



Carbon Footprint for Organization Report (Greenhouse Gas Emissions)

2026



ORIENTAL
RESIDENCE
BANGKOK



shama

Table of Content

Chapter

1

General

4



Background

5

Understanding Carbon

8

Standard for Carbon

6

Footprint for Organization

Footprint for Organization
Preparation

Importance of Carbon Footprint
for Organization Reporting

9

Role and Responsibilities

7

Reporting Period

10

Chapter

2

Methodology

11



Carbon Footprint for
Organization (CFO)

12

Emission Factors

15

Organizational and
Operational Boundary

12

Greenhouse Gas

16

Emission Calculation

Greenhouse Gas
Emission Scopes

13

Data Quality Management

16

Reporting and Communication

16

Data Collection

15

Limitations and Assumptions

17

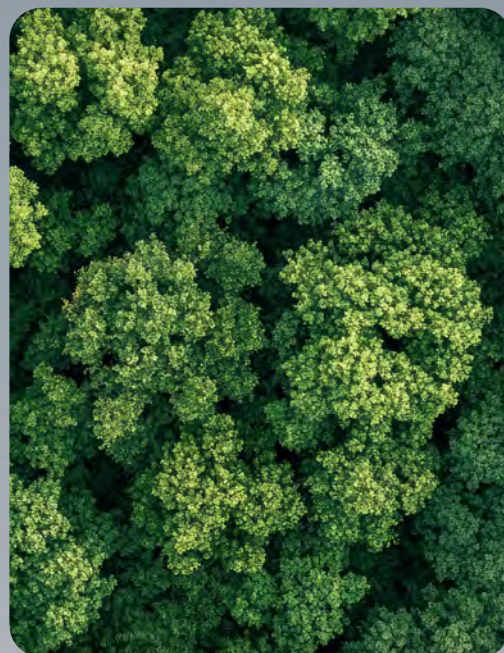
Chapter

3

Organization Boundary

— 18

List of Reporting Properties	19
Greenhouse Gas Emissions Sources	20
Excluded Emission Sources	21



Chapter

4

Quantity of Greenhouse Gas Emissions

— 22

Breakdown of Greenhouse Gas emissions	23
Breakdown of GHG emissions by activity	24
Carbon Intensity	25



Chapter

5

Greenhouse Gas Emissions Summary

— 26

Summary of Greenhouse Gas Emissions	27
Major Contributors to Scope 1 Emissions	27
Major Contributor to Scope 2 Emissions	28
Year on Year Comparison	28
Carbon Intensity Performance	29
Conclusion	29

Chapter

1

General



Background

Climate change has become one of the most significant global challenges affecting businesses, communities, and ecosystems worldwide. As a leading hospitality management company in Asia Pacific, ONYX Hospitality Group (ONYX) recognizes its responsibility to contribute to climate action through effective environmental management and sustainable business practices.

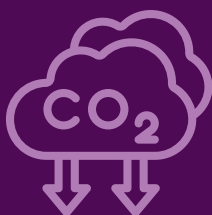
To support this commitment, ONYX has established a Corporate Carbon Footprint for Organization (CFO) Program to quantify, monitor, and manage greenhouse gas (GHG) emissions generated from its operations. The program enables the organization to understand emission sources, identify reduction opportunities and for long-term sustainability.

The preparation of this Carbon Footprint for Organization Report demonstrates ONYX's commitment to environmental stewardship, transparency, and continuous improvement while supporting both national and international climate-related initiatives.





Standard for Carbon Footprint for Organization Preparation



The Carbon Footprint for Organization (CFO) has been prepared using internationally recognized greenhouse gas accounting principles and methodologies, including:



ISO 14064-1:2018 - Greenhouse Gases: Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals.



IPCC Guidelines for National Greenhouse Gas Inventories and subsequent updates.



Thailand Greenhouse Gas Management Organization (TGO) methodologies and emission factors, where applicable.

These standards provide a consistent and transparent framework for calculating, reporting, and verifying greenhouse gas emissions.

Roles and Responsibilities

Effective carbon footprint management requires collaboration between corporate and property level teams.



Corporate CFO Team (ONYX Technical Services)

Corporate CFO Team is responsible for:

- Establishing corporate carbon accounting requirements and methodologies.
- Providing guidance and support to properties.
- Reviewing and consolidating greenhouse gas emissions data.
- Preparing the corporate Carbon Footprint for Organization Report.
- Monitoring overall emissions performance and improvement initiatives.



Property CFO Team

Each property is responsible for:

- Collecting and maintaining accurate activity data.
- Calculating and reporting greenhouse gas emissions in accordance with corporate requirements.
- Supporting data verification and evidence retention.
- Identifying opportunities to improve environmental performance and reduce emissions.

Understanding Carbon Footprint for Organization



A Carbon Footprint for Organization (CFO) represents the total greenhouse gas emissions generated directly and indirectly from an organization's activities during a defined reporting period.

The assessment covers emissions from various operational activities, including energy consumption, fuel usage, refrigerant leakage, transportation, and other relevant sources. Emissions are categorized according to internationally recognized reporting scopes to provide a comprehensive understanding of the organization's climate impact.

By measuring greenhouse gas emissions, organizations can establish a baseline, track performance over time and develop strategies to reduce their environmental footprint.



Importance of Carbon Footprint for Organization Reporting

Carbon footprint reporting is an essential component of modern corporate sustainability management. It provides valuable insights into operational impacts while supporting informed decision making and long-term business resilience. Key benefits include:



1 Regulatory Readiness

Climate related regulations and disclosure requirements continue to evolve globally. Carbon footprint reporting helps the organization prepare for current and future reporting obligations.



2 Operational Efficiency

The collection and analysis of emissions data help identify opportunities to improve energy efficiency, optimize resource consumption and reduce operational costs.



3 Stakeholder Confidence

Transparent reporting demonstrates accountability and strengthens confidence among investors, owners, guests, Team Members and business partners.



4 ESG and Sustainability Performance

Carbon footprint reporting supports ONYX's Environmental, Social, and Governance (ESG) commitments by providing measurable indicators of environmental performance and progress toward sustainability goals.



5 Competitive Advantage

Increasingly, customers, investors, and business partners consider environmental performance when making decisions. Effective carbon management enhances organizational reputation and supports long-term competitiveness.



6 Contribution to Climate Action

By measuring and managing greenhouse gas emissions, ONYX contributes to global efforts to mitigate climate change and supports the transition toward a lower-carbon future.



Reporting Period

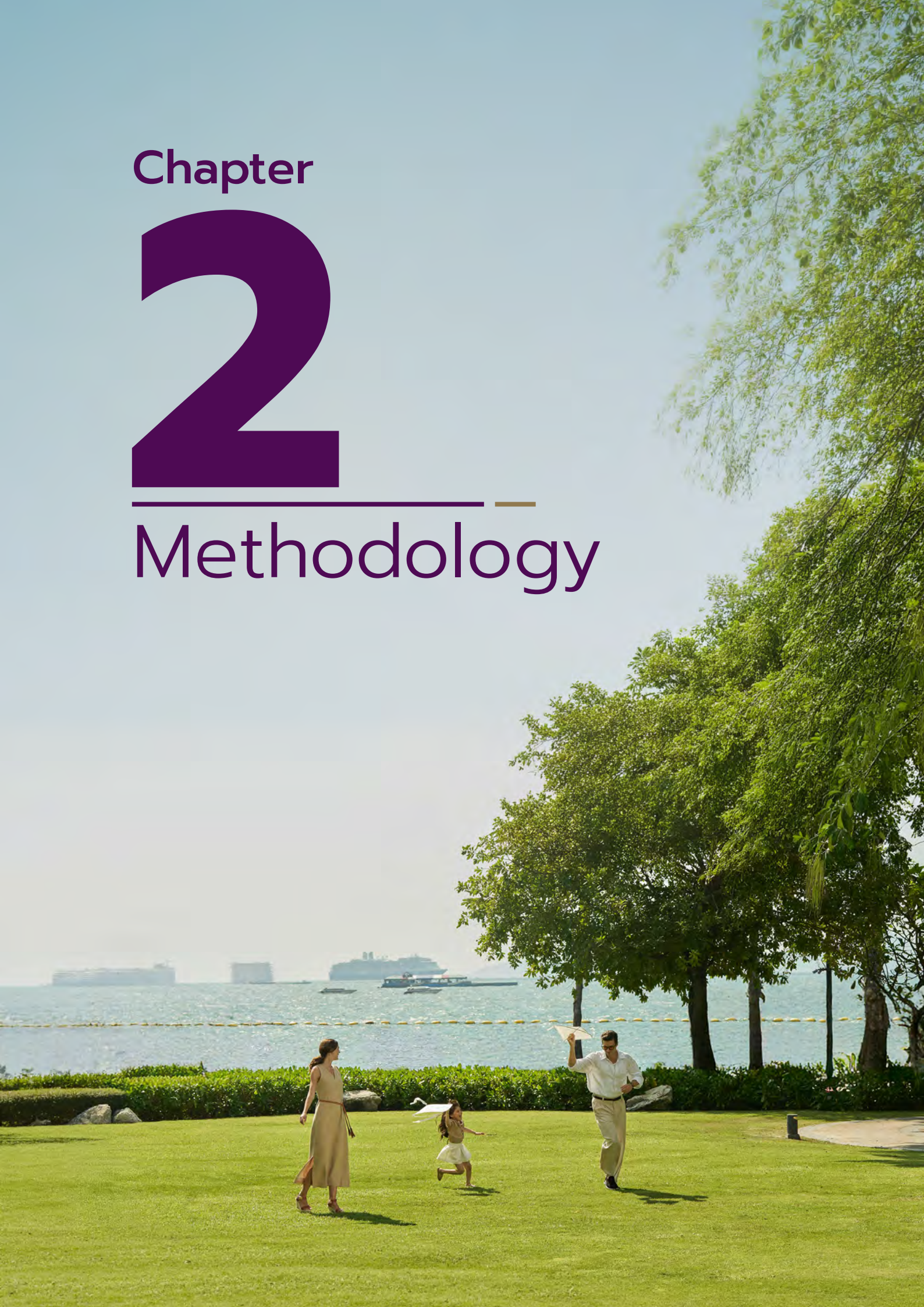
This Carbon Footprint for Organization report contains information related to ONYX GHG Emissions for the period 1st January to 31st December 2025 the total GHG Emissions by scope within organizational boundary.

The reported emissions are categorized into Scope 1 and Scope 2 emissions and are presented in tonnes of carbon dioxide equivalent (tonCO₂eq).

Chapter

2

Methodology



Carbon Footprint for Organization (CFO)

Carbon Footprint for Organization (CFO) is the quantification of greenhouse gas (GHG) emissions generated directly and indirectly from an organization's activities during a specified reporting period. The purpose of CFO assessment is to identify emission sources, establish a baseline for performance measurement, and support the development of effective emission reduction strategies.

Greenhouse gas emissions are reported in terms of carbon dioxide equivalent (CO₂eq), which allows different greenhouse gases to be converted into a common unit based on their Global Warming Potential (GWP).

The greenhouse gases covered under this assessment include:

CO ₂	Carbon Dioxide
CH ₄	Methane
N ₂ O	Nitrous Oxide
CO ₂	Hydrofluorocarbons
CH ₄	Perfluorocarbons
N ₂ O	Sulfur Hexafluoride
NF ₃	Nitrogen Trifluoride

The assessment methodology follows internationally recognized greenhouse gas accounting standards to ensure transparency, consistency, and accuracy in reporting.

Organizational and Operational Boundary



Greenhouse gas inventory is prepared based on the Operational Control Approach, whereby ONYX Hospitality Group accounts for emissions from operations over which it has the authority to implement operational policies and procedures.

The organizational boundary includes corporate offices and properties under ONYX operational control during the reporting period.

The operational boundary categorizes greenhouse gas emissions into three scopes as defined by the Greenhouse Gas Protocol.

Greenhouse Gas Emission Scopes



Scope 1 Direct Greenhouse Gas Emissions

Scope 1 emissions are direct greenhouse gas emissions from sources that are owned or controlled by the organization.

Examples include:

- Fuel consumption from emergency generators
- Fuel consumption from company-owned vehicles
- Liquefied Petroleum Gas (LPG) consumption
- Refrigerant leakage from air-conditioning and refrigeration systems
- Other direct emission sources occurring within operational control



Scope 2 Energy Indirect Greenhouse Gas Emissions

Scope 2 emissions are indirect greenhouse gas emissions associated with the generation of purchased energy consumed by the organization.

Examples include:

- Purchased electricity
- Purchased steam
- Purchased heating energy
- Purchased cooling energy

For ONYX operations, purchased electricity represents the primary Scope 2 emission source.

Scope 3 Other Indirect Greenhouse Gas Emissions



Scope 3 emissions are indirect greenhouse gas emissions that occur throughout the organization's value chain and arise from activities that are not owned or directly controlled by the organization.

The Greenhouse Gas Protocol categorizes Scope 3 emissions into 15 categories covering both upstream and downstream activities, including purchased goods and services, business travel, employee commuting, waste management, transportation and distribution activities, and other value chain emissions.

While ONYX recognizes the importance of Scope 3 emissions in understanding the broader environmental impact of its operations, Scope 3 emissions are not included within the reporting boundary of this greenhouse gas inventory. Therefore, the greenhouse gas emissions presented in this report are limited to Scope 1 and Scope 2 emissions only.

ONYX will continue to evaluate opportunities to expand reporting coverage in future years as data availability, quality, and reporting systems continue to improve.

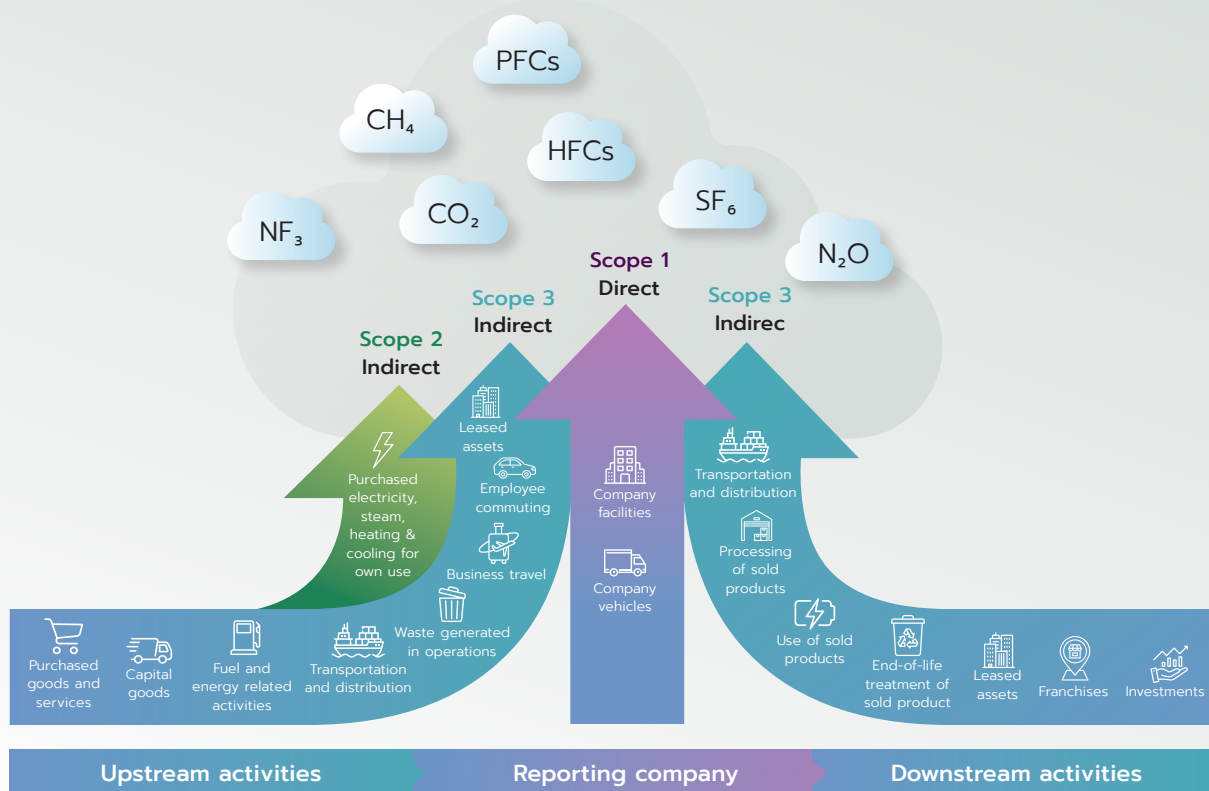


Figure 1: Overview of GHG Protocol and emissions across value chain [1].

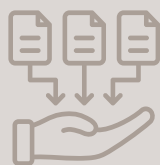


Data Collection

Accurate greenhouse gas accounting relies on the collection of reliable activity data from operational facilities and supporting business functions.

Activity data used in this assessment includes, but is not limited to:

- Electricity consumption (kWh)
- Diesel consumption (Liters)
- Gasoline consumption (Liters)
- LPG consumption (Kilograms)
- Refrigerant consumption and leakage records (Kilograms)



Data sources may include:

- Utility bills
- Fuel purchase invoices
- Maintenance records
- Refrigerant top-up records
- Asset and equipment records
- Supporting operational documentation



Each property is responsible for collecting, reviewing, and submitting activity data to the Corporate CFO Team in accordance with established reporting requirements.

Emission Factors

Emission factors are used to convert activity data into greenhouse gas emissions and represent the amount of greenhouse gases emitted per unit of activity.



Emission factors applied in this report are obtained from recognized and authoritative sources, including:

- Thailand Greenhouse Gas Management Organization (TGO)
- Intergovernmental Panel on Climate Change (IPCC)
- National energy and environmental authorities
- Other internationally recognized references where applicable

The latest available emission factors at the time of reporting are applied to improve the accuracy and consistency of greenhouse gas calculations.

Where applicable, Global Warming Potential (GWP) values are used to convert greenhouse gases into carbon dioxide equivalent (CO₂eq).



Greenhouse Gas Emission Calculation

Greenhouse gas emissions are calculated using the activity-based approach by multiplying activity data by the corresponding emission factor.

The general calculation formula is:

$$\text{GHG Emissions (tonCO}_2\text{eq)} = \text{Activity Data} \times \text{Emission Factor} \times \text{GWP (where applicable)}$$

The calculated emissions are expressed in tonnes of carbon dioxide equivalent (tonCO₂eq), allowing emissions from different greenhouse gases to be aggregated into a common reporting unit.



Data Quality Management

ONYX is committed to ensuring the quality and reliability of greenhouse gas information reported within this inventory.

Reporting and Communication

Following data collection, calculation and review, greenhouse gas emissions are consolidated and reported at the corporate level.



This report presents:

- Scope 1 greenhouse gas emissions
- Scope 2 greenhouse gas emissions
- Significant emission sources
- Emission performance analysis

The report serves as a communication tool for management, property teams, owners, investors, guests, business partners and other stakeholders.



Through transparent reporting and continuous disclosure, ONYX demonstrates its commitment to environmental responsibility, climate action, and sustainable business practices.

Limitations and Assumptions



The greenhouse gas inventory presented in this report is based on information available during the reporting period and is subject to the following limitations and assumptions:

- The reporting boundary includes Scope 1 and Scope 2 emissions only.
- Scope 3 emissions are excluded from the current reporting period.
- Emission factors are based on the latest available references at the time of report preparation.
- In cases where complete activity data is unavailable, reasonable estimation methodologies may be applied.
- Reported emissions may be subject to future recalculation if significant data corrections or methodology changes are identified.

ONYX will continue to strengthen data collection processes and reporting systems to improve the completeness and accuracy of future greenhouse gas inventories

Chapter

3

Organization Boundary



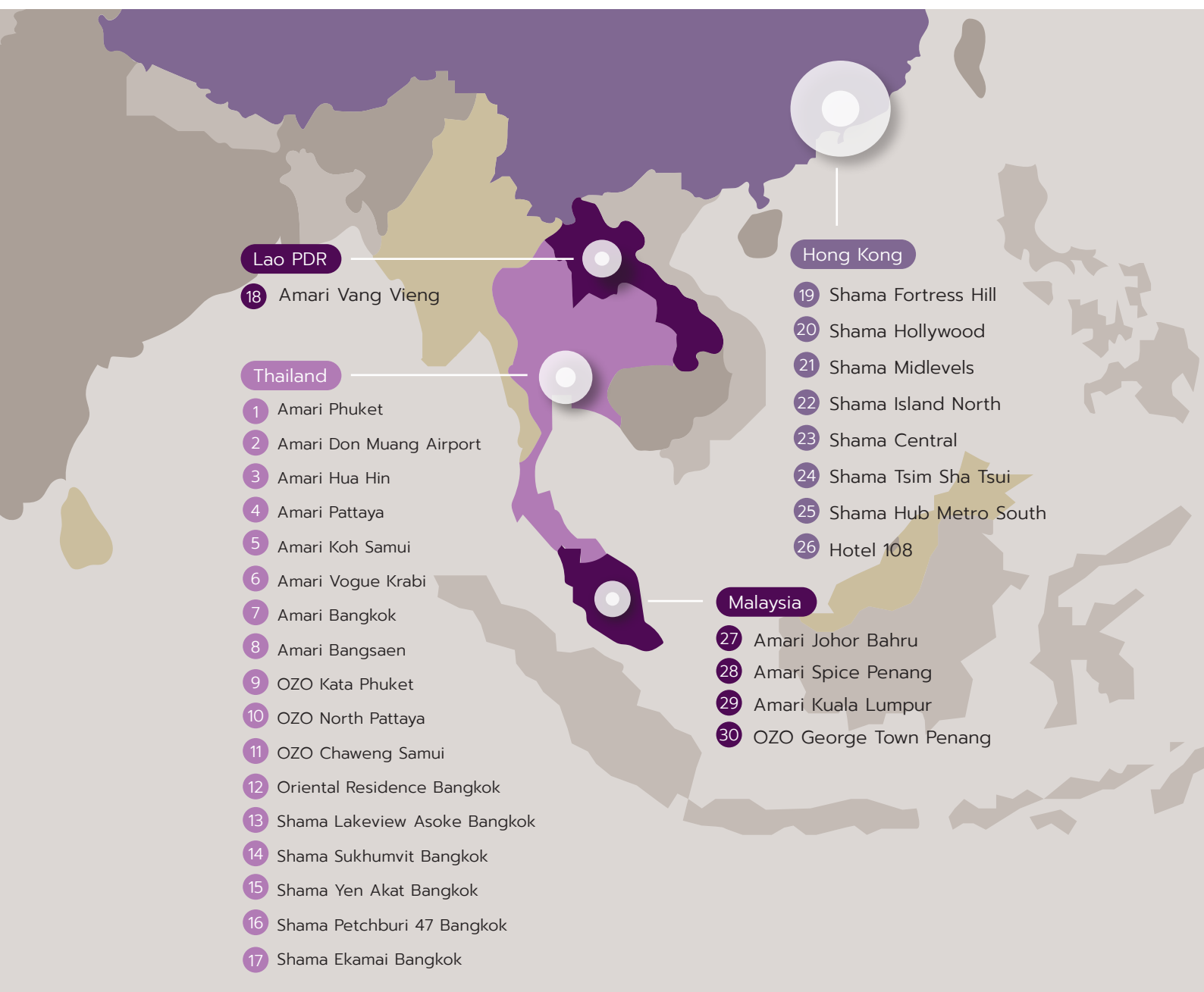
This Carbon Footprint for Organization (CFO) Report presents greenhouse gas (GHG) emissions generated from the operations of ONYX Hospitality Group during the reporting period from 1 January 2025 to 31 December 2025.

Greenhouse gas inventory has been prepared using the Operational Control Approach. The reporting boundary covers corporate operations and managed properties under ONYX Hospitality Group's operational control during the reporting period.

For the 2025 reporting year, the greenhouse gas inventory includes Scope 1 (Direct Emissions) and Scope 2 (Energy Indirect Emissions) only.

A total of 30 properties were included within the reporting boundary.

List of Reporting Properties



Greenhouse Gas Emission Sources

Greenhouse gas emissions were quantified based on operational activities occurring within the established organization.

Scope 1

Direct Greenhouse Gas Emissions



Scope 1 emissions are direct greenhouse gas emissions arising from sources owned or controlled by ONYX Hospitality Group and its reporting properties.

The following activities are included under Scope 1:

- Diesel consumption for emergency generators
- Diesel consumption for fire pumps
- Diesel consumption for company vehicles
- Gasoline consumption for company vehicles
- Gasoline consumption for lawn maintenance equipment
- LPG consumption for cooking operations
- LPG consumption for hot water generation
- Alcohol consumption for food heating equipment
- Chafing dish fuel consumption
- Biomass consumption (charcoal and wood) for cooking activities

Refrigerant:

- R22 refrigerant
- R32 refrigerant
- R134a refrigerant
- R404a refrigerant
- R407c refrigerant
- R410a refrigerant

Other Direct Emissions:

- Methane (CH₄) emissions from septic tank systems
- Carbon dioxide (CO₂) emissions from fire extinguisher discharge
- Nitrous oxide (N₂O) emissions from fertilizer application

Scope 2

Energy Indirect Greenhouse Gas Emissions



The following activity is included under Scope 2:



Purchased electricity consumption

Electricity consumption represents the largest source of indirect greenhouse gas emissions across ONYX Hospitality Group operations and is therefore a key focus area for energy efficiency and carbon reduction initiatives.



Excluded Emission Sources

Scope 3 emissions are not included within the reporting boundary for the 2025 reporting period.

Although ONYX recognizes the importance of value chain emissions in understanding the organization's overall environmental impact, Scope 3 emissions have been excluded from this greenhouse gas inventory due to limitations in data availability and reporting consistency.



Chapter

4

Quantity of Greenhouse Gas Emissions



The greenhouse gas inventory includes emissions from Scope 1 (Direct Emissions) and Scope 2 (Energy Indirect Emissions) in accordance with the organizational and operational boundaries defined in this report.

Total greenhouse gas emissions are reported in tonnes of carbon dioxide equivalent (tonCO₂eq).

Breakdown of Greenhouse Gas Emission

Property Name	Scope 1 (tonCO ₂ eq)	Scope 2 (tonCO ₂ eq)	Total (tonCO ₂ eq)
Amari Phuket	2,692	4,013	6,705
Amari Don Muang Airport	94	1,905	1,999
Amari Hua Hin	821	1,508	2,329
Amari Pattaya	323	3,748	4,071
Amari Koh Samui	1,345	1,695	3,040
Amari Vogue Krabi	68	624	692
Amari Bangkok	409	5,406	5,815
Amari Bangsaen	93	1,202	1,295
OZO Kata Phuket	110	1,708	1,818
OZO North Pattaya	394	1,956	2,350
OZO Chaweng Samui	531	1,194	1,725
Oriental Residence Bangkok	252	1,796	2,048
Shama Lakeview Asoke Bangkok	6,516	3,480	9,996
Shama Sukhumvit Bangkok	33	1,358	1,391
Shama Yen Akat Bangkok	28	613	641
Shama Petchburi 47 Bangkok	180	938	1,118
Shama Ekamai Bangkok	8	7	15
Amari Johor Bahru	110	2,237	2,347
Amari Spice Penang	214	3,161	3,375
Amari Vang Vieng	337	789	1,126
Amari Kuala Lumpur	58	2,175	2,233
OZO George Town Penang	33	779	812
Shama Fortress Hill	34	542	576
Shama Hollywood	2	55	57
Shama Midlevels	3	125	128
Shama Island North	17	632	649
Shama Central	8	309	317
Shama Tsim Sha Tsui	257	277	534
Shama Hub Metro South	20	800	820
Hotel 108	11	367	378

Breakdown of GHG emissions by activity

To better understand emission sources and identify reduction opportunities, greenhouse gas emissions were analyzed according to operational activities.

Activity	GHG Emission (tonCO ₂ eq)
Scope 1 – Direct Emission	
Diesel fuel usage in emergency generators and fire pumps	40
Gasoline usage in lawn mowers	1
Liquefied Petroleum Gas (LPG) usage	2,665
Biomass (charcoal and wood) usage for cooking	1
Ethyl Alcohol usage for food heating	17
Chafing Dish: Oil	1
Diesel fuel usage in vehicles	73
Gasoline usage in vehicles	161
Leakage of R32 refrigerant	62
Leakage of R134a refrigerant	456
Leakage of R404a refrigerant	2,430
Leakage of R407c refrigerant	8
Leakage of R410a refrigerant	1,885
CH ₄ (Methane) emissions from septic tanks	7,517
Use of CO ₂ fire extinguishers	1
N ₂ O from usage of fertilizer	1
Scope 2 – Indirect Emission	
Electricity usage from MEA and PEA	45,399
Fugitive Emissions	
Leakage of R22 refrigerant	1,619.63
Biomass in CO ₂ (charcoal and wood) usage for cooking	49.11

Carbon Intensity

Carbon intensity per Occupied Room Night (ORN) provides a standardized measurement of greenhouse gas emissions generated from hotel operations relative to guest occupancy.

Property Name	GHG Emission Scope 1 & 2 (tonCO ₂ eq)	Occupied Room Nights (ORN)	Carbon Intensity /ORN (tonCO ₂ eq)
Amari Phuket	6,705	115,338	0.0581
Amari Don Muang Airport	1,999	74,379	0.0269
Amari Hua Hin	2,329	67,069	0.0347
Amari Pattaya	4,071	163,380	0.0249
Amari Koh Samui	3,040	59,385	0.0511
Amari Vogue Krabi	692	19,262	0.0359
Amari Bangkok	5,815	163,380	0.0356
Amari Bangsaen	1,295	33,863	0.0382
OZO Kata Phuket	1,818	77,713	0.0233
OZO North Pattaya	2,350	252,229	0.0093
OZO Chaweng Samui	1,725	57,761	0.0299
Oriental Residence Bangkok	2,048	35,173	0.0582
Shama Lakeview Asoke Bangkok	9,996	129,064	0.0774
Shama Sukhumvit Bangkok	1,391	22,958	0.0605
Shama Yen Akat Bangkok	641	41,064	0.0156
Shama Petchburi 47 Bangkok	1,118	39,806	0.0280
Shama Ekamai Bangkok	15	12,409	0.0012
Amari Johor Bahru	2,347	69,366	0.0338
Amari Spice Penang	3,375	104,925	0.0321
Amari Vang Vieng	1,126	31,823	0.0353
Amari Kuala Lumpur	2,233	74,766	0.0298
OZO George Town Penang	812	44,147	0.0183
Shama Fortress Hill	576	36,834	0.0156
Shama Hollywood	57	3,522	0.0161
Shama Midlevels	128	7,496	0.0170
Shama Island North	649	39,062	0.0166
Shama Central	317	17,830	0.0177
Shama Tsim Sha Tsui	534	27,495	0.0194
Shama Hub Metro South	820	44,372	0.0184
Hotel 108	378	19,935	0.0189

Chapter

5

Greenhouse Gas Emissions

Summary



The greenhouse gas emissions inventory provides a comprehensive overview of emissions generated from ONYX Hospitality Group’s operations during the reporting period. The results demonstrate the relationship between operational activities and greenhouse gas emissions, enabling the organization to identify significant emission sources, evaluate environmental performance, and establish priorities for future carbon reduction initiatives.

Understanding emission trends and key contributing activities is essential for supporting sustainable business growth, improving resource efficiency, and strengthening ONYX’s commitment to environmental stewardship and climate action.

Summary of Greenhouse Gas Emissions	Emission Scope	GHG Emission (tonCO ₂ eq)	%
	Scope 1 – Direct Emissions	15,315	25
	Scope 2 – Purchased Electricity	45,399	75
	Total	60,714	100

The results indicate that Scope 2 emissions from purchased electricity represent the largest source of greenhouse gas emissions, accounting for 75% of total emissions and Scope 1 emissions account for 25% of total emissions.

The significant contribution of Scope 2 emissions highlights the importance of energy efficiency improvement, electricity conservation initiatives, and the adoption of lower-carbon energy sources as key opportunities for future greenhouse gas reduction.



Major Contributors to Scope 1 Emissions

Analysis of Scope 1 emissions identified several significant direct emission sources across ONYX Hospitality Group operations.

The three largest contributors to Scope 1 greenhouse gas emissions during the reporting period were:

1

Methane (CH₄) emissions from septic tank systems

2

Liquefied Petroleum Gas (LPG) usage

3

Refrigerant leakage of R404a

Methane emissions from septic tank systems represented the largest contributor to Scope 1 emissions due to wastewater treatment processes occurring at multiple properties. LPG consumption associated with kitchen operations and hot water generation was the second-largest contributor, while refrigerant leakage from air-conditioning and refrigeration systems contributed significantly due to the high Global Warming Potential (GWP) of refrigerants.

These emission sources present opportunities for targeted reduction measures through improved wastewater management, energy-efficient cooking technologies, enhanced refrigerant management practices, and preventive maintenance programs.



Major Contributor to Scope 2 Emissions

Purchased electricity remains the single largest source of greenhouse gas emissions across ONYX Hospitality Group operations.

Electricity consumption is associated with various property activities, including:

- Air conditioning and ventilation systems
- Lighting systems
- Guest room operations
- Food and beverage operations
- Laundry facilities
- Mechanical and engineering systems
- Administrative and support functions



Given the high contribution of electricity-related emissions, energy management initiatives remain a strategic priority for reducing overall greenhouse gas emissions.



Year on Year Comparison

A comparison of greenhouse gas emissions across reporting years provides valuable insight into organizational performance and emission trends.

Year	Scope 1 (tonCO ₂ eq)	Scope 2 (tonCO ₂ eq)	Scope 3 (tonCO ₂ eq)	Total GHG Emission (tonCO ₂ eq)
2022	6,281	22,788	-	26,069
2023	7,343	45,005	-	52,348
2024	17,114	45,206	12,741	75,061
2025	15,315	45,399	-	60,714

Changes in greenhouse gas emissions between reporting years may be influenced by factors including occupancy levels, operational activity, business growth, property portfolio changes, energy consumption patterns, and implementation of sustainability initiatives.

Note: 2022 Reporting Boundary: 11 Properties
2023 Reporting Boundary: 30 Properties
2024 Reporting Boundary: 29 Properties (including Scope 3 emissions)
2025 Reporting Boundary: 30 Properties
Scope 3 emissions were reported only in 2024 and are excluded from the year-on-year comparison to maintain consistency in reporting boundaries.



Carbon Intensity Performance

Carbon intensity is used to assess greenhouse gas emissions relative to business activity and occupancy levels.

Year	Total GHG Emission (tonCO ₂ eq)	Occupied Room Nights (ORN)	Carbon Intensity (tonCO ₂ eq/ORN)
2022	26,069	585,047	0.58
2023	52,348	1,403,667	0.03
2024	75,061	1,209,448	0.03
2025	60,714	1,885,806	0.03



Monitoring carbon intensity enables ONYX Hospitality Group to evaluate environmental performance independent of business growth and provides a meaningful benchmark for future performance improvement.

Conclusion

The greenhouse gas inventory demonstrates ONYX Hospitality Group’s continued commitment to measuring, managing, and reducing its environmental impact.



For the 2025 reporting period, total greenhouse gas emissions amounted to 60,714 tonCO₂eq, with purchased electricity representing the largest source of emissions. The results provide a valuable baseline for future performance monitoring and support the development of targeted carbon reduction initiatives across the organization.

Through continuous improvement, transparent reporting, and implementation of sustainability initiatives, ONYX Hospitality Group remains committed to supporting climate action and contributing to a more sustainable future.



ONYX HOSPITALITY GROUP

847 Petchburi Road Bangkok 10400 Thailand

T. +66 (0) 2255 3767 +66 (0) 2255 4588

F. +66 (0) 2255 3718

www.onyx-hospitality.com