WU-HSING ELECTRONICS CO., LTD.

2022 Greenhouse Gas Inventory Report

ISO 14064-1:2018

Version 1

Release Date: November 29, 2023

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Chapter I - Organization Overview

1.1 Preface

To mitigate global climate change caused by excessive greenhouse gas emissions, the United Nations adopted the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 to globally regulate anthropogenic greenhouse gas emissions. In order to implement the control of these emissions, the Kyoto Protocol was signed in Kyoto, Japan in 1997. It was clearly stated that the climate changes and impacts caused by excessive greenhouse gas emissions have become a significant environmental issue and a consensus facing the world.

WU-HSING ELECTRONICS CO., LTD. deeply understands that greenhouse gas emissions will cause global climate change, which will subsequently affect the environment and impact the ecosystem. Therefore, as a member of the global community, WU-HSING Electronics Co., Ltd. is committed to fulfilling its corporate social responsibilities and obligations, implementing the duty of protecting the Earth and embracing a sustainable business philosophy. The company is devoted to the inventory and control of greenhouse gas emissions to slow down the intensification of global warming, aiming to achieve the sustainable development goals of energy conservation and maintenance of the global ecological environment.

Based on concerns about global climate change, efficient resource use, and fulfilling corporate responsibilities, the company has conducted a systematic greenhouse gas emission inventory, establishment, and verification procedures in accordance with ISO 14064-1:2018. These measures are designed to guide the development trend of greenhouse gas control and meet future reduction requirements, providing a reference for implementing effective reduction and improvement plans. In the future, in addition to continuing to promote greenhouse gas emission control to reduce costs, the company aspires to achieve sustainable energy development that balances resource efficiency, energy conservation, and environmental protection, collectively working towards transitioning the industry towards a low-carbon economy and society.

1.2 Company Introduction

Founded in Dali City, Taichung County, in the 80th year of the Republic of China, WU-HSING Industrial Co., Ltd. has upheld the spirit of remaining in Taiwan. Since its inception more than 30 years ago, the company has never relocated its factory outside of Taiwan, a decision that embodies the spirit of Taiwan, which the company cherishes and diligently preserves.

The corporate philosophy, encapsulated by the motto "outer circle and inner square," is reflected in the company's name. This philosophy encourages employees to live in harmony with others while adhering to principles, promoting a culture of mutual respect and cooperation. Furthermore, WU-HSING Industrial Co., Ltd. is committed to "respect for the individual, the pursuit of excellence, and team spirit" as its core values, and aims for "sustainable development and global betterment" as its vision.

1.3 Policy Statement

The Intergovernmental Panel on Climate Change (IPCC) reports that the increase in global average temperature is 'very likely' caused by anthropogenic greenhouse gas emissions. According to the IPCC's Sixth Assessment Report, released in 2018, if the greenhouse effect continues to intensify, the global average temperature is expected to rise to or exceed 1.5°C to 2°C. As a result, the Earth's climate is gradually deteriorating. In response to the Kyoto Protocol and other international environmental norms, and to fulfill our corporate environmental responsibilities, we are committed to conducting greenhouse gas inventories to accurately assess emissions. Based on these results, we will further promote voluntary greenhouse gas reduction programs.

I. Build internal consensus on carbon reduction and implement actions in alignment with global initiatives.
II. Conduct annual greenhouse gas inventories across all operations, evaluate the effectiveness of reduction efforts, develop strategic plans, and collaboratively uphold the responsibility for sustainable development.

Signature of Authorized Person: _____

Chapter II - Organizational Boundary

2.1 Organization

To facilitate the greenhouse gas inventory, establish reduction targets, and develop mitigation strategies, the company has established a Greenhouse Gas Inventory Task Force following management approval. Each department delegates personnel to undertake specific responsibilities in alignment with their designated roles. The organizational structure of the Task Force is depicted in the figure below.

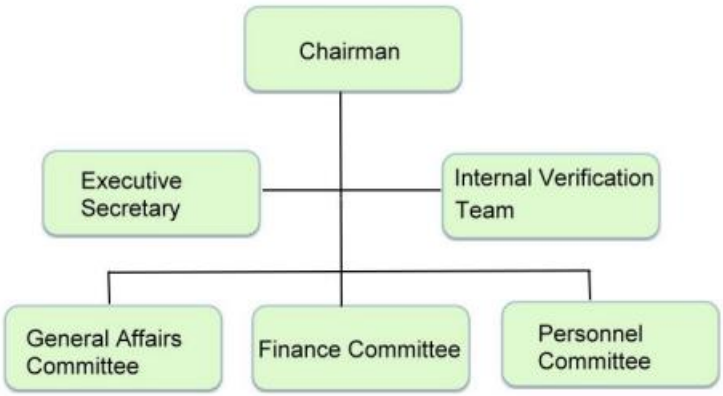


Figure 2.1-1: Wu-Hsing Electronics Co., Ltd. Organization Structure for Greenhouse Gas Inventory Committee.

2.2 Organizational Boundary

The boundary setting of this report encompasses a single site under Wu-Hsing Electronics Co., Ltd., as listed in Table 2.2-1. The report includes both direct GHG emissions and significant indirect GHG emissions. The boundaries are defined using the "Operational Control" method, which ensures full disclosure of all emission sources owned by the company. Additionally, this method facilitates the summarization of greenhouse gas emissions and removals at the facility level. The scope of the company is defined by the Operational Control Act, located at No. 20, Lane 137, Renmei Road, Dali District, Taichung City, Taiwan (R.O.C.).

Table 2.2-1 List of Organizational Boundary Setting Ranges

The name of the organization	The address of the organization
Wu-Hsing Electronics Co., Ltd.	No. 10, Gongye 15th Rd., Taiping Dist., Taichung City , Taiwan (R.O.C.)

This report encompasses greenhouse gas emissions for the period from January 1, 2022, to December 31, 2022.

2.3 Threshold of Exclusion

During the quantification process of emissions sources, if the contribution of emissions or removals from a single emission facility or operational activity directly or indirectly related to greenhouse gases is less than 0.5%, the emissions from the most recent year or the initial year of operation of that emission source may be directly referenced. However, it should be ensured that the sum of all excluded emissions remains below the substantiality threshold (5% of total emissions).

Chapter III- Reporting Boundary and Emission Quantification

3.1 Boundary Definition and Calculation Rules

To effectively manage greenhouse gas emissions, the company has established reporting boundaries in accordance with the ISO 14064-1:2018 standard. These boundaries encompass both direct GHG emission sources (Category 1) and indirect GHG emission sources (Categories 2 to 6). The greenhouse gases included in the reporting boundary are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF6), and nitrogen trifluoride (NF3), totaling seven greenhouse gases.

This report encompasses all greenhouse gases generated within the reporting boundary from 1 January to 31 December 2022. Any future changes will prompt a revision and reissuance of this report.

3.2 Criteria for Assessing the Significance of Indirect Greenhouse Gas Emissions

Indirect GHG emissions (Categories 2–6) represent the greenhouse gases generated from a company's business activities that are not owned or controlled directly by the company. In accordance with ISO 14064-1:2018, the company has established significance criteria for indirect greenhouse gas emissions as depicted in Table 3.2-1. Each major source of indirect emissions is identified and scored, and sources with a total score of 15.0 points or more are given priority for inventory and calculation following verification. (The identification results are detailed in Table 3.2-2).

Table 3.2-1 Criteria for identifying major indirect greenhouse gas emission sources of WU-HSING ELECTRONICS CO., LTD

project	fraction	Grade description
Frequency of occurrence (A)	5	Occurs at least once a week
	3	Occurs at least once a quarter
	1	It occurs less than three times a year
Opportunities for Carbon Reduction (B)	5	Have control
	3	The cooperation of other units is required
	1	Not at all
Activity Data Source (C)	5	Accounting/ERP/with documentation
	3	Estimates

	1	Data is not available/data gathering is difficult
Emission Factor (D)	5	EPA Notification Factor
	3	International Emission Factors
	1	Unobtainable

Table 3.2-2 Identification Table of Major Indirect Greenhouse Gas Emission Sources of WU-HSING ELECTRONICS CO., LTD. in 2022

category	Type of emission	Frequency of occurrence (A)	Opportunities for Carbon Reduction (B)	Activity Data Source (C)	Emission Factor (D)	Score	outcome
2.1	Indirect emissions from input electricity	5	5	5	5	20	verification
3.1	Emissions from upstream feedstock transportation (i.e., emissions from freight services provided by the organization)	3	1	1	3	8	exclude
3.2	Emissions from the transportation of downstream products (i.e., emissions from freight services provided by the primary purchaser or other purchasers throughout the supply chain)	1	1	3	1	6	exclude
3.3	Emissions from employee commuting include transportation-related emissions from the employee's home to the place of work.	1	1	1	3	6	exclude
3.4	Emissions generated by the transportation of customers and visitors. (including travel-related emissions from customers and visitors	1	1	3	1	6	exclude

	to the reporting company's facility)						
3.5	Emissions from business or employee business trips. (It is mainly caused by the fuel burned by the combustion source of the automobile.) In conjunction with business travel, it may also include overnight stays in hotels, i.e. when attending seminars or for other business purposes, for transit reasons)	1	1	3	1	6	exclude
4.1	Greenhouse gas emissions from the mining, manufacturing and processing of raw materials for procurement.	5	5	5	5	20	verification
4.2	Greenhouse gas emissions from the manufacturing and processing of capital goods. (including goods used in the manufacture of a product, the provision of a service, or the sale, storage and delivery of goods)	1	1	1	1	4	exclude
4.3	The discharge from the disposal of solid and liquid waste depends on the characteristics of the waste and its treatment. Typical disposal is a burial, incineration, biological treatment or recycling process.	1	1	1	1	4	exclude
4.4	Greenhouse gas emissions from the lease use of capital property.	1	1	1	1	4	exclude

4.5	Greenhouse gas emissions from services such as counselling, cleaning, maintenance, mailing, banking, etc.	1	1	1	1	4	exclude
5.1	Emissions or removals during the use phase of a product include the total emissions from the expected life of all products sold. (Based on product usage scenarios)	1	1	1	1	4	exclude
5.2	Greenhouse gas emissions generated by the customer's lease use. (Including emissions from assets owned by the reporting organization and leased to other entities in the reporting year)	1	1	1	1	4	exclude
5.3	Greenhouse gas emissions from product disposal. (Based on the product use scenario)	1	1	1	1	4	exclude
5.4	Greenhouse gas emissions from equity debt, investment debt, plan funds and other investments.	1	1	1	1	4	exclude
6.1	other	1	1	1	1	4	exclude

3.3 Explanation of Calculation Principles

Quantification Principle:

The calculation of greenhouse gas emissions from various sources primarily employs the "emission factor method" and the "mass balance method." The mass balance method involves calculating emissions by balancing the input, generation, consumption, and conversion of species mass and energy in processes or chemical reaction equations, and then converting all calculated results to CO2e (carbon dioxide equivalent), measured in metric tons.

The emission factor method is formulated as follows:

Activity Data × Emission Factor × Global Warming Potential Factor (IPCC AR6) = Greenhouse Gas Emissions

The following provides explanations for relevant parameters and calculation methods:

1) Activity Data:

Activity data can have up to 10 decimal places. If the units of activity data recorded differ from the units of emission factors, the recorded activity units are converted to match the units of the emission factors before being rounded to 10 decimal places, with the 11th digit rounded using standard rounding rules.

2) Emission Factor:

The emission factors for various fuels provided by the IPCC have a maximum of 10 decimal places. However, for calculation purposes, they are adjusted according to the calculation inventory provided by the Environmental Protection Administration, converted to metric tons, and standardized to 13 decimal places for calculation.

3) Greenhouse Gas Emissions per Unit Volume or Weight:

The emissions per unit volume or weight of greenhouse gases are calculated using emission factors provided by the IPCC. Considering the varying characteristics of different industries, the product of the calculation parameters can have up to 10 decimal places, with the 11th digit rounded using standard rounding rules.

4) Individual Greenhouse Gas Emissions from a Single Source:

The original setting for emissions (metric tons/year) was with four decimal places for ease of display of smaller values. Therefore, emissions are calculated with 10 decimal places for consistency.

5) Greenhouse Gas Emission Equivalents (metric tons CO2e/year):

Calculated by multiplying emissions (with 10 decimal places) by the Global Warming Potential (GWP). The resulting equivalent values are rounded to four decimal places, with the fifth digit rounded using standard rounding rules.

6) Total Emission Equivalents (metric tons CO2e/year):

The total emission equivalent values are rounded to three decimal places, with the fourth digit rounded using standard rounding rules.

7) Global Warming Potential (GWP100):

Utilizes the GWP100 values for various greenhouse gases from the IPCC AR6 (2021) assessment report.

In addition to the emission calculation methods mentioned above, a mass balance approach is also employed to calculate certain items, such as refrigerants, fire extinguishers, and septic tanks. The calculation methods are explained as follows:

- Refrigerant: The inventory of refrigeration equipment used within the factory is calculated by multiplying the refrigerant charge amount by the equipment fugitive rate and the Global Warming Potential. The equipment fugitive rate refers to the fugitive emission factor in IPCC2006, and the average value within its range is used for calculation.
- Fire extinguisher: The actual filling volume of each fire extinguisher bottle is calculated based on the number of bottles purchased in the reporting year.
- Septic tank: Fugitive emissions utilize the BOD emission factor (0.6 tons of CH4/ton BOD) conversion factor published by IPCC and GHG Protocol. The CH4 emission factor is calculated as follows: CH4 emission factor = BOD emission factor (0.6 tons of CH4/ton BOD) * average sewage BOD concentration (200 mg/L) * daily wastewater volume per person (125 L/day) * septic tank treatment efficiency (85%) ÷ daily work hours (8 hours).

3.4 Description of Emission Factor Selection, Management and Change

3.4.1 Principles for the Selection of Emission Factors

The company's principles for selecting emission factors are as follows:

(1) Emission factors developed internally or calculated through mass balance methods.
(2) Emission factors provided by manufacturers with similar equipment/experience.
(3) Emission factors provided by suppliers.
(4) Emission factors announced by regional government authorities.
(5) Emission factors from relevant national research and development.
(6) Emission factors from relevant international research and development.

3.4.2 Emission Factor Management

The emission factors referenced by the company are as follows:

(1) Greenhouse Gas Emission Factor Management Table (version 6.0.4) published by the Ministry of Environment.
(2) Annual electricity carbon emission factors announced by the Energy Administration, Ministry of Economic Affairs, R.O.C.
(3) Lifecycle emission factors referenced from databases (e.g., Product Carbon Footprint Information Platform of Ministry of Environment).
(4) Detailed factors as shown in Table 3.4-1.

Table 3.4-1 Organizational Greenhouse Gas Emission Factors

Source of Emission Factors	Emission Factor Category	Coefficient Name	Emission Factor	Unit of Emission Factor
Ministry of Environment 6.0.4	fuel oil	Stationary-Diesel (Fixed)(CO2)	2.6060317920	kilograms (CO2) per liter
Ministry of Environment 6.0.4	fuel oil	Fixed-Diesel (Fixed)(CH4)	0.0001055074	kg (CH4)/litre

Source of Emission Factors	Emission Factor Category	Coefficient Name	Emission Factor	Unit of Emission Factor
Ministry of Environment 6.0.4	fuel oil	Stationary-Diesel (Stationary)(N2O)	0.0000211015	kg (N2O) per liter
Ministry of Environment 6.0.4	fuel oil	Mobile-95 Unleaded Petrol (Mobile)(CO2)	2.2631328720	kilograms (CO2) per liter
Ministry of Environment 6.0.4	fuel oil	Mobile-95 Unleaded Petrol (Mobile)(CH4)	0.0008164260	kg (CH4)/litre
Ministry of Environment 6.0.4	fuel oil	Mobile-95 Unleaded Petrol (Mobile)(N2O)	0.0002612563	kg (N2O) per liter
Ministry of Environment 6.0.4	fuel oil	Mobile-Diesel (Mobile) (CO2)	2.6060317920	kilograms (CO2) per liter
Ministry of Environment 6.0.4	fuel oil	Mobile-Diesel (Mobile)(CH4)	0.0001371596	kg (CH4)/litre
Ministry of Environment 6.0.4	fuel oil	Mobile-Diesel (Mobile)(N2O)	0.0001371596	kg (N2O) per liter
Ministry of Environment 6.0.4		Septic Tank CH4 Emission Factor (CH4)	0.0000015938	Metric tons (CH4) per person per hour
Ministry of Environment 6.0.4	Hydrofluorocarbons	HFC-134a/R-134a(HFCs)	1.0000000000	Metric tons (HFCs) per metric ton
Ministry of Environment 6.0.4	Mix refrigerants	R-410A(HFCs)	1.0000000000	Metric tons (HFCs) per metric ton
Ministry of Environment 6.0.4	Mix refrigerants	R-600A(HFCs)	1.0000000000	Metric tons (HFCs) per metric ton
Ministry of Environment 6.0.4	Mix refrigerants	R-22(HFCs)	1.0000000000	Metric tons (HFCs) per metric ton
Ministry of Environment 6.0.4		Electricity (2022) (CO2)	0.4950000000	kilogram (CO2e)/degree
Product carbon footprint of the Ministry of Environment	Energy resources	Electricity Indirect Carbon Footprint (2021) (CO2)	0.0973000000	kilogram (CO2e)/degree

3.4.3 Description for Change of Emission Factors

If coefficients for emission calculations are modified due to changes in data sources, such as updates in emission factors announced by IPCC, thermal values announced by the Energy Administration, Ministry of Economic Affairs, R.O.C., or Global Warming Potentials (GWPs) from IPCC, we will create a new file, update the calculations, and provide an explanation of the differences between the updated data and the original data.

3.5 Direct Greenhouse Gas Emissions (Category 1)

This section focuses on the emission calculation of direct emissions originating from emission sources owned or controlled by the company. The emission sources are listed in Table 3.5-1.

Table 3.5-1 Sources of Greenhouse Gas Emissions (Category 1)

Emission type	facility	Emission sources	Type of emitted gas	Data source
Stationary	Diesel Engine Generator	diesel fuel	CH4、CO2、N2O	Invoice documents
Mobile	Cars, Forklift Truck	95 unleaded gasoline, diesel	CH4、CO2、N2O	Invoice documents
Fugitive	Residential & Commercial Building Air Conditioners, Septic Tanks, Hitachi Air Conditioner R410a, Fujitsu Air Conditioner R410a, Oi Air Conditioner R410a, Refrigerated Refrigerators, Shengbao & Sanyo Refrigerators, Dryers, Haoxing Water Dispensers, BQ-98 Water Dispensers, Refrigerators, Pude Water Dispensers	HFC-134a/R-134a, R-410A, R-600A, septic tank CH4 emission factors	CH4、HFCs	Estimation of the questionnaire for the collection of equipment

Based on the inventory list of direct emissions (Category 1) for the year 2022, the direct emissions amount to 16.6543 metric tons of CO2e. The company does not include emissions from biomass sources, hence the biomass emissions amount to 0.0000 metric tons of CO2e. The emissions for each type of greenhouse gas are shown in Table 3.5-2.

Table 3.5-2 Greenhouse Gas Emissions by Type (Category 1)

GHG Category	CO2	CH4	N2O	HFCs	PFCs	SF6	NF3	Others	Category 1 Total
Equivalent Emissions Tons CO2e/Year	9.5416	2.7236	0.2949	4.0942	0.0000	0.0000	0.0000	0.0000	16.6543

3.6 Indirect GHG emissions (Category 2)

The chapter is for calculation of indirect GHG emissions generated from imported energy. The emission sources are shown in Table 3.6-1.

Table 3.6-1 Sources of Greenhouse Gas Emissions (Category 2)

Emission Type	Emission Source	GHG Category	Data Source
Purchased electricity	Electricity (2022)	CO2	Taipower electricity bill

Based on the inventory result of indirect emissions (Category 2) in the year 2022, the emission is 174.8340 tons of CO2e. Emissions for each GHG category is listed as Table 3.6-2.

Table 3.6-2 GHG Emissions by Categories (Category 2)

GHG Category	CO2	CH4	N2O	HFCs	PFCs	SF6	NF3	Others	Category 2 Total
Equivalent Emissions Tons CO2e/Year	174.8340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	174.8340

3.7 Indirect Greenhouse Gas Emissions (Category 3~Category 6)

The chapter is for calculation of indirect GHG emissions generated from Category 3~Category 6. Based on the inventory result of indirect emission (Category 3~Category 6) in the year 2022, the emission is 34.3664tons of CO_2e. Emissions for each GHG category is listed as Table 3.7-1.

Table 3.7-1 GHG Emissions from Category 3~Category 6

GHC Category	Emission equivalent metric tons CO2e/year
Category 3	0
Category 4	34.3664
Category 5	0
Category 6	0
total	34.3664

3.8 Total greenhouse gas emissions

In 2022, our company's greenhouse gas emissions amounted to 225.8547 tonnes of CO2 equivalent. Of this total, Category 1 emissions were 16.6543 tonnes of CO2 equivalent, representing 7.37% of the total emissions, primarily from diesel engine generators. Category 2 emissions amounted to 174.8340 tonnes of CO2 equivalent, accounting for 77.41% of the total, mainly from purchased electricity. Category 4 emissions were 34.3664 tonnes of CO2 equivalent, making up 15.22% of the total. Other categories were identified as non-significant emission sources in the significance assessment methodology and were not included in this inventory.

The sources of greenhouse gas emissions from Category 1 to Category 6 for our company are as shown in Table 3.8-1, with the results of each category's emissions presented in Table 3.8-2.

Table 3.8-1 Total Greenhouse Gas Emissions

EMISSIONS		Notes	Total
Category 1: Direct Greenhouse Gas Emission and Removal			16.6543
1.1	Direct emissions from Stationary combustion		0.1045
1.2	Direct emissions and removals from industrial process		-
1.3	Direct emissions from Mobile combustion		9.8257
1.4	Direct fugitive emissions from Anthropogenic GHG emissions		6.7241
1.5	Direct Emissions and Removals from Land Use Change and Forestry (LULUCF)		-
Direct Emissions from Biomass (Tons CO2e)			0.0000
Category 2: Indirect Greenhouse Gas Emission from Imported Energy			174.8340
2.1	Indirect emission from imported electricity	GHG emissions from imported electricity	174.8340
2.2	Indirect Emissions from Imported Electricity (Steam, heat, cooling and compressed air)	GHG emission generated from imported energy (Steam, heat, cooling and compressed air)	-
Category 3: Indirect Emissions from Transportation			-
3.1	Upstream Transportation and Distribution	Inventory for annual GHG emissions from transportation of purchased raw materials and consumables, including waste removal	-
3.2	Downstream Transportation and	Inventory for GHG emissions from	-

EMISSIONS		Notes	Total
	Distribution	distribution of goods	
3.3	Employee Commuting	Transportation methods including cars, motorcycles or public transportation	-
3.4	Transportation for Customers and Visitors	Transportation methods including cars, motorcycles or public transportation	-
3.5	Business Travel	Methods including land, sea, and air transportation, for example, domestic travel by High-Speed Rail	-
Category 4: Indirect GHG Emission from products used			34.3664
4.1	Purchased Goods	Raw materials and consumables purchased for in-house production	34.3664
		Emissions from purchased energy (use of electricity and oil) in the life cycle, not included in Category 1 and 2	-
4.2	Capital Goods	Inventory for machinery and equipment purchased in the year	-
4.3	Upstream Leased Assets	GHG Emissions from leasing assets from other companies listed in Category 1 and 2	-
4.4	Waste Treatment	Carbon emissions in the process of in-house waste disposal	-
4.5	Not used in the services above	Emissions from services for inquiry, cleaning, maintenance, mail delivery and banks	-
Category 5: Indirect GHG emissions from use of products of the organization			-
5.1	Use of Products	Emissions from processing processes of downstream suppliers	-
		Emissions from sales and use of products	-
5.2	Product Final Disposal	Emissions from final disposal of products after finishing to use them	-
5.3	Downstream Leased Assets	Emissions from leasing products possessed to external organizations	-
5.4	Emissions from investment	Emissions from investment in private or public financial institutions	-
Category 6: Other items not covered above			-

Table 3.8-2 2022 GHG Emissions by GHC Category and Types

GHG by Category (Tons CO2e /Year)	CO2	CH4	N2O	HFCs	PFCs	SF6	NF3	Others	Total Emissions	percentage (%)
Category 1	9.5416	2.7236	0.2949	4.0942	0.0000	0.0000	0.0000	0.0000	16.6543	7.37%
Category 2	174.8340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	174.8340	77.41%
Category 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00%
Category 4	34.3664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	34.3664	15.22%
Category 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00%
Category 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00%
Total	218.7420	2.7236	0.2949	4.0942	0.0000	0.0000	0.0000	0.0000	225.855	100.00%
percentage (%)	96.85%	1.21%	0.13%	1.81%	0.00%	0.00%	0.00%	0.00%	100.00%	-

3.9 Greenhouse Gas Reduction Strategies

Greenhouse gas reduction strategies must align with the United Nations SDGs, particularly the 17th goal on 'Climate Action'. The focus is on comprehensive mitigation and adaptation actions, including enhancing climate change adaptation capabilities, strengthening resilience and reducing vulnerabilities, implementing phased greenhouse gas emission control targets, and enhancing sustainable education and public literacy on climate change to address its impacts.

From our greenhouse gas emissions inventory, it is evident that electricity usage is the main source of emissions for our company. Implementing energy-saving measures is the most effective reduction strategy. Future plans include energy demand management in plants and offices:

- Continue promoting energy-saving activities to reduce per capita electricity usage.
- Use energy-efficient equipment to decrease energy consumption.
- Maintain and service production equipment regularly to improve operational efficiency and production effectiveness, thus reducing energy waste.

3.10 Special Calculation Assumptions

Since R22 refrigerant is a fugitive source prohibited by the Montreal Protocol, but it is a high global warming potential (GWP), ISO 14064-1:2018 must be included in the inventory with an emission factor of 1.

Chapter IV - Data Quality Management

4.1 Data Quality Analysis

4.1.1 Data quality of emission sources

- Throughout the inventory process, to ensure the accuracy of data quality, data provided by respective responsible units must clearly state their sources, such as related purchase documents, flow meter records, withdrawal logs, and computer database (report) records. All documentation that can verify and substantiate the credibility of the data should be investigated, and the records must be retained by the responsible units for future audits and verification.
- The data provided by each responsible unit is evaluated for error levels according to Table 4.1-1. The formula for calculating the error level of emission source data is A1×A2×A3. The results are then rated according to Table 4.1-2.

Table 4.1-1 Tolerance Score Level Table for Data Quality Management

Items by Score Levels	Scored 1	Scored 2	Scored 3
Activity Data Category Level A1	Activity data – Continuous auto measurements	Activity data – Intermittent measurements or financial accounting data	Activity data – Estimated values
Activity Data Category Level A2	With external correction or with multiple data as evidence	With internal correction or proved by certified public accountant	Without instrument calibration or no collation of records
Activity Data Category Level A3	Use factors from measurement/Material Balance or factors from experience of the same processes/equipmen	Use factors provided by manufacturing factories or regional emission factors	Use national or international emission factors

Table 4.1-2 Tolerance Score Level Standard for Data Quality Management

Level	Score Range
Level 1	X< Score 10
Level 2	Score 10 ≦X<19
Level 3	Score 19≦X≦27

Data grade rating result: Level one 9, Level two 8, Level three 0
Average level of catalog grades = 5.76, Catalog level: Level 1

4.1.2 Calculation results of emission source data quality

Table 4.1-3 shows the summary results of the error level scores of the inventory data.

Table 4.1-3 Summary of the quality level scores of the Company's greenhouse gas emission data from various sources

numbering	equipment	Raw materials or products	Data error level	Proportion of total emissions	Data quality level	Proportion of emissions Weighted average
1	septic tank	Septic tank CH4 emission factor	9	1.16%	1	0.1
2	Diesel engine generators	Diesel (Fixed)	6	0.05%	1	0
3	Pude water dispenser	HFC-134a/R-134a	6	0%	1	0
4	BQ-98 Water Dispenser	HFC-134a/R-134a	12	0%	2	0
5	Hostar water dispenser	HFC-134a/R-134a	12	0%	2	0
6	Refrigerators	R-600A	6	0%	1	0
7	Air conditioners for residential and commercial buildings	R-410A	6	0.88%	1	0.05

8	Dryer	HFC-134a/R-134a	12	0.04%	2	0
9	Shengbao and Sanyo refrigerators	HFC-134a/R-134a	12	0.01%	2	0
10	Refrigerated refrigerator	HFC-134a/R-134a	12	0%	2	0
11	Oi Air Conditioner R410a	R-410A	12	0.19%	2	0.02
12	FUJITSU air conditioner R410a	R-410A	12	0.07%	2	0.01
13	Hitachi Air Conditioner R410a	R-410A	12	0.62%	2	0.07
14	Forklifts	Diesel (mobile)	6	0.07%	1	0
15	Official car	95 Unleaded Petrol (Mobile)	6	4.28%	1	0.26
16	electricity	Electricity (2022)	6	77.41%	1	4.64
17	Indirect emissions from electricity	Electricity Indirect Carbon Footprint (2021)	4	15.22%	1	0.61
						5.76

4.2 Uncertainty Assessment

4.2.1 Uncertainty Quantification Assessment Method

In accordance with the requirements of the ISO 14064-1:2018 standard, the Company conducts uncertainty assessment of activity data and emission factors. Uncertainty quantification mainly uses the "first-order error transfer method" to quantify the uncertainty of the activity data and emission coefficients of each greenhouse gas from a single emission source, and then evaluates the total emission weighted proportion.

4.2.2 Sources of Uncertainty

The electricity activity data complies with the specification 6.1.1.2 in "Technical Specification of Verification and Inspection for Electricity Meters (CNMV 46, Version 6) from Bureau of Standards. Its accuracy level is "0.5" judged from the appearance of the electric meter (watt-hour meter) and the power factor is 1.0. From the table, we find its verification tolerance is 0.5% and after multiplying it by the expansion factor 2, get ±1% as the uncertainty of this data. The electricity emission factors refer to suggestions from 1996 IPCC Guidelines for National Greenhouse Gas Inventories: Reporting Instructions, take 7% of the manufacturing and energy industries for uncertainty assessment of emission factors. The gasoline and diesel activity data complies with the specification 3.1.2 in "Technical Specification of Verification and Inspection for Oil Meters (CNMV 117, Version 3) from Bureau of Standards. Its verification tolerance is 0.5% and after multiplying it by the expansion factor 2,get ±1.0% as the uncertainty of this data. For gasoline and diesel emission factors, "IPCC 2006 Uncertainty of CO2 Emission Factors" in <GHG Emission Factor Management Table> (Version 6.0.4) (溫室氣體排放係數管理表, 6.0.4 版本) will be cited.

Table 4.2-1 Scoring Criteria for Uncertainty Assessment

grade	Scoring range
Grade A	Qualitative uncertainty score < 10 points
Level B	10 points≦ qualitative uncertainty score < 19 points
Grade C	19 points≦ qualitative uncertainty score < 27 points
Grade D	27 points ≦ qualitative uncertainty score

Qualitative uncertainty calculation of a single emission source = type of activity data X credibility level of activity data x type level of emission coefficient

(Qualitative assessment of uncertainty)

project	Raw material or product	Activity Data class	Activity Data Credibility level	Emission factor Species level	Emission equivalent (metric tons CO2e/year)	of a single source of emissions Qualitative uncertainty	Qualitative uncertainty level
Indirect emissions from electricity	Electricity Indirect Carbon Footprint (2021)	2	1	2	34.3664	4	A

4.2.3 Results of uncertain analysis of greenhouse gas emissions

For emission sources for the Category 1、2, we adopt the method for Quantitative Assessment; the results of for the uncertainty of GHG in Year 2022 are listed as Table 4.2-2

Table 4.2-2 Quantitative assessment results of greenhouse gas uncertainty

numbering	equipment	Raw materials or products	Uncertainty in activity data			Type of gas	Single gas emission equivalent (tonnes CO_2e/year).	Uncertainty of emission factors			Single source of emissions uncertainty	
			Lower Limit (%)	Upper limit (%)	Data source			Lower Limit (%)	Upper limit (%)	Coefficient source	Lower Limit (%)	Upper limit (%)
1	septic tank	Septic tank CH4 emission factor				CH4	2.6299			Ministry of Environment 6.0.4		

2	Diesel engine generators	Diesel (Fixed)	-1	1	Technical Specification for Verification and Inspection of Oil Gauge (CNMV 117, 3rd Edition)	CO2	0.1042	-2.024	0.945	Ministry of Environment 6.0.4	-2.258	1.376
						CH4	0.0001	-66.667	233.333	Ministry of Environment 6.0.4		
						N2O	0.0002	-66.667	233.333	Ministry of Environment 6.0.4		
3	Pude water dispenser	HFC-134a/R-134a				HFCs	0.0101			Ministry of Environment 6.0.4		
4	BQ-98 Water Dispenser	HFC-134a/R-134a				HFCs	0.0018			Ministry of Environment 6.0.4		
5	Hostar water dispenser	HFC-134a/R-134a				HFCs	0.0005			Ministry of Environment 6.0.4		
6	Refrigerators	R-600A				HFCs	0			Ministry of Environment 6.0.4		
7	Air conditioners for residential and commercial buildings	R-410A				HFCs	1.9886			Ministry of Environment 6.0.4		
8	Dryer	HFC-134a/R-134a				HFCs	0.0842			Ministry of Environment 6.0.4		
9	Shengbao and Sanyo refrigerators	HFC-134a/R-134a				HFCs	0.0202			Ministry of Environment 6.0.4		
10	Refrigerated refrigerator	HFC-134a/R-134a				HFCs	0.0002			Ministry of Environment 6.0.4		
11	Oi Air Conditioner R410a	R-410A				HFCs	0.4379			Ministry of Environment 6.0.4		
12	FUJITSU air conditioner R410a	R-410A				HFCs	0.1489			Ministry of Environment 6.0.4		
13	Hitachi Air Conditioner R410a	R-410A				HFCs	1.4018			Ministry of Environment 6.0.4		
14	Forklifts	Diesel (mobile)	-1	1	Technical Specification for Verification and Inspection of Oil Gauge (CNMV 117, 3rd Edition)	CO2	0.1564	-2.024	0.945	Ministry of Environment 6.0.4	-2.258	1.376
						CH4	0.0002	-58.974	143.59	Ministry of Environment 6.0.4		
						N2O	0.0022	-66.667	207.692	Ministry of Environment 6.0.4		
15	Official car	95 Unleaded Petrol	-1	1	Technical Specification for Verificatio	CO2	9.281	-2.597	5.339	Ministry of Environment 6.0.4	-2.783	5.432

		(Mobile)			n and Inspection of Oil Gauge (CNMV 117, 3rd Edition)	CH4	0.0934	-69.6	244	Ministry of Environment 6.0.4		
						N2O	0.2925	-67.5	200	Ministry of Environment 6.0.4		
16	electricity	Electricity (2022)	-1	1	Technical Specification for Verification and Inspection of Watt-hour Meters (No. CNMV 46 6th Edition)	CO2	174.834	-7	7	IPCC Recommended Emission Factors (Energy)	-7.071	7.071
Total uncertainty of the inventory											**lower limit**	**upper limit**
(Reliability interval 95%)											**-6.71%**	**6.71%**

In Category 3~Category 6, we use qualitative methods to show their uncertainties and derive the weighted average based on single emission source data quality with sum of its GHC Category, then aggregate the calculation results to obtain its uncertainty score. The level is decided by score levels in Table 4.2-2 and results are shown in Table 4.2-3. Please refer to Appendix 1 for details. We will enhance the management over GHG data quality based on the scoring result and try our best to raise the uncertainty level.

Table 4.2-3 Qualitative uncertainty scoring results

category	Emissions by category (metric tons CO2e/year)	The level of uncertainty
Category 3	Not to calculate	Not to calculate
Category 4	34.3664	A
Category 5	Not to calculate	Not to calculate
Category 6	Not to calculate	Not to calculate

Chapter V Quantification of Greenhouse Gases

5.1 Quantitative methods

5.1.1 Quantification principle: The calculation of greenhouse gas emissions from various emission sources mainly uses the "emission factor method" and the "mass balance method". The mass balance method refers to the use of the input, output, and production of species mass and energy in the process or chemical reaction formula. , consumption and conversion balance calculation emissions, the emission factor method formula is as follows: 35 Activity data × emission factor × global warming potential factor (IPCC AR6) = greenhouse gas emissions .

(1) Emissions of various greenhouse gases vary from source to source. The data units are converted into metric tons or kiloliter, the fair weight and volume units.
(2) Various emission sources are based on the emission factor and calculation methods provided by the Ministry of Environment's "Greenhouse Gas Emission factor Management Table Version 6.0.4 (108.06)" and the "Carbon Footprint Database of Product Carbon Footprint Information Network".
(3) The "Greenhouse Gas Inventory Form" used by our company is adjusted and compiled with reference to the "Greenhouse Gas Inventory Form Version 3.0.0 (Revised)" announced by the Ministry of Environment's Climate Change Agency's Greenhouse Gas Emissions Information Platform Operation.
(4) After selecting the emission coefficient, the calculated values are then converted into CO2e (carbon dioxide equivalent value) according to the global warming potential GWP of various greenhouse gases announced by the IPCC 2021 Sixth Assessment Report. , the unit is metric tons/year. The global warming potential cited by our company is summarized in Table 5-1 below

Table 5-1 Summary of global warming potential values cited

Types of greenhouse gases	GWP value	Data source
CO2	1	IPCC Sixth Assessment Report (2021)
CH4	27.9	
N2O	273	
HFCs (R-22)	1,960	
HFCs (R-134a)	1,530	
HFCs (R-410a)	2,255.5	

5.1.2 Greenhouse gas emissions are calculated

The calculation formula and explanation of the emissions from each emission source are as shown in the table below

Emission sources		Formula for calculating emissions	
fixed Combustion	Gas boilers/other boilers (Natural Gas/Wood Pellets)	CO2	CO2 emissions = fuel use × emission factor ×GWP

Emission sources		Formula for calculating emissions	
Source (E)	Emergency generators (Diesel)	CH4	CH4 emissions = fuel use × emission factor ×GWP
		N2O	N2O emissions = fuel used × emission factor ×GWP
move Combustion Source (T)	Forklifts/Trucks (Diesel) Official car (Gasoline)	CO2	CO2 emissions = fuel use × emission coefficient (version 6.0.4 of the Greenhouse Gas Emission Factor Management Table) × GWP
		CH4	CH4 emissions = fuel use × emission factor (Greenhouse Gas Emission Factor Management Table version 6.0.4) ×GWP
		N2O	N2O emissions = fuel use × emission factor (GHG emission factor management table version 6.0.4) ×GWP
Fugitivity Emission Source (F)	septic tank	CH4	Total employee hours worked (hour-year) × 1.59375×10-6 (CH4 emission factor metric tons CH4/hour-year).
			CH4 emission coefficient = BOD emission factor × average sewage concentration × wastewater volume per person per hour (liters/hour) × septic tank treatment efficiency = 0.6 metric tons of CH4/metric tons of BOD× 200 mg/L× 15.625 L/hour× 0.85×10-9 = 1.59375×10-6 metric tons of CH_4/hour-year

Emission sources		Formula for calculating emissions	
	Decongesting agent (WD40)	CO2	CO2 emissions = annual purchase volume of de-smumpers (WD40) × carbon content rate (%) × emission coefficient ×GWP
	Air conditioner/refrigerator/water chiller/vehicle refrigerant (R-22, R-134a, R-410a).	HFCs	HFCs emissions = 2022 fill × GWP
	CO2 fire extinguisher	CO2	CO2 emissions = CO2 filling× emission factor ×GWP
Purchased electricity		CO2e	Annual usage (annual electricity consumption) × emission factor × GWP
Emissions from the upstream transportation and distribution of goods		CO2e	Activity data (purchases × distances) × transport vehicle emission factors (1) Weights are recorded on a declaratory basis. (2) The transport vehicle coefficient is based on the Carbon Footprint Information Network Carbon Footprint Database. (3) The distance of goods procurement and transportation is from the supplier's gate (or the local port to the Taiwan import port + port to the company's various field gates) to the company's field gates.
by the purchase of goods Emissions generated		CO2e	Emissions from major raw materials, energy and water are procured:

Emission sources	Formula for calculating emissions	
		Activity data (amount of raw materials purchased, energy and water use) × emission factor (1) The amount of raw materials, energy and water used is compiled from the purchase records. (2) The raw material, energy and water emission factors are based on the EPD's Carbon Footprint Information Network Carbon Footprint Database.
by disposing of solids and liquids Emissions from waste generation	CO2e	Emissions (including transportation) from the disposal of solid or liquid waste at each site: Disposal: Activity data (amount of waste or wastewater) × emission factor Transport: Activity data (amount of waste × distance transported) × transport vehicle emission factor (1) The transportation of waste disposal is from the gate of each site to the gate of the waste disposal company. (2) The emission coefficients of waste disposal and waste (sewage) treatment services and transport vehicles are

Emission sources	Formula for calculating emissions	
		based on the carbon footprint database of the Environmental Protection Department's Carbon Footprint Information Network.

5.2 Selection of emission factor

The emission factor principle adopted by our company is to give priority to the factor obtained by measurement or mass balance calculation, followed by the national emission factor. If there is no applicable emission factor, the applicable factor from the international announcement will be used. The emission factor is shown in Table

Table 5-2 Emission factors are used in the company's 2022 greenhouse gas inventory

Emission source category	Emission sources	greenhouse gas	Emission factor	unit	Sources:
Category 1 Fixed (E)	diesel fuel	CO2	2.6060317920	metric tons per metric ton	Greenhouse Gas Emission Factor Management Table Version 6.0.4
		CH4	0.0001055074	metric tons per metric ton	
		N2O	0.0000211015	metric tons per metric ton	
Category 1 Mobile (T)	diesel fuel	CO2	2.6060317920	metric tons per metric ton	Greenhouse Gas Emission Factor Management Table Version 6.0.4
		CH4	0.0001371596	metric tons per metric ton	
		N2O	0.0001371596	metric tons per metric ton	
	Gasoline for cars	CO2	2.2631328720	metric tons per metric ton	Greenhouse Gas Emission Factor Management Table Version 6.0.4
		CH4	0.0008164260	metric tons per metric ton	
		N2O	0.0002612563	metric tons per metric ton	
Category 1 Fugitive (F)	Refrigerant-R410a, R32/125(50/50)	HFCS	0.0000015938	metric tons/person-hour	Ministry of Environment 6.0.4
	Septic tank CH4 emission factor	CH4	0.0000015938	per person per hour	Ministry of Environment 6.0.4

Emission source category	Emission sources	greenhouse gas	Emission factor	unit	Sources:
	HFC-134a/R-134a, tetrafluoroethane HFC-134a/R-1, R600A	HFCS	1.0000000000	metric tons/metric tons	Ministry of Environment 6.0.4
Category 1 Process (P).	carbon dioxide	CO2	0.001	kg	Co2 in the process
Category 2	Purchased electricity	CO2e	0.4950000000	metric tons/kilowatt-degrees	Ministry of Environment 6.0.4
Category 4	Indirect carbon footprint of electricity	CO2e	0.09730000000	metric tons/kilowatt-degrees	Product Carbon Footprint Information Network of the Ministry of Environment - Indirect Carbon Footprint of Electricity (2021)

5.3 Description of changes to quantitative calculation methods

When the quantitative calculation method is changed, in addition to calculating with the new quantitative calculation method, a comparison must be made with the original calculation method, and the differences between the two and the reasons for selecting the new method must be explained. The current quantitative calculation method is in accordance with the regulations of the Ministry of Environment, and there is no change in the quantitative method.

5.4 Description of emission factor changes

If the emission calculation factor changes due to the factor of the data source, in addition to re-creating the file and calculation, the difference between the changed data and the original data will also be explained. The current selection of emission factor is in accordance with the Ministry of Environment's Greenhouse Gas Emission Factor Management Table Version 6.0.4 (108.06), and there are no changes to the factor.

5.5 Data quality management

5.5.1 Data quality of direct and indirect greenhouse gas emission sources

(1) In order to require data quality and accuracy, each responsible unit must explain the sources of data, such as purchase basis, flow meter records, meter records, receipt records, computer database records or computer reports, etc., and any information that can be proven and supported the credibility of the data should be investigated, and the data should be retained within the responsible unit to provide a basis for future verification and tracking.

(2) The company's 2022 inventory data quality control operation is in line with the relevance (Relevance), completeness (Completeness), consistency (Consistency), and transparency of ISO 14064-1:2018 / CNS 14064-1:2021 (Transparency) and accuracy (Accuracy) and other principles for the purpose, the assignment content is as follows:

A. Quality inspection is performed by internal verification personnel。

B. Implement general quality checks: for data collection/input/processing, data archiving. And in the process of emission measurement, it is easy to ignore the common errors that lead to errors, conduct rigorous and moderate quality inspections.

C. Conduct specific quality checks: Conduct more rigorous checks on specific areas such as the appropriateness of inventory boundaries, recalculation operations, the quality of input data for specific emission sources, and the qualitative explanation of the main causes of data uncertainty. The contents of general and specific quality inspection operations are shown in Table 5-3 and Table 5-4。

Table 5-3 General quality inspection work contents

Inventory sessions	Job description
Data collection, input, and processing operations	・ Check whether the input data is transcribed incorrectly. ・ Check whether there are any missing fillings (completeness). ・ Ensure that an appropriate version of the e-file has been implemented.
Data archiving	・ Confirm the source of all Level 1 data (including reference data) in the form. ・ The documents cited by the check are all archived. ・ The selected assumptions and criteria to be applied to the following items have been documented: boundaries, baseline years, quantification methods, activity data, emission factors and other parameters.
Calculate emissions with inspection calculations	・ Check that the emission units, parameters and conversion factors are appropriately labelled. ・ Check whether the units are properly marked and used correctly during the calculation process. ・ Check the conversion factor. ・ Check the data processing steps in the inventory form. There should be a clear distinction between the input data and the calculated data in the examination table. ・ Check the representative sample of the calculations. ・ Check the calculations with a brief algorithm.

	· Check the aggregation of data for different emission source categories. · Check the consistency of inputs and calculations across time and age series.

Table 5-4 Contents of specific quality inspection tasks

Type of inventory	Focus
Emission factors and other parameters	· Whether the emission factors and other parameters are appropriately quoted. · Whether the coefficient or parameter matches the unit of the activity data. · Whether the unit conversion factor is correct.
Activity Data	· Whether the data collection operation is continuous (without interruption). · Whether the relevant data has changed consistently over the years. · Cross-comparison of activity data of the same type of facility/department. · Whether activity data is correlated with product capacity. · Whether activity data changes as a result of base year recalculations.
Emissions calculations	· Whether the built-in formula of the emission calculation computer is correct. · Consistency in emissions estimates over the years. · Cross-comparison of emissions from the same type of facility/sector. · The difference between the measured value and the estimated emission value. · Whether emissions are correlated with product capacity.

Chapter VI Base Year

6.1 The base year is selected

The base year of WU-HSING ELECTRONICS CO., LTD. is selected as a fixed base year, which is the year in which the Company first conducts a Category 1~Category 6 inventory and third-party verification in accordance with the ISO 14064-1:2018 standard, and the base year of the Company's inventory is set as 2022, and the greenhouse gas emissions for that year are shown in Table 6.1.

Table 6.1 Total greenhouse gas emissions in the base year

greenhouse gas class Emissions (metric tons CO2e/year)	CO2	CH4	N2O	HFCs	PFCs	SF6	NF3	other	Total platoon Volume	percentage (%)
Category 1	9.5416	2.7236	0.2949	4.0942	0	0	0	0	16.6543	7.374%
Category 2	174.834	0	0	0	0	0	0	0	174.834	77.410%
Category 3	0	0	0	0	0	0	0	0	0	0.000%
Category 4	34.3664	0	0	0	0	0	0	0	34.3664	15.216%
Category 5	0	0	0	0	0	0	0	0	0	0.000%
Category 6	0	0	0	0	0	0	0	0	0	0.000%
total	218.742	2.7236	0.2949	4.0942	0	0	0	0	225.855	100.000%
Percentage (%)	96.851%	1.206%	0.131%	1.813%	0.000%	0.000%	0.000%	0.000%	100.000%	-

6.2 Recalculation of the base year

In the case of a future annual inventory with an error of 3% of the total emissions, the base year must be re-set and the base year greenhouse gas emissions calculated for the following reasons:

1) Report structural changes to boundaries or organizational boundaries (e.g., mergers, acquisitions, or carve-outs).
2) Changes in calculation methods or emission factors.
3) Finding a single or cumulative error that is substantial.

Chapter VII: Verification

7.1 Purpose of verification

In order to enhance the credibility of the inventory results and ensure that the greenhouse gas emissions calculated by the Company are reliable, reliable and fair, the Company will strengthen the completeness and accuracy of the inventory through internal verification and third-party verification, hoping to increase the confidence of expected users in the greenhouse gas inventory results.

7.2 Internal verification

In order to improve the quality of the company's greenhouse gas inventory report, it will be verified by a third-party international verification company in the future, and internal verification will be carried out at the same time. The items confirmed by the internal verification work are as follows:

- Principle of Practice: ISO 14064-1:2018.
- Scope of verification: All emission sources within the boundaries of the company's organization.

Chapter VIII Responsibilities, Purpose and Format of the Report

8.1 Responsibilities of the Report

This report is prepared on a voluntary basis and is not prepared to meet or satisfy specific legal obligations.

8.2 Purpose of the report

1) Internally manage the Company's greenhouse gas performance in response to national and international trends at an early stage.
2) Clearly explain the company's greenhouse gas information and improve the company's social image.
3) Provide the company's greenhouse gas emissions (e.g., government agencies) to specific stakeholders.

8.3 The format of the report

The format of this report has been prepared in accordance with ISO 14064-1:2018 .

8.4 Methods of obtaining and disseminating reports

If you would like to request this report or if you would like to know more about the contents of the report, please contact the following organizations.

- Inquiry unit: WU-HSING ELECTRONICS CO.,
- Interrogator: Huang Jinghao
- Phone: 04-22711498
- Address: No. 10, Gongye 15th Rd., Taiping Dist., Taichung City , Taiwan (R.O.C.)

Chapter IX Issuance and Management of Reports

9.1 This report was prepared by the Carbon Inventory Team.

9.2 Issuance, storage management and version maintenance of reports

In accordance with the requirements of ISO 14064-1:2018 / CNS 14064-1:2021 standard, the carbon inventory team will carry out the production, version maintenance and preservation management of the greenhouse gas report. This year's greenhouse gas report is currently based on internal communication, and in the future, it will be sent to relevant stakeholders as a reference, and the future report can be provided to stakeholders as needed after being approved by the general manager.

Chapter X References

- The second edition of the Corporate Accounting and Reporting Standards for Business (GAPS) Protocol on Greenhouse Gas Inventories (GHG) initiated by the World Business Council for Sustainable Development (WCSD) and the World Resources Institute (WRI).
- ISO 14064-1:2018 Specification for Quantification and Reporting Guidelines for Greenhouse Gas Emissions and Removals at the Organizational Level.
- ISO 14064-2:2019 Specification for Reducing or Removing Incremental Quantification, Monitoring and Reporting of Greenhouse Gas Emissions at the Program Level.
- ISO 14064-3:2019 Specification for Validation and Verification of Greenhouse Gas Claims with Guidelines.
- Assessment report of the United Nations Intergovernmental Committee of Experts on Climate Change (IPCC).
- Operational Guidelines for Greenhouse Gas Emissions Inventory Registration issued by the Ministry of Environment of the Executive Yuan.
- The Greenhouse Gas Protocol - a corporate accounting and reporting standard (revision version). Retrieved from https://ghgprotocol.org/corporate-standard
- ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals, Publication date : 2018-12. Retrieved from https://www.iso.org/standard/66453.html
- IPCC AR6 Climate Change 2021: The Physical Science Basis Full
- Report. Retrieved from https://www.ipcc.ch/report/ar6/wg1/
- IPCC Guidelines for Good Practice and Uncertainty Management for National Greenhouse Gas Inventories, 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Retrieved from https://www.ipcc-nggip.iges.or.jp/public/2019rf/index.html
- Version 6.0.4 of the Ministry of Environment Greenhouse Gas Emission Factor Management Table is taken from https://ghgregistry.moenv.gov.tw/epa_ghg/
- Product Carbon Footprint Information Network Taken from https://cfp-calculate.tw/cfpc/WebPage/LoginPage.aspx
- The technical specification for the verification and inspection of the watt-hour meter is taken from the CNBMV 46th edition and the 6th edition https://www.rootlaw.com.tw/Attach/L-Doc/A040100081004400-1070321-1000-001.pdf
- Technical Specification for Verification and Inspection of Membrane Gas Meters (CNMV 31 5th Edition) Taken from https://www.rootlaw.com.tw/Attach/L-Doc/A040100081003800-1070221-1000-001.pdf
- Technical Specification for Verification and Inspection of Oil Gauge (CNMV117 3rd Edition) is taken from

https://www.bsmi.gov.tw/wSite/laws/review.jsp?lawId=2c9081fe1cb5eda4011cb67791ad05f2

- The ICAO Aviation Carbon Footprint Calculation Platform was taken from https://www.icao.int/ENVIRONMENTAL-PROTECTION/CarbonOffset/Pages/default.aspx

Attachment 1: Greenhouse Gas Inventory Procedure Book

1. Purpose: To make the company's greenhouse gas emissions inventory and reporting in accordance with the relevant and consistent
   The principles of integrity, completeness, transparency and accuracy are hereby formulated.
2. Scope of application: where the company is related to greenhouse gas emissions, data collection, calculation, and report system
   Relevant departments engaged in verification operations.

3. Definitions:
   1. Greenhouse gases: Any gas that makes up the atmosphere that absorbs or emits infrared radiation. Refers to the six greenhouse gases defined by ISO 14064, and general greenhouse gases include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs)., sulfur hexafluoride (SF6).
   2. Carbon dioxide equivalent (CO2e): A unit that compares the radiative efficiency of a greenhouse gas relative to carbon dioxide. In general calculations, a specific greenhouse gas emission is multiplied by its global warming potential.
   3. Greenhouse gas inventory and voluntary reduction: At this stage, because the relevant international ISO standards have not yet been officially issued and the relevant national greenhouse gas control laws and regulations have not been promulgated, the greenhouse gas management operations led by the company in cooperation with the guidance plan of the Industrial Development Bureau are called.

4. Operation instructions The management department is responsible for formulating the company's "Greenhouse Gas Inventory and Voluntary Reduction Statement". The management department is responsible for proposing the first draft of the annual "Greenhouse Gas Inventory and Voluntary Reduction Statement", which will be reviewed by the department head and submitted for approval before being announced.

1 Policy Statement

: The Intergovernmental Committee of Experts on Climate Change (IPCC) stresses that the increase in global average temperature is "very likely" caused by anthropogenic greenhouse gases. According to the 2007 IPCC Fourth Assessment Report, if the greenhouse effect continues to intensify, the average temperature is projected to rise by 6.3 degrees Celsius by the end of the century. As a member of the global citizenry, in order to comply with international norms such as the Kyoto Protocol and fulfill the responsibility of enterprises to protect the environment, we are committed to greenhouse gas inventory, to accurately grasp the greenhouse gas emissions, and further promote the voluntary greenhouse gas reduction plan based on the results of the inventory.

Head:_____

2.Establish the company's greenhouse gas inventory and voluntary reduction implementation committee According to the organization chart of the greenhouse gas inventory and

voluntary reduction implementation committee, the implementation committee is established, the chairman is appointed, and the chairman is responsible for convening relevant members and forming a verification team. The relevant job descriptions are as follows:

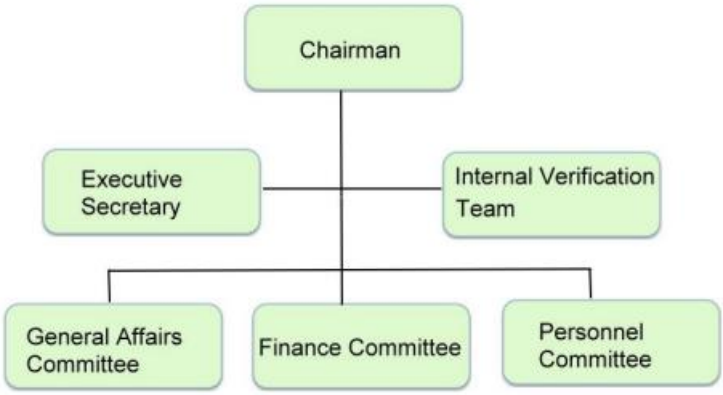
(1).Chairman: Supervise and provide human resources support for the implementation of greenhouse gas reductions.

(2).Executive Secretary: Plan the GHG work in the plant and coordinate with relevant departments to cooperate with all GHG affairs, and be the main contact point.

(3).Checking Team: Conduct verification work after the completion of the inventory report.

(4).Implementation Committee: Responsible for GHG inventory, data collection, emission calculation, and preparation of documents and reports. It is recommended that the person be responsible for the implementation of the energy use unit, the raw fuel procurement unit, the instrument and electrical equipment, environmental protection and accounting and other departments. (Committee Organizational Chart).

3.



Organizational boundary setting

(1). Principles for setting organizational boundaries: Refer to the requirements of ISO 14064 and the Greenhouse Gas Inventory Protocol, and the basis for setting them is as follows:

a. Equity Share: The Company recognizes its greenhouse gas emissions according to the shareholding ratio of each business entity. The percentage of equity owned by each business entity is equivalent to the proportion of economic risk and benefit it represents to the company as a whole.

b. Control: The company adopts 100% recognition of the greenhouse gas emissions of the business under control. Control is further divided into two types of standards: financial control or operational control, and the company selects the standard that best reflects the strength of the substantive control.

(2). For the setting of the company's organizational boundary, WU-HSING ELECTRONICS CO., LTD.is the main organizational boundary.

4. Types of greenhouse gases emitted

In March of each year, according to the "Inventory Form of the Company's Greenhouse Gas and Generating Sources", the executive committee members will conduct an inventory of the greenhouse gases that may be emitted by the company, and after filling it out, it will be

reviewed by the heads of each department, and then sent to the chairman for approval and finally signed by the chairman of the board.

Note : There are six main types of greenhouse gases under the Convention, namely carbon dioxide (CO2), methane (CH4), nitrous oxide N2O), hydrofluorocarbons (HFC), and perfluorinated hydrocarbons (perfluorinated hydrocarbons). PFC) and sulfur hexafluoride (SF6), etc.

5. Identification of greenhouse gas emission sources and calculation of emissions

(1). Base year setting and adjustment

a). Base year setting: The base year is the year in which the inventory operation begins.

b) Base year adjustment principle: based on the following principles (excerpted from the Greenhouse Gas Inventory Protocol).

• When there is a transfer of ownership/control of an emission source, emissions in the base year should be investigated.

• When there is a change in the calculation methodology, which results in a significant change in the calculation of GHG emissions data, the base year emissions should be adjusted accordingly. Adjustments to base year emissions should be retroactive to allow companies to make special change adjustments.

(2). Scoping of greenhouse gas emission sources

In April of each year, according to the "Identification Form of the Company's Greenhouse Gas Emission Sources" in the "Company's Greenhouse Gas Emission Source Inventory System", the implementation committee conducts an inventory and scoping of all greenhouse gas emission sources of the company, and the scoping principles (excerpted from the Greenhouse Gas Inventory Protocol) are as follows:

a) Category 1: Direct emissions of greenhouse gases

Category 1 refers to emissions that come directly from sources owned or controlled by the reporting company, and Category 1 emissions are primarily generated by the following activities:

• Electricity, heat or steam output

• Physical or chemical processes, such as cement, acid and ammonia manufacturing

• Transportation of raw materials, products, waste and employees, such as mobile combustion sources such as trucks, trains, ships, planes, buses and automobiles

• Fugitive emission sources: intentional or unintentional releases, such as leaks from cracks or close joints, biogas from coal mines, HFCs from air conditioning equipment, and leaks that occur during oil transfer.

b) Category 2: Category of greenhouse gas emissions

from imported electricity, heat or steam 2 Indirect GHG emissions associated with imported/ purchased electricity, heat or steam generation are calculated. Emissions from the generation of export/ exported electricity, heat or steam should be reported separately where supporting information is available. These emissions must also be covered by Category 1. For the sake of transparency, emissions data relating to the import and export of electricity, heat or steam should not be expressed in a net amount. Emissions related to the production of imported electricity, heat or steam are considered

special cases of indirect emissions. For many companies, the use of electricity is one of the most important opportunities to cut greenhouse gas emissions.

Companies can reduce their use of electricity and⁄ use electricity more efficiently by investing in energy efficiency technologies. In addition to this, the emerging green energy market3 can lead some companies to switch to purchasing electricity from electricity suppliers with lower greenhouse gas emission intensity. The company will also be able to install a high-efficiency cogeneration plant on-site to replace electricity imported from the grid, which is more greenhouse gas intensity. Category 2 increases the accounting transparency of this option.

c). Category 3: Other indirect emissions of greenhouse gases

Category 3 allows for the calculation of indirect emissions from other activities of the reporting company, but these sources are owned or controlled by other companies, such as:

• Business travel for employees
• Transportation of products, raw materials and waste
• Externally supported activities, subcontracted manufacturing and licensed dealers
• Emissions from waste generated by the reporting company at a point that is owned or controlled by another company, such as biogas from a landfill.
• Emissions from the use or disposal phase of the product and from the services provided by the reporting company
• Employee commuting
• Production of imported raw materials

After the members are filled in, they will be reviewed by the heads of each department, and then sent to the chairman for approval, and finally signed by the factory director. The relevant filling operations shall be handled in accordance with the instructions (reproduction) of the greenhouse gas emission source identification form.

(3). Data collection and data management

According to the "Company Greenhouse Gas Emission Source Data Quality Table" in the "Company Greenhouse Gas Emission Source Inventory Information System", the implementation committee shall fill in the data quality status of all the company's greenhouse gas emission sources, and the original data sources and management mode (source description) of each emission source If there is a second or more data sources for the same emission source, the amount of data and the management mode (source description) should also be recorded.

For the company's GHG inventory system form, after completing the completion of the sign-off, the data control authority will be set (e.g. only the data change will be made by the Environmental Safety Department, and only the supervisor of other departments can view it) to avoid uncontrolled changes.

(4) Quantification of emissions

The following points should be paid attention to when calculating the greenhouse gas emissions of each emission source according to the "Emission Calculation Table (Trial Balance)" in the "Company Greenhouse Gas Emission Source Inventory Information System".

a). Unit conversion: For the original data, it is advisable to convert the unit before expanding the calculation, and convert it to the unit value specified in the system, such as kilograms or tons.

b). Collection and screening of emission factors: The selection of emission factors shall be calculated with reference to Source 1 of the "Emission Factor Management Table" in the "Corporate Greenhouse Gas Emission Source Inventory Information System (Renaming)". Emission Factor Comparison Table".

c). Application of the calculation model: At present, the emission calculation mainly uses the "emission factor method", i.e. the amount of fuel multiplied by the emission factor, and the emissions of other greenhouse gases such as CH4 and N2O should be calculated in addition to their emissions, and should be multiplied by carbon dioxide according to the "IPCC Global Warming Potential". CO2-e **is** expressed in terms of carbon dioxide emissions.

d). Aggregate and separate tabulation of emissions: The aggregate of emissions in various areas, and the emissions of each emission source should also be tabulated separately, and the "Corporate Greenhouse Gas Emission Source Inventory Information System (Renamed)" has been set up and can be directly cited in the calculation results.

6. Preparation of an annual inventory of greenhouse gas emissions

The emission results obtained from the "Company's Greenhouse Gas Emission Source Inventory Information System" for the current year shall be filled in and prepared in accordance with the format of the "Company's Greenhouse Gas Inventory and Emission Inventory Information System", and the greenhouse gas inventory and emission inventory of the current year shall be archived and printed and sent to the chairman for approval, and finally signed by the factory director.

7. Formulation and development of reduction targets and plans

The company's original environmental management objectives, targets and management plan formulation and evaluation forms should be filled in directly, and the relevant assessment and sign-off operations should be handled in accordance with the company's relevant environmental management objectives, targets and management plan procedures.

8. Management of greenhouse gas emission documentation and records

(1). Greenhouse Gas Emissions Documentation: A summary of the relevant requirements is provided in this subsection, but citations are subject to the existing "Documentation Control Procedures".

(2). Greenhouse Gas Emission Records: The relevant requirements are set out in the new second-order "Greenhouse Gas Inventory Management Procedures", but it is quoted that the existing "Records Control Procedures" will be followed and a "Greenhouse Gas Inventory Record List" (indicating the name, retention period and location of the records).

(3) Greenhouse gas emission information flow: Please draw the information flow according to the greenhouse gas inventory form and usage permissions to facilitate the management of relevant inventory information.

9. Preparation, distribution and management of greenhouse gas inventory reports

(1). Preparation of Greenhouse Gas Inventory Report: Refer to the requirements of ISO 14064 and the Greenhouse Gas Inventory Protocol, and its contents (table of contents) are as follows:

a). Organizational description of the report;

b). Responsibility for the report;

c). The period covered by the report;

d) Statements and amendments to organizational boundaries;

e. The total direct greenhouse gas emissions of the organization, quantified separately in tonnes of carbon dioxide equivalent (CO2-e);

f). If quantified, the total direct GHG reductions of the organization are quantified in tonnes of carbon dioxide equivalent (CO2-e), respectively;

g) Statements and amendments to estimates of any sources and sinks of greenhouse gas emissions excluding monitoring and quantification;

h).[If quantified,] the greenhouse gas emissions associated with imported or purchased electricity, heat, steam, or other energy products derived from fossil fuels, quantified in tonnes of carbon dioxide equivalent (CO2-e), respectively;

i. Where quantified, the organization's other indirect greenhouse gas emissions, respectively, in tones of carbon dioxide equivalent (CO2-e);

j). Where appropriate, the reduction or enhancement of greenhouse gas emissions from the internal GHG program is measured in carbon dioxide equivalent (CO2-.), respectively Quantification of tonnage;

k). Where appropriate, reductions or reductions in greenhouse gas emissions from external GHG scenarios are quantified in tonnes of carbon dioxide equivalent (CO2-), respectively

l) If established, a statement of the base year screening or any changes to the base year screening;

m). If established, a baseline year GHG inventory;

n) Any statement and amendment to the adjustment of the base year GHG inventory, including the need for the adjustment policy of the base year GHG inventory;

o). Statement and Amendment of Quantitative Methodology;

p) Statements and amendments to any changes previously made using the quantitative methodology;

q). Statement and Amendment Statement of Emission Factor Screening;

r). This GHG report is based on ISO 14064 Greenhouse Gases – Part 1: Criteria for Quantifying, Monitoring and Reporting Organizational Emissions and Reductions

s). A statement of whether the GHG inventory or report has been verified, including a statement confirming the type of verification and the level of achievement.

(2) Issuance, distribution, and maintenance of the version of the report: The Ministry of Environmental Safety and Safety shall prepare the greenhouse gas inventory report in accordance with the requirements of the "ISO 14064 Greenhouse Gas Standard", and the issuance, storage management and version maintenance of the report shall be handled in accordance with the "Document Control Procedures" of the factory.

10. Verification of greenhouse gas emissions inventory (rewritten from the audit procedures of the existing company's internal environmental management system, and a three-stage operation method has been separated).

(1). Internal verification operation: The Ministry of Environmental Safety and Safety shall plan, implement, record and track the internal verification according to the "Internal Verification Statement for Greenhouse Gas Emission Inventory Operation".

(2). External verification operations: If necessary, with the approval of the top executive, an external verification agency with credibility may be applied to conduct verification operations.

11. Management Review

Add greenhouse gas issues as one of the review items to the existing second-level "management review process", and handle it in accordance with the requirements of the existing "management review process".