

Carbon Footprint Report

2019 and 2020

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1. Introduction

The new *2020-2030 Global Impact Framework* reflects our conviction that we cannot think about human wellbeing, and specifically that of children and adolescents, without also thinking about the relationship with the natural environment, which is reflected in the social impact statement:

“Children and adolescents fully enjoy their wellbeing, their rights and opportunities to develop their abilities on a shared planet”.

Therefore, all our work for the next decade must contribute to achieving this social impact, in which the wellbeing and enjoyment of children's rights are intrinsically linked to the protection of the environment.

Equally, the new *2021-2025 Global Programme Framework* contains a firm and resolute commitment to environmental sustainability, as it includes the Ecological Transition component as one of the priority work areas to be developed at a programmatic level over the next few years.

Lastly, our *2021-2023 Organisational Development Plan* includes, as a specific goal for the next three years, the reduction of the organisation's environmental footprint, for which the [Environmental Policy](#) is a key element, as it is the document which establishes our commitment in this sense and defines the objectives and lines of action aimed at reducing this environmental footprint, both the one generated by the implementation of our programs and projects, as well as the daily activity of the organisation.

Which is why, over the next three years we will work to implement the Environmental Policy, with the design and setting up of actions in various areas of the organisation, from initiatives aimed at reducing or offsetting our greenhouse gas emissions, reducing the amount of waste we generate, to the incorporation of environmental criteria in the selection of suppliers.

Similarly, it is important to highlight that, during 2020, Educo has played an important role in the elaboration of documents at the heart of the ChildFund Alliance, such as the *Environmental Sustainability Standards* shared by all its member organisations and which guide the work for the protection of the environment and the reduction of the impact generated by our actions.

2. Methodology for Calculations

The calculation of the organisation's carbon footprint is carried out annually and allows us to estimate the greenhouse gas (GHG) emissions associated to Educo's activities and establish adequate measures for reducing them.

To calculate the carbon footprint for the years 2019 and 2020 we have used the 2020 and 2021 versions of the *Guide to calculating greenhouse gas emissions* published by the Catalan Climate Change Office and which uses the ISO 14064-1:2018 methodology. In addition, we have also applied the GHG (Greenhouse Gas) Protocol standards.

***The carbon footprint** measures the impact on the planet in terms of how many greenhouse gas emissions we emit directly or indirectly in our daily activities as an organisation. For example, how much fuel we use during the trips we make with our vehicles, how much electricity we consume or what impact the use of air conditioning equipment has.*

The calculation is made with an operational control approach, i.e. it includes all offices and activities of the organisation that Educo has direct control over. Therefore it is carried out globally, including the direct and indirect emissions (see table below) in all of our country offices in Africa, America and Asia and, in Spain, the head office in Barcelona and the office in Madrid. For the calculation for 2020 the country office in Niger has also been added.

The emissions inventory includes emissions generated by the activity at the organisational level, such as emissions generated directly and indirectly by the use of the offices. In terms of the activities carried out for the implementation of projects, only the emissions generated by associated work-related travel are included, both through vehicles managed by the organisation and other means of transport.

In the following table the GHG emissions identified to calculate the carbon footprint are presented, in accordance with what was mentioned above, which are classified in three scopes:

Emissions Activities			
Scope	Category	Emissions activities	Activity data
Scope 1	Direct emissions by the organisation whose source belongs to the organisation or is controlled by it.	Fuel consumption in stationary sources installed in Educo offices such as boilers, heaters or generators.	Litres of fuel consumed
		Leakage emissions of fluorinated gases from leaking air-conditioning, refrigeration and air-conditioning equipment.	Kg of recharged gas
		Fuel consumption for journeys in vehicles managed by the organisation for the development of projects and/or other activities.	Litres of fuel consumed by fuel type or km travelled by vehicle type and fuel type used
Scope 2	Indirect emissions associated to electricity consumption	Electricity consumption in the Educo offices	kWh of electricity purchased
Scope 3	Indirect emissions from goods and services used by the organisation, but not controlled by the organisation	Work-related travel using transport not controlled by the organisation, mainly air and rail.	Origin and destination of the travel and type of transport used
		Purchase of paper	Kg of paper purchased by type
		<i>In itinere</i> journeys (employee travel to and from the workplace)	Survey regarding <i>in itinere</i> travel

2015 has been taken as the reference year (base year) for the carbon footprint analysis, as it was the first year in which the direct and indirect emissions from all country offices were included. The reference year is useful for analysing the evolution of the organisation's GHG emissions and get to know the effectiveness of the measures taken to reduce these emissions, as the changes in Educo's operations since 2015 have not been decisive (in terms of calculating the carbon footprint) in relation to the organisation's operations as a whole. In 2020, specifically, the emissions of the Niger office have been incorporated, with a total weight of emissions of less than 1%, so the base year remains unchanged.

For the years 2019 and 2020, the methodology for calculating direct specific emissions from fluorinated gas leakage for air-conditioning and refrigeration equipment has been adjusted. From 2019¹, following the *Guide to calculating greenhouse gas emissions* from the Catalan Climate Change Office, the calculation is made on the basis of the gas recharges made during the year being calculated, which would therefore be equivalent to the leakage that occurred previously. Despite the fact that this change in methodology for the calculation of fluorinated gas emissions has had a significant impact on the magnitude of Educo's carbon footprint, the reference year has not been modified for the global analysis, because this change has mainly affected the country office in Mali. However, it will be taken into account when setting emission reduction targets for this country office.

Similarly, it is worth highlighting that *in itinere* journeys have been included in the 2019 carbon footprint calculation, using the estimate resulting from the staff survey conducted that same year. In terms of *in itinere* journeys in 2020, given the prevailing pandemic situation, since March 2020 most of the Educo employees have continued to work remotely, therefore this activity has been excluded from the calculation and the importance of this data will be assessed when we are in a post-pandemic situation.

Lastly, it is important to highlight that in section [4. Emission factors used](#) of this report detailed information can be found about the *emission factors* applied and the information sources used for estimating the GHG emissions.

¹ Until 2018, leakage was estimated according to the equipment used in each office, the type of refrigerant gas used, the capacity of the equipment (in kg) and the annual ratio of leakage according to usage time, following the DEFRA (Department for Environment Food and Rural Affairs - UK Government) calculation methodology.

3. Carbon Footprint. Results and Analysis

3.1. Results of the 2019 and 2020 Carbon Footprint

The Educo GHG emissions in 2019 and 2020 were the following:



The Educo carbon footprint **has gone down 48% in 2020** compared to 2019, specifically, in 2020 Educo has emitted 2562.63t of CO₂eq² less than in 2019. The pandemic situation, and with it the confinements and quarantines that have occurred internationally, have been the determining factors for this difference. In fact, the most drastic reduction in GHG emissions has been produced in Scope 3, in particular the indirect emissions generated by *in itinere* journeys, because most of the Educo staff is working remotely since the start of the pandemic, as well as work-related travel, which was paralysed in March 2020 and was drastically reduced for the rest of the year.

The results of the carbon footprint calculation for 2019 and 2020 by scope and country office are detailed below:

² The **CO₂ equivalent** is a universal unit of measurement that indicates the global warming potential of each of the different greenhouse gases, expressed in terms of the global warming potential of one unit of carbon dioxide. The CO₂eq emissions provide a useful metric for comparing different greenhouse gas emissions. *Definition from the Spanish Climate Change Office (Oficina Española del Cambio Climático) and the Catalan Climate Change Office (Oficina Catalana del Canvi Climàtic)*

Table 1: Carbon Footprint by Scope and Country Office 2019 and 2020

	2019 carbon footprint (in t CO ₂ eq)			2020 carbon footprint (in t CO ₂ eq)		
Country office / Scope	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3
Bangladesh	27.06	27.06	27.06	35.66	31.09	115.88
Benin	57.01	57.01	57.01	59.36	46.83	10.97
Bolivia	3.78	3.78	3.78	1.65	1.87	19.11
Burkina Faso	122.53	122.53	122.53	29.35	36.61	45.45
El Salvador	1,526.98	1,526.98	1,526.98	69.54	84.75	490.39
SPAIN	2.42	2.42	2.42	1.53	37.51	233.72
The Philippines	31.05	31.05	31.05	9.49	32.92	94.93
Guatemala	17.85	17.85	17.85	0.99	3.21	24.59
India	0.00	0.00	0.00	0.00	8.38	25.24
Mali	2,043.58	2,043.58	2,043.58	2,170.50	13.85	12.30
Nicaragua	11.45	11.45	11.45	1.28	12.90	57.16
Niger	-	-	-	12.08	1.62	1.65
Senegal	19.57	19.57	19.57	13.48	0.53	20.84
Scope total	3,863.27	3,863.27	3,863.27	2,404.91	310.45	1,150.59
TOTAL	5,324.32			2,761.69		

GREENHOUSE GAS EMISSIONS 2019

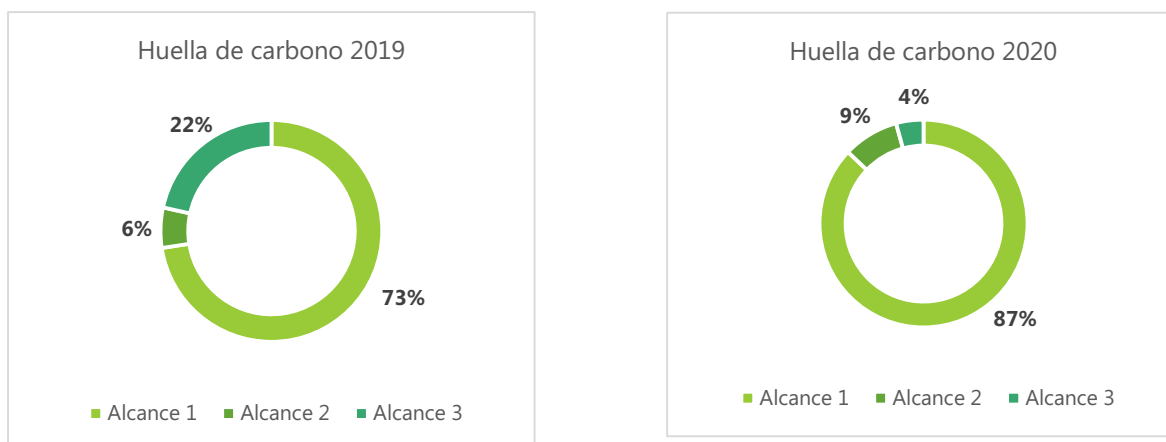
Scope 1	Scope 2	Scope 3
3863	310	1150
(t CO ₂ eq)	(t CO ₂ eq)	(t CO ₂ eq)

GREENHOUSE GAS EMISSIONS 2020

Scope 1	Scope 2	Scope 3
2404	238	117
(t CO ₂ eq)	(t CO ₂ eq)	(t CO ₂ eq)

As we have mentioned, the reduction in mobility as a result of the pandemic has significantly reduced the indirect emissions generated by *in itinere* journeys and work-related travel. Therefore, between 2019 and 2020, Scope 3 emissions have been reduced by 90%. On the other hand, the indirect emissions by electricity consumption (scope 2) have diminished 23% and direct emissions, gathered in scope 1, have gone down 37%.

Graph 1: Carbon Footprint 2019 and 2020. Percentage Distribution by Scope



The percentage distribution graphs for carbon footprint by scope show that direct emissions (Scope 1) account for the largest percentage of emissions for both 2019 and 2020. The percentage of direct emissions (Scope 1) has increased, going from 73% in 2019 to 87% in 2020. Likewise, the reduction of emissions in Scope 3 due to mobility constraints (both *in itinere* and work-related travel) has gone down from 22% in 2019 to 4% in 2020.

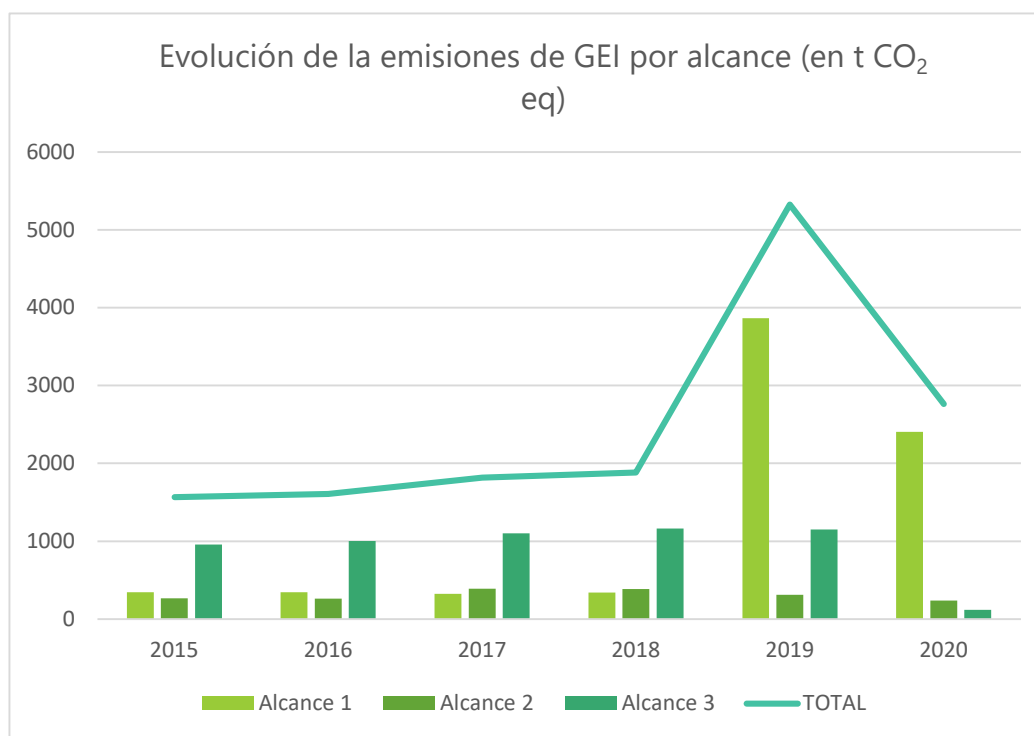
3.2. Evolution of the Carbon Footprint 2015-2020

The following table shows the evolution of Educo's carbon footprint since the year 2015.

Table 2: Annual Evolution of Educo's Carbon Footprint by Scope

GHG emissions (in tCO ₂ eq)	2015	2016	2017	2018	2019	2020
Scope 1: Fuel consumption in stationary sources and travel in privately-owned vehicles, leakage emissions from air conditioning	344.96	345.13	324.85	338.91	3,863.27	2,404.91
Scope 2: Electricity consumption	266.56	261.13	390.85	383.79	310.45	238.96
Scope 3: Work travel, <i>in itinere</i> travel and paper consumption	956.48	1001.68	1,102.05	1,160.76	1,150.59	117.82
TOTAL	1,568.00	1,607.94	1,817.75	1,883.46	5,324.32	2,761.69

Graph 2: Evolution of Greenhouse Gas Emissions by Scope



Note: For the years 2019 and 2020, the methodology for calculating direct emissions from fluorinated gas leakage has been adjusted (more information in section 2. *Methodology*)

As we can see in the graph, the data shows that the total emissions increased significantly in 2019 and went down again in 2020.

The increase in direct emissions (Scope 1) from 2019 onwards is noteworthy. This difference is basically due to two reasons:

- Firstly, in 2019 an increase in the number of trips in private vehicles was registered in the El Salvador country office due to the implementation of projects in new municipalities, some of which are further away from the Educo offices. Once these projects were over, travel using private vehicles went down again to 2018 levels.
- Secondly, the change in methodology for the leakage emissions from air conditioning equipment has highlighted the condition of the air conditioning equipment in the offices in Mali, which reported a significant amount of kg of fluorinated gas recharges. Furthermore, this corroborates that the warming potential of fluorinated gases is very high and that an increase in these emissions therefore has a very significant impact on the carbon footprint result. In any case, the replacement of older appliances has led to a reduction in these leakage emissions in 2020, and work will continue in this direction.

For Scope 2, measures to reduce electricity consumption have obtained positive results and emissions have progressively decreased. Additionally, the prevailing pandemic situation due to COVID-19 brought with it a drastic reduction in mobility during 2020. From March that year there were confinements and quarantines in all the countries we work in and most of the Educo staff team has worked remotely for most of the year (>50%), therefore *in itinere* travel has been of little relevance. Similarly, the pandemic also caused a radical reduction in work-related travel.

With regards to Scope 3, until 2019 these emissions represented the largest part of the organisation's carbon footprint, as can be seen in the historical data. In 2019 they decreased only slightly compared to 2018, but the increase in Scope 1 due to leakage emissions of fluorinated gases (leakage from air conditioning equipment) led to a significant decrease in their percentage weight.

Greenhouse gas emissions data by emission source and country office for the year 2019 and then 2020 are shown below.

Table 3: Greenhouse Gas Emission in 2020 by Type of Emission Source and Country Office

Greenhouse Gas Emission 2020 (in t CO ₂ eq)							
	SCOPE 1			SCOPE 2	SCOPE 3		
Country office / Emission source	Consumption of fuel in stationary sources	Travel in private vehicles	Leakage emissions from air-conditioning equipment	Electricity consumption	Work-related travel	Paper (corporate material and office paper)	
Total by type of emission source	1.85	268.08	2,134.98	238.96	56.78	61.03	Total by country office
Bangladesh	0.31	35.34	0.00	15.42	13.39	0.67	65.14
Benin	N/A	25.95	33.41	47.45	0.00	0.21	107.02
Bolivia	0.00	1.65	N/A	4.37	1.11	10.15	17.27
Burkina Faso	0.00	29.35	0.00	48.93	3.79	3.75	85.82
El Salvador	N/A	69.54	0.00	44.82	1.31	3.49	119.16
SPAIN	1.53	N/A	0.00	26.88	17.97	38.77	85.14
The Philippines	N/A	9.49	0.00	20.49	10.74	0.41	41.13
Guatemala	N/A	0.99	0.00	1.11	0.11	0.06	2.27
India	N/A	N/A	0.00	3.67	5.17	0.14	8.98
Mali	N/A	78.36	2,092.14	12.65	0.00	1.47	2,184.62
Nicaragua	N/A	1.28	0.00	11.47	0.00	1.30	14.05
Niger	N/A	2.65	9.43	1.62	1.42	0.23	15.35
SENEGAL	N/A	13.48	0.00	0.10	1.78	0.38	15.73
TOTAL	2,761.69						

Table 4: Greenhouse Gas Emission in 2019 by Type of Emission Source and Country Office

Greenhouse Gas Emissions 2019 (in t CO2 eq)								
	SCOPE 1			SCOPE 2	SCOPE 3			
Country office / Emission source	Consumption of fuel in stationary sources	Travel in private vehicles	Leakage emissions from air-conditioning equipment	Electricity consumption	Work-related travel	Paper (corporate material and office paper)	<i>In itinere</i> travel	
Total by type of emission source	3.06	1,769.70	2,090.52	310.45	405.56	99.91	645.13	Total by country office
Bangladesh	0.47	26.59	0.00	31.09	48.25	1.63	66.00	174.03
Benin	N/A	23.60	33.41	46.83	7.22	0.18	3.57	114.82
Bolivia	0.12	3.66	N/A	1.87	0.00	5.68	13.42	24.76
Burkina Faso	0.05	9.33	113.15	36.61	18.69	4.05	22.72	204.59
El Salvador	N/A	1,526.98	0.00	84.75	12.90	38.45	439.04	2,102.13
SPAIN	2.42	N/A	0.00	37.51	165.74	47.29	20.69	273.65
The Philippines	N/A	31.05	0.00	32.92	67.15	0.21	27.57	158.90
Guatemala	N/A	17.85	0.00	3.21	7.12	0.16	17.31	45.65
India	N/A	N/A	0.00	8.38	21.57	0.13	3.54	33.62
Mali	N/A	99.62	1,943.96	13.85	0.00	1.12	11.19	2,069.74
Nicaragua	N/A	11.45	0.00	12.90	37.35	0.64	19.16	81.50
SENEGAL	N/A	19.57	0.00	0.53	19.56	0.38	0.91	40.94
TOTAL	4,679.19							

4. Emission factors used

The direct data for calculating GHG emissions for each of the different emission sources (e.g. litres of fuel or kWh of electricity consumed) comes from internal country office information, recorded by the administration departments, as well as from the companies supplying the products and services referred to.

When making the calculations, the so-called *emission factor* must be applied to the direct data, which establishes the amount of greenhouse gases emitted for each unit of the *activity data* parameter. These emission factors vary depending on the activity involved³.

In the following table details these concepts, including the emission factors used according to the type of activity. The sources from which these emission factor data have been obtained, i.e. the institution or specialised body that reliably provides them, are also presented.

EMISSION FACTORS				
Scope	Activity type	Activity data	Emission factor	Source
SCOPE 1	Annual consumption of fuel in stationary sources: heating, water heaters or generators	Annual consumption of natural gas in m ³	2020: 2.14 CO ₂ /Nm ³	Catalan Climate Change Office (2020 and 2021) Guía práctica para el cálculo de emisiones de gases con efecto invernadero (GEI)
			2019: 2.15 kg CO ₂ /Nm ³	
		Annual consumption of fuel in kg	2020: 3.13 kg CO ₂ /kg	
		Annual consumption of butane gas in kg	2.96 kg CO ₂ /kg	
	Travel in private vehicles or controlled by the organisation	Annual consumption of generic LPG in kg	2.98 kg CO ₂ /kg	Catalan Climate Change Office (2020 and 2021) Guía práctica para el cálculo de emisiones de gases con efecto invernadero (GEI)
		Litres of petrol 95 or 98 consumed annually	2020: 2.244 kg de CO ₂ /litro	
			2019: 2.134 kg de CO ₂ /litro	
		Litres of Diesel fuel consumed annually	2020: 2.459 kg de CO ₂ /litro	
			2019: 2.467 kg de CO ₂ /litro	
		Annual kilometres travelled for diesel vans with Euro 1 technology and later at any speeds	233.68 g CO ₂ / km	Catalan Climate Change Office (2021) Guía práctica para el cálculo de emisiones de gases con efecto invernadero (GEI)
		Annual kilometres travelled for motorbikes, 4-stroke engine capacity < 250 cm ³ , Euro 1 technology and above at any speed	108.18 g CO ₂ / km	

³ Definition from the Spanish Climate Change Office (Oficina Española de Cambio Climático)

		Annual kilometres travelled in Nissan X-Trail	169 gCO ₂ /km	Database of vehicles in line with the Spanish IDAE (Instituto para la Diversificación y Ahorro de la Energía de España): http://coches.idae.es/base-datos/marca-y-modelo
		Annual kilometres travelled in Toyota Hilux	232 gCO ₂ /km	Toyota Technical Sheet
	Leakage of fluorinated gases in air-conditioning and refrigeration equipment	Annual gas recharges R-410A	2 088 GWP (Global Warming Potential 1kg gas/1kg CO ₂)	Catalan Climate Change Office (2021) Guía práctica para el cálculo de emisiones de gases con efecto invernadero (GEI)
		Annual gas recharges R-422A	3 143 GWP	
		Annual gas recharges HFC-23	14 800 GWP	
SCOPE 2	Annual electricity consumption in offices in Kwh	Bangladesh	0.67 kgCO ₂ /kWh	Distribution company
		Bolivia	2020: 0.6 kgCO ₂ /kWh 2019: 0.181 kgCO ₂ /kWh	Distribution company
		Burkina Faso, Benin, Mali, Niger, Senegal	0.561 kgCO ₂ /kWh	Institute for Global Environmental Strategies (2021) <i>List of Grid Emission Factors, version 10.10</i> https://pub.iges.or.jp/pub/iges-list-grid-emission-factors
		El Salvador	0.43 kgCO ₂ /kWh	Electricity distribution companies
		Spain	Barcelona Head Office: 0.30 kg CO ₂ / Kwh Madrid Office: 0.20 kg CO ₂ / Kwh Barcelona Warehouse: 0.27 kg CO ₂ / Kwh	Barcelona Head Office: Naturgy Madrid Office: Iberdrola Barcelona Warehouse: Endesa
		The Philippines	0.6032 kgCO ₂ /kWh	Distribution company
		Guatemala	0.3913 kg CO ₂ / Kwh	Distribution company
		India	0.85 kgCO ₂ /kWh	https://greencleanguide.com/calculate-your-carbon-footprint/
		Nicaragua	0.71 kgCO ₂ /kWh	Distribution company
		Senegal	2020: 0.013 kgCO ₂ /kWh 2019: 0.011 kgCO ₂ /kWh	Distribution company
SCOPE 3	Work-related travel using transport not	Km travelled by average diesel car	0.16844 kg CO ₂ / km	Greenhouse gas reporting: conversion factors 2020 - GOV.UK (www.gov.uk)

	controlled by the organisation.	Annual kilometres travelled in petrol passenger cars, medium capacity with Euro 1 technology and later at any speed	198.32 g CO ₂ / km	Catalan Climate Change Office (2020 and 2021) Guía práctica para el cálculo de emisiones de gases con efecto invernadero (GEI)
		Annual kilometres driven in medium capacity petrol passenger cars 1.4 - 2.0 l at average speed 69 km/h	140.51 g CO ₂ / km	
		Annual kilometres travelled by 4x4 petrol cars	0.21844 kg CO ₂ e / km	Greenhouse gas reporting: conversion factors 2020 - GOV.UK (www.gov.uk)
		Annual kilometres travelled by motorbikes at any speed	0.11337 kg CO ₂ e / km	
		Kilometres travelled per passenger on urban buses	2019: 73.36 g CO ₂ /pasajero x km	Catalan Climate Change Office (2020 and 2021) Guía práctica para el cálculo de emisiones de gases con efecto invernadero (GEI)
			2020: 72.22 g CO ₂ /pasajero x km	
		Annual kilometres travelled per passenger on medium-distance trains	26.06 g CO ₂ /Km/pasajero	
		Annual kilometres travelled per passenger on long-distance trains	24.60g CO ₂ /Km/pasajero	
		Number of air journeys per passenger per year by origin and destination	Emission data on airline tickets	*Airline tickets indicate that the source of the calculation is the ICAO International Civil Aviation Organization.
		Km by air per average passenger in short journeys of up to 3700km	0.15553 kg CO ₂ / pasajero x km	Greenhouse gas reporting: conversion factors 2020 - GOV.UK (www.gov.uk)
		Km by air per average passenger in long journeys of more than 3700km	0.19085 kg CO ₂ / passenger per km	
	Paper consumption	Annual km by boat per passenger	0.3 kg CO ₂ / passenger per km	Catalan Climate Change Office (2020) Guía práctica para el cálculo de emisiones de gases con efecto invernadero (GEI)
		Kg per year of white office paper and corporate materials	3 kg CO ₂ e per kg of paper	CO ₂ Web. The Carbon Footprint Observatory https://www.huellaco2.org/ofimatica.php
		Annual kg per year of recycled office paper and corporate materials	1.8 kg CO ₂ e per kg of paper	

The following has been used as complementary bibliography:

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