



ISO 14064-1

Greenhouse Gas (GHG)

The GHG Report at organization level for the calendar year 2024

TPI Polene Public Company Limited : Cement, Clinker and Mortar Cement Plants in Kangkhoy District, Saraburi; Concrete Roof Tile and Fiber Cement Plants, Steam generation and Power Plant, Ready-mixed Concrete Plant in Chaloem Phrakiat District, Saraburi and LDPE & EVA Plants in Rayong

- 299 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
 - 99 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
 - 999 Moo 5 Choeng Noen, Mueang Rayong District, Rayong 21000
- All factories are listed on page 4 of this document.

It has been verified at a reasonable level of assurance according to ISO 14064-1:2018 and ISO 14064-3:2019. The total greenhouse gas emission in the period 1 January 2024 to 31 December 2024 as following

Category 1: Direct GHG emissions	5,629,287	tCO ₂ e
Category 2: Indirect GHG emissions from imported energy	985,444	tCO ₂ e
Category 3: Indirect emissions from transportation	238,912	tCO ₂ e
Category 4: Indirect GHG emissions from products used by organization	409,836	tCO ₂ e
The total greenhouse gas emission for Category 1 and Category 2	6,614,731	tCO ₂ e
The total greenhouse gas emission for Category 1, Category 2, Category 3 and Category 4	7,263,479	tCO ₂ e
Biogenic CO ₂ emissions	157,205	tCO ₂ e
HCFC-22, HCFC-141B, CFC-11	7,772	tCO ₂ e

Note: The amount of greenhouse gas emission of each category has been rounded up to an integer, which may affect the total emission by using mathematical equations, different is less than 1 tonne of carbon dioxide equivalent.

For the following activities

- Direct GHG emissions --- Calcination reactions during clinker production, Stationary combustion (RDF, Coal, Mixed fuels such as Pyrolysis Oil + Fuel Oil + Waste Oil, Diesel, LPG, Hydrocarbon/Flare), Mobile combustion (Diesel, Gasoline, LPG, CNG), Fugitive emissions (CH₄ from coal storage, CH₄ from wastewater, Refrigerants, CO₂ from fire extinguishers, SF₆) including Biogenic CO₂, HCFC-22, HCFC-141B, CFC-11
- Indirect GHG emissions from imported energy --- Electricity and Steam
- Indirect emissions from transportation --- Upstream transportation, Downstream transportation and Employee commuting
- Indirect GHG emissions from products used by organization --- Purchased goods and services and Fuel- and energy-related activities

Date of Verification Statement: 29 July 2025

This verification statement is not valid without the full verification scope, objective, criteria and conclusion available on page 2 to 4 of this statement.

Signed by

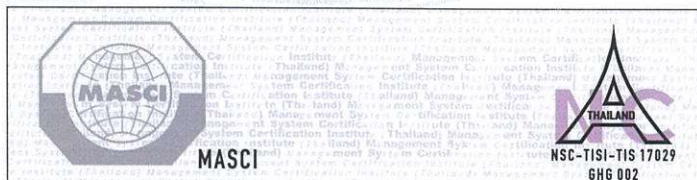
Mr. Teerakul Boonyong
Vice president,
Sustainability Validation and Verification
Department

Signed by

Mr. Teerakul Boonyong
Technical Reviewer

Signed by

Ms. Atchada Ngeimvijawat
Lead Verifier





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Verification Statement related to GHG Report at organization level for Calendar Year 2024 prepared for
TPI Polene Public Company Limited : Cement, Clinker and Mortar Cement Plants in Kangkhoy District, Saraburi
Concrete Roof Tile and Fiber Cement Plants, Steam generation and Power Plant, Ready-mixed Concrete Plant in Chaloem Phrakiat District,
Saraburi and LDPE & EVA Plants in Rayong

Terms of Engagement

TPI Polene Public Company Limited : Cement, Clinker and Mortar Cement Plants in Kangkhoy District, Saraburi, Concrete Roof Tile and Fiber Cement Plants, Steam generation and Power Plant, Ready-mixed Concrete Plant in Chaloem Phrakiat District, Saraburi and LDPE & EVA Plants in Rayong (hereafter referred to as "TPIPL") has commissioned to Management System Certification Institute (Thailand), Foundation for Industrial Development (hereafter referred to as "MASCI") to carry out a reasonable level of assurance of the GHG Report at organization level for the calendar year 2024 (hereafter referred to as "GHG Report").

Management Responsibility

TPIPL is responsible for the preparation and fair presentation of the GHG Report in accordance with ISO 14064-1:2018. This responsibility includes designing, implementing and maintaining a data and information management system relevant to the preparation and fair presentation of the GHG Report that is free from material misstatement.

MASCI's responsibility is to express a third party opinion on the GHG Report based on our verification. We conduct our verification in accordance with the ISO 14064-3:2019. This International Standard requires that we comply with ethical requirements and plan and perform the verification to obtain a reasonable level of assurance in accordance with our contract with TPIPL. Ultimately, the GHG Report has been approved by, and remained the responsibility of TPIPL.

Verification Objective

The purpose of the verification is to provide interested parties with professional and independent judgment, which is a third party opinion regarding the data and information contained in the GHG Report.

Verification Scope

- Type of GHG included - CO₂, CH₄, N₂O, SF₆, PFCs, HFCs and NF₃ including Biogenic CO₂, HCFC-22, HCFC-141B, CFC-11
- The organizational boundaries were established by using operational control approach.
- The facilities are consist of TPI Polene Public Company Limited : Cement, Clinker and Mortar Cement Plants in Kangkhoy District, Saraburi, Concrete Roof Tile and Fiber Cement Plants, Steam generation and Power Plant, Ready-mixed Concrete Plant in Chaloem Phrakiat District, Saraburi and LDPE & EVA Plants in Rayong. All factories are listed on page 4 of this document.
- The GHG emissions, removals and storage in GHG Report for the period 1 January 2024 to 31 December 2024, which comprise the following:
 - Direct GHG emissions --- Calcination reactions during clinker production, Stationary combustion (RDF, Coal, Mixed fuels such as Pyrolysis Oil + Fuel Oil + Waste Oil, Diesel, LPG, Hydrocarbon/Flare), Mobile combustion (Diesel, Gasoline, LPG, CNG), Fugitive emissions (CH₄ from coal storage, CH₄ from wastewater, Refrigerants, CO₂ from fire extinguishers, SF₆) including Biogenic CO₂, HCFC-22, HCFC-141B, CFC-11
 - Indirect GHG emissions from imported energy --- Electricity and Steam
 - Indirect emissions from transportation --- Upstream transportation, Downstream transportation and Employee commuting
 - Indirect GHG emissions from products used by organization --- Purchased goods and services and Fuel- and energy-related activities
- Data and information related to GHG emission reduction and removal enhancement initiatives, projects and targets has not been included.

Verification Criteria

- ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
 - ISO 14064-3:2019 Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements
 - R-801 MASCI's regulation for GHG validation and verification services
 - IPCC Fifth Assessment Report (AR5), Global warming potential (GWP) values are applied in this GHG Report
- Noted: GWP IPCC AR5 has been applied to be in line with GHG Emission Factor, which was announced by Thailand Greenhouse Gas Management Organization (Public Organization) in April 2022



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Level of Assurance & Materiality

The conclusion expressed in this verification statement has been formed on the basis of a reasonable level of assurance and at a materiality threshold of 5%.

MASCI's Approach

Our verification has been conducted in accordance with ISO 14064-3:2019, Specification with guidance for the verification and validation of greenhouse gas statements, to provide a reasonable level of assurance for the disclosure of data and information in the GHG Report have been prepared in accordance with ISO 14064-1:2018, Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

Focusing on the basic principles of ISO 14064-3:2019, Impartiality, Evidence based approach, Fair presentation, Documentation, Conservativeness, and focusing on the basic principles of 14064-1:2018, Relevance, Completeness, Consistency, Accuracy, Transparency Verification team performed verification activity as per procedure and criteria, including audit trail and source of evidence in line with strategic review and risk assessment, sampling plan, justification for quantifying and selecting the data sets.

Evidence-gathering procedures included but were not limited to:

- 1) Review of historical data in 2023, which has been set as the base year, data and information between 1 January 2024 to 31 December 2024, data and information management procedure, calculation and analyze the amount of greenhouse gas emissions and reduction including relevant data and information,
- 2) Assessment and cross check the activity data and emission factor values i.e. sampling of fuel and energy records to confirm accuracy of source data into calculations, and recalculation of emissions
- 3) Verification of operational activities of facilities to inspect the completeness of the GHG Report and re-perform access controls to onsite records
- 4) Interviews the executives, operators and responsible persons for greenhouse gas data and information to confirm operational behaviour and standard operating procedures

MASCI's Conclusion

Our verification opinion based on the process and procedures conducted and the basis of a reasonable level of assurance.

Based on the verification, it is concluded that the GHG Report is materially correct, fairly represents the GHG data and information, and complies with ISO 14064-1:2018.

The total greenhouse gas emission in the period 1 January 2024 to 31 December 2024 as following

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Note: The amount of greenhouse gas emissions of each category has been rounded up to an integer, which may affect the total emissions by using mathematical equations, different is less than 1 tonne of carbon dioxide equivalent.

This verification statement is subject to the provisions of this legal section:

- Management System Certification Institute (Thailand) and their respective officers assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the data and information or advice in this document or howsoever provided, unless that person has signed a contract for the provision of this data and information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.
- This verification statement is only valid when published with the report to which it refers. It may only be reproduced in its entirety.
- In the case of any conflict between the English and Thai language versions of this legal section, the Thai version shall prevail.
- Due to inherent limitations in any internal control, it is possible that fraud, error, or non-compliance with laws and regulations may occur and not be detected. Further, the verification was not designed to detect all weakness or errors in internal controls so far as they relate to the requirements set out above as the verification has not been performed continuously throughout the period and the verification carried out on the relevant internal controls were on a test basis. Any projection of the evaluation of control to future periods is subject to the risk that the processes may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.



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TPI Polene Public Company Limited :

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- 999 Moo 5 Choeng Noen, Mueang Rayong District, Rayong 21000

(1) Cement, Clinker and Mortar Cement Plants in Kangkhoy District, Saraburi

Number	Site	Address
1	Cement Plant 1	299 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
2	Cement Plant 2	151/1 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
3	Cement Plant 3	299 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
4	Cement Plant 4	299 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
5	Mortar Plant 1 and 2	159 Moo 6, Mittraparp Road, Mittraparp, Muak Lek District, Saraburi 18180
6	Mortar Plant 3	299 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
7	Mortar Plant 4	288 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
8	Centralized Waste Treatment Plant	299 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
9	Pyrolysis Plant	299/188 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
10	Lightweight Concrete Block Production Plant	388 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
11	Ready-mixed Concrete Plant	Land Title Deeds No. 38247,38248,38249,38250,38251,38252,38253,38254 Moo 5, Mittraparp Road, Tubkwang, Kangkhoy District, Saraburi 18260
12	Construction Soil Extraction and Processing Site	Land Utilization Certificates (Nor Sor 3 Kor) No. 79,80,1902,1903,1904 Moo 7 Mittraparp, Muak Lek District, Saraburi 18180

Note: The organization's activities include limestone and shale mining in accordance with the concession licenses granted to the organization.

(2) Concrete Roof Tile and Fiber Cement Plants, Steam generation and Power Plant, Ready-mixed Concrete Plant in Chaloem Phrakiat District, Saraburi

Number	Site	Address
1	Concrete Roof Tile Plant : CRT	77 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
2	Fiber Cement Plant : FCB 1	88/1 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
3	Fiber Cement Plant : FCB 2	88/2 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
4	Fiber Cement Plant : FCB 3	88/3 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
5	Fiber Cement Plant : FCB 4	88/4 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
6	Fiber Cement Plant : FCB 5	88/8 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
7	Steam generation and Power Plant : TG61	66 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
8	Steam generation and Power Plant : TG62	66 Moo 7 Ban Kaeng, Chaloem Phrakiat District, Saraburi 18000
9	Ready-mixed Concrete Plant	99/9 Moo 2 Phueng Ruang, Chaloem Phrakiat District, Saraburi 18000

(3) LDPE & EVA Plants in Rayong

Number	Site	Address
1	LDPE & EVA Plants	999 Moo 5 Choeng Noen, Mueang Rayong District, Rayong 21000