria: The qualitative or quantitative reliability of data pertaining to the activity, and the level of uncertainty of the chosen Emission Factor (This is found in available carbon databases).

This report is developed to precise and detail the steps needed to be able to define a baseline. It means that we will develop the methodology within MSF by scope in terms of:

- How and in which tool do we collect data?
- Which data should we collect? (this part will be developed in different sub-forms by scopes and categories)
- Which emission factors should we use?
- Which uncertainty percentage should we apply?

Internal and external emissions: Scopes 1,2 and 3

The purpose of the Scopes is to categorize emissions according to their sources. The 3 scopes are considered in all the footprints calculated within MSF.

Internal or direct emissions :

SCOPE 1: Emissions from fixed or mobile installations located within the organization. (Examples: for fixed installations: boiler for offices heating; for mobile installations: cars owned by the organization);

External or indirect emissions :

SCOPE 2: Emissions imported for the organization's activities. (Example: Electricity purchase, cooling, heating);

SCOPE 3: All other emission items. (Examples: purchases of goods and services, see table below).

These are all the emissions generated by the activities for which the organization is responsible for.

CATEGORY AND SCOPE	SUBCATEGORY
Scope 1 : emissions from sources that are owned or controlled by our organization ENERGY	Stationary combustion sources : heating, generators ... consumption per type of fuel
	Mobile combustion sources : Transportation and distribution in vehicles owned or controlled by your organization : car, motorcycle, truck, aircraft (e.g.consumption per type of fuel)
	Fugitive emissions : Refrigerant gases contained and refilled in cold production systems (refrigerators, air conditioning from facilities and cars, colling systems, etc.), gases for medical used or from processes
Scope 2 : generation of purchased or acquired electricity, steam, heat or cooling consumed by our organization ENERGY	Purchased electricity (e.g. electricity consumption at site owned/controlled by your organization for the current reporting period)
	Urban heat/cold network consumption : steam and heat
Scope 3 : Purchased goods and services	Financial support to others
	Emissions from in-kind donations. Consider first-hand donations (including the purchase of the goods and the transportation)
	Purchased services (e.g. insurance, maintenance...)
	Nights spends in hotels as part of an organization's activities
	Meals eaten by employees and supported by your organization (e.g. NGO restaurant or meal package when traveling)
	Office supplies and equipment (short lifespan 1 year)
	Medical material purchased (e.g. drugs and supplies, surgical, sterilization and medical waste,etc.)
	Logistique material purchased (e.g. generators, plastic films, water tank, etc...).
	Food purchased for beneficiaries, events, consumed water...
	equipment and accomodation rental
Scope 3 : Capital Goods (purchased in the year considered)	IT material (e.g. office computers, laptops, screens, printers...)
	Furniture and Equipment
	Vehicles (e.g. cars, motorbikes...)
	Logistic equipement
Scope 3 : Business travel	Buildings (e.g. offices, warehouses...) purchased
Scope 3 : Staff commuting	Employee Distance travelled per mean of transport (personal vehicles, train, airplane...) for business related activities
Scope 3 : Staff commuting	Distance travelled per staff to go to work - per mean of transport
Scope 3 Freight	Upstream and Downstream transportation Delivery of goods purchased per mean of transport (quantity and distance of each shipment purchased by the organization)
Scope 3 : Fuel and energy-related activities not included in Scope 1 or 2.	Indirect emissions related to energy use : Extraction, production, and transportation of fuels consumed and fuel consumed in the generation of electricity, steam, heating, and cooling that is consumed by MSF. Examples include mining of coal, refining of fuels, extraction of natural gas, etc
Scope 3 : Waste	Quantity of generated waste per category and waste treatment method (recycled, incinerated, landfill, etc.)
Scope 3 : Investments	
Scope 3 NOT CONSIDERED	Treatment of distributed products: not relevant.
	Use of distributed products: not included in the initial assessment : should we move forward and make assumption ? (food distrib, soap..)
	Processing of sold products: not relevant
	End-of-life treatment of distributed products: not included in the initial measurement.
	Upstream and downstream leased assets: not relevant.
	Franchises: not relevant.

How to define it?

Assessment process:

BOUNDARIES DETERMINATION:

- Determination and validation of the organisational, operational and temporal perimeters
- Mapping of the organisation's flows;
- Identification of the necessary data and resource persons.

DATA COLLECTION AND ANALYSIS:

- Identify all the internal and external data needed for the calculations;
- Define the collection process: data sources, surveys, extrapolation...
- Data processing

REPORT:

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- Organisations' GHG profile;
 - Significant emission items;
 - Quantified mapping of flows.

Organizational scope

Determining the scope of the evaluation is a crucial stage. It determines the scope and exhaustiveness of the study, as well as the period covered. It must include all the entities and activities that enable the organization to carry out its social mission.

This organizational scope will be defined independently by each entity in MSF, depending on their activities and operations.

Then, the global organizational scope will be the aggregation of all the MSF entities (the same list as entities included in the international financial report).

Steps to define a common methodology.

As per the organizational scope, we will focus on a detailed methodology for the following categories:

Scope 1

Fuel – cars
Fuel – generators
Fossil fuels – facilities (coal, fuel, gas, wood...)
Fugitives - Anesthetics
Fugitives – AC facilities and cars

Scope 2

Electricity grid

Scope 3

Staff commuting
Travel
Goods and Services - Local procurement
Goods and Services - International procurement (Power BI Tool use)
Freight
WASTE

We will write a **specific guidance** per category. According to the methodology adopted, we will **design tools** if needed.

We will define a table to say in which categories of emission each footprint calculation has to be affected to -> **Categories and level of granularity** will be harmonized across the movement

DATA COLLECTION AND DATA MANAGEMENT

To start to calculate a carbon footprint in your entity, the following points are important:

- Identification of the data to be collected: the priority will be to collect physical data as much as possible. Using financial data is the last resort in case any other data is not available. Nevertheless, you need to collect your financial data for the year considered. It will help you to control if your physical data offers a global overview of your emissions or not, and moreover it will help you to build ratios and proxies when nothing else is possible.

- Identification of the resource people to provide the data (head of department, data collection manager, etc.)
- Choice of format, medium or data collection tools (Excel, SharePoint, Drive, Forms, etc.)
- Raising awareness and training respondents in the correct use of the data collection tool, if necessary.

All the data collection will allow you to play with different datasets, to switch from financial data to physical one, and add different categories of emissions, etc.

This is the first stage of your job, and it can take you long to manage to get all the data that you will need.

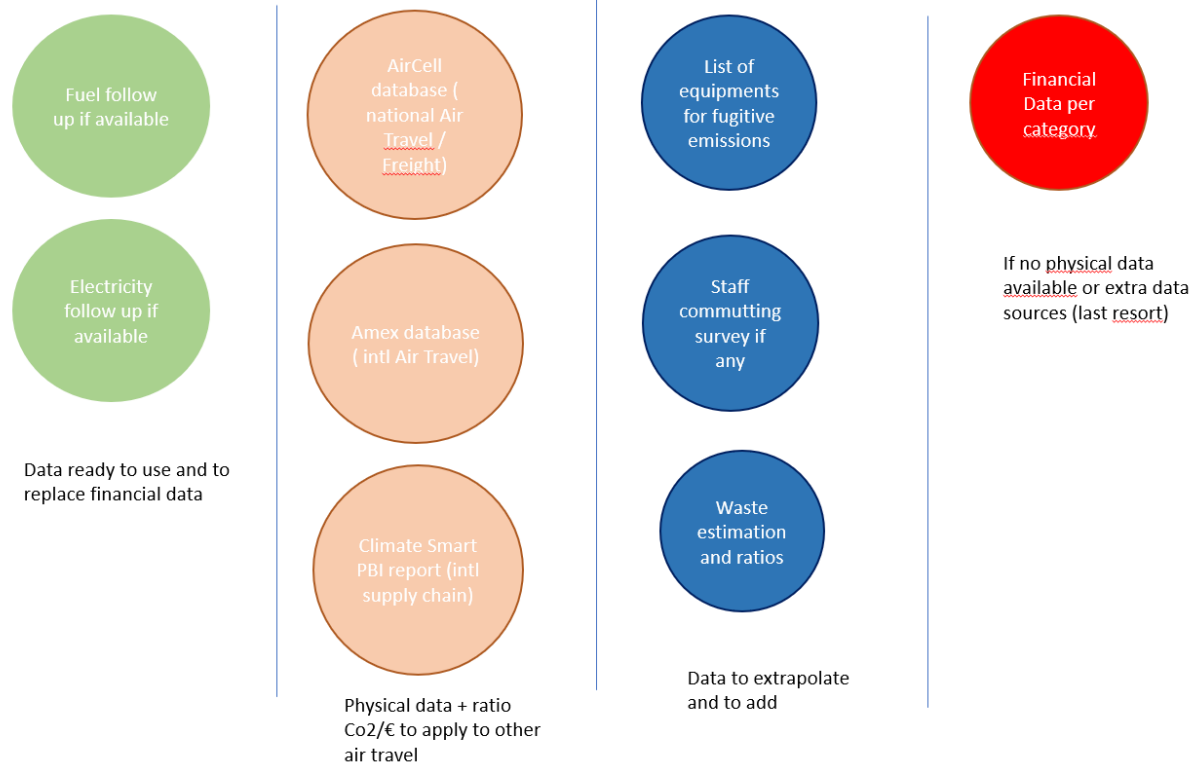


Chart title: Datasets in MSF for a carbon footprint calculation

Scope 1 and 2 methodologies

In collaboration with the CAA, we have developed 4 methodological forms detailed on how to calculate your scope 1 and scope 2 emissions, according to the level of data available in your entity. The forms present 4 scenarios, from the best to the worst, to provide guidance on how estimate emissions for direct and indirect emissions from energy. These forms are available in the SharePoint, entitled "TF1 to TF4".

Scope 3 Methodology

Now in MSF, most of the scope 3 emissions are calculated based on the expenses made by the entity. It is both due to the lack of physical/activity data available in the movement, and to the emissions factors that exist in the open-source data bases.

The following categories are managed as:

- **Purchased goods and services and Freight :**

- **International Procurement and Supply** : please refer to the the section “Climate Smart Power BI report: International Supply Chain”. Nevertheless, if you have some international freight not ensured by one of the supply centers, you can calculate ratios of Co2/€ and apply it directly to the rest of your expenses.
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 - **Local Procurement and Supply**:_These data will be based on financial data once you delete the international purchased part. You will use the table of correspondence + the emission factors (with the year) associated. Please note that for the domestic freight, 90% of the data correspond to land transportation. So by now, as it is most of the time impossible to identify the mean of transport from a coordination to a project, we assume a land transportation by road, associated to an emission factor of kgCo2 /€. By now we apply the EF ID 41014 “Land Transport”, but Climate Smart will try to design one more accurate thanks to the supply chain available data in terms of Km Hinterland done, and also in collaboration with the Air Cell.
- **Capital Goods and Investments**: please refer to the section “Accountancy extract” and the index at the end of the documents, explaining how to manage your financial data
 - **Business travel**: Please refer to the section “Air Travel”
 - **Commuting**: Please reuse the number of staff per countries (HQ and Field).

You need to collect the staff commuting data (of the entire staff or of a representative sample) at HQ level to know how people are coming to work and then calculate the distance done by mean of transport. Please note that the commute can vary a lot, depending on the % of workload the employees have (if you work 50% you can commute twice less or the same), or also according to the compulsory number of days in presential at the office.

For field staff commuting, Climate smart is checking with different coordinations if the estimations used for 2019 seems realistic and will provide you the % of means of transport and number of km to consider averagely.

In you do not have any data, by now we advise you to use the following hypothesis:

Mean of transport		Gasoline consumption per person	
10%	cycling or walking (0 CO2e emission)	0	L / 100kms
78%	Collective transport (bus, taxi moto, etc.)	0.5	L / 100kms
10%	individual moto	5	L / 100kms
2%	Individual car	11	L / 100kms

Average daily distance (2x commuting distance I): 10 kms/day and Average working days per year : 229

Calculation

>>> 1.11 L/100kms of estimated consumption
 so 0.111 L of gasoline/staff per day
 so 25.4 L of gasoline/staff per year

Then multiplies it per your number of field staff.

- **Fuel not included in scope 1 and 2** : please see the TF 1 and 2
- **Waste**: ideal case will be to be able to track the volume of waste per type over the year. And then apply to related emission factors. If this kind of data is not available, please provide you the number of staff that you have per project / field for the year involved in the calculation. We assume that at the moment the methodology used for 2019 was a very rough and non-satisfactory at all.

But so far, please apply the following methodology: consider that we “produce” 2,83m3 of medical waste per FTE. And that each m3 contains 240 kg of waste. (documentation available in OCP and OCB methodological reports).

Multiply your number of staff per countries by the 2,83*240 to obtain the number of kg of waste by countries. Then apply the EF ID 70001 to have the co2e emissions.

NB: Thanks to an OCG pilot project, Climate smart will provide you an estimation of Kg of waste per staff per type of waste that will allows you to calculate the total of kg of waste.

DATA SETS IN THE MOVEMENT

PHYSICAL DATA

Every time you manage to get physical data, it will be the prioritized data that you will use. You will then delete the accountancy one related to these physical ones from your carbon footprint calculation.

NB : Every time that you get physical data, please check if the amount that you have in accountancy for this section is quite comparable to the physical one. For instance, if you consume 1000L of fuel for 2022, but that you have 1M€ of fuel cost in the accountancy, some physical data are clearly missing.

Fuel follow up (Scope 1) :

For the Fuel, for instance in OCP and Epicentre, it exists a fuel follow up per field, injected in MEMO, an HQ software. So these entities will directly use physical liters of fuel for both stationary and mobile consumption.

You have to separate the stationary use from the mobile one, and to associate with the emission factor related, according to the type of fuel.

For the other entities whose do not have a fuel follow up, please refer to the Index, to get more details on the way to manage your financial data.

➔ You will find more details and guidance in the TF1 and TF2.

List of equipment (for fugitives of facilities and cars – Scope1):

Try to get the number of AC system and you have, both for the cars of your entity and for your projects (equipment in offices, guesthouses, labs, pharmacies....)

If any data is available, try to speak with the Dir Log or Log manager to reach a realistic estimation of your fleet and your facilities.

Then apply % of fugitives of gazes per equipment according to their power. The methodology will be adjusted with the CAA expertise, more information to come.

➔ You will find more details and guidance in the TF4

Fugitives from anesthetics (Scope 1)

This part is still under process. Climate Smart is working with CAA to determine the best methodology on that, and in the Climate Smart Power BI we are on our way to integrate a dashboard dedicated to halothane and isoflurane to allow you to get your quantity and volume used per country and per entity.

Electricity follow up (Scope 2) :

If you manage to get electricity consumption in your different fields, you will just have to apply the EF related to the country involved for the year considered.

Climate Smart advises you to try to collect physical data in some of your countries of operations, and to manage financial data for the rest. Please refer to the Index, to get more details on the way to manage your financial data.

➔ You will find more details and guidance in the TF3

Air travel (Scope 3):

International Air Travel

Please ask your travel agency (AMEX for OCG, OCB, OCA, Wagram and AIR France for OCP, and CWT for OCBA) to provide you the entire detail of the flights for the year involved. They should provide you all the flights with indication of prices, airport of departure and arrival, stopover per flight, kms. They even sometimes provide you Co2 indication, but please do not consider it, they tend to underestimate.

You will have to sort the database out to get the number of km per flight.

- For files with the details of Kilometers:
 - o You can directly combine with the emissions factors related, sorted by Short, Middle and Long Haul

NB: Your data base is designed with the routing detail per travel. Please consider the distance between to departure and arrival destination, and apply the relevant Emission Factor as follow:

Cat Vol	Cat Flight	Emission factor
0- 1000	1	0,25858
1000-3500	2	0,18746
>3500	3	0,15196

- - o Calculate the ratio of Co2/€ according to Short/Middle/Long
 - o Apply it to the other international air transport you have in your accountancy, once you deleted the data with the 3rd part AMEX
- For files without the details of Kilometers:
 - o Please isolate the departure and arrival location with the IATA code
 - o Estimate the flying distance thanks to: <https://www.icao.int/environmental-protection/Carbonoffset/Pages/default.aspx> (you can have a look on the methodology here : https://applications.icao.int/icec/Methodology%20ICAO%20Carbon%20Calculator_v11.1-2018.pdf)
 - o Please take only the KM information, not the emissions. Then you associate each flight to a category and to a factor of emission.
 - o Calculate the ratio of Co2/€ according to Short/Middle/Long

Apply it to the other **international air transport** (You will have to identify the mean of transportation in all the accounting codes related to travel for passengers) you have in your accountancy, once you deleted the data with the 3rd part AMEX

National Air Travel (Scope 3 on going)

Exploring the Air Cell will allow us to define ratios for national flights. Indeed they might be different from the international ones.

Climate Smart will explore these data and provide you the information. Nevertheless, in the AirCell database, the expenses information included all the services made by the AirCell, whereas the quantities are only related to fuel. So the ratios of fuel per € spent has a tendency to be minimized, so Climate Smart has to go deeper in the data exploration to get more precision and to build relevant ratios.

On your side you will have to ensure first that in your accountancy you are able to sort your “National/Domestic Transport” by mode of transportation to apply these ratios to the air transport only.

Air Cell database

This data base sent by Philippe de Saint Georges will give you additional information about freight and passenger transportatio in Physical data ensured by the Aircell. Please use directly information per countries and apply the EF for A1Jet Fuel.

Financial data

Accountancy extract

First, you must collect all the accountancy of your entity, with all the expenses of the year for which the carbon footprint is calculated.

This database is the central one of your carbon footprint analysis which allow you to:

- Know the nature and breakdown of expenses.
- Collect financial activity data such as purchases of services (e.g. insurance, bank charges, maintenance, telephony, etc.).
- Analyze and list expenses to ensure that all activity data to be collated has been identified.
- Compare, after collation, **whether the physical data collected is consistent with the expenditure items.**
- Extrapolate or estimate activity data if more accurate data is not available. Extrapolation and estimation methods are explained in the methodological sheets by emissions category. It could concerns the creation of ratios of quantity per euros spent, or conversion from expenses to physical data.

Do not forget to ask for the entire extract:

- With the Fixed Assets list (you will have in this part the information for the capital goods bought during the year. Indeed, in carbon footprint calculation, we consider all the carbon emitted to produce these goods the year of buying). The fixed assets will be considered as Capital Goods. Depending on your policy at HQ level, field equipment is (or not) included in it.
This list is used to list equipment purchased (IT, vehicles, materials, etc.). Field equipment must be included, even if not considered an Asset. The idea is to separate the footprint of consumable and durable. So even if a car is not depreciated in the field accounting, it must be accounted in the capital goods.
Please note that in the humanitarian sector, very little equipment is capitalized; it is often recorded as consumables.
- With the third parties information (e.g the supplier information we buy to: MSF LOG, AIR FRANCE, AMEX, etc...)

Then, you will manage your accountancy data:

- Please use the correspondence table which links each accountancy code that you have to a category of emission + one emission factor and the year of this EF¹. When the year of the EF is not the one of your calculations, please adjust it with the inflation (table accessible in the Sharepoint, entitled "Coefficient to apply on emission factors").
- For the accountancy code where "FILTER" is indicated, please proceed to a manual sorting (please see the index for more detailed guidance on how to process).

Climate Smart Power BI report: International Supply Chain (including international procurement + international purchased goods)

¹ Please refer to the index to learn more about the actualization of the Emission Factors used.

For all the international procurement (orders from MSF LOG, MSF Supply, APU), all the data have already been calculated in a power Bi available here: [Climate Smart international procurement](#)

Please collect directly the Co2 information available for both procurement (outbound freight transportation) and items ordered for your entity for the year involved per mission.

For the inbound freight, Climate Smart will give you the repartition of the 3 supplies centers freight to use for your entity. We propose to refer to OCB's methodology done for 2019 footprint, e.g identify inbound rates per OC:

"To identify OC's supply chain carbon emissions, we use a pro-rata for each section per ESC. This pro-rata is built with the repartition of the weight sent to each OC. For example, if 50% of the weight sent by MSF Supply corresponds to OCB, then 50% of the emissions of the inbound freight of MSF Supply will be charged to OCB. We add up all the weight of the purchases made per section by ESC. We consider the t.km by mode of transport and the t.km hinterland² done between the tier supplier and the ESC for each ESC".

NB: every time you will use data from other datasets than the financial one, do not then forget to delete the financial data related to it. Here, for the international supply chain, it will correspond to the lines with the 3rd part "MSF Log", "MSF Supply", "APU". Please check if the amounts are coherent between the Power BI and your accountancy (note that sometimes the 3rd part is not always written the same, so check with "MSFL", "MSFS", "SUPPLY" etc...). If the physical data collected is not consistent with the expenditure items, or if there is a gap in the total, you will have to explore why.

INDEX

Carbon Footprint Template

You will find into the Sharepoint an Excel file entitled (OC_Footprint_Template) in which we invite you to fulfill your data per category.

All the columns indicated in this document are necessary for Climate Smart to ensure an harmonized data centralization and to be able to deliver info at movement level regarding emissions per country, per category, with the uncertainty information, etc.

Detailed indications to manage financial data

As a general information, there is some accountancy codes which contains lots of different types of purchased link to a specific activity, but not to a specific type of emission. What we advise is to have a look manually in the following codes, and act as precisely as possible. When 80% of the expenses in there corresponds to the same stuff, please go ahead with one categorization for the entire data included. When there are many different types of expenses, please take time to sort everything per different category, and affect the correct emission factor (for instance, the codes related to travel are clearly mandatory to filter).

Please note this list of emission factors provided is subjected to change, according to the apparition of new more accurate and specific factors but also according to the inflation rate.

Specific management of the codes indicated FILTER are detailed on the sheet "FILTER index" in the Excel File.

For **train travel**, by now you can convert the amount spent by km according to the following table, and then apply the EF ID from 42001 to 42005 according on the type of train if you are able to identify it :

Member state	Revenues from passenger transport services 2018 [EUR per pax-km]	Share of commercial fare from revenue	Cost per personne.km (EUR per pax.km)
LU	0.460932127	0%	0
DK	0.227165184	0%	0
CZ	0.164443613	14%	0.023306047
DE	0.156956957	47%	0.073029714
FR	0.154049514	71%	0.109115963
AT	0.149851574	34%	0.051651159
NL	0.138888889	100%	0.138888889
EE	0.132930753	9%	0.011571451
HR	0.127824074	1%	0.001800444
SI	0.126828785	2%	0.002328324
ES	0.126283836	65%	0.082234062
LV	0.124123018	27%	0.03315675
IT	0.121169716	58%	0.070746655
EL	0.097867946	0%	0
IE	0.09684612	0%	0

SE	0.092271352	44%	0.040649579
FI	0.091870783	4%	0.003895803
BG	0.080047992	7%	0.005510073
PT	0.064108456	90%	0.057733027
PL	0.059276975	24%	0.014323926
LT	0.05831019	49%	0.02852382
HU	0.032245305	7%	0.002097812
SK	0.028696531	16%	0.004515791
EU27	0.129697953	51%	0.065742474
NO	0.247885029	1%	0.003437025
UK	0.18970449	9%	0.017158357

For the road travel and all the reimbursement of road feed from MSF to its staff, please use the EF IF 41014. If you manage to be sure that this is subcontracted transport or taxis use, please use the 41012.

Monitoring of the emission factors

As you can see in the list of Emission Factors, each one has a year of “creation” and a data source. Most of them that we use by now are coming from the Humanitarian Carbon Calculator (whose team built the base thanks to sources like ADEME, ECOACT, QUANTIS mainly). When we estimate that these emission factors are not specific enough, we have directly chosen emission factors from QUANTIS, or ADEME. All the years and data sources are indicated in the Excel File called “Classification.summary”.

Nowadays more and more research exists on the emission factor development, to be more accurate and precise on our carbon footprint calculation.

As Climate Smart, we are not dedicated to ensuring a proper monitoring, but as an agreement with the Climate Action Accelerator, we will try to update them as fast as possible. They will be in charge to look for new emission factors, to check the relevancy, and the sources, and they will give the green light to use new ones. These new factors will then be included in the Humanitarian Carbon Calculator list. Then it will remain Climate Smart’s responsibility to update our guideline list accordingly.

Of course, if one of you is aware of some news, or remark than one emission factor can be more accurate than the one we indicate, your comments are more than welcomed.

LIMITATIONS ON THE METHODOLOGY

According both to the actual availability of data in MSF, and to the number of emission factors available on opensource, please consider the monitoring of Co2 emissions very carefully.

Indeed, the prices volatility is currently important, due to the inflation rates but also to external geopolitical factors. Therefore, the prices do not automatically reflect the quality or the quantity of the products.

Moreover, the emission factors for all the indirect emission of the Scope 3, are mainly financial (e.g Co2/euros), and correspond to a large scope of items. Which means that somehow if you consider a double use product vs a single use one, it will be probably associated to the same EF. This is a clear limitation of the methodology.

One solution could be to assess a lot of Life Cycle Assessments, but it's a very long and expansive process, out of the scope of MSF, which requires scientific expertise.

Another could be to track more indicators than just Co2 ones, and to develop activity data (real consumption, quantities, etc..)

DRAFT