Independent Verification Opinion

Verification Opinion No.:	Issued Place:	Issued Date:
C676786-2023-AG-TWN-DNV	Taipei	29 July, 2024

This is to verify initiate reporting of Greenhouse Gas Inventory Management Report (2023) of

CHINA STEEL CORPORATION

Scope of Verification
DNV Business Assurance (DNV) has been commissioned by CHINA STEEL CORPORATION ('the Organization') to perform a verification of the greenhouse gas statements of Greenhouse Gas Inventory Management Report (2023) (hereafter the "Inventory Report") with respect to the area: No. 1, Chung Kang Rd., Hsiao Kang, Kaohsiung, Taiwan, R.O.C. The sites listed in Appendix A.

The Reporting Boundary for the verification including direct GHG emissions and removals, indirect GHG emissions from imported energy, indirect GHG emissions from transportation and indirect GHG emissions from products used by the Organization. The further descriptions for the Reporting Boundary listed in Appendix B.

Verification Criteria and GHG Programme
The verification was performed on the basis of ISO 14064-1:2018 as well as criteria given to provide for consistent GHG emission identification, calculation, monitoring and reporting.
The verification was conducted in accordance with ISO 14066:2011, ISO 14065:2020, ISO14064-3:2019

Verification Opinion
It is DNV's opinion that the Inventory Report (2023), which was published on April 2024 is free from material discrepancies in accordance with the verification criteria identified as stated above. The opinion is decided based on the following approaches,

- For the Direct (Category 1) and Indirect GHG emissions from imported energy (Category 2), the reliability of the information within the Inventory Report (2023) were verified with reasonable level of assurance.
- For the other indirect GHG emissions, the involved information was verified and tested using agreed-upon procedures, AUP, defined in Inventory Report.

Also, the GHG information as stated in Appendix C has been verified during the process.

Jesse Wu
GHG Verifier

Place and date:
Taipei, 29 July, 2024

For the issuing office:
DNV Business Assurance Co., Ltd.
29Fl., No. 293, Sec. 2, Wenhua Rd., Banqiao District, New Taipei City 220, Taiwan

Management Representative

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Supplement to Verification Opinion

Process and Methodology

The reviews of the Inventory Report and relevant documents, and the subsequent follow-up interviews have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

Quantification of Greenhouse Gas Emission

The Inventory Report covering the period 1 January, 2023 to 31 December, 2023, it is DNV's opinion that GHG emissions and removals identified within the Reporting Boundary has been included in the Inventory Report as claimed in accordance with the verification criteria identified as stated above, and results in quantification of GHG emissions that are real, transparent and measurable.

Organizational Boundary of Verification

☐Financial Control ☒Operational Control ☐Equity Share

GHGs Verified

☒CO_2 ☒CH_4 ☒N_2O ☒$HFCs$ ☒$PFCs$ ☒SF_6 ☒NF_3

The Quantification of GHG emissions:

Category		Emission (ton CO_2e)
Category 1	**Direct GHG emissions and removals**	**16,809,455.0264**
Category 2	**Indirect GHG emissions from imported energy**	**1,249,101.7137**
Category 3	**Indirect GHG emissions from transportation**	**423,205.7814**
3.1	Emissions from upstream transport and distribution for goods	423,018.4377
3.5	Emissions from Business travels	187.3437
Category 4	**Indirect GHG emissions from products used by an organization**	**1,013,462.4372**
4.1	Purchased goods and services (including purchased energy)	1,012,053.8733
4.3	Emissions from the disposal of solid and liquid waste	1,408.5639
Total		**19,495,224.9587**

*The Imported Energy Indirect Emissions was calculated based on 2023 electricity emission factor of 0.494 kg CO_2-e/kwh, which was announced by Administration of Energy, Ministry of Economic Affairs. The Global Warming Potential (GWP) defined in IPCC AR6 (2021) has been chosen and correctly referred by the Organization.
**During the verification process, confirmed that 28,809,461 kilowatt-hours of renewable energy were used, and 28,810 certificates from the National Renewable Energy Certification Center. (https://www.trec.org.tw/certification/)
***The renewable energy from solar and wind power emissions factor of 0 was calculated based on 2024 Greenhouse Gas Emissions Inventory published by the Ministry of Environment.

Verification Opinion

☒ unmodified ☐ modified ☐ adverse

Appendix to Verification Opinion No. C676786-2023-AG-TWN-DNV

APENDIX A

The organization boundary of report:

Plant	Address	Category 1 (Ton CO_2e)	Category 2 (Ton CO_2e)	Category 3 (Ton CO_2e)	Category 4 (Ton CO_2e)
Total Emissions of GOLDSUN BUILDING MATERIALS CO., LTD.		**16,809,455.0264**	**1,249,101.7137**	**423,205.7814**	**1,013,462.4372**
HSIAO KANG PLANT 中鋼公司小港廠區	No. 1, Chung Kang Rd., Hsiao Kang, Kaohsiung, Taiwan, R.O.C. 高雄市小港區中鋼路 1 號	16,759,745.9916	1,155,954.3753	-	-
NO.3 COLD ROLLING MILL 第三冷軋廠	No. 8-2, Gangcheng St., Siaogang Dist., Kaohsiung City, Taiwan (R.O.C.) 高雄市小港區鋼成街 8-2 號	49,700.9378	101,898.0561	-	-
NO.2 BILLET CONDITION MILL 第二小鋼胚表面處理工場	No. 56, Yanhai 3rd Rd., Siaogang Dist., Kaohsiung City, Taiwan (R.O.C.) 高雄市小港區沿海三路 56 號	-	2,058.2411	-	-
COAL ASH MIXING PLANT 煤灰礦泥拌合料場	No.5, Guangyang St., Siaogang Dist., Kaohsiung City, Taiwan (R.O.C.) 高雄市小港區光陽街 5 號	-	72.7168	-	-
YONG GUANG WAREHOUSE 永光倉庫	No.1, Yongguang St., Siaogang Dist., Kaohsiung City, Taiwan (R.O.C.) 高雄市小港區永光街 1 號	-	133.7752	-	-
LIEN HUA WAREHOUSE 聯華倉庫	No.26, Taiji Rd., Siaogang Dist., Kaohsiung City, Taiwan (R.O.C.) 高雄市小港區台機路 26 號	-	105.9067	-	-
HUA LIEN STONE PLANT 花蓮石料場	No. 4-1, Huadong, Hualien City, Hualien County, Taiwan (R.O.C.) 花蓮市華東路 4-1 號	6.9185	133.8740	-	-
CSC STEEL BUILDING 中鋼集團總部大樓	No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City, Taiwan (R.O.C.) 高雄市前鎮區成功二路 88 號	-	3,100.7866	-	-
LIN HAI PLANT 臨海廠(倉庫)	No.38, Daye S. Rd., Siaogang Dist., Kaohsiung City, Taiwan (R.O.C.) 高雄市小港區大業南路 38 號	-	829.2739	-	-
TAIPEI LIAISON OFFICE 台北聯絡處	Rm. A, 28F., No.7, Sec. 5, Xinyi Rd., Xinyi Dist., Taipei City, Taiwan (R.O.C.) 台北市信義區信義路五段 7 號 28 樓 A 室	1.0535	55.9385	-	-
OSAKA OFFICE 大阪代表處	1F, Osaka U2 Bldg., 4-7 Uchihonmachi 2-Chome, Chuoku, Osaka 540-0026 Japan 大阪市中央區內本町二丁目 4-7 大阪 U2 大樓 1F	0.1250	7.3632	-	-

APENDIX B

The Reporting Boundary of CHINA STEEL CORPORATION Greenhouse Gas Inventory Management Report (2023)

Indirect emissions verification procedures:

Category	Subcategory	Verification Procedures
Category 2	2.1 Imported electricity	-The amount of greenhouse gas emissions produced by the imported electricity including all sites
Category 3	3.1 Upstream purchased goods transportation and distribution	- Upstream transportation and distribution-Outsourced transportation of raw materials -Distance of transportation from supplier -Distance of marine transportation from overseas port to Kaohsiung Port
	3.5 Business travels	Distance of business trip within the country and business trip abroad. Transportation includes airplanes, trains, cars and others.
Category 4	4.1 Upstream purchased goods	-Product purchased-the GHG emitted related to the production of purchased energy (electricity and oil), but not included in Categories 1 and 2.
	4.3 Waste treatment and transportation	- Disposal of solid and liquid waste-the GHG emitted related to waste disposal.
Category 5*	Indirect GHG emissions associated with the use of products from the organization	Not Significant Emissions
Category 6*	Indirect GHG emissions from other sources	Not Significant Emissions

NOTE: Category 5 & Category 6 were evaluated as Not Significant Emissions base on CHINA STEEL CORPORATION's significant emission identification process reported in GHG inventory report.

APPENDIX C

For direct emissions and removals, quantified separately for each GHG as below:

GHG Type	CO_2	CH_4	N_20	HFCs	PFCs	SF_6	NF_3	Total
Emissions (ton CO_2e)	16,800,803.6002	1,326.3967	557.0019	6,732.7476	0	35.2800	0	16,809,455.0264
Proportion (%)	99.949	0.008	0.003	0.040	0.000	0.000	0.000	100