GHG inventory 2024

July 2025 – This report was written by Claire Pesesse, ESG Expert at Smart2Circle

Preface

We are proud to have supported Olivia Garden in developing its climate strategy.

This report contains the detailed results of your greenhouse gas (GHG) emissions inventory. Your inventory complies with the two standards of excellence in carbon accounting, i.e. the Bilan Carbone® method (a methodology recognised and developed by ADEME in France) and the GHG Protocol (an international carbon accounting standard which approaches carbon accounting through the notion of scope).

This inventory, carried out with rigour and precision by our teams, is the very first step in building your climate strategy. In this report, you'll find the steps you need to take to improve your organisation's carbon footprint, as well as our advice on how to go further, how to set yourself a reduction target and how to understand the carbon contribution principle.

Congratulations again on your contribution to a low-carbon, prosperous economy!

Thank you for your trust.

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01.
Introduction

Context & objectives

Olivia Garden was founded in 1967 in Liège, Belgium, by Jean and Micheline Rennette. Specialising in professional hairdressing tools, the company is now recognised worldwide for its innovations, its more than 55 patents and its presence in over 100 countries.

Olivia Garden, a renowned Belgian company specialising in professional hairdressing tools, employs a team of 50 people.

Olivia Garden attaches particular importance to its environmental and social impact. By measuring its carbon footprint, Olivia Garden will be able to embark on the gradual development of an ambitious climate strategy. This first step in measuring and analysing greenhouse gas emissions is also one of the foundations for developing a transparent, global sustainable strategy that is consistent with the United Nations' Sustainable Development Goals. Measuring an organisation's greenhouse gas emissions contributes to SDG 13 'measures to combat climate change', as well as indirectly to SDGs 7, 12 and 15, and others.

In this context, the aim of our assignment is to support and advise Olivia Garden in measuring its climate impact, with the following objectives:

- To quantify the company's carbon footprint using the Bilan Carbone® and GHG Protocol methods;
- Identify the most significant sources of emissions among its activities;
- Carry out simulations of possible actions to reduce the company's greenhouse gas emissions;
- Raise awareness of energy and climate issues among its teams;
- Advise the company on the continuity and sustainability of its climate change approach, and train teams in the fundamentals of an ambitious climate change strategy and in the use of energy-efficient technologies.

The Bilan Carbone® method and the GHG Protocol are the two standards for quantifying a company's impact on climate.

GHG inventory methodologies

The Greenhouse Gas Protocol (commonly known as the GHG Protocol) is an international standard for accounting and reporting corporate greenhouse gas emissions.

GHG Protocol methodology classifies GHG emissions into scopes (Scope 1, 2 & 3).

It was designed as a common framework for reporting purposes. It aims to support companies, and other organisations, develop a reliable greenhouse gas (GHG) inventory, i.e. to identify, calculate and report their greenhouse gas emissions, in a uniform and common way.

Jointly established in 1998 by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institutes (WRI), it is a unique multi-stakeholder partnership of companies, NGOs and governments that lays the foundation for knowledge in GHG emissions accounting and reporting.

The GHG Protocol has been developed to pursue the following objectives :

- To support companies preparing a GHG inventory that represents a true and fair account of their emissions through the use of standardised principles and approaches;
- Simplify and reduce the costs of compiling a GHG inventory;
- Provide companies with information that can be used to develop an effective strategy for managing and reducing GHG emissions;
- Increase consistency and transparency in GHG accounting and reporting between different companies and GHG programmes.

The CSRD European directive (Corporate Sustainablility Reporting Directive) requires the establishment of a GHG inventory aligned with the GHG Protocol standard.

The standard covers the accounting and reporting of seven greenhouse gases covered by the Kyoto Protocol: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF6) and nitrogen trifluoride (NF3).

GREENHOUSE GAS PROTOCOL

GHG inventory methodologies

Unlike the GHG Protocol, the Méthode Bilan Carbone® is a protected method and a registered trademark. It is designed to be a qualitative approach: the main aim is for organisations to put in place a process for continuously improving their climate impact, rather than simply publishing their emissions.

The Méthode Bilan Carbone® classifies emissions into 10 emission categories.

It can be applied to any activity: industrial or tertiary companies of any size, administrations, local authorities and areas managed by local authorities. Its aim is to reflect reality in terms of physical flows.

The Association pour la transition Bas Carbone (ABC) has been promoting the Bilan Carbone® in France and internationally since 2011. Bringing together players from the private and public sectors, it is developing the Bilan Carbone® and the Greenhouse Gas Management System (SM-GES®), with particular emphasis on the managerial and strategic approach.

The ABC and its partners are working to build, update and disseminate methodological and operational solutions to reduce greenhouse gas emissions and support the transition to a low-carbon society.

The Bilan Carbone® method was developed for the Agence de la transition écologique - ADEME (formerly the Agence de l'Environnement et de la Maîtrise de l'Énergie) by Jean-Marc Jancovici of the Carbone 4 consultancy.

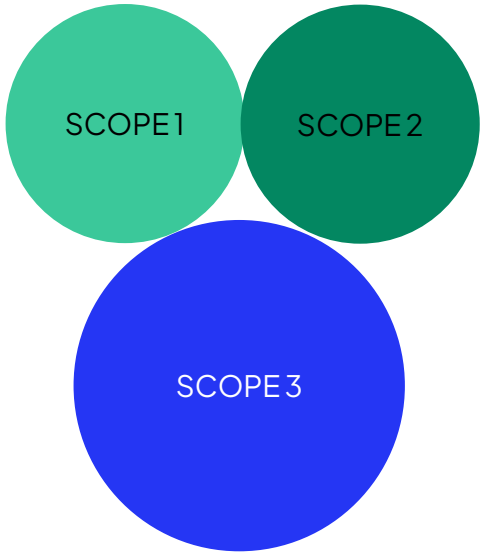
GREENHOUSE GAS PROTOCOL

BC BILAN CARBONE®

Consumed energy (buildings & owned vehicles)

Fugitive and process emissions

Electricity, steam, heat, refrigeration produced for the organisation (= purchased)



Everything else

Consumed energy (buildings and utilisation)

Freight

Packagings

Procurement & Capital goods

Travels

Waste and end-of-life

Non energy

Benefits of a GHG inventory

The first benefit of carbon accounting is that it provides relatively exhaustive information on all the greenhouse gas (GHG) emissions generated by the organisation's activity, in figures rather than in perception.

You make your decisions based on data and not feelings

The emissions recorded by the Bilan Carbone® method include in particular:

- Imported energy consumed by the activity (electricity, steam, etc.);
- Fossil fuels consumed (oil, gas, coal, etc.);
- Emissions linked to staff (and visitor) travel;
- Emissions linked to the transport of goods sold/purchased by the company;
- Emissions linked to the construction of buildings and property owned by the company;
- Emissions linked to the manufacture of raw materials used by the company;
- Emissions linked to the packaging of products sold;
- Emissions linked to the processing of waste generated by the business;
- Emissions linked to the end-of-life and use of products marketed by the company.

The Bilan Carbone® method enables emissions to be quantified in full, whether they are direct within the company or indirect with customers or suppliers. Emissions are taken into account as long as they correspond to an activity that is necessary to maintain the organisation's usual level of activity.

Having the figures at your fingertips enables you to make objective, well-motivated decisions to effectively reduce your impact on the climate.

The Bilan Carbone® makes it possible to identify the activities that emit the most greenhouse gases in the organisation, and therefore to identify high-impact red

This means that efforts can be focused on maximising results and limiting wasted time, money and potential friction over complex (or sensitive) issues that are actually secondary to the organisation's overall reduction objective.uction actions and quick wins.

Benefits of a GHG inventory

Seen through the prism of climate change, the carbon footprint is the cornerstone of all environmental management, and its profitability for businesses is well established.

Economic benefits arising from the GHG inventory are real

In addition to the positive impact of the voluntary emissions reduction approach, the actions implemented also have economic benefits. They reduce the company's dependence on fossil fuels and make it less vulnerable economically in the event of a rise in the cost of hydrocarbons or the introduction of a carbon tax. Environmental management is also a source of financial savings and innovation, and is beneficial in terms of risk management (e.g. regulations, supply, productivity, natural disasters, etc.).

Finally, the Bilan Carbone® method makes it easy to raise awareness and involve a large proportion of teams in the process, encouraging buy-in and the effective co-construction of solutions for the organisation. Over and above the environmental benefits, these results bring real benefits in terms of internal cohesion and well-being for employees, who are involved in a sustainable, transparent and meaningful process for their company.

In the short term, the results make it possible to set a reduction target over time, to launch the reduction process through concrete actions, to communicate the vision and results to stakeholders (customers, suppliers, partners, etc.), and to comply with regulations.

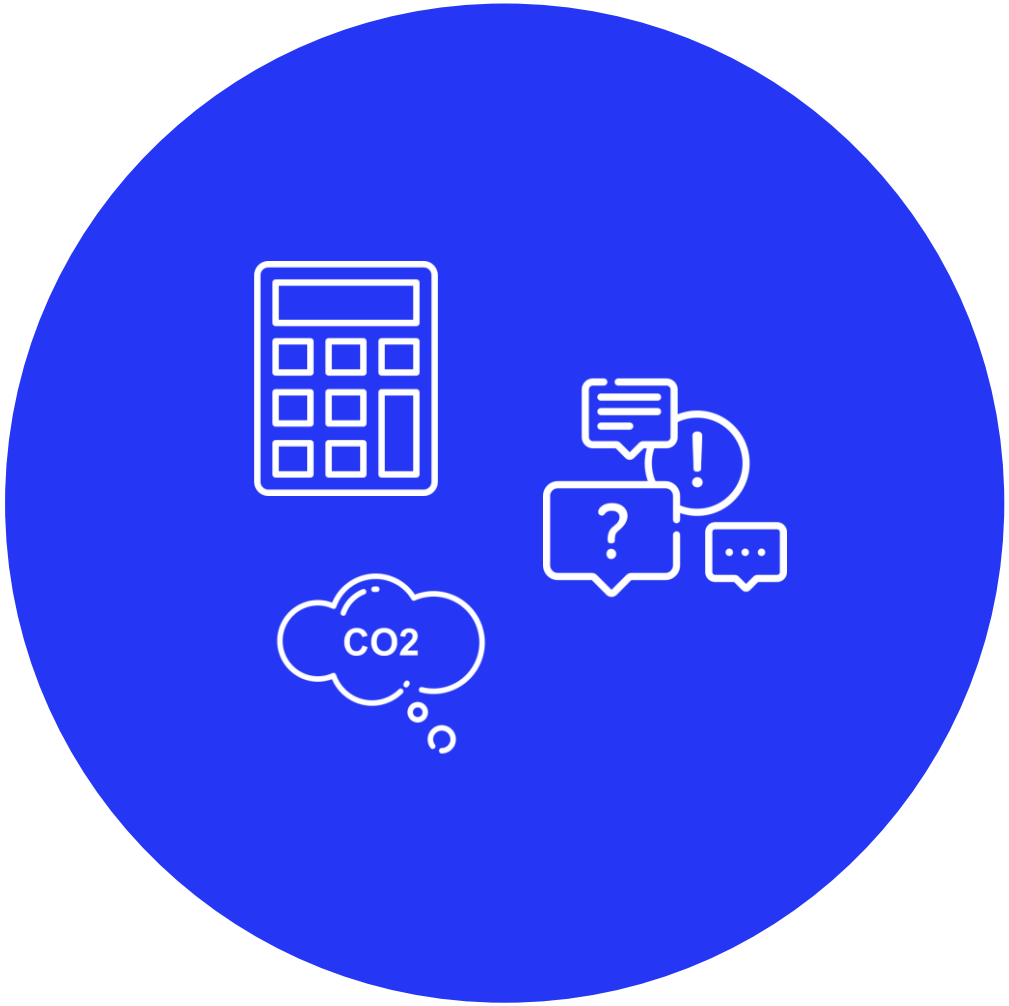
In the long term, these results help to improve the company's strategy, making it progressively less carbon-intensive, more resilient, more efficient and more competitive, as well as enabling it to innovate and remain at the forefront of its sector.

According to the results of a European study cited by ISO in its book 'Environmental management and ISO 14000', more than 80% of the 500 companies questioned about their experience of implementing environmental management systems emphasised their cost-effectiveness, with more than 60% of them citing payback times of less than 12 months.

Why establising a GHG inventory

- Ensures regulatory compliance and access to finance
- Gives you credibility = first step towards a solid ESG strategy
- Eliminates feelings = decisions are based on figures
- Raise staff awareness of energy and climate issues = motivate them
- Identify levers of action = find solutions
- Make your global strategy robust and optimize your business

A carbon footprint is neither good nor bad; what matters is what you do with it afterwards!



Mission steps

The emission factors (EFs) used in this assignment were mainly taken from the Base Empreinte® database. We also used EFs from the DEFRA (UK Government), Umweltbundesamt, Ecobalyse, Electricity Maps databases, and more marginally, from specific life cycle analyses.

Tools used: Activity data spreadsheet (Bilan Carbone®) : « Olivia Garden - Données activité_V8.1 - Bilan Carbone 2024 » et bilan carbone (TAPIO) : compte Olivia Garden.

Course of the project

1. Presentation of the Bilan Carbone® methodology and the assignment schedule to the project team and appointment of an assignment leader;
2. Mapping of flows to understand the company's activity and establish the scope of the carbon footprint;
3. Raising awareness of energy and climate issues among the management committee;
4. Data collection and processing: the various data required to calculate the carbon footprint were collected from resource persons by the pilot, then sent to Smart2Circle for processing;
5. Data processing: Bilan Carbone® and GHG Protocol calculations;
6. Data verification: intermediate presentation of the results to the project team reduced from the mission in order to detect any errors or inconsistencies;
7. Presentation of the final results and conclusions to the teams;
8. Training the project team in the TAPIO platform;
9. Drafting of the Bilan Carbone® report.

02.
Results

GHG inventory boundaries

A greenhouse gas emissions (GHG) inventory must define three types of boundaries — organisational, temporal, and operational.

Temporal boundary: 2024.

Organisational boundaries

In line with the GHG Protocol Corporate Standard and the requirements of the Corporate Sustainability Reporting Directive (CSRD), the consolidation approach applied is based on operational control.

The organisation accounts for 100% of the greenhouse gas emissions from sites, facilities, and operations over which it has full operational control.

For more information on the principle of consolidation, see:

http://pdf.wri.org/ghg_protocol_2004_chp003.pdf

Exclusions: none.

Operational boundaries

Flow mapping is used to establish the operational scope of the organisation's Bilan Carbone®: it defines the sources of emissions that will be taken into account. The aim is to clearly identify data collection requirements and any resource persons to be called upon.

It should be drawn up at the start of the assignment, in consultation with key people in the organisation being studied.

At Olivia Garden, about ten people participated in its development, in addition to the mission leader: Marie-Hélène Aldenhoff - Lead Vendor and Operations Management.

3 378 tCO2e emitted by Olivia Garden in 2024

Is it a lot?

Order of magnitude

Olivia Garden

3 378 tCO2e

	40,5 milliards tCO2	8 milliards people	Human activity (including land use change)
TF1	315 000 tCO2e	3 500 people	Media (radio and television)
DECATHLON	10 millions tCO2e	100 000 people	Sports goods retail
DAVINES GROUP	35 290 tCO2e	964 people	Cosmetics
DSV	13 340 tCO2e	73 000 people	Transportation services
OLIVIA GARDEN®	2 832 tCO2e (in 2021)	29 people	Professional hair tools

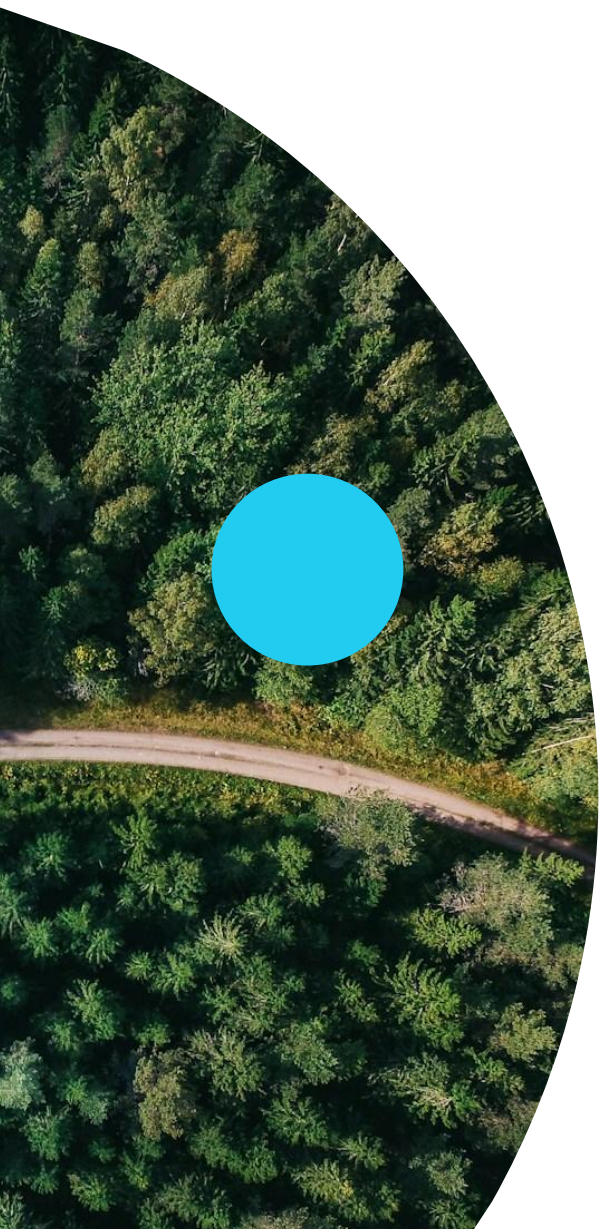
Order of magnitude

Carbon contribution

The older a tree is, the more CO2 it stores, and the faster it grows, the faster it stores CO2. On average, most estimates suggest that a newly planted tree stores between 10 and 50 kg of CO2 per year (with an average of 20–30 kg per year for most common trees), or around 4 tons of CO2 over its lifetime.

Source

3 378 tCO2e = 135 080 trees (1,18 km² = almost twice the surface of the city of Liege)



Emission families

The Bilan Carbone® results detail the greenhouse gas (GHG) emissions associated with the company's activities, whether direct or indirect. These emissions are categorised by emission family, according to the company's operations.

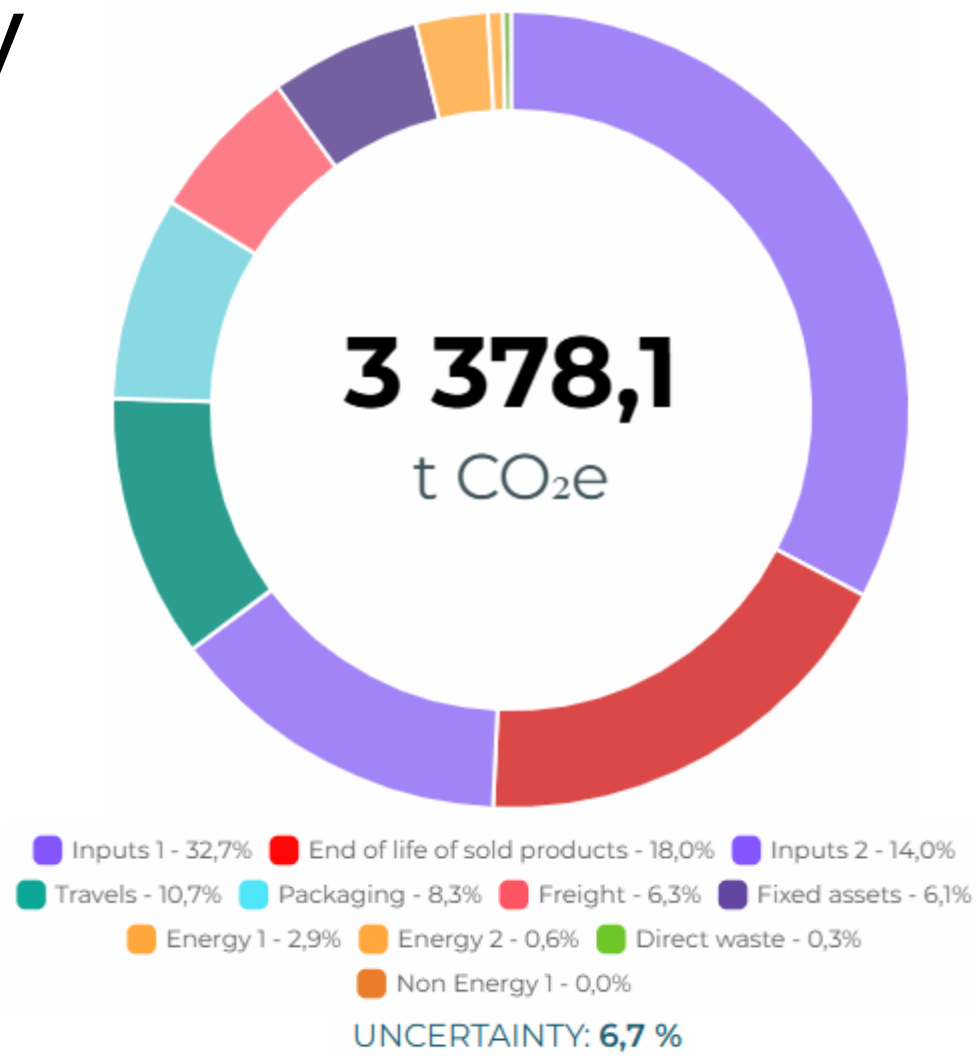
- Consumed energy (buildings and utilisation)
- Freight
- Packagings
- Procurement & Capital goods
- Travels
- Waste and end-of-life

Summary: Bilan Carbone® 2024 by emission family

Emission family	Emissions (tCO2e)	Share (%)
Production purchases (Inputs 1)	1105	33 %
End-of-life of sold products	609	18 %
Operating purchases (Inputs 2)	474	14 %
Travel	361,5	11 %
Packaging	280	8 %
Freight	213	6,5 %
Fixed assets	206	6 %
Energy 1 *	99	3 %
Energy 2 **	20,5	0,6 %
Waste	10,5	0,3 %
Non energy	0	0 %
TOTAL	3 378 tons CO2e	100 %

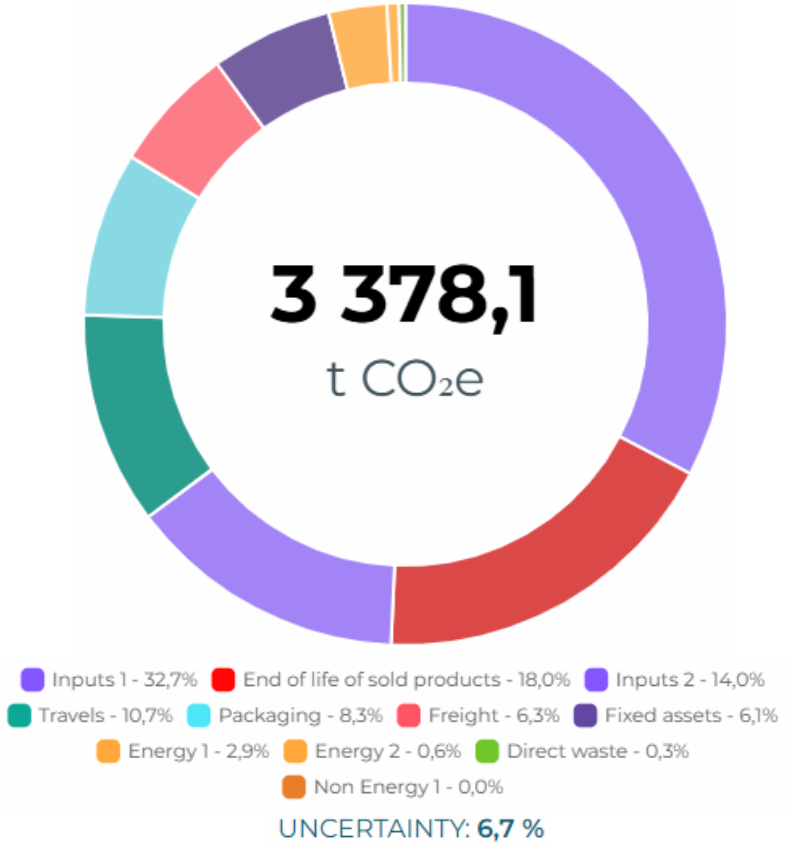
Access public report : Olivia Garden - GHG inventory 2024

- Energy 1 includes emissions generated by energy consumption related to Olivia Garden's activities.
- ** Energy 2 includes emissions generated by energy consumption related to the activities of tenants present in buildings owned by Olivia Garden at the Herstal site.



Summary: Bilan Carbone® 2024 by emission family

Emission family	Quality	
	Activity data	Emission factor
Production purchases (Inputs 1)	VERY GOOD	SATISFACTORY
End-of-life of sold products	GOOD	SATISFACTORY
Operating purchases (Inputs 2)	GOOD	GOOD
Travel	TO IMPROVE	VERY GOOD
Packaging	VERY GOOD	GOOD
Freight	GOOD	VERY GOOD
Fixed assets	GOOD	GOOD
Energy 1 *	TO IMPROVE	GOOD
Energy 2 **	TO IMPROVE	GOOD
Waste	SATISFACTORY	GOOD
Non energy	VERY GOOD	GOOD
CONCLUSION	GOOD	GOOD



Overview of activity data

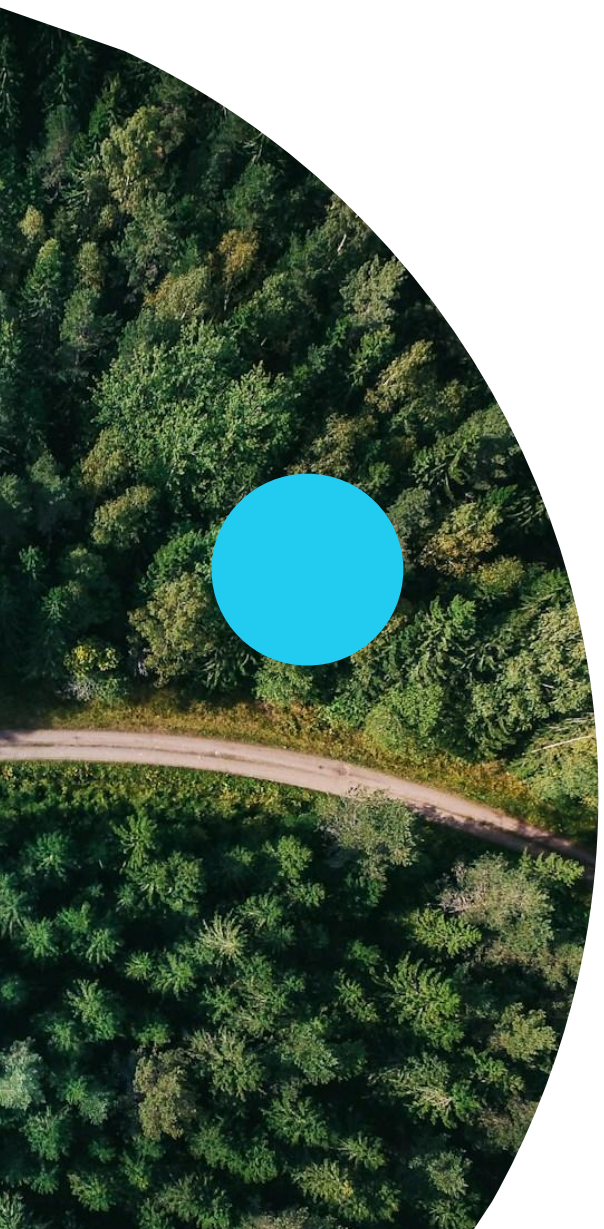
BC® emission family	Scope	Received data	Missing data
Energy 1	1– 2–3	• Electricity consumption (kWh) for the Herstal building with allocation key for the share attributed to Olivia Garden • Production, self-consumption and injection (kWh) of PV for the Herstal building with allocation key for the share attributed to Olivia Garden • Gas consumption (kWh PCI) for the Herstal building with allocation key for the share attributed to Olivia Garden • Data on floor space occupied for the private office in the coworking space located in Germany • Information on the types of electricity contracts for the Herstal building	
Energy 2	1– 2–3	• Electricity consumption (kWh) for the Herstal building with allocation key for the portion attributed to tenants • Production, self-consumption and injection (kWh) of PV for the Herstal building with allocation key for the share attributed to tenants • Gas consumption (kWh PCI) for the Herstal building with allocation key for the share attributed to tenants	
Non energy	1	• Maintenance report prepared by Douin+ (maintenance provider) for air conditioning units in the Herstal building	• Information on air conditioning units in shared offices in Germany
Inputs 1	3	• Products: weight (kg) by type of material used in each product sold • Amounts (€) spent on marketing products (prints and tote bags)	

Overview of activity data

BC® emission family	Scope	Received data	Missing data
Inputs 2	3	• Water consumption (m³) for the Herstal site • Surface area (m²) of private office space in Germany • Weight (kg) and types of food and beverages consumed • Quantities (units) and types of clothing purchased • Amounts (€) spent on operating goods and services • Number of emails sent and received, hours of videoconferencing, data storage volume (Cloud) and website sessions	• Water consumption (m³) for the office in Germany
Packaging	3	• Logistics packaging: weight (kg) and type of packaging used for transporting goods • Product packaging: weight (kg) and type (primary and secondary) of packaging used for selling products, including displays	• Percentage of pallets purchased for use at the Herstal site
Waste	3	• Wastewater: assumption that the volume (m³) of wastewater corresponds to the volume (m³) of water consumed at each site • Direct waste: extract from Renewi data for weights (tons) and types of waste	• Volume (m³) of water consumed (used) at the site in Germany
Freight	1 & 3	• Logistics service: amounts (€) spent on storage • Inbound freight: some carriers provided emissions (tCO2e) directly, others provided tons transported and kilometres travelled, by mode of transport. • Outbound freight: some carriers provided emissions (tCO2e), others provided tons transported and kilometres travelled, by mode of transport. Unpaid outgoing freight (ex-works) was provided by internal teams. Tons transported and kilometres travelled, by mode of transport, were reported.	

Overview of activity data

BC® emission family	Scope	Received data	Missing data
Travel	1– 2–3	• Record of fuel consumption (L) for company vehicles • Record of electricity recharges (kWh) at charging stations on the Herstal site between May and November • Record of electricity consumption (kWh) at charging stations on the Herstal site for the month of December, with a breakdown between staff with company vehicles, staff without company vehicles, visitors and tenants • Record of electricity consumption (kWh) at home charging stations for staff with company vehicles • List of employees with start and end dates, address, number of days on site and working from home, primary, secondary and tertiary modes of transport with breakdown (%) • Record of business travel by mode of transport and distance travelled (km) • Record of hotel stays by country • List of regular visitors to the Herstal site by origin and frequency of visits • Estimate of visitors to trade fairs and events by origin and mode of transport	• Record of electricity top-ups (kWh) at public charging stations for staff with company vehicles
Fixed assets	3	• Quantities (units), depreciation period and year of acquisition for IT equipment and vehicles (equity and leasing) • Acquisition amount (€), depreciation period and year of acquisition for all other assets being depreciated in 2024	
End-of-life of sold products	3	• It is assumed that the products sold in 2024 will correspond roughly to purchases over the same period. The data for the End- of-life emission family is therefore based on the data collected for the Inputs 1 emission family.	• The volume of products sold in 2024: enter the weights (kg) and types of materials they are made of.



Scope of emission

To simplify, Scope 1 and 2 emissions are greenhouse gas (GHG) emissions that are directly emitted by sources owned or controlled by a company, while Scope 3 emissions are a consequence of the company's activities but come from sources that are not owned or controlled by it (= value chain emissions).

SCOPE 1

- Fossil fuel combustion (vehicles, fixed installations, etc. owned or leased by the company)
- Process emissions
- Fugitive emissions

SCOPE 2

Part of the emissions linked to the consumption of electricity, heat, steam or refrigeration purchased by the organisation.

SCOPE 3

Everything else: Emissions emitted throughout the value chain (raw materials, purchasing, waste, transport, product use and end-of-life, etc.).

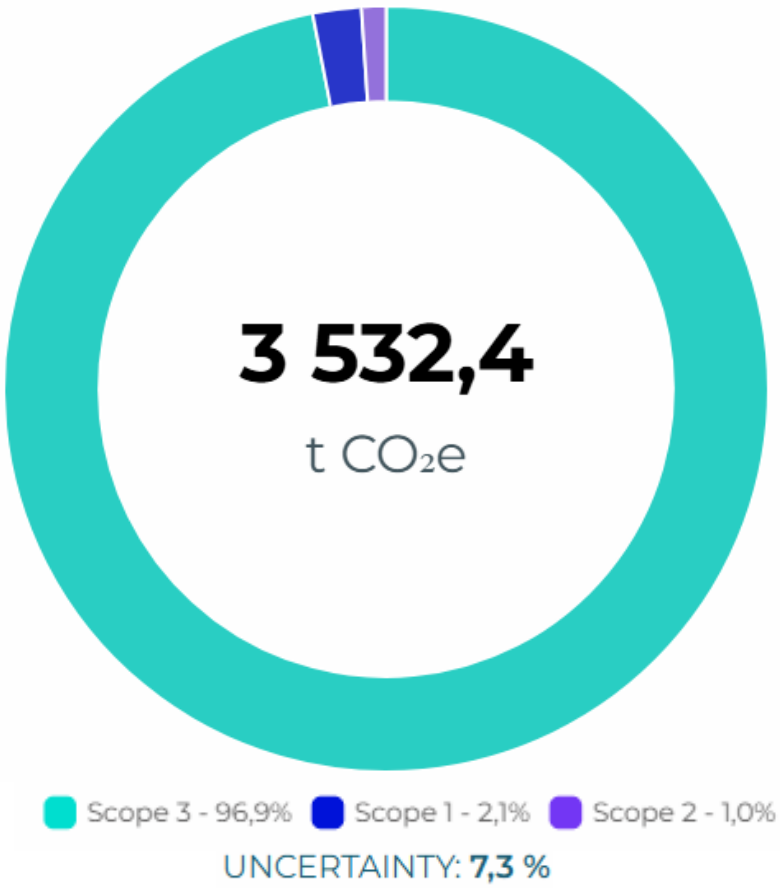
Summary: GHG inventory 2024 by scope

Location-based

Scope of emission	Emissions (tCO2e)	% of total inventory
Scope 1	73	2 %
Scope 2	35	1 %
Scope 3	3 423	97 %
TOTAL	3 532 tons CO2e	100 %

Scope 1 & 2 usually represent a maximum of 5–10% of the company's global carbon footprint.

As part of the carbon footprint according to the GHG Protocol, the 'location-based' approach for Scope 2 emissions means that emissions are calculated using the average emission factor of the national or regional electricity mix, where the electricity is consumed, without taking into account specific green energy purchasing contracts.



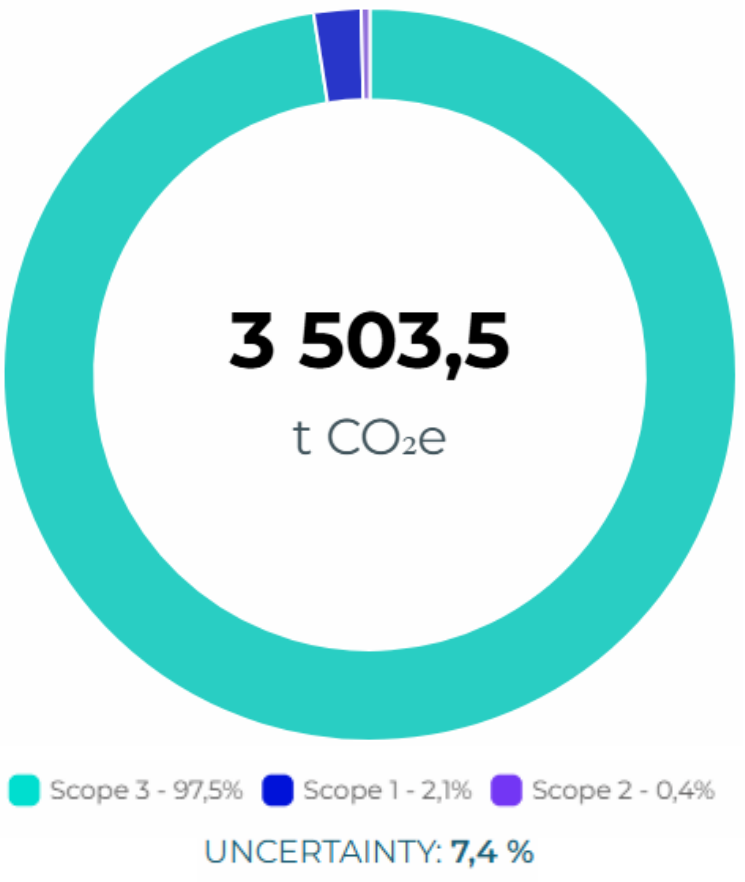
Summary: GHG inventory 2024 by scope

Market-based

Scope of emission	Emissions (tCO2e)	% of total inventory
Scope 1	73	2 %
Scope 2	19	0,5 %
Scope 3	3 422	97,5 %
TOTAL	3 514 tons CO2e	100 %

Scope 1 & 2 usually represent a maximum of 5–10% of the company's global carbon footprint.

As part of the carbon footprint according to the GHG Protocol, the 'location-based' approach for Scope 2 emissions means that emissions are calculated using the average emission factor of the national or regional electricity mix, where the electricity is consumed, without taking into account specific green energy purchasing contracts.



- 5 %

3 532 tCO2e

3 378 tCO2e

Bilan Carbone®: intensity metrics

Metric	2021 data	2021 carbon intensity	2024 data	2024 carbon intensity	Intensity variation	Description
FTE	29 FTE	97 663 kgCO2e/FTE	38 FTE	88 897 kgCO2e/FTE	- 9 %	Olivia Garden's carbon productivity has improved. Despite a 31% growth in its workforce, the company has been able to reduce its relative emissions by 9%.
Turnover	14 110 835 €	0,20 kgCO2e/€	19 900 000 €	0,17 kgCO2e/€	- 15 %	The reduction in carbon intensity per turnover reflects more efficient operations, with lower emissions despite Olivia Garden's economic growth.
Purchased products	3 300 456 units	0,86 kgCO2e/unit	3 736 324 units	0,90 kgCO2e/unit	+ 5 %	Although purchases are the primary source of emissions in its Bilan Carbone®, Olivia Garden manages to control their impact whilst experiencing economic growth. The company has been able to limit the increase in emissions related to purchase volume to 5%, despite a 13% growth in purchases between 2021 and 2024. Simultaneously, the company has restricted emissions related to sales volume to just a 1% increase, despite sales rising by 18% between 2021 and 2024.
Sold products	3 263 827 units	0,87 kgCO2e/unit	3 841 036 units	0,88 kgCO2e/unit	+ 1 %	

Focus on the emission families

Purchased goods and services

Emission family No.1

This emission family, also called “Inputs”, includes all flows of materials, products or services that enter the organisation, whether to be consumed on-site (and potentially end up in the organisation's trash) or to be incorporated into production.

The tertiary services consumed by the organisation must also be taken into account. These services may include, for example, but are not limited to: IT and telecommunications services, maintenance, maintenance, cleaning, banking services and fees of all kinds (lawyers, accountants, etc.), employee training, advertising and marketing, digital footprint.

1 579 tCO2e

(47%)

Purchased goods and services

1 579 tCO_2e

(47%)

Results

Inputs 1

1 105 tCO_2e (33%)

All purchases directly intended for commercial activity

(e.g. : ABS plastic, stainless steel, nylon, rubber, etc.)

Inputs 2

474 tCO_2e (14%)

All purchases for the general running of the company

(e.g. insurance, small supplies, food and drink, IT equipment, etc.)

Purchased goods and services

1 579 tCO_2e

(47%)

Methods

Physical method > EF finished goods (pc)

Physical method > EF materials (kg)

Monetary method > EF monetary ratios (€ spent)

75 €

Nearly 13× more emitting when computed using monetary ratios !

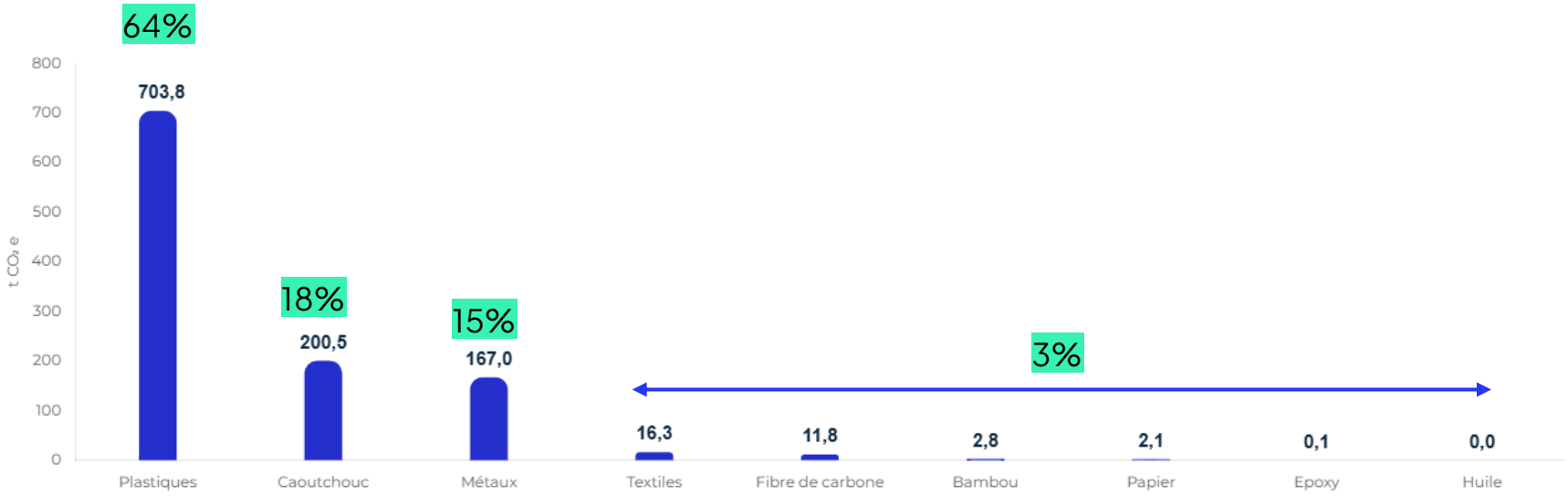
966 €

Production purchases (Inputs 1)

Results

Production purchases account for 33% of Olivia Garden's total Bilan Carbone®, equivalent to 1 105 tCO2e.

Plastic materials represent 64% of the inputs 1 emissions, followed by rubber components (18%) and metals (15%).

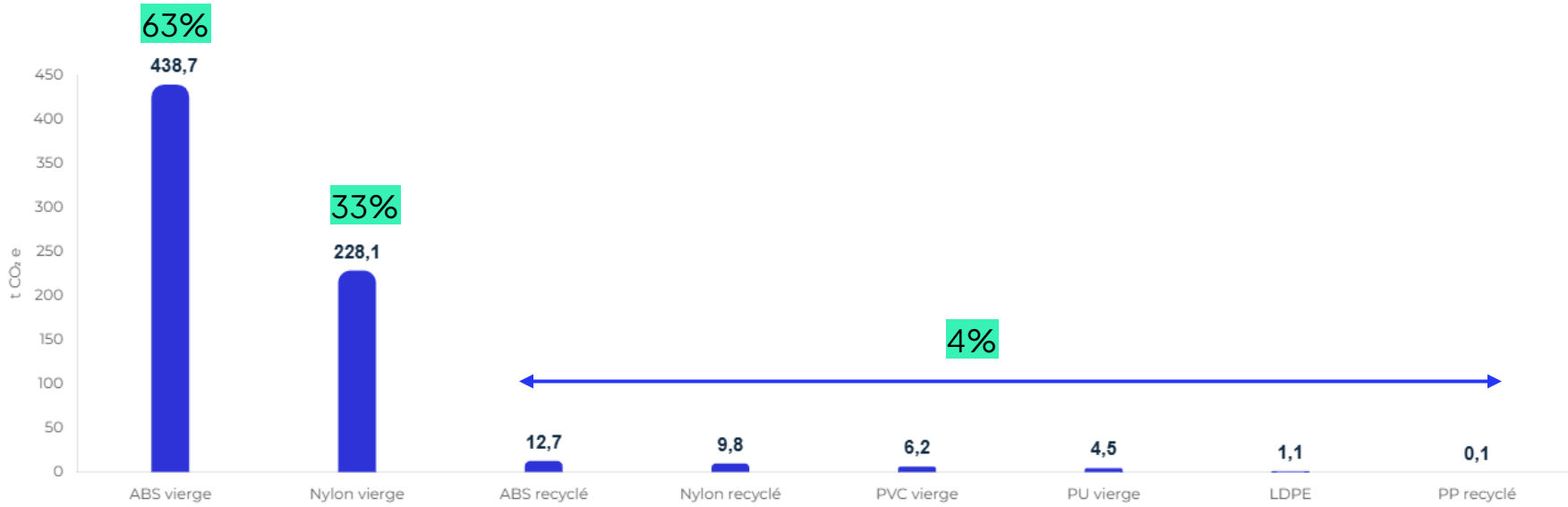


Production purchases - Plastics

Results

Within plastics, which account for 704 tCO2e, virgin ABS is the primary contributor, representing 63% of emissions generated by plastic material manufacturing.

The second largest source is virgin nylon, accounting for 33%. Other plastic materials, both virgin and recycled, represent 4% of plastic emissions.

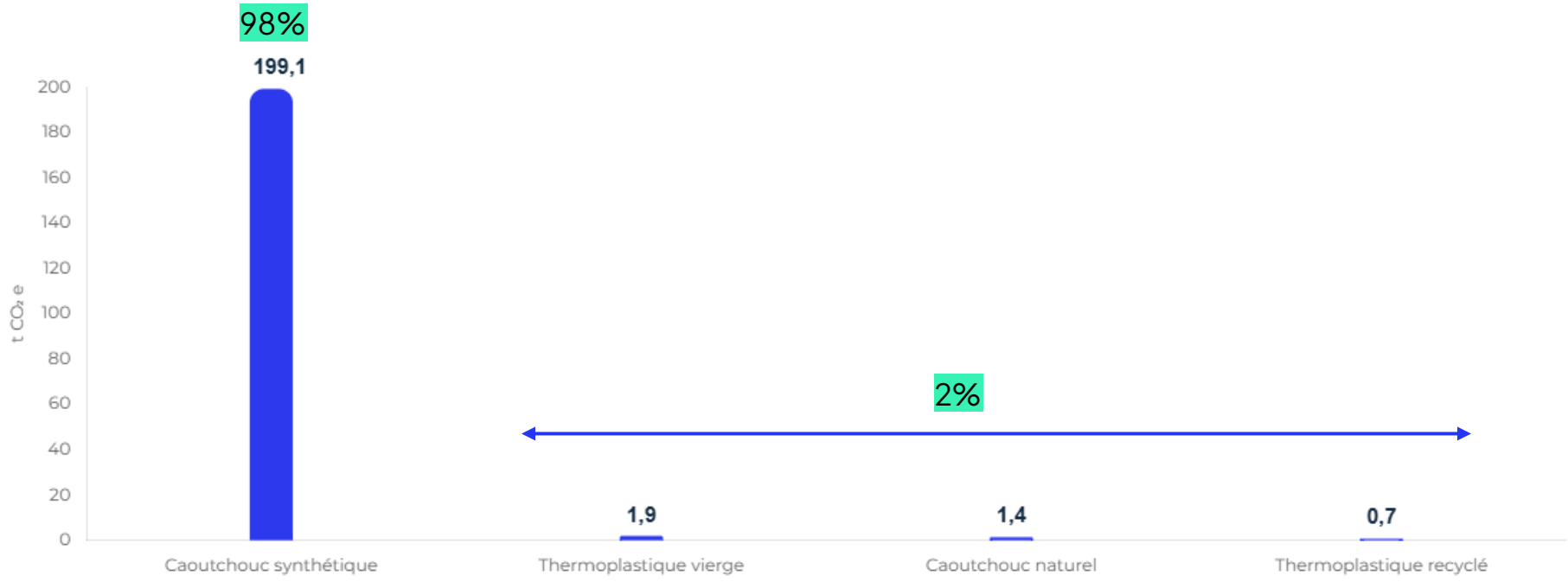


Production purchases - Rubber

Results

The 200.5 tCO2e emitted by rubber materials are generated 98% by synthetic rubber components.

Virgin and recycled thermoplastics, as well as natural rubber, together account for only 2% of emissions.

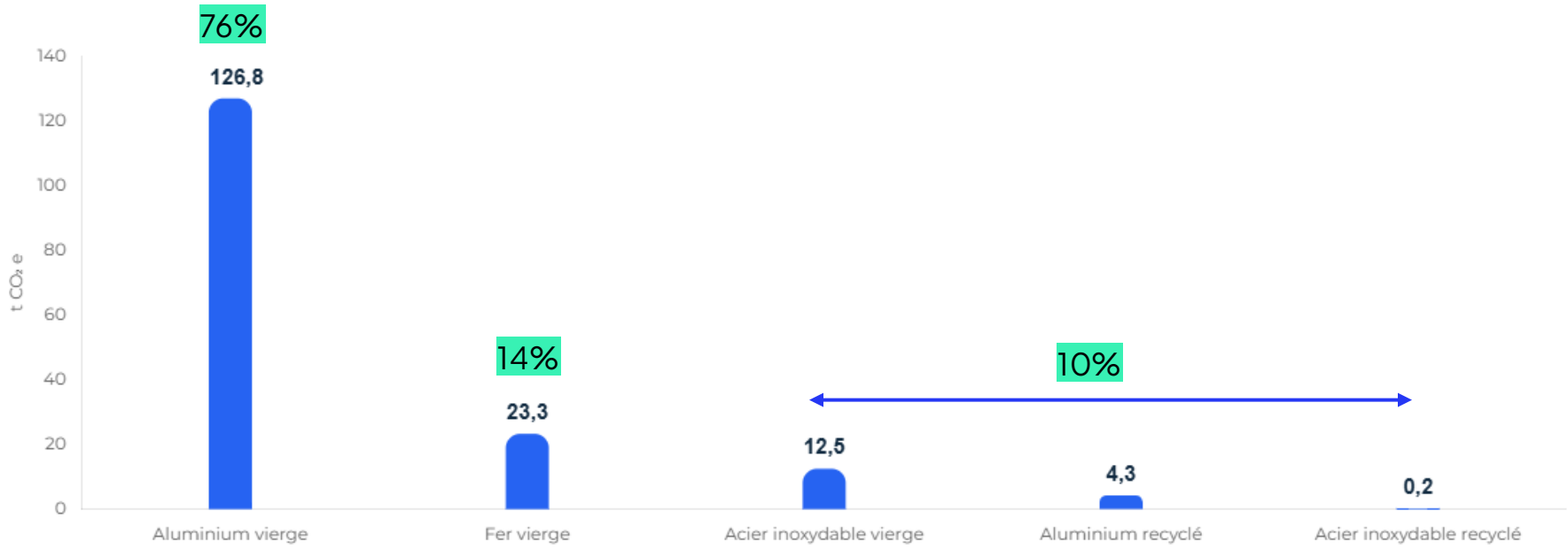


Production purchases - Metal

Results

The 167 tCO2e emitted by metallic materials are generated 76% by virgin aluminium components.

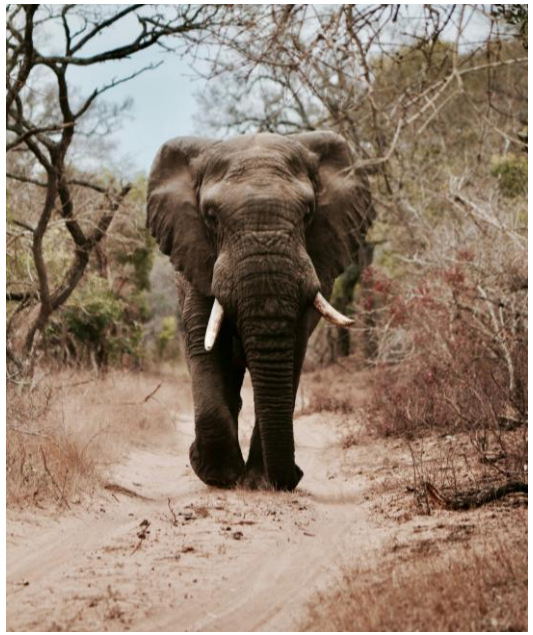
Virgin iron is the second source of these emissions, accounting for 14%. Next are components made from virgin and recycled stainless steel and recycled aluminium, which account for 10% of emissions.



Production purchases

Key figures

Nearly 142 tons of virgin ABS plastic were purchased in 2024. That's the weight of 26 elephants.



Production purchases (Inputs 1)

Activity data and assumptions

Production purchases are directly tied to the core business of Olivia Garden. For this sub-family, the aim is to prioritise the physical method (data in tons, pieces, etc.) whenever possible.

In this second carbon assessment, nearly all materials composing the products sold by Olivia Garden have been accounted for using a physical emission factor.

Only promotional items (tote bags and printed materials) were calculated using a monetary emission factor.

(*) Boar bristles have once again been excluded from this second carbon assessment due to the lack of an appropriate emission factor.

The data comes from accounting and a listing of purchased products detailing the composition by type of material and weights.

Raw material	Weight (tons)	Share (%)
Plastic	231.5	65%
Rubber	72.5	20%
Steel	51	12%
Bamboo	7	2%
Boar (*)	2	1%
Paper	2	1%
Textiles	1.5	0.4%
Carbon fiber	0.6	0.2%
Epoxy	0.01	0%
Oil	0.01	0%
TOTAL	358.41	100%

Production purchases (Inputs 1)

Activity data and assumptions – Comparison with 2021 GHG inventory

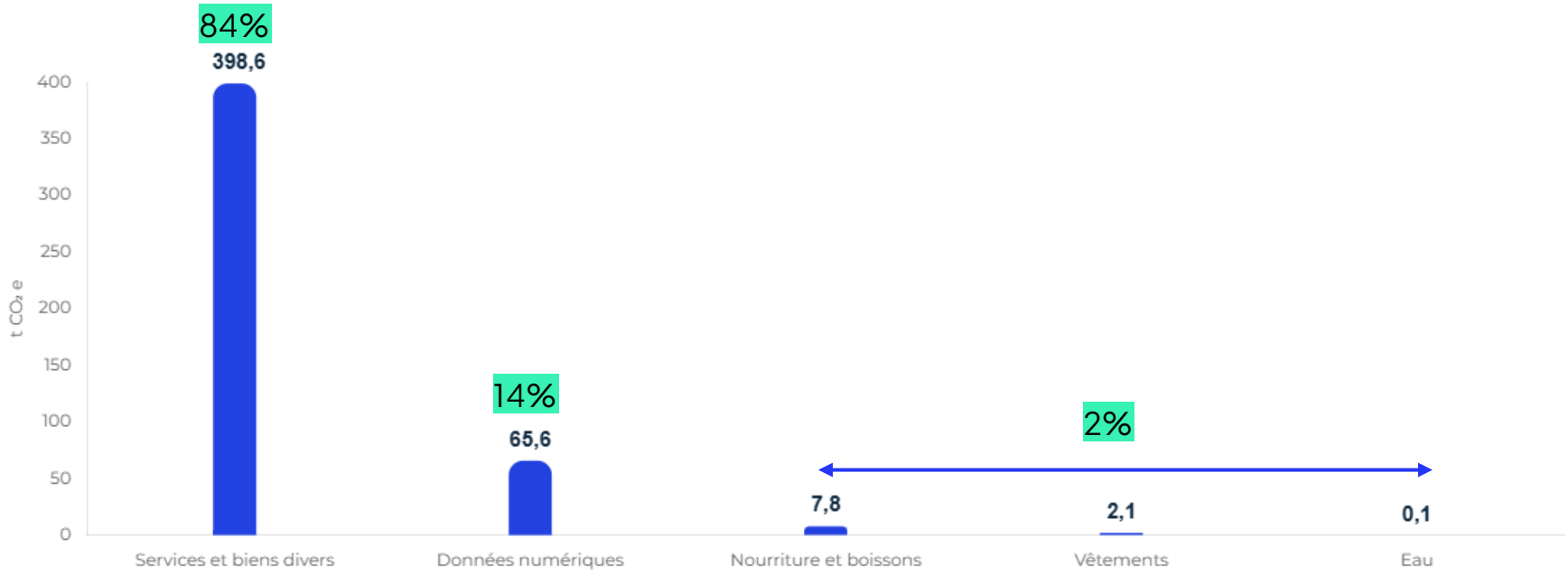
Raw material	Weight (t) 2021	Weight (t) 2024	Variation (%)
Glass	0.7	N/A	-100%
Wood	2.7	N/A	-100%
Oil	0.0	< 0.1	-75%
Bamboo	12.5	7.0	-44%
Boar	2.8	2.2	-21%
Rubber	85.8	72.4	-16%
Epoxy	< 0.1	< 0.1	+1%
Steel	33.5	41.4	+24%
Plastic	161.0	231.5	+44%
Carbon fiber	N/A	0.6	+100%
Paper	0.7	1.9	+182%
Textile	N/A (not defined, computed in units and not weight)	1.4	+277270%
TOTAL	299.6	358.4	

Operating purchases (Inputs 2)

Results

Operating purchases account for 14% of Olivia Garden's total Bilan Carbone®, equivalent to 474 tCO2e.

Services and other goods, which represent 84% of the emission family, include expenditures on insurance, marketing, supplies, etc. This is followed by emissions generated by digital data, which account for 14% of the emisison family.



Operating purchases (Inputs 2)

Activity data and assumptions

Water

The emissions associated with water consumption at the Herstal site, occupied by Olivia Gardien and tenants, and the office in Germany, were calculated using a physical emission factor, totalling 520 m^3.

For the building located in Herstal, consumption covers the period from September 2023 to September 2024, which is assumed to be representative of the total consumption for 2024.

For the office in Germany, municipal water usage was estimated by extrapolating data from the Herstal site.

Food and beverages

Physical data were obtained for food and drinks consumed in the canteen and during events.

Emissions related to the 2,013 kg of purchased food were accounted for using emission factors expressed in kgCO2e/kg, with the exception of cocktail parties which were counted by portion (94 portions).

Finally, the 2,138 litres of beverages were converted to kilograms under the assumption that one litre equals one kilogram.

Clothing and garnments

The emissions generated by garments purchased by Olivia Garden in 2024 have been accounted for using physical emission factors.

We assigned an emission factor to each type of garment based on the main material that composes the garment.

In 2024, Olivia Garden purchased a total of 80 work garments.

Operating purchases (Inputs 2)

Activity data and assumptions

Services and other goods

We used the monetary ratio method for tertiary services and small supplies. This means that these purchases have been taken into account in the Bilan Carbone® on the basis of their monetary value (= amount of expenditure). Not all expenses have been taken into account; we have selected the most relevant ones:

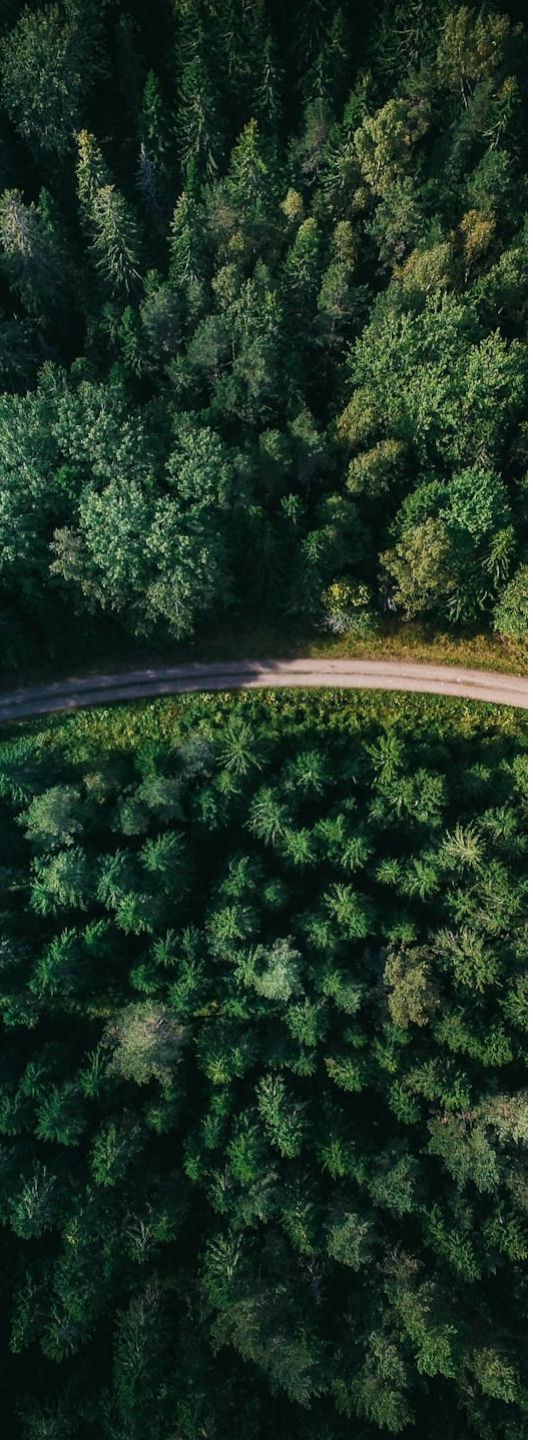
- Insurance
- Training
- Licences
- Marketing
- Small equipment
- Consultance
- Manufactured goods
- Installation and repair of equipment
- Restaurant
- Administrative and HR services
- Medical services
- Telecommunications

We have therefore taken into account a total of approximately 2 146 026 €.

A monetary emission factor (EF) is used to estimate the order of magnitude of the carbon content of a product or service purchased on the basis of its price. It is given in kgCO2e/k € excl. tax.

Monetary emission factors are generally less accurate than physical EFs (material EFs, such as aluminium, or product EFs, such as a computer). However, monetary emission factors make it easy to estimate the emissions associated with all a company's purchases.

For purchases for which a calculation based on physical data is not possible, or is complex or costly to carry out, it is recommended that emissions be calculated using monetary emission factors (e.g. purchases of services, semi-finished components, etc.) until a more accurate physical EF is available. (Source: Base Carbone®, ADEME)



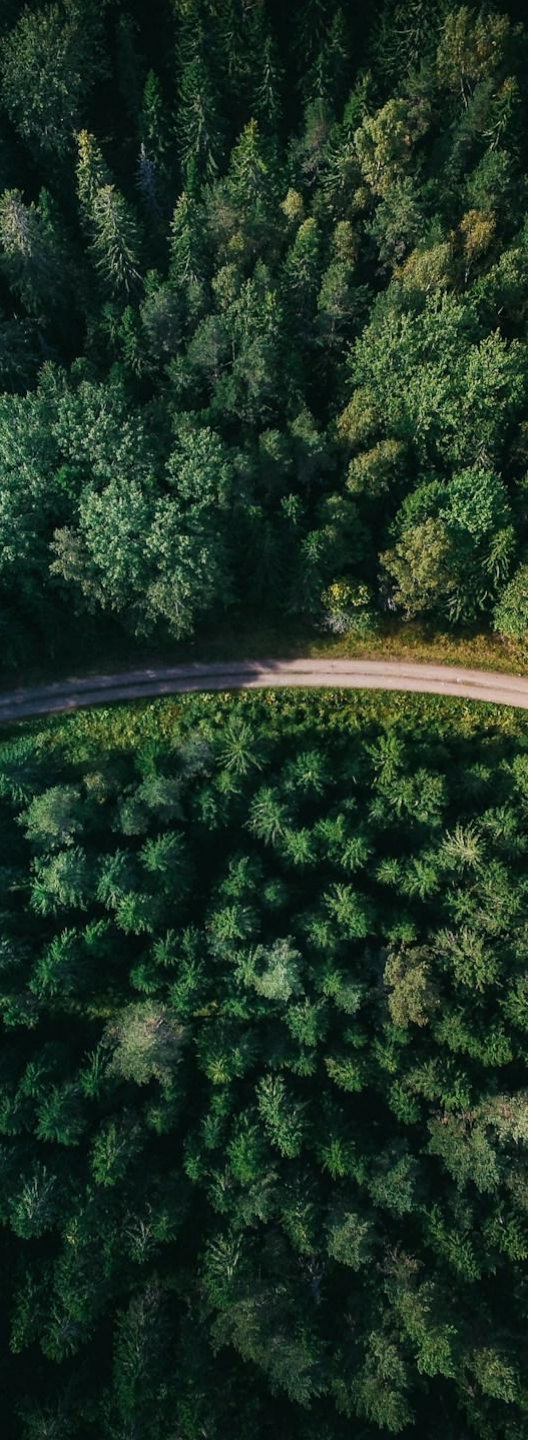
Purchased goods and services

Analysis

Purchases represent the first most emitting emission family in Olivia Garden's Bilan Carbone®, accounting for more than 47% of total emissions. Inputs 1 (production purchases) is responsible for 33% of total emissions, approximately 1 105 tCO2e.

Production goods (inputs 1)

Top 5 of material	Weight (t)	Share (%)	Top 5 of material	Emissions (tCO2e)	Share (%)
ABS	140.48	39%	ABS	435.5	39%
Recycled ABS	58.00	16%	Nylon	193.4	18%
Synthetic rubber	50.53	14%	Synthetic rubber	149.5	14%
Nylon	20.79	6%	Aluminium	126.8	11%
Rubber	16.75	5%	Cardboard	62.7	6%
Total	286.55	80%	Total	968	88%



Purchased goods and services

Analysis

Within the production purchases, the most emitting materials are plastics, particularly virgin ABS, nylon and synthetic rubber.

The emissions generated by these materials are proportional to the quantities purchased. However, it is notable that recycled ABS has a lower impact than virgin ABS.

Whilst recycled ABS is the second most used material by Olivia Garden, accounting for 14% of the total weight, it only generates 10.6 tCO2e, or 11% of emissions related to material purchases.

In 2021, the Inputs emission family was responsible for 48.5% of emissions, equivalent to 1 375 tCO2e.

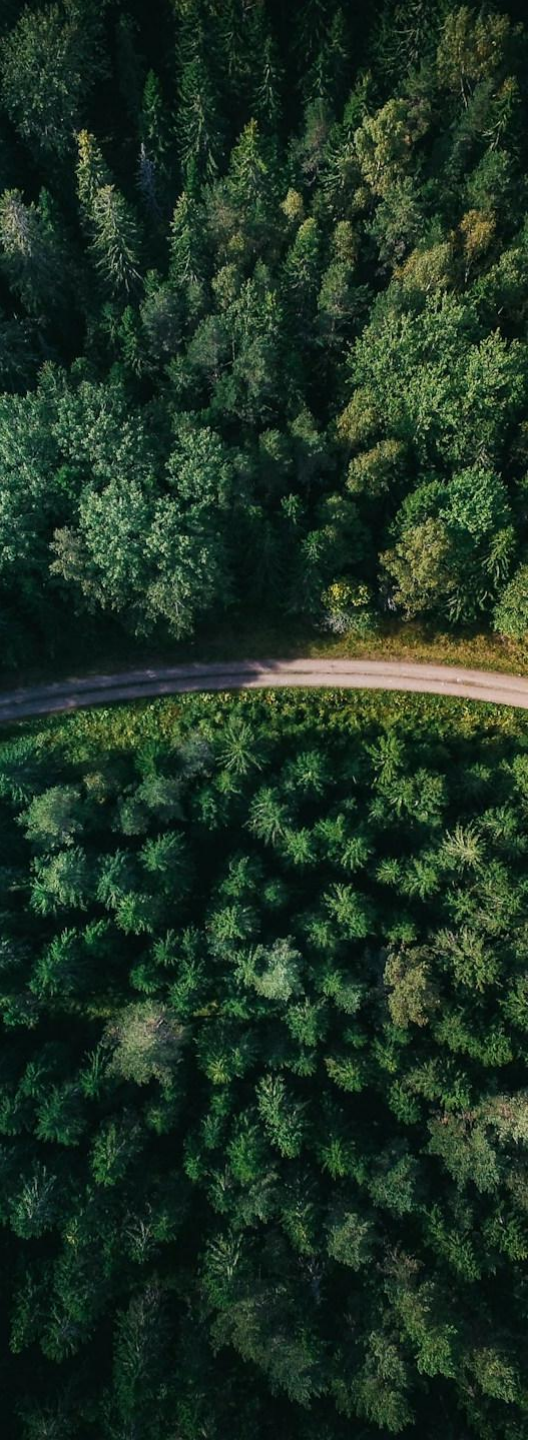
Improving data quality

The production purchase data are qualitative. For each new product reference, we advise continuing to map components according to material type and unit weight.

To make the results of this emission family more reliable, we also recommend refining the categorisation of materials to associate the most precise emission factors possible. For example, the emission factor varies according to the type of rubber used (e.g. silicone, neoprene or other).

In order to present a result by type of product sold, it would be useful to define precise article families and include them in the activity data file. For example: bamboo brushes, plastic brushes, scissors, hair curlers, etc.

Although their impact on the total Bilan Carbone® is limited, it would be relevant to collect physical data for promotional products. For example, providing the number of tote bags distributed and their composition.



Purchased goods and services

Analysis

Operating purchases (Inputs 2)

Emissions related to operatingpurchases account for 14% of Olivia Garden's total emissions. They are predominantly generated by purchases of various goods and services (insurance, marketing, supplies, etc.).

The use of monetary emission factors entails a relatively high uncertainty, generally set at 80%. This has a direct impact on the reliability of the Bilan Carbone® and demonstrates the importance of accounting for all material goods in physical rather than monetary units.

In 2021, operating purchases (Inputs 2) were responsible for 1.5% of total emissions, equivalent to 44 tCO2e.

Improving data quality

For operational purchases, the data are also of good quality. It is important to conduct identical monitoring of the quantities (kg and units) of food and clothing purchased each year.

In order to specify the emissions of this emission emily as much as possible, it would also be interesting to convert the supplies purchases currently accounted for in monetary terms into physical units. This would apply particularly to accounts 612200 (small equipment) and 612300 (consumables) which reflect purchases of small materials. Specifically, this involves noting the types and quantities (weight or units) of supplies purchased on the purchase invoices.

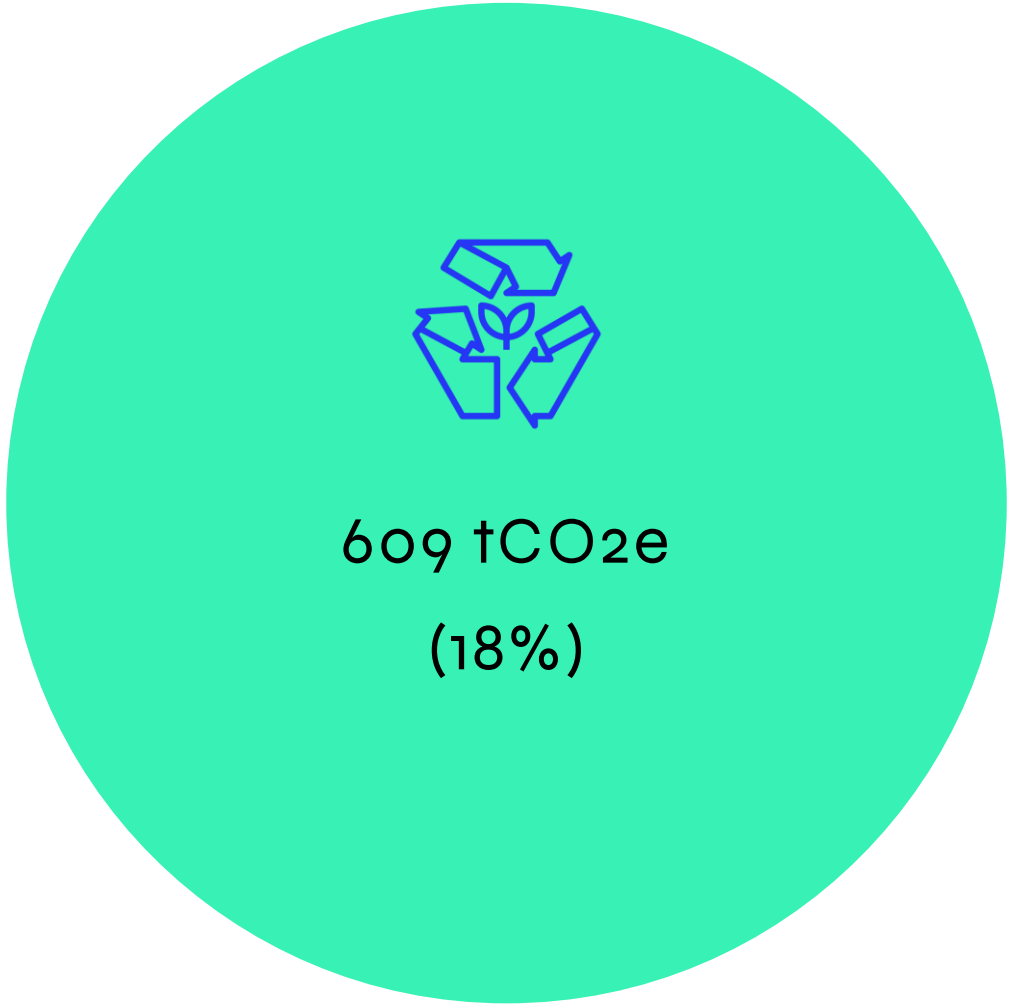
End-of-life of sold products

Emission family No. 2

This emission family includes emissions related to the end-of-life treatment of all products put on the market by the company during the reporting period.

It takes into account the fact that all products will one day end up as waste.

It also takes into account non-energy leaks or emissions excluding non-hazardous waste related to the end-of-life of products.

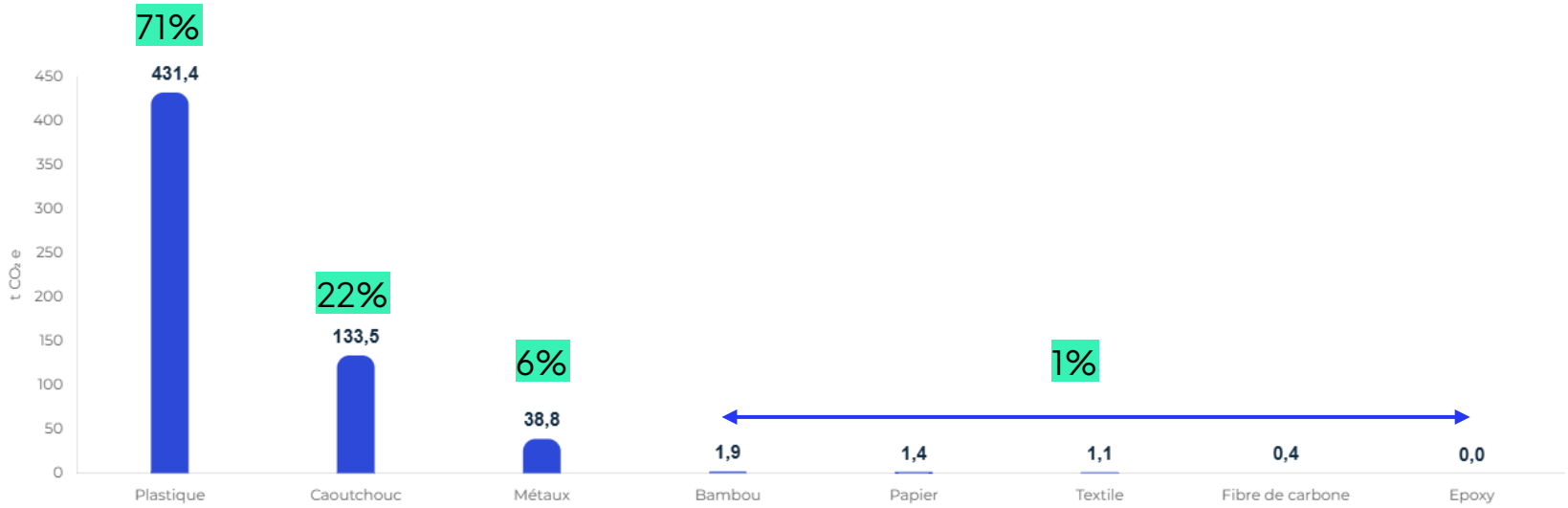


End-of-life of sold products

Results

In line with the results from Input 1, emissions related to the end-of-life of sold products are generated 71% by plastic materials, resulting in 431.5 tCO2e.

Rubber follows at 22% and metals account for 6% of total emissions of the emission family. The remaining one percent is emitted by bamboo, paper, textiles, carbon fibre and epoxy.



End-of-life of sold products

Activity data and assumptions

Data included

Emissions related to the end-of-life of sold products correspond to the treatment of products once they become waste, that is, when they are no longer used by the end customer.

To calculate these emissions, during the flow mapping, we considered that the sales volumes for 2024 were equivalent to merchandise purchases for the same year.

The weights (in tons) used in emission family Inputs 1 were reused in combination with emission factors corresponding to the different waste treatments.

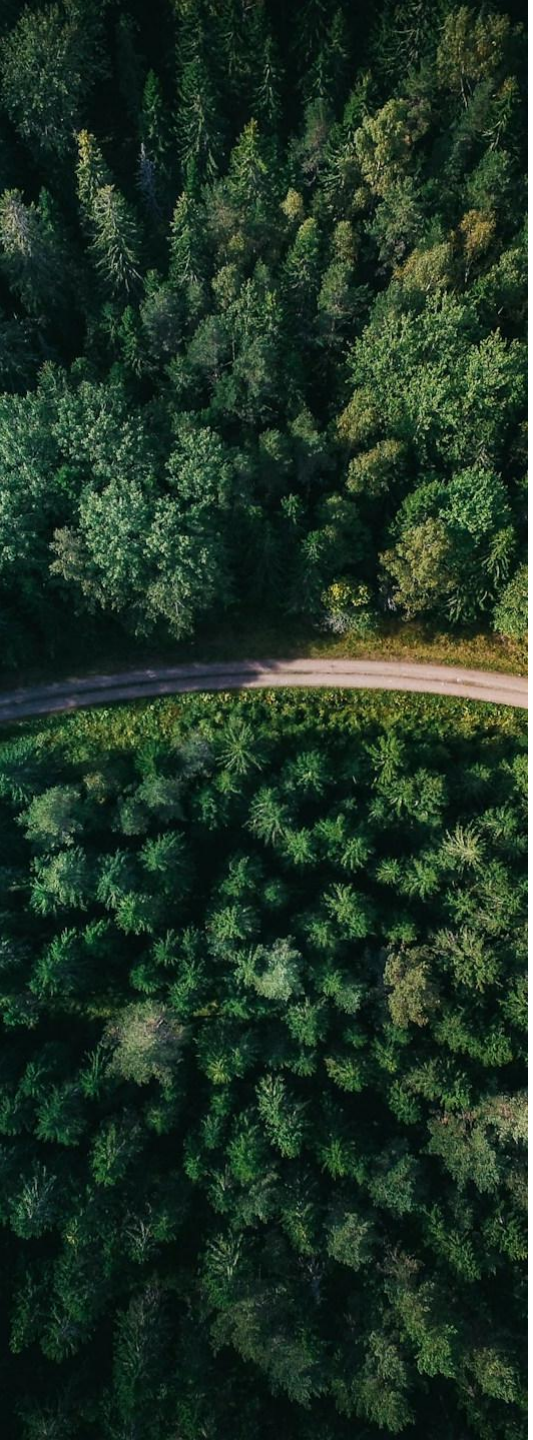
In accordance with common practices in Europe, an average end-of-life scenario was retained for most materials, whilst a recycling scenario was favoured for metals.

Data excluded

Some products have been excluded from the scope of this calculation. Wild boar bristles have not been accounted for, due to the lack of a specific emission factor for this material.

Scissors cleaning oil has also been excluded as it is used in very small quantities and disperses once used, similar to soap. It therefore does not generate solid waste treated at end of life.

The end-of-life of packaging is not accounted for in this emission family, but directly in the Packaging emission family.



End-of-life of sold products

Analysis

Greenhouse gas emissions related to the product's end-of-life represent 18% of Olivia Garden's total emissions, accounting for nearly 609 tCO2e in 2024. The emissions generated by product end-of-life are directly linked to the materials comprising the sold products and the treatment methods applied when these products become waste.

To assess the carbon footprint generated by Olivia Garden products, it is necessary to consider their complete life cycle and understand how consumers dispose of them. An initial calculation method would have been to assume that products end up in household waste. In this exercise, we preferred to consider an average end-of-life scenario for each type of material to understand the impact of each one. This provides a baseline of information for creating eco-design scenarios.

In 2021, this emission family was responsible for 16.5% of the company's total emissions, equivalent to 461 tCO2e.

Improving data quality

The assumption that sales volume corresponds to purchase volume in the same year is relevant but lacks precision.

To ensure reliable results, we recommend using the volume of products sold during the reporting year. This requires having the composition (weight by material) of each product reference sold during the year and knowing the exact quantity of products sold to calculate the total weight per material.

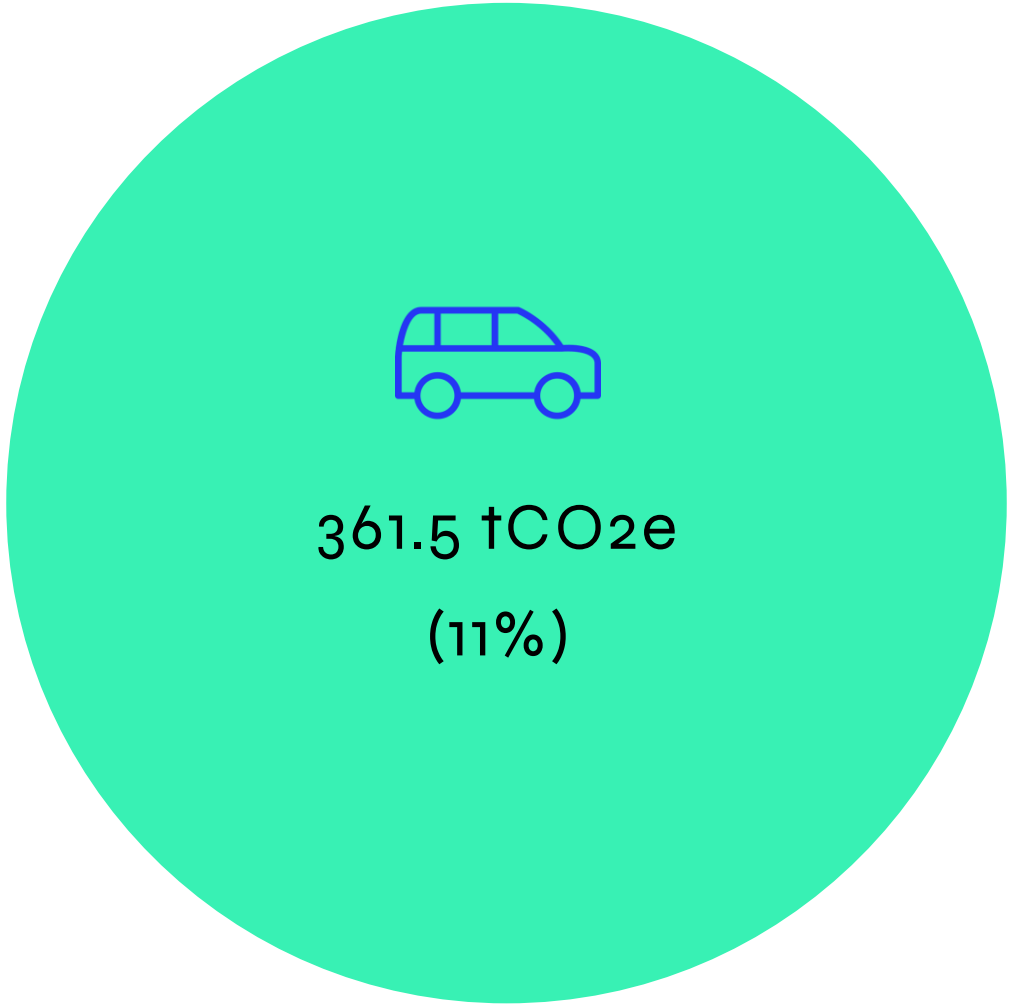
It would also be appropriate to analyse how consumers dispose of products after use. A brush deposited at a waste collection centre or thrown into a general waste bin will not undergo the same treatment.

Travel

Emission family No. 3

This emission family includes:

- emissions relating to commuting of the staff of the organisation, including temporary workers, trainees, subcontractors and contractors;
- emissions relating to homeworking;
- emissions relating to the travel of people in the context of their professional activity in the organisation, whether or not the means used is owned by the organisation, and whether or not the travel takes place during working hours;
- emissions relating to travel of the visitors (e.g. store customers, professional visits, visitors to trade fairs, etc.).



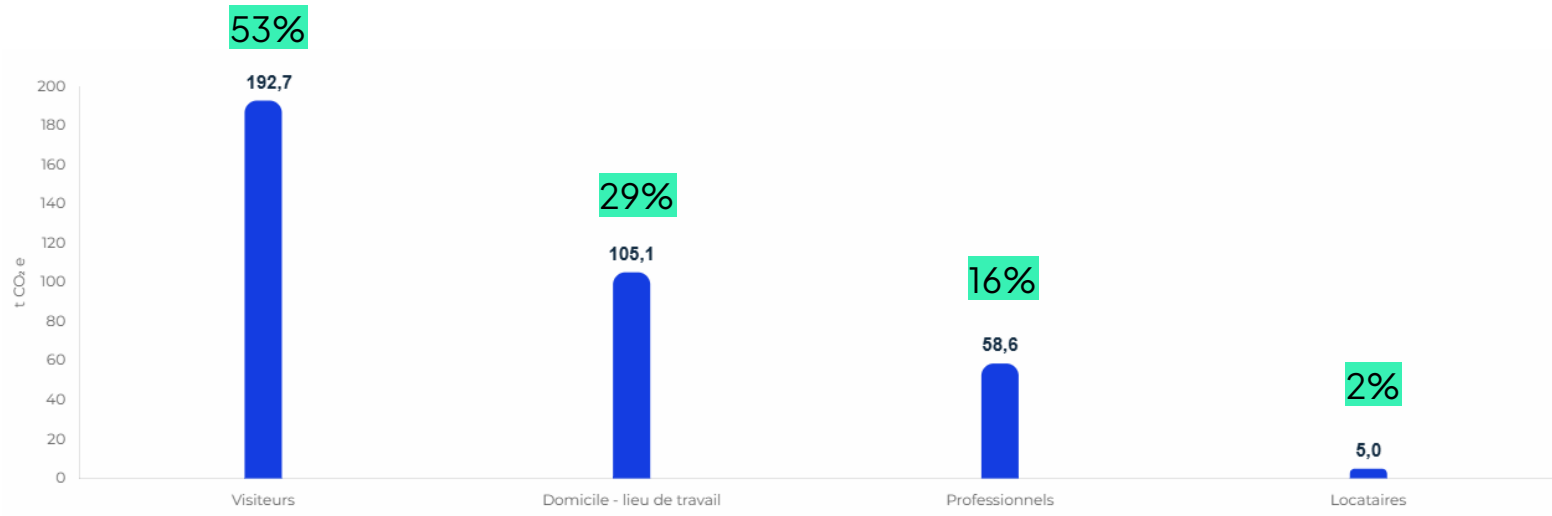
Travel

Results

Within the Travel emission family, visitor travel (trade shows, exhibitions and on-site) accounts for 53% of emissions, with nearly 193 tCO2e.

This is followed by staff travel, divided between home-to-workplace commuting (29%) and business trips (16%).

Travel by tenants is accounted for in Olivia Garden's Bilan Carbone® when they use charging stations at the Herstal site.



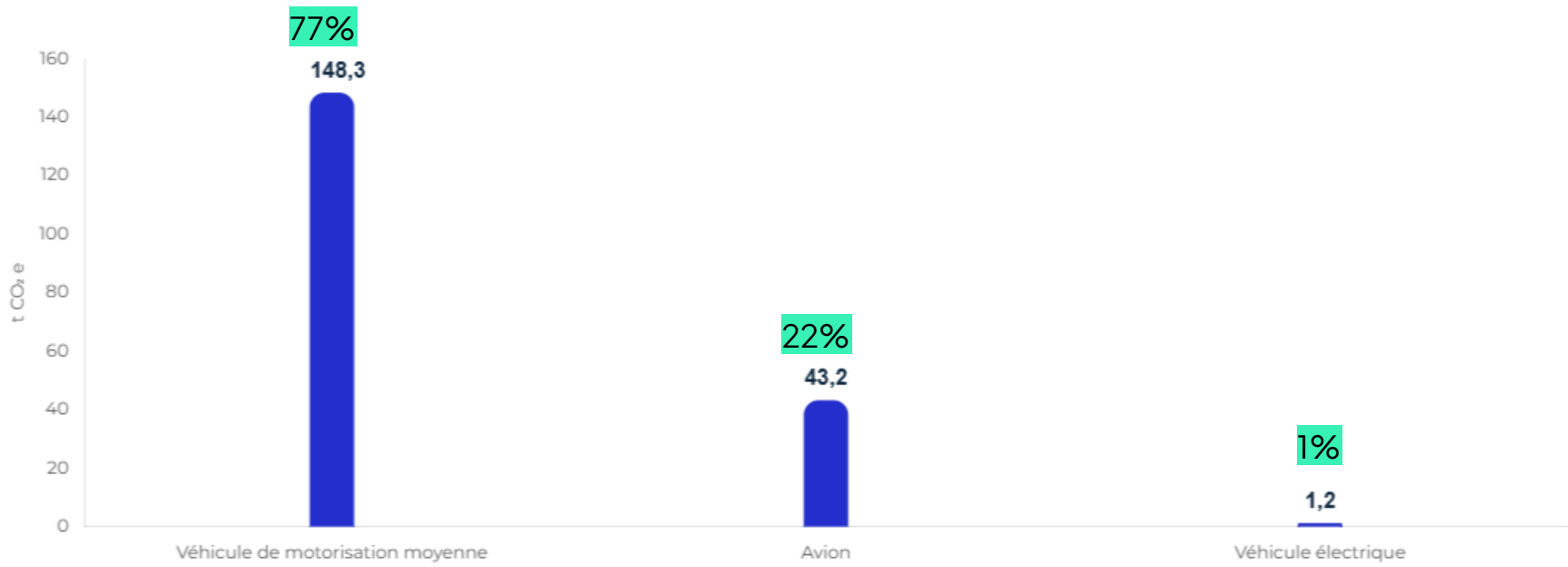
Travel - Visitors

Results

Within visitor journeys, combustion engine cars account for 77% of emissions, equating to more than 148 tCO2e.

Airplane ranks as the second largest emission source, generating slightly over 43 tCO2e in 2024.

Finally, electric vehicles contribute less than 1% of emissions, amounting to just over 1 tCO2e.



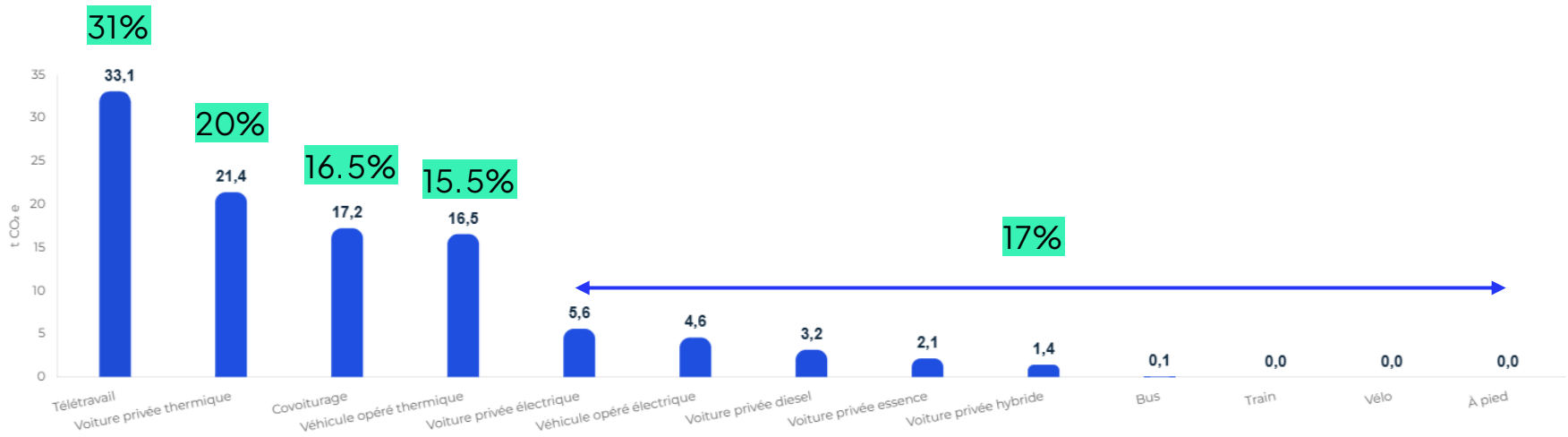
Travel – Commuting

Results

Emissions linked to commuting are predominantly generated by remote working, accounting for 31% of emissions from the Travel emission family, with more than 33 tCO2e.

Together, journeys made in conventional combustion engine vehicles (private and company) account for 57% of emissions.

Electric and hybrid vehicles represent nearly 10% of emissions, whilst public transport contributes less than 1%.

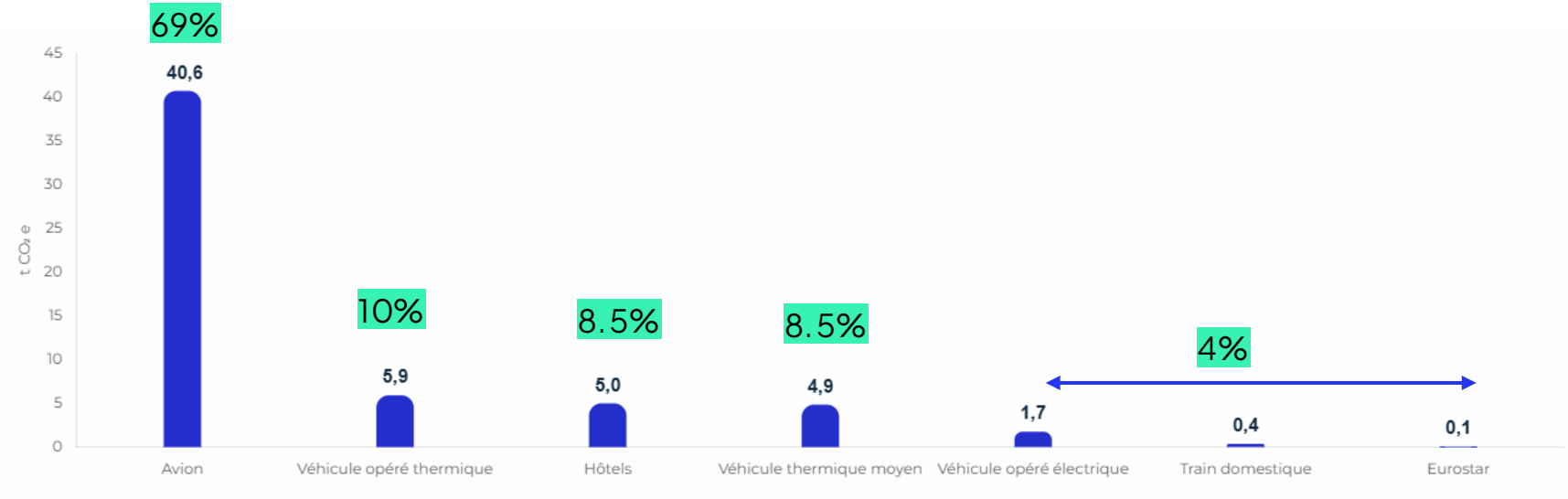


Travel – Business travel

Results

Business travel emissions are generated by air travel at a rate of 69%, resulting in over 40 tCO2e in 2024.

Company thermal vehicles account for 10% of emissions in the Business travels subfamlily, followed by hotel stays and private vehicles, each responsible for approximately 8.5% of emissions.



Travel

Activity data and assumptions

Visitors' travels

To calculate the carbon impact of visitor travel, we used distances travelled (km) by mode of transport.

These data come from:

- List of regular visitors to the Herstal site according to their origin and frequency of visits with the assumption that journeys are made in average combustion vehicles,
- Visitor charging sessions at charging points on the Herstal site,
- Estimation of trade show and exhibition visitors according to their origin with assumptions regarding their mode of transport, both for organised events and those in which Olivia Garden participated.

Visitor	Mode of transport	Distance (km)	Share (%)
Events and fairs	Internal combustion vehicle – average	504 650	62%
	Airplane – short distance	167 308	21%
On-site	Internal combustion vehicle – average	137 030	17%
TOTAL		808 988	100%

Visitor	Mode of transport	Consumption (kWh)
On-site	Electric vehicle	23 146

Travel

Activity data and assumptions

Company vehicles

For thermal vehicles, we calculated emissions based on fuel consumption. An assumption was made to determine the quantities (L) consumed by company vehicles for each travel purpose:

- Private journeys: 50%
- Home to workplace commuting: 40%
- Business travel: 10%.

It is demonstrated that providing a company vehicle encourages staff to make more journeys using this vehicle. We account for 100% of fuel and electricity consumption in Olivia Garden's Bilan Carbone®, including private journeys.

This means that 90% of fuel consumed by company vehicles is attributed to non-business travel.

Engine fuel	Consumption (L)	Share (%)
Gas	5 500.52	83%
Diesel	1130.25	17%
TOTAL	6 631	100%

Travel

Activity data and assumptions

Electric/hybrid company vehicles and on-site charging stations

The consumption of electricity by company vehicles was accounted for through various records and assumptions:

- For employees with a charging card, two tables were provided: the charging data (kWh) at on-site terminals from May to November, and those from December. To estimate consumption between January and April, we assumed that only vehicles present in the May to November data were in use. The missing months were completed based on the monthly average over the May to November period. The total consumption at on-site terminals in 2024 results from the sum of extrapolated data (January-April) and raw data (May-November + December).
- A third table was provided containing electricity recharges (kWh) at home terminals for staff with company vehicles.

We finally made the following distribution assumption: communting/private journeys represent 90% of consumption and business travel 10%.

For visitors, tenants and employees without a charging card, only the exact consumption figures for December are available. We have therefore extrapolated these data over the previous 11 months of the year to obtain the total consumption (kWh) for 2024.

For electricity consumption at the Herstal site, a line loss assumption of 5% was added to on-site consumption, based on the average rate observed in Belgium.

In June 2024, Olivia Garden changed their electricity contract and opted for a contract with a green instrument. In the GHG Protocol - Market-based approach, we therefore attributed an emission factor for an electricity contract without green instrument to 42% (January-May) of consumption, and a specific emission factor for the electricity supply contract with green instrument offered by Engie to 58% (June to December).

Travel

Activity data and assumptions

Electricity consumption of company vehicles

Description	Total consumption (kWh)	Share (%)
One-site charging	48 632	90%
• Tenants	23 147	48%
• Employees with charging card	17 884	37%
• Visitors	5 573	11%
• Employees without charging card	2 028	4%
Employee with home charging station	5 420	10%
TOTAL	54 052	100%

Travel

Activity data and assumptions

Commuting

For commuting between home and workplace, Olivia Garden created a staff registry with start and end dates of each contract, complete address, number of days on-site and teleworking, primary, secondary and tertiary transport modes with a percentage of distance allocated to each.

This allowed us to calculate the total distance travelled during 2024 and the breakdown by transport mode.

For homeworking, we recorded a total of 3 245 days worked in 2024.

Type of vehicle	Distance (km)	Share (%)
Average combustion engine	92 526.8	48%
Electric vehicle	36 911.2	19%
Carpooling	17 212	9%
Hybrid vehicle	13 920	7%
Diesel engine	13 860	7%
Gas engine	9 000	5%
By foot	4 906	3%
Bike	4 686	2%
Bus	484	0%
TOTAL	193 506	100%

Travel

Activity data and assumptions

Business travel and occasional rentings

Emissions related to business travel include distances travelled by transport mode, as well as the number of hotel nights per country.

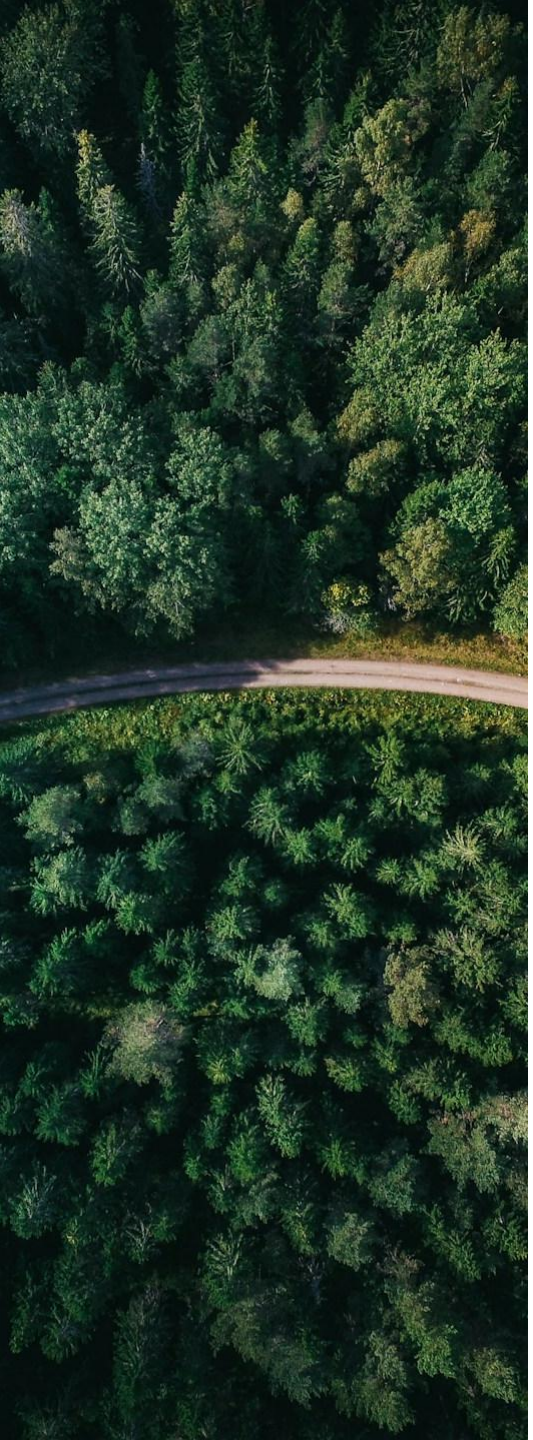
In 2024, 275 nights were recorded across 12 different countries. For distances travelled by air, a distinction between short, medium and long-haul was applied according to the thresholds recommended by ADEME.

For train journeys, a distinction was made between high-speed trains and conventional trains. This granularity allows for the application of emission factors specific to each type of journey.

For journeys made by taxi or rental vehicle, we used a monetary emission factor.

Mode of transport	Distance (km)	Share (%)
Airplane – long distance	176 662.8	61%
Ariplane – mid distance	67 068.27	23%
Domestic train	17 894.1	6%
Eurostar	16 989	6%
Kilometer allowance	3 677.51	1%
Airplane – short distance	3 651.5	1%
Ariplane – extra short distance	1 353	0%
TOTAL	287 296	100%

Mode of transport	Spendings (€)	Share (%)
Taxi	8 663.46	60%
Rented vehicle	5 758.25	4%
TOTAL	14 421.71	100 %



Travel

Analysis

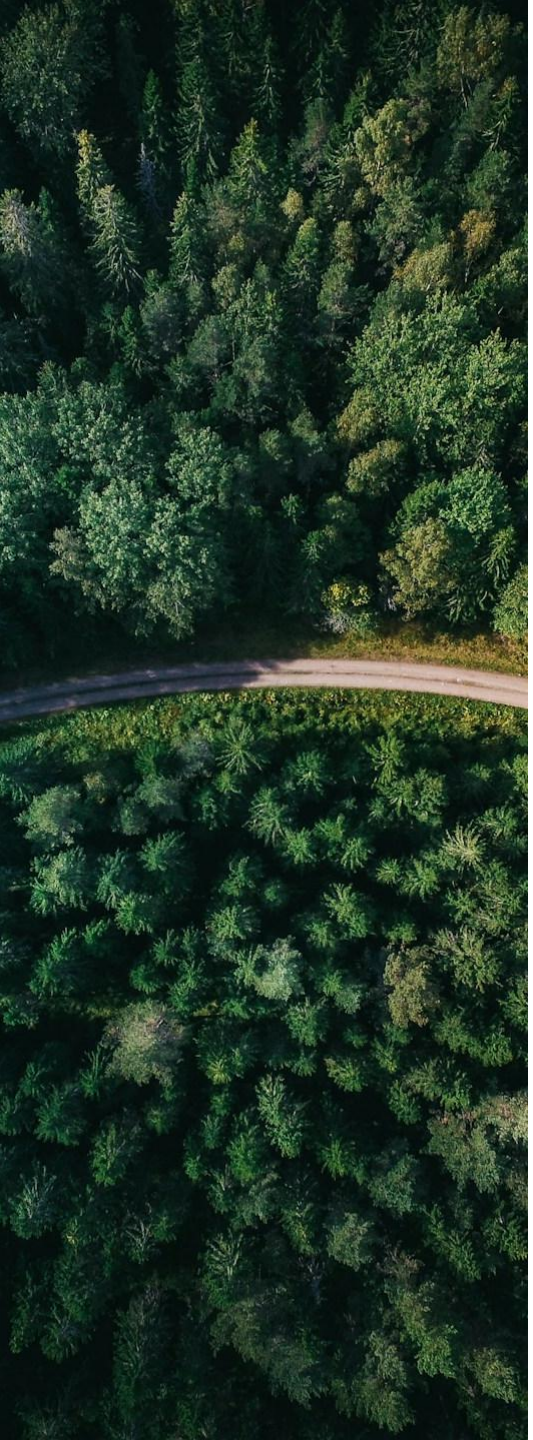
The Travel emissions family represents the third-largest contributor to Olivia Garden's Bilan Carbone® in 2024, accounting for 11% of total emissions.

Emissions in this emission family have increased significantly between 2021 and 2024, rising from 82 to 361.5 tCO2e, an increase of 330.4%. This change can be attributed to workforce growth, increased participation by Olivia Garden in events, as well as improved accuracy in data collection.

Visitor travel (53% of the Travel emission family) includes emissions linked to two categories of visitors. First, 33 tCO2e are associated with visitors travelling to the Herstal site. Second, 160 tCO2e are associated with travel by visitors (often international) to events that Olivia Garden organises or participates in. In total, visitor-related emissions come from approximately 642 000 km travelled by car, 168 000 km by plane and 23 146 kWh recharged at the Herstal site.

Commuting (29% of the emission family) includes emissions related to Olivia Garden staff's journeys from home to the Herstal site, accounting for 69 tCO2e, as well as emissions associated with teleworking, with 3 245 days worked in 2024, representing 33 tCO2e. For colleagues with company vehicles and fuel cards, emissions were calculated based on 5 968 litres of fuel and 16 096 kWh of electricity purchased. Travel in private vehicles accounts for approximately 166 200 kilometres covered, whilst other sustainable or collective transport modes (bus, train, bicycle, walking) total 27 288 kilometres.

Olivia Garden's business travel generated approximately 59 tCO2e in 2024. The majority of emissions (41 tCO2e) came from 248 736 km travelled by air. Car journeys (company and private vehicles) account for 12.5 tCO2e, whilst the 275 hotel nights, spread across 12 countries, contribute 5 tCO2e. Finally, the 34 883 km travelled by train total 0.5 tCO2e.



Travel

Improving data quality

The quality of data related to visitor movements can be significantly improved to limit the use of assumptions. For visits to the Herstal site, we recommend setting up a register at the entrance, where visitors would indicate their departure postal code and mode of transport. For events organised by Olivia Garden or trade fairs in which they participate, it would be beneficial to list participants, specifying their origin and the means of transport used. Finally, for trade fairs where Olivia Garden is solely an exhibitor, it is advisable to note the total number of exhibiting companies to allocate visitor emissions proportionally.

For on-site electric charging, it is recommended to continue monitoring that specifies the type of user (employee, paying employee, tenant, visitor). Home charging is currently tracked qualitatively. Charging at public stations is not yet taken into account; it would be relevant to incorporate tracking of these.

Regarding fuel cards, although the data is qualitative, it is advisable to associate the vehicle registration number and the user's name to avoid any double counting with commuting journeys.

For commuting, an even more precise monitoring could be implemented by adding: the worker's category (employee, worker, sales representative, management), the vehicle registration number (if they have a company car), and the reference of any fuel card. This information would help avoid any risk of double counting with company vehicles.

The data related to business travel is qualitative. To improve accuracy, it would be useful to record the kilometres travelled by taxi and rental car, in order to base calculations on physical rather than monetary data.

Packaging

Emission family No. 4

This emission family includes the emissions relating to:

- the production of materials needed to manufacture packaging products ;
- the transportation of packaging ;
- the end-of-life treatment of this packaging.

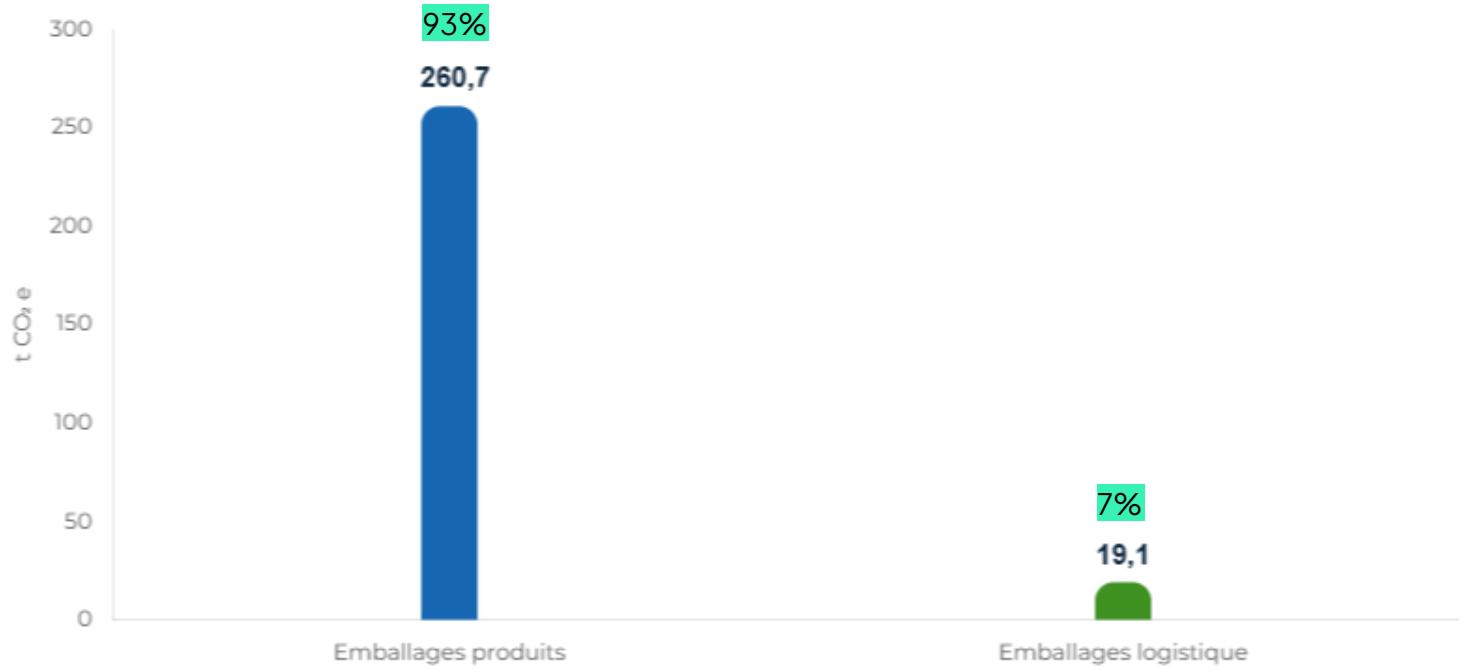
Packaging

Results

In 2024, Olivia Garden's packaging emissions primarily come from the packaging of sold products.

These account for 93% of total emissions in the emission family, representing nearly 261 tCO2e.

Logistics packaging represents nearly 7% of emissions, resulting in 19 tCO2e.

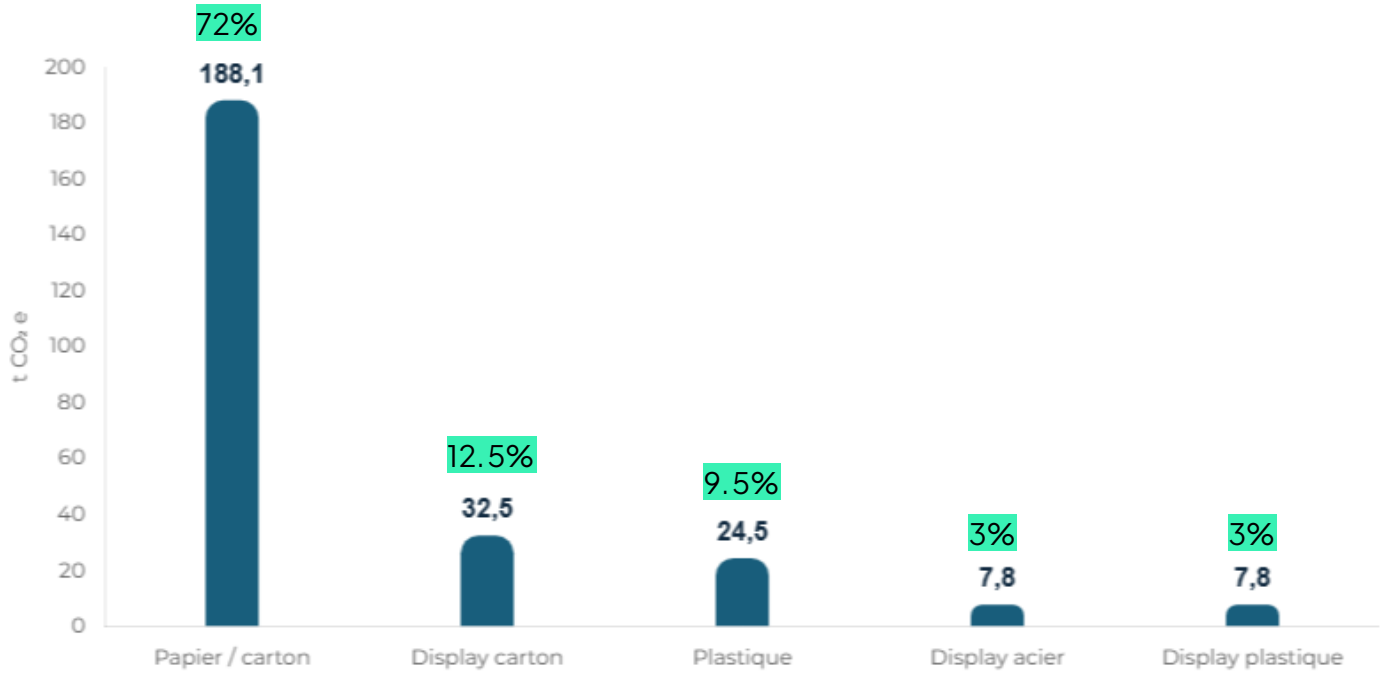


Packaging of sold products

Results

Within product packaging, paper/cardboard packaging represents the main source of emissions, accounting for 72% of total emissions in this category.

This is followed by cardboard displays at 12.5% and plastic packaging at 9.5%. Steel and plastic displays together account for 6% of emissions in the category.



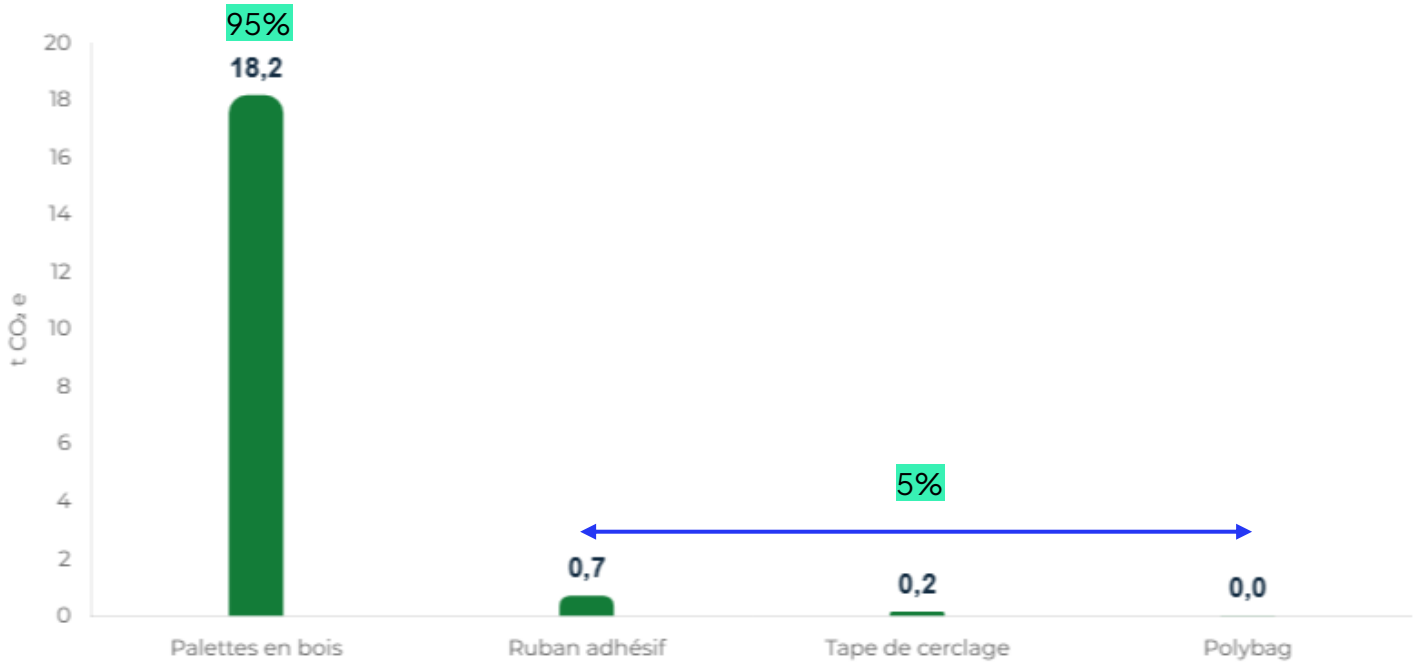
Packaging for logistics

Results

Within logistics packaging emissions, wooden pallets account for more than 95% of emissions.

This is mainly due to the accounting of all pallets purchased by Olivia Garden during 2024, without exclusion.

Other materials used in logistics packaging represent only 5% of emissions in this category.



Packaging

Activity data and assumptions

Packaging of sold products

The packaging was accounted for based on their weight and type of primary material. Displays are also counted in this emission family as they are packaging intended for product marketing, although they are not part of the product used by the end customer.

We distinguished them from other packaging to account for their impact separately. The end-of-life of packaging was also accounted for in this emission family given that the waste generated ends up either at distributors or with the end customer.

In 2021, very little data related to primary and secondary product packaging had been accounted for. Only cardboard boxes and labels (cardboard and plastic thread) were listed, for a total of 96 tons and 4.7 kg respectively (an increase of 108% in the weight accounted for).

Material	Weight (t)	Share (%)
Cardboard	160.7	77%
Paper	28.6	14%
PET plastic	6.7	3%
PET+PE plastic	5	2.5%
PP	2.3	1%
PVC	2	1%
LDPE recycled	1	0.5%
Display - cardboard	0.9	0.5%
Display - scissors	0.5	0.3%
Display - plastic	0.5	0.2%
Display - steel	0.3	0.1%
TOTAL	209	100%

Packaging

Activity data and assumptions

Logistics packaging

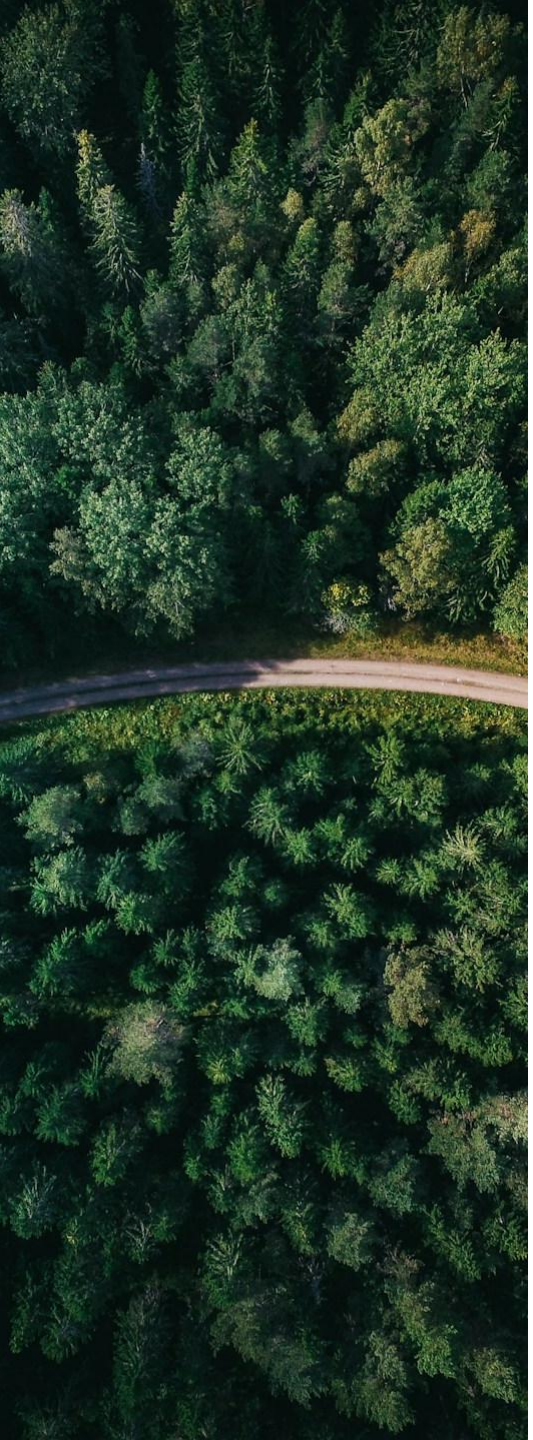
The packaging has been taken into account based on their weight and the main material type.

Logistics packaging comes from a list of materials purchased by Olivia Garden for the distribution of their products.

Packaging potentially added by carriers was not included in the count. In 2021, only polybags were counted, totalling 6.3 kg. This is the same quantity as consumed in 2024. Emissions linked to pallets, adhesive tape and tape were not calculated in 2021, due to a lack of reliable data on these purchases.

It is also important to note that the end-of-life of wooden pallets has been accounted for at 100% and may therefore constitute double counting with the Waste emission family (but marginal).

Type of packaging	Weight (t)	Share (%)
Wooden pallets (euro-pallets)	31	99.4%
Traditional tape (PVC)	0.07	0.2%
Thin tape (PVC)	0.07	0.2%
Strapping tape (PP)	0.04	0.1%
Polybag (PP)	0.006	0.0%
TOTAL	31.5	100%



Packaging

Analysis

Greenhouse gas emissions from packaging represent 8% of Olivia Garden's total emissions, equating to 280 tCO2e. This ranks as the 4th highest emitting emission family.

Product packaging constitutes the primary emission source within this emission family. Paper and cardboard packaging sold with products alone account for 67% of emissions in this emission family. In 2021, this emission family was responsible for 4% of total emissions, or 108 tCO2e.

The difference primarily stems from a lack of comprehensive data in 2021, whilst the data catalogued for 2024 is much more complete. The 2024 emissions figures are therefore more precise and reliable.

Improving data quality

The packaging data is of very good quality. An area for improvement lies in determining the number of wooden pallets actually used on the Olivia Garden site (and therefore disposed of in their own waste container once they reach the end of their life).

At present, all pallets purchased during the year 2024 have been taken into account. However, Olivia Garden keeps some and sells others to customers when transporting merchandise.

Freight

Emission family No. 5

This emission family includes all transport of goods carried out on behalf of the organisation, regardless of the owner of the transport vehicle.

Inbound freight: goods originating outside the organisational boundaries of the company and delivered within its perimeter. At Olivia Garden, it concerns the receipt of goods.

Internal freight: the shipping point and the delivery point are both within the organisational boundaries. This flow is not applicable for Olivia Garden.

Outbound freight: goods leaving the organisation to be shipped elsewhere (to customers, users, suppliers, etc.). At Olivia Garden, it concerns the delivery of products to hairdressers and distributors.

213 tCO2e

(6.5%)

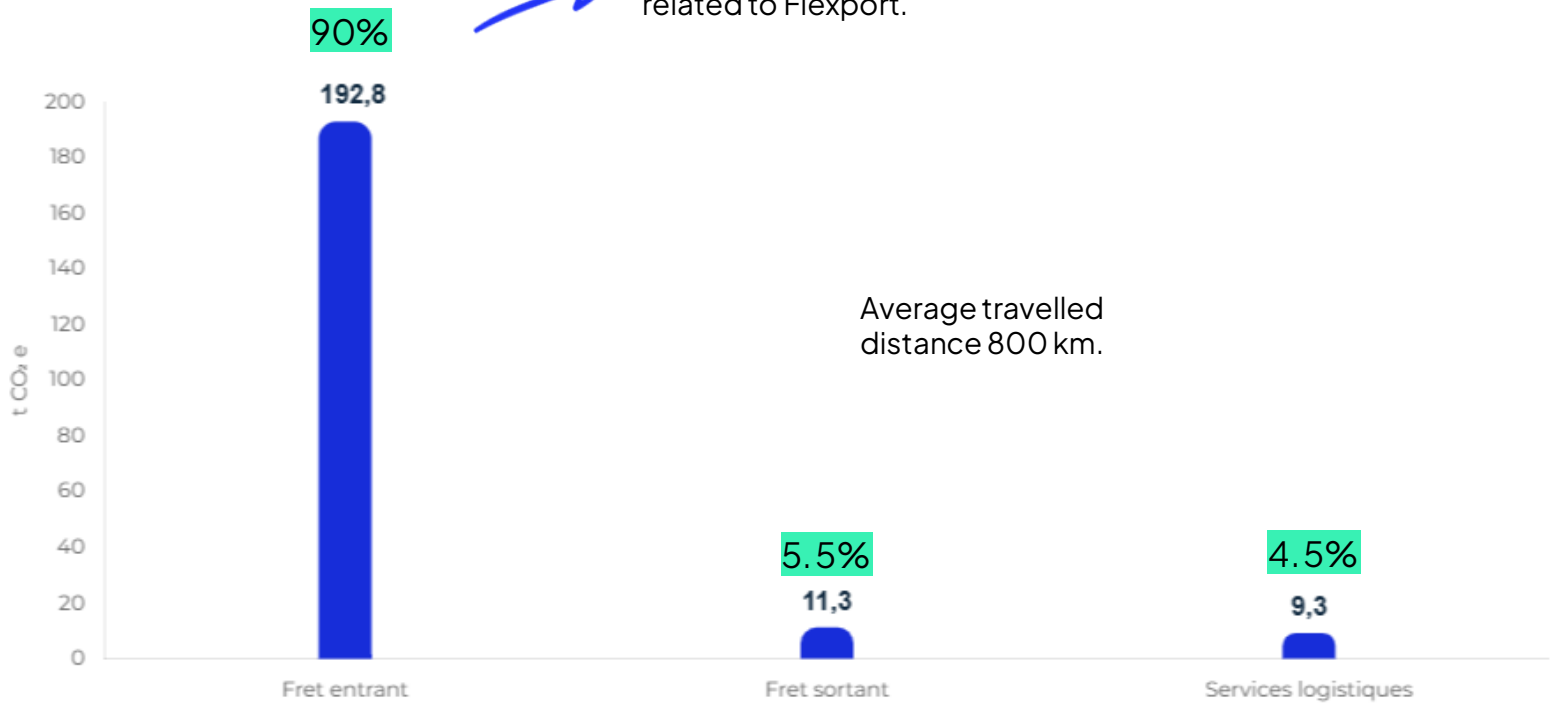
Freight

Results by freight flow

Inbound freight represents the largest share of emissions, accounting for just over 90% (193 tCO2e).

Outbound freight follows, contributing 5.5% of total emissions in this emission family, while non-transport logistics services account for 4.5%.

67% of freight emissions come from sea transport related to Flexport.



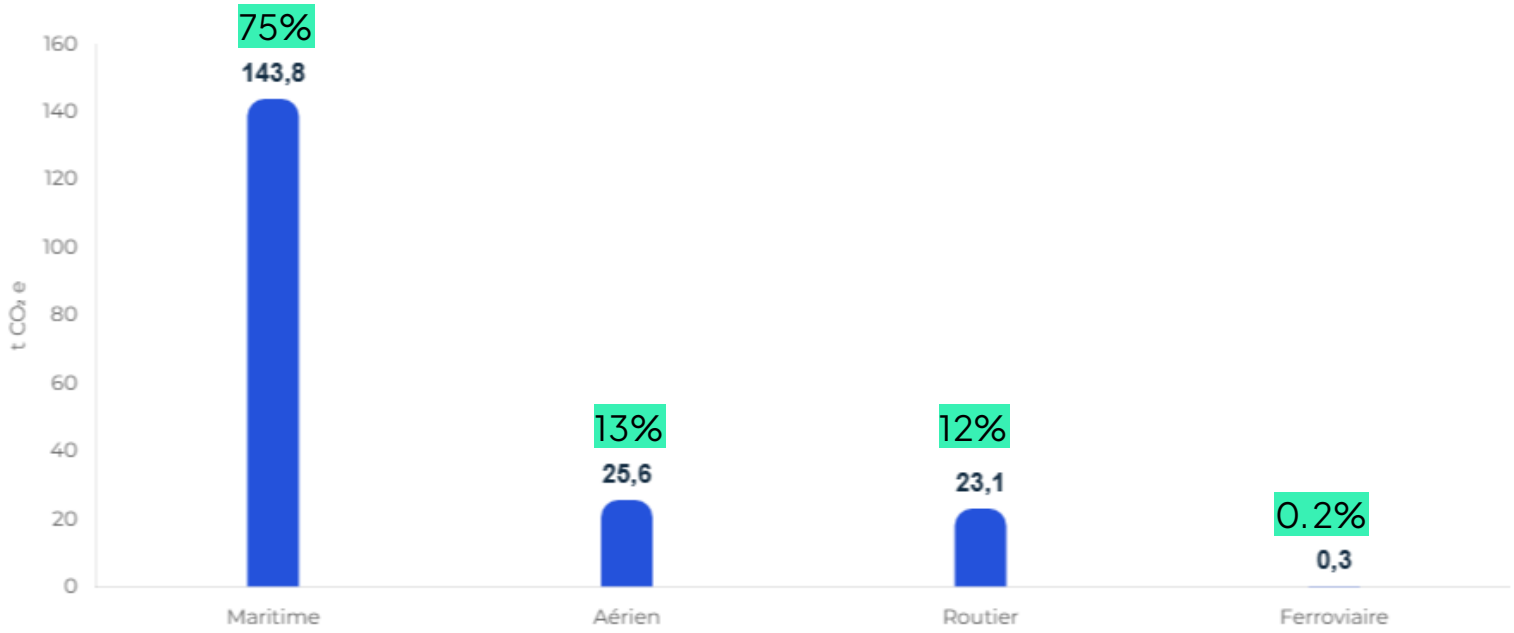
Average travelled distance 800 km.

Freight – Inbound freight

Results

Emissions from inbound freight are mainly driven by sea transport, which accounts for 75% (144 tCO_2e).

Air, road, and rail transport together represent just over 25% of inbound freight emissions.

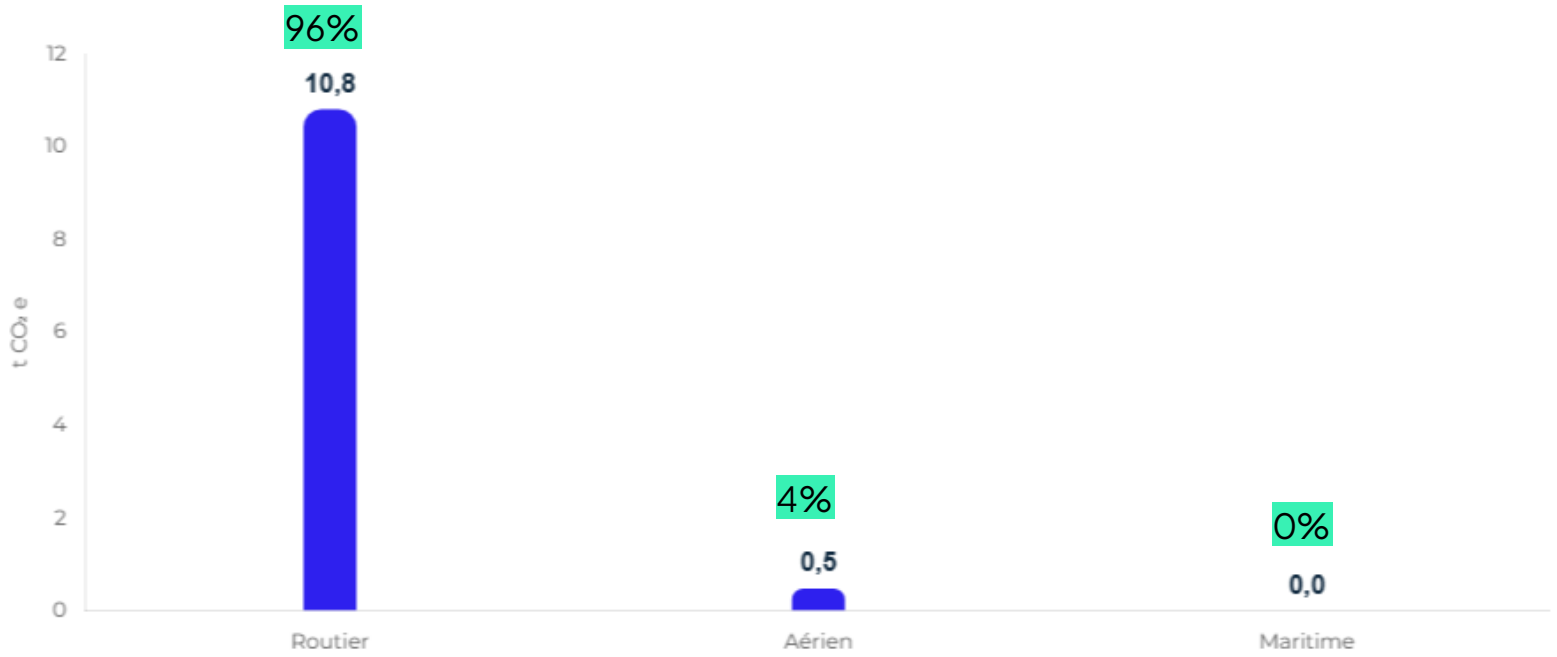


Freight – Outbound freight

Results

Within outbound freight emissions, road transport accounts for 96%, or nearly 11 tCO2e.

Air and sea outbound transport represent less than 5% of total emissions in this sub-family.



Freight

Sea or air freight?

Boat

1 ton transported over 5 000 km
by ship = 28 kg CO2e

Plane

1 ton transported over 5 000 km
by plane = 5 400 kg CO2e

195 times more emitting!

Freight

Road or air freight?

13 times more emitting!

Road

1 ton transported over 5 000 km
by truck = 412 kg CO2e

Plane

1 ton transported over 5 000 km
by plane = 5 400 kg CO2e

Freight

Road or sea freight?

15 times more emitting!

Road

1 ton transported over 5 000 km by truck = 412 kg CO2e

Boat

1 ton transported over 5 000 km by ship = 28 kg CO2e

Freight

Activity data and assumptions

Logistics services

The logistics service emissions encompass the flows associated with storage facilities at Vincent Logistics and Pack Fulfilment. We have used the amounts spent (k€) on these storage services and estimated the emissions through monetary emission factors.

Logistics services	Spendings (k€)	Share (%)
Vincent Logistic	46	83%
Pack Fulfilment	9	17%
TOTAL	55	100%

Inbound freight

Emissions related to incoming freight, ordered by Olivia Garden, were calculated in two different ways:

- The carrier provided the emissions (tCO2e) generated by its transport: we directly included these in the carbon assessment.
- The carrier provided the weights transported (t) and distances travelled (km): we calculated the ton*km and associated a specific emission factor based on the mode of transport.

Mode of transport	Ton*km	Share (%)
Sea freight	25 953 406	86%
Road freight	4 120 223	14%
Air freight	23 726	0.10%
Train	349	0.00%
TOTAL	30 097 704	100%

Freight

Activity data and assumptions

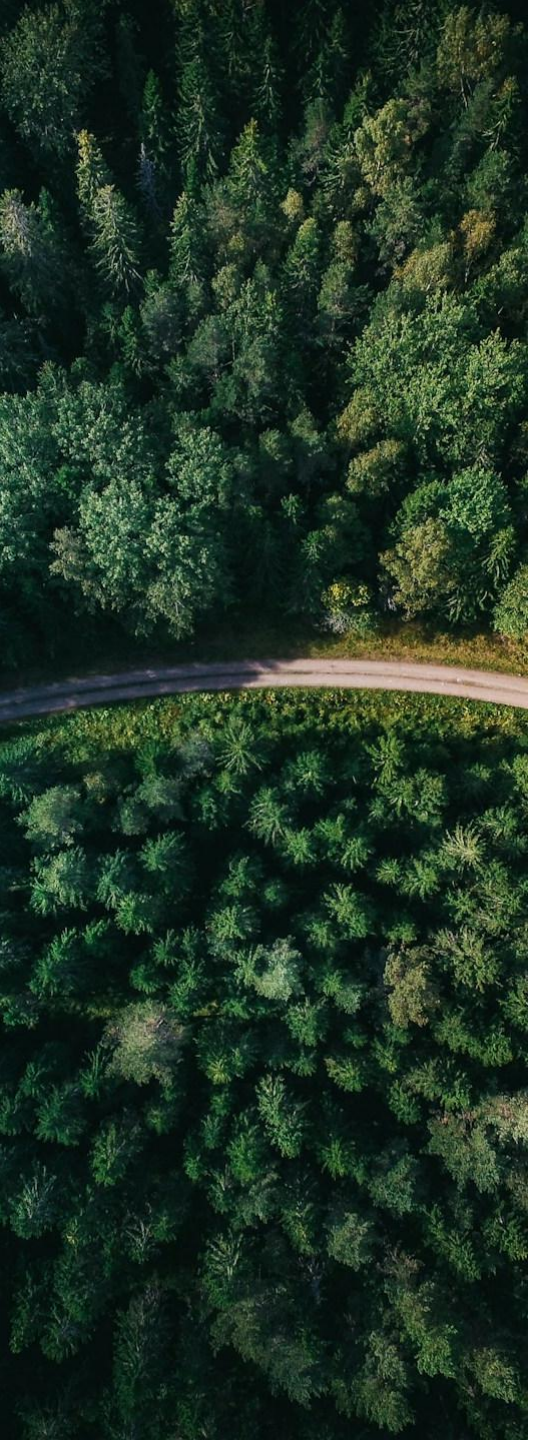
Outbound freight

Like incoming freight, emissions related to outgoing freight were calculated in two different ways as well:

- The carrier communicated the emissions (tCO2e) generated by its transport: we assigned the carbon emission factor to these.
- The carrier communicated transported weights (t) and distances travelled (km): we calculated the ton*km and assigned a specific emission factor depending on the transport mode.

This was applied for transport organised by Olivia Garden and for those paid directly by the customer ("ex-works"). Outgoing transport provided by UPS was excluded from this carbon assessment as the carrier could not provide data for the year 2024.

Mode of transport	Ton*km	Share (%)
Road freight	95 642	100%
Air freight	122	0%
Sea freight	67	0%
TOTAL	95 831	100%



Freight

Analysis

Greenhouse gas emissions related to freight transport account for 6.5% of Olivia Garden's total emissions. This is the 5th emission family of the Bilan Carbone® 2024. In 2021, freight was responsible for 438 tCO2e, representing over 15% of total emissions.

Inbound freight is the main source, accounting for more than 90% of emissions from this family. This result is directly linked to the distances travelled by the carrier Flexport (86% maritime and 14% road) and the air transport mode favoured by the carrier DSV, which alone represents 13% of incoming freight emissions.

Regarding outbound freight, the majority of emissions come from road transport carried out primarily in Europe. As the distances are shorter, the associated emissions are lower compared to inbound freight. Nevertheless, it is possible that emissions linked to outbound freight have been underestimated due to a lack of available data, including that from UPS.

Improving data quality

Freight transportation data is qualitative. The integration of emissions calculated by carriers such as Flexport, Hanhen, DSV and FedEx allows for a higher level of precision in emissions calculations, provided that the carrier performs a qualitative carbon footprint measurement.

We advise to more precisely track the transported weights (tons) and distances travelled (km) for outgoing freight labelled as "unpaid" (Ex-Works). To ensure reliable results, you may also encourage all your carriers to calculate and provide the emissions generated by their transport, provided they are transparent about the methodologies applied.

To avoid accounting for emissions related to storage spaces in monetary terms, it would be beneficial to ask service providers to establish and communicate a carbon intensity per square metre stored. However, the monetary approach remains reliable if the provider cannot provide this data.

Fixed assets

Emission family No. 6

This emission family includes greenhouse gas emissions related to the manufacture of:

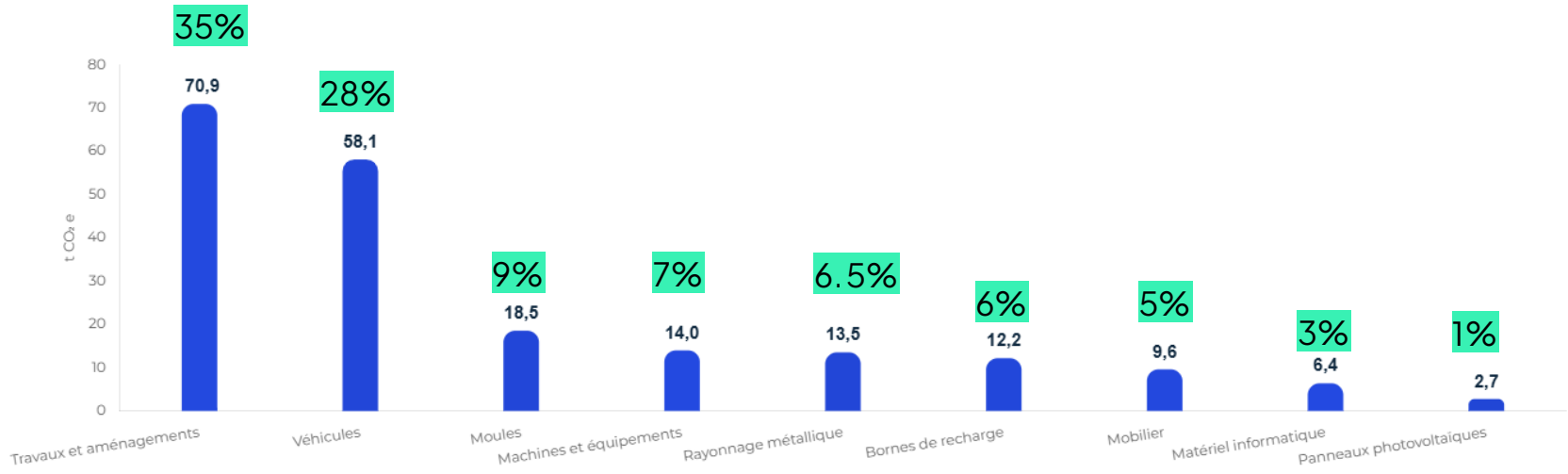
- undepreciated tangible assets of the organisation studied (buildings, machines, equipment, vehicles, etc.),
- leased assets (which would have been depreciated if they were owned by the organisation).

Fixed assets

Results

Olivia Garden's fixed asset emissions primarily stem from works and refurbishment currently being amortised in 2024, totalling nearly 71 tCO2e, which represents 35% of the emission family's emissions.

Vehicles are the second largest source of emissions in the Fixed assets emission family, followed by moulds purchased for brush manufacturing.



BC® versus GHGP

In the Méthode Bilan Carbone®, emissions generated by the manufacturing of owned or leased assets are spread over time, meaning that the amounts included in the Bilan Carbone® calculation correspond to the depreciation amount for the reporting year. This implies that fully depreciated items are no longer included in the Bilan Carbone®.

In GHG Protocol, only goods acquired (or leased) during the reporting year are accounted for, and they are counted in full (100% of the acquisition value is included). This is one of the main sources of difference between the results in Bilan Carbone® format and those in GHG Protocol format.

Regarding the Fixed assets emission family, the detailed results presented in this report follow the Bilan Carbone® methodology.

Fixed assets

Activity data and assumptions

The Fixed Assets emission family includes Olivia Garden's tangible fixed assets that are being depreciated (owned assets). Long-term leased assets (leasing or renting) are also included in this emission family because in the Méthode Bilan Carbone®, these assets are treated as if they were owned by the company.

The spend-based method (monetary ratios) was used for a series of fixed assets. This means that the assets held (and car leases) were accounted for based on their acquisition value: the carbon impact is expressed in kgCO2e per K-EURO spent (excluding VAT). In total, just over 2,830 k€ were considered for the emissions calculation.

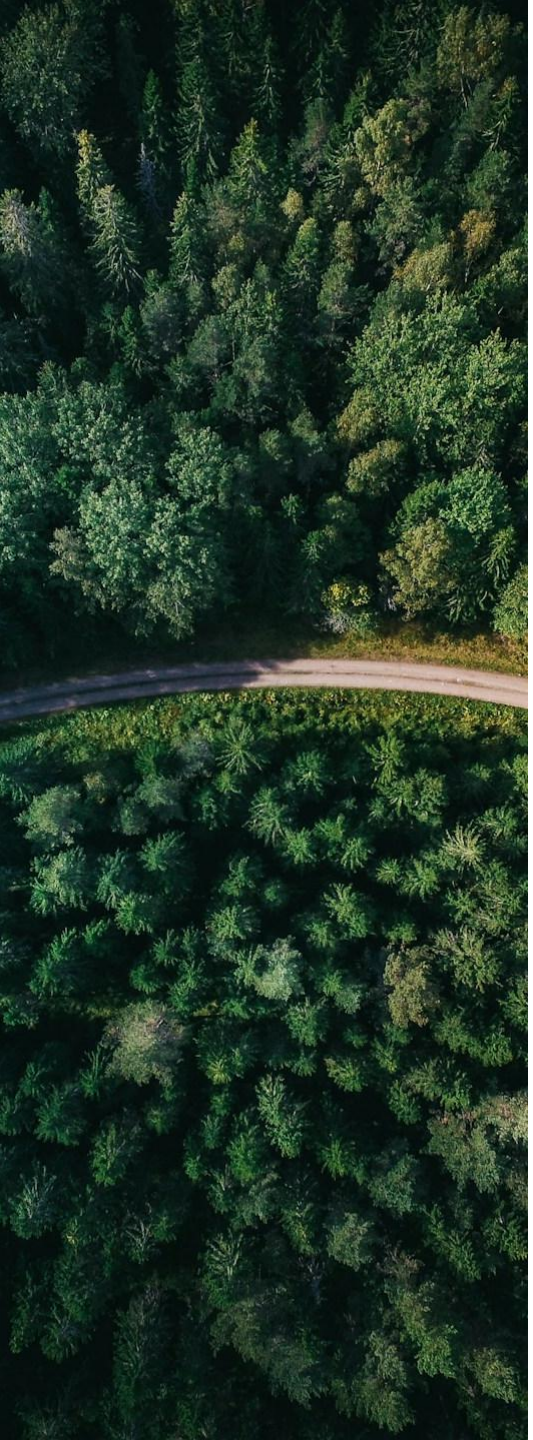
The following categories of fixed assets were taken into account using monetary emission factors:

- charging stations
- machinery and equipment
- IT equipment (excluding computers and screens)
- furniture
- moulds
- photovoltaic panels
- works and refurbishments

The data comes from Olivia Garden's depreciation table.

The unit-based method was used for part of the computer equipment and all vehicles:

- Computer equipment: 42 devices
- Vehicles (owned or rented): 21 vehicles, including 1 petrol, 2 hybrid and 18 electric vehicles.



Fixed assets

Analysis

The Fixed Assets emission family accounts for 6% of Olivia Garden's emissions. It is the 6th emission family in the 2024 Bilan Carbone®.

The Fixed Assets emission family is typically one where organisations have few (or no) action levers once the acquisition has been made. Additionally, this emission family can serve as an impact measurement tool to enhance decision-making when new investments are being considered.

This emission family should be particularly considered when one wishes to renew equipment or when carrying out works and premises developments.

It is, moreover, the main source of emissions in Olivia Garden's Bilan Carbone® in 2024. Indeed, 75.5% of investments currently being amortised are linked to works and developments carried out between 2019 and 2024. In 2021, fixed assets represented 6% of emissions, approximately 164 tCO2e.

Improving data quality

The data used for this emission family are of very high quality. The emissions that are best estimated are those from the manufacturing of IT equipment (screens and computers) and company vehicles, thanks to the use of a physical factor rather than a monetary one.

Although this is not the main priority emission family, we advise converting as many investments currently taken in monetary terms to physical ones. It would be relevant to provide units for charging stations, all IT equipment, and photovoltaic panels.

To make the results more reliable, it is important to specify the type of equipment, model, and manufacturer for each new investment. To go further, you can also collaborate with your suppliers to directly know the carbon impact of the equipment you purchase.

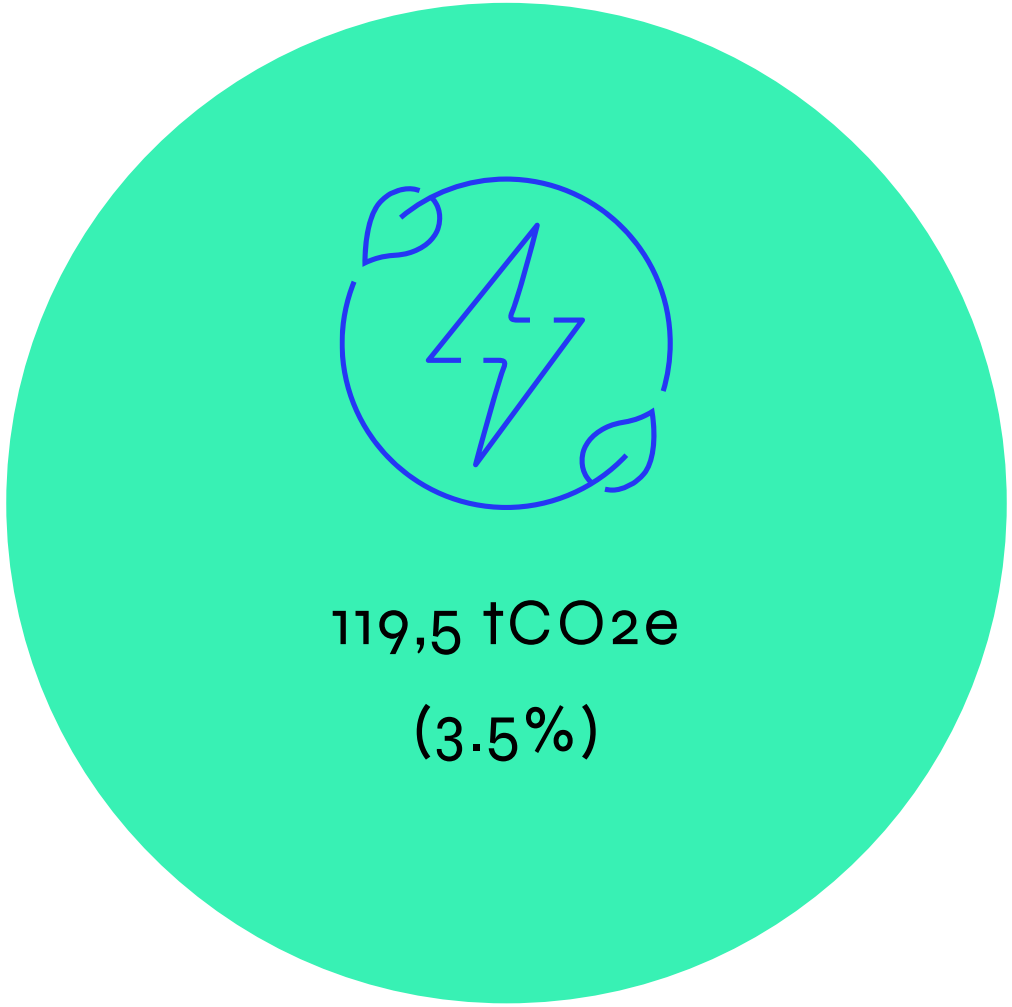
Energy

Emission family No. 7

This emission family includes the emissions from the direct use of energy.

The sources can be the following:

- the consumption of grid electricity or from renewable sources;
- the consumption of fossil or organic fuels;
- the consumption of steam, heat or cooling via networks (e.g. district heating).



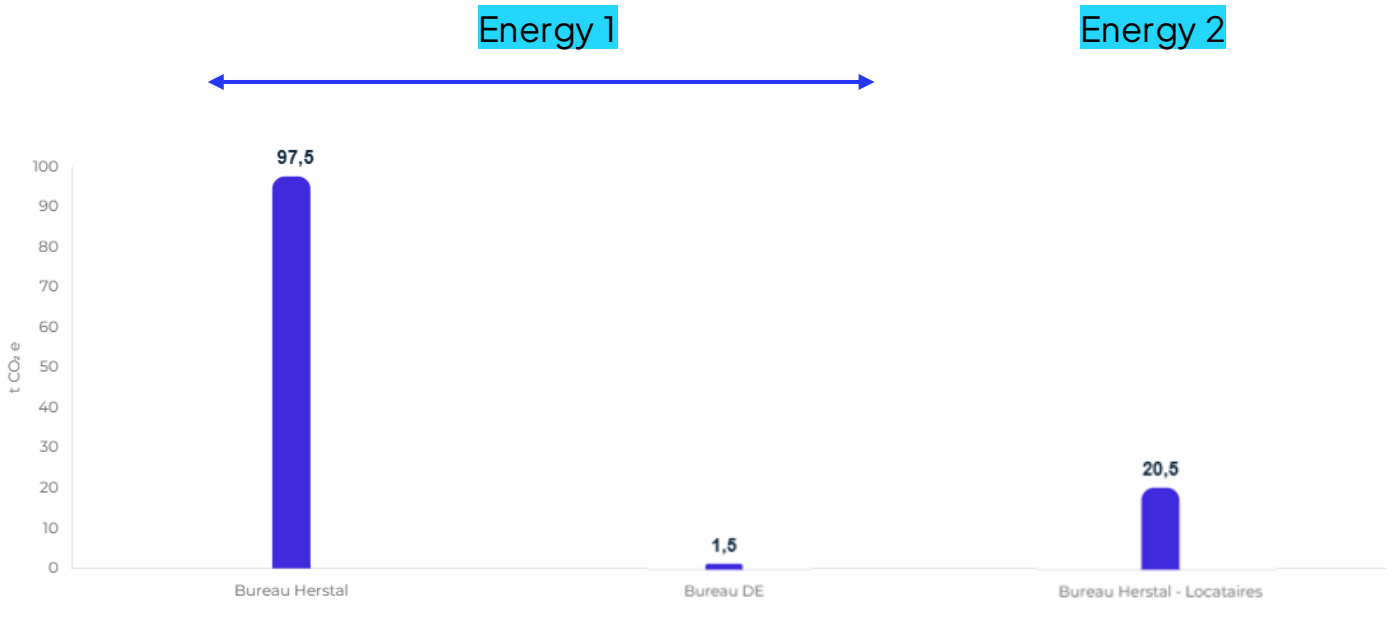
Energy

Results by sub-family

The Energy emission family is divided into two categories:

Energy 1: This encompasses energy consumption related to Olivia Garden's operations. This sub-family accounts for 83% of the Energy emission family's emissions.

Energy 2: This encompasses energy consumption related to tenant activities within the building owned by Olivia Garden at the Herstal site. This sub-family accounts for 17% of the Energy emission family's emissions.

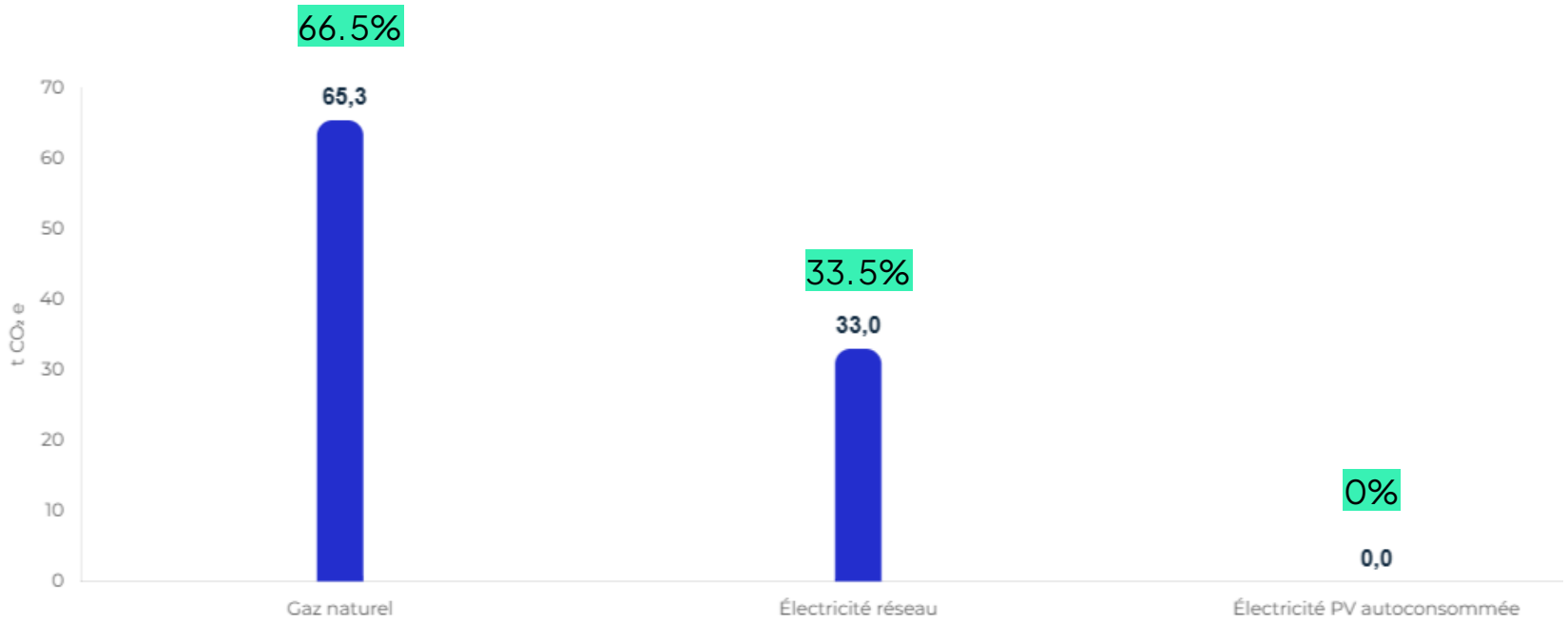


Energy 1

Results

Within the emissions from energy consumption specific to Olivia Garden's activities, natural gas accounts for 66.5% of emissions, totaling more than 65 tCO2e.

This is followed by grid electricity purchases, which represent 33.5% of the emissions.



Energy 1

Activity data and assumptions

Olivia Garden's consumption in Herstal

Olivia Garden leases part of the building it owns and occupies in Herstal to a third-party company. A portion of the total energy consumption is therefore attributed to the tenant. Olivia Garden does not have separate meters or energy supply contracts, so the consumption allocation is based on a premises usage allocation key: 80% (*) of electricity and gas consumption is attributed directly to Olivia Garden, while the remaining 20% is attributed to tenants.

At the Herstal site, Olivia Garden uses two electricity sources: grid electricity purchases and electricity produced by its photovoltaic panels. Approximately 15% of the electricity produced by the panels is fed back into the grid (9 025 kWh), while the remaining 85% is self-consumed by Olivia Garden and the building tenant.

For grid electricity, a distinction is made regarding the type of contract for emissions calculations according to the GHG Protocol; we do not account for this in the results according to the Méthode Bilan Carbone®. Olivia Garden had a standard contract for 5 months of the year, then switched to a "green" contract.

Total electricity consumption amounts to 179 738 kWh, of which 21% is covered by photovoltaic electricity. Electricity transmission losses (related to distribution) are also accounted for and represent 5% of the company's electricity consumption (= Belgian average).

Olivia Garden also records natural gas consumption of 269 230 kWh.

(*) Based on the occupied surface area (50% of the 2 500 m² office space + 100% of the 3,000 m² warehouse space) and the fact that the warehouse would consume approximately 50% more energy than the offices.

Energy 1

Activity data and assumptions

Energy consumption from offices located in Germant

For the private office rented in a coworking space in Germany, we estimate that an office-type building heated with electricity consumes an average of 283 kWh/m²/year, based on French statistical data.

For the 12 m² office rented by Olivia Garden in Germany, we therefore estimate a consumption of 3 396 kWh for the 2024 occupation period.

Energy	Electricity type	Quantity (kWh)	Share (%)
Grid electricity BE	Green contract	81 417	58%
	Classical contract	58 957	
Photovoltaic pannels BE	Production	58 229	40%
	Self-consumption	39 363	
Grid electricity DE	Contrat classique	3 396	2%
TOTAL		516 221	100%

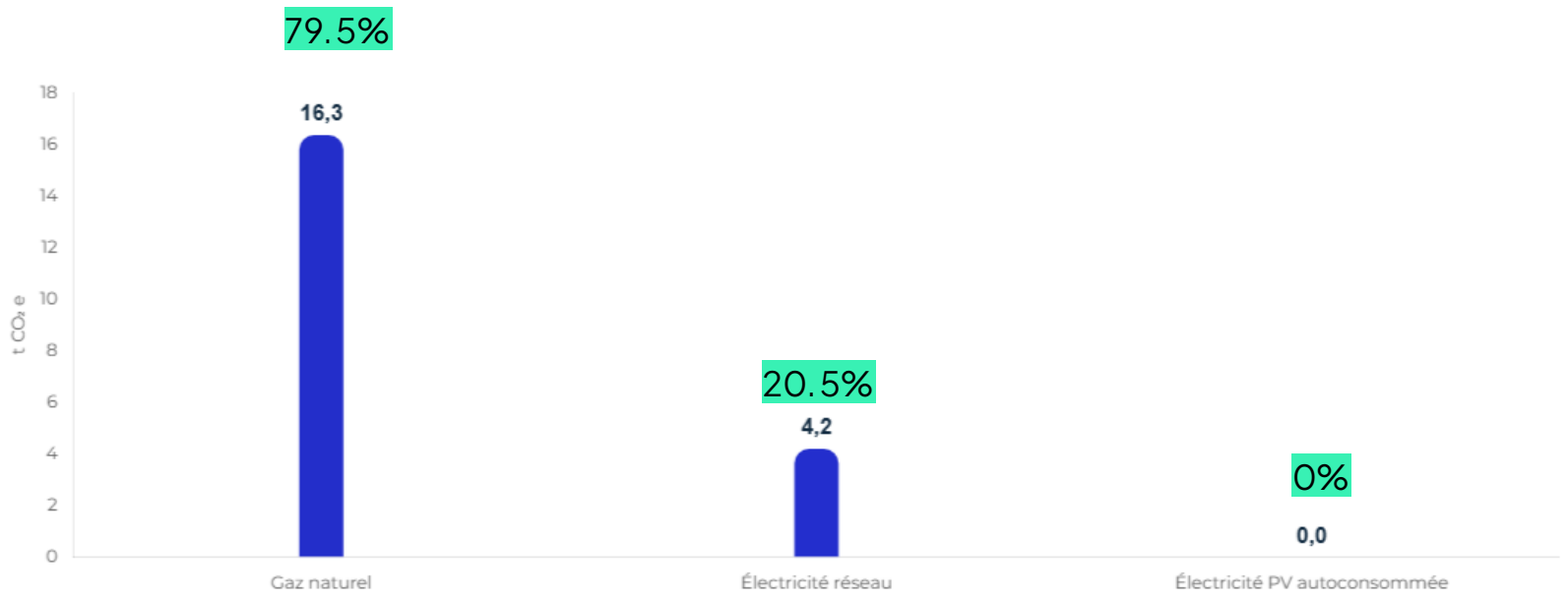
Energy	Quantity (kWh)
Natural gas BE	269 230

Energy 2

Results

Within the emissions from tenant energy consumption, natural gas accounts for nearly 80% of emissions, totaling more than 16 tCO2e.

This is followed by grid electricity purchases, which represent 20.5% of the emissions.



Energy 2

Activity data and assumptions

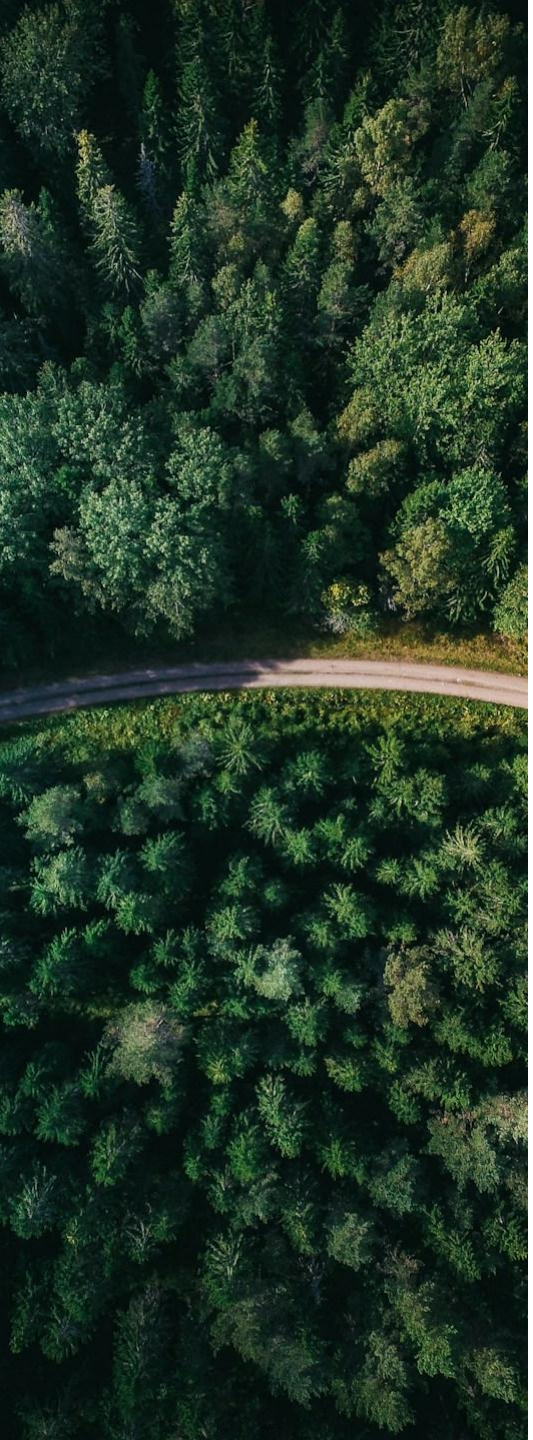
Tenants‘s consumption in Herstal

Olivia Garden leases part of its premises located in Herstal to tenants. The electricity and natural gas consumption have therefore been allocated according to the following distribution key: 80% is consumed by Olivia Garden and 20% by the tenants. The same consumption distribution assumptions have been applied. That is:

- Approximately 15% of the electricity produced by the panels is fed back into the grid, while the remaining 85% is self-consumed by the tenant and Olivia Garden.
- For electricity purchased from the grid, a distinction is made regarding the type of energy contract. Olivia Garden had a conventional contract for 42% of the year, and switched to a green contract for 58% of the year.

Energy	Electricity type	Quantity (kWh)	Share (%)
Grid electricity	Green contract	7 694	65%
	Classical contract	10 625	
Photovoltaic pannels BE	Self-consumption	9 841	35%
TOTAL		516 221	100%

Energy	Quantity (kWh)
Natural gas BE	67 307



Energy

Analysis

The Energy emission family represents 3.6% of Olivia Garden's total Bilan Carbone®, totaling 119.5 tCO2e, and is divided into two distinct components.

The Energy 1 sub-family is related to the company's own activities and accounts for 83% of the emission family's emissions. These emissions primarily come from the Herstal site, which records consumption of 269 230 kWh of natural gas, responsible for 65 tCO2e, and 179 738 kWh of electricity representing 33 tCO2e. 22% of this electricity comes from photovoltaic panels. The electricity consumption for the rented office in Germany, with a surface area of 12 m², is estimated at 3 396 kWh.

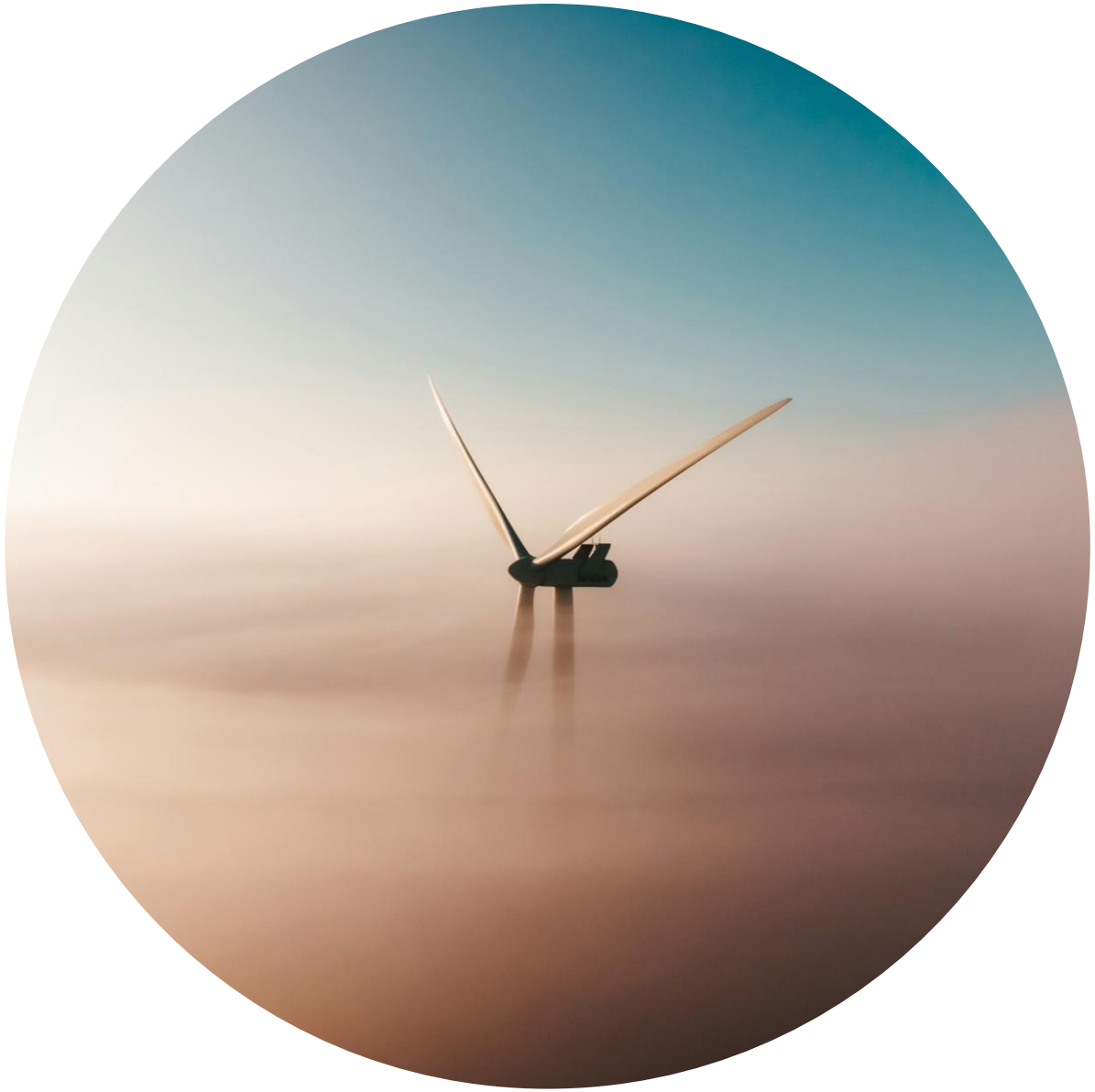
The Energy 2 sub-family, which covers tenant consumption, represents 17% of the emissions. This portion is based on an allocation key that attributes 20% of the building's consumption to tenants.

Improving data quality

The data is qualitative for grid electricity consumption, photovoltaic panels, and natural gas for the Herstal site.

For the office rented in the coworking space in Germany, it is difficult to obtain consumption data specific to a single office or shared spaces. The surface area method remains the most reliable method.

What about photovoltaic pannels?



The anti-greenwashing rule
No negative emissions in a carbon footprint.

Your self-consumption of renewable energy will reduce the amount of grid electricity purchased.

Waste

Emission family No. 8

This emission family includes GHG emissions related to the end-of-life treatment of non-hazardous and hazardous waste, solid or liquid, as well as wastewater, resulting directly from the activity. For each type of waste, the following sources are generally taken into account:

- Waste collection (= transport);
- The operation of treatment centers (= energy consumption related to waste treatment processes);
- “Fugitive emissions” = related to the specific waste treatment process: incineration, methanization, composting, etc. (if applicable).

10.5 tCO2e

(0.3%)

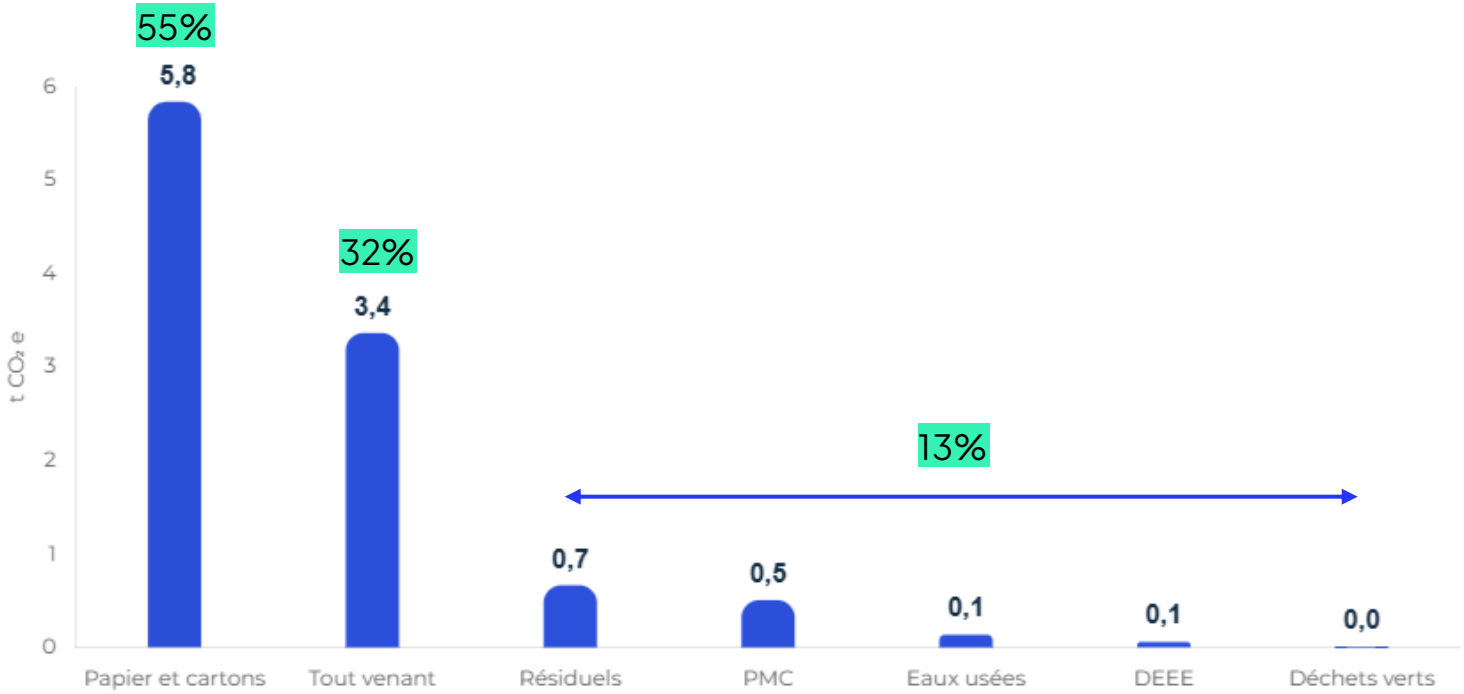
Waste

Results

The emissions generated by waste are caused 55% by paper and cardboard waste, totaling nearly 6 tCO2e.

This is followed by "general" waste (container for bulky waste) which accounts for 32% of the emission family's emissions.

Residual waste (offices and warehouse), PMC (plastic, metal, and drink cartons), wastewater, electronic waste (WEEE), and green waste together represent nearly 13% of the emission family's total emissions.



Waste

Activity data and assumptions

Solid waste

The waste data comes from a record provided by the collection service provider, Renewi. We used their waste categorization and accounted for emissions using physical emission factors, for a total of 15 tons of waste.

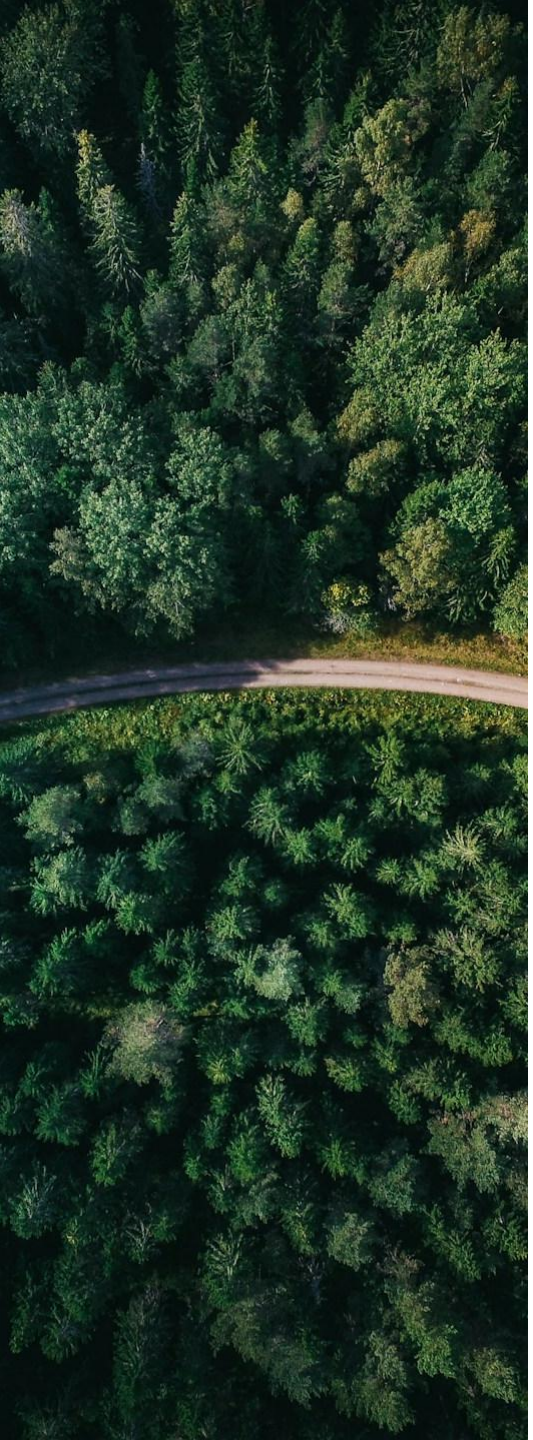
Wastewater

During the r usage was estimated by extrapolating data from the Herstal siteflow mapping, it was defined that wastewater volumes correspond to water consumption volumes.

Therefore, emissions related to wastewater from the Herstal site, occupied by Olivia Garden and tenants, and from the office in Germany, were accounted for using a physical emission factor, for a total of 520 m^3.

For the office in Germany, municipal wate.

Waste	Weight (tons)	Share (%)
General waste	6.5	43%
Paper and cardboard	6	39%
Residual	1.7	12%
PMD	0.77	5%
WEEE	0.07	1%
Organic waste	0.06	0%
TOTAL	15	100%



Waste

Analysis

Greenhouse gas emissions related to waste represent 0.3% of Olivia Garden's total emissions. This is the lowest-emitting emission family of the Bilan Carbone®.

Paper and cardboard waste is the primary source of emissions, but ranks second in terms of weight. Conversely, "general" waste is the top contributor in terms of weight, but the second source of emissions. This is explained by a higher emission factor for paper and cardboard treatment, compared to general waste treatment.

Overall, waste has a very insignificant impact on the global Bilan Carbone®.

In the 2021 Bilan Carbone®, waste was responsible for less than 1% of emissions, totaling approximately 11 tCO2e.

Improving data quality

The data is qualitative. We recommend continuing this monitoring with analyses from your waste service providers (Renewi, etc.).

A higher level of precision could also be achieved by further sorting waste disposed of in "general waste" and residual waste categories, and by specifying the type of waste treatment (incineration, recycling, landfill, etc.).

Non energy

Emission family No. 9

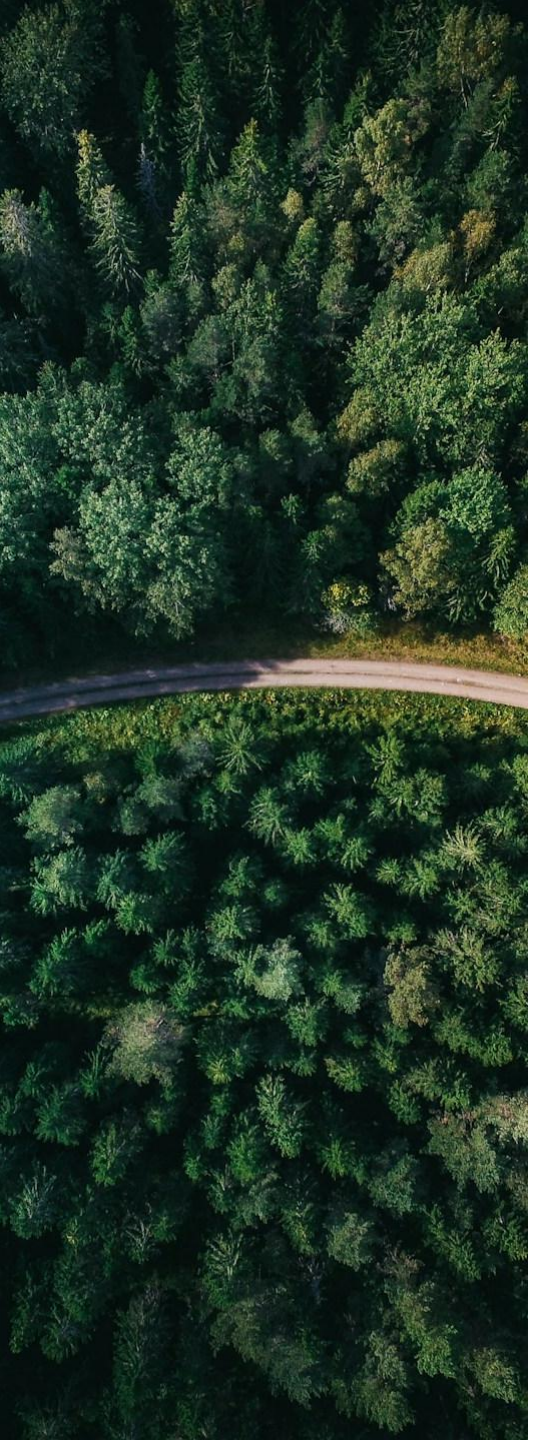
This emission family includes direct greenhouse gas emissions not related to the organisation's use of energy. There are two types:

(1) Emissions from processes: direct emissions from biological, physical, mechanical, chemical treatments or other activities that are related to an industrial process operated by the organisation.

(2) Fugitive emissions: direct emissions from intentional or unintentional releases of greenhouse gases via sources that are often difficult to physically control (e.g. use of greenhouse gas, anaerobic reactions, nitrification and denitrification reactions, methane emissions, etc.).

0 tCO_2e

(0%)



Non energy

Analysis

The Non energy emission family generates no emissions for the year 2024.

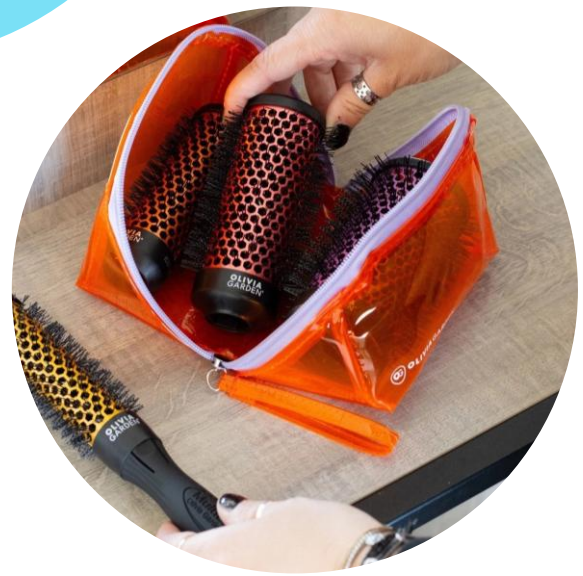
Olivia Garden has two air conditioning systems at the Herstal site. Due to lack of information, the air conditioning system, if it exists, used in the offices in Germany is excluded from this Bilan Carbone®. We can nevertheless estimate that it would have an insignificant impact on Olivia Garden's Bilan Carbone®.

After confirmation by Douin +, the equipment maintenance service provider, no refrigerant gas refills were recorded for the year 2024. This means that no leaks occurred during the period.

Improving data quality

The monitoring of refrigerant equipment is properly carried out at Olivia Garden and allows for results with low uncertainty.

Your top 3



Purchased goods and services
47%

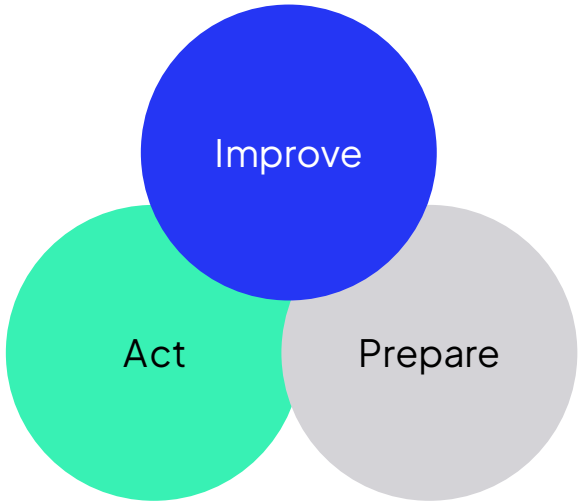
End-of-life of sold products
18%

Travel
14%

03.
Next steps

Next steps after a first GHG inventory?

1. Develop and implement a plan to improve the collection of activity data.



2. Decide on the update frequency, get trained on the elements of a solid climate strategy, and acquire the necessary skills.

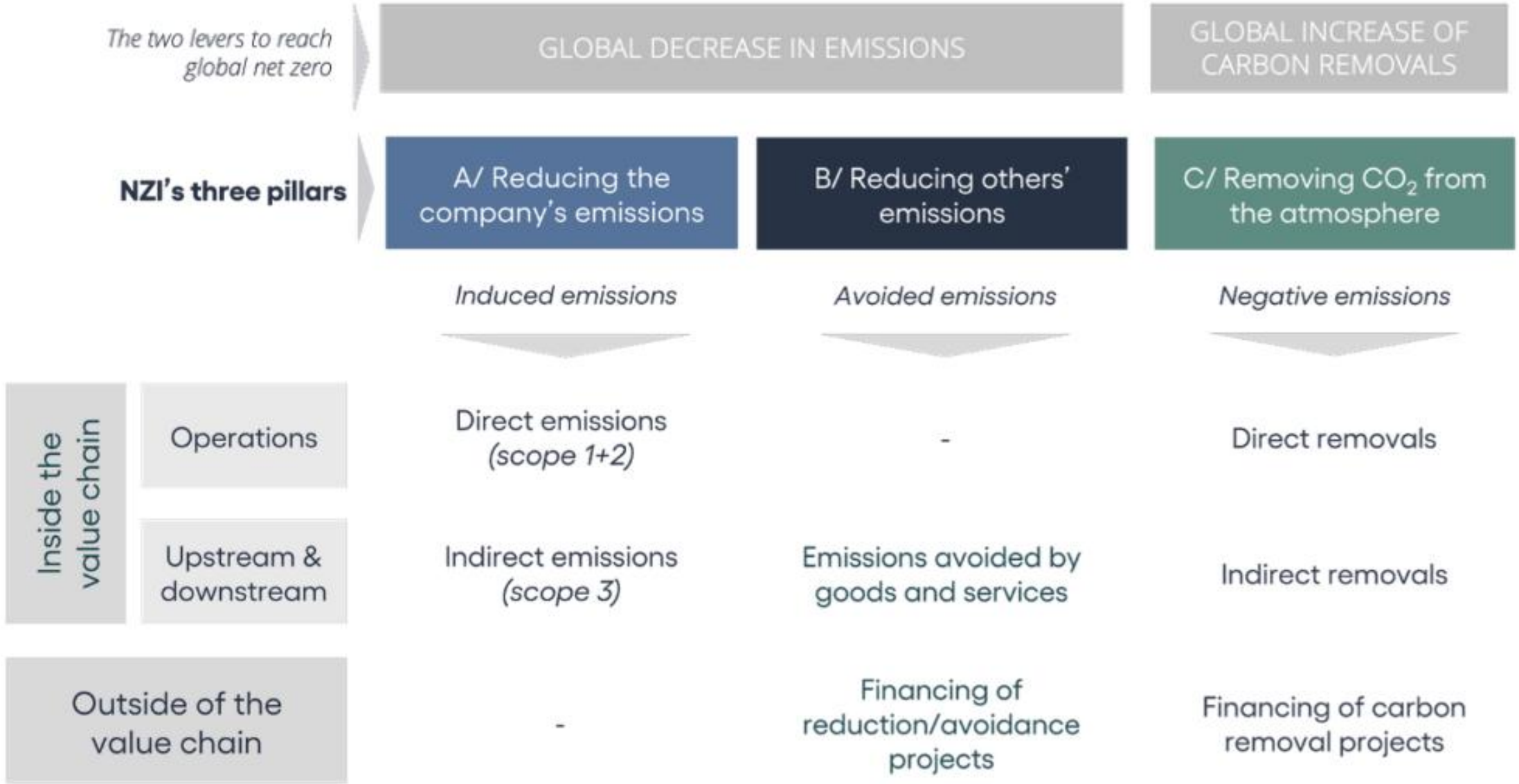
3. Set your reduction target (if possible, establish targets across the three pillars of a climate strategy) and develop an action plan to meet these objectives. Initiate key projects that are both impactful and motivating.

Today, a sound climate strategy allows a company to contribute to achieving global carbon neutrality by 2050 (rather than becoming carbon neutral itself)

A climate strategy relies on 3 pillars

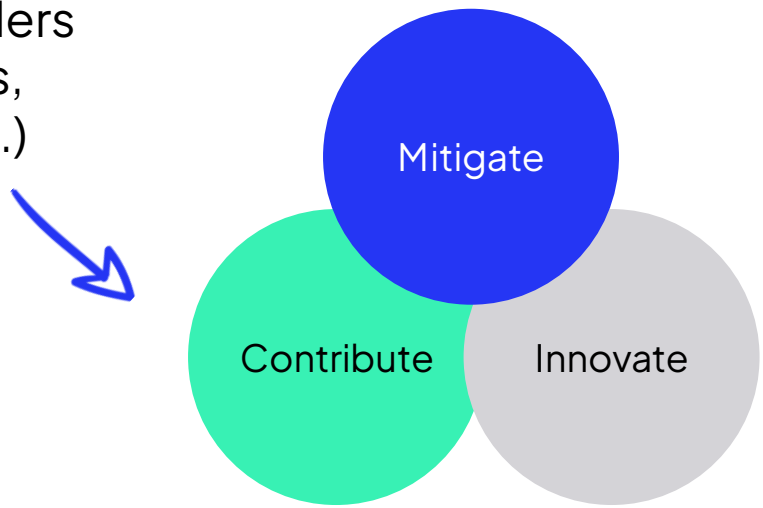
NET ZERO INITIATIVE

www.net-zero-initiative.com


The two levers to reach global net zero
GLOBAL DECREASE IN EMISSIONS
GLOBAL INCREASE OF CARBON REMOVALS
NZI's three pillars
A/ Reducing the company's emissions
B/ Reducing others' emissions
C/ Removing CO_2 from the atmosphere
Induced emissions
Avoided emissions
Negative emissions
Inside the value chain
Operations
Upstream & downstream
Direct emissions (scope 1+2)
-
Direct removals
Indirect emissions (scope 3)
Emissions avoided by goods and services
Indirect removals
Outside of the value chain
-
Financing of reduction/avoidance projects
Financing of carbon removal projects

How to go beyond measurement?

Involve stakeholders (staff, suppliers, customers, etc.)



Control your climate impact

- Measure your carbon footprint ✅
- Train your teams
- Periodically update your GHG inventory
- Implement an action plan to improve the quality of carbon footprint measurement
- Set a reduction target
- Implement a reduction action plan

Support the global effort

- Contribute by financing reduction projects (avoided emissions)
- Contribute by financing sequestration projects (absorptions)

Develop solutions

- Offer low-carbon products or services to your clients (eco-design, energy monitoring, etc.)
- Increase absorption (direct or indirect in the value chain)

04.
Smart2Circle

The world needs sustainable businesses.

Our mission is to give you the power to change the world through your business.

Our strengths

In one sight

100+

Companies

More than 100 companies successfully supported in their ESG approach

10+

ESG experts

A passionate and rigorous team dedicated to your success

10

Years of experience

A decade of expertise at your service

100%

ESG

Our teams are exclusively dedicated to ESG, from morning to evening, Monday to Friday

Our approach

What makes our difference

Expertise
Each mission is carried out by at least two experts, including at least one Senior.

Guaranteed quality
Each deliverable is verified by a Senior expert to guarantee quality and excellence.

Pragmatism
Our recommendations are concrete, actionable and adapted to your operational reality.

Educational approach
We discuss ESG in an accessible, constructive and never guilt-inducing manner. We don't adopt a "preachy" tone.

360° Vision
We cover all ESG issues: carbon footprint, reporting, labels... for comprehensive support.

Knowledge Transfer
Throughout the mission, we build your skills to gradually make you autonomous on ESG issues.

Our approach

Mission Management

Lead
- Defines the project's main strategic directions and supervises the team.
- Ensures consistency and added value of deliverables.
- Ensures proper project execution and is responsible for our internal processes.

Expert
- Conducts technical and operational analyses.
- Works on ESG data collection, processing and interpretation.
- Writes deliverables.

Quality control
- Verifies the reliability and accuracy of analyses and deliverables.
- Ensures methodological consistency and alignment with ESG standards (CSRD, SBTi, GHG Protocol, etc.).
- Validates all documents before client presentation.

SPOC (Single Point Of Contact)
- Serves as the single point of contact with the client.
- Summarizes project progress to the client.
- Communicates client requests internally.

Our values

EPIC

Excellence

We strive for excellence through our expertise, rigor and constant commitment to quality. We aim for precision and perfection.

Pragmatisme

We offer simple, concrete and realistic solutions, adapted to companies' daily operations. We move forward with efficiency and realism.

Impact

We support sustainable transformations with optimism, to create a more just and harmonious future. Our contribution aims to make the world more just, harmonious and sustainable.

Conviviality

We move forward with benevolence and optimism, building authentic and lasting relationships. Our positive stance enables us to meet challenges with energy and dynamism.

Our team

STÉPHANIE FELLEN
CEO

ARNAUD DE COSTER
COO

PIERRE LABALUE
Associé

VALÉRIE LIZEN
Experte ESG Senior

PAULINE RODBERG
Experte ESG Senior

VIOLAINE LAURENSY
Experte ESG confirmée

FLORENT CRISPIELS
Expert ESG

MAXIME DANDRIFOSSE
Expert ESG

JULIEN ROOSE
Responsable marketing

PIERRICK GRANDJEAN
Expert ESG

CLAIRE PESESSE
Experte ESG

SOPHIE BARTSCH
Experte ESG

Our expertise

GHG inventory

Impact measurement and emissions reduction plan according to recognized standards (GHG Protocol, Bilan Carbone®, etc.).

ESG Report

Development of your ESG strategy and drafting of your ESG report compliant with GRI, CSRD or other standards, VSME... to showcase your commitments.

Labels

Comprehensive support for obtaining certifications: EcoVadis, B Corp, CO2 Performance Ladder, CSC, etc.

Workshops

Participatory sessions with your teams, facilitated through our interactive tool: the Business Impact Game.

Circular economy

Detection and implementation of circular economy levers tailored to your business activity.

Smart2Circle Academy

Training programs to strengthen your skills: responsible communication, carbon footprint assessment, ESG reporting, etc.

We amplify

Business Impact, the podcast that gives you the keys to make your business more sustainable

Smart2Circle is behind the Business Impact podcast, in which we interview inspiring personalities who, on their scale, are changing the world through their business.

- Guests who talk about their daily lives, their vision of the world, their tools, their keys to making their business more sustainable.
- Free podcast gratuit available on all plateforms.

We are certified

Since 2024

We are very proud to have obtained the B Corp certification in 2024. This certification is awarded to companies that meet the highest standards of social and environmental performance, transparency and accountability. We obtained 90.6 points. We also obtained the EcoVadis SILVER certification in the same year.

Why is this so important to Smart2Circle?

- This certification reflects our commitment to creating a positive impact on society and the planet.
- It underlines our desire to conduct our activities with integrity and transparency.
- It pushes us to constantly innovate to improve our practices and contribute to a better future.

Our partners

To support your strategy

We are architects

Just as an architect surrounds themselves with reliable craftsmen to bring their vision to life, we collaborate with a network of trusted partners. Once your ESG strategy has been defined and your carbon footprint assessed, we refer you to the most relevant experts to meet your specific needs and accelerate the implementation of your commitments.

+100 companies supported

05.
Appendices: methodological notes

About the Bilan Carbone® method

The Méthode Bilan Carbone® (BC) is a methodology for quantifying greenhouse gas (GHG) emissions based on readily available data to achieve an accurate assessment of the direct or indirect emissions generated by an organization's activities.

The Bilan Carbone® approach is designed as a qualitative process: its goal is primarily to help organizations continuously improve their climate impact, rather than merely reporting their emissions. It can be applied to any activity: industrial or service companies of all sizes, administrations, local authorities, and territories managed by local authorities.

Bilan Carbone® is:

- A standard of excellence in greenhouse gas (GHG) accounting: it comprehensively evaluates all GHG emissions generated by an organization's or territory's activities.
- An environmental management tool, acting as a guide and support for energy-climate transition efforts.
- Compatible with other methodologies: ISO 14064-1-2-3, the GHG Protocol, and national regulations. BC® tools can be used in these approaches, as they meet their requirements.

The Association pour la Transition Bas Carbone (ABC) has overseen the Bilan Carbone® in France and internationally since October 2011. Gathering actors from both private and public sectors, it develops the Bilan Carbone® and the Greenhouse Gas Management System (SM-GES®), emphasizing the managerial and strategic approach. The ABC and its partners create, update, and disseminate methodological and operational solutions to reduce GHG emissions and support the transition to a low-carbon society. Bilan Carbone® and SM-GES® are registered trademarks of the ABC. The Bilan Carbone® methodology was created for the French Agency for Ecological Transition (ADEME) by Jean-Marc Jancovici, from the consultancy Carbone 4.

Bilan Carbone® is not:

- Good or bad.
- A tool for blame (the company can choose whether to communicate about its BC®).It aims to objectively assess GHG emissions associated with an organization's activities in its current operations, directly or indirectly, whether they occur on its premises, with its suppliers, or through its customers, upstream, during, or downstream of these activities.

The GHGs considered by the Bilan Carbone® method are mainly those defined in the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (CnHmFp), perfluorocarbons (C_nF_{2n+2}), and sulfur hexafluoride (SF_6). The method also allows for other GHGs like chlorofluorocarbons (CFCs), stratospheric water vapor, and nitrogen oxides (NOx).Once the measurement is done, the organization has the necessary information for its environmental/social responsibility reporting and can build its vision for a low-carbon transition.

Focus on the emission factors

The Bilan Carbone® method relies on the emission factors from the Base Carbone®, a public database managed and maintained by ADEME.

The emission factors are derived from scientific studies (such as IPCC, universities, etc.) or produced by Life Cycle Assessment experts; they are not directly developed by Smart2Circle.

In the vast majority of cases, it is not feasible to directly measure the greenhouse gas emissions resulting from a specific activity. While the measurement of greenhouse gas concentrations in the air has become a common scientific practice, direct measurement of emissions is only possible in rare circumstances.

The only way to estimate these emissions is through calculation, using what is known as "activity data": the number of trucks operating and the distances they travel, the number of tons of steel purchased, the number of cows grazing, etc. The Bilan Carbone® method was developed specifically to convert this activity data into estimated greenhouse gas emissions within a reasonable timeframe.

The figures that allow observable data within the organization to be converted into greenhouse gas emissions are called "emission factors" (EF). These are available through various scientific databases and Life Cycle Assessments (LCA) of products, services, or more specific processes.

The concept of scope

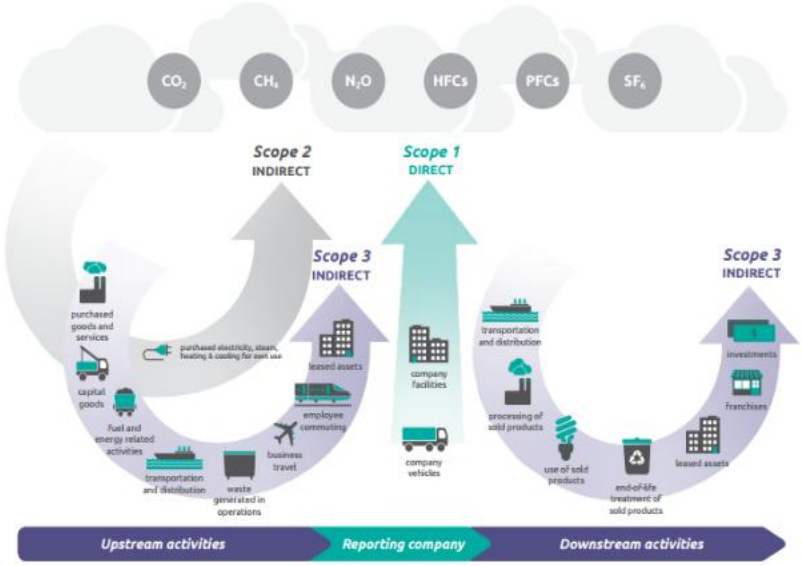
According to the GHG Protocol and the international standard ISO 14064, all these greenhouse gas emissions are organized into three boundaries (“scopes”) that allow them to be distinguished.

Scope 1 refers to direct emissions: that is, the direct greenhouse gas (GHG) emissions generated by the organization's activity, including direct fuel consumption (such as for owned vehicles or building heating), refrigerants, and any physical or chemical processes emitting GHGs within the premises.

Scope 2 covers indirect emissions related to energy consumption, specifically the production of electricity consumed by the organization, even though the emissions were generated at power plants rather than on-site. It also includes purchased steam, heat, and cooling.

Scope 3 encompasses all other activities, both upstream (such as purchases, business travel) and downstream (like product distribution).

The Bilan Carbone® methodology treats all GHG emissions (direct and indirect) equally and categorizes them based on the organization's activities (such as energy use, purchasing goods and services, freight transport, etc.) rather than dividing them by scopes. The aim of this method is to consider as wide a scope as possible to identify the most opportunities to reduce the organization’s carbon footprint. The GHG Protocol and ISO standards were developed to provide a common framework for creating GHG inventories for reporting purposes.



The concept of uncertainty

The Bilan Carbone® is an estimated inventory of greenhouse gas emissions and does not claim to be precise to the exact gram. In the context of carbon accounting, the total uncertainty combines the uncertainty related to the collected activity data and the uncertainty associated with emission factors.

Uncertainty related to activity data:

Each piece of data used in the Bilan Carbone® has a degree of uncertainty reflecting its quality and reliability. Taking these uncertainties into account and calculating their effect on the results helps organizations identify priorities for improving data quality. The ultimate goal is to optimize the reliability of future inventories and better guide decisions.

We applied the TAPIO levels:

- 5% for data from direct measurement (invoices or meters);
- 10% for reliable, non-measured data;
- 20% for recalculated data (extrapolation);
- 50% for approximate data (statistics);
- 80% for order-of-magnitude data.

Uncertainty related to emission factors:

The uncertainty of the emission factor indicates variance in the result. For example, for the combustion of one liter of fuel, the uncertainty is low (about 5%) even if not all conditions are ideal. For road freight, parameters such as driving style, weather, topography, fill rate, etc., increase the uncertainty of the emission factor (about 50% or more). Some databases, like the Base Carbone®, systematically provide the uncertainty of emission factors; otherwise, we estimate it ourselves.

The uncertainty associated with an emission family reflects the uncertainty of both the data and the emission factors. The details of the uncertainties are included in each Bilan Carbone® Excel sheet. Uncertainties do not alter the ranking of categories in terms of greenhouse gas emissions.

The concept of double counting

It is legitimate to wonder whether there is double counting in carbon accounting since the entire value chain is taken into account, including greenhouse gas emissions generated by the production of purchases, visitor travel, etc.

It is essential to take into account an organisation's Scope 3 when developing a climate strategy.

The reliability of Scope 3 data (which must be included in a Bilan Carbone®) and double-counting are issues that are often raised by organisations when they set about compiling an inventory of their GHG emissions. In theory, if all companies measured their Scope 1 and 2 emissions, Scope 3 emissions would already be covered. In reality, we are still a long way off. For example, a recent study shows that - even among the 55 largest Belgian companies - the practice is not yet widespread (or very recent): three out of ten large Belgian companies neglect their carbon footprint.

The aim of assessing GHG emissions across the entire value chain is to obtain an overview of the indirect emissions linked to the organisation, so that it can play a part in reducing them. Similarly, the main aim of a Bilan Carbone® is to have the widest possible scope of measurement so as to have the widest possible range of improvement actions: it is not a question of not counting emissions that could potentially be counted elsewhere. For example, for freight, the carbon weight of transport will be taken into account by the manufacturer, the carrier and the customer in their respective Bilan Carbone®. All three organisations have a role to play in reducing the carbon impact of freight, each at their own level.

With a limited window of time (10 years) in which to combat climate change, it is imperative that each organisation takes part in driving change, and not just within the scope of its direct activities. Taking action on Scope 3 emissions is now one of the transparency requirements for reporting frameworks (such as the CDP), which is why Scope 3 is included as a criterion for setting SBTs (Science Based Targets). Furthermore, the more organisations take into account their Scope 3 emissions, the more resilient they will be to climate and economic risks.

Carbon neutrality and contribution

Claims of “carbon neutrality” are based on a three-step process: Measure, Reduce, Offset. Within this framework, carbon neutrality can still be achieved each year, by immediately “cancelling” (or offsetting) emissions through the purchase of “carbon credits”.

This reasoning suffers from a number of theoretical and practical limitations. The scope of emissions taken into account may overlook the most significant emissions on which the company's activity depends. The ambitious reduction targets are rarely compatible with the 5% to 7% annual reduction in global emissions required to comply with the Paris Agreement. The very idea of ‘offsetting’ is based on principles that are physically debatable (postulate of equivalence between a reduction at source and a purchase of carbon credit, between an immediate and certain emission and a presumed and - in some cases - future avoidance/absorption, etc.). The fact of being able to offset induces a psychological bias on the part of credit buyers (belief in the possibility of cancelling the climate problem at little cost, etc.). Finally, the same label, ‘carbon neutral’, designates private initiatives with very different ambitions, resulting in a counter-productive race to the bottom.

More generally, seeking to define carbon neutrality as a static, individual state at the level of an organisation has other limitations, in particular: the possibility of achieving ‘zero net emissions’ each year renders invisible the evolution of actual greenhouse gas emissions over time, which does not encourage the organisation to implement effective actions to reduce emissions at source. Since anthropogenic emissions far exceed the amount of ‘offsetting’ available in the world, this concept cannot be universalised and therefore cannot be considered a viable solution on a large scale.

The only carbon neutrality that is scientifically rigorous is carbon neutrality on a planetary scale (and possibly on a continental or national scale). This is defined by the balance between anthropogenic greenhouse gas emissions (of human origin) and anthropogenic greenhouse gas absorptions, which stabilises the concentration of greenhouse gases in the atmosphere (= the concentration of CO2, and other GHGs, no longer increases). Any other ‘carbon neutrality’ (at the level of an organisation, a product or service, etc.) is greenwashing. Legislation is increasingly cracking down on this type of claim.

In short, the concept is not fruitful. The idea of ‘corporate neutrality’ achievable through offsetting is not capable of triggering concrete action commensurate with the challenge. In line with the effort to align corporate action with the imperatives of climate science initiated at COP21, there is an urgent need to transform this concept, and to offer organisations a framework for action on carbon neutrality that is equal to the planetary challenge: the carbon contribution.

Carbon neutrality and contribution

Contributing to global carbon neutrality (formerly voluntary carbon offsetting) allows us to have a positive impact on the environment, the most vulnerable communities and carbon neutrality outside the scope of our business, by participating in the development of projects that reduce or sequester greenhouse gas emissions around the world.

Don't use the term carbon offset , use the term carbon contribution.

Operating principle

Each organisation should have three accounts to monitor in parallel:

1) Its GHG emissions throughout the value chain, which it must manage and reduce to levels compatible with the 1.5°C/2°C emissions trajectories;

2) Its contributions to reducing the emissions of other players, in particular through the purchase of carbon credits from reduction projects;

3) Its contributions to the development of global carbon sinks, in particular through the purchase of carbon credits from sequestration projects.

Unlike 'offsetting', it is not immediately possible to cancel the first category (induced emissions) on the pretext that an effort has been made on the other two. It is healthier to consider that these three areas are separate, non-fungible and need to be managed ambitiously over time. Communicating about 'a contribution to territorial or global neutrality' rather than 'one's own neutrality' has several advantages:

- More collective: because the challenge of global neutrality, the scale of which we have yet to grasp, can only be met by a collective and equitable contribution, which it is important to quantify according to the contributions and efforts of each individual.
- More precise: a company's emissions are accounted for separately from the other positive contributions it can make (helping others to reduce or increase carbon sinks). In other words, it is a question of setting in stone that a company's emissions do not disappear from the atmosphere on the pretext that they contribute to reducing the emissions of others or increasing carbon sinks.
- More positive: offsetting cancels out bad actions, contributing enhances the value of good ones.
- Fairer: buying a carbon credit is first and foremost supporting a project. A contribution similar to an act of climate philanthropy, which, like sponsorship, should take no interest in the price of carbon (except insofar as its means allow) and be more interested in the transparency of the use of funds and the justification of intermediaries' margins.

Carbon neutrality and contribution

This voluntary contribution is not regulated by a central authority, so it is very important to use serious companies to guarantee the positive impact of the project. In 2019, ADEME published a guide to best practice in voluntary carbon offsetting.

Use quality labels if you want to contribute to global carbon neutrality.

The most recognised labels

Gold Standard®
Climate Security & Sustainable Development

Verified Carbon Standard

High-quality initiatives in Belgium

PLANT
LE BON PLAN POUR LE CLIMAT

Planting projects in collaboration with the farming community and planting projects in Belgium

Trees FOR Future

Projects to adapt Belgian forests to climate change in collaboration with the Royal Forestry Society of Belgium.

farming for climate
LES HOMMES ET LA TERRE

Support for more responsible farming in Belgium (contribution to the agro-ecological transition)

Thank you !

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