



ISO 14067

Greenhouse Gas (GHG)

Mantra Switchgear Company Limited

Head Office : 56/14 Moo 3, Soi Bang Pla 2, Bang Pla Subdistrict, Bang Phli District, Samut Prakan 10540

Factory 1: 56/15 Moo 3, Soi Bang Pla 2, Bang Pla Subdistrict, Bang Phli District, Samut Prakan 10540

Factory 2 : 104/59 Moo 12, Theparak Road, Bang Pla Subdistrict, Bang Phli District, Samut Prakan 10540

This is to verify that the Carbon Footprint of Product (CFP) study report for one set of Main structure of Sivacon S8: Universal mounting design (2200 × 1000 × 800 mm) prepared by Mantra Switchgear Company Limited has been verified at a limited level of assurance in accordance with ISO 14067:2018 and ISO 14064-3:2019.

The greenhouse gas emission in each life cycle stage of one set of Main structure of Sivacon S8 : Universal mounting design (2200 x 1000 x 800 mm) as following

Stage 1: Raw Material Acquisition	2.96	tCO ₂ e
Stage 2: Manufacturing/Production	0.06	tCO ₂ e
Stage 3: Transportation/Distribution	Not included	
Stage 4: Use Phase	Not included	
Stage 5: End-of-Life Management	Not included	
The total greenhouse gas emission (Cradle-to-Gate)	3.02	tCO₂e
GHG Storage (if any)	None	
Biogenic CO ₂ emissions (if any)	None	

Date of Verification Statement: 30 November 2025

Valid until : 30 November 2027

This verification statement is not valid without the full verification scope, objective, criteria and conclusion available on page 2 to 3 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



MASCI



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Verification Statement related to CFP study report for one set of Main structure of Sivacon S8 : Universal mounting design (2200 x 1000 x 800 mm) prepared for Mantra Switchgear Company Limited

Terms of Engagement

Mantra Switchgear Company Limited (hereafter referred to as "Mantra") has commissioned to Foundation for Industrial Development - Management System Certification Institute (Thailand) (hereafter referred to as "MASCI") to carry out a limited level of assurance of the CFP study report for one set of Main structure of Sivacon S8 : Universal mounting design (2200 x 1000 x 800 mm) (hereafter referred to as "CFP study report").

Management Responsibility

Mantra is responsible for the preparation and fair presentation of the CFP study report in accordance with ISO 14067:2018 and aligning with the International Standards on life cycle assessment (ISO 14040 and ISO 14044). This responsibility includes designing, implementing and maintaining a data and information management system relevant to the preparation and fair presentation of the CFP study report that is free from material misstatement.

MASCI's responsibility is to express a third party opinion on the CFP study 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 limited level of assurance in accordance with our contract with Mantra. Ultimately, the CFP study report has been approved by, and remains the responsibility of Mantra.

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 CFP study report.

Verification Scope

- Type of GHGs included: CO₂, CH₄, N₂O, SF₆, PFCs, HFCs and NF₃
- Reference period: 01 January 2024 – 31 December 2024
- Product system boundary: Cradle-to-Gate (i.e., raw material acquisition through manufacturing until the product leaves the factory gate).
- Manufacturing sites:
 - Factory 1 : 56/15 Moo 3, Soi Bang Pla 2, Bang Pla Subdistrict, Bang Phli District, Samut Prakan 10540
 - Factory 2 : 104/59 Moo 12, Theparak Road, Bang Pla Subdistrict, Bang Phli District, Samut Prakan 10540
- Product Category Rule (PCR): Structural parts for switchgear cabinet. This CFP-PCR was developed by Mantra Switchgear Company Limited in alignment with ISO 14067, ISO 14040, ISO 14044 and CFP requirements and guidelines, Thailand Greenhouse Gas Management Organization (Public Organization).
- Declared unit: One set of Main structure of Sivacon S8 : Universal mounting design (2200 x 1000 x 800 mm)
- Functional unit: Not applicable. The declared unit is used for reporting results.
- Allocation method : Mass-based allocation method is applied.
- Exclusions and Justification : The Transport/Distribution, Use Phase, and End-of-Life (EoL) stages are excluded from the product life cycle boundary. This exclusion is justified in accordance with ISO 14067. These stages are expected to have a minimal impact on the product's total greenhouse gas emissions, and their inclusion would not affect the relevance of the results for decision-making. Therefore, they are reported as 'not included' in the CFP documentation.

Verification Criteria

- ISO 14067:2018 Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification
- 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 CFP study report

Level of Assurance & Materiality

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



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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 limited level of assurance for the disclosure of data and information in the CFP study report have been prepared in accordance with ISO 14067:2018, Requirements and guidelines for quantification of Carbon footprint of products.

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 14067:2018, Life cycle perspective, Relative approach and functional or declared unit, Iterative approach, Priority of scientific approach, Relevance, Completeness, Consistency, Coherence, Accuracy, Transparency, Avoidance of double-counting

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 and information from 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 material and energy records to confirm accuracy of source data into calculations, and recalculation of emissions
- 3) Verification of operational activities of facilities [Office and factory] to inspect the completeness of the CFP study report and re-perform access controls to onsite records
- 4) Interviews the executives, operators and persons responsible for greenhouse gas data and information to confirm operational behaviour and standard operating procedures
- 5) The emission factors were primarily based on IPCC AR5 and national EF published by TGO.
- 6) Data quality, assumptions, and exclusions were assessed and found to be representative, complete, consistent, and transparent.
- 7) Uncertainty analysis has been qualitatively reviewed. No material sources of uncertainty were identified that would affect the overall results within the defined assurance level.

MASCI's Conclusion

Our verification opinion based on the process and procedures conducted and the basis of a limited level of assurance, there is no evidence that the CFP study report, is not materially correct and is not a fair representation of GHG data and information, or has not been prepared in accordance with ISO 14067:2018.

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The total greenhouse gas emission (Cradle-to-Gate)	3.02	tCO₂e
GHG Storage (if any)	None	
Biogenic CO ₂ emissions (if any)	None	

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.

