

Greenhouse Gas Verification Statement

The inventory of Greenhouse Gas emissions in year 2022 of

TAIWAN HIGH SPEED RAIL CORPORATION

13F~15F., No. 66, Jingmao 2nd Rd., Nangang Dist.,
Taipei City 115, 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

6,310.5185 tonnes of CO₂e

Indirect emissions

411,189.8585 tonnes of CO₂e

Direct emissions and indirect emissions

417,500.377 tonnes of CO₂e

Authorized by

Stephen Pao

Knowledge Deputy General Manager

Date: 28 September 2023

Version 1

TGP56A-15-6 2207

SGS Taiwan Ltd.

No. 136-1, Wu Kung Road, New Taipei Industrial Park, Wu Ku District,

New Taipei City 24803, Taiwan

t (02) 22993279 f (02)22999453 www.sgs.com



Statement TW23/00507GG, continued

The emission of each category is described as below:

Unit: tonnes of CO₂e

Reporting Boundaries		GHG Emissions
Inventory categories	Description	
Direct emissions		6,310.5185
Indirect emissions	Imported energy	Indirect emissions from imported electricity 309,005.6479
	Transportation	<ul style="list-style-type: none"> Emissions from upstream transport and cargo distribution Emissions from employee commuting (car/taxi/MRT) Emissions from business travel (MRT/taxi/airplane) 3,702.0153
	Products used by an organization	<ul style="list-style-type: none"> Emissions from purchased goods (consumables and spare parts/tap water during the service process) Emissions generated upstream from energy resources Emissions from capital goods (purchased machinery and equipment) Emissions from solid and liquid waste processing Emissions from leased assets (electricity/water) 90,337.3708
	Associated with the use of products from the organization	Emissions from downstream leased assets (electricity/water) 8,144.8244
	Other sources	Undisclosed NA
Direct emissions and indirect emissions		417,500.377

The emission of each site is described as below:

Unit: tonnes of CO₂e

Site	Direct emissions	Indirect emissions	Total GHG emissions
Nangang Station	15.7002	12,133.4657	12,149.166
Taipei Station	1.1468	10,463.7522	10,464.899
Banqiao Station	86.3957	8,699.3733	8,785.769
Taoyuan Station	1.5151	7,209.4628	7,210.978

Statement TW23/00507GG, continued

Site	Direct emissions	Indirect emissions	Total GHG emissions
Hsinchu Station	6.7455	4,135.1391	4,141.885
Miaoli Station	0.9331	2,395.9086	2,396.842
Taichung Station	61.9091	11,861.3093	11,923.218
Changhua Station	51.0902	2,625.8487	2,676.939
Yunlin Station	1.1251	2,092.7001	2,093.825
Chiayi Station	444.7306	5,261.5558	5,706.286
Tainan Station	4.7204	4,398.2395	4,402.960
Zuoying Station	176.1146	11,108.8316	11,284.946
Liuja Depot	118.2638	1,057.3786	1,175.642
Wuri Depot	425.6892	2,583.1936	3,008.883
Taibao Depot	29.9033	632.3892	662.293
Yanchao Main WorkShop	2,023.5160	5,194.1371	7,217.653
Zuoying Depot	2,851.0430	4,194.8697	7,045.913
Taoyuan OMC Building	0.5798	3,881.0883	3,881.668
Taipei Headquarters	7.7056	11,572.3102	11,580.016
Main Line(Train and Trackside Equipment)	1.6914	299,688.9050	299,690.596

SGS has been contracted by C. C. Sustain ESG Solution Co., Ltd. (hereinafter referred to as “C. C. Sustain”), 15F.-5, No. 12, Zhonghua Rd., Yongkang Dist., Tainan City 710029, 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 HIGH SPEED RAIL CORPORATION (hereinafter referred to as “TAIWAN HIGH SPEED RAIL”) , 13F.~15F., No. 66, Jingmao 2nd Rd., Nangang Dist., Taipei City 115, 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 TAIWAN HIGH SPEED RAIL 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 24 July 2023 to 14 August 2023. The verification was based on the verification scope, objectives and criteria as agreed between C. C. Sustain and SGS on 01 November 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

C. C. Sustain has commissioned an independent verification by SGS Taiwan of reported GHG emissions of TAIWAN HIGH SPEED RAIL arising from the high-speed rail transportation service activities, to establish conformance with ISO 14064:2018 principles within the scope of the verification as outlined below.

Statement TW23/00507GG, continued

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 TAIWAN HIGH SPEED RAIL in year 2022.
- Location/boundary of the activities:

Location	Address
Nangang Station	No.313, Sec. 1, Nangang Rd., Nangang Dist., Taipei City 115018 Taiwan (R.O.C.)
Taipei Station	No. 3, Beiping W. Rd., Zhongzheng District, Taipei City 100230, Taiwan (R.O.C.)
Banqiao Station	No.7, Sec. 2, Xianmin Blvd., Banqiao Dist., New Taipei City 220408, Taiwan (R.O.C.)
Taoyuan Station	No. 6, Sec. 1, Gaotie N. Rd., Cingpu Village, Zhongli Dist., Taoyuan City 320016, Taiwan (R.O.C.)
Hsinchu Station	No. 6, Gaotie 7th Rd., Zhubei City, Hsinchu County 302058, Taiwan (R.O.C.)
Miaoli Station	No. 268, Gaotie 3rd Rd., Houlong Township, Miaoli County 356002, Taiwan (R.O.C.)
Taichung Station	No.8, Jhancyuer 2nd Road, Neighbor 3, Sanhe Village, Wurih Township, Taichung County 414010, Taiwan (R.O.C.)
Changhua Station	No.99, Sec. 2, Jhancyuer Rd., Tianzhong Township, Changhua County 520013, Taiwan (R.O.C.)
Yunlin Station	No.301, Zhanqian E. Rd., Huwei Township, Yunlin County 632007, Taiwan (R.O.C.)
Chiayi Station	No. 168, Gaotie W. Road., Taibau Li, Taibau City , Chiayi 612001, Taiwan (R.O.C.)
Tainan Station	No.100, Guiren Blvd., Guiren Dist., Tainan City 711010, Taiwan (R.O.C.)
Zuoying Station	No. 105 Gaotie Rd., Tsoying District Kaoshiung City 813782, Taiwan (R.O.C.)
Liujia Depot	No. 55, Lane 358, Sec. 5, Xinglong Rd., Zhubei City, Hsinchu County 302053, Taiwan (R.O.C.)
Wuri Depot	No.828, Qingguang Rd., Wuri Dist., Taichung City 414018, Taiwan (R.O.C.)
Taibao Depot	No.360, Kaotie Si Rd., Taibao City, Chiayi County 612001, Taiwan (R.O.C.)
Yanchao Main WorkShop	No. 500, Gaotie-zongchang Rd., Yanchao Dist., Kaohsiung City 824005, Taiwan (R.O.C.)
Zuoying Depot	No.1999, Gaotie Rd., Renwu Dist., Kaohsiung City 814032, Taiwan (R.O.C.)
Taoyuan OMC Building	No. 2, Sec. 1, Gaotie N. Rd., Cingpu Village, Zhongli Dist., Taoyuan City 32056, Taiwan (R.O.C.)
Taipei Headquarters	13~15F., No. 66, Jingmao 2nd Rd., Nangang District, Taipei City 115605, Taiwan (R.O.C.)

Location	Address
Main Line(Train and Trackside Equipment)	The total length of the THSR operating route from Nangang to Zuoying is 350 kilometers.

- Physical infrastructure, activities, technologies and processes of the organization:
The high-speed rail transportation service.
- GHG sources, sinks and/or reservoirs included: Sources as presented in the inventory spreadsheet provided by TAIWAN HIGH SPEED RAIL.
- Types of GHGs included: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃
- The IPCC 2021 AR6 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 0.495 kgCO₂e/kwh (Announced by Bureau of Energy, Ministry of Economic Affairs in 2023).
 - 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: 15 August 2023
- The version of GHG assertion: 15 August 2023
- 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

TAIWAN HIGH SPEED RAIL provided the GHG assertion based on the requirements of ISO 14064-1: 2018. The GHG information for the period 01 January 2022 to 31 December 2022 disclosing emissions of 417,500.377 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.

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.		6,310.5185
Indirect emissions	Imported energy	Indirect emissions from imported electricity	309,005.6479
	Transportation	<ul style="list-style-type: none"> Emissions from upstream transport and cargo distribution Emissions from employee commuting (car/taxi/MRT) Emissions from business travel (MRT/taxi/airplane) 	3,702.0153
	Products used by an organization	<ul style="list-style-type: none"> Emissions from purchased goods (consumables and spare parts/tap water during the service process) Emissions generated upstream from energy resources Emissions from capital goods (purchased machinery and equipment) Emissions from solid and liquid waste processing Emissions from leased assets (electricity/water) 	90,337.3708
	Associated with the use of products from the organization	Emissions from downstream leased assets (electricity/water)	8,144.8244
	Other sources	Undisclosed	NA
Direct emissions and indirect emissions			417,500.377

Statement TW23/00507GG, continued

The emission of each site is described as below:

Unit: tonnes of CO₂e

Site	Direct emissions	Indirect emissions	Total GHG emissions
Nangang Station	15.7002	12,133.4657	12,149.166
Taipei Station	1.1468	10,463.7522	10,464.899
Banqiao Station	86.3957	8,699.3733	8,785.769
Taoyuan Station	1.5151	7,209.4628	7,210.978
Hsinchu Station	6.7455	4,135.1391	4,141.885
Miaoli Station	0.9331	2,395.9086	2,396.842
Taichung Station	61.9091	11,861.3093	11,923.218
Changhua Station	51.0902	2,625.8487	2,676.939
Yunlin Station	1.1251	2,092.7001	2,093.825
Chiayi Station	444.7306	5,261.5558	5,706.286
Tainan Station	4.7204	4,398.2395	4,402.960
Zuoying Station	176.1146	11,108.8316	11,284.946
Liujiia Depot	118.2638	1,057.3786	1,175.642
Wuri Depot	425.6892	2,583.1936	3,008.883
Taibao Depot	29.9033	632.3892	662.293
Yanchao Main WorkShop	2,023.5160	5,194.1371	7,217.653
Zuoying Depot	2,851.0430	4,194.8697	7,045.913
Taoyuan OMC Building	0.5798	3,881.0883	3,881.668
Taipei Headquarters	7.7056	11,572.3102	11,580.016
Main Line(Train and Trackside Equipment)	1.6914	299,688.9050	299,690.596

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 TAIWAN HIGH SPEED RAIL 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 TAIWAN HIGH SPEED RAIL 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:

Kyle Lu.

Verifier:

Royalo

Aiden Tseng

Dave Lin

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 HIGH SPEED RAIL CORPORATION, 13F., No. 66, Jingmao 2nd Rd., Nangang Dist., Taipei City 115, 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.