

Carbon Footprint

Report 2024

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1. Executive summary

The purpose of this report is to analyze and quantify the direct and indirect emissions generated by the activities of Montval srl, which has embarked on a journey to reduce its carbon footprint.

Scope 1, Scope 2 and Scope 3 emissions (partial) were considered.

- **Direct emissions - Scope 1:**
88,83 ton CO₂ eq.
- **Indirect emissions - Scope 2:**
0 ton CO₂ eq.
- **Indirect emissions - Scope 3 (category 3.1):**
11.507,64 ton CO₂ eq.
- **Total emissions:**
11.596,47 ton CO₂ eq.

2. Introduction

2.1 Objective and Reference Standard

The objective of this study is to identify and quantify Montval srl's emission sources. This activity will allow the company to plan, voluntarily and concretely, management strategies and policies to reduce and offset greenhouse gas emissions.

Within the reporting boundary of this GHG (Greenhouse Gases) inventory, direct emissions (Scope 1) and indirect emissions from energy consumption (Scope 2) and other sources (Scope 3) were considered.

This document has been prepared in accordance with the guidelines defined by the "GHG Protocol Corporate Accounting and Reporting Standard". It is the most widely used global standard for calculating and reporting greenhouse gas emissions by companies and institutions and is adopted by more than 90% of the Fortune 500 Companies.

2.2 Summary of activities and principles adopted

In accordance with the 'GHG Protocol Corporate Accounting and Reporting Standard', the following were defined: the perimeter of the GHG inventory, the emission categories considered, the emission methodologies and factors and, finally, the total emissions attributable to the company.

The study was carried out through a series of activities, which can be summarized in the following project methodology:

- project team definition;
- information and data request;
- information and data acquisition;
- information and data verification;
- calculation of the company's carbon footprint;
- summary of results and their analysis.

The calculation and reporting of greenhouse gases were based on the following five principles established by the “GHG Protocol Corporate Accounting and Reporting Standard”.

- **RELEVANCE** - Ensuring that the GHG inventory adequately reflects the company's GHG emissions and serves the decision-making needs of users, both internal and external to the company.
- **COMPLETENESS** – Taking into account all sources of GHG emissions and all activities within the chosen inventory boundary. Report and justify any specific exclusions.
- **COHERENCE** - Use consistent methodologies to allow meaningful comparisons of emissions over time. Transparently document any changes to data, inventory boundaries, methods, or any other relevant factors in the time series.
- **TRANSPARENCY** - Address all relevant issues in a factual and consistent manner, based on a clear audit trail. Disclose all relevant assumptions and make appropriate references to accounts, calculation methodologies and data sources used.

- **ACCURACY** - Ensure that quantification of GHG emissions is systematically neither above nor below actual emissions, as far as can be judged, and that uncertainties are reduced as much as possible. Achieve sufficient accuracy to allow users to make decisions with reasonable certainty about the integrity of the information reported.

2.3 Details on the author of the report

Up2You is the greentech and B Corp certified startup that leads companies on customized paths towards environmental sustainability. With innovative solutions based on proprietary technologies, Up2You provides comprehensive support at every stage of the sustainability journey, including aspects such as communication, certification and staff training.

Utilizing technological innovation and our expertise, Up2You adopts a cutting-edge approach in the industry. Our methodology, known as Climate Formula, combines targeted strategies to achieve predetermined climate goals.

From the expertise of our team comes Up2You Insight, the study center that provides publications, sectoral insights and training programs. This further step consolidates our position as an authoritative reference point, also recognized by the media, for everything related to environmental sustainability.

The future is up to you



3. Reference perimeter

For corporate reporting, two distinct approaches can be used to report greenhouse gas emissions: the equity share approach and the control approach.

According to the equity share approach, a company accounts for greenhouse gas emissions from operations according to its equity share in the operation. The equity share reflects the economic interest, which is a measure of the rights a company has over the risks and benefits of an operation.

Under the control approach, a company accounts for one hundred per cent of GHG emissions from operations over which it has control. It does not account for GHG emissions from operations in which it has an interest but no control.

When adopting the control approach for reporting greenhouse gas emissions, one of two criteria can be used: operational control and financial control.

- **Financial control:** the company has financial control of the operation if the former has the ability to direct the latter's financial and operating policies to obtain economic benefits from its activities. For example, financial control usually exists if the company has the right to most of the benefits of the operation. Similarly, a company is considered to financially control an operation if it retains the majority of the risks and benefits. According to this criterion, the economic substance of the relationship between the company and the transaction takes precedence over legal ownership status, so the company may have financial control of the transaction even if it has less than 50% interest in the transaction. This criterion is consistent with international accounting standards; thus, a company has financial control over a transaction for GHG accounting purposes if the transaction is considered a group company or subsidiary for financial consolidation

purposes, i.e. if the transaction is fully consolidated in the financial accounts.

- **Operational control:** a company has operational control over an operation if it, or one of its subsidiaries, has full authority to introduce and implement its operational policies in the operation. Under the operational control approach, a company accounts for 100% of emissions from operations over which it or one of its subsidiaries has operational control.

The control approach as set out in the GHG Protocol was used to establish the organizational boundaries of this report.

In particular, the criterion of financial control was adopted, thus including in the Scope of analysis the companies/participations for which Montval srl exercises financial control.

3.1 Operational perimeter

In accordance with the GHG Protocol, greenhouse gas emissions reported within a GHG Inventory showing the company's carbon footprint are grouped into three macro-classes:

- **Scope 1 - Direct GHG emissions:** emissions generated within the company's perimeter. These emissions are generated by the use of fossil fuels and the release of greenhouse gases defined by the Kyoto Protocol into the atmosphere:
 - Carbon dioxide (CO₂)
 - Sulphur hexafluoride (SF₆)
 - Hydrofluorocarbons (HFC)
 - Methane (CH₄)
 - Nitrous oxide (N₂O)
 - Perfluorocarbons (PCF)
 - Nitrogen trifluoride (NF₃)

The category of direct emissions includes, for example, emissions from the use of fossil fuels in heating systems, emissions from the consumption of fuel for company transport vehicles or generators, and emissions from the leakage of fluorinated greenhouse gases from cooling systems.

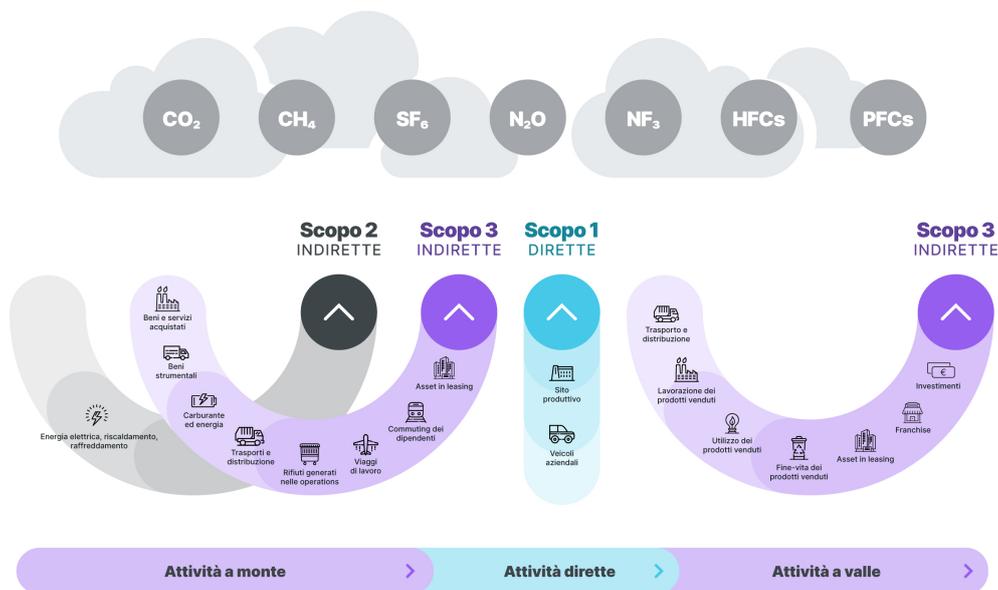
- **Scope 2 - Indirect GHG emissions from electricity, heat and steam:**
Emissions from the generation of electricity, heat and steam purchased and consumed by the organization. These emissions are considered indirect because the company is responsible for the use of energy, but not for the emissions generated by the supplier for the production of this energy. Scope 2 emissions can be calculated using two different approaches:
 - **Location based:** considers an average emission factor (kg CO₂ eq. emitted per kWh consumed) for the electricity consumed, calculated on the basis of the national energy mix with respect to the country in which the company operates. The higher the share of energy from renewable energy sources within the national energy mix, the lower the value of the associated emission factor.
 - **Market based:** this approach allows for accounting for the quantity of energy sourced from renewable sources purchased directly by the company. The provenance of this energy must be certified by the energy services manager (GSE) through the issuance of a certificate of origin (guarantees of origin). For the calculation of GHG emissions, an emission factor of zero is used for that portion of electricity that comes from renewable sources. For calculating GHG emissions resulting from the remaining portion of electricity usage, instead, emission factors are utilized based on the national energy mix of the country where the company operates.

- **Scope 3 - Indirect GHG emissions, excluding those from electricity, heat and steam:** this category encompasses emission sources that are not under the direct control of the company, but whose emissions are

indirectly related to the company's activity. Scope 3 emissions include upstream and downstream emissions along the value chain, such as emissions from suppliers and customers, but excluding emissions from the generation of purchased electricity, heat and steam consumed by the company (already included in Scope 2).

The classification into Scopes 1, 2 and 3 establishes which emission sources are under the direct control of the company and which are under the control of other organizations, in order to make a distinction between direct and indirect emission sources.

It should be noted that both direct emissions (Scope 1) and indirect emissions (Scope 2 and Scope 3) have been considered within the reporting boundary of this GHG inventory.



3.2 Reference year

The reference year considered for the following report is 2023.

3.3 Data Acquisition

Up2You developed a data collection tool for Montval srl, with the aim of requesting useful data and information to calculate the impact in terms of GHG emissions and perform corporate carbon footprint analyses.

The data retrieved was accompanied by a series of qualitative information that allows the understanding of the company's processes and activities with an impact in terms of emissions.

Three macro-areas were addressed in the data acquisition process:

- Data and information aimed at calculating Scope 1 emissions
- Data and information aimed at calculating Scope 2 emissions
- Data and information aimed at calculating Scope 3 emissions
- General information (useful to understand all Montval srl processes and activities with an impact in terms of GHG emissions).

3.4 Calculation method

GHG emissions [expressed in tons of CO₂ eq.] for each purpose are calculated using the following formula:

$$GHG\ emissions = Primary\ data * Emission\ factor$$

Primary data are the data provided by the company, such as electricity consumption, gas, refrigerant gas leaks, etc.

Emission Factors (EF) are coefficients that allow to determine CO₂ eq. emissions from primary data. To do so, they quantify emissions per unit of source activity (primary data): amount of emissions per unit of electrical energy consumed, amount of emissions per unit of refrigerant gas released into the atmosphere, quantity of emissions per unit of natural gas burned, etc.

Emission factors can take into account various gases with climate-changing effects that are released into the atmosphere by the source activity, even beyond just CO₂. For example, the combustion of natural gas does not only release CO₂ into the atmosphere, but also other gases, in smaller quantities, that also have a climate-changing effect. A complete and comprehensive emission factor gives the total CO₂ eq. released into the atmosphere per unit of natural gas combusted, taking these latter gases into account as well.

The choice of an emission factor must be made on the basis of the characteristics of the individual plant, drawing data from the technical-scientific literature in the field and adapting the literature data to the particular application situation.

To weigh each of the gases released according to their impact on climate, the concept of Global Warming Potential (GWP) has been defined. The GWP expresses the contribution to the greenhouse effect of a gas relative to the effect of CO₂, whose reference potential is 1. Thus, each of the minor gases, in addition to CO₂, released from natural gas combustion will have its own GWP according to its climate impact. All these gases, with their own GWPs, together with the CO₂ released, which has GWP 1 by definition, define the total amount of CO₂ eq.

Each GWP value is calculated for a specific time interval: the reference GWPs for this analysis consider a time horizon of 100 years (GWP-100) as per the IPCC (Intergovernmental Panel on Climate Change) guidelines, which also provides their quantification.

The reference databases for emission factors are:

- DEFRA (Department for Environmental, Food & Rural Affairs). The Department for Environmental, Food & Rural Affairs is an executive department of the UK government responsible for environment and agriculture. Its extensive database contains useful emission factors for the calculation of greenhouse gas emissions for Scope 1, Scope 2 and Scope 3 categories.
- TERNA. It is the national operator of electricity transmission networks. The database compiled by TERNA was used to calculate GHG emissions with the location-based approach belonging to Scope category 2.
- AIB (Association of Issuing Bodies). It is a European association that develops, uses and standardizes energy certification systems. The AIB database is used for the calculation of GHG emissions related to purchased energy (Scope 2) and collects data for all EU countries.

4. Results

4.1 Source of emissions

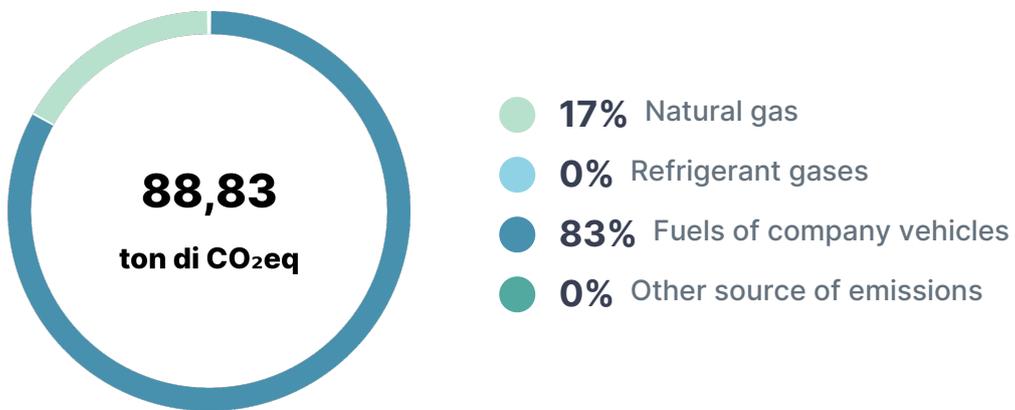
Within the study's emission categories (Scopes 1, 2 and 3), a number of sources were identified that are found to contribute to the corporate carbon footprint of Montval srl. The following is a list of emission sources by category.

- **Scope 1 - direct GHG emissions:**
 - Use of natural gas for heating (fixed combustion)
 - Refrigerant gases for refrigeration machinery
 - Motor fuels (mobile combustion)
 - Other (for example, vehicle oil, fuel for emergency generators, etc.)
- **Scope 2 - indirect GHG emissions from energy consumption:**
 - Energy purchased from the national grid (purchase of electricity)
- **Scope 3 - indirect GHG emissions from:**
 - Goods and services purchased

4.2 Direct Emissions - Scope 1

The following table and graph show the results of the calculation of direct greenhouse gas emissions for Scope 1.

Source of emissions	u.m.	Quantity
Natural Gas	ton CO2 eq.	14,77
Refrigerant gases	ton CO2 eq.	0
Fuels of company vehicles	ton CO2 eq.	74,07
Other direct consumption	ton CO2 eq.	0
Total	ton CO2 eq.	88,83



4.3 Indirect Emissions - Scope 2

As described above, the calculation of emissions for Scope 2 can be carried out in two ways.

- **Location based.** Which considers an average emission factor for the electricity consumed, calculated on the basis of the national energy mix with respect to the country in which the company operates (Italy).
- **Market based.** Which takes into account the amount of energy from renewable sources purchased directly by the company, as long as it is certified by the GSE through the issuance of a certificate of origin.

In this study, for the results of the overall emissions, Scope 2 emissions calculated using the location-based approach are considered.

The table below shows the result of Montval srl's GHG emissions for the Scope 2 category according to both approaches.

Data	u.m.	Quantity
Indirect energy emissions - Market based	ton CO2 eq.	0
Indirect energy emissions - Location based	ton CO2 eq.	52,09

4.4 Indirect Emissions - Scope 3

The 15 sub-categories included in Scope 3 provide an organized overview of the measure, and of the possibilities for managing emissions along the entire value chain.

Based on the information available and the significance assigned to each category, the selection shown in the table was made:

Selected categories	
Upstream	3.1 Purchased goods and services

Goods and/or services purchased

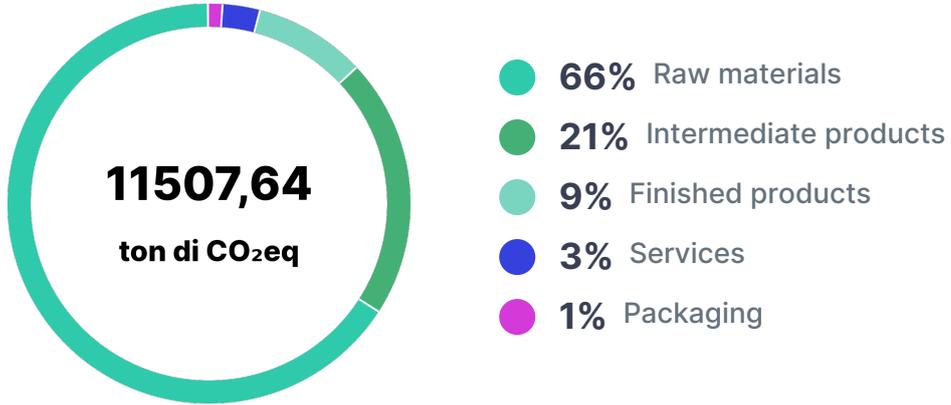
Category 1 includes emissions from all purchased goods and services that do not fall into the other upstream emission categories of Scope 3 (i.e. from category 2 to category 8).

In this case only emissions related to raw materials, intermediate products, finished products, services and packaging were included.

GHG Emissions		
Purchased goods and services	u.m.	Quantity
Purchase of raw materials	ton CO2 eq.	7.630,32
Intermediate products	ton CO2 eq.	2.352,49
Finished products	ton CO2 eq.	1.059,71
Services	ton CO2 eq.	390,72

GHG Emissions		
Packaging	ton CO2 eq.	74,40

Distribution emissions Scope 3 - Category 3.1



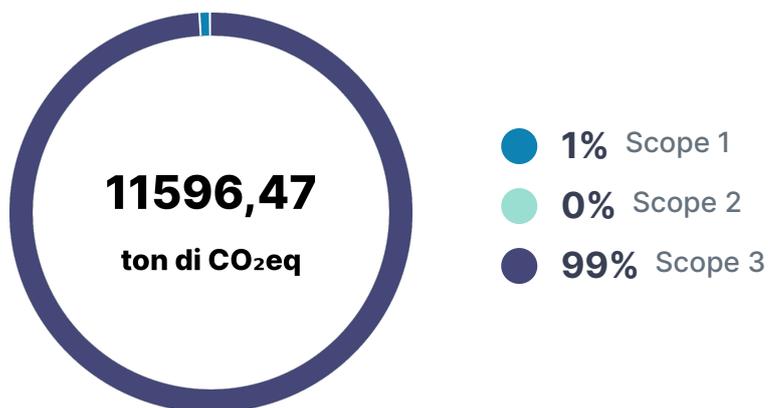
4.6 Total Emissions

Following the calculation of emissions for the three categories (Scope 1, Scope 2 and Scope 3), it is possible to obtain Montval srl 's total emissions.

The total greenhouse gas emissions related to Montval srl's activities for the base year are shown in the following table.

Scope	u.m.	Quantity
Scope 1	ton CO2 eq.	88,83
Scope 2 - Market based	ton CO2 eq.	0
Scope 3	ton CO2 eq.	11.507,64
TOTAL	ton CO2 eq.	11.596,47

Distribution of emission sources for Scope



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Montval srl