

Building with Commitment

Carbon Footprint
Report 2025



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Executive Summary



1. Executive Summary

This report presents ZAGOPE's carbon footprint for 2025, calculated in accordance with the principles and requirements of the *Greenhouse Gas Protocol*. The inventory covers Scope 1, 2 and 3 emissions, considering the organisation's main corporate and support units, as well as the construction projects included within the reporting boundary. In 2025, ZAGOPE's total greenhouse gas emissions amounted to 31,167.02 tCO₂e. The emissions profile is strongly dominated by Scope 3, which totalled 28,701.59 tCO₂e, corresponding to 92.09% of the total footprint. Scope 1 emissions accounted for 7.89% of the total, at 2,458.93 tCO₂e, while Scope 2 represented a residual share of 6.50 tCO₂e, equivalent to around 0.02% of the total footprint.

These results show that ZAGOPE's main climate impacts lie predominantly within the value chain, particularly in the procurement of materials and services for construction works, upstream transport, capital goods and energy-related activities. This distribution reflects the high materiality of the construction and infrastructure business, especially for the solar photovoltaic park projects included within the scope of analysis.

Emissions are concentrated mainly in the construction projects included within the boundary, which account for 29,959.46 tCO₂e, or 96.13% of the total footprint. Corporate and support units account, in aggregate, for 1,207.56 tCO₂e, corresponding to 3.87% of the total.

In Scope 1, all emissions stem from mobile combustion, associated with fuel consumption in vehicles, machinery and/or mobile equipment.

Diesel is the main source of emissions in this scope, accounting for 2,252.98 tCO₂e, representing 91.62% of Scope 1 emissions. Petrol totalled 205.96 tCO₂e, corresponding to the remaining 8.38%. In aggregate, construction projects account for 95.13% of this scope's emissions.

Scope 2 emissions totalled 6.50 tCO₂e and result from the consumption of purchased electricity across part of the facilities and projects covered. The reduced scale of this scope reflects the use of renewable electricity solutions and self-consumption across part of the boundary, as well as the use of mobile diesel generators on some worksites, whose consumption is accounted for under Scope 1.

In Scope 3, the main emitting category is Category 1 – Goods and Services, which totalled 24,789.06 tCO₂e, corresponding to 86.37% of this scope's emissions. This is followed by Category 4 – Upstream Transport, at 2,489.04 tCO₂e, equivalent to 8.67% of Scope 3 emissions. The remaining categories show lower contributions: Energy-Related Activities, at 604.81 tCO₂e; Capital Goods, at 577.31 tCO₂e; Business Travel, at 239.55 tCO₂e; and Waste, at 1.81 tCO₂e.

The hotspot analysis shows that materials are the main driver of ZAGOPE's carbon footprint. In 2025, emissions associated with materials totalled 23,686.03 tCO₂e, representing 82.53% of Scope 3 emissions and 76.00% of the total footprint. Within this category, steel, sand/aggregates and aluminium stand out, together accounting for 22,930.49 tCO₂e, or 73.57% of the organisation's total footprint.

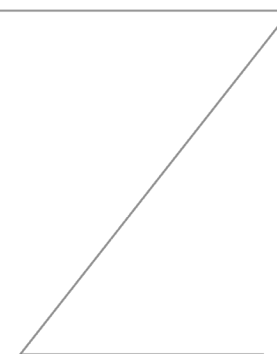
Steel is the largest individual hotspot, at 12,592.72 tCO₂e, equivalent to 40.40% of the total footprint. Sand/aggregates represent the second-largest contributor, at 7,862.86 tCO₂e, corresponding to 25.23% of the total footprint. Aluminium is the third most significant material, at 2,474.91 tCO₂e, equivalent to 7.94% of the total footprint. These results highlight the importance of the selection, specification, procurement and transport of these materials for the future evolution of ZAGOPE's carbon footprint. The supply chain, onsite materials management and the logistics associated with upstream transport are therefore particularly relevant areas for understanding and monitoring the future evolution of ZAGOPE's carbon footprint.

Although Scopes 1 and 2 carry less weight than Scope 3, they remain relevant areas of direct action. Their evolution will be linked, among other factors, to the fleet and machinery profile, operational efficiency, and renewable electricity supply and generation solutions.

Continuing these quantification exercises will help to progressively strengthen the quality, granularity and coverage of the data collected, particularly in the Scope 3 categories associated with materials, transport and the supply chain. Improving primary data will help increase the robustness of the inventory, reduce methodological uncertainty and deepen understanding of ZAGOPE's emissions profile.



Figure 1: Douro Solar Photovoltaic Park | Portugal



2

Introduction



2. Introduction

This report presents ZAGOPE's carbon footprint for 2025. Its purpose is to disclose the greenhouse gas (GHG) emissions inventory, ensuring compliance with the accounting principles of relevance, accuracy, consistency, completeness and transparency.

This document is intended for stakeholders seeking to understand the GHG emissions inventory, the reporting boundaries and the main methodological choices adopted.

This report:

- Covers the carbon footprint of the entire ZAGOPE organisation;
- Was prepared in accordance with the principles and guidance of the *Greenhouse Gas Protocol (Corporate Accounting and Reporting Standard, 2004; Corporate Value Chain Accounting and Reporting Standard, 2011)*;
- Favours the use of primary data wherever possible, particularly for the main emission sources. Where such data is not available, a consistent and conservative calculation approach is applied;
- Does not include specific targets or projections, nor does it report GHG removals or offsets.

The reporting period covered by this document runs from 1 January to 31 December 2025.

Future updates should maintain a comparable reporting period and clearly state any changes in boundary or methodology. The 2025 exercise constitutes the first reference year for the systematic monitoring of the evolution of ZAGOPE's carbon footprint. The use of 2025 as a formal base year for setting reduction targets should be assessed once the methodology, the reporting boundary and an intensity indicator suited to construction activity have been consolidated.

Additional information on the reporting structure adopted can be found in the Methodology section.



Figure 2: Sendim Solar Photovoltaic Park | Portugal

3

Background



3. Background

Sustainability is of growing importance in ZAGOPE's strategy, reflecting the organisation's commitment to responsible conduct in the construction and infrastructure sector. As part of an international group, the company seeks to incorporate environmental criteria into the management of its operations and decision-making processes, contributing to value creation that is more closely aligned with the challenges of the climate transition and sustainable development.

ZAGOPE develops highly complex engineering and infrastructure construction projects in the transport, energy and public works sectors, across different geographies. The nature of its activity entails significant use of materials, energy, fuel, equipment and specialised services, making the management of the environmental impacts associated with its operations particularly relevant, namely with regard to greenhouse gas emissions, the efficient use of resources and interaction with the surrounding environment.

The inventory considers corporate and support units, as well as construction projects under way during the reporting period. Some projects were active for only part of the year, so their contribution to the inventory reflects their actual period of activity in 2025.

Within this context, the quantification of ZAGOPE's carbon footprint for 2025 represents an important step towards a structured understanding of the main climate impacts associated with its activity.

This inventory also helps to strengthen the organisation's transparency towards its stakeholders, creating a baseline for monitoring the evolution of emissions over time and progressively integrating climate criteria into decision-making, procurement, materials management, logistics and onsite operations.



4

Methodology



4. Methodology

This assessment of GHG emissions complies with the *Greenhouse Gas Protocol* (GHG Protocol), a globally recognised standard jointly developed by the *World Resources Institute* (WRI) and the *World Business Council for Sustainable Development* (WBCSD).

The *Greenhouse Gas Protocol* provides comprehensive, standardised frameworks for quantifying and managing GHG emissions across private and public sector operations, value chains and mitigation efforts. Five core accounting principles are central to the *Greenhouse Gas Protocol* methodology:

Relevance: Ensures that GHG data collection accurately reflects and represents all of the organisation's relevant emissions.

Completeness: Ensures that the calculation covers all GHG emitted. Whenever an emission source is excluded, clear and detailed justification is provided.

Consistency: Calculations are based on consistent methods. Any changes to data sources, calculation boundaries or emission factors are always reported.

Transparency: All data collected is reported clearly and consistently. All assumptions regarding methods, approximations and emission factors are duly documented.

Accuracy: The quantification of GHG emissions seeks to avoid systematic over- or under estimation, reducing uncertainty as far as possible.

In line with the guidance of the *Greenhouse Gas Protocol*, the inventory considers the seven greenhouse gases, or groups of gases, covered by the standard: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulphur hexafluoride (SF₆), nitrogen trifluoride (NF₃), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). In addition, biogenic carbon dioxide (BioCO₂) and biogenic methane (BioCH₄) are also considered and included in the non-fossil accounting categories.



Figure 3: Felgueiras Solar Photovoltaic Park + BESS | Portugal

The *Greenhouse Gas Protocol* classifies emissions into 3 scopes:

Scope 1: Direct GHG emissions from sources owned or controlled by the organisation.

Scope 2: Indirect GHG emissions resulting from purchased electricity and other energy carriers.

Scope 3: Other indirect GHG emissions, beyond those covered under Scope 2, that occur elsewhere in the value chain, whether upstream or downstream.



Figure 4: Douro Solar Photovoltaic Park | Portugal

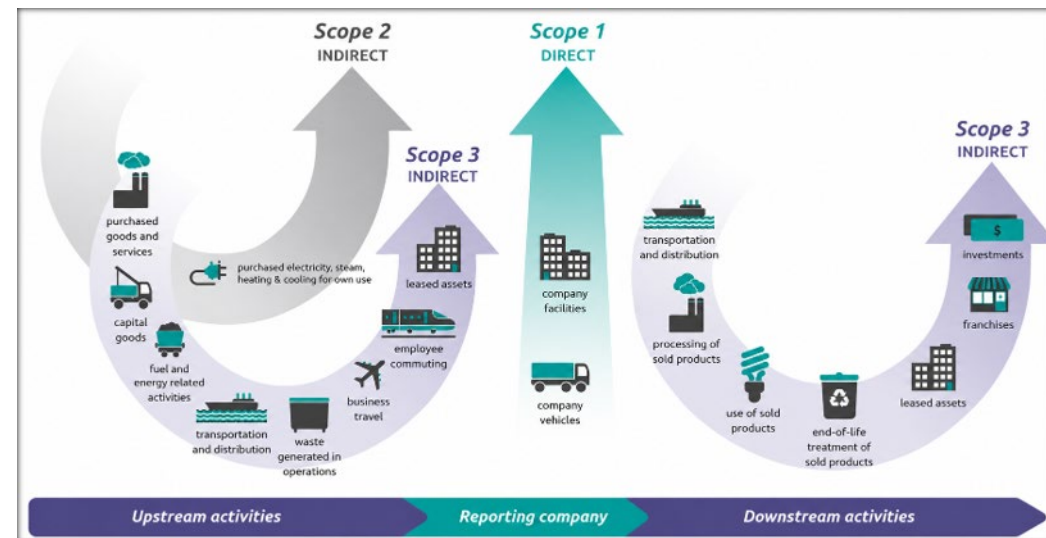


Figure 5: Emission scopes and emission sources for each scope (Source: *Greenhouse Gas Protocol*)

To assess the global warming impact of emissions, GHG are assessed using the Global Warming Potential (GWP).

5

Organisational Boundaries



5. Organisational Boundaries

The organisational boundaries for this report were defined using the operational control approach to consolidation.

Under this approach, the organisation accounts for 100% of the GHG emissions from operations and the value chain over which it holds operational control. Operational control is considered to exist when the organisation, or one of its subsidiaries, has the authority to define and implement the operating policies applicable to the operation in question.

For the purposes of preparing the 2025 greenhouse gas emissions inventory, ZAGOPE structured the analysis by considering the different units under operational control, including corporate services units and units associated with the execution of construction works.

Corporate and support units cover administrative, technical, management and logistical support functions for construction activities. Construction projects under way during 2025 were also considered. Their inclusion captures the emissions directly associated with project execution, namely fuel, materials, energy, transport and services consumption.

For the purposes of public disclosure of results, the units included within the inventory boundary are presented in aggregate, distinguishing between corporate and support units and construction projects. This approach ensures a representative view of the origin of emissions and the relevance of the different activity types, while preserving specific operational information relating to individual units and projects.

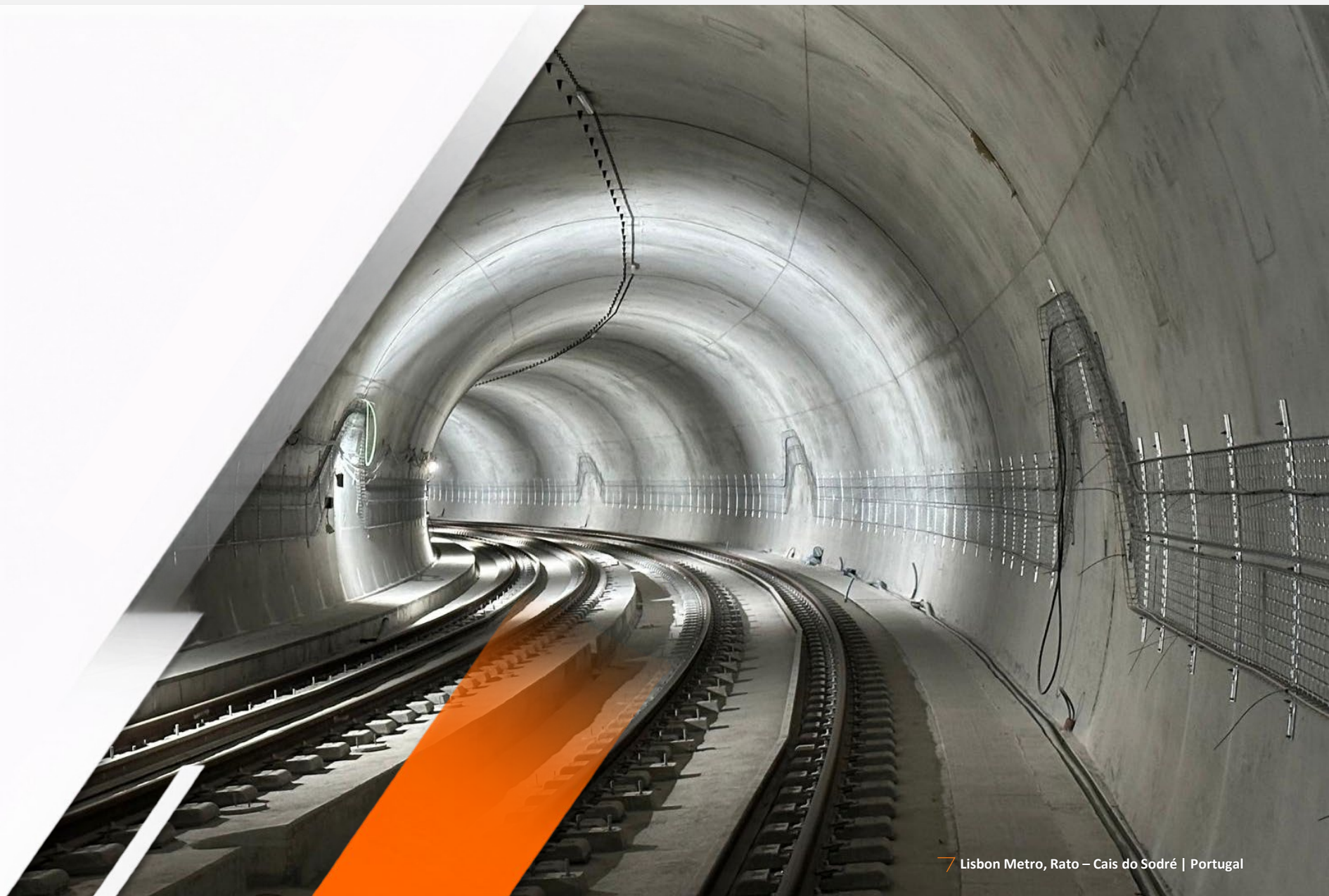
Geographic disaggregation is not presented separately, since, for the period under analysis, the main factors explaining the carbon footprint are related mainly to the nature of the activities carried out and the materials incorporated into construction projects, rather than to the geographic location of operations. The relevance of a geographic analysis may be reassessed in future exercises, should it add material information to the interpretation of the footprint's evolution.



Figure 6: Riodades Solar Photovoltaic Park | Portugal

6

Operational Boundaries



6. Operational Boundaries

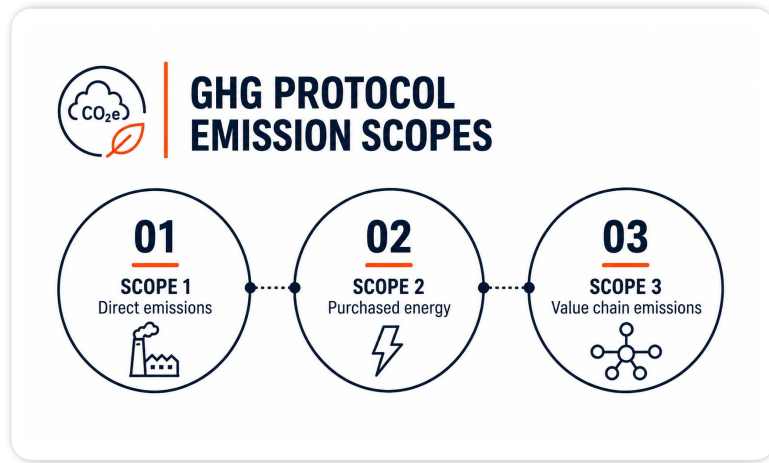
The GHG Protocol standards identify the sources and categories to be considered in a corporate GHG inventory. **Table 2** sets out the scopes and categories included in ZAGOPE's footprint.

Scope	Category	Emission sources
Scope 1	N/A	Mobile Combustion - Fuel consumption from the company's own and/or leased vehicle fleet, as well as mobile generators used onsite
Scope 2	N/A	Electricity - Electricity consumption in buildings, in kWh
Scope 3	Category 1	Goods and Services - Short-term goods and services purchased, in monetary value, and water consumption in m ³
	Category 2	Capital goods - Assets acquired for continued use in operations, with a long, useful life, in monetary value
	Category 3	Energy - Related Activities - Refers to the transmission and generation of fossil fuels and electricity consumed under Scopes 1 and 2
	Category 4	Upstream Transport - Transport and distribution of goods purchased by the company, carried out by third parties
	Category 5	Waste - Treatment and disposal of waste generated by the company's operations
	Category 6	Business Travel - Employee travel and accommodation stays for business-related activities

Table 2: Scopes and categories considered in the carbon footprint calculation

The *Corporate Value Chain (Scope 3) Standard of the GHG Protocol* defines 15 Scope 3 categories. Six categories were quantified in this inventory; the remaining nine categories are set out in **Table 3**.

It is important to distinguish categories that are not applicable to the activity in the reporting year from categories that are potentially applicable but were not quantified due to methodological choice or data limitations, such as Category 7 – Employee Commuting.



Scope	Category	Emission sources
Scope 1	N/A	Stationary Combustion - Fossil fuel consumption in building equipment
		Fugitive Emissions - Leaks of fluorinated gases from fire extinguishers
Scope 3	Category 7	Employee Commuting - Home-to-work and return journeys made by employees
	Category 8	Upstream Leased Assets - Operation of assets leased by the company that are not included under Scope 1 and 2. This category does not include products and services purchased by the company, which are considered under a separate Scope 3 category
	Category 9	Downstream Transport - Transport and distribution of products sold by the company, carried out by third parties
	Category 10	Processing of Sold Products - Emissions resulting from the processing of intermediate products sold by the company, undertaken by other entities
	Category 11	Use of sold products - Emissions generated during the use phase of products sold by the company
	Category 12	End-of-Life Treatment of Sold Products - Emissions associated with the treatment, recycling or disposal of products sold, at the end of their useful life
	Category 13	Downstream Leased Assets - Operation of the company's own assets leased to third parties, whose emissions are not included under Scope 1 and 2
	Category 14	Franchises - Emissions arising from the operation of franchises belonging to the company's brand
	Category 15	Investments - Emissions associated with investments made by the company.

Table 3: Categories excluded from the carbon footprint calculation

7

Fossil GHG Emissions Inventory

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7. Fossil GHG Emissions Inventory

This chapter presents the quantification of ZAGOPE's total greenhouse gas emissions, expressed in tonnes of CO₂ equivalent, together with their distribution across the respective units and the three reporting scopes. The analysis includes a summary table with the figures calculated by scope and by unit, complemented by charts that provide a visual reading of the percentage distribution of emissions.

The results presented in **Table 4** show that, in 2025, the organisation's total GHG emissions reached 31,167.02 tCO₂e. Scope 3 accounts for 28,701.59 tCO₂e (92.09% of the total), Scope 1 totals 2,458.93 tCO₂e (7.89%), and Scope 2 totals 6.50 tCO₂e (0.02%).

In aggregate, construction projects totalled 29,959.46 tCO₂e, corresponding to 96.13% of the organisation's total footprint. Within this group, Scope 3 represents the main component, at 27,616.87 tCO₂e, reflecting above all the materiality of the materials, services and logistics activities associated with project execution.

In construction projects, Scope 1 emissions totalled 2,339.30 tCO₂e and Scope 2 emissions totalled 3.30 tCO₂e. The aggregate profile confirms the predominance of Scope 3 and the relevance of the supply chain and materials in the projects' emissions profile.

Corporate and support units totalled, in aggregate, 1,207.56 tCO₂e, corresponding to 3.87% of the total footprint. Of this figure, 1,084.72 tCO₂e correspond to Scope 3, 119.63 tCO₂e to Scope 1 and 3.20 tCO₂e to Scope 2.

Overall, the results show that ZAGOPE's carbon footprint in 2025 is concentrated in construction projects and shows a clear predominance of Scope 3. This distribution confirms the importance of further analysing the indirect emissions associated with the value chain, particularly in the categories relating to materials, purchased services and transport.

Scope	Corporate and support units (tCO ₂ e)	Construction projects (tCO ₂ e)	Total (tCO ₂ e)
Scope 1	119,63	2 339,30	2 458,93
Scope 2	3,20	3,30	6,50
Scope 3	1 084,72	27 616,87	28 701,59
Total	1 207,56	29 959,46	31 167,02

Table 4: Total emissions by scope in 2025

Figure 7 shows the percentage distribution of emissions by scope, for ZAGOPE.

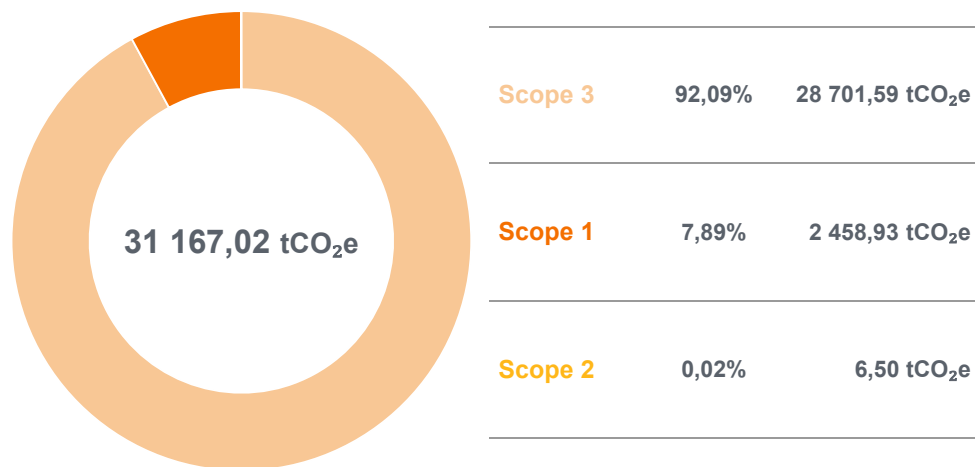


Figure 7: Percentage of total emissions at ZAGOPE, by scope, in 2025

7.1. Scope 1

Table 5 shows the breakdown of Scope 1 emissions by type for the eight units analysed. In 2025, 2,458.93 tCO₂e of mobile combustion were quantified, with no contributions recorded from stationary combustion or fugitive emissions.

The absence of the latter is related to the lack of GHG-emitting refills in the equipment assessed, as well as the absence of stationary combustion sources within the boundary considered.

With regard to mobile combustion, diesel stood out as the fuel with the largest contribution to emissions, totalling 2,252.98 tCO₂e, while petrol accounted for 205.96 tCO₂e. Construction projects accounted for 2,339.30 tCO₂e, equivalent to 95.13% of Scope 1 emissions, reflecting mainly the use of vehicles, generators and mobile equipment on site.



Figure 8: Sendim Solar Photovoltaic Park | Portugal

In corporate and support units, Scope 1 emissions totalled 119.63 tCO₂e. Of this total, 72.14 tCO₂e resulted from petrol consumption and 47.49 tCO₂e from diesel consumption. It should be noted that, for the head offices, the emissions shown correspond to the company car fleet.

Type		Corporate and support units (tCO ₂ e)	Construction projects (tCO ₂ e)	Total (tCO ₂ e)
Stationary Combustion		0,00	0,00	0,00
Mobile Combustion	Diesel	47,49	2 205,49	2 252,98
	Petrol	72,14	133,82	205,96
	Σ	119,63	2 339,30	2 458,93
Fugitive Emissions		0,00	0,00	0,00
Total		119,63	2 339,30	2 458,93

Table 5: Emissions in Scope 1, by type, in 2025

Figure 9 shows the percentage distribution of Scope 1 emissions associated with petrol and diesel consumption in 2025, at ZAGOPE.

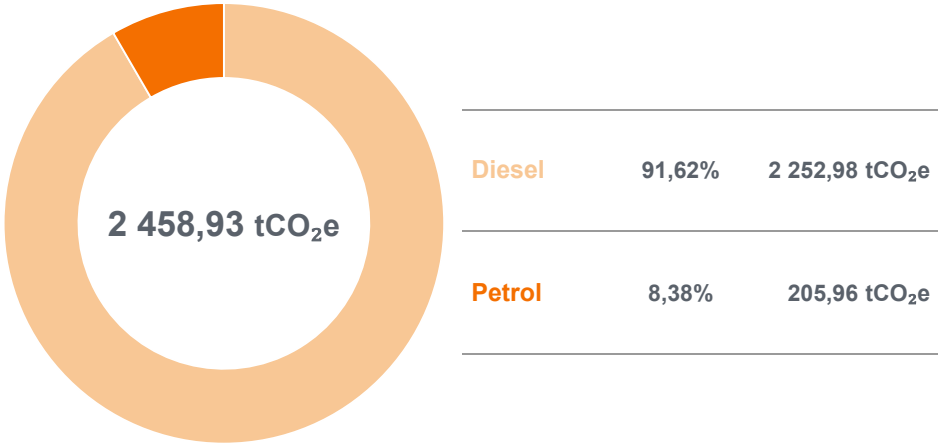


Figure 9: Percentage of emissions by fuel consumed in 2025

7.2. Scope 2

Table 6 presents the detail of Scope 2 emissions in 2025, calculated in accordance with the *market-based* approach, showing their distribution by unit and by type of electricity consumption: electricity consumed at facilities and electricity associated with charging the electric fleet.

In 2025, Scope 2 emissions totalled 6.50 tCO₂e, resulting exclusively from the consumption of purchased electricity. Of this total, 3.20 tCO₂e correspond to corporate and support units and 3.30 tCO₂e to construction projects. Across part of the boundary, the market-based calculation reflected the use of a contractual instrument for the supply of renewable electricity and self-consumption generation. At some projects with no grid electricity consumption, electricity was generated by mobile diesel generators and accounted for under Scope 1. At one corporate unit, consumption data in kWh was not available; electricity expenditure was therefore treated under Scope 3, constituting a methodological limitation.

Regarding the electric fleet, electricity consumption was reported at only one corporate unit. Under the market-based approach, emissions associated with charging the fleet were 0.00 tCO₂e, as a result of the renewable electricity contractual instrument considered in the calculation.

Type	Corporate and support units (tCO ₂ e)	Construction projects (tCO ₂ e)	Total (tCO ₂ e)
Electricity (Facilities)	3,20	3,30	6,50
Electricity (Fleet)	0,00	0,00	0,00
Total	3,20	3,30	6,50

Table 6: Emissions in Scope 2 (market-based), by type, in 2025



Figure 10: Cibeles Solar Photovoltaic Park | Portugal

7.3. Scope 3

Figure 11 and **Table 7** show the distribution of Scope 3 emissions by category and by unit, for 2025. As noted above, this scope is the main component of ZAGOPE's carbon footprint, totalling 28,701.59 tCO₂e, corresponding to 92.09% of the organisation's total emissions.

Among the categories analysed, Category 1 - Goods and Services stands out as the dominant emitting category, accounting for 24,789.06 tCO₂e, equivalent to 86.37% of Scope 3 emissions. This is followed by Category 4 - Upstream Transport, at 2,489.04 tCO₂e (8.67%); Category 3 - Energy-Related Activities, at 604.81 tCO₂e (2.11%); Category 2 - Capital Goods, at 577.31 tCO₂e (2.01%); Category 6 - Business Travel, at 239.55 tCO₂e (0.83%); and lastly, Category 5 - Waste, showing a residual value of 1.81 tCO₂e (0.01%).

In aggregate, construction projects totalled 27,616.87 tCO₂e of Scope 3, corresponding to 96.22% of this scope's emissions. Category 1 - Goods and Services is the main emitting category for the projects, reflecting the relevance of the materials and services purchased for their execution.

In construction projects, Category 1 - Goods and Services totalled 24,394.82 tCO₂e and Upstream Transport 2,489.04 tCO₂e. The remaining categories showed significantly lower contributions.

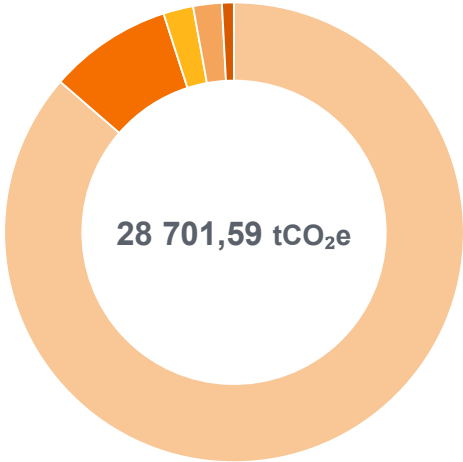
In corporate and support units, Scope 3 emissions totalled 1,084.72 tCO₂e. The categories with the largest contributions were Capital Goods (409.00 tCO₂e), Goods and Services (394.24 tCO₂e) and Business Travel (239.55 tCO₂e).



Figure 11: Cibeles Solar Photovoltaic Park | Portugal

Type	Corporate and support units (tCO ₂ e)	Construction projects (tCO ₂ e)	Total (tCO ₂ e)
Category 1 - Goods and Services	394,24	24 394,82	24 789,06
Category 2 - Capital Goods	409,00	168,31	577,31
Category 3 - Energy-Related Activities	41,93	562,88	604,81
Category 4 - Upstream Transport	0,00	2 489,04	2 489,04
Category 5 - Waste	0,00	1,81	1,81
Category 6 - Business Travel	239,55	0,00	239,55
Total	1 084,72	27 616,87	28 701,59

Table 7: Emissions in scope 3, by category, in 2025



Goods and Services	86,37%	24 789,06 tCO ₂ e
Upstream Transport	8,67%	2 489,04 tCO ₂ e
Energy - Related Activities	2,11%	604,81 tCO ₂ e
Capital Goods	2,01%	577,31 tCO ₂ e
Business Travel	0,83%	239,55 tCO ₂ e
Waste	0,01%	1,81 tCO ₂ e

Figure 12: Percentage of Scope 3 emissions, by category, in 2025

7.4. Hotspot Analysis

The hotspot analysis of materials, carried out at the construction sites given their characteristics, makes it possible to identify the types with the greatest contribution to ZAGOPE's carbon footprint in 2025, as well as the units where these emissions are concentrated. In 2025, emissions associated with materials totalled 23,686.03 tCO₂e, representing 82.53% of Scope 3 emissions and 76.00% of ZAGOPE's total footprint. These results confirm that materials constitute the organisation's main emissions hotspot, reflecting the high relevance of their procurement and incorporation within the construction sites analysed.

As shown in **Table 8**, steel, sand/aggregates and aluminium together accounted for 22,930.49 tCO₂e in 2025, corresponding to 96.81% of material-related emissions, 79.89% of total Scope 3 emissions and 73.57% of ZAGOPE's total footprint.

Steel is the largest individual contributor, totalling 12,592.72 tCO₂e in 2025. This figure corresponds to 53.17% of material-related emissions, 43.87% of Scope 3 emissions and 40.40% of the total footprint. This result reflects the extensive use of steel in the construction sites analysed, particularly in the solar photovoltaic park projects included within the inventory boundary.

Sand/aggregates represent the second-largest material hotspot, at 7,862.86 tCO₂e in 2025. This type accounted for 33.20% of material-related emissions, 27.40% of Scope 3 emissions and 25.23% of ZAGOPE's total footprint, confirming its structural relevance in the carbon profile of the sites assessed.

Aluminium is the third most significant material, totalling 2,474.91 tCO₂e in 2025. This figure represents 10.45% of material-related emissions, 8.62% of Scope 3 emissions and 7.94% of the total footprint, also demonstrating its importance among the materials used in the projects.

Type	tCO ₂ e	% of total materials	% of total Scope 3	% total footprint
Steel	12 592,72	53,17	43,87	40,40
Sand/Aggregates	7 862,86	33,20	27,40	25,23
Aluminium	2 474,91	10,45	8,62	7,94
Sub-Total	22 930,49	96,81	79,89	73,57
Other Materials	755,54	3,19	2,63	2,42
Total Materials	23 686,03	100,00	82,53	76,00

Table 8: Analysis of the impact of steel, sand/aggregates and aluminium on ZAGOPE's footprint



Overall, the results show that reducing ZAGOPE's carbon footprint will depend largely on addressing the materials with the highest carbon intensity and volume of use, particularly steel, sand/aggregates and aluminium.



Measures to be assessed include optimising quantities at the design stage, selecting alternatives with a higher recycled material content and lower carbon intensity, using Environmental Product Declarations (EPDs), and engaging suppliers to improve data quality.

Emissions associated with the main materials are concentrated in construction projects, while corporate and support units recorded no material-related emissions. This result reinforces the materiality of construction activity in ZAGOPE's carbon performance.

For reasons of proportionality and operational confidentiality, the public version does not present the breakdown of these materials by project. The analysis remains focused on material hotspots at the organisation's consolidated level.



7 Figure 13: Riodades Solar Photovoltaic Park | Portugal

8

Assumptions and Limitations



8. Assumptions and Limitations

Measures to be assessed include optimising quantities at the design stage, selecting alternatives with a higher recycled material content and lower carbon intensity, using Environmental Product Declarations (EPDs), and engaging suppliers to improve data quality.

One limitation was identified under Scope 2:

- One corporate unit was identified for which electricity consumption data in kWh was not available. For this unit, only information on the amount paid for the supply was available. For this reason, this electricity consumption was included in monetary value (Scope 3). Making this information available in future exercises will allow a more robust emission factor to be applied and will improve the consistency of the inventory.

With regard to Scope 3, the assumptions and limitations were as follows:

- For materials used on site, the most appropriate emission factor for the material described was used, drawn from the ICE Database.
- Some electronic equipment was not quantified due to insufficient information to select a representative emission factor. The availability of more detailed information could reduce this limitation in future exercises.

For upstream transport of materials, distances were estimated based on the available origin, destination and mode of transport. Where the weight of materials could be obtained, emission factors per tonne-kilometre were used; in the remaining cases, conservative approximations were applied, constituting a source of uncertainty in the inventory.

- For the waste category, emission factors were selected based on the treatment identified and, where information was insufficient, conservative assumptions were adopted.



Figure 14: Sendim Solar Photovoltaic Park | Portugal

9

Conclusions



9. Conclusions

The overall analysis of ZAGOPE's greenhouse gas emissions for 2025 shows a total of 31,167.02 tCO₂e, with a clear predominance of Scope 3. This scope represents 92.09% of the organisation's carbon footprint, reflecting the indirect nature of its main emission sources and its strong dependence on the value chain.

In Scope 1, quantified emissions are associated with mobile combustion, with diesel predominating. The evolution of these emissions is directly linked to the fleet and machinery usage profile and to the operational efficiency of the activities carried out. Scope 2 represents 0.02% of the total footprint under the market-based approach. Its reduced weight reflects the characteristics of the electricity supply and generation solutions considered during the reporting period. The profile identified shows that Scopes 1 and 2 carry less weight than Scope 3, where most of the quantified emissions are concentrated.

The detailed analysis of Scope 3 confirms that the greatest concentration of emissions lies in Category 1 - Goods and Services, which accounts for 86.37% of this scope's emissions and is, by a clear margin, ZAGOPE's main source of indirect emissions.

A more detailed analysis of this category shows that most emissions are associated with the procurement of materials for the construction projects included within the study boundary, mainly steel, sand/aggregates and aluminium. This result reflects the high material intensity inherent to the execution of this type of project, in which metal structures, electrical equipment, cabling and other construction materials account for a significant share of the organisation's emissions profile.

Energy-related activities correspond to the indirect upstream impacts associated with the energy consumption accounted for under Scopes 1 and 2, thereby reflecting the organisation's overall energy profile.

Upstream Transport is the second-largest source of Scope 3 emissions, reflecting the relevance of the logistics involved in supplying the construction projects included within the inventory boundary. The Capital Goods category also contributes to Scope 3, with its emissions mainly associated with the procurement of machinery, equipment and IT products used in the organisation's corporate and operational activities. Although its weight is lower than that of Categories 1 and 4, this category can vary between periods depending on the level of investment in assets.

Business Travel carries a reduced weight in the inventory and is associated with business trips undertaken during the reporting period.

The category of least relevance in this analysis was Waste, which showed a residual contribution to Scope 3 emissions, associated with waste generated during the activities included within the inventory boundary.

In summary, the supply chain accounts for most of ZAGOPE's carbon footprint, mainly due to the materials procured and their transport. Design, procurement, supplier selection and logistics decisions are therefore key factors in the evolution of this emissions profile.

These results thus highlight the importance of the value chain for ZAGOPE's carbon profile and provide a baseline for monitoring the evolution of emissions over time, particularly in the categories associated with materials, suppliers and logistics.

Continuing these quantification exercises will help to progressively strengthen the processes of collecting, validating and systematising data, particularly in the Scope 3 categories associated with the supply chain. Increasing the quality, granularity and coverage of the information gathered will help improve the robustness of the inventory and the comparability of results over time.

For future exercises, it is recommended that priorities be structured around four areas: materials, focusing on steel, sand/aggregates and aluminium; suppliers, favouring primary data and climate criteria in procurement processes; logistics, through improved distance data, load consolidation and transport optimisation; and direct operations, including fleet, machinery, energy efficiency and renewable electricity. Before quantitative targets are set, an intensity indicator suited to the nature and level of activity of construction projects should also be assessed.



Figure 15: Felgueiras Solar Photovoltaic Park + BESS | Portugal

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11. Annexes

Annex I

Location-based Emissions

Type	2025 Carbon Emissions (tCO ₂ e) Location-Based	2025 Carbon Emissions (tCO ₂ e) Market-Based
Electricity	24,75	6,5

Table 8: Comparison between Scope 2 emissions, Location-Based and Market-Based, in 2025

Annex II

31 167,02
tCO₂e total

Analysis Output

Scopes and Categories	Total
Scope 1	2458,93
Scope 2	6,50
Scope 3	28701,59
Business Travel	239,55
Capital Goods	577,31
Energy Supply	604,81
Goods and Services	24789,06
Upstream Transport	2489,04
Waste	1,81
Total Global	31167,02

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