

Report GHG Protocol

Green house gas analysis 01/01/2025 to 31/12/2025

Version: 07/07/2026



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Business description

Carbon footprint results of the company

Trade name	Lutz Explorações Hoteleiras Lda.
NIF/VAT	506405427
Sector	Hostelry
GHG Accounting Approach	Equity
Base Year	2025 with an operational approach. This base year has been chosen to calculate the environmental impact of the group.
Base Year Changes	<p>There have been no changes in the base year or in other historical data relevant to the GHG report.</p> <p>A recalculation of baseline emissions must be carried out when significant structural changes occur, such as acquisitions, divestments, or changes in the type of control over facilities, provided these changes lead to a significant difference in emissions. Likewise, recalculations are also necessary if the emission calculation methodology is improved (e.g., by using more accurate emission factors). Otherwise, if the differences in emissions are not significant, the change can be acknowledged without recalculating historical emissions.</p>
Contacts	Luís Tavares, Proprietário, lt@vilaverde.com
Description	Lutz – Explorações Hoteleiras Lda. operates the Vila Valverde Boutique Hotel, including a restaurant catering to the international luxury tourism market. In addition to meeting rooms for small groups, the hotel offers a range of amenities, including an indoor swimming pool treated with ozone, an outdoor pool free of chlorine additives, a small wellness center with a massage room, sauna, Japanese bath, and Turkish bath, as well as an extensive five-hectare park. The company's Portuguese economic activity classification (CAE) code is 55202.

Organization Limits

Carbon footprint results of the company

Organization Limits

Lutz – Explorações Hoteleiras Lda., through its Vila Valverde Hotel, continues to maintain a strong base of international guests who seek sophistication and tranquility in this exclusive destination, which offers just 15 rooms in a privileged location in the Algarve.

The company's commitment to sustainability is reflected in every detail. A water collection and recirculation system for irrigating the grounds enables significant water savings. A solar panel installation generates 45,851 kWh of electricity per year. LED lighting, intelligent systems for managing temperature, lighting, and water consumption, as well as the exclusive use of environmentally friendly cleaning products, are integral to the hotel's operations. The restaurant sources organic products from local producers.

The Vila Valverde Hotel has been awarded the Green Key and Save Water certifications in recognition of its Environmental Policy, efficient environmental management, and effective water conservation practices, which help minimize the environmental impacts of its operations.

Lutz – Explorações Hoteleiras Lda. chose to quantify its 2025 Scope 1 and Scope 2 greenhouse gas emissions, as well as its Scope 3, Category 3 emissions related to the generation, transmission, and distribution of energy. All emissions within these scopes were included, calculated, and are reported in this report.

Methodology, scope and period

Analysis period from 01/01/2025 to 31/12/2025

Methodology This document presents the carbon footprint analysis of the Scopes 1, 2. The analysis has been developed from the supporting data presented by the company regarding the GHG Protocol methodology.

Dcycle is a tool for managing environmental impact. It has been used for both data collection and carbon footprint calculation following the methodology registered in the GHG Protocol.

This report has been verified, with a limited level of assurance, by European Quality Assurance Spain, S.L. (EQA), accredited as a Verifier of Reports under the European Union Emissions Trading System for Greenhouse Gases (UNE-EN ISO/IEC 17029:2019 and UNE-EN ISO 14065:2021, Implementing Regulation (EU) 2018/2067 as amended by Implementing Regulation (EU) 2020/2084 and Implementing Regulation (EU) 2024/90300 and EA-6/03), under number 1/VV028.

(*) Scope 3 emissions are not included as it is an optional report. Consideration will be given to including these emissions for future calculations.

Emissions

Analysis period from 01/01/2025 to 31/12/2025

Uncertainty level **Low**



- Scope 1 48.27 t CO₂ eq. 70.47%
- Scope 2 20.22 t CO₂ eq. 29.53%

Fossil emissions

68.50 t CO₂ eq.

Biogenic emissions

0 t CO₂

Intensity metrics

Número de dormidas

0.01 t CO₂ eq.

*The calculation of Scope 2 for installations outside Spain is performed using the Location-Based approach. For installations in Spain, the Market-Based approach is applied, based on the specific energy mix of the provider.

Uncertainty analysis (low): The uncertainty analysis is calculated based on the amount of data the software estimates when the user is unaware of this data. In the case of Scope 1 and Scope 2, the user is aware of all the minimum data required by the software to calculate emissions with a low level of uncertainty.

Uncertainty analysis (medium): The uncertainty analysis is calculated based on the amount of data the software estimates when the user is unaware of this data. In the case of Scope 1 and Scope 2, the user is aware of almost all the minimum data required by the software to calculate emissions with a medium level of uncertainty.

Uncertainty analysis (high): The uncertainty analysis is calculated based on the amount of data the software estimates when the user is unaware of this data. In the case of Scope 1 and Scope 2, the user is not aware of the minimum data required by the software to calculate emissions with a high level of uncertainty.

Stationary and fugitive asset emissions

Analysis period from 01/01/2025 to 31/12/2025

● Stationary ● Fugitive t CO₂ eq.



Facility	Type	N ₂ O (t)	CH ₄ (t)	CO ₂ (t) (anthropogenic)*	CO ₂ (t) (biogenic)	CO ₂ e(t) [N ₂ O]	CO ₂ e(t) [CH ₄]	CO ₂ e(t) Total
Hotel Vila Valverde	Stationary	3.65e-3	3.65e-3	42.86	0	0.97	0.10	43.96
Hotel Vila Valverde	Fugitive	0	0	0	0	0	0	0
Remaining	Stationary	0	0	0	0	0	0	0
Remaining	Fugitive	0	0	0	0	0	0	0
Total		3.65e-3	3.65e-3	42.86	0	0.97	0.10	43.96

Stationary and fugitive asset emissions

Analysis period from 01/01/2025 to 31/12/2025

The total direct stationary emissions are 43.96 t CO₂eq. This represents 64.18% of the total emissions of Lutz Explorações Hoteleiras Lda..

There are no emissions from gas leakage in this period.

The facility with the highest emissions in the period is Hotel Vila Valverde.

Stationary emissions correspond to fixed combustion emissions at each facility.

If the facility is **not** in Spain, the methodology proposed by the GHG Protocol is used, available at the following [link](#).

If the fuel used is biogenic, CO₂ emissions are not counted as fossil emissions and do not impact the carbon footprint. However, CH₄ and N₂O are included.

Fugitive emissions correspond to emissions from equipment refills at each facility.

Process emissions correspond to the process emissions at each facility.

Customized emission factors are used for the calculation of process emissions.

Mobile asset emissions

Analysis period from 01/01/2025 to 31/12/2025

t CO₂ eq.

Vehicle	N ₂ O (t)	CH ₄ (t)	CO ₂ (t) (anthropogenic)*	CO ₂ (t) (biogenic)	CO ₂ e(t) [N ₂ O]	CO ₂ e(t) [CH ₄]	[(tns)]
Opel	3.99e-5	4.24e-4	4.29	0	0.01	0.01	4.31
Remaining	0	0	0	0	0	0	0
Total	3.99e-5	4.24e-4	4.29	0	0.01	0.01	4.31

(*) This column also indicates the tons of CO₂ equivalent since the multiplier is 1.

(**) Rounding of decimals may generate slight differences in the total CO₂e (tons).

Mobile asset emissions

Analysis period from 01/01/2025 to 31/12/2025

These are calculated based on the type of transport and fuel used. They can be reported in liters and/or kilometers, depending on the fuel used.

The calculation formula is as follows:

First, the consumption amount is obtained; depending on the fuel, we can use liters, kilometers, or kilograms.

$$\text{CO}_2 = \text{Consumption amount} * \text{Emission factor}(\text{CO}_2)$$

$$\text{CH}_4 = (\text{Consumption amount} * \text{Emission factor}(\text{CH}_4) * \text{GWP}(\text{CH}_4)) / 1000$$

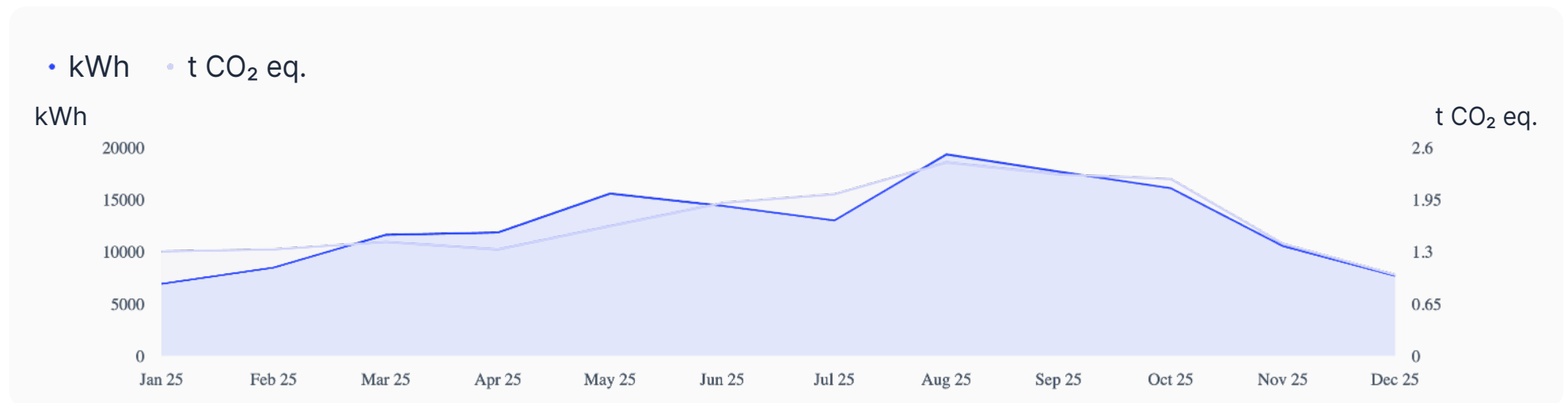
$$\text{N}_2\text{O} = (\text{Consumption amount} * \text{Emission factor}(\text{N}_2\text{O}) * \text{GWP}(\text{N}_2\text{O})) / 1000$$

$$\text{CO}_2\text{eq} = \text{CO}_2 + \text{CH}_4 + \text{N}_2\text{O}$$

* CH₄ and N₂O are multiplied by their GWP (Global Warming Potential) to obtain the corresponding CO₂e and add it to CO₂.

Electricity consumption emissions

Analysis period from 01/01/2025 to 31/12/2025



Month	kWh	CO ₂ eq. (tons)
January	6,921.29	1.30
February	8,483.22	1.33
March	11,624.60	1.42
April	11,847.09	1.33
May	15,587.68	1.62
June	14,410.36	1.91
July	13,008.20	2.02
August	19,347.70	2.42
September	17,693.06	2.27
October	16,105.76	2.21
November	10,540.58	1.40
December	7,689.32	1.01
Total	153,258.85	20.23

The total indirect emissions from electricity consumption is 20.23 t CO₂eq. This represents 29.53% of the total emissions of Lutz Explorações Hoteleiras Lda..

The average CO₂eq intensity for the period is 0.13 kg CO₂eq/kWh.

The months with the highest electricity consumption have been August, September, October.

The months with the lowest electricity consumption have been January, February, December.

The CO₂eq. of electricity in Spain under the Location-Based approach is: 0.00 t CO₂eq

The calculation of Scope 2 for installations outside Spain is performed using the Location-Based approach. For installations in Spain, the Market-Based approach is applied, based on the specific energy mix of the provider.

EF: 0.1 kg CO₂-Eq / kWh (2025) . Source: <https://www.ree.es/es/datos/generacion/no-renovables-detalle-emisiones-CO2>

| Electricity consumption emissions

Analysis period from 01/01/2025 to 31/12/2025

Electricity emissions are calculated in two ways:

If emissions are reported in monetary units, a conversion from the invoice currency to kWh is used, based on the average expenditure in the relevant country. ([Link 1](#) and [Link 2](#))

Additional Notes - Manifesto Letter

Supporting annotations to clarify the report.

Extra notes

Lutz - Explorações Hoteleiras Lda. quantifies Scope 1 and 2 emissions, as well as Scope 3, Category 3 emissions related to energy generation, transmission, and distribution. Other Scope 3 emissions are excluded as they are optional. The company is considering including Scope 3 in its carbon footprint calculation in the future.

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