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For the attention of Mr Jean-Michel Moccia

Study report

Carbon Footprint 2021 Scopes 1 & 2

Reference: RPT-2021-002

Date: 14/02/2022

Version: 1

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1. Background

Context of the service

SMARDTV Global is an international company specialising in the design and development of secure digital devices and solutions for pay TV operators.

The French sites in Rennes and La Ciotat employ around one hundred people and accommodate service activities: design consultancy, administration and support services (environment, HR, IT, accounting, finance, etc.). They also manage suppliers and directly manage the purchase of certain components that involve significant financial risks.

For its ISO 14 001 and Eco Vadis (silver medal) certification, SMARDTV Global wishes to assess its overall carbon footprint, including emissions from its two French sites (Rennes and La Ciotat) for the year 2021 (reference year: calendar year). A previous carbon footprint assessment was carried out in 2019 (scope 1 and 2).

Purpose of the study report

This study report sets out the **results of the SMARDTV Global 2021 emissions calculation for scopes 1 and 2 (Rennes and La Ciotat sites). Scope 3 emissions will be calculated at a later stage and the results will be set out in a second study report.** This report includes:

- A description of the method used and the scope of the study (see §2);
- The business activity data used and, if applicable, the assumptions made (see §2 and 3);
- The result of the calculation of overall emissions and their breakdown by item and by scope (see § 4);
- A general conclusion on the interpretation of the results and their limitations (see § 5).

Recommendations for emissions reductions and climate policy development will be addressed once all emissions have been assessed (including scope 3). This point is therefore not addressed in this report.

2. Applied methodology

Carbon Footprint Method

This study was carried out using the ADEME Bilan Carbone® carbon footprint methodology and calculation tools (version 8).

This method involves assessing direct greenhouse gas (GHG) emissions (produced on site and by fixed installations) and indirect emissions (produced by external stakeholders such as suppliers, partners, users, etc.), based on business activity data. The six gas or greenhouse gas categories under the Kyoto Protocol (CO₂, CH₄, N₂O, HFCs, PFCs and SF₆) are included in the calculations and the results are expressed in CO₂ equivalents (CO₂ eq).

Emission sources and data collection

The following emission sources were considered in the calculation of emissions related to Scopes 1 and 2:

- Scope 1 (direct emissions):
 - Stationary combustion sources;
 - Mobile sources with internal combustion engines;
 - Emissions from direct processes;
 - Direct fugitive emissions;
- Scope 2 (indirect emissions):
 - Electricity consumption;
 - Consumption of steam, heat or cold.

Among all these sources, Table 1 below lists the emission sources identified within SMARDTV Global on the basis of the information provided by SMARDTV Global, along with the business activity data collected for the emissions calculation:

Table 1 - List of Scope 1 & 2 GHG emission sources SMARDTV 2021

Scope	SMARDTV Global emission sources			Business activity data collected
	Emission sources	La Ciotat site	Rennes site	
Scope 1	Stationary combustion sources	None	None	None
	Mobile combustion sources	12 company vehicles	None	Fuel type and annual consumption
	Direct process emissions	None	None	None
	Direct fugitive emissions	9 air conditioners	3 air conditioners	Type of air conditioners, refrigerant gas and installed capacity
Scope 2	Electricity purchases	Yes	Yes	Supplier and annual consumption
	Purchases of steam, heat, cold	None	None	None

The data were collected over the period from November 2021 to February 2022. Details of the business activity data used are set out in Chapter 3.

3. Business activity data

Sources corresponding to direct emissions (scope 1)

Stationary combustion sources

Emissions from stationary combustion sources arise from burning fuels of any kind in stationary sources controlled by the organisation (burners, furnaces, turbines, flares, boilers, generators, etc.).

No stationary combustion sources have been identified within the SMARDTV Global business.

Mobile combustion sources

Emissions from mobile combustion sources arise from burning fuels in moving combustion sources controlled by the organisation (land, air, rail, sea or river vehicles).

For its business activities, **SMARDTV Global has 12 company vehicles on its site in La Ciotat**, including 8 diesel-powered and 4 petrol-powered vehicles. Total fuel consumption was recorded through fuel card and expense report records (see Table 2 below).

Table 2 - 2021 business activity data for mobile combustion sources SMARDTV Global SAS

Fuel type	Total consumption 2021
Diesel fuel	8910 litres
Petrol	4287 litres

Direct process emissions

This type of emissions comes from biological, mechanical, chemical or other activities linked to an industrial process (limestone decarbonation, production of aluminium by electrolysis, manufacture of certain electronic components, fertiliser spreading, etc.).

No processes that could generate direct emissions have been identified in SMARDTV Global operations.

Direct fugitive emissions

These emissions come from intentional or unintentional releases from sources that are often difficult to control physically (use of GHGs, anaerobic reactions, nitrification and denitrification reactions, methane emissions, etc.).

SMARDTV Global uses a number of water-based **air conditioning systems**. Their distribution, characteristics and refrigerant refills are detailed in Table 3 below.

Table 3 - 2021 business activity data for air conditioning systems SMARDTV Global SAS

SMARDTV Global sites	Number of installations	Type of refrigerant gas	Installed capacity
La Ciotat	8	R410A	377.8 kW
	1	R407C	26 kW
Rennes	3	R410A	20 kW

The ADEME "Clim Froid" spreadsheet estimates that **the average quantities of refrigerant gases emitted amount to 14.92 kg/year for R410a and 0.975 kg for R407C.**

Sources corresponding to indirect emissions from energy consumption (scope 2)

Indirect emissions due to electricity consumption

The total **electricity consumption** of SMARDTV Global has been assessed on the basis of the consumption records available in the energy bills (producer specifically named as EDF). These records are detailed in Table 4 below.

The electricity consumed is used for the following: lighting, heating, use of electronic devices and laboratory equipment, server rooms, TV for tests, staff kitchen

Table 4 – 2021 business activity data in relation to electricity consumption SMARDTV Global SAS

SMARDTV Global site	Total consumption of electricity in 2021
La Ciotat	576,477 kWh
Rennes	66,202 kWh
TOTAL	642,679 kWh

Indirect emissions due to energy consumption from grids (excluding electricity)

These emissions come from the process of producing heat, cold or compressed air imported by the organisation.

SMARDTV Global does not purchase cold or steam for its business.

4. Emissions calculation

Overall GHG production and breakdown by source and by site under the Bilan Carbone® method

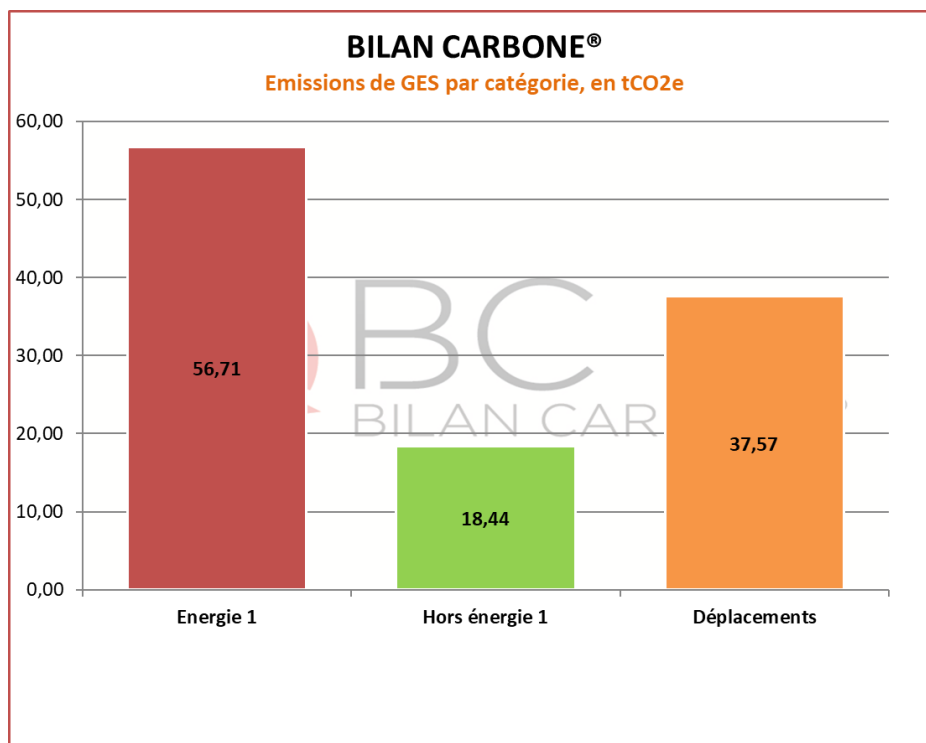
Table 5 below sets out the results of overall GHG emissions for 2021, their breakdown by emission source and the related uncertainties.

Table 5 - Overall GHG emissions 2021 SMARDTV Global SAS and breakdown by source (Bilan Carbone method)

Emission source	Emissions		Uncertainties	
	t CO ₂ eq	Related	t CO ₂ eq	%
Energy (electricity)	56.71	50.3%	12.01	21%
Excluding energy (air conditioning)	18.44	16.4%	9.87	54%
Travel (company cars)	37.57	33.3%	3.39	9%
Total	112.71	100%	15.91	14%

Figure 1 below shows the breakdown of overall emissions.

Graph 1 – Breakdown of SMARDTV Global SAS 2021 emissions (Bilan Carbone method)



BILAN CARBONE = CARBON FOOTPRINT

Emissions de GES par catégorie, en tCO₂e = GHG emissions by category in tCO₂eq

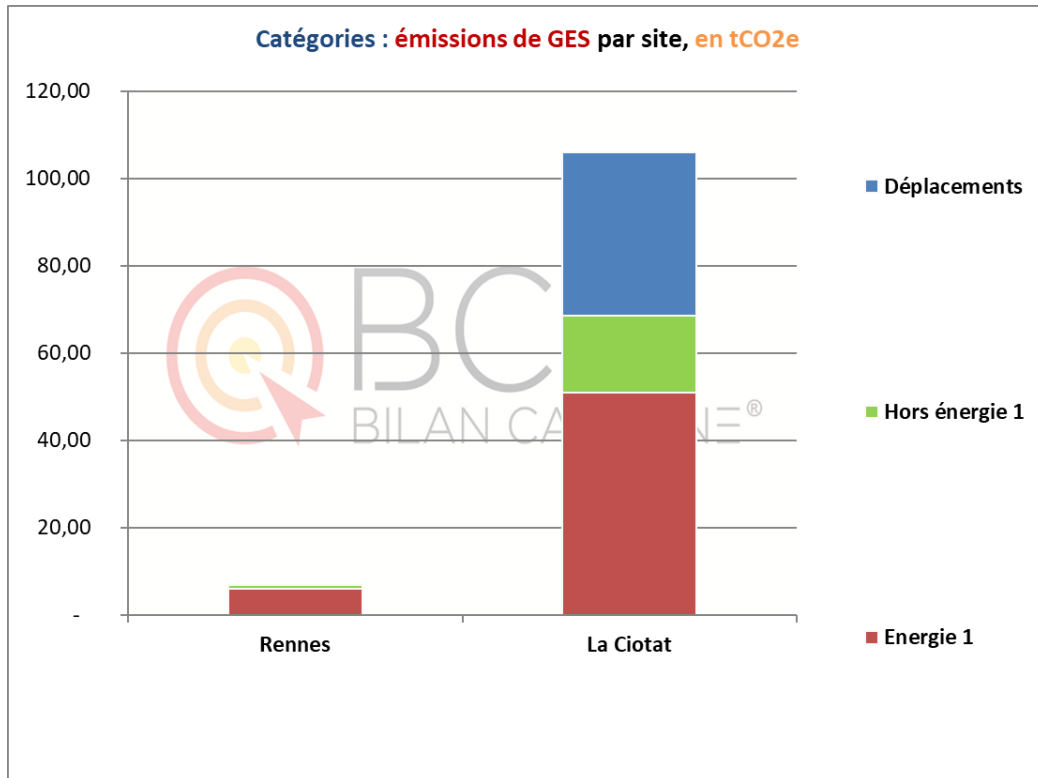
Energie 1 = Energy 1

Hors énergie 1 = Non-Energy 1

Déplacements = Travel

Figure 2 below shows the breakdown of emissions by site.

Graph 2 – Breakdown of SMARDTV Global SAS 2021 emissions by site (Bilan Carbone method)



Catégories : émissions de GES par site, en tCO₂e = Categories: GHG emissions by site, in tCO₂eq
 Energie 1 = Energy 1
 Hors énergie 1 = Non-energy 1
 Déplacements = Travel

Overall GHG production and breakdown by source under regulatory Scope 1 & 2

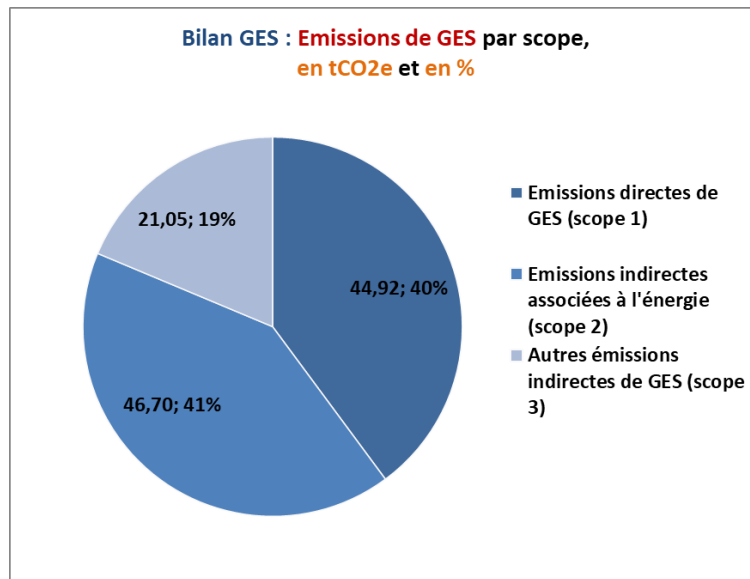
In the Bilan Carbone[®] method, note that some emissions recorded as being from "energy", "non-energy" and "travel" emission sources do not fall within regulatory scopes 1 & 2. In particular, this refers to upstream emissions from the final energy production chain (extraction, transport, refining/processing and fuel distribution).

Table 5 and chart 3 below show details of the breakdown of emissions by scopes.

Table 5 – Breakdown of SMARDTV Global SAS 2021 emissions by scope

Emissions categories	Number s	Emission sources	GHG emissions							Avoided GHG emissions
			CO ₂ (t CO ₂ eq)	CH ₄ (t CO ₂ eq)	N ₂ O (t CO ₂ eq)	Other gases (t CO ₂ eq)	Total (t CO ₂ eq)	CO ₂ b (t CO ₂ eq)	Uncertainty (t CO ₂ eq)	Total (t CO ₂ eq)
Direct GHG emissions (scope 1)	1	Direct emissions from stationary combustion sources	0	0	0	0	0	0	0	0
	2	Direct emissions from mobile sources with internal combustion engines	26,18	0,07	0,24	0	26,48	6,68	3,07	0
	3	Direct process emissions excluding energy	0	0	0	0	0	0	0	0
	4	Direct fugitive emissions	0	0	0	1,58	18,44	0	9,39	0
	5	Emissions from biomass (soils and forests)	0	0	0	0	0	0	0	0
		Subtotal	26,18	0,07	0,24	1,58	44,92	6,68	9,88	0
Indirect emissions related to energy (scope 2)	6	Indirect emissions due to electricity consumption	46,70	0	0	0	46,70	0	9,91	0
	7	Indirect emissions due to steam, heat, and cold consumption	0	0	0	0	0	0	0	0
		Subtotal	46,70	0	0	0	46,70	0	9,91	0
Other indirect GHG emissions (scope 3)	8	Emissions due to energy not included in items 1 to 7	13,25	0,50	1,45	0	15,21	-6,68	1,68	0
	9	Purchase of products or services	0	0	0	0	0	0	0	0
	10	Fixed assets	0	0	0	0	0	0	0	0
	11	Waste	0	0	0	0	0	0	0	0
	12	Upstream goods transport	0	0	0	0	0	0	0	0
	13	Business travel	0	0	0	0	0	0	0	0
	14	Upstream leased assets	0	0	0	0	0	0	0	0
	15	Investments	0	0	0	0	0	0	0	0
	16	Visitor and client transport	0	0	0	0	0	0	0	0
	17	Downstream goods transport	0	0	0	0	0	0	0	0
	18	Use of sold products	0	0	0	0	0	0	0	0
	19	End of sold product service life	0	0	0	0	0	0	0	0
	20	Downstream franchise	0	0	0	0	0	0	0	0
21	Downstream leasing	0	0	0	0	0	0	0	0	
22	Commuting	0	0	0	0	0	0	0	0	
23	Other indirect emissions	5,84	0	0	0	5,84	0	1,81	0	
		Subtotal	19,09	0,50	1,45	0	21,05	-6,68	2,47	0

Chart 3 – Distribution of SMARDTV Global SAS 2021 emissions by scope



Bilan GES : Emissions de GES par scope, en tCO_{2e} et en % = GHG footprint: GHG emissions by scope, in tCO_{2 eq} and in %
 Emissions directes de GES (scope 1) = Direct GHG emissions (scope 1)
 Emissions indirectes associées à l'énergie (scope 2) = Indirect energy-related emissions (scope 2)
 Autres émissions indirectes de GES (scope 3) = Other indirect GHG emissions (scope 3)

Chart 4 below shows the breakdown of emissions by regulatory sources and the related uncertainties.

Chart 4 – Breakdown of SMARDTV Global SAS 2021 emissions by regulatory items and uncertainties

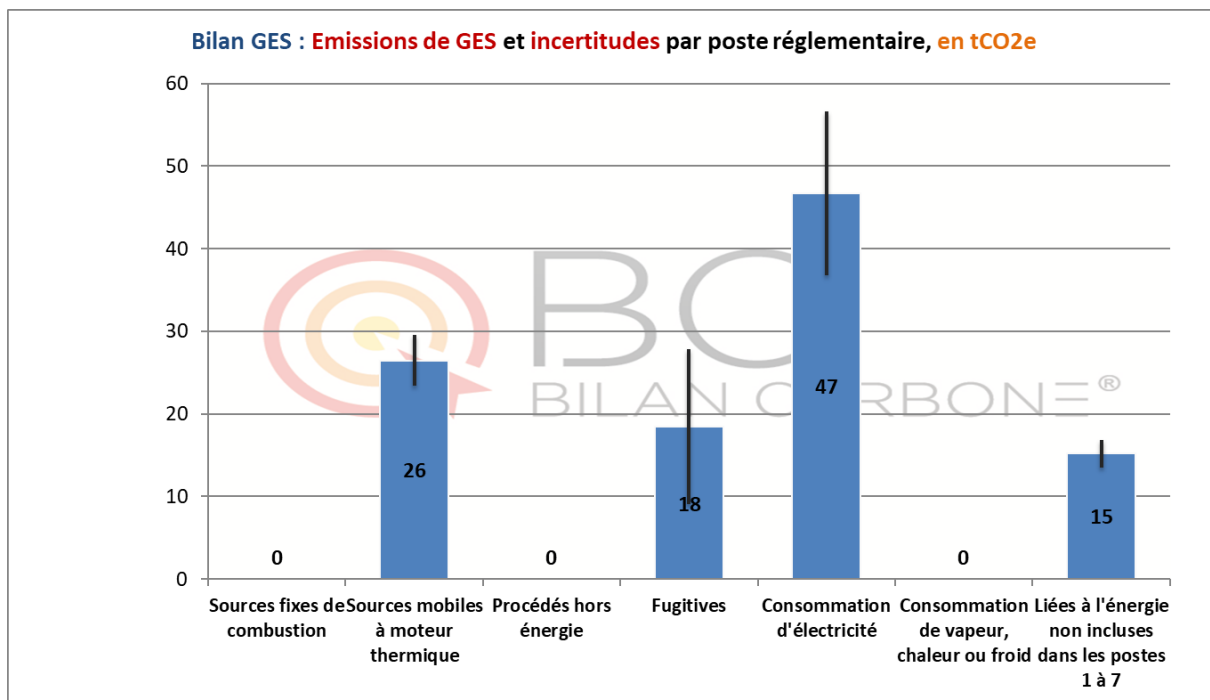


Chart 5 – Breakdown of travel-related emissions 2021

Bilan GES: Emissions de GES et incertitudes par poste réglementaire, en tCO_{2e} = GHG footprint: GHG emissions and uncertainty for each regulatory source, in tCO_{2 eq}
 Sources fixes de combustion = Stationary combustion sources
 Sources mobiles à moteur thermique = Mobile sources with internal combustion engines
 Procédés hors énergie = Processes excluding energy
 Fugitives = Fugitive emissions
 Consommation d'électricité = Electricity consumption
 Consommation de vapeur, chaleur ou froid = Consumption of steam, heat or cold
 Liées à l'énergie non-incluses dans les postes 1 à 7 = Linked to energy not included in items 1 to 7

5. Conclusion and general recommendations

The emissions assessment for 2021 business activities of the SMARDTV Global group revealed a **total Carbon Footprint of 112.71 tCO₂ eq**. Taking the regulatory sources into account, this is reduced to **a total of 91.62 tCO₂ eq for scopes 1 and 2** (the emissions discrepancy being attributable to scope 3).

Emissions are distributed evenly between scopes 1 and 2, with emissions of 44.92 tCO₂ eq and 46.70 tCO₂ eq respectively. These emissions are due to:

- Fuel consumption by company vehicles (scope 1);
- Potential refrigerant gas leakage from air conditioning systems (scope 1);
- Electricity consumption (scope 2).

In order to **put the 2021 carbon footprint into perspective**, including its comparison with previous years where appropriate, it is recommended to consider it in the light of the following business activity data:

- Workforce (Full-Time Equivalent);
- Turnover.

Finally, in order to consider an appropriate and prioritised action plan, it is recommended to continue the study and **to account for the emissions related to scope 3**.