



# Performance Summary: GHG Emission and Other Emissions

GHG Emission and Other Emissions							
GRI	Required Data	Unit	OR Performance				
			2021	2022	2023	2024	Target
-	Total GHG emissions (Scope 1+2)	Metric tonnes CO <sub>2</sub> equivalents	22,249.19	30,292.78	33,407.50	27,724.16	27,747.00
GRI 305-1 (2016)	Direct Greenhouse Gas Emissions (Scope 1)						
	Total direct GHG emissions (Scope 1) <sup>[1]</sup>	Metric tonnes CO <sub>2</sub> equivalents	3,482.85	4,426.78	4,997.50	5,137.40	
	Direct Greenhouse Gas Emissions (Scope 1) breakdown by business units						
	- Oil Business (Company Own Company Corporate) Note: Oil business includes Gas Terminal, LPG Cylinder Plant, Lubrication Oil, Oil Terminal, ProChek & FitAuto, Retail PTT	Metric tonnes CO <sub>2</sub> equivalents	838.54	833.78	1,152.00	1,136.10	-
	- Retail Business (Company Own Company Corporate) Note: Café Amazon, Roasting	Metric tonnes CO <sub>2</sub> equivalents	639.87	837.00	785.20	938.70	-
	- Others (Company Own Company Corporate) Note: PTT Group Building & PTT Research & Technology Institute, Construction	Metric tonnes CO <sub>2</sub> equivalents	2,004.44	2,756.00	3,060.30	3,062.60	-
	Biogenic CO <sub>2</sub> emissions (Scope 1)	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	No Data	-
GRI 305-2 (2016)	Indirect Greenhouse Gas Emissions (Scope 2)						
	Total Indirect Greenhouse Gas Emissions (Scope 2) <sup>[1]</sup>	Metric tonnes CO <sub>2</sub> equivalents	18,766.34	25,866.00	28,410.00	22,586.76	
	- Location-based	Metric tonnes CO <sub>2</sub> equivalents	18,766.34	25,866.00	29,188.10	29,816.76	
	- Market-based	Metric tonnes CO <sub>2</sub> equivalents	N/A	-	28,410.00	22,586.76	7,230.00
	Indirect Greenhouse Gas Emissions (Scope 2) breakdown by business units						
	Oil Business (Company Own Company Corporate) Note: Oil business includes Gas Terminal, LPG Cylinder Plant, Lubrication Oil, Oil Terminal, ProChek & FitAuto, Retail PTT	Metric tonnes CO <sub>2</sub> equivalents	13,719.08	20,102.00	18,779.00	13,472.37	-
	- Location-based	Metric tonnes CO <sub>2</sub> equivalents	13,719.08	20,102.00	19,293.00	17,784.79	-
	- Market-based	Metric tonnes CO <sub>2</sub> equivalents	N/A	N/A	18,779.00	13,472.37	-

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	Retail Business (Company Own Company Corporate) Note: Café Amazon, Roasting	Metric tonnes CO <sub>2</sub> equivalents	4,113.35	4,427.00	8,069.00	8,142.51	-
	- Location-based	Metric tonnes CO <sub>2</sub> equivalents	4,113.35	4,427.00	8,290.30	10,749.00	-
	- Market-based	Metric tonnes CO <sub>2</sub> equivalents	N/A	N/A	8,069.00	8,142.51	-
	Others	Metric tonnes CO <sub>2</sub> equivalents	933.92	1,337.00	1,562.00	971.88	-
	- Location-based	Metric tonnes CO <sub>2</sub> equivalents	933.92	1,337.00	1,604.80	1,282.97	-
	- Market-based	Metric tonnes CO <sub>2</sub> equivalents	N/A	N/A	1,562.00	971.88	-
GRI 305-3 (2016)	Other Indirect (Scope 3) GHG Emissions						
	Total Scope 3 GHG Emissions <sup>[1]</sup>	Metric tonnes CO <sub>2</sub> equivalents	No Data	65,674,367.15	66,356,737.0	87,169,234.23	
	Biogenic CO2 emissions (Scope 3)	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	No Data	-
	Category 1: Purchased goods and services	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	7,774,336.00	-
		Percentage of emissions calculated using data obtained from suppliers or value chain partners	No Data	No Data	No Data	No Data	-
	Category 4: Upstream Transportation and Distribution	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	16,261,811.55	-
		Percentage of emissions calculated using data obtained from suppliers or value chain partners	No Data	No Data	No Data	No Data	-
	Category 6: Business Travel	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	836.00	
		Percentage of emissions calculated using data obtained from suppliers or value chain partners	No Data	No Data	No Data	No Data	

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			2021	2022	2023	2024	Target
	Category 8: Electricity Consumption from third party (from Upstream leased assets)	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	No Data	-
		Percentage of emissions calculated using data obtained from suppliers or value chain partners	No Data	No Data	No Data	No Data	-
	Category 11: Use of sold product	Metric tonnes CO <sub>2</sub> equivalents	No Data	65,674,367.15	66,356,737	62,955,918.00 <sup>[7]</sup>	-
		Percentage of emissions calculated using data obtained from suppliers or value chain partners	No Data	No Data	No Data	No Data	-
	Category 14: Franchises	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	176,332.68	-
		Percentage of emissions calculated using data obtained from suppliers or value chain partners	No Data	No Data	No Data	No Data	-
GRI 305-4 (2016)	GHG Emissions Intensity						
	GHG emission intensity in organization (Scope 1+2) <sup>[5]</sup>	Metric tonnes CO <sub>2</sub> equivalents/THB	No Data	No Data	No Data	No Data	-
GRI 305-5 (2016)	Reduction of GHG Emissions						
	Total Reduction of GHG Emissions (Scope 1+2+3)	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	4,579.50	7,230.00	-
	- Reduction of GHG Emissions (Scope 1)	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	No Data	-
	- Reduction of GHG Emissions (Scope 2)	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	4,579.50	7,230.00	-
	- Reduction of GHG Emissions (Scope 3)	Metric tonnes CO <sub>2</sub> equivalents	No Data	No Data	No Data	No Data	-

GHG Emission and Other Emissions							
GRI	Required Data	Unit	OR Performance				
			2021	2022	2023	2024	Target
GRI 305-7 (2016)	Nitrogen Oxides (NOX), Sulfur Oxides (SOX), and Other Significant Air Emissions						
	Total nitrogen oxides (NOX) emissions	Metric tonnes	0.51	1.93	1.68	2.76 <sup>[8]</sup>	-
	Total sulfur oxides (SOX) emissions	Metric tonnes	0.36	0.99	1.48	1.43	-
	Total volatile organic compounds (VOC) emissions	Metric tonnes	8,426.71	8,789.95	8,877.45	8,462.00	-
	Total suspended particles (TSP) emissions	Metric tonnes	N/A	2.88	9.30	7.39 <sup>[9]</sup>	-

Remarks :

N/A (Not Applicable): There is no relevant to the operations of OR.

No Data: There is no data in the reporting year.

[1] OR using the PTT Group's statistical reporting standards according to the principles of WBCSD Greenhouse Gas Protocol. The data including CO2 CH4 N2O HFCs PFCs SF6.

[2] For emission calculation, emission factors and the global warming potential (GWP) rates referred to IPCC

[3] Other Indirect (Scope 3) GHG Emissions breakdown by category referred to GHG protocol

[4] In 2021, additional information is reported for the Nakhon Sawan Petroleum Terminal due to the development of NOx data collection.

[5] GHG calculation of Cat:11 (Use of sold product) is calculated based on the amount of sold company's products which will generated the GHG emission (covering the following products e.g. LPG, Aviation fuel, Fuel oil, Gasoline, Lubricants)

[6] OR uses revenue in the reporting year for calculating emission intensity

The data covers the following operation site :

- Petroleum Terminal Oil Terminal LPG Terminal and Aviation except Rental Depot/Terminal and Eastern Oil Depot/Terminal (e.g. Sriracha Oil Depot, Khao Bo Ya LPG Depot, Banrongpo Terminal ,Banrongpo LPG Filling Plant and Banrongpo LPG

Cylinder Refurbishment (Repairing) Plant reported by PTT)

- COCO PTT Station

- COCO Fit Auto

- Lubricant Distribution Center of Bangprokong

- Prakanong Office

- LPG Cylinder Refurbishment (Repairing) Plant (Songkla)

- LPG Cylinder Refurbishment (Repairing) Plant. (KhonKaen)

- LPG Cylinder Refurbishment (Repairing) Plant. (Ayutthaya)

- Café Amazon Roasting Plant

- Amazon Inspiring Campus (AICA)

- OR Academy (ORA)

- Café Amazon Dry mix Plant

- Café Amazon Bakery Plant

- Lifestyle Distribution Center

- OASYS

[7] The amount of indirect greenhouse gas emissions from Scope 3 Category 11: Emissions from sold products and services, in 2024 have decreased compared to 2023 due to a reduction in oil sales volume.

[8] The total nitrogen oxide emissions increased in 2024 due to the expansion of the Cafe Amazon coffee roasting plant operations in Phase 2.

[9] The total particulate matter emissions decreased in 2024 due to OR's implementation of air pollution control measures, including the installation of an After Burner with a Catalyzer filter. This system burns smoke at high temperatures to

The data GRI indicators has slightly assurance boundary by independent agencies (Third Party Verifier) as follows:

- GRI 305-1 (2016): GHG Scope 1: All reported data is within the assurance boundary (Third Party Verifier), except for the greenhouse gas emissions from mobile fuel use in petroleum depots , oil depots, liquefied petroleum gas depots, and aviation refueling stations, excluding rented depots and depots in the eastern region, amounting to 494 metric tonnes of CO2 equivalent.

- GRI 305-2 (2016): GHG Scope 2: All reported dataits within the assurance boundary (Third Party Verifier), except for the greenhouse gas emissions from electricity use, which is based on retroactively calculated data from the electricity billing invoices by the lessor for Café Amazon stores that OR owns and operates itself, amounting to 5,360 Metric tonnes CO2 equivalents.

- GRI 305-3 (2016): GHG Scope 3: The reported data includes sections that are within the certification scope by an independent agency (Third Party Verifier), including indirect greenhouse gas emissions from Scope 3 Category 6: Business travel and indirect greenhouse gas emissions from Scope 3 Category 11: Emissions from sold products and services, except for the greenhouse gas emissions from the sale of asphalt products, amounting to 626,781 metric tonnes of CO2 equivalent.