MEDECINS SANS FRONTIERES
ÄRZTE OHNE GRENZEN

Climate Action
Accelerator

MSF OCG Carbon Footprint Report 2019

[October 2022]

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Executive summary

Médecins Sans Frontières Switzerland (MSF OCG) is an international medical and humanitarian non-governmental organisation, committed to a sustainable and resilient aid delivery model.

The footprint report below, carried out in partnership with the Climate Action Accelerator, quantifies the various sources of greenhouse gas emissions for which MSF OCG is accountable. The approach taken complies with the international standard on the matter (ISO 14064) and follows the GHG Protocol methodology.

The assessment begins by outlining MSF OCG's commitments and explores its different activities to estimate the organisation's CO_2e emissions in 2019. Although incomplete in some respects (water consumption, waste generation), the report can nevertheless give an overview of OCG's emissions. In particular, it highlights the high proportion of air travel and transport in the organisation's activities. This is quite understandable given the nature of the organisation's activities, spanning across the globe, delivering aid where it is most needed.

OCG's total greenhouse gas emissions in 2019 total 68,766 tCO_2e.

A few large items are responsible for more than half of the total footprint:

- Passenger transport by air: 13,235 tCO_2e
- Electricity generation and use: 11,866 tCO_2e
- Purchase of medical or paramedical goods and equipment: 9,230 tCO_2e
- Freight (transport of goods): 5,426 tCO_2e

This brings the total of these four items to 39,757 tCO_2e or 58% of our total emissions.

If we look more closely, the use of aircraft in freight and passenger transport alone accounts for 17,563 tCO_2e or 25% of total OCG emissions.

In addition, the footprint report presents a breakdown by country of intervention. By putting this data into perspective with local contexts, new approaches can emerge with regards to how OCG and all its offices can contribute to reduce emissions. In the final chapters of the report, we explore the limitations of OCG in collecting information, which is not always systematic. Thus, it will be important to drive improvements in monitoring and reporting if OCG is to accurately track and improve its footprint.

The information presented below is intended to help OCG guide its environmental policy, working with teams to find solutions to reduce the organisation's footprint. It is the result of numerous exchanges with people from headquarters, the field and outside the organisation, who should be warmly thanked for their time, patience and efforts.

Introduction

Médecins Sans Frontières Switzerland is an international medical and humanitarian non-governmental organisation. The Swiss section was founded in 1981 and today organises more than 70 humanitarian projects in over 20 different countries.

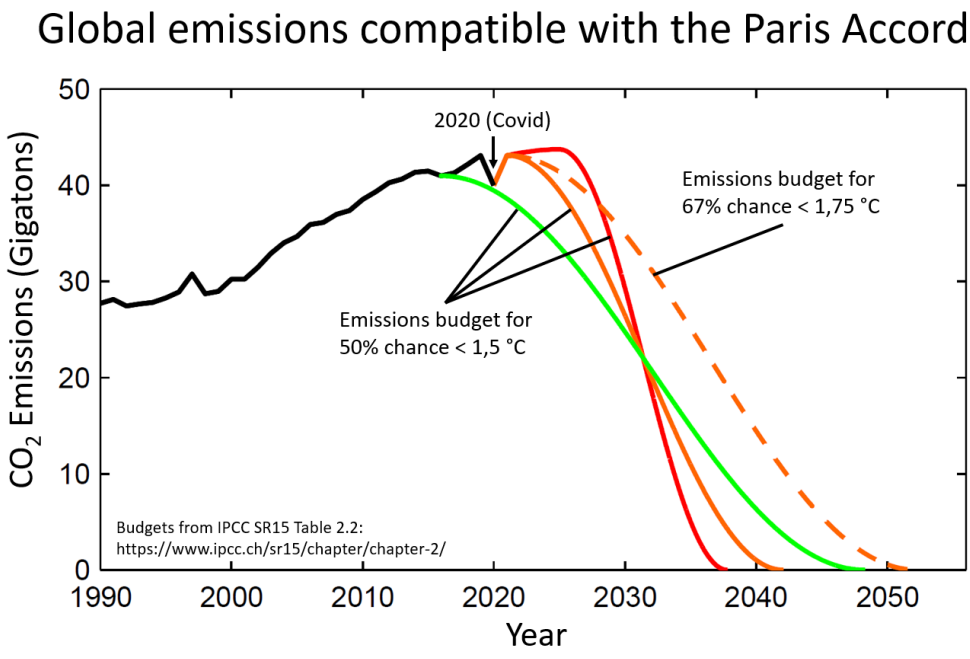
The first carbon footprint initiatives were undertaken in 2009 through a Green Unit, after the Green Motion was voted on at the General Assembly in 2007. As part of an ICT pilot project launched in 2018, OCG was audited by the company Maneco on its carbon footprint. This partial assessment of the Geneva headquarters estimated emissions at 3,747 tonnes of CO2 equivalent, plus 13,117 tonnes for air travel at field level.

In 2020, the organisation pledged to reduce its carbon emissions by 50% by 2030, in line with the Paris agreement, to limit the rise in temperatures to 1.5 degrees Celsius.

This study aims to improve the existing assessments and present a complete footprint. Over a period of 6 months, data was collected and analysed following the principles of the World Resources Institute (WRI) Greenhouse Gas (GHG) Protocol.

MSF OCG commits to science-based targets compatible with the Paris Accord.

The graph below serves as a reminder and a presentation of the objectives of the Paris Agreement (COP21), i.e., the need for a 50% reduction in emissions by 2030 to achieve carbon neutrality by 2050 in order to limit global warming to below +1.5°C. MSG OCG's pledge reflects this global ambition and urgency for drastic emissions reductions.



Methodology

The methodology chosen for this assessment of MSF OCG's carbon footprint complies with the international standard on the matter (ISO 14064) and follows the GHG Protocol methodology, particularly with regards to relevance, comprehensiveness, consistency, transparency, and accuracy. Carrying out a GHG assessment allows an organisation to:

- Structure its environmental policy
- Identify actions to reduce its energy bill and its overall impact
- Assess vulnerability
- Stand out as an example
- Comply with regulations (if subject to them)
- Involve employees or partners in this exercise

What is a greenhouse gas assessment?

The main objective of a GHG assessment is to give a global overview of an activity with an indicator that is not economic (CHF or Euros), but climatic (greenhouse gas emissions expressed in tonnes of CO_2). The greenhouse gases and their impacts are defined in the Kyoto Protocol (CO2, CH4, N2O, HFCs, PFCs, SF6)[1]. In addition to these, there are a number of so-called "non-Kyoto" gases, including halocarbons (similar to HFCs, PFCs), which are found in air conditioning systems, which are relevant here as they are emitted through MSF OCG's activities.

Methodology for calculating emissions

To calculate OCG's GHG emissions, we collected activity data (€, km travelled, litres of fuel consumed, etc.) and multiplied them by an emission factor[2] to calculate their equivalence in terms of the quantity of CO_2 emitted[3]. As different gases have a different global warming potential (GWP) they are converted to CO_2 equivalents to allow for streamlined reporting.

[1] Carbon dioxide (CO2); methane (CH4); nitrous oxide (N2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF6).

[2] Emission factors are developed by measuring the life-cycle emissions of products or services, i.e. the emissions required for their manufacture, operation and disposal.

[3] GHG emissions are always expressed in Kgs or tonnes of CO_2 equivalent (CO_2e).

Perimeter of the evaluation

Determining the scope of the evaluation is a crucial step. It determines the scope and comprehensiveness of the study as well as the period covered. It must certainly include all the entities and activities that enable the organisation to carry out its social mission. Once the scope has been defined, it is validated by the organisation.

Organisational scope

The carbon measurement is applied to all entities that are financially dependent on OCG. This includes the Geneva headquarters (excluding the International Office), the Zurich headquarters, the Dakar cell, as well as all countries where OCG has made an expenditure. The Austrian section, although institutionally attached to MSF Switzerland, does not appear in the budgets and expenses of OCG, so this section is not included in our scope. In the case where several MSF sections occupy the same space (Dakar, Uganda, ...), the emissions considered are those due to an effective expenditure of OCG. This perimeter includes:

HQ	Geneva, Switzerland
Field offices	29 countries[4]
Financial participation	MSF South Africa, MSF Canada, MSF international, CAMe, DNDi, International office, Epicentre
Employees	~6700
Budget	260 M CHF

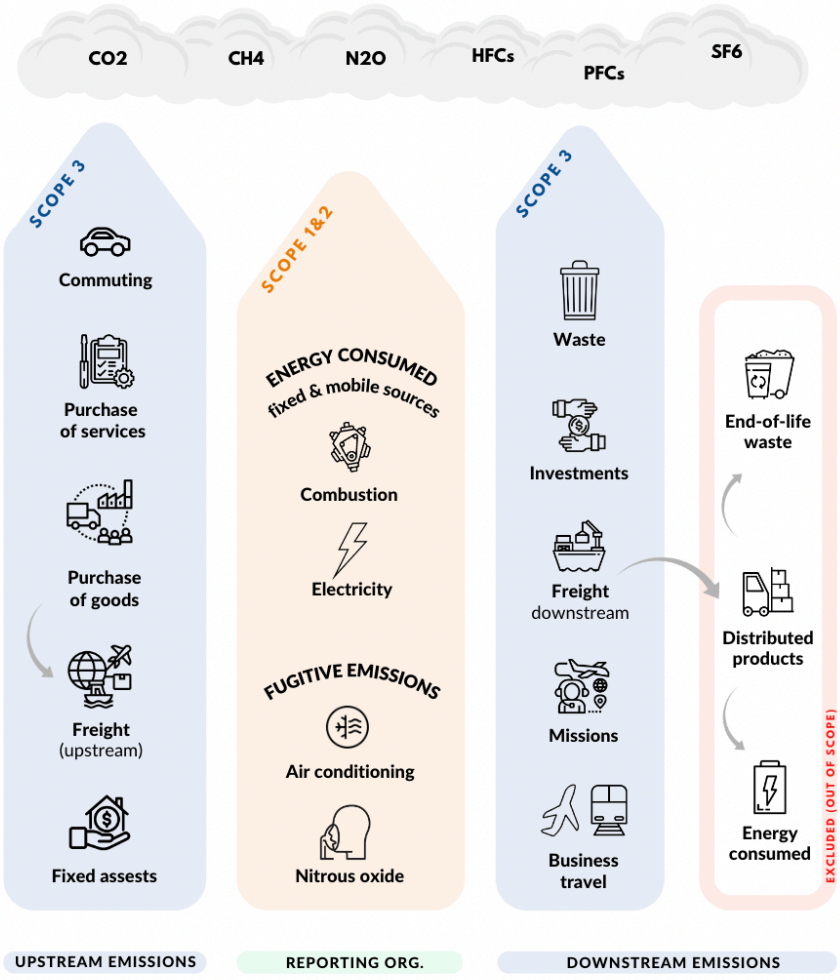
[4] See annex 4 for more details

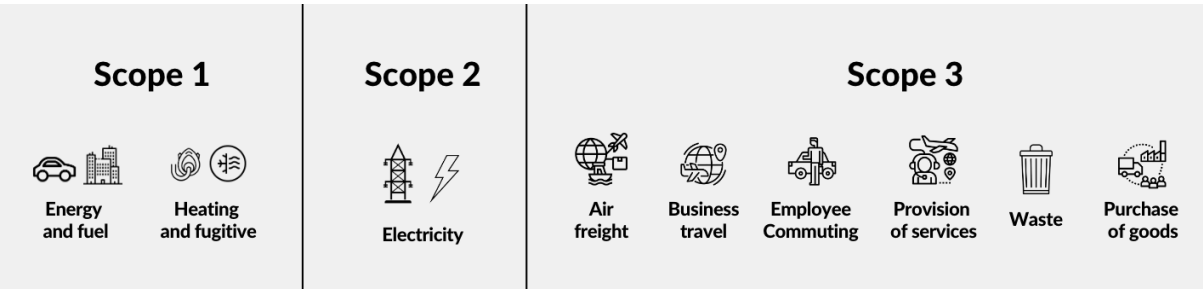
Operational scope

International carbon accounting classifies greenhouse gas emissions into three groups:

- Scope 1: direct emissions from the combustion of fossil fuels,
- Scope 2: indirect emissions associated with the consumption of purchased electricity, cooling and heating,
- Scope 3: all other indirect emissions.

The operational scope defines which processes of the organisation are included in the measurement. It includes all activities for which the organisation is considered responsible. In the case of OCG's carbon footprint, the operational scope can be visualized as follows:





Selected emission sources

It was decided that all significant sources would be included in the scope of the study.

- Scope 1 and 2 in full:
  - Fuels for stationary and mobile use
  - Electricity purchased
  - Fugitive emissions from air conditioning units
- Scope 3:
  - Purchased goods and services
  - Fixed assets acquired in 2019
  - Fuel- and energy-related activities not included in Scope 1 or Scope 2
  - Transportation and distribution (freight)
  - Business travel
  - Employee commuting
  - Waste

Excluded emission sources

- Scope 3:
  - Use of distributed product: lack of data and information on the use of these objects
  - End-of-life treatment of distributed products: lack of data and information
  - Downstream and upstream leased assets: not relevant
  - Investment: not relevant[5]

Main limitations in the assessment of certain emission categories

Among the categories of emissions included in Scope 3, some have been subject to the following limitations:

- Commuting: Only the home-to-work travel of head office employees was collected through a survey. Commuting emissions from the field are a hypothesis, based on travel modes as gathered from discussions with field managers.
- Water consumption: among the "purchased goods & services", the volumes of water consumption could not be estimated from the financial values.
- Fugitive emissions: as it was not possible to account for the appliances (air conditioning and cold chain) and the refrigerant gases contained in the equipment, we estimated fugitive emissions by hypothesis according to the missions' budgets.
- Waste: Not all waste could be taken into account. Only medical waste was considered. A study on medical waste volumes by MSF in Oman allowed us to estimate the volumes for all missions. Not included in this evaluation are the treatment of water consumed, the end of life of the equipment owned, waste from the headquarters, etc.

[5] The category "investments" from the GHG Protocol does not apply for MSF OCG, as it is designed for companies and private financial institutions (see more here). Financial support is a more accurate terms of MSF OCG's "investments" (as defined by the ICRC's humanitarian sectoral breakdown).

Temporal scope

The measurement is for a full year and represents the year 2019, in order to define a baseline measurement for OCG that does not consider the disruptions related to COVID-19. Indeed, the years 2020 and 2021 were strongly impacted, drastically reducing air travel in particular. The emissions retained are those induced by expenditures actually made in 2019. Thus, products purchased at the end of 2019 and received in 2020 are accounted for in 2019. Similarly, products received in 2019 but purchased in 2018 are not included in this measure.[6]

[6] For example, an electricity bill from 25 December 2018 to 25 January 2019 is included in the scope of the study because it is paid in 2019. However, the bill from 25 December 2019 to 25 January 2020 is not included. As it is not possible to discretize the electricity consumption by day, this assumption has been retained.

MSF's 2019 Carbon Footprint

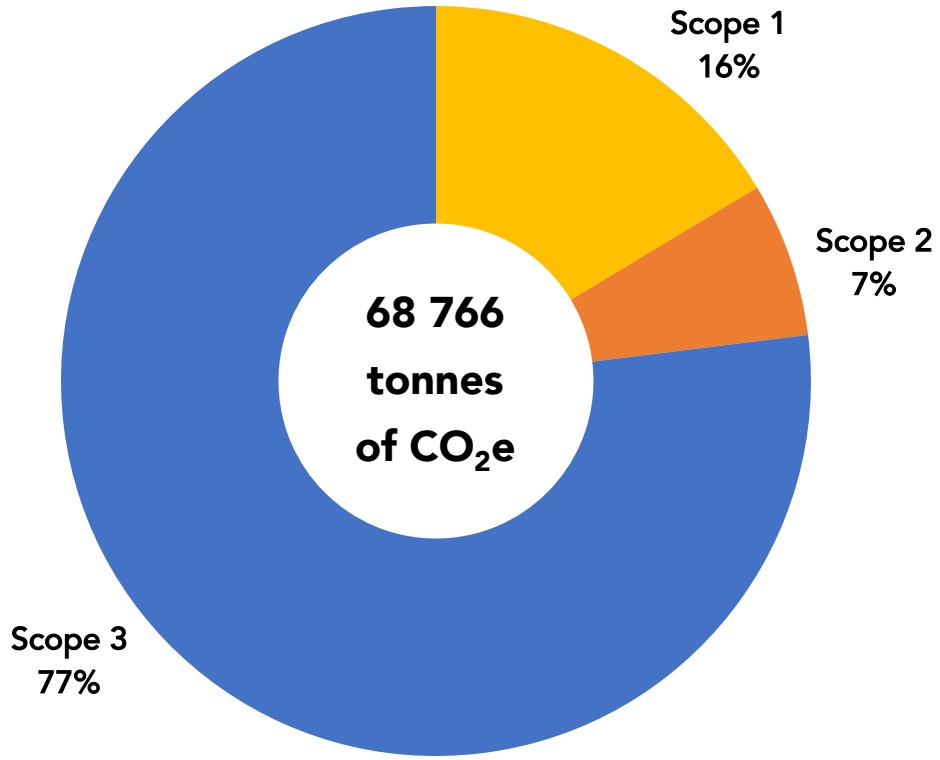
The results of this carbon footprint will be presented in two forms:

1. An analysis by Scope 1, 2 and 3 in accordance with the GHG Protocol
2. An analysis by emissions category: the analysis by emissions categories and sub-categories will be more detailed.

Global carbon footprint by scopes

OCG's greenhouse gas emissions in 2019 total 68 766 tCO_2e, as shown below. Direct emissions from scope 1 represent 16% of the total footprint. Scope 2 emissions account for 7%, and finally, Scope 3 emissions account for 77%.

The level of uncertainty of the assessment amounts to 63%. Thence, the total carbon footprint can be situated in a lower or higher range, between 112,088 and 25,444 tonnes of CO_2e[7].



[7] The calculation of emissions entails a certain level of uncertainty, related to: 1. The qualitative or quantitative reliability of data pertaining to the activity; 2. The level of uncertainty of the chosen emission factor (data available in carbon databases). The level of uncertainty is estimated and expressed in % of the total footprint. A footprint with an uncertainty level of 40% means that the total can be 40% higher or lower than the emissions provided in the footprint.

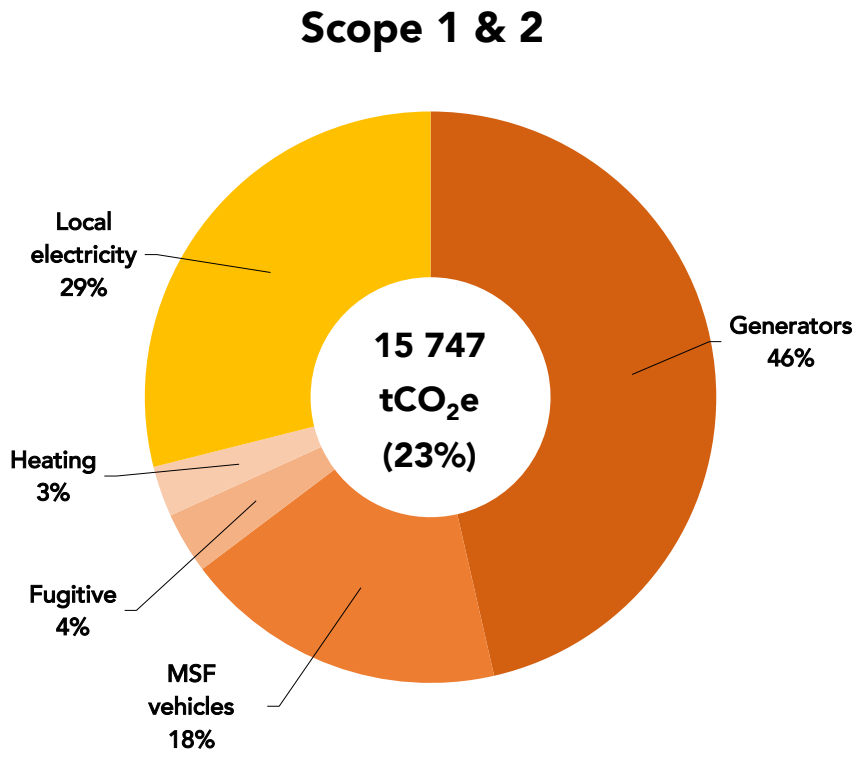
Analysis of Scope 1, 2 and 3

Scope 1: 16% or 11,200 tCO2e

This scope accounts for the organisation's direct emissions generated by the combustion of fossil fuels, such as oil or gas for heating or fuel for the vehicles owned by the organisation (represented in the orange hues in the graph below). MSF OCG's scope 1 is mainly composed of the generation of electricity via generators (diesel combustion) with 7,311 tCO_2e, representing 65% of scope 1 emissions. Emissions from fuel combustion in vehicles represents 26% with 2,882 tCO_2e; fugitive emissions (refrigerant gas leaks in refrigerators and air conditioners) accounts for 5% (i.e., 548 tCO_2e), and emissions resulting from the heating of premises (via gas or coal) represents 4% with 451 tCO_2e.

Scope 2: 7% or 4,500 tCO2e

Scope 2 includes indirect emissions related to the consumption of purchased energy: in this case, the consumption of electricity from the grid (in yellow, in the graph below). As MSF OCG do not use any steam or cooling networks, OCG's scope 2 consists exclusively of the purchase of electricity. The purchase of electricity from local networks therefore represents 100% of scope 2 and 6.6% of the total OCG emissions. It represents 29% of Scope 1 & 2.

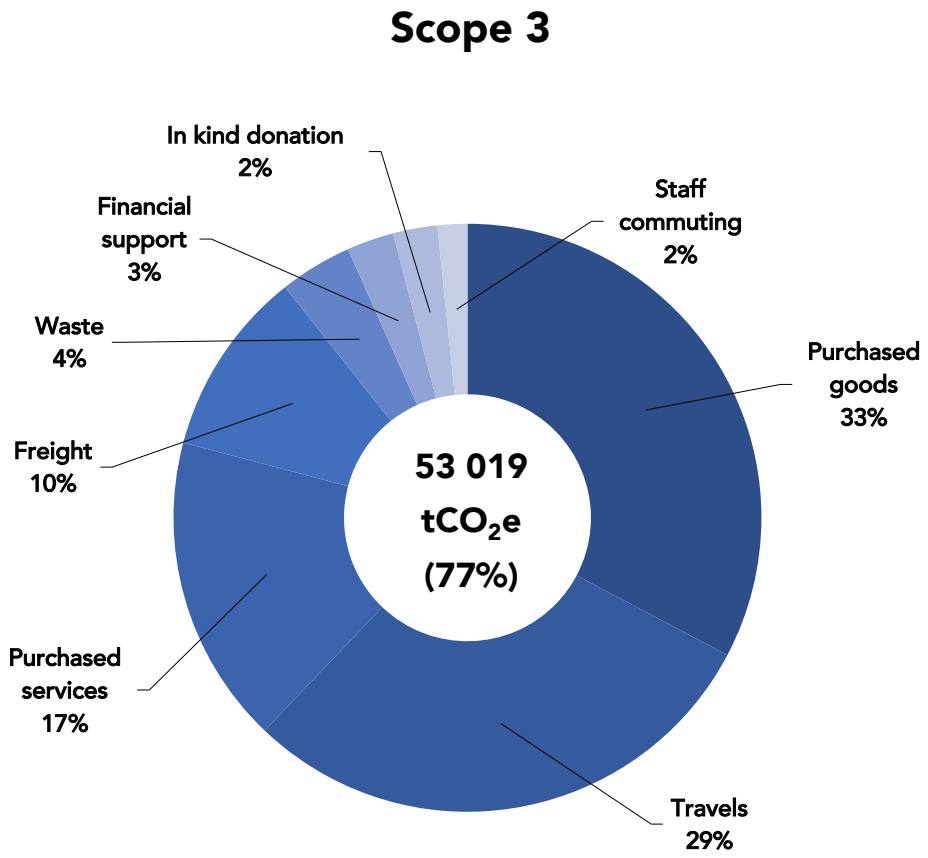


Scope 3: 77% or 53,000 tCO_2e

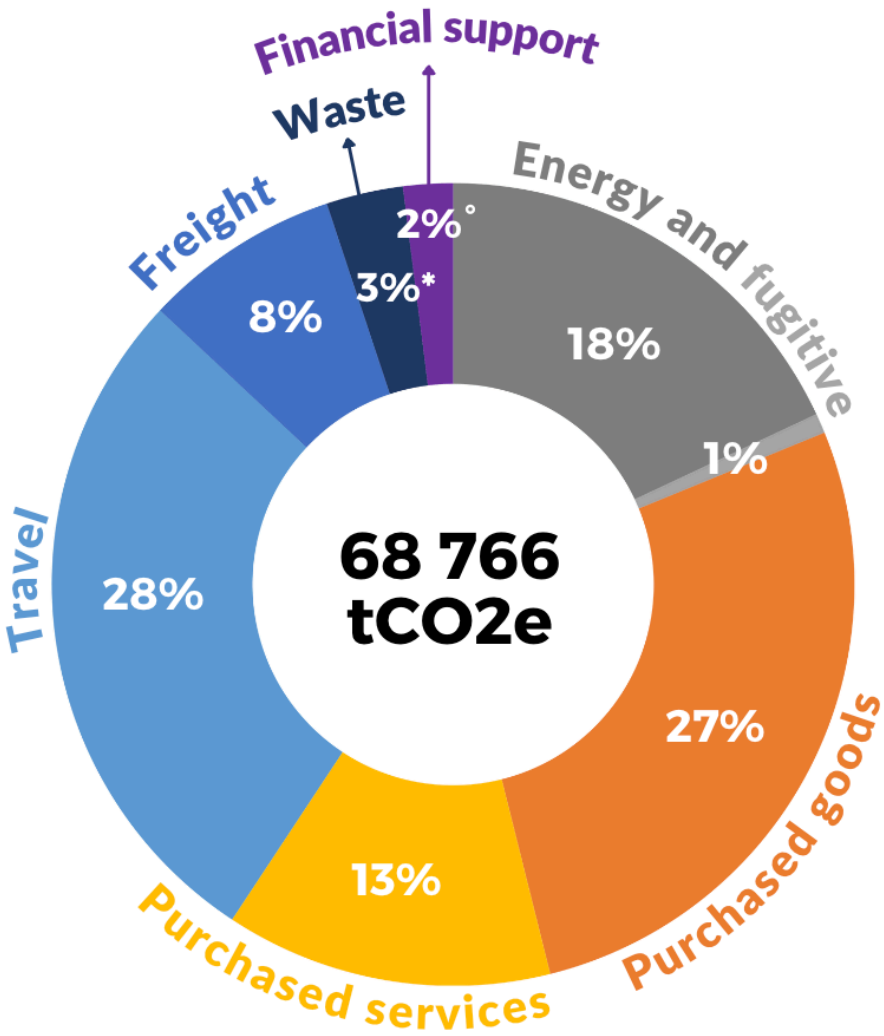
Scope 3 includes all other indirect emissions induced by the organisation's activity, such as: emissions from purchased goods and services, business travel and employee commuting. The posts of emissions from Scope 3 are as follows:

- **Purchase of goods**: 33% of Scope 3
- **Air travel**: 29% of Scope 3
- **Purchase of services**: 17% of Scope 3
- **Freight** 10% of scope 3
- **Waste**: 4% of Scope 3
- **Financial support**: 3% of Scope 3
- **Donations**: 2% of Scope 3
- **Staff commuting**: 2% of Scope 3

Emissions from OCG's activities are heavily dependent on Scope 3. We can observe that "goods", "travel" and "services" alone account for almost 80% of scope 3 emissions. A more detailed description for each emission category is provided in the section "Details of emission sources by category". This brief analysis already helps us to identify activities which are the most important carbon emissions sources.

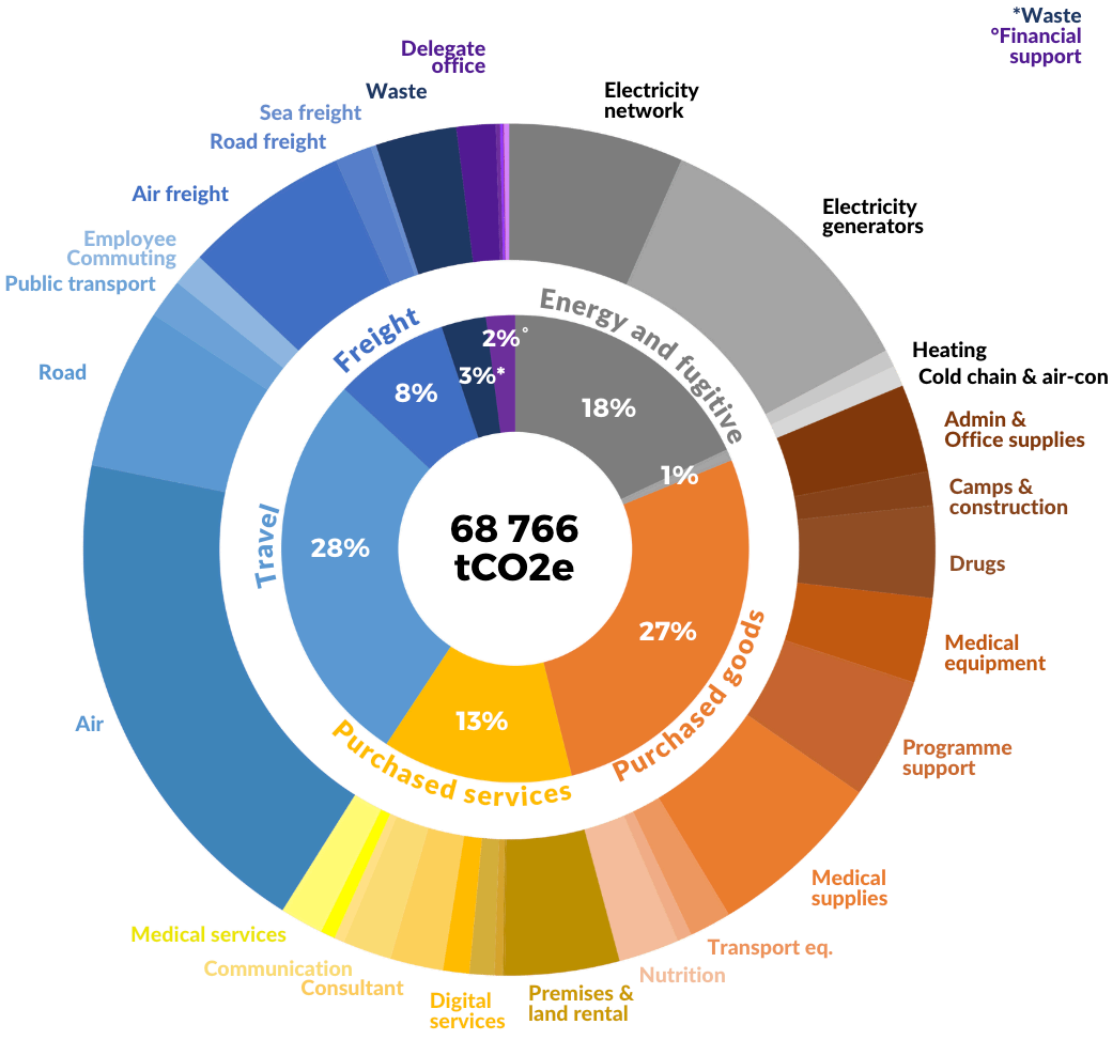


Global carbon footprint by emission category



This breakdown, proposed in particular by the humanitarian sectoral recommendation drawn up by the ICRC, provides a more operational overview of the composition of OCG's carbon footprint. MSF OCG carbon footprint is particularly concentrated in three categories of emissions: transport (particularly travel), energy, and purchases (particularly purchase of goods). These account for over 70% of the organisation's total emissions. In the graph on the next page, a more detailed look into each of these categories can be found; the subcategories within each category, which also correspond to the sources of emissions and data points collected, are outlined.

Emission sources by category and sub-category



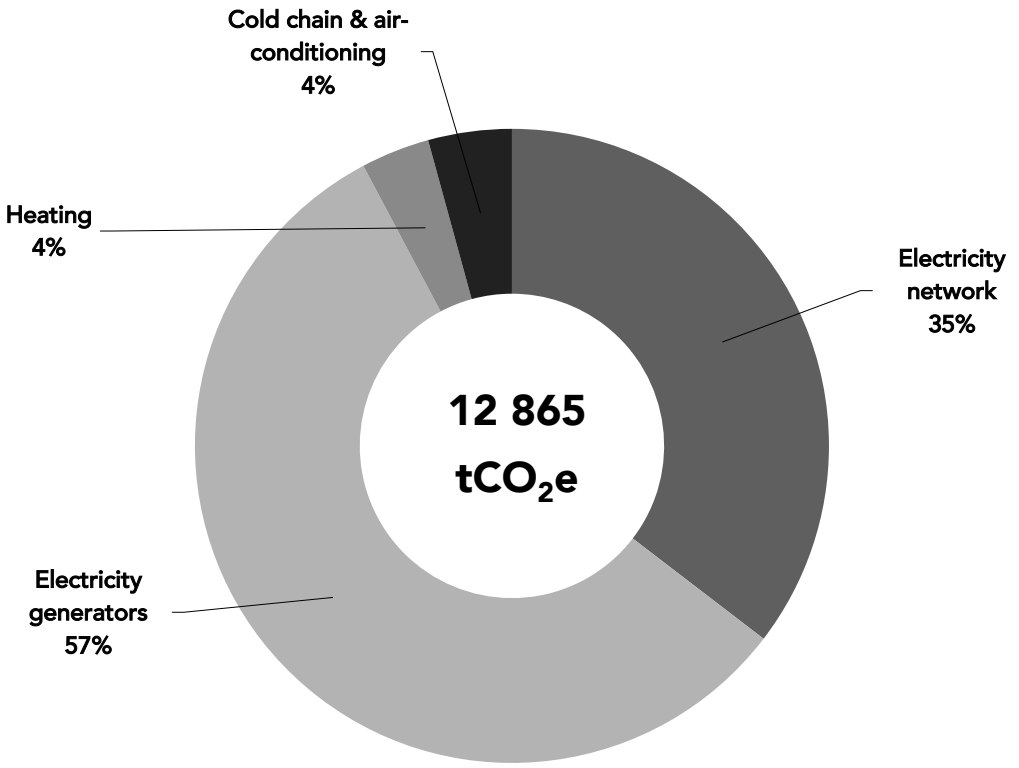
- All purchases represent 40% the total footprint, i.e., 27,661 tCO_2e.
  - *Purchases of goods: represent 27% of the footprint or 18,649 tCO2e.* This is mainly composed of medical equipment and supplies as well as others including office, transport, construction, and programme support equipment.
  - *Purchases of services represent 13% of the footprint, i.e., 9,013 tCO2e.* This covers the emissions coming from services performed by external providers.
- All transport represents 36% of the footprint, i.e., 24,756 tCO_2e
  - *Travel represents 28% of the footprint, i.e., 19,329 t.CO2e.* It is mainly business travel, particularly air travel, as well as road and public transport.
  - *Freight represents 8% or 5,426 tCO_2e of the footprint.*
- Energy and fugitive emissions together represent 19% of the footprint, i.e., 12,865 tCO_2e. Energy (with 18%, i.e., 12,317 tCO_2e) represents the emissions from electricity consumed on the local networks or produced by the organisation itself.
- Waste represents 3% (i.e., 2,115 tCO_2e) and financial support 2% (i.e., 1,369 tCO_2e).

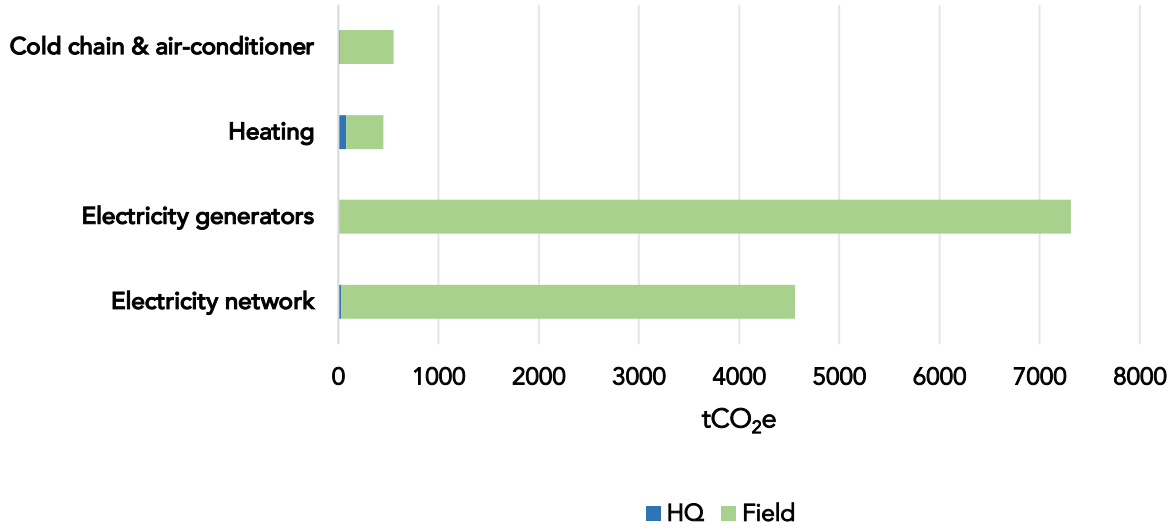
Details of emission sources by category

The categories below are each represented in detail, in the order that they are appear in the footprint diagram above (clockwise):

Energy and fugitive emissions

Energy-related emissions accounts for 19% of the total footprint with 12,865 tonnes of CO_2.





Energy and fugitive emissions: analysis

Energy, with 19% of emissions, i.e., 12,865 tCO2e, is the organisation's third largest GHG emission source. This category of emissions represents the electricity consumed by the organisation's headquarters and 29 field offices. Most of the CO_2 emissions in this category stem from the field: around 99% of the emissions are located at field offices and only a little less than 1% at headquarters.

92% of these emissions are related to the use of electricity, either via generator or via the local electricity grid (12,317 tCO2eq), 4% to the use of fossil fuels for heat production (gas, coal) and finally 4% for fugitive emissions from refrigeration systems.

- Electricity (4,555 tCO_2e) and Generators (7,311 tCO_2e), 92% of this category.

The generators are used when the local electricity grid is not satisfactory for the smooth running of activities. They represent 7,311 tCO_2e of GHG emissions (or 10.7% of OCG's total footprint). In comparison, 1kWh produced via a diesel generator has, on average, the same impact as 47 kWh from the Swiss electricity grid.

Use of electricity on the local grid accounts for 4,555 tCO_2e (or 6.7% of OCG's total footprint). These emissions are directly linked to the energy mix of the countries where OCG operates. Indeed, 1 kWh in Iraq has the same carbon impact as 37 kWh in Switzerland.

- Heat production: 451 tCO2eq, 3.5% of this category

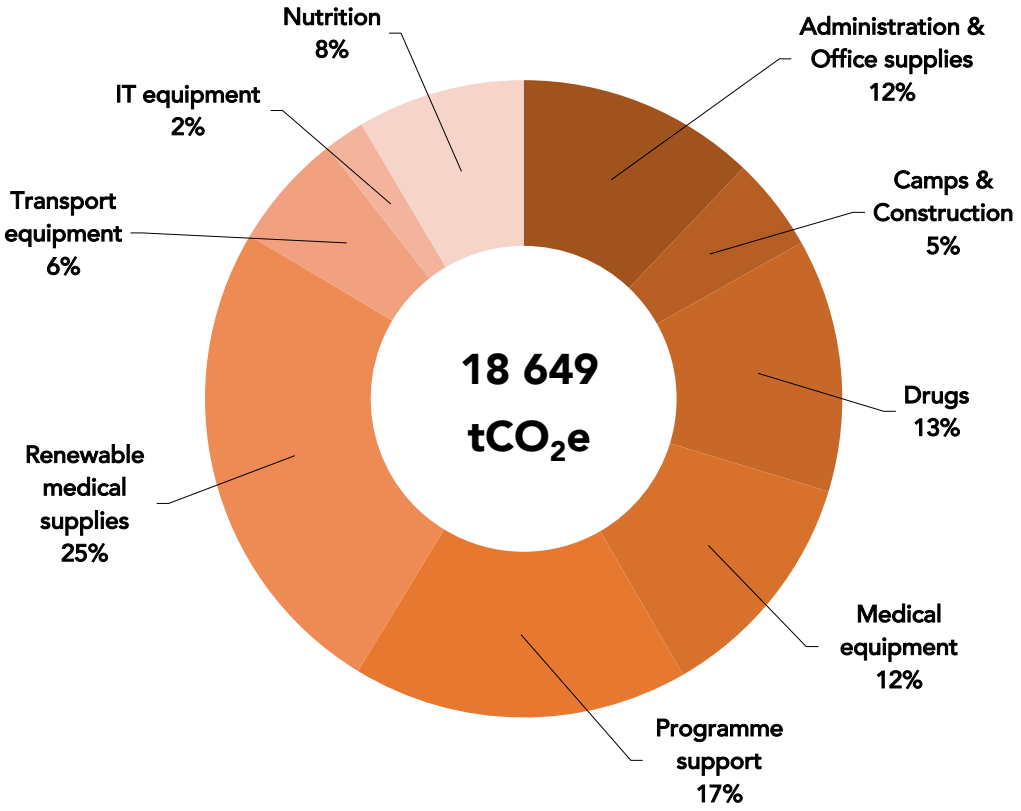
Fossil fuel use represents 451 tCO_2e. This is 0.6% of total emissions. Gas combustion, for heating and cooking, is responsible for 0.36 ktCO2eq, i.e., 0.7% of OCG emissions, while coal combustion is responsible for 0.06 ktCO2eq or 0.01% of total emissions.

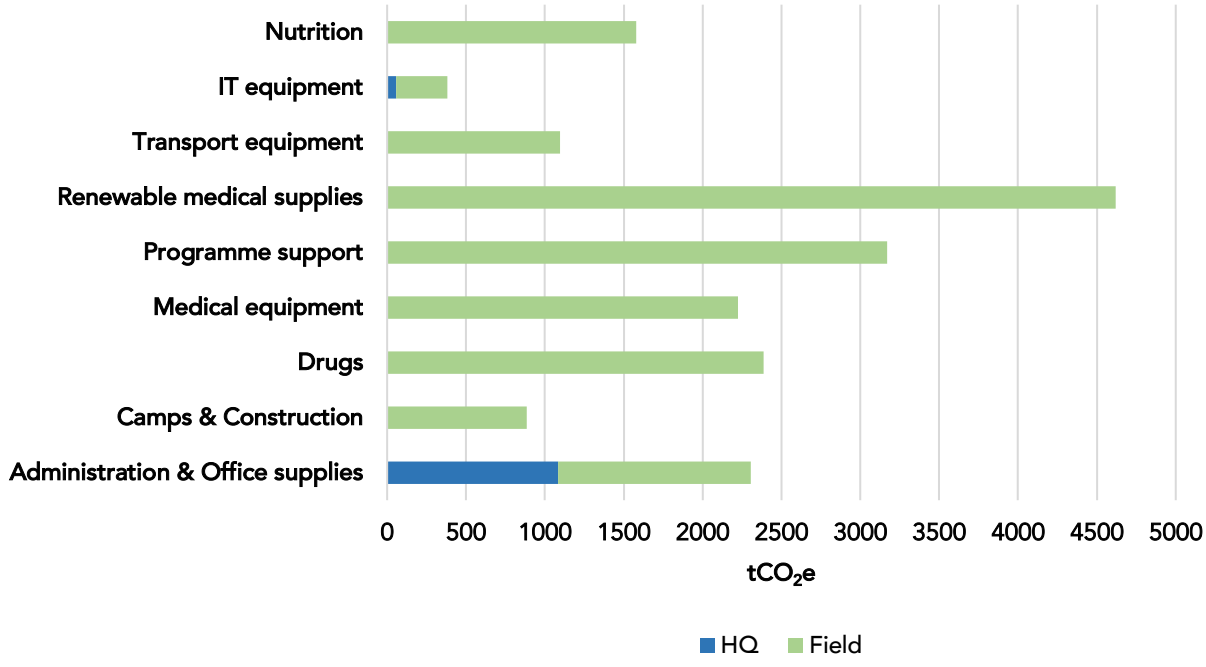
- Fugitive emissions: 548 tCO_2e, 4.2% of this category

In the case of OCG, these emissions represent about 548 tCO_2e or 0.8% of the total emissions. It was not possible to obtain precise values for all projects. Indeed, this calculation requires a lot of information such as the power of the appliances, their quantity, their gas capacity, and the type of gas used. Thus, we constructed this estimate from information available in a few projects, which we then extrapolated to all missions.

Purchase of goods

Purchased goods account for 27% of the total footprint with 18,649 tonnes of CO_2.





Purchase of goods: analysis

Purchases of goods account for 27% of CO2e emissions with 18,649 tCO2e. This is the second largest category of emissions for MSF OCG. The most emissions-intensive goods purchased are for medical activities (drugs, equipment, supplies) which represent 50%.

- **Medical activities account for 50%** of CO_2 emissions in the purchased goods category, notably: renewable medical supplies (25%), drugs (13%) and medical equipment (12%).

  - **Renewable medical supplies**[8]: This purchasing category is responsible for approximately 4,619 tCO_2e, i.e., 6.8% of total footprint and 25% of this category. This category includes all medical items used to carry out medical procedures, such as syringes, catheters, gloves, dressings.
  - **Drugs**: Medicines come in second position with 2,388 tCO_2e. This represents 13% of purchases and 3.5% of OCG's total footprint. Although the use of medicines seems to be part of the core business of the organisation, its impact is quite small in MSF OCG's total footprint. This is mainly due to the emissions induced by all the support activities necessary for the practice of medical procedures.
  - **Medical equipment**: Emissions related to medical equipment (laboratory equipment, hospital furniture, diagnostic imaging equipment, laboratory equipment etc.) accounts for 2,223 tCO_2e representing 12% of product purchases and 3.3% of OCG's total footprint.

- **Programme support represents 17%** of this category with 3,169 tCO_2e (i.e., 4.6% of total footprint emissions). The second item is the purchase of support equipment, this category includes mainly logistical items (cold chain, communication, etc.) which support medical activities.

- **Administration and office** automation products have a footprint of 2,307 tCO_2e, or 12% of purchases and 3.4% of organisation's total footprint. This item accounts for almost all of the equipment purchased for the headquarters.

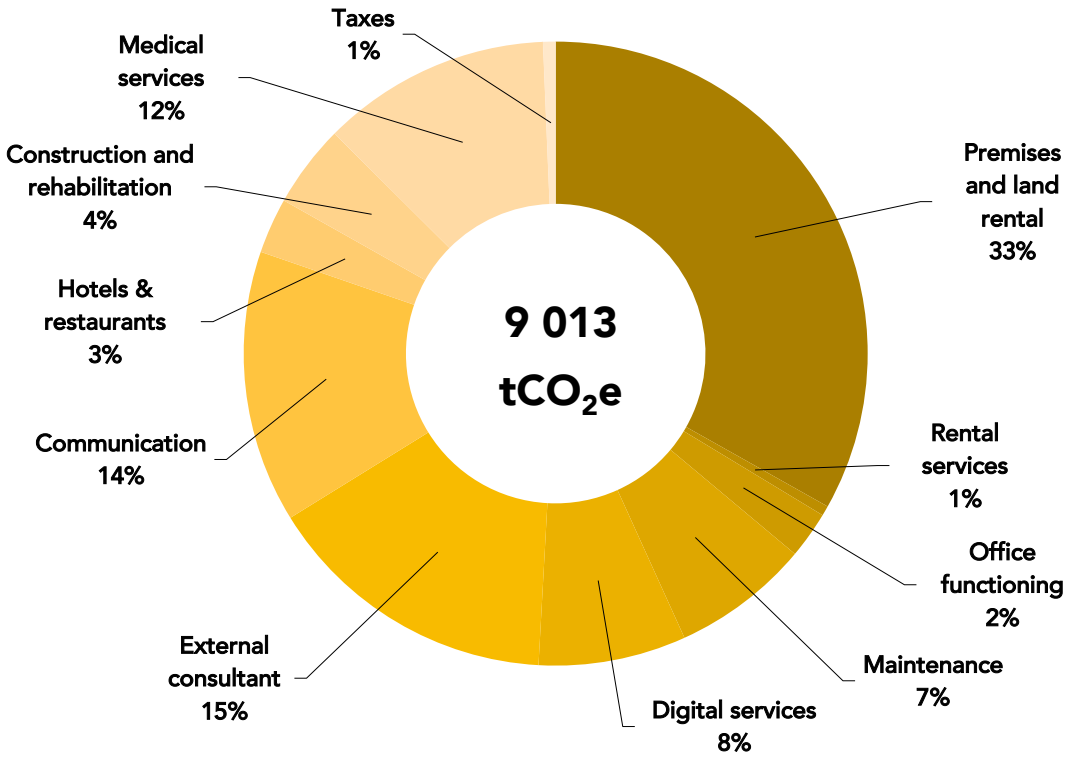
- **Nutrition represents 8%** of CO_2 emissions of this category, 1,580 tCO_2e.
  The nutrition products, partly purchased but also received as donations by other NGOs, represent 8% of purchases and 2.3% of the total with 1,580 tCO_2e.

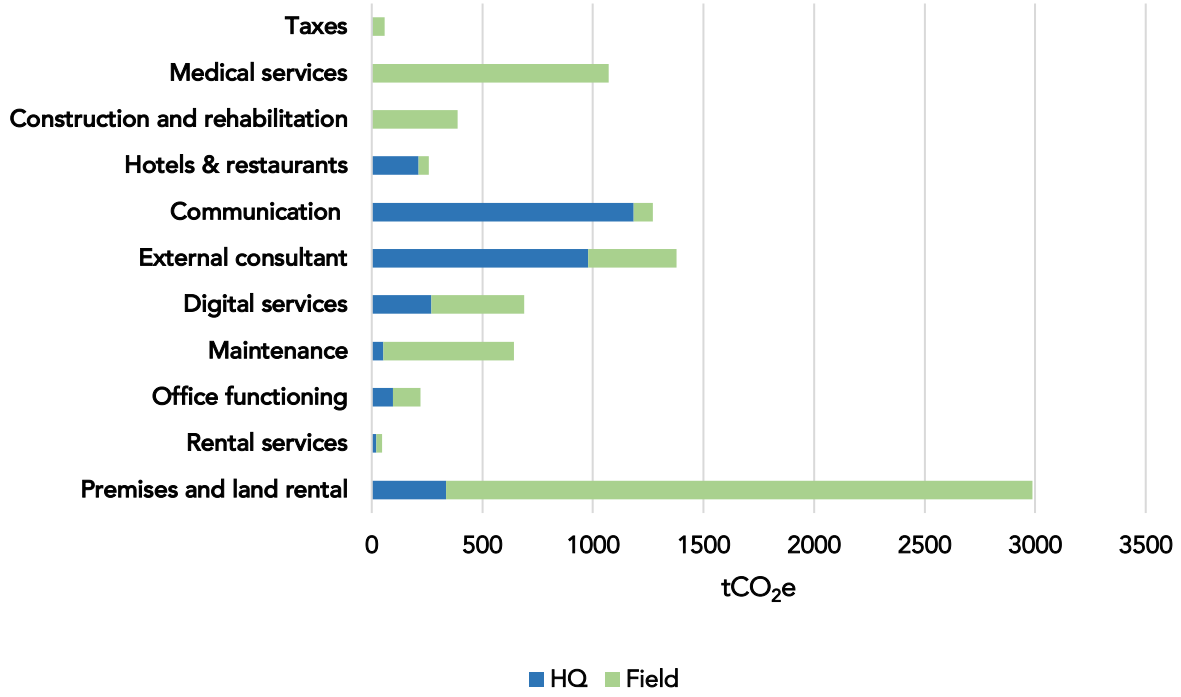
- **Transport equipment, Camps and construction, IT equipment**
  Transport includes the purchase of vehicles and spare parts. This represents 1,096 tCO_2e almost 6% of product purchases and 1.6% of the total. Then construction-related products, for 883 tCO_2e almost 5% of purchases and 1.3% of the total. Finally, emissions related to the purchase of IT equipment represent 0.6% of the total footprint (383 tCO_2e).

[8] "Renewable" in the sense that "they need to be renewed" and not "reusable".

Purchase of services

Purchased services account for 13% of the total footprint with 9,013 tonnes of CO_2.





Purchase of services: analysis

Purchase of services, with 12.8% of emissions, i.e., 9,013 tCO2e, is the organisation's fourth largest GHG emission source. Emissions from purchased services are divided between the headquarters with 35% of this category i.e., 3,150 tCO2e and national coordination (field offices) representing 65% of this category i.e., 5,862 tCO2e. Premises & land rental and external consultants are the two biggest sources of emissions in this category.

Main emission items for purchases of services in order of importance:

- Premises and land rental represents the largest part of this category, at 33%. It represents a total of 2,988 tCO_2e i.e., approximately 4.4% of OCG's total emissions. This includes offices, rooms, but also hotels for long stays. However, it is estimated that this sub-category of emissions is overestimated because part of these emissions are hotel nights that we were not able to isolate from other expenses, although they should be accounted for in "hotel & restaurants".

- External consultants account for 15% of this category with 1,379 tCO_2e, and 2% of the organisation's total emissions. This subcategory of emissions covers the fees associated with consultants or external project managers (studies, translation).

- Communication-related activities account for 13% of this category, and have a footprint of 1,271 tCO_2e, i.e., 1.9% of OCG's total footprint. Communications services comprise all aspects of marketing, mailing, production of advertising material.

- Medical services account for 12% of this category with 1,072 tCO_2e, representing 12.2% 1.6% of the total footprint. Subcontracted medical activities include, in particular, contributions to Ministry of Health salaries as well as subcontracted medical studies.

- Digital services which account for 8% of this category are responsible for 689 tCO_2e and 1% of the total footprint.

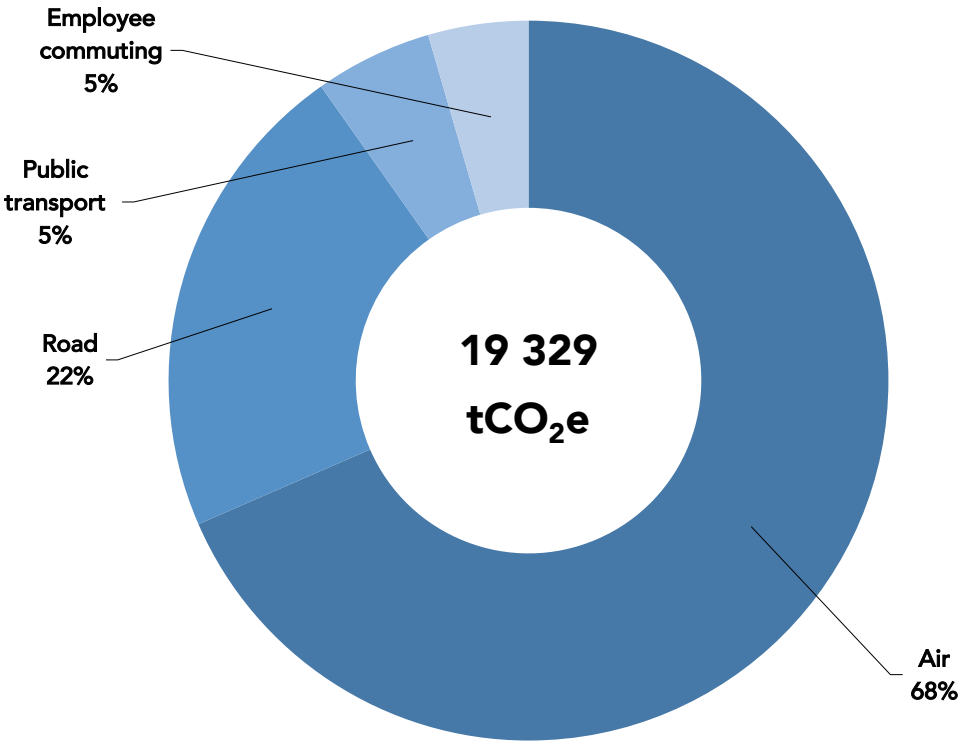
- Maintenance-related activities amount to 7% of this category and have a footprint of 643 tCO2eq, or 0.8% of OCG emissions. These include maintenance, equipment, building, and vehicle activities More specifically, maintenance services are distributed as follows: 26% for the premises; 21% for equipment and vehicles and 53% miscellaneous.

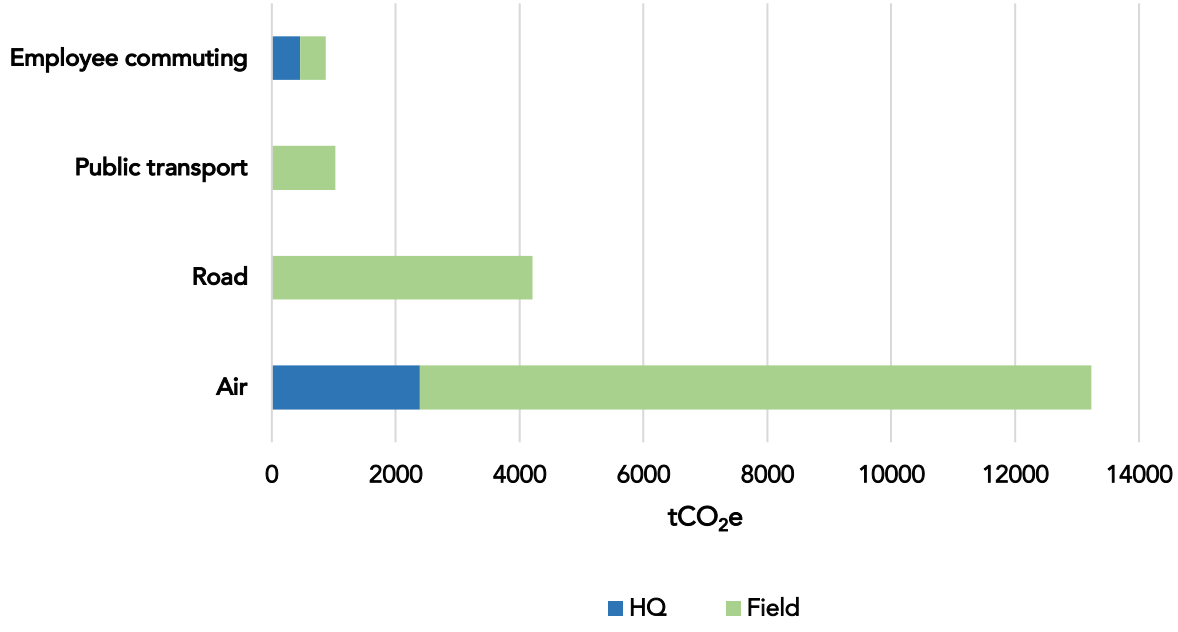
- Construction and rehabilitation equal 4% of this category with 387 tCO_2e and comes up to 0.6% of the total footprint. This includes construction and rehabilitation services, including water, sanitation and hygiene works.

- Hotels and restaurants amount to 3% of this category and have an impact of 259 tCO_2e, i.e., 0.4% of total emissions. This item (which covers the costs of short stays, including hotels and restaurants) can be considered as underestimated as a part of hotel nights are taken into account in the "Premises and land rental" category.

Travel

Travel accounts for 28% of the total footprint with 19,329 tonnes of CO_2.





Travel: analysis

Travel is the largest source of the organisation's GHG emissions, accounting for 28% of total emissions with 19,329 tCO_2e. Air travel and fuel consumption in vehicles account for 25%, a quarter of the organisation's total emissions.

Main travel-related emissions:

- Air travel: 68% of this category with 13,235 tCO_2e (19% of total footprint)

Business travel by air represents 19% of the organisation's GHG emissions, i.e., the largest individual source with 13,235 tCO_2e per year. In total, this represents almost 4,830,000 miles travelled. A study of the details of travel shows that 55% of these emissions come from long-distance travel (more than 3500km). Flights over 1000 km and under 3500 km are responsible for 34% of air travel emissions, or 4,522 tCO_2e (as much as the electricity consumption of OCG) and 6.5% of total OCG emissions.

- Road: 22% of this category with 4,205 tCO_2e (6% of total footprint)

This emission item concerns exclusively the field offices (100%) and consists of the fuel consumption of OCG's vehicles (2,882 tCO_2e), as well as the fuel purchased for non-MSF owned vehicles (like trucks for transport) (1,323 tCO_2e). For OCG's vehicles, diesel vehicles are responsible for 2,360 tCO_2e and petrol vehicles emitted 520 tCO_2e.

These emissions have a certain margin of error to be considered, as vehicle fuels are stored along with those of generators in particular. It is therefore not always possible to accurately trace the volumes of fuel consumed by vehicles. Emissions from vehicle rentals, which can also be considered as a service, are included in transport. It is not possible to differentiate between long term rentals and one-off rentals. Nor is it possible to differentiate between those dedicated to the transport of persons and those dedicated to the transport of goods.

- Public transport: 5% of this category with 1,020 tCO_2e (1.5% of total footprint)

Emissions from public transport travel account for 1 020 tCO_2e, or 1.5% of the total. It is not possible here to obtain further details on the proportions between the means of transport and the associated distances. These emissions concern exclusively the field office.

- Employee commuting: 5% of this category with 870 tCO_2e (1.3% of the total footprint)

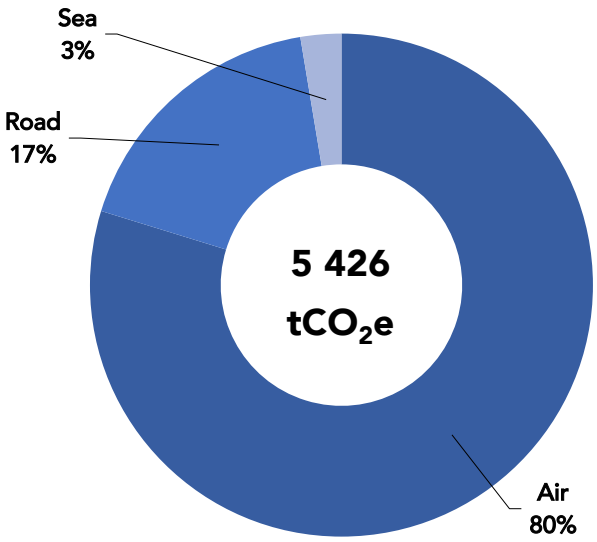
It is important to note that only HQ commuting was estimated with a survey, which represents 6% of total staff. Field commuting, which represents 50% of the commuting emissions, is based on a hypothesis gathered from travel modes as discussed with field managers. It only includes that of national staff (86% of total staff) because expatriates are accommodated on site and use MSF vehicles whose fuel is already counted in the footprint. Consequently, there is a particular level of uncertainty attached to this figure and it is possible that the share of emissions from home/work travel are underestimated.

See annexes 5 and 6 for further details on the modes of transport used, the distances travelled, and how these are differently attributed at the HQ level compared to the field.

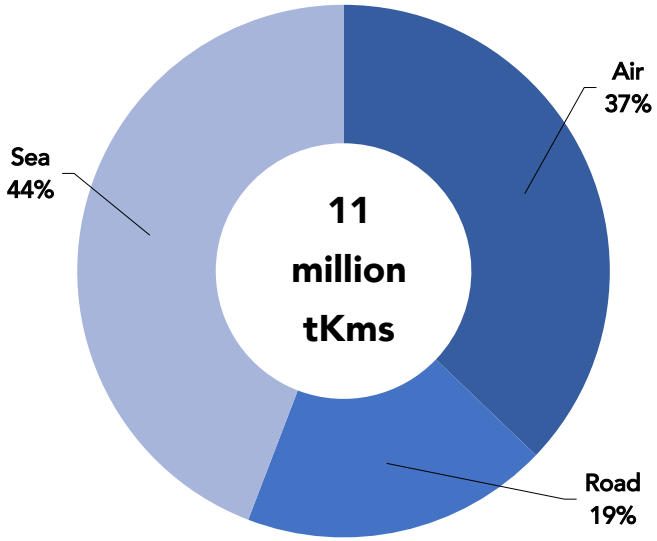
Freight

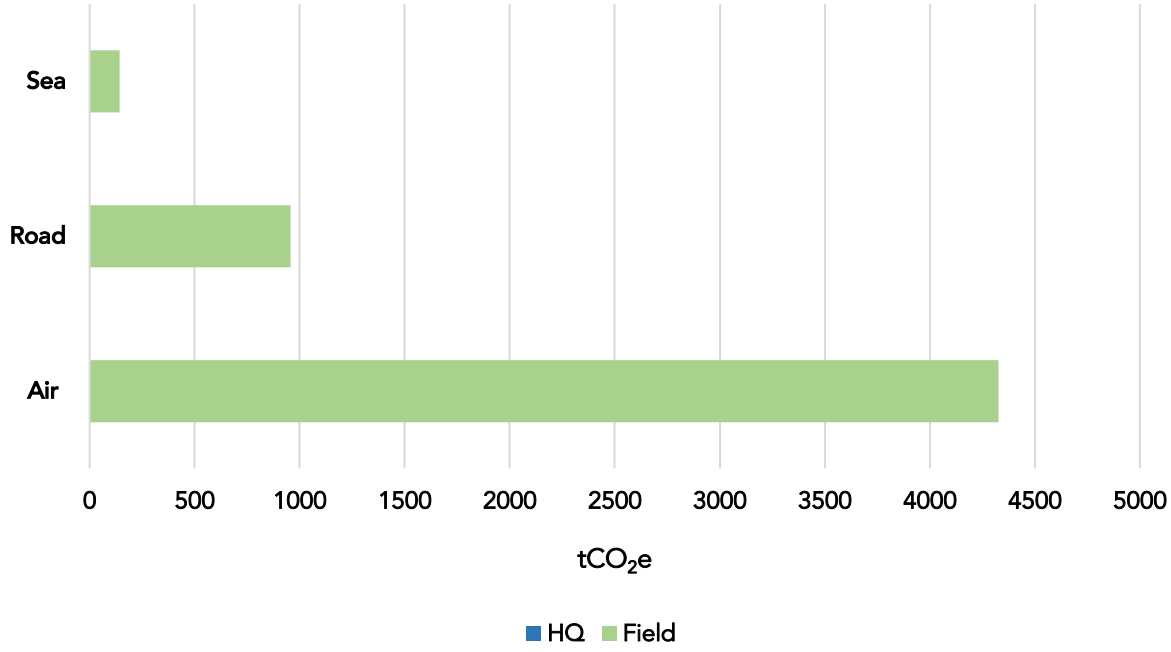
Freight accounts for 8% of the total footprint with 5,426 tonnes of CO_2e.

Freight by tonnes of CO_2e



Freight by kms transported





Freight: analysis

Freight is responsible for 5,427 tCO_2e, or 8% of total OCG emissions. It is the fifth largest source of GHG emissions. The largest sources of emissions from freight are air freight (4,328 tCO_2e) representing 80% of emissions in this category, then road (956 tCO_2e) with 17%, and sea (142 tCO_2e) with 3%.

The freight accounted for is entirely attributed to the missions. Two sources of data were used to estimate freight: shipments made by MSFL and freight organised directly by the missions. Freight emissions are slightly underestimated as it is not always possible to isolate the emissions related to freight. Part of the emissions are sometimes accounted for under other headings (purchased transport services, fuel combustion of MSF vehicles, etc.).

Comparisons between emissions and volumes transported per km:

- Ships are the main mode of transport as maritime transport represents 44% of the volumes transported per km but accounts for 3% of the emissions in this category.
- Air transport accounts for 80% of the emissions in this category but only 37% of the volume. Air freight emitted 4,328 tCO_2e, i.e., is responsible for 6.3% of OCG's total CO_2 emissions for 37% of the volumes transported.
- Road accounts for 17% of the emissions in this category, 19% of the volume. Transport of goods by truck is responsible for 956 tCO_2e, i.e., 1.4% of the total OCG footprint.

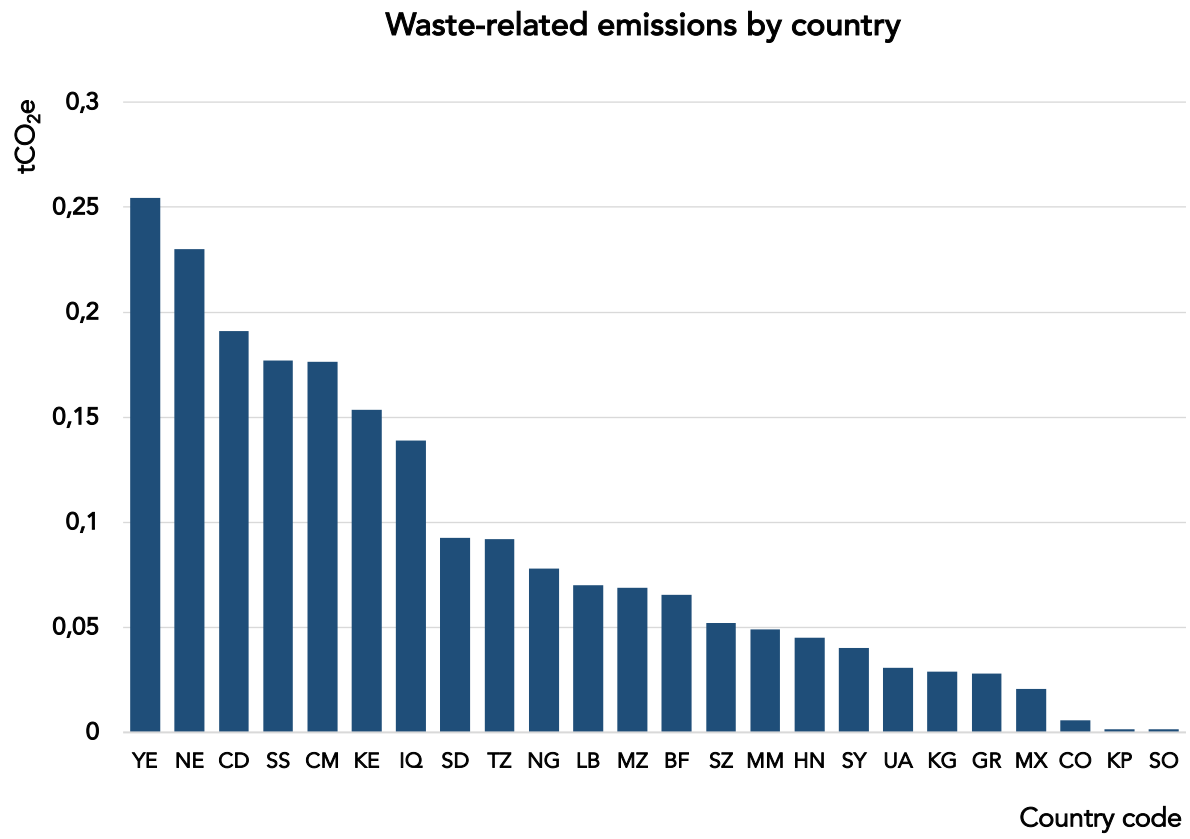
We can also distinguish and analyse according to 3 types of freight:

- Upstream freight (international freight): between suppliers and central purchasing offices, in this case "MSF Logistique". These emissions are associated with products that are not yet purchased by the operational sections but stored in "MSF Logistique" warehouses. They are therefore distributed among the sections that buy from MSFL according to the volume of purchases made in 2019. Thus, OCG is responsible for 0.8 $ktCO_2e$, or 1.1% of the organisation's total emissions.
- Downstream freight (international freight): when the goods are ordered by the section, the transport between the central purchasing office and the field, mainly by air and sea, over long distances. These emissions are directly linked to OCG's activities and therefore represent 4.1 $ktCO_2e$, about 5.9% of OCG's footprint.
- Internal freight: When goods transit internally, between different sites of the organisation (all movements of goods between OCG sites), mainly by road but also by air via Aircell. These emissions are estimated at 0.5 $ktCO_2e$ or 0.7% of OCG's total emissions. Internal freight however is also underestimated as transport of goods with MSF vehicles is not included. It is not yet possible to distinguish between vehicles used for movements of passenger and freight transport. These emissions have therefore been accounted for in the fuel combustion of MSF vehicles.

Waste

Waste is estimated at 2,115 tCO_2e, or 3% of the total footprint.

This only considers the climatic impact of waste and not the environmental impact (soil pollution, fine particles, etc.), which is not included in the scope of a carbon study.



Waste emissions are estimated from an internal study of several OCG projects[9]. There is currently no monitoring tool for the waste generated and its treatment. This figure is therefore an estimate applied to the projects according to the number of full-time equivalents and does not take into account the operational specificities of the projects (vaccination, nutrition, refugees, etc.).

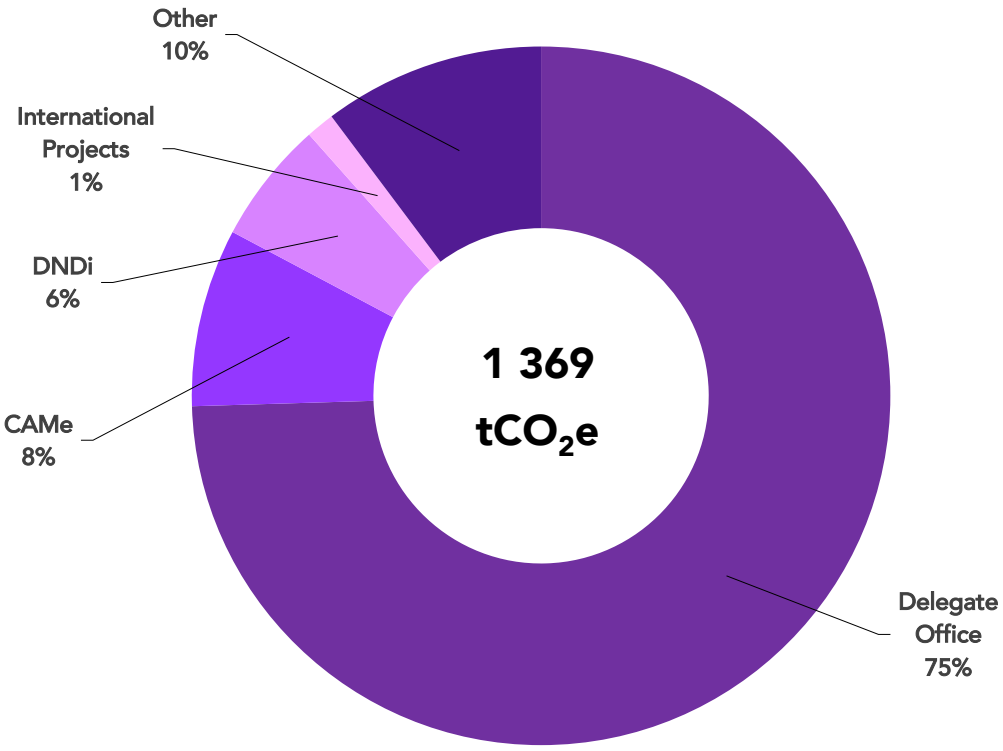
It is not possible today to have a precise idea of the composition of this waste (medical, plastic, recyclable, etc.). The estimate made here is rough as it is based on the little information that is currently available.

The results presented in the graph are therefore an estimate of the volumes of waste incinerated. We have assumed for this footprint report that this mode of treatment is the most widespread.

[9] Estimation of the volume of infectious clinical waste (m3/year) in 2018 per OCG project.

Financial support

Financial support to other NGOs equals to 2% of the footprint with 1,369 tonnes of CO_2e.



Financial support is responsible for 1,369 tCO_2e, or approximately 2% of total OCG emissions. It is the smallest source of GHG emissions, and accounts for the indirect emissions induced by OCG's financing activities.

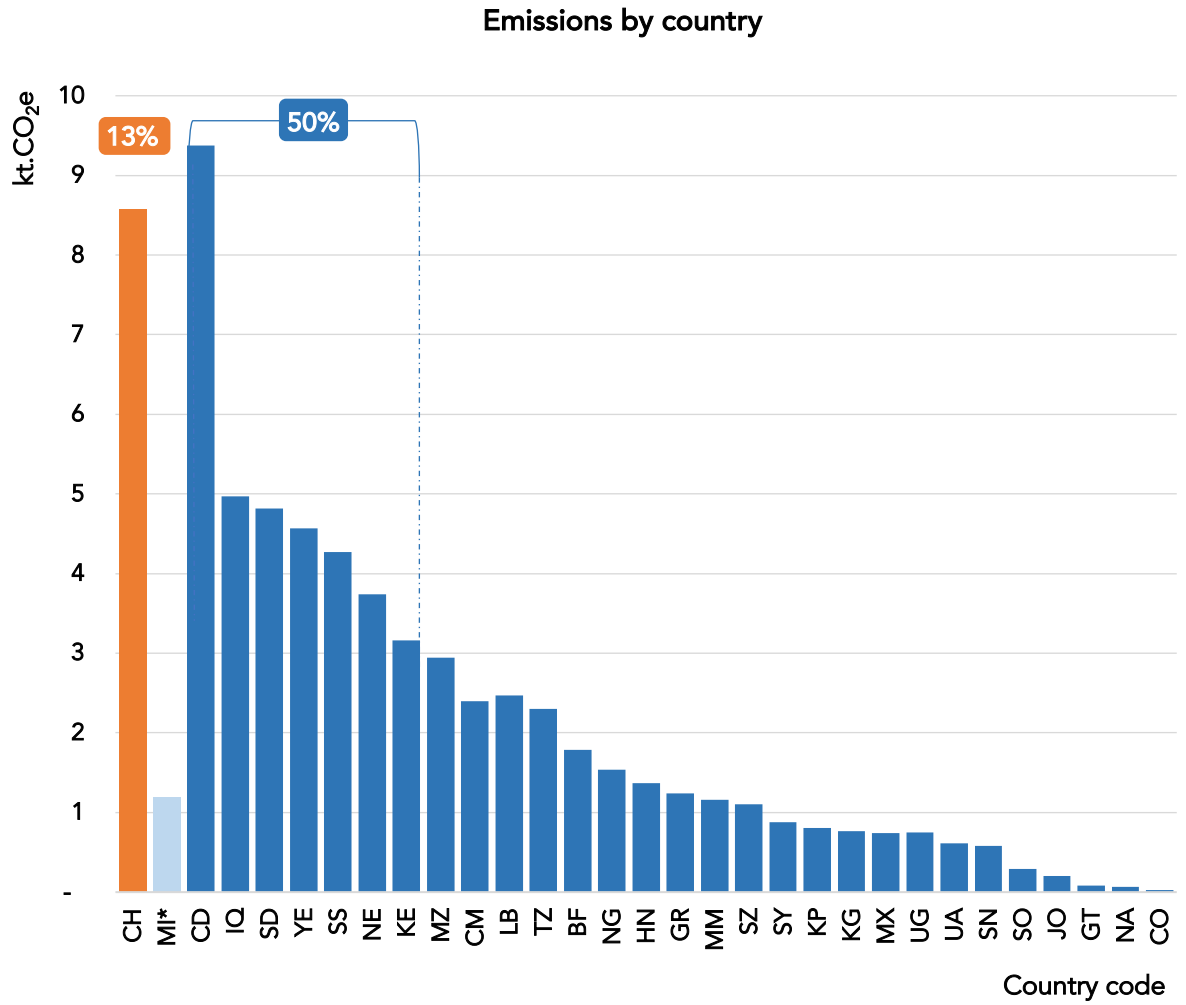
OCG participates financially in other MSF organisations and entities, such as the international office and the Access Campaign.

Although the emissions of these organisations are not included in OCG's organisational perimeter, the financial participations generate expenditure by these organisations and therefore CO_2 emissions. Thus, it is possible to obtain the carbon impact of these expenses, which is directly proportional to the amounts spent.

This assessment is however only an estimate, as it is made using a generic emissions factor for associative funding. It will be possible to improve the quality of the measurement once the footprint of partner organisations is available (DNDi, Epicentre, etc.).

Emissions by country

It is possible to break down the footprint analysed through another lens, that is results by country of intervention and the headquarter.[10]

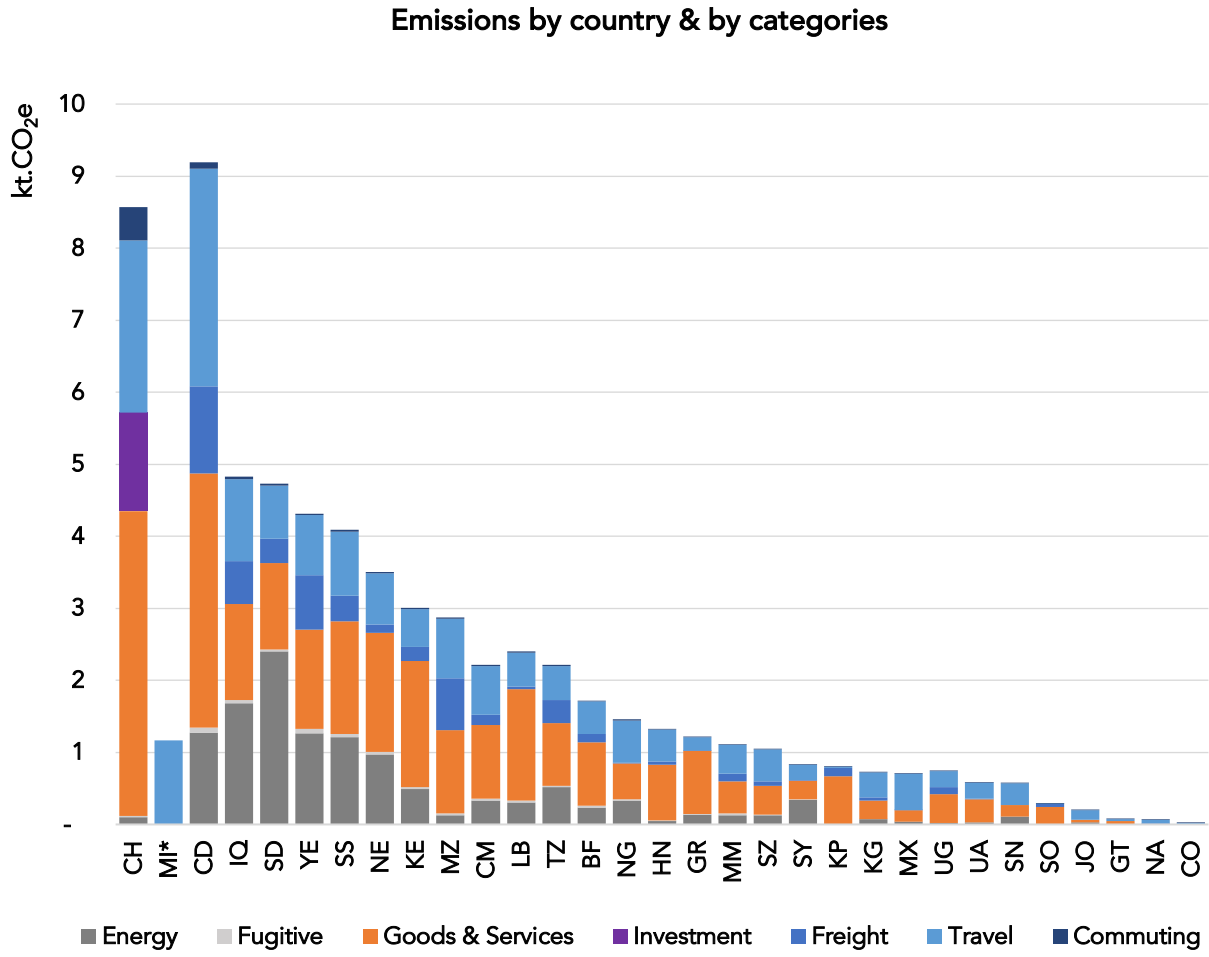


Main elements of analysis of the graph:

- The Geneva headquarters represents 13% of the organisation's emissions.
- Only 7 missions out of a total of 29 represent 50% of the emissions (CD, IQ, SD, YE, SS, NE, KE); if we add the emissions of the headquarters, this totals 63% of the organization's footprint.
- MI*: includes emissions related to international travel not accounted for at the mission's level.

[10] See annex 4 for more details on the distribution of emissions by country, and by budget and FTE.

Emissions per country and per category



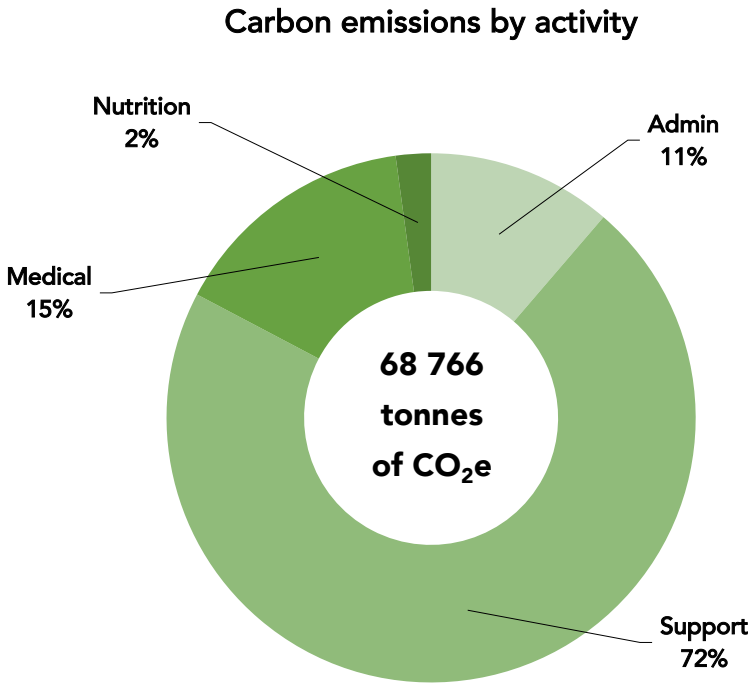
The distribution of the emission categories is represented by the different colours that compose each bar (the same colour scheme for the footprint is utilised here).

- **Energy represents between 10-30% of the footprint**. This proportion varies greatly depending on the context. Sudan, for example, operates mainly with generators, so almost half of its emissions are from energy.
- **The purchase of goods and services is responsible for 30-50% of the emissions**. This depends strongly on the activities that are carried out in these missions.
- Emissions related to **travel represent between 15-30% of emissions**. This is also strongly linked to the situation in each country. Missions requiring more human resources in bigger countries (such as the DRC) naturally require more travel than missions in smaller contexts such as Greece or more concentrated areas such as South Sudan, where the two 2019 projects were 90 km apart (between Agok and Mayom).
- Greece does not make many international purchases, thanks to its developed local market, so the share of freight is very low.

- The Central American countries are very far from the headquarters, so air travel is longer and more emissive, so a higher proportion of air transport emissions can be seen in these countries.
- MI* is mainly composed of business travel.

It is necessary to specify beforehand that the more we go into detail on the reading of the footprint, the greater the margin of error. Indeed, many expenses and therefore impacts are shared between several missions. If a staff member from Geneva visits a project in Iraq, then Sudan and finally returns to Geneva, the tickets are not split exactly. It's the same for some orders, for example: an order placed with MSF Logistique are destined for Colombia or Honduras, but that they are placed by Mexico and not necessarily re-invoiced to the beneficiary countries.

Cross-sectional footprint



After analysing OCG's emissions from the viewpoint of emissions categories (for example energy and travel), it is interesting to analyse how the footprint is balanced between the types of activities or operations carried.

Thus, we can distinguish between these dimensions:

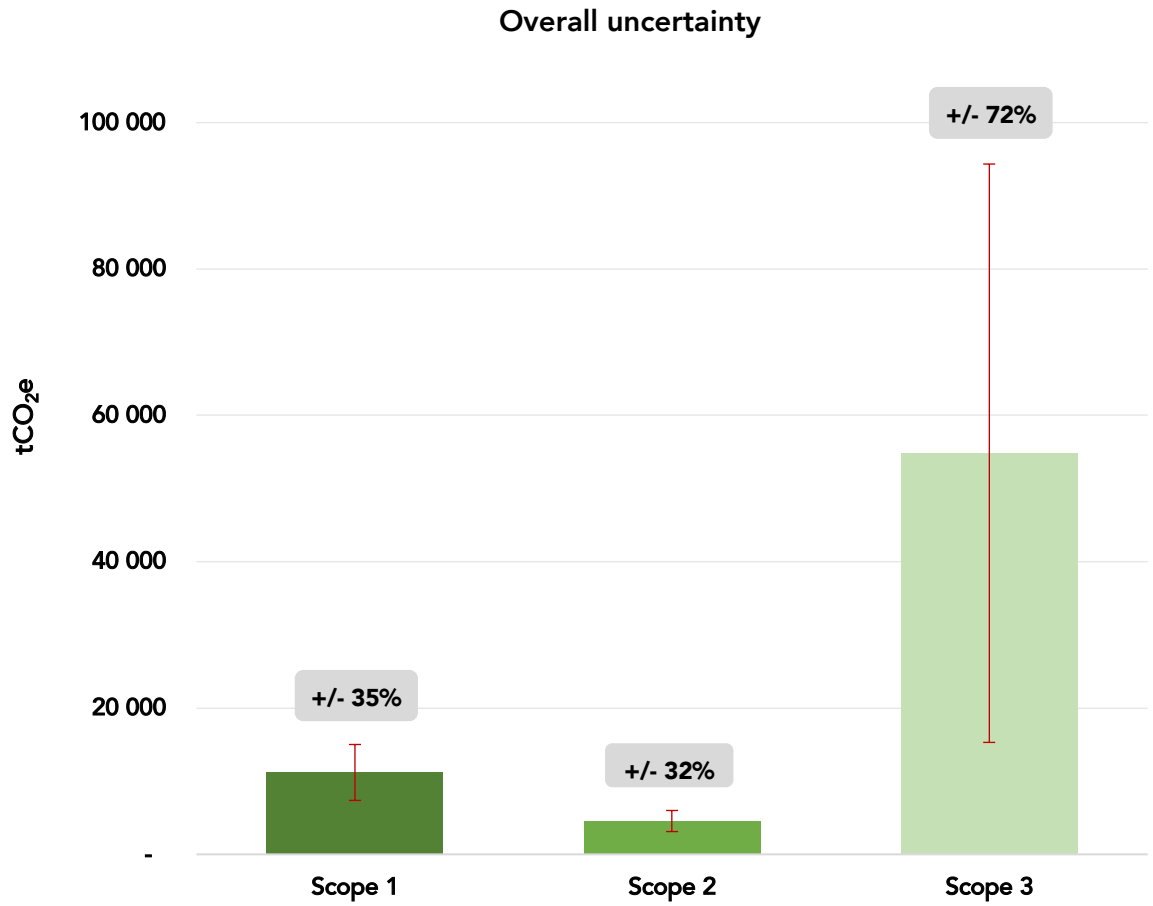
- Emissions from **support activities** (at 72% of the total footprint, the largest category), which are inseparable from medical activities, including energy, vehicles, transport of goods and people, non-medical equipment for projects (computers, internet, etc…)
- Emissions related to **medical activities** (representing 15% of the total footprint), such as the purchase of medicines, medical equipment, medical surveys, etc.
- Emissions related to **administration and organisation** (representing 11% of the footprint), communication, fundraising, headquarters facilities, as well as financial contributions to other organisations.
- **Nutrition-related** programmes (accounting for 2% of the total footprint), the purchase of plumpy nut, therapeutic milk, etc…)

Another interesting reading would be to obtain the OCG footprint by nature of the activities (camps, surgery, mental health, etc…). However, the granularity of the measurement and data does not allow for this level of detail.

Measurement uncertainties

General

Our measurement has an uncertainty of 63%. It is 35% for scope 1, 32% for scope 2 and 72% for scope 3. This is mainly due to the fact that Scope 3 emissions are largely derived from financial data, which means that uncertainties can be as high as 80%.



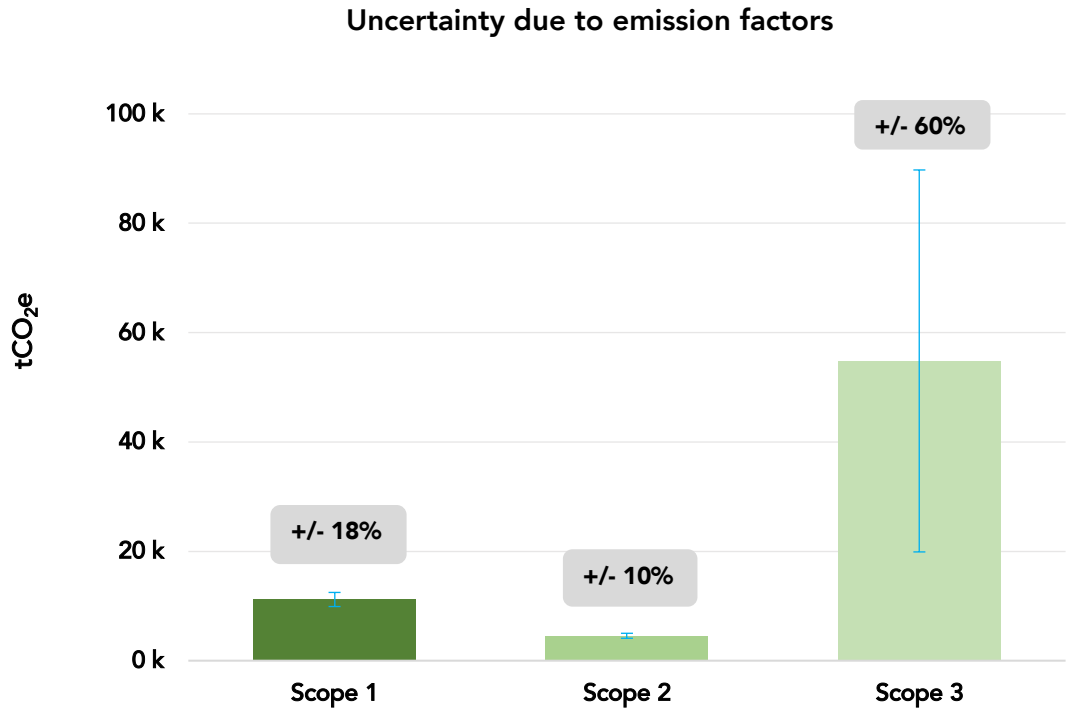
This measure is, for several reasons, far from absolute. There are many uncertainties at various levels. Some of these uncertainties can be improved by OCG improving the quality of its data, but others are inherent in the process of measuring carbon emissions.

This invites us to take a step back from the aforementioned figures. While one can analyse and breakdown the exact tCO_2e of each activity, is also important to reflect on these figures in terms of the orders of magnitude and proportions they indicate rather than the absolute value of the carbon emissions.

Emission factors[11]

The level of uncertainty directly due to emission factors is 18% for Scope 1, 10% for Scope 2 and 60% for Scope 3. *These uncertainties can be improved by using emission factors with more precise units. For example, using the number of computer monitors purchased rather than the volume of expenditure on monitors, the uncertainty of the factor would decrease.*

While well documented and relatively reliable, emissions factors have some level of uncertainty. Certain activities, the carbon intensity of a country's electricity for example, can be measured very accurately. It is possible to obtain a carbon equivalent value with an uncertainty of less than 5% for this point. In contrast, activities that depend on many factors generate more uncertainty. For example, the transport of a tonne of goods by air over a given distance depends on the occupancy rate of the aircraft, the weather conditions (temperature, pressure), the type of engine of the aircraft and many other factors. The uncertainty here can easily reach 50%. For specific sectors, it is also difficult to obtain reliable values. For example, for medicines, there is currently no emission factor to ascertain the emissions of medicines based on physical data such as weight and volume. There exist countless medicines, with different active ingredients, producers, production processes and more. Today it is only possible to measure the carbon footprint of medicines on the basis of their price, by applying an emission factor to an average, leading to an uncertainty of up to 80%.



[11] Emission factors are representative values that allow a unit to be converted into a carbon equivalent. This quantity therefore makes it possible to transform a volume of fuel, a distance or a product into a carbon equivalent. It is the bridge between the organisation's data and its carbon footprint.

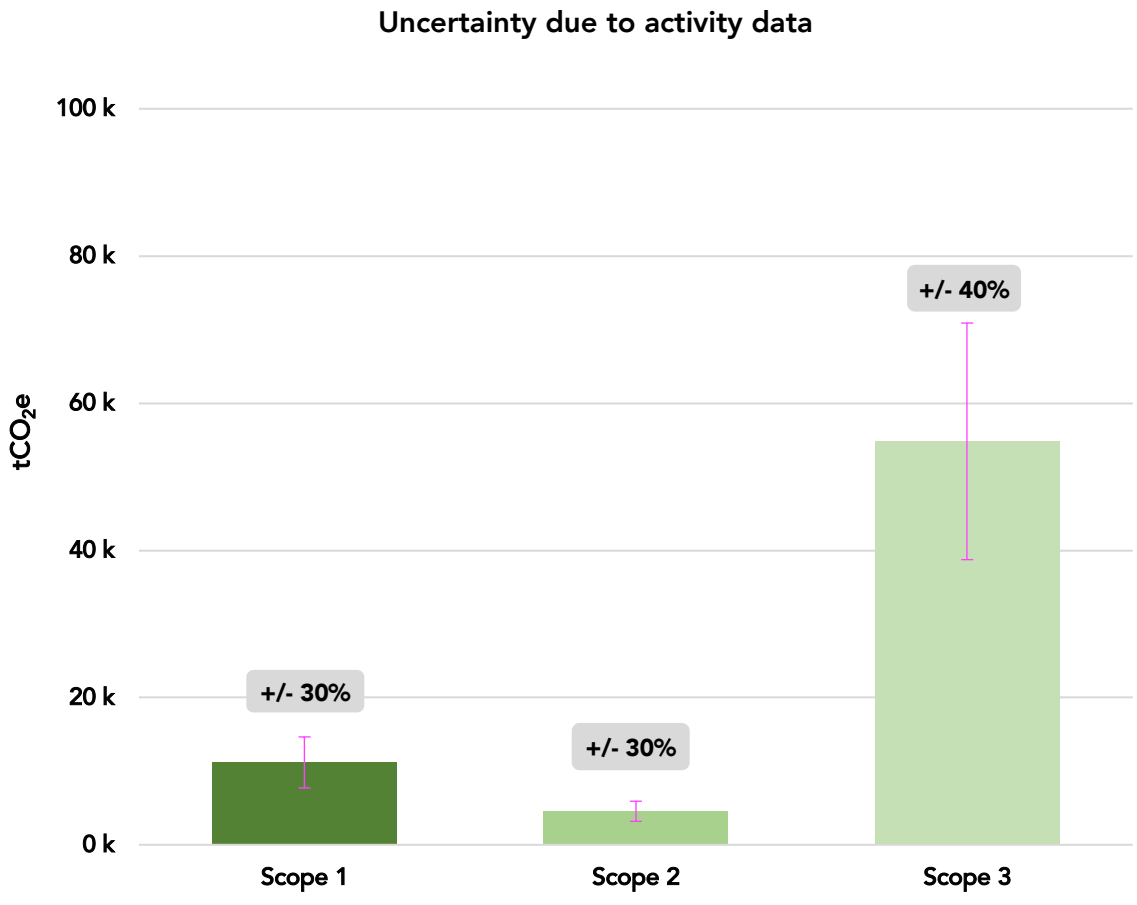
Activity data

The level of uncertainty tied to activity data collected is therefore estimated at 30% for Scope 1, 30% for Scope 2 and 40% for Scope 3. *These uncertainties can be improved by implementing a more reliable and comprehensive data collection tool.*

Activity data is the information available to OCG on the content of its activities. It is this data that is multiplied by the emissions factors to obtain the carbon footprint measurement.

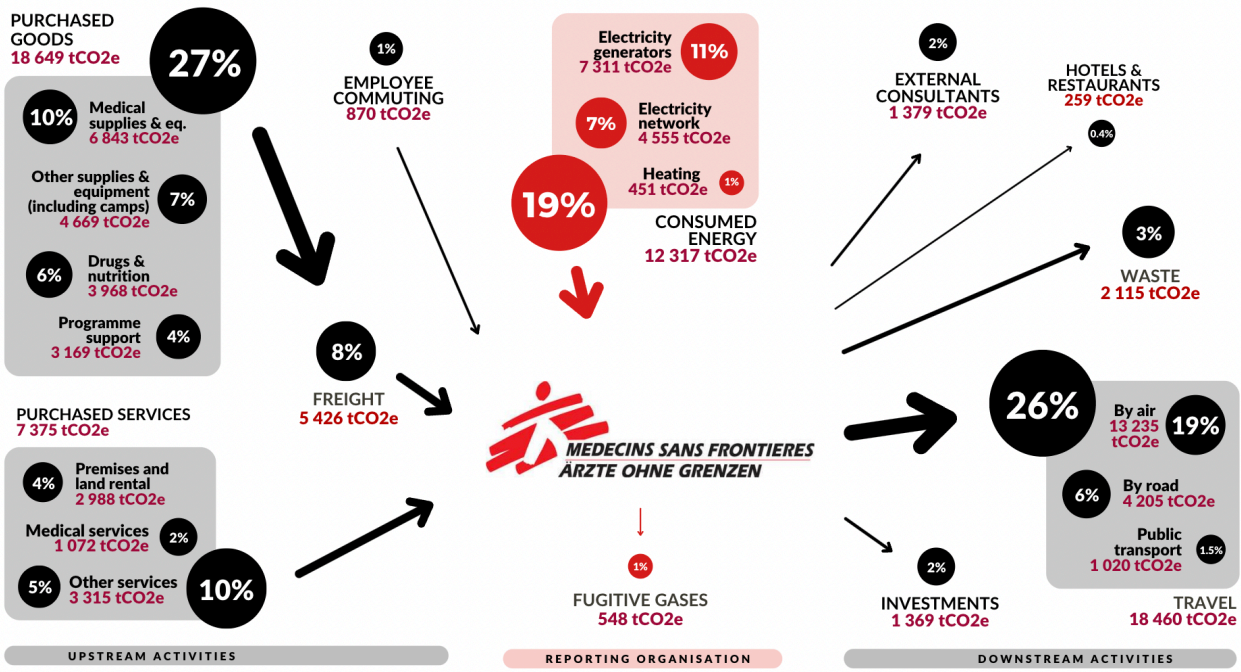
As mentioned in the document, this data is often imperfect, and this is quite normal. It is not possible to have today the electrical readings of all MSF infrastructures around the world, nor the total volume of fuel consumed during the year 2019. These data points require a lot of work to collect in the field and are not, in many cases, necessarily useful for the organisation.

Assessing the quality of the data collected and its reliability, there is a non-negligible level of uncertainty that also exists at this stage. The number of tonnes shipped from MSF Logistique to the field is extremely well documented. It is possible to isolate the route of each order, almost to the nearest km. However, for waste, it is very difficult to have a precise idea of the volume depending on the infrastructure, and estimates are therefore very uncertain.



Mapping emission flows

The flow map below shows the movements and proportions of GHG volumes required for MSF OCG's operations. It can be seen that three main groups (purchase of goods, travel, and energy consumption) account for over 70% of the organisation's total emissions.



Performance indicators & benchmark

This assessment of MSF OCG's footprint allows for the production of a certain number of indicators that will enable future assessments to monitor the organisation's carbon intensity.

Key performance indicators	Value	Unit
Per employee		
Total GHG emissions	10,26	tCO_2eq/FTE
Total Scope 1 & 2	2,35	tCO_2eq/FTE
Total Scope 3	7,91	tCO_2eq/FTE
Per CHF spent		
Total GHG emissions	0,26	$kgCO_2eq$/CHF
Total Scope 1 & 2	0,06	$kgCO_2eq$/CHF
Total Scope 3	0,20	$kgCO_2eq$/CHF

Benchmark

For reflection purposes, here are some indicators of emissions in the aid sector. It is important to be critical as not all organisations have assessed exactly the same scope of activities, the emission factors used may differ and the activities in question are not necessarily the same. These comparisons have their limits as activities between organisations can be different (as with ACTED and MSF for example). The comparison with ALIMA is particularly more relevant as the organisations share the same scope of activities.

Benchmarking indicators	MSF OCG	ALIMA	ACTED	ICRC	
Per employee		**Value**			**Unit**
Total GHG emissions	**10,26**	6,74	10,36	58,54	tCO_2eq/FTE
Total Scope 1 & 2	**2,35**	2,14	1,85	3,98	tCO_2eq/FTE
Total Scope 3	**7,91**	4,60	8,51	54,56	tCO_2eq/FTE
Per CHF spent					
Total GHG emissions	**0,26**	0,21	0,23	0,6	$kgCO_2eq$/CHF
Total Scope 1 & 2	**0,06**	0,07	0,04	0,04	$kgCO_2eq$/CHF
Total Scope 3	**0,20**	0,14	0,19	0,56	$kgCO_2eq$/CHF

There is a relative homogeneity in the intensity of emissions per Swiss franc spent, in particular between MSF OCG and ACTED (0,2 $kgCO_2e$ / CHF and 10 tCO_2eq / FTE).

The emissions in relation to the amount of money spent are distributed in the same way between MSF, ALIMA and ACTED. Scopes 1 and 2, the energy-related part of emissions, represent about 30% of the footprint, the remaining 70% coming from purchases of goods and services including transport. The same similarities can be observed for the emissions per FTE for MSF and ACTED. The difference with ALIMA can be partly explained by its more important functioning with operational partners.

It is sometimes difficult to grasp the GHG emissions indicators in tonnes or kilograms of CO_2e. To further illustrate the volumes obtained in OCG's carbon footprint, which are 68, 766 tonnes of CO_2e, here are some useful comparisons (orders of magnitude):

OCG per employee
(10.26 tCO2e/year)

Germany*
(9.88 tCO2e, 2019)

Switzerland*
(13.51 tCO2e, 2019)

68 766 tCO2 equivalent
to emissions from
144000 barrels of oil°

68 766 tCO2 equivalent
to emissions to driving
249 million kilometres°
= 6200 trips around the globe

**Germany / Switzerland*
(consumption-based emissions, 2019) - Our world in data
°www.epa.gov or oee.nrcan.gc.ca

Recommendations

Monitoring and continuous improvement of measurement

The process of measuring MSF OCG's GHG emissions is a long-term exercise, beginning in 2009 with the organisation's first footprint report. The study of the evolution of the organisation's emissions should be repeated every year, in order to ensure continuing improvement and an accurate read of reductions. It will complement the accounting information to help determine the organisation's decisions and strategy in a coherent manner, but also to monitor the impact of the actions implemented as part of the environmental roadmap.

Monitoring lends to a continuous improvement process. The latter has the following essential functions:

- To enable the organisation to gradually improve the quality and comprehensiveness of the data collected,
- To facilitate, or even automate, the collection process,
- To evaluate the successes and shortcomings of the emissions assessment process but also of the decarbonisation actions implemented. Moreover, such a process will enable MSF OCG to develop a "climate culture" within the organisation, which will encourage the implementation of mitigation actions.

Suggestions for improvements

This measure suffers first and foremost from a lack of data:

- Due to the way financial data is structured in OCG, there is a shortage in sufficient data for Scope 1 and 2 emissions, for which OCG is directly accountable. It is essential to be able to measure these accurately. Thus, the reporting of this information, notably on electricity consumption in kWh for each mission, fuel consumption of vehicles and generators in litres with the split for each of them, must become systematic in order to have an uncertainty close to zero.

- Similarly, it would be important to start collecting information on sources where there are gaps in the data, notably for:
    - **Purchased goods:** with a log of the quantities of water consumed by the missions would provide an idea of the volumes involved and their treatment.
    - **Purchased services:** with the identification of hotel expenses within the "premises and land rental" category to enable their extraction.
    - **Capital assets:** with a precise record of the quantities and specifics of the equipment purchased: vehicles, generators, pumps, IT, etc.

- **Fugitive gas:** with a better estimate of the number of air conditioners and appliances in pharmacies for the cold chain.
- **Waste:** by setting up a reporting system to estimate the volume of waste and its treatment.
- **Freight organised and paid for by the missions:** transport services are only tracked financially. It would be essential to have a regular estimate of the volumes and kilometres travelled.
- **Commuting:** by surveying and measuring the emissions related to home-to-work travel in the field, and not just for the HQ.

- To improve the quality of the analysis of results:
  - Carry out a footprint by type of activity (surgery, vaccination, nutrition, etc.). To do this, it is necessary to be able to identify and qualify the sources of emissions very early on and therefore integrate them into other existing monitoring systems.
  - Have tools that allow direct emissions to be categorised according to the purpose of the projects, e.g., the use of fuel (ambulance, 4X4, goods transport, generators, etc.).
  - To set up syntax rules in the accounting system that would allow the extraction of certain key data to be automated to produce future carbon footprints. (e.g.: utilities code: water, electricity, gas).

Finally, as other MSF entities around the world embark on climate initiatives, a common approach to calculating greenhouse gas emissions and common indicators should be defined between operational centres and support sections. OCG and other sections will need to rely on the Climate Smart MSF (TIC) initiative, hosted by MSF-Canada, to coordinate these approaches and build a robust and common methodology.

Conclusion

This study quantified the various sources of GHG emissions for which MSF OCG is accountable. The approach taken, although imperfect in some respects, captures the footprint of the organisation. In particular, this work highlights the high proportion of aeronautics in our activities, as well as, more broadly, in the transport of people and goods. This is quite understandable given the nature of the organisation's activities, spanning across the globe. Nevertheless, we can now represent its proportion in our emissions.

The assessment explores many activities and estimates the organisation's CO_2e emissions in 2019. Although incomplete in some respects (water consumption, waste generation), we can nevertheless give an overview of OCG's emissions, and thus get an idea of the proportions of emissions relating to each of the activities.

A few large items are responsible for more than half of the total footprint:

- Passenger transport by air: 13,235 tCO_2e
- Electricity generation and use: 11,866 tCO_2e
- Purchase of medical or paramedical goods and equipment: 9,230 tCO_2e
- Freight (transport of goods): 5,426 tCO_2e

This brings the total of these four items to 39,757 tCO_2e or 58% of our total emissions.

- If we look more closely, the use of aircraft in freight and passenger transport alone accounts for 17,563 tCO_2e or 25% of total OCG emissions.

In addition, it is now possible to obtain a breakdown of this footprint by country of intervention. By putting this data into perspective with local contexts, new approaches can emerge to contribute to the reduction of OCG's emissions. We were also able to explore the limitations of OCG in collecting information, which is not always systematic. Thus, it will be important to drive improvements in monitoring and reporting if OCG is to accurately track and improve its footprint.

The information presented here is intended to help OCG guide its environmental policy, working with teams to find solutions to reduce the organisation's footprint. It is the result of numerous exchanges with people from headquarters, the field and outside the organisation, who should be warmly thanked for their time, patience and efforts.

OCG is at the forefront of the MSF movement and will need to build rigorous and reliable support with the other entities so that the work on environmental health can benefit all.

Annexes

1. Details and description of emissions categories

SCOPE	EMISSION CATEGORY	EMISSION SUB-CATEGORY	DESCRIPTION (emissions related to)
1	Fugitive	*Fugitive emissions*	Refrigeration and air conditioning systems
1	Energy	*Fixed combustion*	Fossil fuel combustion (generators, heating)
2	Energy	*Electricity*	Indirect GHG emissions from electricity purchases
1	Travel	*Mobile combustion*	Fuel combustion in mobile sources
3	Travel	*Business Travel*	Long-distance passenger travel
3	Travel	*Vehicle rental*	Personal travel in rented vehicles
3	Travel	*Other*	Movement by people by other means
3	Travel	*Commuting*	Home-to-work travel at HQ & field
3	Goods and services	*Purchase of goods*	Manufacture of purchased goods
3	Goods and services	*Purchase of services*	Realisation of the services consumed
3	Goods and services	*Donations received*	Manufacture of goods received for free
3	Transport	*Freight MSFL*	Transport of goods from the central purchasing office MSF Logistique (and other central offices) to the country of activity (missions).
3	Transport	*Internal freight*	Transporting goods between MSF projects
3	Waste		Waste treatment on MSF activities
3	Financial support		OCG's financial participation in other organisations

2. Emissions reporting by Scope (ISO 14064 & GHG Protocol)

SCOPES	CATEGORY	tCO_2e	%
	Generators	7311	46%
	MSF vehicles	2882	18%
	Fugitive	548	3%
Scope 1	Heating	451	3%
Scope 2	Local electricity	4555	29%
(Scope 1 & 2)	Total	15 747	100%

	Purchased goods	17354	32,7%
	Travels	15577	29,4%
	Purchased services	9013	17%
	Freight	5426	10,2%
	Waste	2115	4,0%
	Financial support	1369	2,6%
	In kind donation	1294	2,4%
Scope 3	Staff commuting	870	1,6%
(Scope 3)	Total	53 019	100%

(ALL SCOPES)	TOTAL	68 766	100%

3. Emissions reporting by category

Category	Sub-category	HQ	Field	Total	Relative
Energy	Electricity network	27	4528	4555	7%
	Electricity generators	0	7311	7311	11%
	Heating	77	374	451	1%
Fugitive	Cold chain & air-conditioner	12	537	548	1%
Purchased goods	Administration & Office supplies	1085	1221	2307	3%
	Camps & Construction		883	883	1%
	Drugs		2388	2388	3%
	Medical equipment		2223	2223	3%
	Programme support		3169	3169	5%
	Renewable medical supplies		4619	4619	7%
	Transport equipment		1096	1096	2%
	IT equipment	57	326	383	1%
	Other equipment		0	0	0%
	Nutrition		1580	1580	2%
Purchased services	Premises and land rental	336	2652	2988	4%
	Rental services	21	25	46	0%
	Office functioning	96	123	219	0%
	Maintenance	51	592	643	1%
	Digital services	268	421	689	1%
	External consultant	979	401	1379	2%
	Communication	1185	86	1271	2%
	Hotels & restaurants	211	48	259	0%
	Construction and rehabilitation	0	387	387	1%
	Medical services	0	1072	1072	2%

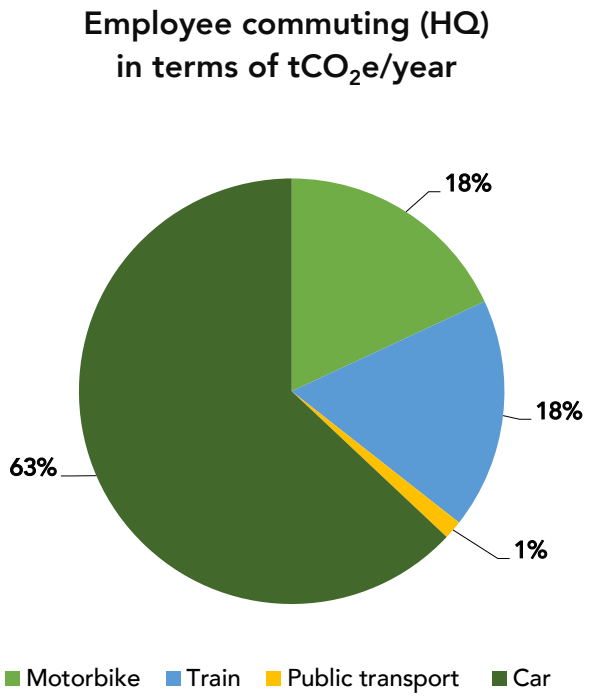
	Other	0	0	0	0%
	Taxes	4	55	59	0%
Travel	Air	2389	10846	13235	19%
	Road	0	4205	4205	6%
	Public transport	0	1020	1020	1%
	Employee commuting	460	410	870	1%
Freight	Air	0	4328	4328	6%
	Road	0	956	956	1%
	Sea	0	142	142	0%
Waste	Waste		2115	2115	3%
Financial support	Delegate office	1020		1020	1%
	CAMe	113		113	0%
	DNDi	78		78	0%
	International projects	18		18	0%
	Other	140		140	0%
Total (tCO_2e)		**8 626**	**60 141**	**68 766**	**100%**

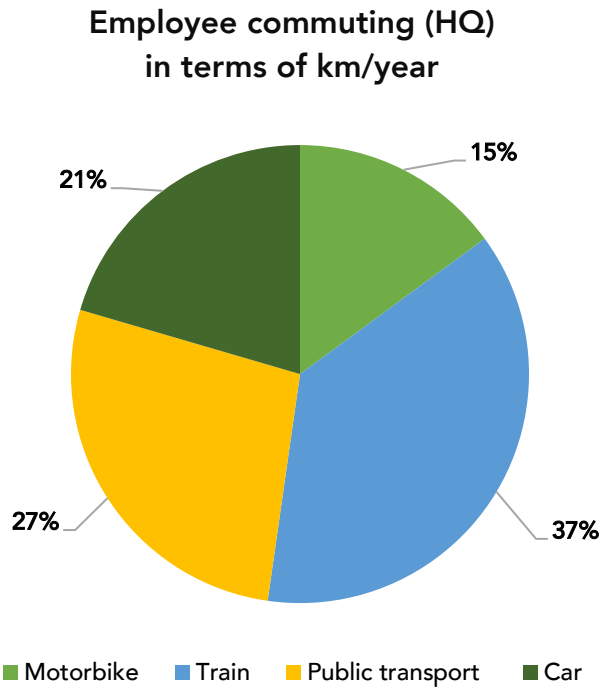
4. Emissions by country (including budget and FTE distribution)

Country (country code)	Budget (CHF)	FTE	Emissions (tCO_2e)	% of total footprint
Democratic Republic of Congo (CD)	27148	581	**9 378**	14%
Switzerland, HQ (CH)	*62667*	*350*	**8 569**	12%
Iraq (IQ)	16495	422	**4 966**	7%
Sudan (SD)	8984	282	**4 821**	7%
Yemen (YE)	23211	773	**4 571**	7%
South Sudan (SS)	14718	539	**4 268**	6%
Niger (NE)	11390	700	**3 736**	5%
Kenya (KE)	13122	467	**3 157**	5%
Mozambique (MZ)	8392	209	**2 946**	4%
Lebanon (LB)	11515	213	**2 470**	4%
Cameroon (CM)	9901	537	**2 393**	3%
Tanzania (TZ)	7614	280	**2 304**	3%
Burkina Faso (BF)	5807	199	**1 785**	3%
Nigeria (NG)	5867	237	**1 540**	2%
Honduras (HN)	3672	137	**1 371**	2%
Greece (GR)	4420	85	**1 240**	2%
MI[12]			**1 195**	2%
Myanmar (MM)	3187	149	**1 161**	2%
Eswatini (SZ)	4225	158	**1 106**	2%
Syria (SY)	5521	123	**876**	1%
North Korea (KP)	1605	5	**807**	1%
Kyrgyzstan (KG)	2735	88	**763**	1%
Uganda (UG)	1022	9	**747**	1%
Mexico (MX)	2027	63	**738**	1%
Ukraine (UA)	3103	93	**615**	1%
Senegal (SN)	1461	30	**579**	1%
Somalia (SO)	1483	4	**293**	0%
Jordan (JO)[13]			**200**	0%
Guatemala (GT)[14]			**79**	0%
Namibia (NA)	102	NA[15]	**68**	0%
Colombia (CO)	1005	18	**24**	0%
TOTAL	**262399**	**6750**	68 766	100%

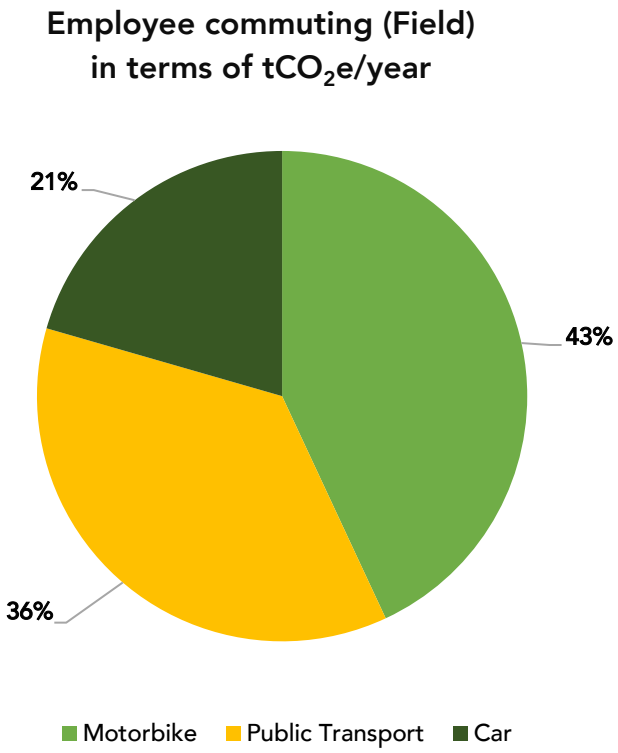
[12] MI includes emissions related to international travel not accounted for at the mission's level.
[13] No mission in Jordan. Emissions refer to activities (e.g., trainings) carried out under others' premises.
[14] The Guatemala mission is mixed with Mexico, as it is centralised and mutualised at the Central America and Mexico Integrated Office (Camino); cannot ascertain individual allocations.
[15] In 2019, OCG conducted one exploration mission in 2019. The employees who participated in this mission are reported under the country from which they were seconded.

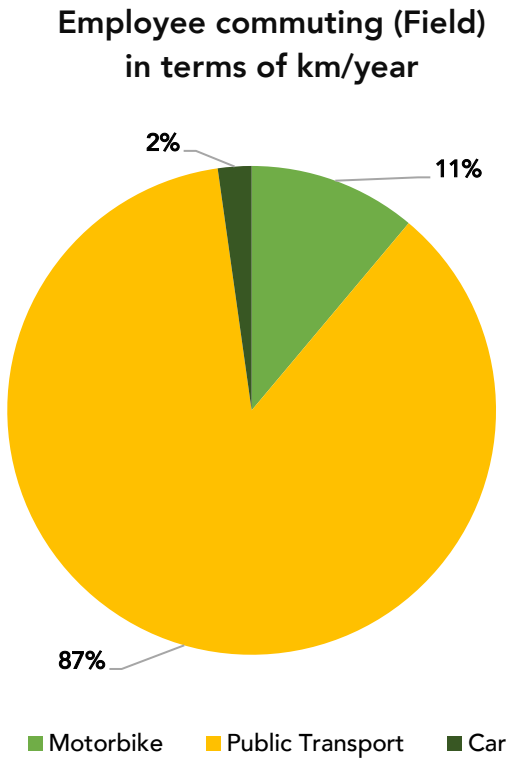
5. Employee commuting (at HQ level) – by *tCO₂e* and by *kilometres*





6. Employee commuting (field level) – by *tCO₂e* and by *kilometres*





7. Main emissions factors used

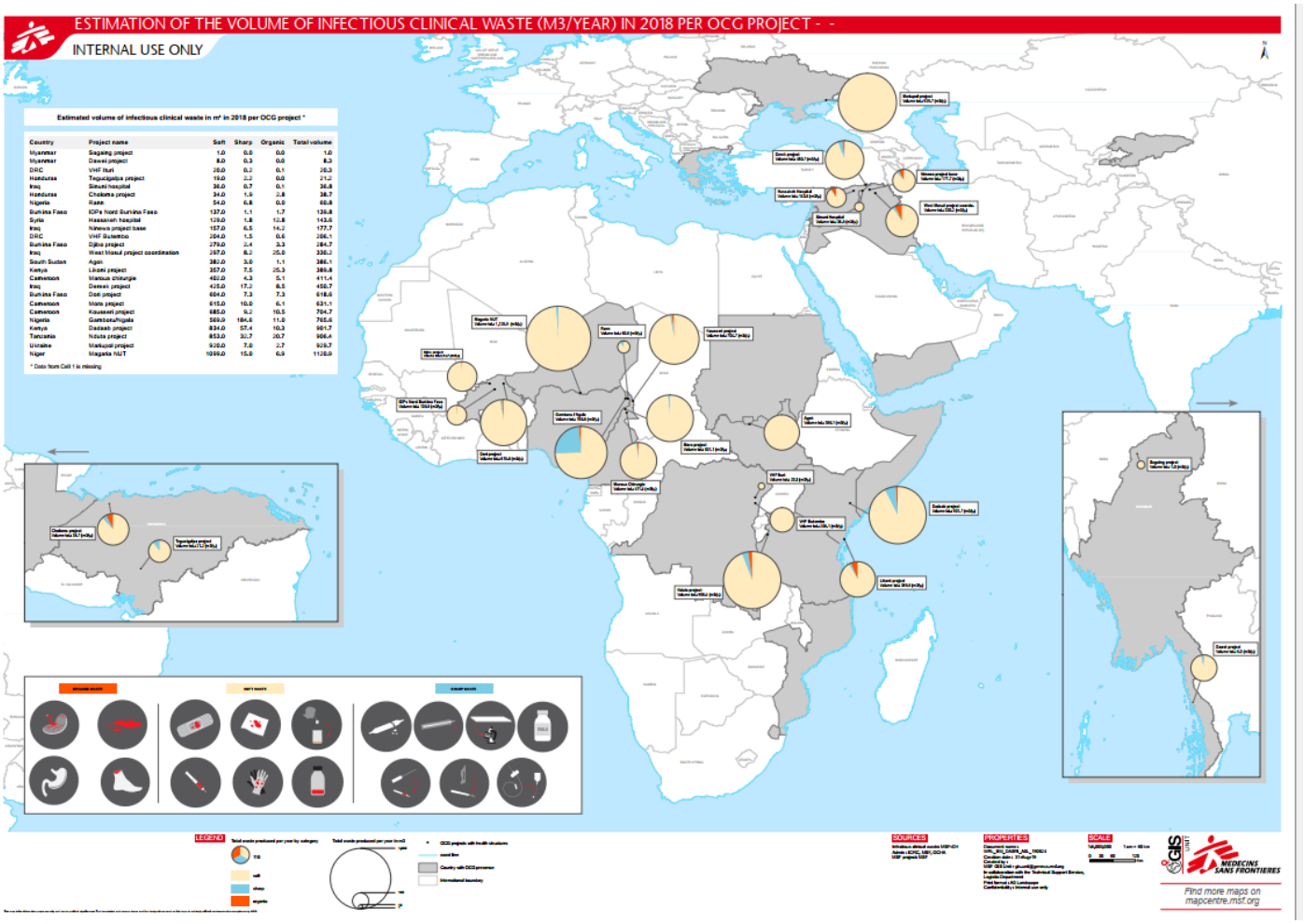
Name	EF	Unit	Source
Diesel	2,808	kgCO2eq/L	Base Carbone
Petrol	2,865	kgCO2eq/L	Base Carbone
Coal	3,14	tCO2eq/t	French Ministry of Ecological Transition
Gas	3,5	kgCO2eq/kg	Base Carbone
Natural gas	244	gCO2eq/kWh	Base Carbone
Electricity Myanmar	0,262	kgCO2eq/kWh	Base Carbone
Electricity Cameroon	0,207	kgCO2eq/kWh	Base Carbone
Electricity Colombia	0,176	kgCO2eq/kWh	Base Carbone
Electricity Greece	0,718	kgCO2eq/kWh	Base Carbone
Electricity Guatemala	0,286	kgCO2eq/kWh	Base Carbone
Electricity Honduras	0,332	kgCO2eq/kWh	Base Carbone
Electricity Iraq	1,003	kgCO2eq/kWh	Base Carbone
Electricity Jordan	0,566	kgCO2eq/kWh	Base Carbone
Electricity Kenya	0,274	kgCO2eq/kWh	Base Carbone
Electricity Kyrgyzstan	0,094	kgCO2eq/kWh	Base Carbone
Electricity Lebanon	0,709	kgCO2eq/kWh	Base Carbone
Electricity Mexico	0,455	kgCO2eq/kWh	Base Carbone
Electricity Mozambique	0,001	kgCO2eq/kWh	Base Carbone
Electricity Namibia	0,197	kgCO2eq/kWh	Base Carbone
Electricity Nigeria	0,405	kgCO2eq/kWh	Base Carbone
Electricity DRCongo	0,003	kgCO2eq/kWh	Base Carbone
Electricity Senegal	0,637	kgCO2eq/kWh	Base Carbone
Electricity Sudan	0,344	kgCO2eq/kWh	Base Carbone*
Electricity Switzerland	0,027	kgCO2eq/kWh	Base Carbone
Electricity Ukraine	0,419	kgCO2eq/kWh	Base Carbone
Electricity Yemen	0,655	kgCO2eq/kWh	Base Carbone
Electricity Burkina Faso	0,5	kgCO2eq/kWh	LowCarbonPower
Electricity Niger	0,405	kgCO2eq/kWh	International Energy Agency
Electricity South Sudan	0,344	kgCO2eq/kWh	Base Carbone*
Electricity eSwatini	0,3936	kgCO2eq/kWh	LowCarbonPower
Electricity Syria	0,5522	kgCO2eq/kWh	LowCarbonPower
Electricity Uganda	0,0833	kgCO2eq/kWh	LowCarbonPower
PRG R134a	1300	kgCO2eq/kg	Base Carbone
PRG R410a	1920	kgCO2eq/kg	Base Carbone
All other food manufacturing	1,021166	kgCO2eq/€	Quantis (TIC)
Apparel accessories and other apparel manufacturing	0,839158	kgCO2eq/€	Quantis (TIC)
Automobile manufacturing	0,525786	kgCO2eq/€	Quantis (TIC)

Biological product (except diagnostic) manufacturing	0,234053	kgCO2eq/€	Quantis (TIC)
Book publishers	0,174485	kgCO2eq/€	Quantis (TIC)
Community food, housing, and other relief services, including rehabilitation services	0,250726	kgCO2eq/€	Quantis (TIC)
Electric power generation, transmission, and distribution	6,310813	kgCO2eq/€	Quantis (TIC)
Electromedical and electrotherapeutic apparatus manufacturing	0,313141	kgCO2eq/€	Quantis (TIC)
Electronic computer manufacturing	0,237698	kgCO2eq/€	Quantis (TIC)
Handtool manufacturing	0,720123	kgCO2eq/€	Quantis (TIC)
Heavy duty truck manufacturing	0,654488	kgCO2eq/€	Quantis (TIC)
Hospitals	0,271969	kgCO2eq/€	Quantis (TIC)
Institutional furniture manufacturing	0,594025	kgCO2eq/€	Quantis (TIC)
Laboratory apparatus and furniture manufacturing	0,349883	kgCO2eq/€	Quantis (TIC)
Laminated plastics plate, sheet (except packaging), and shape manufacturing	0,907289	kgCO2eq/€	Quantis (TIC)
Motor vehicle parts manufacturing	0,711144	kgCO2eq/€	Quantis (TIC)
Motorcycle, bicycle, and parts manufacturing	0,72517	kgCO2eq/€	Quantis (TIC)
Office supplies (except paper) manufacturing	0,498682	kgCO2eq/€	Quantis (TIC)
Offices of physicians, dentists, and other health practitioners	0,121616	kgCO2eq/€	Quantis (TIC)
Other fabricated metal manufacturing	0,798257	kgCO2eq/€	Quantis (TIC)
Paint and coating manufacturing	0,985585	kgCO2eq/€	Quantis (TIC)
Pharmaceutical preparation manufacturing	0,283131	kgCO2eq/€	Quantis (TIC)
Plastics material and resin manufacturing	2,243567	kgCO2eq/€	Quantis (TIC)
Plastics packaging materials and unlaminated film and sheet manufacturing	1,129071	kgCO2eq/€	Quantis (TIC)
Printing	0,472654	kgCO2eq/€	Quantis (TIC)
Small electrical appliance manufacturing	0,510149	kgCO2eq/€	Quantis (TIC)
Surgical and medical instrument manufacturing	0,297931	kgCO2eq/€	Quantis (TIC)

Surgical appliance and supplies manufacturing	0,360661	kgCO2eq/€	Quantis (TIC)
Telecommunications	0,169684	kgCO2eq/€	Quantis (TIC)
Water, sewage and other systems	1,112388	kgCO2eq/€	Quantis (TIC)
Powdered milk	17,1	kgCO2eq/kg	AGRIBALYSE
Nutritional milk	1,59	kgCO2eq/kg	AGRIBALYSE
Plumpy Nut	1,53	kgCO2eq/kg	Ecoinvent 3
Air freight	1250	kgCO2eq/tkm	Quantis (TIC)
Sea freight	16	kgCO2eq/tkm	Quantis (TIC)
Road freight	136	kgCO2eq/tkm	Quantis (TIC)
Other freight	250	kgCO2eq/tkm	Quantis (TIC)
Jet A1	3,15	tCO2eq/t	Base Carbone
Social action	100	kgCO2eq/k€	Base Carbone
Creative, artistic, cultural, library and gambling activities	210	kgCO2eq/k€	Base Carbone
Activities of membership organisations	220	kgCO2eq/k€	Base Carbone
Activities related to human health	120	kgCO2eq/k€	Base Carbone
Sports, recreation and leisure activities	270	kgCO2eq/k€	Base Carbone
Public administration and defence, compulsory social security	160	kgCO2eq/k€	Base Carbone
Insurance, banking, consulting and fee-earning activities	110	kgCO2eq/k€	Base Carbone
Wood and wooden products	500	kgCO2eq/k€	Base Carbone
Construction	360	kgCO2eq/k€	Base Carbone
Mail	130	kgCO2eq/k€	Base Carbone
Publishing (books, newspapers, magazines, etc.)	280	kgCO2eq/k€	Base Carbone
Teaching	120	kgCO2eq/k€	Base Carbone
Warehousing and auxiliary transport services	170	kgCO2eq/k€	Base Carbone
Film, sound recording, television and radio	310	kgCO2eq/k€	Base Carbone
Accommodation and food services	320	kgCO2eq/k€	Base Carbone
Machinery and equipment	700	kgCO2eq/k€	Base Carbone
Transport equipment	700	kgCO2eq/k€	Base Carbone
Metals (aluminium, copper, steel, etc.)	1700	kgCO2eq/k€	Base Carbone
Furniture and other manufactured goods	600	kgCO2eq/k€	Base Carbone
Paper and cardboard	900	kgCO2eq/k€	Base Carbone
Plastics and rubber	800	kgCO2eq/k€	Base Carbone
Processed food products	1000	kgCO2eq/k€	Base Carbone

Mineral products (cement, glass, etc.)	1800	kgCO2eq/k€	Base Carbone
Agricultural and marine products	2300	kgCO2eq/k€	Base Carbone
Chemical products	1600	kgCO2eq/k€	Base Carbone
Computer, electronic and optical products	400	kgCO2eq/k€	Base Carbone
Metal products, except machinery and equipment	600	kgCO2eq/k€	Base Carbone
Pharmaceutical products	500	kgCO2eq/k€	Base Carbone
Research and development	250	kgCO2eq/k€	Base Carbone
Repair and installation of machinery and equipment	390	kgCO2eq/k€	Base Carbone
Services (printing, advertising, architecture and engineering, multi-technical maintenance of buildings, etc.)	170	kgCO2eq/k€	Base Carbone
Telecommunications	170	kgCO2eq/k€	Base Carbone
Textiles and clothing	600	kgCO2eq/k€	Base Carbone
Air transport	1190	kgCO2eq/k€	Base Carbone
Inland waterway and sea transport	590	kgCO2eq/k€	Base Carbone
Land transport	560	kgCO2eq/k€	Base Carbone
Multi-technical maintenance	215	kgCO2eq/k€	Base Carbone
Laptop	156	kgCO2eq/u	Base Carbone
Wheat	0,507	tCO2eq/t	Base Carbone
Lentils	0,325	tCO2eq/t	Base Carbone
Palm oik	5,59	tCO2eq/t	Base Carbone
Salt	0,646	tCO2eq/t	Base Carbone
Flight -500km	0,527	kgCO2eq/passager.km	Base Carbone
Flight 500-1000km	0,336	kgCO2eq/passager.km	Base Carbone
Flight 1000-3500km	0,265	kgCO2eq/passager.km	Base Carbone
Flight 3500+km	0,21	kgCO2eq/passager.km	Base Carbone

8. Estimation of the volume of infectious clinical waste (m3/year) in 2018



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About this report

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About MSF OCG

Médecins Sans Frontières (Doctors without Borders) is an international, independent medical humanitarian organisation providing medical assistance to people affected by conflict, epidemics, disasters, or exclusion from healthcare. Since its creation by a few volunteers in 1981, MSF Operational Centre Geneva has grown considerably. Today, more than three hundred employees, helped by volunteers, support projects in the field from OCG. MSF OCG is the first of MSF's five operational centres to decide on a carbon dioxide emissions reduction target. This follows the decision of the entire MSF movement in 2020 to reduce the environmental impact of its emergency medical projects by adopting an environmental pact.

About the Climate Action Accelerator

The Climate Action Accelerator is a non-profit Geneva-based initiative that aims to keep global warming below 2°C and avoid the risk of runaway climate change. Its aim is to help move the aid, health and higher education sectors towards a radical transformation of their practices, through an exponential increase in the number of organisations pursuing emissions reduction targets. By showing that direct action is possible, accessible and beneficial, these organisations will influence their ecosystems and accelerate the implementation of sustainable climate solutions.