

Greenhouse Gas Verification Statement

The inventory of Greenhouse Gas emissions in year 2022 of **Taiwan-Asia Semiconductor Corporation**

No. 1, Lixing 5th Rd., Hsinchu Science Park,
Hsinchu 300094, Taiwan, R.O.C.



has been verified in accordance with ISO 14064-3:2006 as
meeting the requirements of

ISO 14064-1:2018

Direct emissions

2,190.4120 tonnes of CO₂e

Indirect emissions

39,042.2770 tonnes of CO₂e

Direct emissions and indirect emissions

41,232.689 tonnes of CO₂e

Authorized by

Stephen Pao

Knowledge Deputy General Manager

Date: 16 June 2023

Version 1

TGP56A-15-6 2207

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Statement TW23/00234GG, continued

The emission of each category is described as below:

Unit: tonnes of CO₂e

Reporting Boundaries		GHG Emissions	
Inventory categories	Description		
Direct emissions	This direct GHG emissions are the sum of owned or controlled by the organization within the organization.	2,190.4120	
Indirect emissions	Imported energy	Imported Electricity	32,788.9656
	Transportation	Undisclosed	--
	Products used by an organization	Fuel and energy- related activities (not included in category 1 or category 2)	6,253.3114
		Treatment for waste and wastewater generated in operations (included transportation of waste)	
Associated with the use of products from the organization	Undisclosed	--	
Other sources	Undisclosed	--	
Direct emissions and indirect emissions		41,232.689	

The emission of each site is described as below:

Unit: tonnes of CO₂e

Site	Direct emissions	Indirect emissions	Total GHG emissions
Li-hsin Manufactory	1,342.7410	32,049.1118	33,391.853
Innovation Manufactory	847.6710	6,993.1652	7,840.836

SGS has been contracted by Taiwan-Asia Semiconductor Corporation (hereinafter referred to as "TASC"), No. 1, Lixing 5th Rd., Hsinchu Science Park, Hsinchu 300094, Taiwan, R.O.C. for the verification of direct and indirect Greenhouse Gas emissions in accordance with

ISO 14064-3:2006

as provided by Taiwan-Asia Semiconductor Corporation hereinafter referred to as ("TASC"), No. 1, Lixing 5th Rd., Hsinchu Science Park, Hsinchu 300094, Taiwan, R.O.C., in the GHG Assertion in the form of GHG report covering GHG emissions of the period 01 January 2022 to 31 December 2022.

Roles and responsibilities

The management of TASC 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.

It is SGS's responsibility to express an independent GHG verification opinion on the GHG emissions as provided in the GHG Assertion for the period 01 January 2022 to 31 December 2022.

SGS conducted a third-party verification of the provided GHG assertion against the principles of ISO 14064-1:2018, ISO 14064-3:2006 in the period 25 May 2023 to 12 June 2023. The verification was based on the verification scope, objectives and criteria as agreed between TASC and SGS on 28 September 2022.

Level of Assurance

The level of assurance for category 1 and category 2 agreed is that of reasonable assurance. Category 3 till category 6 agreed is that of limited assurance.

Scope

TASC has commissioned an independent verification by SGS Taiwan of reported GHG emissions of TASC arising from Design and manufacturing of light emitting diode chips, infrared emitting diode chips, photo diode chips, Vertical-Cavity Surface-Emitting Laser, light emitting diode epitaxial wafers, photo transistor chips, zener diode chips, silicon epitaxial wafers, silicon MOSFET chips, schottky diode chips, LED display, LED lighting, thermopile detector, optical sensor and receiver IC, LED driver IC, Photo Triac, Resistor Chips, Submount Chips, General Lighting, Light Emitting Diode Package / Assembly, function test and maintenance of wireless & wired communication system application of military activities, to establish conformance with ISO 14064:2018 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 14064-3:2006.

- Title or description activities: GHG verification for TASC in year 2022
- Location/boundary of the activities:
 - No. 1, Lixing 5th Rd., Hsinchu Science Park, Hsinchu 300094, Taiwan, R.O.C.
 - No. 8, Innovation 1st Rd., Hsinchu Science Park, Hsinchu 300092, Taiwan, R.O.C.
- Physical infrastructure activities, technologies and processes of the organization: Design and manufacturing of light emitting diode chips, infrared emitting diode chips, photo diode chips, Vertical-Cavity Surface-Emitting Laser, light emitting diode epitaxial wafers, photo transistor chips, zener diode chips, silicon epitaxial wafers, silicon MOSFET chips, schottky diode chips, LED display, LED lighting, thermopile detector, optical sensor and receiver IC, LED driver IC, Photo Triac, Resistor Chips, Submount Chips, General Lighting, Light Emitting Diode Package / Assembly, function test and maintenance of wireless & wired communication system application of military
- GHG sources, sinks and/or reservoirs included: Sources as presented in the inventory spreadsheet provided by TASC
- Types of GHGs included: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃
- The IPCC 2007 AR4 GWP values are applied in this inventory.
- Emission factor:
 - Direct emissions: Greenhouse Gas Emission Factor Table (6.0.4), EPA.
 - Indirect emissions:
 - Electricity emission factor is 0.509 kgCO₂e/kwh (Announced by Bureau of Energy, Ministry of Economic Affairs in 2022).
 - The secondary database has Carbon Footprint Information Platform.

- Directed actions: NA
- GHG information for the following period was verified: 01 January 2022 to 31 December 2022
- The version of inventory sheet: V4
- The version of GHG assertion: V4(20230612)
- Intended user of the verification statement: Private

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 assertion
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

Criteria

Criteria against which the verification assessment is undertaken are the principles of ISO 14064-1:2018

Materiality

The materiality required of the verification was considered by SGS to 5%, based on the needs of the intended user of the GHG Assertion.

Conclusion

TASC provided the GHG assertion based on the requirements of ISO14064-1: 2018. The GHG information for the period 01 January 2022 to 31 December 2022 disclosing emissions of 41,232.689 metric tonnes of CO₂ equivalent and 0.0000 metric tonnes of direct CO₂ emissions from the combustion of biomass are verified by SGS to a reasonable level of assurance, consistent with the agreed verification scope, objectives and criteria.

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Unit: tonnes of CO₂e

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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 we considered necessary to provide a reasonable level of assurance that the GHG emissions of category 1 and category 2, and limited level of assurance of category 3 till category 6 for the period 01 January 2022 to 31 December 2022 are fairly stated.

We conducted our verification with regard to the GHG assertion of TASC which included assessment of GHG information system, monitoring and reporting plan/protocol. This assessment included the collection of evidence supporting the reported data, and checking whether the provisions of the protocol reference, were consistently and appropriately applied.

In SGS's opinion the presented GHG assertion

- is materially correct and is a fair representation of the GHG data and information, and
- is prepared in accordance with ISO14064-1:2018 on GHG quantification, monitoring and reporting.

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 conduct 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 statement shall be interpreted with the GHG assertion of TASC as a whole.

Verifier Group

Above statements coincide with auditing process with fairness and impartiality and aim at the emission of year 2022 of clients.

Lead Verifier:

Emma Kao

Verifier:

Chris Heia

Aiden Tseng

Bo-Mu Lu

William Li

Note: This Statement is issued, on behalf of Client, by SGS Taiwan Ltd. ("SGS") under its General Conditions for Greenhouse 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 statement, the findings and the supporting GHG Assertion may be consulted at Taiwan-Asia Semiconductor Corporation, No. 1, Lixing 5th Rd., Hsinchu Science Park, Hsinchu 300094, Taiwan, R.O.C., This Statement 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.