

Climate Change (Greenhouse Gas)

Commitment and Goals

Thai Wacoal regularly makes the assessment the organizational carbon footprint volume every year in order to follow up the greenhouse emission reduction measure determined by the organization. The target is to reduce the company's greenhouse gas emissions by more than 3% per year (Scope 1 and Scope 2) through energy saving campaigns, which is the greatest source 80% of greenhouse gas emissions.

Management Strategies

Thai Wacoal Public Company Limited is a part of the society which consumes natural resources; it thus gives precedence to the solution and prevention of pollution caused by the operation that has direct and indirect effects to the consumption of natural resources. This has caused the decreased emission of greenhouse gas to the atmosphere. Therefore, it can be implemented to continuously reduce greenhouse gas in industrial sector and will impact the reduction of greenhouse gas emission in national level in overall

The company has evaluated its carbon footprint – the amount of greenhouse gas emitted in tonnes of CO₂ equivalent from the company's operations including fuel combustion, electricity use, waste disposal, and transportation. The company has a management policy to reduce environmental impact and reduce greenhouse gas emissions to decrease the impact on climate change. Through the implementation of energy conservation measures aimed at reducing electricity consumption which constitutes the largest source of greenhouse gas emissions, accounting for 80% of total activities.

2023 Performance

Carbon Footprint for Organization (CFO)

Evaluation results in 2023 (January 1 - December 31, 2023)

Total Greenhouse Gas Emission : 3,959 TonCO₂e

(Scope 1&2)

Scope I Direct GHG Emissions : 690 TonCO₂e

Scope II Energy Indirect GHG Emissions : 3,269 TonCO₂e

Scope III Other Indirect GHG Emissions : 11,399 TonCO₂e

It was verified by ECEE Co., Ltd., which is the verifier of carbon footprints for organizations registered with the Thailand Greenhouse Gas Management Organization (Public Organization).

In 2023, the company assessed greenhouse gas emissions in Scope 3 (other indirect GHG emissions), which were outside the scope of the organization's operations that reported only the significant sources of GHG emissions. There were 10,713.38 TonCO₂e from category 01 (purchased goods and services) and 685.45 TonCO₂e from category 03 (fuel and energy related activities not included in scope 1 or scope 2). The company's total GHG emissions in scope 3 amounted to 11,399 TonCO₂e.

Operational Performance for the Past Three Years

Carbon Footprint Assessment of the Organization for the Years 2021-2023

Scope	Unit	2564	2565	2566
Scope 1: Direct GHG Emissions	TonCO₂e	445	628	690
Scope 2: Energy Indirect GHG Emissions	TonCO₂e	3,314	3,518	3,269
Scope 3: Other Indirect GHG Emissions	TonCO₂e	n/a	17,040	11,399
3.1: Purchased goods and services	TonCO ₂ e	n/a	16,308	10,713
3.3: Fuel- and energy related activities	TonCO ₂ e	n/a	732	686
Total GHG Emissions (Scope 1+2)	TonCO₂e	3,759	4,146	3,959
Total GHG Emissions (Scope 1+2+3)	TonCO₂e	3,759	21,186	15,358

Carbon intensity (Scope 1+2)	TonCO₂e/pc.	0.0016	0.0015	0.0016
Carbon intensity (Scope 1+2+3)	TonCO₂e/pc.	0.0016	0.0079	0.0061

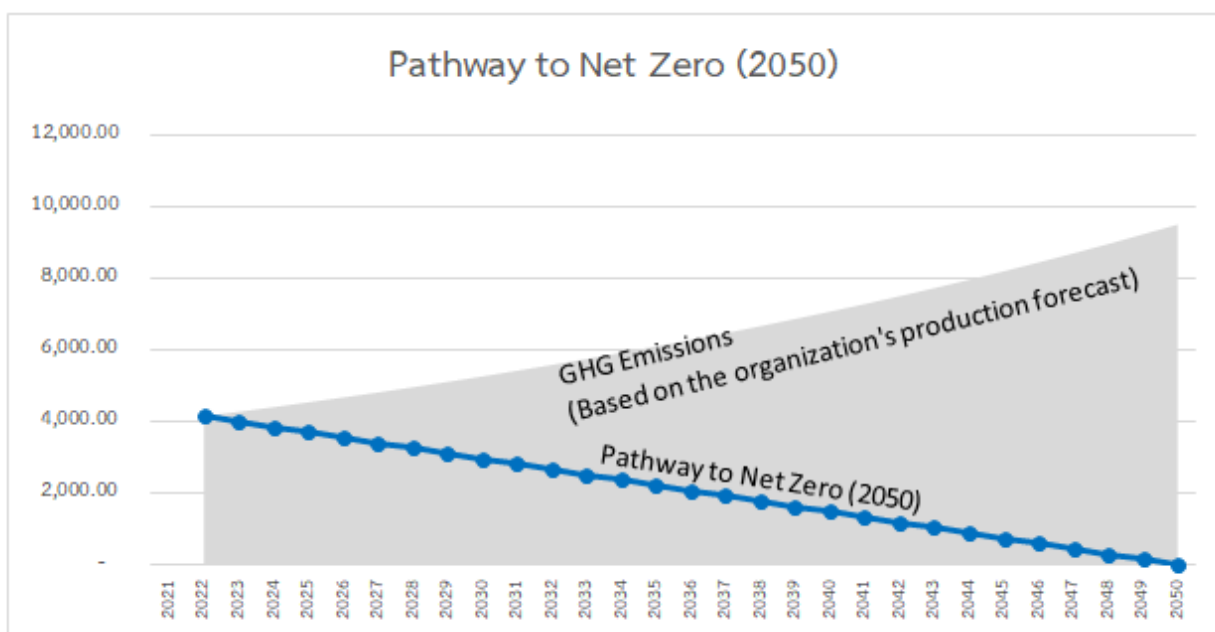
With the goal of reducing greenhouse gas emissions from organizational activities by no less than 3% annually (for Scope 1 and Scope 2 emissions), it was found that in 2023, greenhouse gas emissions decreased by 4.5% compared to 2022, in line with the established target. Additionally, the organization's sustainability management set a target for carbon footprint per unit of production (carbon intensity) for 2023 to be reduced by 6% compared to the baseline year (2021). It was found that in 2023, the carbon footprint per unit of production decreased by 1.33% compared to 2021.

Carbon Reduction Strategy Towards Net Zero Target

Commitment and Goals

Thai Wacoal Public Company Limited is committed to continuously improving its production processes and reducing greenhouse gas emissions. The company is determined to set greenhouse gas reduction targets in alignment with the goals of the Paris Agreement, which aims to limit global temperature rise to no more than 1.5°C. The company is committed to:

1. Achieving net-zero greenhouse gas emissions by 2050.
2. Reducing greenhouse gas emissions by 10% by 2028 compared to the 2022 baseline (5-year target from 2024 to 2028).



Participation in Climate Change Mitigation Initiatives

In order to contribute to mitigating the impacts of climate change, the company has joined an initiative to promote the establishment of greenhouse gas reduction targets within the industrial sector, aiming for Net Zero through the Science-Based Target approach. This initiative is organized by the Greenhouse Gas Management Organization (Public Organization) and the Center of Excellence for Ecological-Economic Energy, Department of Chemical Engineering, Faculty of Engineering, Thammasat University. The objective is to guide the organization on how to reduce greenhouse gas emissions and develop an action plan that will lead towards

achieving the Net Zero greenhouse gas emissions target (Net Zero Pathway), in accordance with the GHG Management Organization’s guidelines.

The greenhouse gas emissions data for 2022 will serve as the baseline year. The starting year for the Net Zero Pathway is 2024, and the target year for achieving the Net Zero Pathway (5-year goal) is 2028, as outlined in the table below.

Detail	Base Year	Starting Year Net Zero Pathway	Base Target Net Zero Pathway (5 ปี)	Target Year Net ZERO	Annual Emission Reduction Percentage
	2022	2024	2028	2050	
Type of 1 (Ton CO ₂ e)	628	599	507	-	3.57%
Type of 2 (Ton CO ₂ e)	3,518	3,267	2,764	-	3.57%
Type of 3 (Ton CO ₂ e)	-	-	-	-	0%
Total (Type of 1+2+3) (Ton CO₂e)	4,146	3,866	3,271	-	3.57%

Management Approach

Number	Project	Project Year	Local	TYPE	Cost Savings	
					Volume	Unit
1	Project to replace Split-type air conditioners with a capacity of 72,000 BTU in a single-story building, second floor, executive lounge.	2024	อาคาร 1 ชั้น 2	Electricity	11,270	kWh/year
2	Project to replace Split-type air conditioners with a capacity of 80,000 BTU in a two-story building, second floor, factory.	2024	อาคาร 2 ชั้น 2	Electricity	766,944	kWh/year

Number	Project	Project Year	Local	TYPE	Cost Savings	
					Volume	Unit
3	Project to reduce the transformer size of Building 5 from 1000 kVA to 800 kVA.	2024	อาคาร 5	Electricity	23,364	kWh/year
4	Renovation of the façade of a four-story building (OTTV) to reduce the amount of glazed walls and minimize the heat ingress into the building.	2024	Four-floor building, level 2	Electricity	102,242	kWh/year
5	Project to replace the Package Water Cooled air conditioning system with VRV in a single-story building, first floor (AHU1-1, AHU1-2).	2025	One-floor building, level 1	Electricity	76,608.00	kWh/year
6	Project to replace the Package Water Cooled air conditioning system with VRV in a four-story building, second floor.	2025	Four-floor building, level 2	Electricity	766,944	kWh/year
7	Project to replace the Package Water Cooled air conditioning system with VRV in a four-story building, first floor.	2025	Four-floor building, level 1	Electricity	203,472	kWh/year
8	Measure to install VSD (Variable Speed Drive) to adjust the chilled water pump flow rate according to the load condition in Building 3 (CHP No.1, CHP No.2).	2025	Three-floor	Electricity	61,032	kWh/year
9	Project to replace the	2026	One-floor building,	Electricity	46,080	kWh/year

Number	Project	Project Year	Local	TYPE	Cost Savings	
					Volume	Unit
	Package Water-Cooled air conditioning system with VRV in a single-story building, third floor, Exhibition Room.		level 3			
10	Project to replace the Package Water-Cooled air conditioning system with VRV in a single-story building, second floor, Design, Research, and Development Department.	2026	One-floor building, level 2	Electricity	74,381	kWh/year
11	Project to replace the Package Water-Cooled air conditioning system with VRV air conditioning system in a two-story building, second floor.	2027	Two-floor building, level 2	Electricity	288,720	kWh/year
12	Project to replace the Package Water-Cooled air conditioning system with VRV air conditioning system in a two-story building, first floor.	2027	Two-floor building, level 1	Electricity	209,880	kWh/year
13	Project to replace the Split-type air conditioning system with VRV air conditioning system in a six-story building, fourth floor.	2028	Six-floor building, level 4	Electricity	157,500	kWh/year
14	Project to replace the Split-type air conditioning system with VRV air conditioning system in a six-story building, third floor.	2028	Six-floor building, level 3	Electricity	131,220	kWh/year
15	Project to replace the Split-	2028	Six-floor	Electricity	138,240	kWh/year

Number	Project	Project Year	Local	TYPE	Cost Savings	
					Volume	Unit
	type air conditioning system with VRV air conditioning system in a six-story building, second floor.		building, level 2			