

Greenhouse Gas Verification Statement

The inventory of Greenhouse Gas emissions in year 2019 of

Taiwan Mobile Co., Ltd.

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



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

ISO 14064-1:2018

Direct emissions
6,327.0981 tonnes of CO₂e
Indirect emissions
628,872.1343 tonnes of CO₂e
Direct emissions and indirect emissions
635,199.232 tonnes of CO₂e

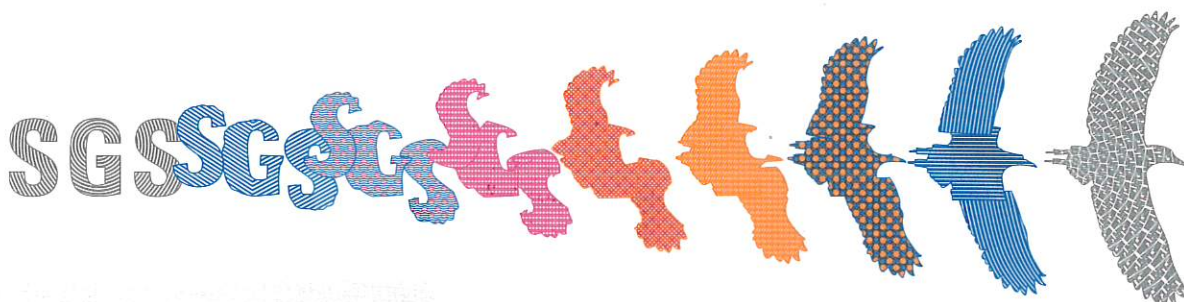
Authorized by

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Version 1

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Statement TW20/00104GG, continued

The emission of each site is described as below:

Unit: tonnes of CO₂e

Operational Boundaries			GHG Emissions	
Category	Description	Location-based	Market-based	
Direct emissions		6,327.0981		
Indirect emissions	Imported energy	Imported Electricity	229,792.4280	229,611.7410
	Transportation	3.1 Upstream transportation and distribution	4,842.8684	
		3.2 Business travel		
		3.3 Employee commuting		
		3.4 Downstream transportation and distribution		
	Products used by an organization	4.1 Purchased goods and services	369,898.9690	
		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		
	Associated with the use of products from the organization	5.1 Use of sold products	24,337.8689	
		5.2 End-of-life treatment of sold products		
		5.3 Downstream leased assets		
		5.4 Franchises		
Other sources	NA	0.0000		
Direct emissions and indirect emissions		635,199.232	635,018.545	
Purchased Renewable Energy Certificate(s) Information				
Site/Location	Type	Renewable Energy Source/Location	Imported energy emissions	
			Location-based	Market-based
Taiwan Mobile	T-REC	Solar Energy/ Taiwan	229,792.4280	229,611.7410

SGS 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: 2018

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 Assertion in the form of GHG report covering GHG emissions of the period 01 January 2019 to 31 December 2019.

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.

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 2019 to 31 December 2019.

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 06 March 2020 to 27 March 2020. The verification was based on the verification scope, objectives and criteria as agreed between Taiwan Mobile and SGS on 15 February 2019.

Level of Assurance

The level of assurance agreed is that of reasonable assurance.

Scope

Taiwan Mobile has commissioned an independent verification by SGS Taiwan of reported GHG emissions of Taiwan Mobile arising from Provision of telecommunication services 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.

Statement TW20/00104GG, continued

- Title or description activities: GHG verification for Taiwan Mobile in year 2019
- 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.	4F, No. 111, Dunhua S. Rd., Sec. 1, Da-an District., Taipei
Taiwan Teleservices & Technologies Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei
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
TFN Media Co., Ltd.	11F, No. 98, Zhouzi St., Neihu District, Taipei
Win TV Broadcasting Co., Ltd.	11F, No. 98, Zhouzi St., Neihu District, Taipei
Taiwan Digital Communications Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei
Taihsin Property Insurance Agent Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei

- Physical infrastructure, activities, technologies and processes of the organization: Provision of telecommunication services
- GHG sources, sinks and/or reservoirs included: Sources as presented in the inventory spreadsheet provided by Taiwan Mobile
- Types of GHGs included: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, CFCs
- The IPCC 2013 AR5 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 0.533 kgCO₂e/kwh (Announced by Bureau of Energy, Ministry of Economic Affairs in 2019).
 - The secondary database has TWEPA Carbon Footprint Calculation Platform, Simapro 9.0 (Ecoinvent 3.0) and CFP study for specific purchased goods/ service.
 - The EEIO emission factor is used for category 3/4/5 emissions. This EEIO emission factor was calculated by National Taipei University of Technology (NTUT). It combined Taiwan Input-Output Table 2016 (published by TW DGBAS, 2019), Taiwan Energy Balance Sheet 2018 (published by TW DOE, 2019), IPCC guideline 2006, National GHG Inventory for Taiwan 2018 and calculated the EEIO emission factor for industrial value chain. The limitation of this EEIO Methodology: (1) It is assumed that the relationship between input and output of industry in year 2016 to 2019 is the same. (2) The EEIO emission factor is only calculated for GHG emissions by industry, and not be calculated for specific goods or activities.

Statement TW20/00104GG, continued

- Directed actions: NA
- GHG information for the following period was verified: 01 January 2019 to 31 December 2019
- The version of inventory sheet: FIN (2020.04.29)
- The version of GHG assertion: FIN (2020.04.29)
- 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 Mobile provided the GHG assertion based on the requirements of ISO14064-1: 2018. The GHG information for the period 01 January 2019 to 31 December 2019 disclosing emissions of 635,199.232 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

Operational Boundaries		GHG Emissions (Location-based)
Category	Description	
Direct emissions	This direct GHG emissions are the sum of owned or controlled by the organization within the organization.	6,327.0981

Statement TW20/00104GG, continued

Operational Boundaries			GHG Emissions (Location-based)
Category	Description		
Indirect emissions	Imported energy	Imported Electricity	229,792.4280
	Transportation	3.1 Upstream transportation and distribution	4,842.8684
		3.2 Business travel	
		3.3 Employee commuting	
		3.4 Downstream transportation and distribution	
	Products used by an organization	4.1 Purchased goods and services	369,898.9690
		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	
	Associated with the use of products from the organization	5.1 Use of sold products	24,337.8689
		5.2 End-of-life treatment of sold products	
		5.3 Downstream leased assets	
5.4 Franchises			
Other sources	NA	0.0000	
Direct emissions and indirect emissions			635,199.232

Taiwan Mobile purchased 339 Renewable Energy Certificate(s) in 2019. 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	T-REC	Solar Energy/ Taiwan	229,792.4280	229,611.7410

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 for the period 01 January 2019 to 31 December 2019 are fairly stated.

We conducted our verification with regard to the GHG assertion of Taiwan Mobile 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 Mobile as a whole.

Verifier Group

Above statements coincide with auditing process with fairness and impartiality, and aim at the emission of year 2019 of clients.

Lead Verifier:

Darren Chan

Verifier:

Alfie Cheng

Vivian Chen

Hans 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 Mobile Co., Ltd., 11F., No.88, Yanchang Rd., Xinyi Dist., Taipei City 110, Taiwan, 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.

Appendix A Reporting Boundaries for Taiwan Mobile

The company included within Taiwan Mobile Co., Ltd. for 2019 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.	4F, No. 111, Dunhua S. Rd., Sec. 1, Da-an District., Taipei	1, 2, 3.1, 3.2, 3.3, 4.2, 4.3, 4.4, 5.3
Taiwan Teleservices & Technologies Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei	1, 2, 3.1, 3.2, 3.3, 4.2, 4.3, 4.4, 4.5
Taiwan Digital Service Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei	1, 2, 3.1, 3.2, 3.3, 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, 4.2, 4.3, 4.4, 4.5
TFN Media Co., Ltd.	11F, No. 98, Zhouzi St., Neihu District, Taipei	1, 2, 4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 5.2
Win TV Broadcasting Co., Ltd.	11F, No. 98, Zhouzi St., Neihu District, Taipei	1, 2, 4.2, 4.3, 4.4, 4.5
Taiwan Digital Communications Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei	1, 2, 4.3, 4.4
Taihsin Property Insurance Agent Co., Ltd.	7F, No. 206, Dunhua S. Rd., Sec. 2, Da-an District., Taipei	1, 2, 3.2, 3.3, 4.2, 4.3, 4.4

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

The GHG emissions from Taiwan Mobile Co., Ltd. for 2019 GHG inventory.

Category by GHG Protocol	Description	Emissions (tonnes of CO ₂ e)
Scope 1	Direct GHG emissions	6327.0981
Scope 2	Energy indirect GHG emissions	229,792.4280
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).	222,787.9798
02 Capital goods	Upstream GHG emissions from the production of capital goods purchased by Taiwan Mobile, including tangible and intangible assets.	82,222.5264
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.	60,852.4991
04 Upstream transportation and distribution	GHG emissions related to the fuel consumed by internal logistics.	1,149.3405
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.	701.2225
06 Business travel	GHG emissions from the transportation of employees for business related activities.	330.3976
07 Employee commuting	GHG emissions from the transportation of employees between their homes and worksites.	2,576.6811
08 Upstream leased assets	GHG emissions from the manufacturing of upstream leased assets, including official vehicles, MFP, PC and Notebook.	3,334.7412
09 Downstream transportation and distribution	GHG emissions from the transportation and distribution of sold products in vehicles. (virtual channel, myfone logistics)	786.4492
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).	12,283.5383
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.	2,547.6612
13 Downstream leased assets	GHG emissions from the operation of downstream leased assets (building).	2,701.8980
14 Franchises	GHG emissions from the operation of franchises, including electricity consumption and the fugitive emissions of refrigerator.	6,804.7714