

Greenhouse Gas Verification Opinion

The inventory of Greenhouse Gas emissions in year 2023 of

Taiwan Mobile Co., Ltd.

11F., No.88, Yanchang Rd., Xinyi Dist.,
Taipei City 110, Taiwan



has been verified in accordance with ISO 14064-3:2019 as
meeting the requirements of

ISO 14064-1:2018

Direct emissions

6,098.4759 tonnes of CO₂e

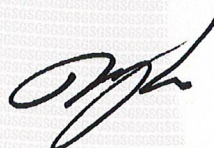
Indirect emissions

627,207.1836 tonnes of CO₂e

Direct emissions and indirect emissions

633,305.660 tonnes of CO₂e

Authorized by



Stephen Pao

Business Assurance Director

Date: 25 April 2024

Version 1

TGP56B-15-1 2401

SGS Taiwan Ltd.

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Opinion TW24/00218GG, continued

The emission of each category is described as below:

Unit: tonnes of CO₂e

Reporting Boundaries			GHG Emissions	
Inventory categories		Description	Location-based	Market-based
Direct emissions		This direct GHG emissions are the sum of owned or controlled by the organization within the organization.	6,098.4579	
Indirect emissions	Imported energy	Imported electricity	285,603.6986	285,523.5086
	Transportation	3.1 Upstream transportation and distribution 3.2 Business travel 3.3 Employee commuting 3.4 Downstream transportation and distribution	3,638.4964	
	Products used by an organization	4.1 Purchased goods and services 4.2 Capital goods 4.3 Fuel- and energy- related activities (not included in category 1 or category 2) 4.4 Waste generated in operations 4.5 Upstream leased assets	314,274.5114	
	Associated with the use of products from the organization	5.1 Use of sold products 5.2 End-of-life treatment of sold products 5.3 Downstream leased assets 5.4 Franchises	23,690.4772	
	Other sources	(not significant)	N/A	
Direct emissions and indirect emissions			633,305.660	633,225.470
Purchased Renewable Energy Certificate(s) Information				
Site/Location	Type	Renewable Energy Source/Location	Imported energy emissions	
			Location-based	Market-based
Taiwan Mobile/ Taiwan	T-REC (bundled T-RECs)	Solar Energy/ Taiwan	285,603.6986	285,523.5086

Opinion TW24/00218GG, continued

SGS, No. 136-1, Wu Kung Road, New Taipei Industrial Park, Wu Ku District, New Taipei City 24803, Taiwan, has been contracted by Taiwan Mobile Co., Ltd. (hereinafter referred to as "Taiwan Mobile"), 11F., No.88, Yanchang Rd., Xinyi Dist., Taipei City 110, Taiwan for the verification of direct and indirect Greenhouse Gas emissions in accordance with

ISO 14064-3:2019

as provided by Taiwan Mobile Co., Ltd. (hereinafter referred to as "Taiwan Mobile"), 11F., No.88, Yanchang Rd., Xinyi Dist., Taipei City 110, Taiwan, in the GHG Statement in the form of GHG report.

Roles and responsibilities

- The management of Taiwan Mobile 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.
- The verification was based on the verification scope, objectives and criteria as agreed between Taiwan Mobile and SGS on 19 November 2021.
- Verification Criteria: ISO 14064-1:2018, ISO 14064-3:2019
- Verification Period: 08 March 2024 to 26 March 2024

Scope

- GHG information for the following period was verified: 01 January 2023 to 31 December 2023
- Location/boundary of the activities:

Company	Address
Taiwan Mobile Co., Ltd.	11F~13F, No. 88, Yanchang Rd., Xinyi District, Taipei
Taiwan Fixed Network Co., Ltd.	3~8F, No. 111, Dunhua S. Rd., Sec. 1, Da-an District., Taipei
Taiwan Teleservices & Technologies Co., Ltd.	10F., No. 2-1, Ln. 609, Sec. 1, Chongxin Rd., Sanchong Dist., New Taipei City
Taiwan Digital Service Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei
Taiwan Kuro Times Co., Ltd.	12F, No. 88, Yanchang Rd., Xinyi District, Taipei

Opinion TW24/00218GG, continued

Company	Address
TFN Media Co., Ltd. Subsidiary: Yeong Jia Leh Cable TV Co., Ltd. Subsidiary: Mangrove Cable TV Co., Ltd. Subsidiary: Phoenix Cable TV Co., Ltd. Subsidiary: Union Cable TV Co., Ltd. Subsidiary: Globalview Cable TV Co., Ltd.	11F, No. 98, Zhouzi St., Neihu District, Taipei 10F, No. 651-5, Zhongzheng Rd., Xinzhuang District, New Taipei City 5F, No. 33, Lane 3, Zhongzheng E. Rd., Sec. 1, Danshui District, New Taipei City No. 312, Fongping 1st Rd., Daliao District, Kaohsiung No.179, Nujhong Rd., Sec. 1, Yilan City, Yilan County No. 206, Datong Rd., Sec. 2, Xizhi District, New Taipei City
Win TV Broadcasting Co., Ltd.	11F, No. 98, Zhouzi St., Neihu District, Taipei
Taihsin Property Insurance Agent Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei
Taipei New Horizon Co., Ltd.	6 F., No. 88, Yanchang Rd., Xinyi Dist., Taipei City
TWM Holding Co., Ltd. (TWM Holding)	ARIAS, FABREGA & FABREGA TRUST CO. BVI LIMITED, 325 Waterfront Drive, Road Town, Tortola, British Virgin Islands
TCC Investment Co., Ltd. (TCCI)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
Tai-Fu Cloud Technology Co., Ltd. (TFC)	4F, No. 111, Sec. 1, Dunhua S. Rd., Da' an Dist., Taipei City 106075, Taiwan (R.O.C.)
Global Forest Media Technology Co., Ltd. (GFMT)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
Global Wealth Media Technology Co., Ltd. (GWMT)	1F, No. 206, Datong Rd., Sec. 2, Xizhi District, New Taipei City
TFN Union Investment Co., Ltd. (TUI)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
TWM Communications (Beijing) Co., Ltd. (TWMC)	Room 2106, No. 9, Beisihuan West Rd., Haidian District, Beijing, China
TCCI Investment and Development Co., Ltd. (TID)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
Taiwan Cellular Co., Ltd. (TCC)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
Wealth Media Technology Co., Ltd. (WMT)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)

Opinion TW24/00218GG, continued

Company	Address
TWM Venture Co., Ltd. (TVC)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
Taiwan Mobile Film Co., Ltd. (TWMFM)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
Taiwan Stampede Franchise Film Co., Ltd. (SFF)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
Fu Sheng Digital Co., Ltd. (FSD)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
TWM Power Co., Ltd. (TPC)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)
FullSynergy New Retail Co., Ltd. (FSNR)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)

- 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 Inventory Operation Guideline (2022.05).
 - Indirect emissions:
 - Electricity emission factor is 0.495 kgCO₂e/kwh (Announced by Energy Administration, Ministry of Economic Affairs in 2023).
 - The secondary database has Carbon Footprint Information Platform, Simapro 9.0 (Ecoinvent 3.0) and CFP study for specific purchased goods/ service
- 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.
- Materiality : 5%
- The version of inventory sheet: 20240401v1
- The version of GHG statement: 20240401v2
- Intended user of the verification opinion: 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 statement
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

Conclusion

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 the GHG emissions are free from material misstatement.

- The greenhouse gas emissions is 633,305.660 metric tonnes of CO₂ equivalent
- The emissions from the combustion of biomass is 0.000 metric tonnes of CO₂ equivalent

The emission of each category is described as below:

Unit: tonnes of CO₂e

Reporting Boundaries			GHG Emissions
Inventory categories	Description		
Direct emissions		Direct emissions from stationary combustion	98.2674
		Direct emissions from mobile combustion	1,413.4653
		Direct process emissions and removals from industrial processes	N/A
		Direct fugitive emissions arise from the release of GHGs in anthropogenic systems	4,586.7432
		Direct emissions and removals from land use, land use change and forestry	N/A
Indirect emissions	Imported energy	Imported Electricity	285,603.6986
	Transportation	3.1 Upstream transportation and distribution 3.2 Business travel 3.3 Employee commuting 3.4 Downstream transportation and distribution	3,638.4964
	Products used by an organization	4.1 Purchased goods and services 4.2 Capital goods 4.3 Fuel- and energy- related activities (not included in category 1 or category 2) 4.4 Waste generated in operations 4.5 Upstream leased assets	314,274.5114

Opinion TW24/00218GG, continued

Reporting Boundaries		GHG Emissions
Inventory categories	Description	
Associated with the use of products from the organization	5.1 Use of sold products 5.2 End-of-life treatment of sold products 5.3 Downstream leased assets 5.4 Franchises	23,690.4772
Other sources	(not significant)	N/A
Direct emissions and indirect emissions		633,305.660

Taiwan Mobile purchased 162 Renewable Energy Certificate(s) in 2023. The imported energy emissions by location-based and market-based approach shown as the following table :

Unit: tonnes of CO₂e

Purchased Renewable Energy Certificate(s) Information				
Site/Location	Type	Renewable Energy Source/Location	Imported energy emissions	
			Location-based	Market-based
Taiwan Mobile/ Taiwan	T-REC (bundled T-RECs)	Solar Energy/ Taiwan	285,603.6986	285,523.5086

- The opinion of SGS is modified in accordance with the following described circumstances.
 - The verifier has sufficient and appropriate evidence to support the material emissions, removals, or storage.
 - The verifier applies appropriate criteria for the material emissions, removals, or storage.
 - When the verifier intends to rely on relevant controls, the effectiveness of those controls has been assessed.
 - The verifier, applying the ISO 14064-1:2018 standard, presents the following findings. After adjustments and corrections, no material errors were identified.
 - Definition of purchased goods was clarified
 - Coefficient of electricity usage of Franchises was clarified
 - Data from T-Star was clarified and excluded
- Retention Limitation: N/A

Opinion TW24/00218GG, continued

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 conducted 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 opinion shall be interpreted with the GHG statement of Taiwan Mobile as a whole.

Verifier Group

Above opinions coincide with auditing process with fairness and impartiality and aim at the emission of year 2023 of clients.

Lead Verifier:

Dave Lin

Verifier:

Sunny Chung

Sophia Chai

Kyle Tang

Jim Tsai

Note: This opinion 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 opinion, the findings and the supporting GHG Assertion may be consulted at Taiwan Mobile Co., Ltd., 11F., No.88, Yanchang Rd., Xinyi Dist., Taipei City 110, Taiwan. 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 SGS and SGS shall have no responsibility vis-à-vis parties other than its Client.

Appendix A Reporting Boundaries for Taiwan Mobile

The company included within Taiwan Mobile Co., Ltd. for 2023 GHG inventory.

Company	Address	Category & Sub-Category
Taiwan Mobile Co., Ltd.	11F~13F, No. 88, Yanchang Rd., Xinyi District, Taipei	1, 2, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 5.2, 5.3, 5.4
Taiwan Fixed Network Co., Ltd.	3~8F, No. 111, Dunhua S. Rd., Sec. 1, Da-an District., Taipei	1, 2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
Taiwan Teleservices & Technologies Co., Ltd.	10F., No. 2-1, Ln. 609, Sec. 1, Chongxin Rd., Sanchong Dist., New Taipei City	1, 2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 4.5, 5.3
Taiwan Digital Service Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei	1, 2, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 4.5
Taiwan Kuro Times Co., Ltd.	12F, No. 88, Yanchang Rd., Xinyi District, Taipei	1, 2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 4.5
TFN Media Co., Ltd. Subsidiary: Yeong Jia Leh Cable TV Co., Ltd. Subsidiary: Mangrove Cable TV Co., Ltd. Subsidiary: Phoenix Cable TV Co., Ltd. Subsidiary: Union Cable TV Co., Ltd. Subsidiary: Globalview Cable TV Co., Ltd.	11F, No. 98, Zhouzi St., Neihu District, Taipei 10F, No. 651-5, Zhongzheng Rd., Xinzhuang District, New Taipei City 5F, No. 33, Lane 3, Zhongzheng E. Rd., Sec. 1, Danshui District, New Taipei City No. 312, Fongping 1st Rd., Daliao District, Kaohsiung No. 179, Nujhong Rd., Sec. 1, Yilan City, Yilan County No. 206, Datong Rd., Sec. 2, Xizhi District, New Taipei City	1, 2, 3.1, 4.1, 4.2, 4.3, 4.4, 4.5
Win TV Broadcasting Co., Ltd.	11F, No. 98, Zhouzi St., Neihu District, Taipei	1, 2, 3.1, 4.1, 4.2, 4.3, 4.4, 4.5
Taihsin Property Insurance Agent Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei	1, 2, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4
Taipei New Horizon Co., Ltd.	6 F., No. 88, Yanchang Rd., Xinyi Dist., Taipei City	1, 2, 4.3, 5.3
TWM Holding Co., Ltd. (TWM Holding)	ARIAS, FABREGA & FABREGA TRUST CO. BVI LIMITED, 325 Waterfront Drive, Road Town, Tortola, British Virgin Islands	(Nominal Enterprise/Nominal company)
TCC Investment Co., Ltd. (TCCI)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
Tai-Fu Cloud Technology Co., Ltd. (TFC)	4F, No. 111, Sec. 1, Dunhua S. Rd., Da' an Dist., Taipei City 106075, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)

Opinion TW24/00218GG, continued

Company	Address	Category & Sub-Category
Global Forest Media Technology Co., Ltd. (GFMT)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
Global Wealth Media Technology Co., Ltd. (GWMT)	1F, No. 206, Datong Rd., Sec. 2, Xizhi District, New Taipei City	(Nominal Enterprise/Nominal company)
TFN Union Investment Co., Ltd. (TUI)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
TWM Communications (Beijing) Co., Ltd. (TWMC)	Room 2106, No. 9, Beisihuan West Rd., Haidian District, Beijing, China	(Nominal Enterprise/Nominal company)
TCCI Investment and Development Co., Ltd. (TID)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
Taiwan Cellular Co., Ltd. (TCC)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
Wealth Media Technology Co., Ltd. (WMT)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
TWM Venture Co., Ltd. (TVC)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
Taiwan Mobile Film Co., Ltd. (TWMFM)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
Taiwan Stampede Franchise Film Co., Ltd. (SFF)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
Fu Sheng Digital Co., Ltd. (FSD)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
TWM Power Co., Ltd. (TPC)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)
FullSynergy New Retail Co., Ltd. (FSNR)	7F, No. 206, Sec. 2, Dunhua S. Rd., Da' an Dist., Taipei City 106033, Taiwan (R.O.C.)	(Nominal Enterprise/Nominal company)

Appendix B GHG emissions from Taiwan Mobile (Category by GHG Protocol)

The GHG emissions from Taiwan Mobile Co., Ltd. for 2023 GHG inventory.

Category by GHG Protocol	Description	Emissions (tonnes of CO ₂ e)
Scope 1	Direct GHG emissions	6,098.4759
Scope 2	Energy indirect GHG emissions	285,603.6986
Scope 3 Other indirect GHG emissions		
01 Purchased goods and services	Upstream GHG emissions from the production of products purchased by Taiwan Mobile (including smartphone, pad, smart watch, camera drone, other 3C products, accessories) and TFN Media (giveaway).	152,336.0970
02 Capital goods	Upstream GHG emissions from the production of capital goods purchased by Taiwan Mobile, including tangible and intangible assets.	102,275.8021
03 Fuel- and energy-related activities (not included in scope 1 or scope 2)	Upstream GHG emissions related to the production of diesel oil, gasoline and Electricity consumed.	56,527.6553
04 Upstream transportation and distribution	GHG emissions related to the fuel consumed by internal logistics.	861.4209
05 Waste generated in operations	GHG emissions related to the treatment of domestic waste, industrial Waste (used cable, scrap battery and waste electric and electronic equipment), sewage.	729.8635
06 Business travel	GHG emissions from the transportation of employees for business related activities.	192.3160
07 Employee commuting	GHG emissions from the transportation of employees between their homes and worksites.	2,067.9972
08 Upstream leased assets	GHG emissions from the manufacturing of upstream leased assets, including official vehicles, MFP, PC and Notebook.	2,405.0936
09 Downstream transportation and distribution	GHG emissions from the transportation and distribution of sold products in vehicles. (virtual channel, myfone logistics)	516.7623
11 Use of sold products	GHG emissions from the use of products sold by Taiwan Mobile (including smartphone, pad and smart watch) and TFN Media (giveaway).	13,647.5665
12 End-of-life treatment of sold products	GHG emissions from the waste disposal and treatment of products sold by Taiwan Mobile, including smartphone, pad, smart watch and TV set-top box.	936.9586
13 Downstream leased assets	GHG emissions from the operation of downstream leased assets (building).	5,138.4583
14 Franchises	GHG emissions from the operation of franchises, including electricity consumption and the fugitive emissions of refrigerator.	3,967.4938