

# ACTED 2017 CARBON FOOTPRINT REPORT

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ACTED 2017 Carbon Footprint  
Report

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## Executive summary

ACTED helps population affected by violence, conflicts, natural catastrophes or situation of endemic poverty. In addition to responding to emergencies, ACTED is engaged in sustainable development and community access to livelihoods. The organization is dedicated to building disaster resilience, food security, health promotion, education, training and accompanying economic development worldwide. ACTED's vocation is to save lives and to answer essential needs of populations in a sustainable and durable way and to accompany them in the construction of a better future. Indeed, ACTED teams work with local communities, local NGOs, and the actors of international aid to the construction of a "Zero Exclusions, Zero Carbon, Zero Poverty" world (3Zero Global Alliance - <http://www.3zero.org>). One such way is by the measurement of ACTED's greenhouse gas (GHG) emissions in all its countries of intervention, using the internationally acknowledged GHG Protocol methodology. The results of the study will help ACTED to reduce its carbon dioxide (CO<sub>2</sub>) emissions and provide guidelines for policymaking exercises towards sustainable development of ACTED's activities around the globe.

This report presents the 2017 GHG inventory results of ACTED. The study covered direct emissions resulting from ACTED-owned or operated equipment and from purchased electricity and heat (respectively, Scope 1 and 2 emissions), as well as emissions from the production of goods, services and capital goods purchased by ACTED, wastes generated in operations, business travel, employee commuting and fuel-and energy-related activities (not included in Scope 1 or 2). Under the GHG Protocol, the reporting of Scope 1 and 2 emissions is compulsory and reporting of Scope 3 emissions is voluntary.

ACTED's GHG emissions in 2017 were estimated to be 48 795 tCO<sub>2</sub>e, or 10 tCO<sub>2</sub>e per full-time equivalent (FTE) employee. A graphical representation of the breakdown of annual GHG emission per scope is presented in Figure 1. The majority of GHG emissions, associated with ACTED's operations, 82%, came from Scope 3 GHG emissions. The remaining associated emissions were associated with Scope 1 (16%) and Scope 2 (2%) GHG emissions.

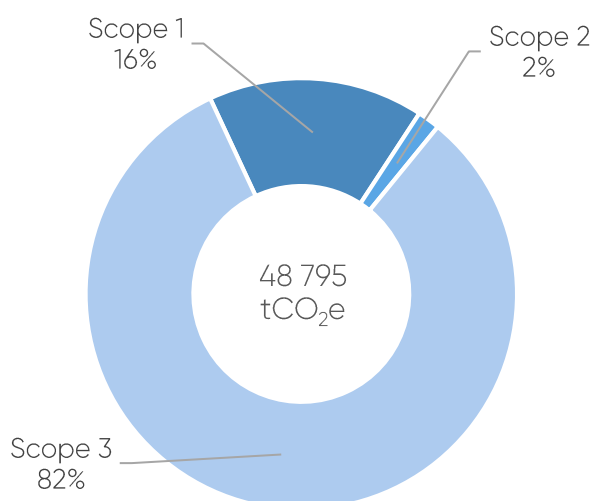


Figure 1. GHG emissions by Scope

Purchased goods and services were the largest source of ACTED's carbon footprint, representing 44% of total GHG emissions, or 21 328 tCO<sub>2</sub>e. This is followed by transportation and distribution (5 157 tCO<sub>2</sub>e), the production of capital goods (4 703 tCO<sub>2</sub>e) and business travel (4 389 tCO<sub>2</sub>e).



From this inventory, it was possible to identify the major emission sources. Thus, this report also presents the action plan which outlines strategies to reduce future GHG emissions at ACTED.



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## Glossary

- (ADEME) French Environment and Energy Management Agency
- (AFD) French Development Agency
- (AFOLU) Agriculture, Forestry and Other Land Use
- (CAR) Central African Republic
- (CH<sub>4</sub>) Methane
- (CO<sub>2</sub>) Carbon Dioxide
- (COP) Conference of the parties
- (DRC) Democratic Republic of the Congo
- (EEA) European Environment Agency
- (EF) Emission Factor
- (EMEP) European Monitoring and Evaluation Programme
- (FTE) Full-time equivalent
- (GHG) Greenhouse Gas
- (GLEC) Global Logistics Emissions Council
- (GWP) Global Warming Potential
- (HFC) Hydrofluorocarbons
- (ICAO) International Civil Aviation Organization
- (IPCC) Intergovernmental Panel on Climate Change
- (IT) Information Technology
- (LCA) Life Cycle Analysis
- (N<sub>2</sub>O) Nitrous oxide
- (OECD) Organisation for Economic Co-operation and Development
- (PFC) Perfluorocarbons
- (SBT) Science-Based Target
- (SBTi) Science-Based Target Initiative
- (SDG) Sustainable Development Goals
- (SF<sub>6</sub>) Sulphur Hexafluoride
- (TCO<sub>2e</sub>) Tonnes of CO<sub>2</sub> equivalent
- (UNFCCC) United Nations Framework Convention on Climate Change
- (WWF) World Wide Fund for Nature





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## Context of the study

### 1. Context of ACTED

ACTED is a French non-governmental organisation (NGO) of international solidarity, this organisation supports vulnerable populations all around the world by investing in useful and sustainable projects. Founded in 1993, ACTED is now present in 35 countries throughout the world and develops more than 490 projects each year benefiting to about 11 million people in 35 countries. ACTED is the second largest French NGO and employs more than 400 international staff and over 4 300 national staff with a budget of 240 million euros.

ACTED helps population affected by violence, conflicts, natural catastrophes or situation of endemic poverty. In addition to responding to emergencies, ACTED is engaged in sustainable development and community access to livelihoods. The organization is dedicated to building disaster resilience, food security, health promotion, education, training and accompanying economic development worldwide. ACTED's vocation is to save lives and to answer essential needs of populations in a sustainable and durable way and to accompany them in the construction of a better future. Indeed, ACTED teams work with local communities, local NGOs, and the actors of international aid to the construction of a "Zero Exclusions, Zero Carbon, Zero Poverty" world (3Zero Global Alliance - <http://www.3zero.org>). The organization thus contributes to reaching the Sustainable development goals (SDGs).

It is in that perspective that ACTED has engaged with EcoAct in the calculation of its carbon footprint in all its countries of intervention. The results of the study will help ACTED to reduce its carbon dioxide (CO<sub>2</sub>) emissions and provide guidelines for policymaking exercises towards sustainable development of ACTED's activities around the globe.

### 2. Climate-energy context

#### 2.1. Emissions growth

Global emissions have grown at an alarming rate between 1970 and 2010 with larger increases per decade towards the end of the period. About half of cumulative anthropogenic<sup>1</sup> emissions over the last 260 years (1750 and 2010) have occurred in the last 40 years, as a result of economic and population growth. Figure 2 exhibits this trend (broken down by gas group).

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<sup>1</sup> Originating in human activity.

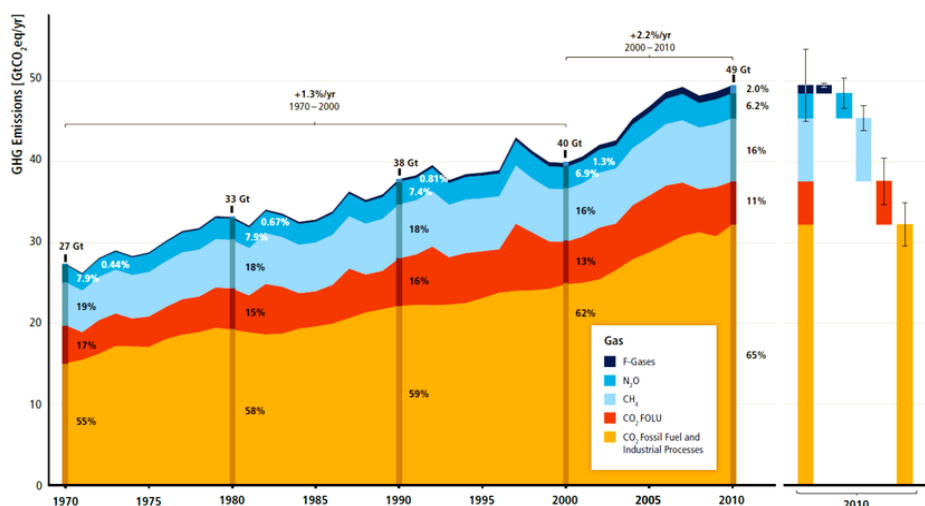


Figure 2. Growth of global emissions by gas group [source: IPCC Third Working Group, 2014]

## 2.2. Where do emissions come from?

### ORIGIN BY SECTOR

The first step to reducing emissions is to calculate them and to understand their source of emissions. Figure 3 illustrates the repartition of greenhouse gas (GHG) emissions by sector.

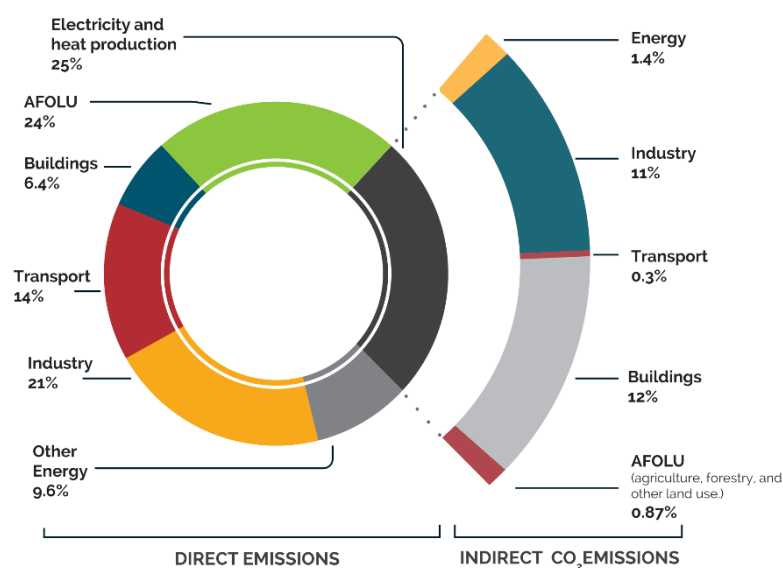


Figure 3. Repartition of global GHG emissions in 2010 by sector [source: IPCC Third Working Group, 2014]

Since 2000, GHG emissions have been growing in all sectors (except in AFOLU). About 35% of GHG emissions come from the energy supply sector ("other energy + electricity and heat production") alone.

### THE TRANSPORT SECTOR

As shown in Figure 3, the Transport industry makes up a substantial part of emissions – about 14% of global emissions, which have more than doubled since 1970, increasing at a faster rate than any other energy end-use sector. Eighty percent of this increase has come from road vehicles alone. Global demand is expected to continue growing in the transport sector, as developing and



emerging economies continue to grow. As a result, aggressive and sustained mitigation policies are essential to curb future emissions in the transport sector if deep GHG reduction ambitions are to be achieved. Deep reduction ambitions can be achieved: avoided journeys, modal shifts, low-carbon fuels, improved vehicle and engine performance together can offer high mitigation potential.

### 2.3. GHG emission reduction commitments

Numerous researchers study the various GHG trajectories, with their consequences on the temperature. These scenarios predict an increase of the global temperature between 1.8°C and 4°C on average by 2100 (compared to the end of the 20th century) (IPCC Fourth Assessment Report, 2007).

The goal set by policy makers at the global level is to limit the rise in temperature to 2°C by 2100. In order to get to the most optimistic scenarios and to limit the consequences of global warming, it is necessary to divide global GHG emissions by at least half compared to 1990 levels, and to do this by 2050. This means that developed countries need to collectively reduce their GHG emissions between 80–95% by 2050 compared to 1990 levels (European Commission, 2011)<sup>2</sup>.

In order to break the current trend, and not just to slow down the increase in GHG emissions, it is necessary to set short- and long-term targets at different geographical scales. The efforts made over the next 20 to 30 years will be decisive. These long-term targets have been set out in a number of international agreements.

#### THE KYOTO PROTOCOL

On an international level, commitments to reduce the greenhouse effect are expressed in the Kyoto Protocol, ratified in 1997 and entered into force in February 2005. Every year following 1995, the United Nations Climate Change Conferences are held yearly, serving as a formal meeting of the United Nations Framework on Climate Change (UNFCCC), known as the Conference of the Parties, or COP.

The primary ambition of the Kyoto Protocol was to reduce global GHG emissions by 5.2% in OECD countries over the period 2008–2012, compared to 1990 levels, the reference year. To achieve this, the Protocol set individual targets for reducing or limiting GHG emissions to developed countries (8% overall for the European Union). The first figures suggest that the reduction target seems to be attained for the countries concerned. However, internationally, a significant increase of + 45% was observed between 1990 and 2010. This is explained by the development of emerging countries such as China, India ... which represented more than 50 % of global GHG emissions in 2010.

According to the report published by the European Environment Agency (EEA)<sup>3</sup>, emissions from the European Union actually reduced by -19% in 2012 compared to 1990 (however, this is also due to the 2008 global financial crisis, decreasing economic activity and corresponding emissions).

During the COP 17 held in Durban in 2011, countries agreed to extend the Kyoto protocol after 2012. This is known as the second commitment period of the Kyoto Protocol, and included a decision by Parties to adopt a universal legal agreement on climate change by 2015, at the COP 21 in Paris (see below).

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<sup>2</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0112&from=EN>

<sup>3</sup> European Environment Agency, "Why did greenhouse gas emissions decrease in the EU between 1990 and 2012?", 2014



### THE PARIS ACCORD (COP 21)

The 21<sup>st</sup> COP to the UNFCCC (COP21) was held from 30 November to 11 December 2015 in Paris. The COP aimed to achieve, for the first time, a universal and binding agreement to effectively combat climate change and accelerate the transition to resilient and low-carbon societies and economies. The challenge was enormous because it involved associating North America, China and India and securing the necessary funding for developing countries to develop a low-carbon economy while also pursuing economic development goals.

Countries around the world had until 1 October 2017 to publish their roadmap on their greenhouse gas emission reduction policies so that they would be counted as part of the global synthesis at the international level.

Thanks to the contributions of each country, and if implemented, the objective of limiting warming to 2°C by 2100 can be attained. It is therefore agreed that the peak of emissions should take place "as soon as possible" according to the state of development of each country. However, no GHG reduction target per country is included in the agreement. It should be noted, however, that 195 (of the 197) countries have approved the agreement, an encouraging fact in of itself.

On the 22nd of April, 175 parties (174 countries plus the European Union) signed the Accord, a historic figure only preceded by the 119 signatures of the signing of an international agreement at the Montego Bay Convention on the Law of the Sea in 1982. These signatures have symbolic value albeit are non-binding.

To enter into force, the agreement had to be ratified, accepted or approved by at least 55 Parties, accounting for at least 55% of the world's greenhouse gas emissions, which was accomplished with the ratification by 143 of the 197 Parties to the Convention in October 2016, covering over 85 percent of global emissions. Thirty days later, the accord was officially in force.

The main objective of the COP22, held in Marrakech in November 2016, was to make the Paris agreement operational by specifying implementation rules. The Parties to the UNFCCC opted for the shorter-term time horizon of 2018 rather than 2020, to finalize these rules.

On June 1st 2017, US President Donald Trump announced that the US would withdraw from the Paris Agreement. On the international stage, this decision will have a significant impact on the financing of the Green Climate Fund to support developing countries in the fight against climate change: while the United States had committed to fund 3 billion of \$, only 1 billion has been paid and Donald Trump has reported that the Federal Government of the United States would not give more.

Since Donald Trump's announcement, US cities, states and companies will step up and do even more to reach commitments made by Obama administration. Europe, China, and India announced their willingness to follow this dynamic and commit to take over from the United States, particularly to support developing countries in their low-carbon transition.

### THE CLIMATE ENERGY PACKAGE OF THE EUROPEAN UNION

The European Union has also committed itself to the fight against global warming by anticipating the post-Kyoto period through the Climate-Energy Package, adopted in 2008. The package defines the objective of "3 x 20" where the European Union has set the following goals by 2020:

- Produce 20% of its energy from renewable sources;
- Improve energy efficiency by 20% (producing as much energy with 20% less energy);
- Reduce GHG emissions by 20% compared to 1990.

In November 2015, the European Union defined and adopted a new Climate-Energy Package with 2030 objectives, being:



- Produce 27% of its energy from renewable sources;
- Improve energy efficiency by 27% (producing as much energy with 20% less energy);
- Reduce GHG emissions by 40% compared to 1990.

Like in the Kyoto Protocol commitments, the efforts are distributed among member countries to reflect the varying weight each country has on emissions.

### 3. Objective of the project

In this global context, the objective of ACTED is to quantify the carbon footprint of its activities at the international level. The results of this quantification will be integrated in environmentally-sound decision making both for national and international activities. Indeed, results will help identify potential emission reduction actions, in line with ACTED's core mission of mitigating – *here climate-related* – natural disasters consequences on fragile populations and livelihoods.

In addition to the quantification of ACTED's carbon footprint, this project also seeks to develop a new GHG emissions calculation tool based on Microsoft Excel, in compliance with the Greenhouse Gas Protocol (GHG Protocol) Corporate Accounting Standard Methodology. The tool will be able to measure ACTED's GHG emissions, i.e. its carbon footprint, each year. To prepare contributors to the GHG reporting exercise, EcoAct will organize a training and mentoring in the HQ in Paris. At this occasion, EcoAct will provide information on how to use the data collection tool and on how to find the required data.

### 4. Scope of the study

#### 4.1. Organisational scope

The organisational scope defines the missions concerned by the project. The GHG inventory covered 35 countries across the globe, representing 218 252 m<sup>2</sup> and 4 709 full time employees (FTE) (Table 1).

Country of intervention	Surface of installations (m <sup>2</sup> )	Full time employees
Afghanistan	60 000	573
Cambodia	127	13
Central African Republic (CAR)	10 689	304
Chad	3 916	151
Democratic Republic of the Congo (DRC)	13 720	278
France	626	70
Haiti	4 523	205
India	404	8
Iraq	3 900	283
Ivory Coast	300	20
Jordan	28 610	371
Kenya	4 800	57
Kyrgyzstan	1 188	31
Lebanon	1 767	75
Libya –Tunisia	2 750	51
Mali	7 250	184
Myanmar	357	29
Niger	5 429	113



Nigeria	3 716	27
Pakistan	12 001	175
Palestinian Territories	833	24
Philippines	630	27
Republic of the Congo	1 975	17
Senegal	925	15
Somalia	8 000	33
South Sudan	20 464	447
Sri Lanka	795	40
Syria-Turkey	6 356	625
Tajikistan	2 960	61
Thailand	279	11
Uganda	3 000	55
Ukraine	563	48
United Kingdom	50	1
United States	85	0,33
Uzbekistan	65	2
Yemen	5 200	285

Table 1. ACTED's organisational scope

## 4.2.Operational scope

The operational scope corresponds to the categories and GHG emissions sources from ACTED's missions included in the organisational scope. The GHG inventory includes the three scopes of emissions that are defined by the GHG Protocol:

- **Scope 1** is compulsory and includes direct GHG emissions from stationary combustion sources owned or controlled by ACTED, which includes:
  - Natural gas consumption;
  - Mobile combustion of vehicle fleet;
  - And fugitive emissions from refrigeration and air conditioning equipment.
- **Scope 2** is compulsory and includes indirect GHG emissions results from activities of ACTED but occurring at sources owned or controlled by another organization, including GHG emissions from the generation of:
  - Indirect emissions from (purchased) electricity consumption;
  - And indirect emissions from (purchased) steam, heat and cooling consumption.
- **Scope 3** is voluntary and covers GHG emissions deemed relevant to ACTED. The categories were determined in collaboration with the ACTED. Those that are a consequence of the organization's operations but are not directly owned or controlled by the organization:
  - The production of purchased goods and services
  - The production of capital goods purchased in 2017 (vehicles, IT equipment, new buildings built and furniture);
  - Fuel- and energy-related activities not included in Scope 1 or 2;
  - Upstream transportation and distribution;
  - Wastes generated in operations;
  - Business travel;
  - Employee Commuting.



## 2017 Carbon footprint

### 1. Results by scope

ACTED's GHG emissions in 2017 was 48 795 tCO<sub>2</sub>e. As shown by Table 2 and Figure 4, the majority of GHG emissions came from Scope 3, accounting for about 82% of ACTED's total GHG emissions. Scope 1 accounted for about 16% of ACTED's total GHG emissions, followed by Scope 2, accounting for 2%.

Emission categories	GHG emissions (tCO <sub>2</sub> e)	Uncertainty (tCO <sub>2</sub> e)
<b>Scope 1</b>	<b>7 887</b>	<b>342</b>
Direct emissions from stationary combustion sources	3 596	287
Direct emissions from mobile combustion sources	3 655	171
Direct fugitive emissions	636	72
<b>Scope 2</b>	<b>822</b>	<b>55</b>
Indirect emissions from electricity consumption	806	54
Indirect emissions from steam, heat and cooling consumption	17	7
<b>Scope 3</b>	<b>40 086</b>	<b>5 481</b>
Purchased Goods and Services	21 328	5 262
Capital Goods	4 703	993
Fuel- and Energy-Related Activities Not Included in Scope 1 or 2	1 733	76
Upstream Transportation and Distribution	5 157	985
Waste Generated in Operations	79	11
Business Travel	4 389	564
Employee Commuting	2 696	259
<b>Total emissions (all sources)</b>	<b>48 795</b>	<b>5 492</b>

Table 2. GHG emissions by Scope (GHG Protocol)

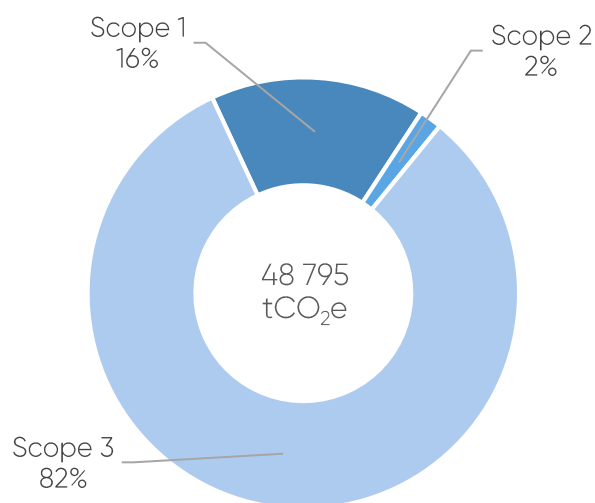


Figure 4. GHG emissions by Scope (GHG Protocol)

### 1.1. Scope 1

Scope 1 included the GHG emissions associated with stationary combustion, mobile combustion and fugitive emissions. Scope 1 accounted for 16% of ACTED's GHG emissions in 2017 (7 887 tCO<sub>2</sub>e).

As indicated in Figure 5, 46% of the GHG emissions came from the combustion of fossil fuels (gasoline and diesel) used in vehicles operated by ACTED, 46% from the combustion of fossil fuels (natural gas) used in buildings operated by ACTED and 8% from unintentional release of GHG from air conditioning and cooling installations.

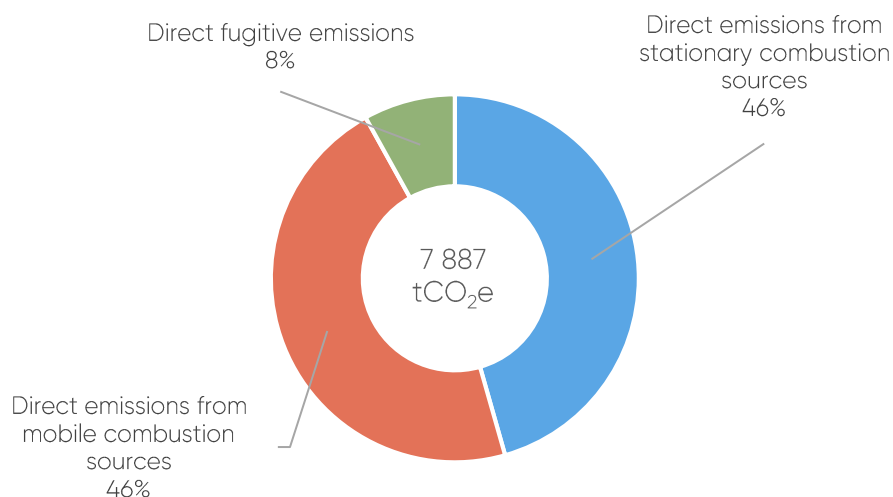


Figure 5. Distribution of Scope 1 GHG emissions

Figure 6 shows the top 10 emitters among all ACTED missions in terms of GHG emissions generated from stationary combustion sources (gas consumption and generator fuel consumption).





The missions in Pakistan, Syria-Turkey and South Sudan have the largest impact producing respectively 899 tCO<sub>2</sub>e, 888 tCO<sub>2</sub>e and 462 tCO<sub>2</sub>e. These impacts are far larger than the average impact across all missions: 104 tCO<sub>2</sub>e.

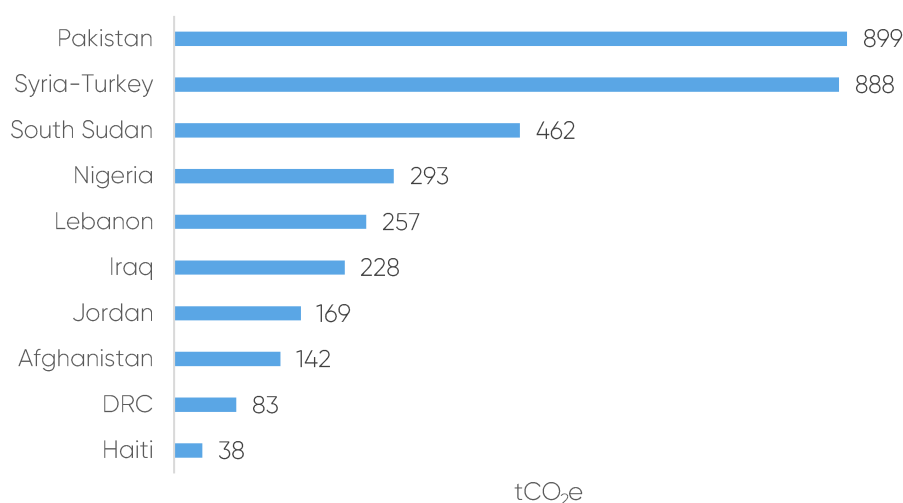


Figure 6. GHG emissions from stationary combustion sources – top 10 emitters

Figure 7 shows the top 10 emitters among all ACTED missions in terms of GHG emissions generated from mobile combustion sources (fuel used in vehicles operated by ACTED).

The missions in Syria-Turkey, Jordan and Iraq have the largest impact producing respectively 712 tCO<sub>2</sub>e, 453 tCO<sub>2</sub>e and 370 tCO<sub>2</sub>e. These impacts are far larger than the average impact across all missions: 102 tCO<sub>2</sub>e.

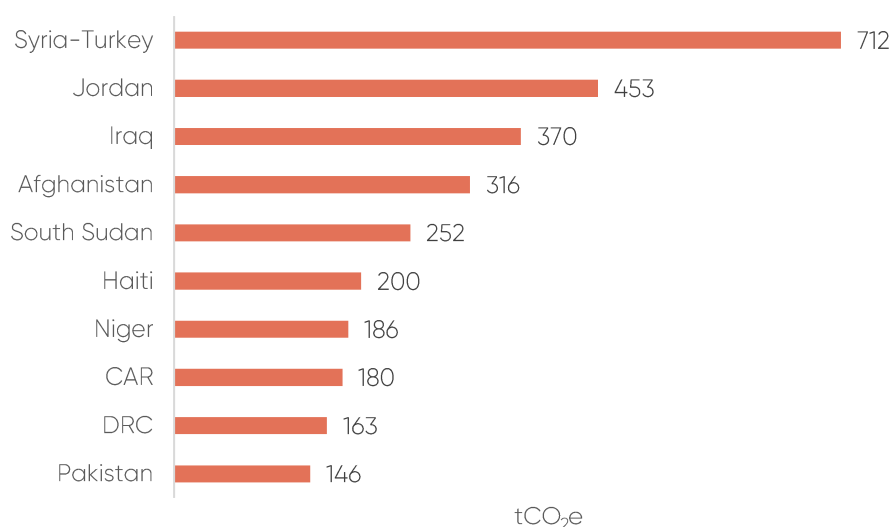


Figure 7. GHG emissions from mobile combustion sources – top 10 emitters

## 1.2. Scope 2

Scope 2 includes GHG emissions associated with the consumption of purchased electricity and heat. Scope 2 accounted for 2% of ACTED's GHG emissions in 2017 (822 tCO<sub>2</sub>e).



As indicated in Figure 8, 98% of the GHG emissions come from the consumption of purchased electricity and 2% from the consumption of purchased heat.

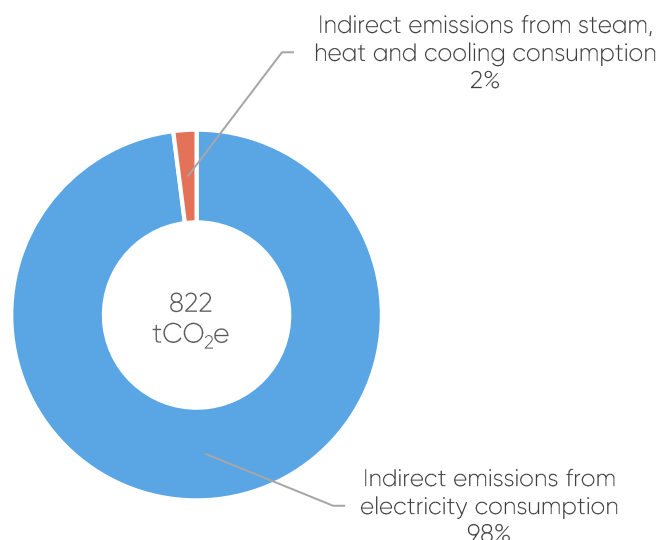


Figure 8. Distribution of Scope 2 GHG emissions

The consumption of purchased electricity accounts for 98% of Scope 2 GHG emissions, or 806 tCO<sub>2</sub>e. Purchased heat represents 2% of Scope 2 emissions, or 17 tCO<sub>2</sub>e.

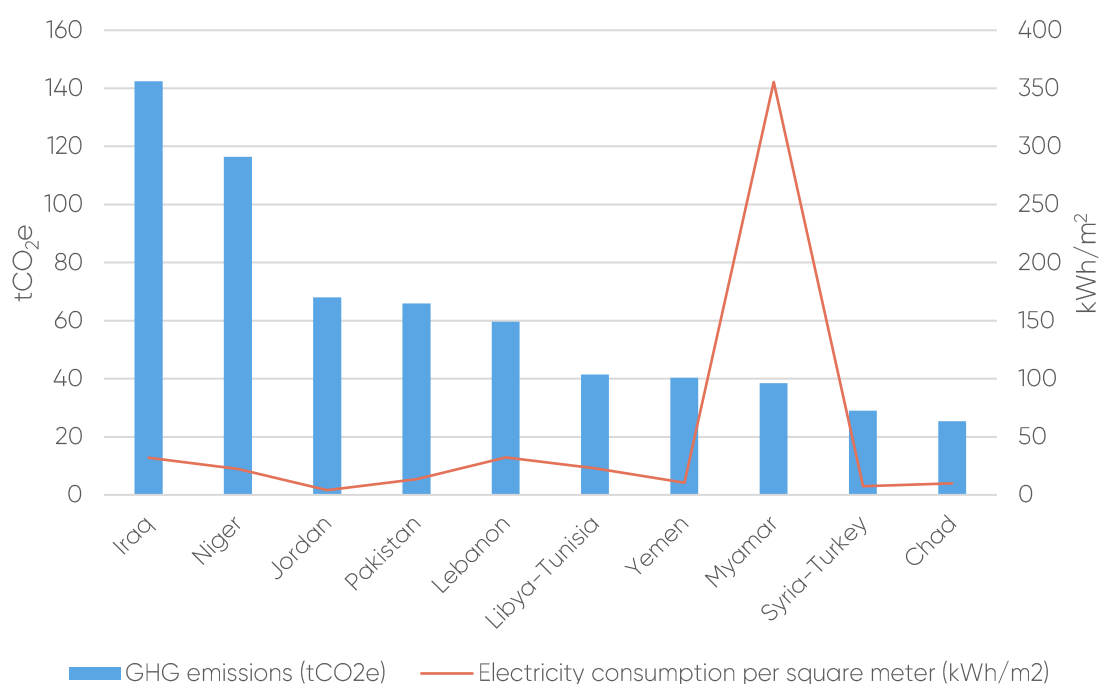


Figure 9. GHG emissions from electricity consumption and associated kWh/m<sup>2</sup> – top 10 emitters

Figure 9 shows the top 10 emitters among all ACTED missions in terms of GHG emissions generated from electricity consumption, and their associated electricity consumption per square meter. The missions in Iraq, Niger and Jordan have the largest impact producing respectively 142 tCO<sub>2</sub>e, 116 tCO<sub>2</sub>e and 68 tCO<sub>2</sub>e. These impacts are far larger than the average impact across all missions: 23 tCO<sub>2</sub>e. Among these ten missions, the missions in Myanmar, Iraq and Lebanon have the highest



electricity consumption per square meter, consuming respectively 355 kWh/m<sup>2</sup>, 32 kWh/m<sup>2</sup> and 32 kWh/m<sup>2</sup>. For a significant reduction of energy consumption, it is necessary to act on buildings with the highest energy consumption and worst energy efficiency. For next reporting year, we recommend that ACTED checks the energy values reported for Myanmar, in order to identify if this high electricity consumption is a reporting error or a real energy consumption, in which case an action of electricity consumption reduction should be prioritized in this country.

### 1.3. Scope 3

Scope 3 includes GHG emissions from categories deemed relevant to ACTED, that are a consequence of the missions' operations but are not directly owned or controlled by the missions. Scope 3 includes a number of different sources of GHG including the production of purchased goods and services, capital goods, fuel- and energy-related activities not included in Scope 1 or 2, upstream transportation and distribution, waste generated in operations, business travel and employee commuting.

Scope 3 accounted for 82% of ACTED's GHG emissions in 2017 (40 086 tCO<sub>2</sub>e).

As indicated in Figure 10, the largest source of ACTED's Scope 3 GHG emissions is the production of purchased goods and services (53%), followed by transportation and distribution (13%), the production of capital goods (12%) and business travel (11%). Emissions from employee commuting, fuel- and energy-related activities not included in Scope 1 or 2 and from waste generated in operations make up the remaining 11%.

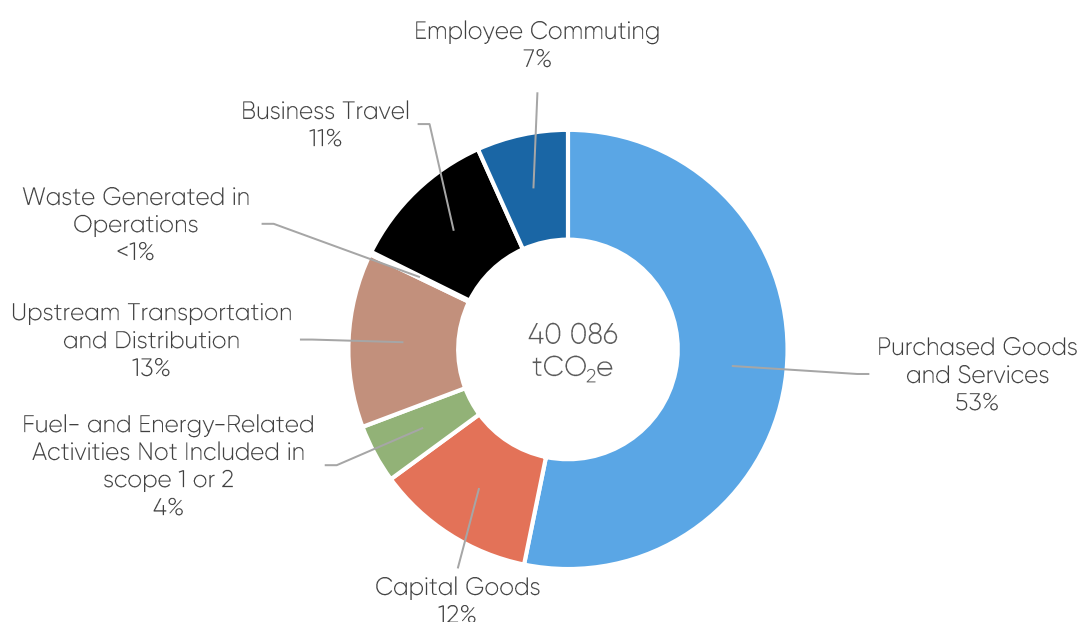


Figure 10. Distribution of Scope 3 GHG emissions

The production of goods and services purchased by ACTED accounts for 53% of Scope 3 GHG emissions, or 21 328 tCO<sub>2</sub>e. The majority of these GHG emissions come from France (60% of Purchased Goods and Services GHG emissions, or 12 715 tCO<sub>2</sub>e), Chad (10% of Purchased Goods and Services GHG emissions, or 2 186 tCO<sub>2</sub>e), and Syria & Turkey (8% of Purchased Goods and Services GHG emissions, or 1 606 tCO<sub>2</sub>). Figure 11 shows the top 10 GHG emitters from purchased goods and services. This graph excludes France because services purchased by France includes all ACTED's SAGA data. Including France to the comparison would give a wrong picture.

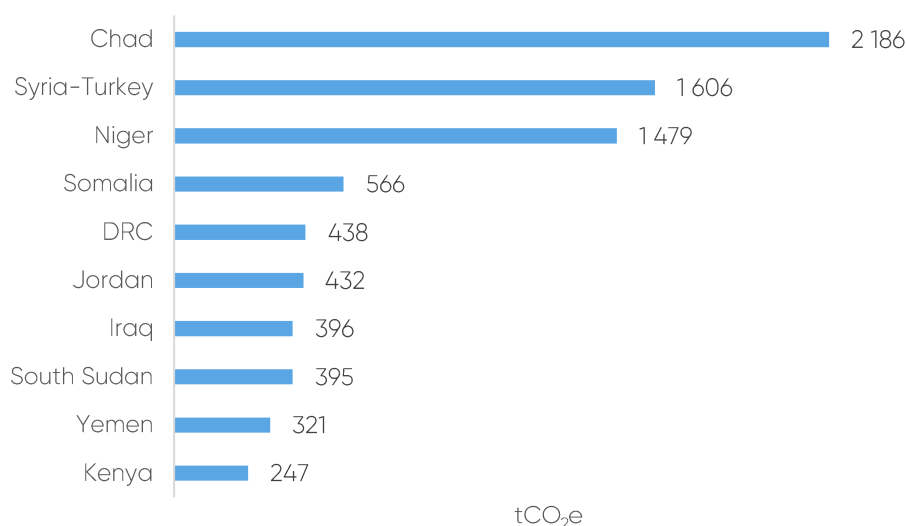


Figure 11. GHG emissions from purchased goods and services – top 10 emitters (excluding France)

Upstream Transportation and Distribution of purchased goods and services accounts for 13% of the Scope 3 GHG emissions, or 5 157 tCO<sub>2</sub>e. It includes transports between the missions' tier suppliers and the missions, or operation sites, in vehicles that are not owned by ACTED. The top 3 contributors to these emissions are Somalia with 1440 tCO<sub>2</sub>e (28% of Transportation and Distribution GHG emissions), and Chad and South Sudan with both 722 tCO<sub>2</sub>e (14% of Transportation and Distribution GHG emissions), as shown in Figure 12. For France, data include DHL transportation to the missions in the other countries.

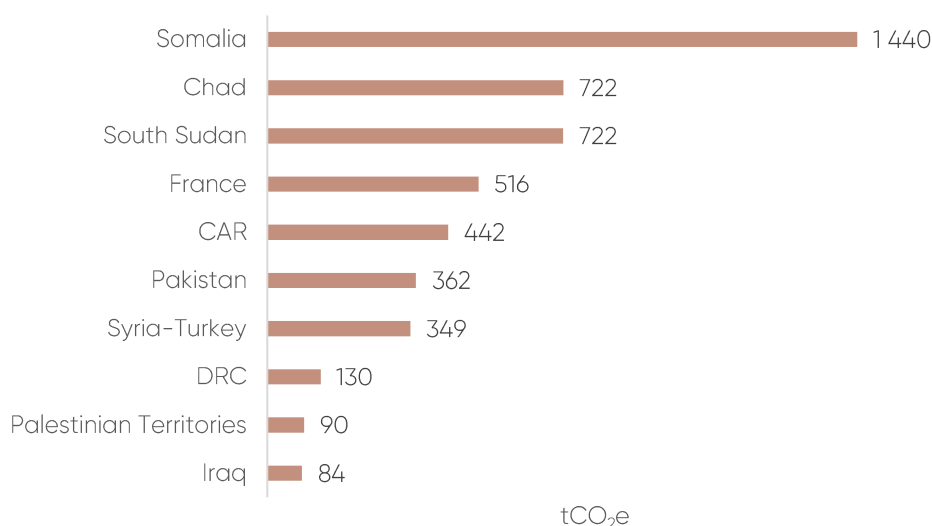


Figure 12. GHG emissions from transportation and distribution – top 10 emitters

The production of Capital Goods accounts for 12% of Scope 3 GHG emissions, or 4 703 tCO<sub>2</sub>e, and includes vehicles, buildings, furniture, equipment, machinery and IT equipment. The top 3 contributors to these emissions are South Sudan with 2 005 tCO<sub>2</sub>e (43% of Capital Goods GHG emissions), Mali with 702 tCO<sub>2</sub>e (15% of Capital Goods GHG emissions) and Lebanon with 644 tCO<sub>2</sub>e (14% of Capital Goods GHG emissions), as shown in Figure 13.

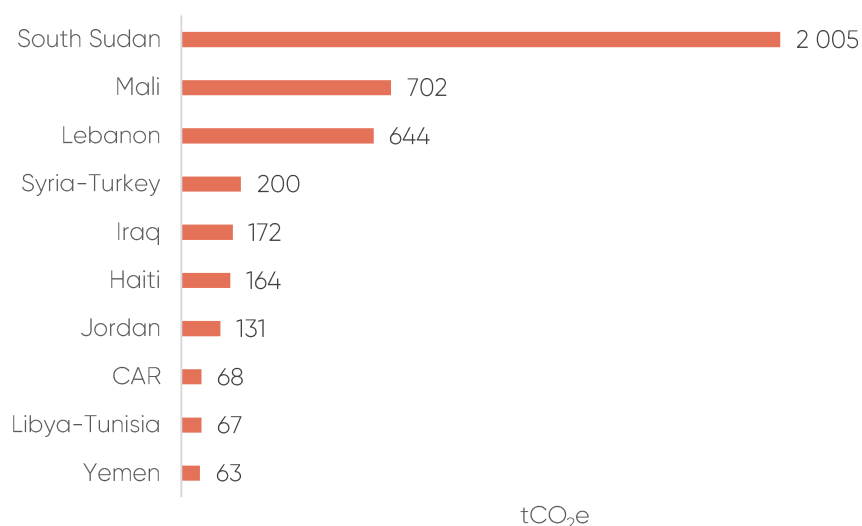


Figure 13. GHG emissions from the production of capital goods – top 10 emitters

Business travel accounts for 11% of Scope 3 GHG emissions, or 4 389 tCO<sub>2</sub>e, and includes business travel by plane, by train, by car, etc. The missions that produce the most GHG emissions are the ones in France with 2 830 tCO<sub>2</sub>e (64% of GHG emissions due to business travel), in DRC with 641 tCO<sub>2</sub>e (15%) and in South Sudan with 204 tCO<sub>2</sub>e (5%), as shown in Figure 14. GHG emissions from business travel generated by France are high because France also accounts for flights that were centrally booked by ACTED's travel agencies for the missions.

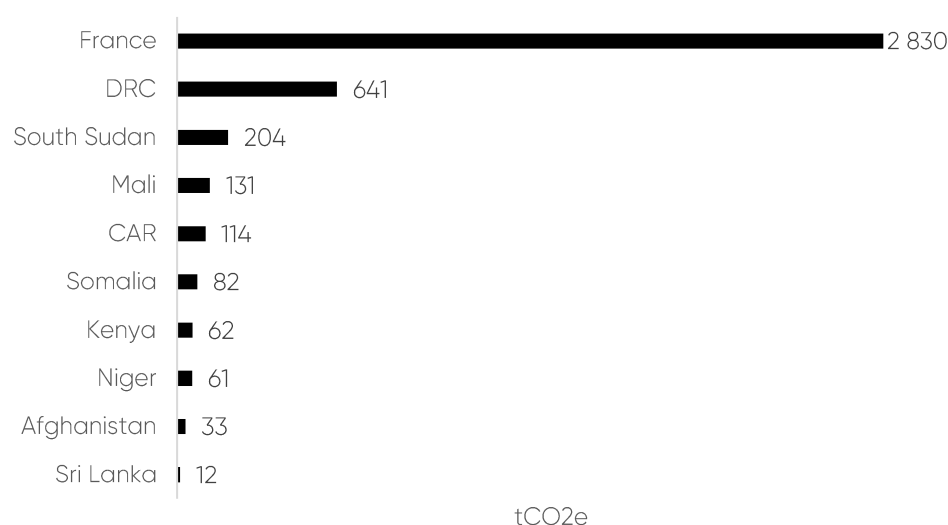


Figure 14. GHG emissions from business travel – top 10 emitters

#### 1.4. Uncertainty of results

The primary aim of the GHG inventory is to estimate the magnitude of GHG emissions, as well as to communicate the levels of uncertainty associated. Every carbon footprint assessment is subject to uncertainty levels. **The total uncertainty of ACTED GHG emissions assessment amounts to 11% (5 492 tCO<sub>2</sub>e) (see Table 2 for individual uncertainty for specific categories).** Beyond these details (although important), the reader should keep in mind the big picture of the study, and that **the order of magnitude of the emission sources is the main take-away.**



Although the results of the emission sources are provided in order of magnitude in the report, the respective levels of uncertainty must also be visible. Uncertainties are related to two factors: they are a combination of data uncertainty and emission factor uncertainty.

#### UNCERTAINTY OF DATA

Some data is very reliable, such as energy consumption and the litres of fuel used, as they have a high level of traceability and measurability, while other data is either estimated, auto-reported or extrapolated from the results of a survey.

- 1% uncertainty when the activity data is reliable and no extrapolation is required;
- 10% uncertainty when the data is extrapolated (assumptions are made) or a ratio using data from ACTED is used;
- 30% uncertainty when the data is inaccurate either because of the use of several assumptions to obtain the data or because the data is extrapolated from other available data.

#### UNCERTAINTY OF EMISSION FACTORS (EF)

The Bilan Carbone® uses ADEME's emission factors, which are aggregated average emissions factors of various studies that have been undertaken, such as various life cycle analyses (LCAs). The uncertainty levels depend on the sources of the study, which range from 5 to 80 %. The percentage of uncertainty related to each line of data is explicitly expressed in the excel calculation file. It is important to keep in mind that the main purpose of undertaking a carbon footprint is to be a **springboard towards mitigation actions**

Figure 15 shows the overall results with uncertainty lines. **The total uncertainty level of the ACTED GHG assessment amounts to 11% (see Table 2 for individual uncertainty for specific categories).** This means that the real carbon footprint lies within the range of 43 303 tCO<sub>2</sub>e and 54 287 tCO<sub>2</sub>e, where the calculated carbon footprint accounts for 5 492 tCO<sub>2</sub>e.

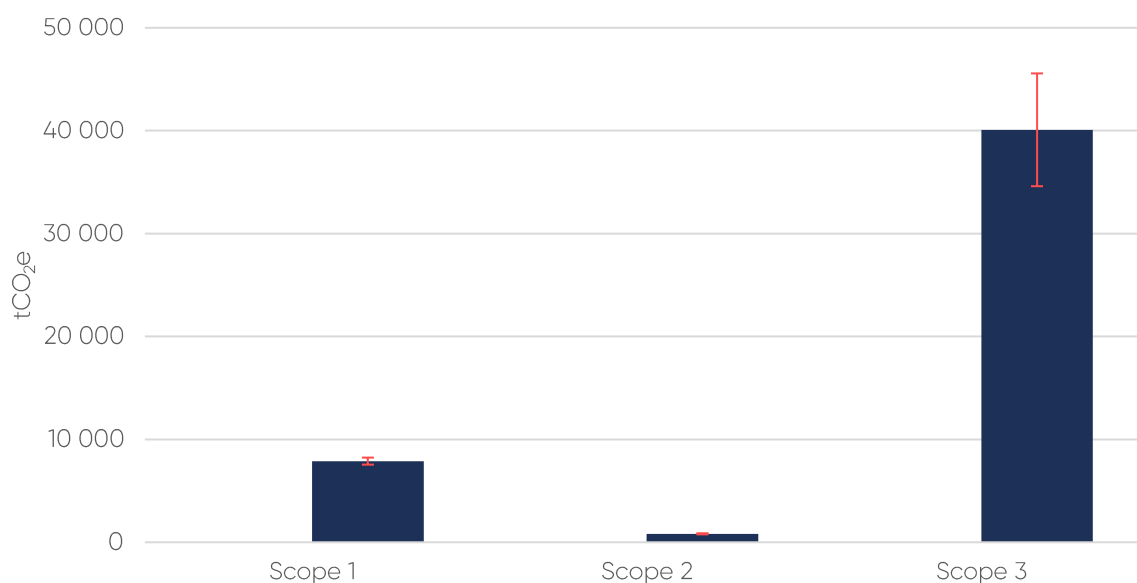


Figure 15. GHG emissions per scope and their corresponding uncertainty levels



## 2. Key performance indicators

The evaluation of the ACTED's GHG emissions allows to extract a number of key performance indicators (Table 3). Assessed every year, they allow ACTED to follow its performance over time.

Key performance indicators	Value	Unit
Per FTE employee		
Total GHG emissions per FTE employee	10.36	tCO <sub>2</sub> e/FTE
Scope 1, 2 GHG emissions per FTE employee	1.85	tCO <sub>2</sub> e/FTE
Scope 3 GHG emissions per FTE employee	8.51	tCO <sub>2</sub> e/FTE
Per square meter		
Total GHG emissions per square meter	0.22	tCO <sub>2</sub> e/m <sup>2</sup>
Scope 1, 2 GHG emissions per square meter	0.04	tCO <sub>2</sub> e/m <sup>2</sup>
Scope 3 GHG emissions per square meter	0.18	tCO <sub>2</sub> e/m <sup>2</sup>

*Table 3. Key performance indicators*



Figure 16 shows total GHG emissions (Scope 1, 2 and 3) by country and their associated GHG emissions per FTE employee. For next reporting year, we recommend that ACTED checks the values reported by countries with a high GHG emissions per FTE indicator to identify if this is a reporting error or a real carbon footprint, in which case actions should be prioritized in these countries.

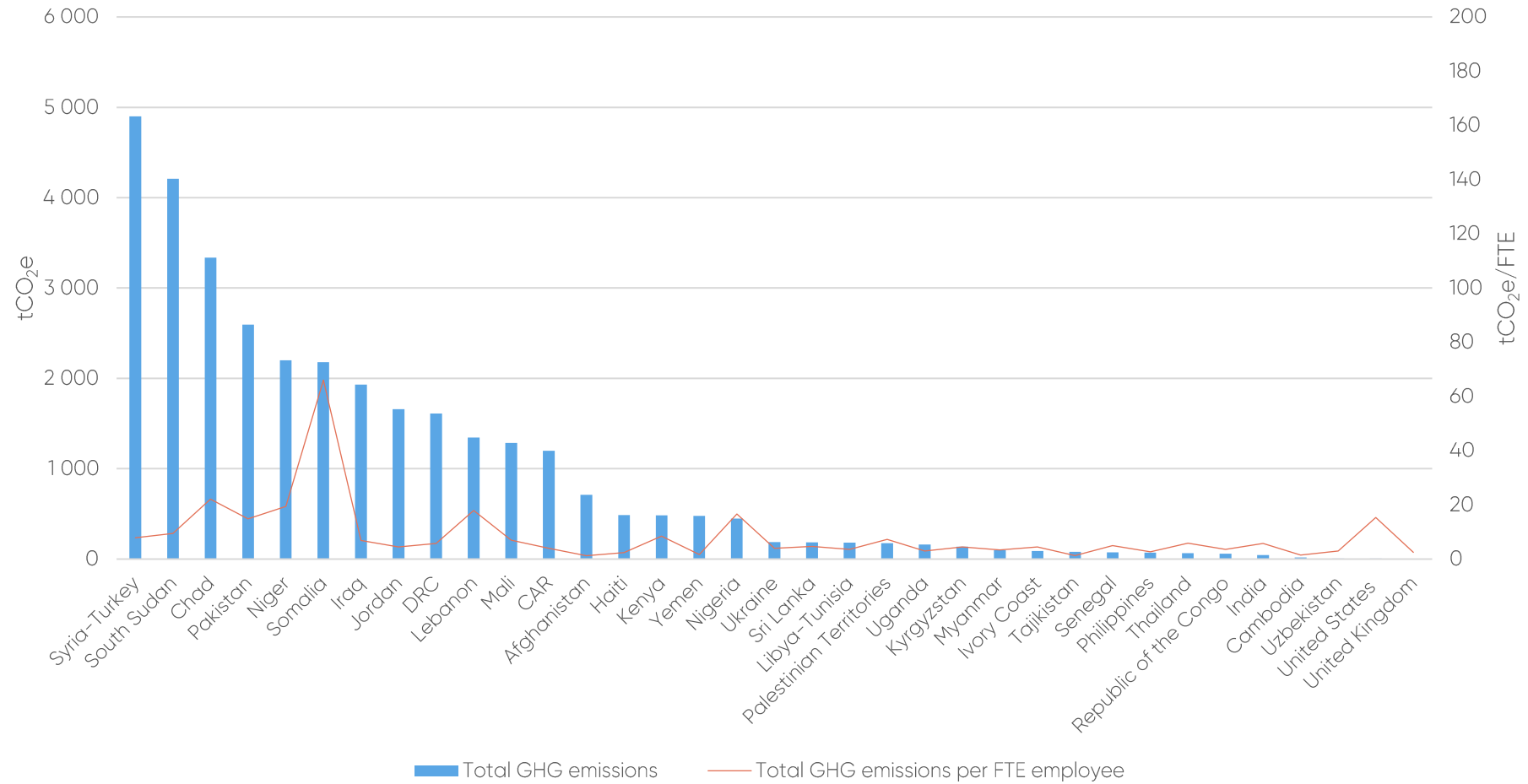


Figure 16. GHG emissions by country and associated GHG emissions per FTE employee

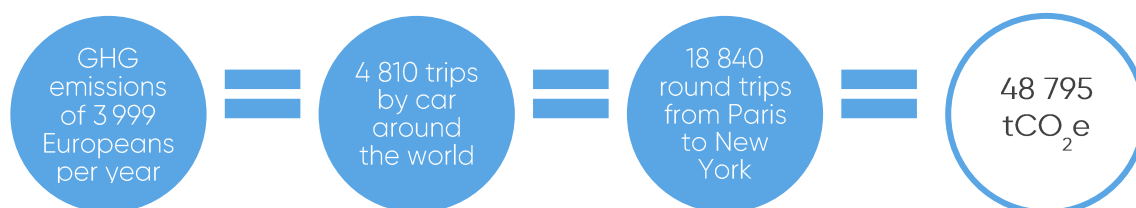




## Benchmark

### WHAT DOES IT MEAN?

Sometimes it is difficult to understand or imagine the impacts of a tonne of carbon. For illustrative purposes, 48 795 tCO<sub>2</sub>e is the equivalent of the GHG emissions of 3 999 Europeans, on average per year, or 4 810 trips by car around the world, or over 18 840 round trips from Paris to New York in economy class.



### BENCHMARK

To give an example of comparison, this section presents the GHG emissions of three international entities:

- AFD
- European Court of Auditors
- Hivos

ACTED wished to carry out this analysis to guide the definition of its carbon strategy in the light of the international sectoral context and the good practices already implemented.

ACTED reached out to some NGO partners, but none of them has a full carbon footprint. Generally, what NGOs do is to offset their travel, but they do not have an organisational baseline assessment.

Benchmark	AFD (2016)	European Court of Auditors (2016)	Hivos (2017)
Per FTE employee			
Total GHG emissions per FTE employee	11.03 tCO <sub>2</sub> e/FTE	11.36 tCO <sub>2</sub> e/FTE	5.47 tCO <sub>2</sub> e/FTE
Scope 1, 2 GHG emissions per FTE employee	Not available	2.84 tCO <sub>2</sub> e/FTE	5.47 tCO <sub>2</sub> e/FTE
Scope 3 GHG emissions per FTE employee	Not available	8.52 tCO <sub>2</sub> e/FTE	0.01 tCO <sub>2</sub> e/FTE
Per square meter			
Total GHG emissions per square meter	0.25 tCO <sub>2</sub> e/m <sup>2</sup>	0.13 tCO <sub>2</sub> e/m <sup>2</sup>	Not available
Scope 1, 2 GHG emissions per square meter	Not available	0.03 tCO <sub>2</sub> e/m <sup>2</sup>	Not available
Scope 3 GHG emissions per square meter	Not available	0.10 tCO <sub>2</sub> e/m <sup>2</sup>	Not available

Table 4. Key performance indicators of the three entities

In 2016, the activities of the 56 missions of the AFD generated more than 8 100 tCO<sub>2</sub>e. On average, an agent emits about 11 tCO<sub>2</sub>e. The AFD measures Scope 1, 2 and 3 emissions. Scope 1 and 2 emissions include GHG emissions from stationary combustion sources, mobile combustion sources, fugitive emissions and electricity. Scope 3 emission categories are generated by goods and services purchased, capital goods, fuel- and energy-related activities not included in Scope 1 or 2, waste, business travel and employee commuting.



The European Court of Auditors (ECA) had a similar carbon footprint in 2016, with 11.36 tCO<sub>2</sub>e/FTE. The ECA measures Scope 1, 2 and 3 emissions. Scope 1 and 2 emissions include GHG emissions from stationary combustion sources, mobile combustion sources, fugitive emissions, and electricity and heat consumption. Scope 3 emission categories are generated by goods and services purchased, capital goods, fuel- and energy-related activities not included in Scope 1 or 2, transportation and distribution, waste, business travel, employee commuting and visitor travel.

Hivos carbon footprint is much lower than the other organisations, with 5.47 tCO<sub>2</sub>e/FTE because they measure Scope 1, 2 and one category of Scope 3: goods and services purchased (drinking water and paper consumption). Their Scope 1 and 2 GHG emissions per FTE employee is higher than the one of ACTED and the European Court of Auditors.

To summarize, ACTED total emissions per FTE (10.36 tCO<sub>2</sub>e/FTE) is in the same range of values than total emissions per FTE of AFD and ECA that both measure their Scope 3 emissions. ACTED Scope 1 and 2 emissions per FTE (1.85 tCO<sub>2</sub>e/FTE) are nonetheless less important than ECA Scope 1 and 2 emissions per FTE (2.84 tCO<sub>2</sub>e/FTE). ACTED Scope 3 emissions (8.51 tCO<sub>2</sub>e/FTE) are a little higher than ECA Scope 3 emissions (8.52 tCO<sub>2</sub>e/FTE) but on the same order of magnitude. ACTED total emissions per square meters (0.22 tCO<sub>2</sub>e/m<sup>2</sup>) are equal to AFD total emissions per square meters, but twice more important than ECA total emissions per square meters (0.13 tCO<sub>2</sub>e/m<sup>2</sup>).



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## Action plan to reduce GHG emissions

### 1. Ensure reliable data collection

ACTED has entered into a process of assessing GHG emissions from each of its countries of operation annually. For each country of operation, we recommend to identify information that was not collected and report them. Each country of operation should therefore be able to report all the requested information easily.

### 2. Mobilise each country of operation

A satisfaction and feedback survey could be sent to each country of operation at the end of this exercise in order to measure the employees' feelings. It would be a question of knowing their proposals to facilitate the exercise and their level of importance. Particular attention should be paid to the countries of operation that have not provided sufficient data in order to understand why (lack of availability, interest, tools, etc.).

Following this survey, actions can be taken to intensify the countries' environmental commitment and establish the appropriate support.

### 3. Define a GHG emission reduction plan in each country of operation

The purpose of this report is to present the GHG emissions diagnosis of ACTED. The estimation of emissions related to ACTED's countries of operation is only a first step and must be followed by an action plan.

Using the carbon footprint assessment, the challenge for each country of operation is to establish its action plan, with the support of the headquarters or as part of field missions, in order to contribute to reducing the organization's carbon footprint. It is thus a question of:

- **Defining an action plan to reduce GHG emissions in each country of operation:** as situations differ from one country to another, each country will set its priorities and objectives according to the most significant sources of emissions and the local context.
- **Implementing indicators for monitoring the action plan:** a dashboard of quantitative and qualitative indicators (e.g. paper consumption per FTE employee, energy consumption per m<sup>2</sup>, distance travelled annually by air per FTE employee) specific to each objective and action should be established to monitor progress annually.
- **Raising employee awareness of pro-environmental behaviour:** each country can implement employee awareness/communication actions (labels on switches, awareness panels, temperature instructions, etc.). It is very important because it requires very little investment and the results are generally obtained in the short term.
- **Sharing best practices**



From this GHG inventory, it was possible to identify the major emission sources that should be addressed in priority to reduce future GHG emissions at ACTED.

Action description	Human investment	Financial investment	Difficulty level	Impact
<b>Purchase of goods and services</b>				
Provide questionnaires to the main service providers and recalculate emissions factors due to service purchase	+++	0	+++	++
Work with the main service providers to help them reduce ACTED's GHG emissions	+++	0	+++	+++
Implement employee trainings on green public procurement	+++	0	+	+
Formalize a green purchasing policy	+++	0	++	+++
Continue to increase digitalization measures	+++	0	+++	++
Purchase lighter weight paper, by checking the adaptability with copiers	+	0	+	+
Tailor supplies and goods orders to specific needs, and organize staff awareness campaigns	+	0	+	+
<b>Business travel</b>				
Use video-conferencing equipment (staff awareness)	+	0	+	++
Define a travel policy that promotes direct flights	++	+++	+	+++
When changing car fleet, prioritize cars with lower emissions (electric, hybrid, etc.)	+	+++	+	++
<b>Employee commuting</b>				
Develop teleworking	+++	0	++	++
Promote the use of bikes: pay bike commuting allowance	++	++	+	+
Promote the use of public transport: subsidize public transport pass	++	+++	+	+
<b>Waste</b>				
Staff awareness campaign on reducing the use of single-use products, newspapers, paper calendars, leaflets... and the right way to separate waste	+++	0	+	++
Eliminate the purchase of single-use plastics (cups, cutlery...) or replace them with biodegradable ones	+	++	+	+
<b>Energy</b>				



Action description	Human investment	Financial investment	Difficulty level	Impact
Install solar panels on the roof for ACTED's energy consumption	+++	+++	++	++
Purchase of green electricity	+	++	+	+
Implement a building management system improvement	++	0	++	+
Automatic shutdown of computers, screens and printers every evening	++	0	++	++
Refrigerant				
When changing fluids, choose new fluids with lower emissivity when replacing the equipment	+	++	+	+



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## Offsetting

Today there is an urgent need to act – to stay well-below 2°C, emissions must peak by 2020, and the world economy needs to be carbon neutral by 2050. This concept, expressed in the landmark Paris Agreement in 2015, is becoming increasingly clear, and companies are called upon to play their part.

Climate neutrality is a concept where organizations offset the residual emissions that they are unable to reduce, or that are still in the process of being reduced. Carbon offsets is a mechanism in which an organization purchases carbon 'credits' from verified projects that have proven to mitigate or sequester carbon. Beyond carbon, there are a range of carbon credits that provide other social and economic benefits in surrounding communities. Projects that empower women, through the distribution of improved cookstoves, or projects that ensure access to life-saving clean water, and others that protect threatened species through forest conservation.

Carbon neutrality may seem cumbersome, but it is something that is feasible, especially when taken step by step. Instead of offsetting the entirety of its emissions, organizations can take the first step by choosing a scope of emissions.

For ACTED, a first step could be to cover with an offset approach the largest sources of emissions – purchased goods and services, transportation and distribution of goods, transportation of people (employee commuting and business travel). These emissions may especially be difficult to reduce in the short run, given the difficulties faced by airlines to reduce their carbon impact of travel.

As such, ACTED could confidently communicate to its stakeholders, that these emissions are **carbon neutral**. The choice of offsetting projects could be done by ACTED's staff (web voting system), in order to take the opportunity to raise awareness among employees



# GHG emissions' methodology

## 1. GHG Protocol

ACTED's footprint analysis in 2017 follows the GHG Protocol methodology.

The GHG Protocol provides standards and guidance for companies and other organizations preparing a GHG emissions inventory. It covers the accounting and reporting of the greenhouse gases covered by the Kyoto Protocol. The standard helps companies prepare a GHG inventory that represents a true and fair account of their emissions. Furthermore, the GHG Protocol is used by the leading postal service and parcel transport companies (e.g.: DHL, UPS, FEDEX, TNT, etc.).

## 2. Scope 1, 2 and 3 Emissions

The GHG Protocol categorizes GHG emissions into three categories ("scopes") to indicate whether they are direct or indirect GHG emissions. This concept is illustrated in Figure 17.

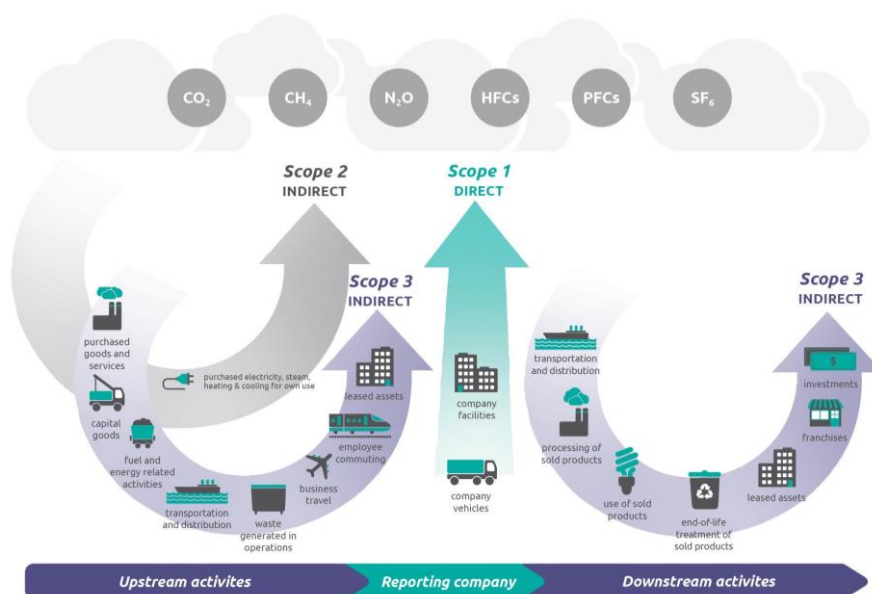


Figure 17. Sources of direct and indirect emissions [source: GHG protocol]

### 2.1. Scope 1 emissions

Scope 1 is compulsory and includes direct GHG emissions from sources that are owned or controlled by the organization. This includes:

- **Stationary combustion sources:** emissions from natural gas, fuel oil, or propane. This includes heating from natural gas in buildings and the consumption of heat steam.
- **Mobile combustion sources:** from the combustion of fossil fuels (gasoline, diesel) used in the operation of vehicles or other mobile transportation owned and operated by the company.
- **Process emissions:** emissions released during the manufacturing process.



- **Fugitive emissions:** unintentional releases from sources including refrigerant systems.

## 2.2. Scope 2 emissions

Scope 2 is compulsory and includes indirect GHG emissions from the generation of purchased electricity, steam, cooling, or other sources of energy (e.g. chilled water).

## 2.3. Scope 3 emissions

Scope 3 is voluntary and includes GHG emissions that are a consequence of the operations of an organization but are not directly owned or controlled by the organization. It covers employee commuting, business travel, third-party distribution and logistics, emissions from the use of sold products, etc. Scope 3 also includes the distribution losses of electricity transported along the grid. The GHG Protocol Scope 3 emissions are categorized into 15 categories (

Figure 18):

	1	<b>Purchased good and services</b>
	2	<b>Capital goods</b>
	3	<b>Fuel and Energy related activities</b>
	4	<b>Upstream transportation and distribution</b>
	5	<b>Wastes generated in Operation</b>
	6	<b>Business travel</b>
	7	<b>Employee commuting</b>
	8	<b>Upstream leased assets</b>
	9	<b>downstream transportation and distribution</b>
	10	<b>Processing of sold products</b>
	11	<b>Use of sold products</b>
	12	<b>End of life treatment of sold product</b>
	13	<b>Downstream leased assets</b>
	14	<b>Franchises</b>
	15	<b>Investments</b>

Figure 18. Scope 3 Categories

## 3. Calculating emissions

Usually, it is not possible (or at least, very impractical) to measure GHG emissions from a specific activity directly. Despite the fact that measuring the concentration of GHGs is common practice, it is only in exceptional circumstances that GHG emissions can be directly measured from a given activity. In any case, this method to measure GHG emissions is by no means realistic for the average company.





Indeed, the only practical way to measure GHG emissions is to use a calculation method based on activity data (for example, the number of trucks, distance travelled, quantity of steel bought, etc.).

Figure 19 illustrates how an activity can be converted into GHG emissions, expressed in CO<sub>2</sub> equivalent (CO<sub>2</sub>e), by using the GHG emissions factors.

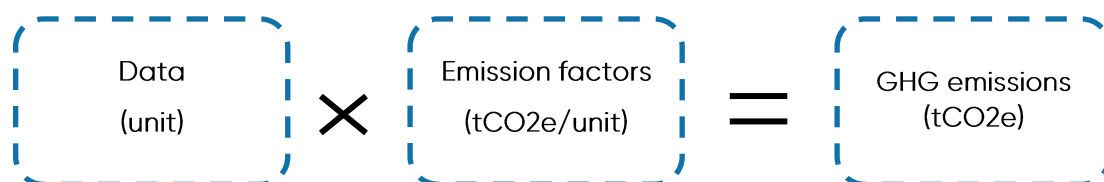


Figure 19. Calculation of GHG emissions

The GHG Protocol encourages using the most accurate information available at a source or facility level. Otherwise, specific emission factors from databases are encouraged to be used with as much precision on the type of activity as possible. There are various databases available with different emission factors. The GHG Protocol publishes a list of databases of emission factors:

- Air Pollutant Emission Factor Library
- EMEP/EEA<sup>4</sup> air pollutant emission inventory guidebook

The Bilan Carbone<sup>®</sup> methodology, developed in 2004 by the French Environment and Energy Management Mission, has been used by thousands of references to date, including both the private and public sector. The methodology comes with a database (spreadsheet) of emission factors called the Base Carbone<sup>®</sup>. The last update of the spreadsheet ADEME is version 8, which has been made available to offices licensed by the ADEME in January 2018. The spreadsheet includes various emissions factors that have been re-evaluated. As such, the Base Carbone<sup>®</sup> (V14) is used as a primary source for the emission factors of this reporting protocol for ACTED.

Furthermore, to evaluate ACTED GHG footprint, EcoAct also used the following databases, studies, internet websites and software:

- Emissionfactors.com provides pay-as-you-go emission factors;
- The IEA provides an annual inventory of the emission factor of most countries' energy mix;
- The Global Logistics Emissions Council (GLEC) provides an annex of regional emission factors by fuel type for various transportation modes;
- The UK Government GHG Conversion Factors for Company reporting provides wide range of emission factor (or "conversion factor") in the same way the Base Carbone<sup>®</sup> does;
- The SimaPro database provide a wide variety of emission factors to be used in life-cycle analysis or individually in GHG emissions calculations;
- FoodGES, developed by ADEME (V1) provides food emissions factor in order to calculate one's meal GHG footprint.
- Fertilizers Europe provides carbon footprint reference values European mineral fertilizer production and use.
- EcoAct's own database
- French Environment & Energy Management Mission, NICT guide

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<sup>4</sup> European Monitoring and Evaluation Programme (EMEP) and European Environment Agency (EEA)



For emission factors that could not be retrieved from databases or well-known sources, EcoAct sought primary information within the scientific literature or for specific services, such as postal delivery, on companies' own websites.

#### 4. GHG considered in the methodology

Carbon dioxide is commonly mentioned when discussing climate change, but it is not the only source of global warming. According to the GHG Protocol, a GHG inventory must cover the **six gases resulting from anthropogenic GHG emissions listed in the Kyoto Protocol: Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>).**

Each type of gas traps heat differently:

- **Carbon dioxide (CO<sub>2</sub>):** Carbon dioxide enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH<sub>4</sub>):** Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- **Nitrous oxide (N<sub>2</sub>O):** Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- **Fluorinated gases:** Hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, and nitrogen trifluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases").

**CO<sub>2</sub> equivalents (CO<sub>2</sub>e)** are commonly used to express a carbon footprint consisting of several GHG gases using a single number. The idea is to express the impact of each different greenhouse gas in terms of the amount of CO<sub>2</sub> that would lead to the same warming.

Standard ratios are used to convert the various gases into equivalent amounts of CO<sub>2</sub>. These ratios are based on the **Global Warming Potential (GWP)** of each gas, which describes its total warming impact relative to CO<sub>2</sub> over a set period – usually a hundred years. For example, one ton of methane is equivalent as 28 tons of carbon dioxide in terms of heat trapping potential.

Table 5 provides the latest GWP values available:

Gas	Formula	Global Warming Potential (100yrs)	Principal origins
Carbon dioxide	CO <sub>2</sub>	1	Fossil fuel combustion, energy production, deforestation...
Methane	CH <sub>4</sub>	28	Animal rearing
Nitrous Oxide	N <sub>2</sub> O	265	Agricultural production
Perfluorocarbons	C <sub>n</sub> F <sub>2n+2</sub>	6 630 to 11 100	Refrigerant leakages



Hydrofluorocarbons	$C_nH_mF_p$	4 to 12 400
Sulfur Hexafluoride	$SF_6$	23 500

Table 5. 100-year time horizon global warming potentials [source: 5th Assessment Report, IPCC, 2014]

As such, the emission factors used will cover the above-stated gases and are expressed in kgCO<sub>2</sub>e/unit of input data.

## 5. Sources of emission factors

The study uses emission factors from the French Carbon Database managed by the ADEME, which are aggregated average GHG emissions factors of various studies that have been undertaken, such as various life cycle analyses (LCAs). A number of emission factor come from the EcoAct's database.

Concerning emissions due to business travel by plane, the user will have the possibility to choose between data collection in km, with EF from French Carbon Database, and data collection in tCO<sub>2</sub>e with ICAO methodology.



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EcoAct is an international advisory consultancy and project developer that works with clients to help them succeed in their climate ambitions. We work with many large and complex multinational organisations to offer solutions to their sustainability challenges.

We believe that climate change, energy management and sustainability are drivers of corporate performance and we seek to address business or organisational problems and opportunities in an intelligent way.