



VERIFICATION OPINION OF GREENHOUSE GAS

The Verification Body
 of TÜV SÜD Asia Ltd., Taiwan Branch
 attests that the GHG inventory reported by

Chunghwa Telecom Group's Subsidiaries

No. 21-3, Sec. 1, Xinyi Rd., Zhongzheng Dist., Taipei City, 100012, Taiwan., R.O.C.

In compliance with
ISO 14064-1:2018

Total Emissions: 19,639.117 tonnes CO₂e, **including**
 - **Direct Emissions (Category 1):** 4,577.2332 tonnes CO₂e
 - **Indirect Emissions (Category 2):** 15,061.8841 tonnes CO₂e
 - **Indirect Emissions (Category 3 to 6):** N/A tonnes CO₂e
 (GWP values are consist with IPCC-AR6 2021)

Organizational Boundaries: Operational Control
Covered Period: 2022-01-01 to 2022-12-31
Level of Assurance: Reasonable Assurance (Category 1 and 2)
Materiality threshold: The GHG emissions below 5% for deviations
Verification Report No.: 61.027.23.007.01
Opinion Registration No.: TÜV 23 06 5010929190. 01
Issue Date: 2023-08-10

TÜV SÜD Asia Ltd., Taiwan Branch
 TÜV SÜD Group

Explanations to the Verification Opinion

Brief description of the Verification process

TÜV SÜD Asia Ltd. Taiwan Branch (hereinafter referred to as TÜV SÜD) commissioned to verify GHG emissions for Chunghwa Telecom Group's Subsidiaries (hereinafter referred to as CHT Group's Subsidiaries). Lead Verifier Robert Dai, Verifiers Jane Lin and Chun Lian from TÜV SÜD conducted the verification activities, for the reporting period 2022-01-01 to 2022-12-31. Evaluating the conformity of GHG related verification specification for the organization, including the principles and requirements of the standards or GHG scheme that applied to the verification scope. This review is based on the intended area of application, the goals and criteria as agreed upon with the commissioning on 2023-06-12

On-site Verification

Lead Verifier Robert Dai, Verifiers Jane Lin and Chun Lian from TÜV SÜD conducted the on-site visit verification activities of responsible at the Chunghwa Telecom Co., Ltd head quarter in Taipei, Taiwan (site address: No. 21-3, Sec. 1, Xinyi Rd., Zhongzheng District, Taipei City, 100), on the 2023-06-19, 2023-06-20, 2023-06-21 for Stage 1 verification, and 2023-07-10 for Stage 2 verification.

In particular, the following two sites were visited:

- Site1: Honghwa International Co., Ltd. Head Office.
(site address: No. 168, Minzu Rd., Banqiao Dist., New Taipei City 22065, Taiwan)
- Site2: Chunghwa Leading Photonics Tech Co., Ltd.
(site address: 6, Ziqiang 7th Rd., Zhongli Dist., Taoyuan City 32063, Taiwan)

The following three sites were remotely verified:

- Site1: International Integrated Systems, Inc.
(site address: 6F., No.7, Sec. 2, Xianmin Blvd., Banqiao Dist. ; New Taipei City 22041, Taiwan)
- Site2: Chunghwa System Integration Co., Ltd.
(site address: 1, No.2, Lane 8, 85 Lane, Section 3, Muzha Road Wenshan Dist. Taipei City, 116, Taiwan)
- Site3: Chunghwa Sochamp Technology Inc.
(site address: Rm. 3B38, 3 F., No. 5, Sec. 5, Xinyi Rd., Xinyi Dist., Taipei City 110202, Taiwan)

Roles and responsibilities

The determination and reporting of GHG emissions are the sole responsibility of our client.

Our role and responsibility as a verification body was to independently verify the adequacy of the GHG emissions reported by our client, as well as the underlying systems and processes for data collection, analysis and control, in accordance with the requirements of ISO 14064-3.

Standards for data processing

ISO 14064-1:2018 ("Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals").

Scope of application / System boundaries

The GHG reporting includes the inventory for the calendar year 2022 of CHT Group's Subsidiaries. The operational control approach was chosen, which means that all operations are included in the GHG accounting over which the company has full authority to introduce and implement its operating policies. The organizational boundary of this greenhouse gas inventory includes the subsidiaries of the Chunghwa Telecom Co., Ltd., totalling 18 subsidiaries. Chunghwa Telecom Co., Ltd' has excluded Senao International Co., Ltd. and CHIEF Telecom Inc. from the organizational boundaries.

Please refer to Appendix 1, which includes the operational control subsidiaries list within the CHT Group's Subsidiaries 2022 GHG inventory.

The following emission sources were identified and associated GHG emissions accounted:

missions accounted:

Reporting Boundaries		GHG Emissions(tCO ₂ e)
Categories		
Category 1: Direct GHG emissions	Stationary combustion	8.8250
	Mobile combustion	3652.5776
	Industrial processes(anthropogenic systems)	29.2912
	Fugitive(anthropogenic systems)	886.5394
	Land use, land use change and forestry	N/A
Total of Category 1		4,577.2332
Category 2: Indirect GHG emissions from imported energy	Imported electricity	15,061.8841
Total of Category 2		15,061.8841
Category 3: Indirect GHG emissions from transportation	N/A	
Category 4: Indirect GHG emissions from products used by organization	N/A	
Category 5: Indirect GHG emissions associated with the use of products from the organization	N/A	
Category 6: Other Sources	N/A	
Total of Category 3 to 6		N/A



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Please refer to Appendix 2, which includes the emissions of subsidiaries in the CHT Group's Subsidiaries 2022 GHG Inventory 2022 GHG inventory, and Appendix 3 with the categorization of GHG emissions according to the Greenhouse Gas Protocol.

No biogenic emissions or removals were present at the time of the verification

No direct GHG removals or storages were present at the time of the verification

Relevant emissions in the balance

The greenhouse gas inventory contains the specified greenhouse gases with information as CO₂ equivalents. No further GHG as such were identified.

Standard for the Verification

ISO 14064-3:2019 ("Specification with guidance for verification and validation of GHG statements")

Objectives of the Verification

The assessment was performed with due regard to our impartiality in a risk-based approach. Rational procedures were applied to reach reliable and reproducible conclusions. Within the scope of our verification, a sufficient amount of suitable evidence needed to be collected and explained in the verification by representatives of CHT Group's Subsidiaries and persons appointed for this purpose. This was to enable sufficient traceability of the information presented with the GHG opinion.

Criteria

The data review was conducted according to the following criteria: Relevance, completeness, accuracy, transparency of information and consistency. The assessment of alternatives according to the quantification model used was carried out according to the principle of conservatism.

Agreed level of assurance

Reasonable assurance of category1 and category 2.

Materiality threshold

The materiality threshold required of the verification was considered to 5%.

Comment:

The materiality threshold is a benchmark for our assessment of data gaps, misstatements and non-conformities remaining at the end of our review. Gaps, omissions, inaccuracies identified during the review that result in quantities greater than the established thresholds constitute a "material deviation", i.e. non-conformities, that must be addressed before a verification opinion can be issued.



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Methods of Verification

- Document review and reconciliation with documentation requirements.
- Random sample checks of supporting evidence and database values
- Review of data and information systems and methodologies for collection, aggregation,
- analysis and verification of information used to determine GHG emissions
- Plausibility checks
- Strategic analysis and risk assessment based on the submitted GHG report
- Independent technical review through a lead verifier that was not participating in the verification.

Conclusions

With our review of the greenhouse gas reporting of CHT Group's Subsidiaries (file name: "GHG Verification Report at Organization Level-CHT Group's Subsidiaries_2022"), dated 2023-08-07, we conclude that, in all material respects, the greenhouse gas emissions and removals are presented fairly and factually in accordance with the specifications and standards used as a basis here.

Based on the results of our verification process, we confirm the reported emissions and the achievement of the agreed level of assurance and compliance with materiality thresholds.

Our verification opinion is only to be interpreted together with the report on greenhouse gases of CHT Group's Subsidiaries.

This opinion is issued in accordance with the agreement reached with the client and within the framework of our validation and verification regulations. The results documented here are based on our internal documentation for this verification with project no. 718862472.

Remaining Issue

No.(The verification data of this opinion still available when remaining issues were listed by TÜV SÜD)

Note: This Opinion is issued, on behalf of the client, by TÜV SÜD under its general conditions for Greenhouse Gas Verification Service Description. The findings recorded hereon are based upon an audit performed by TÜV SÜD. A full copy of this opinion, the findings and the supporting GHG Assertion may be consulted at the organization. To check the validity of this opinion please call (+886-2-2898-6818). 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 TÜV SÜD and TÜV SÜD shall have no responsibility vis-à-vis parties other than its client.



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Appendix 1: List of Subsidiaries Under Operational Control
Included in the CHT Group's Subsidiaries 2022 GHG Inventory

No.	Subsidiaries Name	Registered Address
1	Honghwa International Co., Ltd.	8 F., No. 88, Sec. 4, Xinyi Rd., Da'an Dist., Taipei City 106097, Taiwan
2	Chunghwa Leading Photonics Tech Co., Ltd.	6, Ziqiang 7th Rd., Zhongli Dist., Taoyuan City 32063, Taiwan
3	International Integrated Systems, Inc.	6F., No.7, Sec. 2, Xianmin Blvd., Banqiao Dist. ; New Taipei City 22041, Taiwan
4	Chunghwa Telecom Japan Co., Ltd.	Level 5, Asagawa Building 2-1-17 Shiba Daimon, Minato-Ku, Tokyo 105-0012 Japan
5	Chunghwa Telecom Singapore Pte., Ltd.	331 North Bridge Road, #03-05 Odeon Towers, Singapore 188720
6	Chunghwa Telecom Global, Inc.	2107 N. 1st St. Ste.580, San Jose, CA 95131, USA
7	Donghwa Telecom Co., Ltd.	Unit A, 7/F., Tower A, Billion Centre, No.1 Wang Kwong Road, Kowloon Bay, Kowloon, Hong Kong
8	Smartfun Digital Co., Ltd.	8F, No. 88, Sec. 4, Xinyi Rd., Da'an Dist., Taipei City 106096, Taiwan
9	Spring House Entertainment Tech. Inc.	10 F., No. 106, Zhouzi St., Neihu Dist., Taipei City 114688, Taiwan
10	Chunghwa Investment Co., Ltd	8F, No. 88, Sec. 4, Xinyi Rd., Da'an Dist., Taipei City 106096, Taiwan
11	Chunghwa Telecom (Thailand) Co., Ltd.	33/4, The 9th Towers, Grand Rama 9, Tower B, 25th Fl., Unit No. TNBO 2503 Rama 9 Road Huaykwang District, Bangkok 10310, Thailand
12	Chunghwa System Integration Co., Ltd.	1, No.2, Lane 8, 85 Lane, Section 3, Muzha Road Wenshan Dist. Taipei City, 116. Taiwan
13	Chunghwa Telecom Vietnam Co., Ltd.	Room 703, 7 th Floor, 3D VN, Duy Tan St., Dich Vong Hau Ward, Cau Giay Dist., Hanoi City, Vietnam



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No.	Subsidiaries Name	Registered Address
14	Chunghwa Sochamp Technology Inc.	Rm. 3B38, 3 F., No. 5, Sec. 5, Xinyi Rd., Xinyi Dist., Taipei City 110202, Taiwan
15	CHT Security Co., Ltd.	8F, No. 88, Sec. 4, Xinyi Rd., Da'an Dist., Taipei City 106096, Taiwan
16	LIGHT ERA DEVELOPMENT CO.,LTD	1F, No. 89-1, Sec. 4, Xinyi Rd., Da'an Dist., Taipei City 106096, Taiwan
17	CHYP Multimedia Marketing & Communications Co., Ltd	9F, No. 89-1, Sec. 4, Xinyi Rd., Da'an Dist., Taipei City 106096, Taiwan
18	Prime Asia Investments Group Ltd.	No operation site



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Appendix 2: Emissions of Subsidiaries in the CHT Group's Subsidiaries 2022 GHG Inventory

No.	Subsidiaries Name	Category1 Emissions	Category2 Emissions	Total Emissions
1	Honghwa International Co., Ltd.	4,282.97	12,415.13	16,698.10
2	Chunghwa Leading Photonics Tech Co., Ltd.	31.47	1,125.21	1,156.68
3	International Integrated Systems, Inc.	107.25	314.01	421.26
4	Chunghwa Telecom Japan Co., Ltd.	0.03	70.85	70.88
5	Chunghwa Telecom Singapore Pte., Ltd.	0.26	5.98	6.24
6	Chunghwa Telecom Global, Inc.	10.53	41.23	51.76
7	Donghwa Telecom Co., Ltd.	-	18.62	18.62
8	Smartfun Digital Co., Ltd.	2.28	57.93	60.21
9	Spring House Entertainment Tech. Inc.	2.85	97.24	100.09
10	Chunghwa Investment Co., Ltd	0.81	57.65	58.46
11	Chunghwa Telecom (Thailand) Co., Ltd.	10.68	2.37	13.05
12	Chunghwa System Integration Co., Ltd.	79.60	301.58	381.18
13	Chunghwa Telecom Vietnam Co., Ltd.	0.45	9.35	9.80
14	Chunghwa Sochamp Technology Inc.	18.01	14.60	32.61
15	CHT Security Co., Ltd.	15.46	234.79	250.25
16	LIGHT ERA DEVELOPMENT CO.,LTD	1.92	48.66	50.58
17	CHYP Multimedia Marketing & Communications Co., Ltd	12.66	246.69	259.35
18	Prime Asia Investments Group Ltd.	-	-	-
Total Emissions		4,577.23	15,061.89	19,639.12



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Appendix 3: GHG emissions according to the Greenhouse Gas Protocol Categories

Category of GHG Protocol	Corresponding category to ISO 14064-1:2018	GHG Emissions(tCO ₂ e)
Scope 1	Category 1:Direct GHG emissions	4,577.2332
Scope 2	Category 2:Indirect GHG emissions from imported energy	15,061.8814
Scope 3	Category 3:Indirect GHG emissions from transportation Category 4:Indirect GHG emissions from products used by organization Category 5:Indirect GHG emissions associated with the use of products from the organization Category 6:Other Sources	N/A