

Greenhouse Gas Verification Opinion

The inventory of Greenhouse Gas emissions in year 2021 of

MAP Plastics Pte Ltd

No. 11/13 Loyang Lane, Singapore 508928

has been verified in accordance with ISO 14064-3:2019 as
meeting the requirements of

ISO 14064-1:2018

Direct emissions

61.935 tonnes of CO₂e

Indirect emissions

2,570.760 tonnes of CO₂e

Direct emissions and indirect emissions

2,632.695 tonnes of CO₂e

Authorized by



Susan Law

SEAP Regional Manager

Date: 21 March 2025

Version 3

SGS International Certification Services Singapore Pte Ltd
30, Boon Lay Way
#03-01, Singapore 609957



The emission of each category is described as below:

Unit: tonnes of CO₂e

Reporting Boundaries			GHG Emissions
Inventory categories		Description	
Direct emissions		Direct emissions from stationary combustion	NA
		Direct emissions from mobile combustion	19.769
		Direct process emissions and removals from industrial processes	NA
		Direct fugitive emissions arise from the release of GHGs in anthropogenic systems	42.166
		Direct emissions and removals from land use, land use change and forestry	NA
Indirect emissions	Imported energy	Purchased Electricity	2,570.760
Direct emissions and indirect emissions			2,632.695
Direct emissions and indirect emissions (incl. non-Kyoto GHG emissions due to HCFC-22)			2,776.755

SGS has been contracted by MAP Plastics Pte. Ltd. (hereinafter referred to as “MAPP”), No. 11/13 Loyang Lane, Singapore 508928 for the verification of direct and indirect Greenhouse Gas emissions in accordance with

ISO 14064-3:2019

as provided by MAPP, No. 11/13 Loyang Lane, Singapore 508928, in the GHG statement in the form of GHG report covering GHG emissions of the period 01 January 2021 to 31 December 2021.

Roles and responsibilities

- The management of MAPP is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the calculation and determination of GHG emissions information and the reported GHG emissions.
- The verification was based on the verification scope, objectives and criteria as agreed between MAPP and SGS on 2 Dec 2024.
- Verification Criteria: ISO 14064-1:2018 (SAC Accreditation).
- Verification Period: 6 Jan 2025 to 4 Mar 2025.

This verification opinion supersedes the initial verification opinion issued on 19 March 2025.

Scope

MAPP has commissioned an independent verification by SGS of reported GHG emissions of MAPP arising from manufacture and assembly of plastic injection moulding components and mould fabrication, to establish conformance with ISO 14064-1:2018 principles, within the scope of the verification as outlined below.

This engagement covers verification of emission from anthropogenic sources of greenhouse gases included within the organization's boundary and is based on ISO 14064-3:2019.

- The organizational boundary was established following operational control approach.
- Title or description activities: GHG verification for MAPP in year 2021.
- Location/boundary of the activities:
 - No. 11 Loyang Lane, Singapore 508928
 - No. 13 Loyang Lane, Singapore 508928
- Physical infrastructure, activities, technologies and processes of the organization: Manufacture and assembly of plastic injection moulding components and mould fabrication.
- GHG sources, sinks and/or reservoirs included: Sources as presented in the inventory spreadsheet provided by MAPP
- Types of GHGs included: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃. GHG emissions from non-Kyoto gases were reported separately (HCFC-22 emissions).
- The IPCC 2021 AR6 GWP values are applied in this inventory for Category 1 emissions.
- Emission factor:
 - Direct emission: 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2 Chapter 3
 - Indirect emission: Electricity emission factor of 0.409 kgCO₂e/kWh (Source from Energy Market Authority (EMA) published in September 2024)
- GHG information for the following period was verified: 01 January 2021 to 31 December 2021
- Mitigation activities: N/A
- The level of assurance for Category 1 and Category 2 agreed is that of reasonable assurance.
- Materiality : 5 %
- The version of inventory sheet: CO₂e Emissions Monitoring Data- Y2021 (dated 4 March 2025)
- The version of GHG statement: Greenhouse Gas Inventory Report- Y2021 (dated 4 March 2025)
- Intended user of the verification opinion: Internal use and external publication as required.

Objective

The purposes of this verification exercise are, by review of objective evidence, to independently review:

- Whether the GHG emissions are as declared by the organization's GHG statement
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

Conclusion

SGS's approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions information and the controls in place to mitigate these. Our examination includes assessment, on a test basis, of evidence relevant to the amounts and disclosures in relation to the organization's reported GHG emissions. We planned and performed our work to obtain the information, explanations and evidence that the GHG emissions are free from material misstatement.

- The greenhouse gas emissions is 2,632.695 metric tonnes of CO₂ equivalent
- The emissions from the combustion of biomass is 0.0000 metric tonnes of CO₂ equivalent
- Separately quantified, non-Kyoto GHG emissions (due to HCFC-22 emissions) is 144.060 metric tonnes of CO₂ equivalent

The emission of each category is described as below:

Unit: tonnes of CO₂e

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The opinion of SGS is unmodified in accordance with the following described circumstances.

- The verifier has sufficient and appropriate evidence to support the material emissions, removals, or storage.
- The verifier applies appropriate criteria for the material emissions, removals, or storage.
- When the verifier intends to rely on relevant controls, the effectiveness of those controls has been assessed.
- The verifier applies the ISO 14064-1:2018 standard to fairly present greenhouse gas data and information, and SGS obtains appropriate supporting evidence for material emissions and removals.

Confidentiality

The reports and attachments may contain relevantly confidential information of the clients. In addition to being submitted as governmental application or certification documents, the reports and attachments are not allowed to be edited, duplicated, or published without the clients' agreement in written form.

Avoidance of Conflict of Interest

The reports and attachments are completely complied with the standards and procedures that related authorities established. The reports and attachments of auditing process are conducted with fairness and honesty. If not, the auditing institution not only has to bear the relevant compensation duties, but also to receive legal charge and punishment.

This opinion shall be interpreted with the GHG statement of MAPP as a whole.

Verifier Group

Above opinions coincide with auditing process with fairness and impartiality and aim at the emission of year 2021 of clients.

Lead Verifier:

A handwritten signature in black ink, appearing to be "Adrian Lamano".

Adrian Lamano

Verifier:

A handwritten signature in black ink, appearing to be "Valerie Koh".

Valerie Koh

Note: This opinion is issued, on behalf of Client, by SGS International Certification Services Pte Ltd. ("SGS") under its General Conditions for Green Gas Verification Services available at http://www.sgs.com/terms_and_conditions.htm. The findings recorded hereon are based upon an audit performed by SGS. A full copy of this opinion, the findings and the supporting GHG Assertion may be consulted at MAP Plastics Pte Ltd, No. 11/13 Loyang Lane, Singapore 508928. This opinion does not relieve Client from compliance with any bylaws, federal, national or regional acts and regulations or with any guidelines issued pursuant to such regulations. Stipulations to the contrary are not binding on SGS and SGS shall have no responsibility vis-à-vis parties other than its Client..