

Environmental Protection

(1) Environmental Management Policies and Systems

- a. The Company complies with the requirements of ISO 14001 to establish an environmental management system. We have been paying considerable attention to such significant environmental issues as the pollutions (including air pollution, water pollution and waste), water and electricity consumption and hazardous substances, which have been generated during the production process. We set up dedicated management units and personnel to prevent environmental pollution, which include air pollution, water pollution and waste, and to manage energy consumption efficiently.

- b. The Company regularly checks greenhouse gas emissions in accordance with ISO 14064-1 to review the impact on our operations. Based on the results of the greenhouse gas inventory, we will continue to implement carbon reduction measures to effectively reduce the risk of Scope 1 emissions and the indirect emissions of Scope 2 greenhouse gases caused by the use of electricity. In April 2023, the greenhouse gas inventory inspection has been completed and verified by a third-party, and its verification certificate is expected to be obtained in June 2023. The annual internal audit plan is planned, aiming at the compliance with various relevant environmental laws and regulations, and at auditing each operating process to ensure that they are in accordance with the regulations.

(2) Energy Management

The energy used by the Company is mostly from purchased electricity, which is mainly used in the production processes and plant systems, followed by the consumption of natural gas used in the process of lamination. The other energy purchased are gas used in plants and gasoline and diesel used in passenger vehicles and light trucks.

Type	Unit	Plant	2021	2022
Electricity	1,000 kWh	Taoyuan Plant I	24,030.678	19,737.440
		Taoyuan Plant II	13,3081.4	118,148.400
		Pingzhen Plant	46,311.406	46,772.251
		Changshu Plant	125,513.201	131,644.340
		Total	328,936.685	316,302.431
Gasoline	1 M ³	Taoyuan Plant I	0	4.018
		Taoyuan Plant II	9.572	0
		Pingzhen Plant	0	0
		Changshu Plant	62.572	56.614
		Total	72.144	60.632
Diesel	1 M ³	Taoyuan Plant I	13.153	12.494
		Taoyuan Plant II	21.163	11.932
		Pingzhen Plant	31.93	12.301
		Changshu Plant	36.78	76.933
		Total	103.026	113.659
Natural gas	1,000 M ³	Taoyuan Plant I	0	0
		Taoyuan Plant II	829.56	756.242
		Pingzhen Plant	234.835	212.873
		Changshu Plant	592.289	519.251
		Total	1,656.684	1,488.366

The Company has been managing energy saving, implementing energy management, and reducing production costs. Efficiency evaluation will be carried out when the equipment is installed. Irregular inspections of electricity consumption in the plants are carried out and the following energy-saving projects are implemented.

In order to cope with future energy risks, the Company continues to implement energy-saving and power-saving plans to reduce power consumption in the production process. Each plant gradually replaces low-efficiency equipment and lamps, and formulates equipment energy-saving plans without affecting production efficiency.

- Electricity Consumption Intensity in 2021-2022

Electricity Consumption Intensity				
Resource	Unit	Plant	2021	2022
Electricity Consumption	kWh	Taoyuan Plant I	24,657,420	19,737,440
		Taoyuan Plant II	133,121,374	118,148,400
		Pingzhen Plant	44,333,400	46,772,251
		Changshu Plant I	39,659,052	38,740,693
		Changshu Plant II	100,681,251	92,903,647
Total			342,452,497	316,302,431
kWh / NT\$ 1,000,000 (Revenue)			22,077	20,450
Target for Electricity Consumption Intensity			8%	8%
Performance			12.9%	7.4%

The overall electricity consumption intensity in 2022 was 20,450 kWh / NT\$ 1,000,000 (Revenue), which was 7.4% lower than that in 2021. Although the target of reducing electricity consumption intensity by 8% has not been achieved, the Company continues to develop a variety of energy-saving projects and sets a 2023 target of reducing the consumption intensity by 5%.

Carbon Dioxide Equivalent Intensity with Electricity Consumption Converted into Carbon Dioxide Equivalent				
Resource	Unit	Plant	2021	2022
Electricity Consumption	CO _{2e}	Taoyuan Plant I	12,551	10,046
		Taoyuan Plant II	67,759	60,138
		Pingzhen Plant	22,566	23,807
		Changshu Plant I	20,186	19,719
		Changshu Plant II	51,247	47,288
Total			174,308	160,998
Carbon Dioxide Equivalent / NT\$ 1,000,000 (Revenue)			11.2	10.4
Target for Electricity Consumption Intensity			8%	8%
Performance			12.9%	7.4%

In 2022, the overall carbon dioxide equivalent intensity of electricity consumption was 10.4 CO₂e / NT\$ 1,000,000 (Revenue), which was 7.4% lower than that in 2021, and has not reached the target of reducing by 8%. The Company continues to reduce electricity consumption and expects to achieve the target of reducing by 8% in 2023.

(3) Water Management

a. Water Usage

Through the improvement of production processes and equipment, the efficiency of water usage is improved and the amount of recycled water is increased, thereby reducing the cost of water usage. The Company's manufacturing sites are mainly located in Taiwan and in China. Taoyuan Plant I, Taoyuan Plant II and Pingzhen Plant are all located in Taoyuan City, Taiwan. Changshu Plant I and Changshu Plant II are located in Changshu, China. The water source for plants and offices is 100% tap water. The average water consumption in 2022 is 259,000 m³ / month, and the water fee in 2022 will reach NT\$ 57.17 million.

The sources of tap water in the Taoyuan City are Danan Water Treatment Plant and Pingzhen Water Treatment Plant. Their water reservoir is in the Shimen Dam. Due to the geographical location and topographical characteristics, there are often problems such as uneven rainfall and reservoir siltation in the area of Shimen Dam, which cause water shortage from time to time. The PCB industry needs large water consumption so that the stability of water resources is very important to its production.

In China, the Changshu plants use tap water from the Third Water Treatment Plant of Changshu Sino French Water Co., LTD. and its water reservoir comes from the upstream of the Yangtze River. The water source is sufficient and there are no water supply problems. Our usage does not affect the ecology of the water resource and have no impact on other purposes for the water source as well.

The distribution of rainfall in extreme climates around the world is extremely uneven, which is likely to cause regional and seasonal droughts, so that we can no longer ignore the problems of water utilization. We have been improving the usage of water and adopt the practices of "reducing, recycling, and reusing" to enhance the efficiency of water usage.

The Company understands that water is not easy to come by. It should formulate reasonable plans of water consumption for equipment, continuously improve technology to reduce water consumption, enhance water efficiency by effective usage of water and implement water-saving projects to reduce water consumption. It is our responsibility to continuously improve the use of water resources to increase economic benefits and to reduce the impact on the environment.

But on the whole, the total water consumption in our group has not increased significantly in the past three years and its water consumption per unit of revenue has gradually declined. The water consumption intensity by NT\$ 1 million of revenue in 2020, 2021 and 2022 were 280.8 m³, 251.6 m³ and 241.2 m³ respectively. That in 2022 was 4% lower than that in 2021. There was a downward trend in our water consumption intensity by NT\$ 1 million of revenue. And it is estimated that that will decrease further by 5% in 2023.

Due to the requirements of PCB production, the Company needs to use chemical substances in the manufacturing process, which consumes a lot of water. Based on the commitment of environmental conservation and of cherishing water resources, and on the approaches of "reducing, recycling, and reusing", each plant manages to implement a variety of projects to reduce water consumption and to recycle the used water. In order to improve the efficiency of water usage in the plants, water saving projects are mainly divided into three major categories: replacement of

equipment in utilities, replacement of equipment in production and optimization of operations.

Water Consumption Intensity				
Resource	Unit	Plant	2021	2022
Water Consumption	1,000 m ³	Taoyuan Plant I	134.5	97.4
		Taoyuan Plant II	1,601.9	1,373.2
		Pingzhen Plant	453.8	597.6
		Changshu Plants	1,711.9	1,662.1
Total			3,902.1	3,730.3
m ³ / NT\$ 1,000,000 (Revenue)			251.6	241.2
Target for Water Consumption Intensity			8%	5%
Performance			10%	4%

In 2022, the overall carbon dioxide equivalent intensity of water consumption was 0.000056 CO₂e / NT\$ 1,000,000 (Revenue), which was 4% lower than that in 2021, and has not reached the target of reducing carbon dioxide equivalent intensity by 5%. The Company continues to improve it and expects to achieve the target of reducing by 5% in 2023.

Carbon Dioxide Equivalent Intensity with Water Consumption Converted into Carbon Dioxide Equivalent				
Resource	Unit	Plant	2021	2022
Water Consumption	CO ₂ e	Taoyuan Plant I	0.031	0.023
		Taoyuan Plant II	0.373	0.320
		Pingzhen Plant	0.106	0.139
		Changshu Plants	0.399	0.387
Total			0.909	0.869
Carbon Dioxide Equivalent / NT\$ 1,000,000 (Revenue)			0.000059	0.000056
Target for Water Consumption Intensity			8%	5%
Performance			10%	4%

● 2021~2022 water usage

Plant	Taoyuan Plant I		Taoyuan Plant II		Pingzhen Plant		Changshu Plants	
Water Source	Danan Water Treatment Plant		Danan Water Treatment Plant		Pingzhen Water Treatment Plant		Changshu Sino French Water Co., LTD.	
Water Reservoir	Shimen Dam		Shimen Dam		Shimen Dam		Yangtze River	
Wastewater Plant	Ours		Ours		ORzone Environmental Technology Co., Ltd.		Ours	
Year	2021	2022	2021	2022	2021	2022	2021	2022
Water Consumption (1,000 m ³)	134.5	96.4	1,601.9	1,373.2	453.8	597.6	1,711.9	1,662.1
Revenue (NT\$ 1 million)	979.2	1,079.2	5,313.5	4,685.7	2,558.4	2,897.9	6,660.6	6,804.3
Water Consumption by Revenue (1,000 m ³ / NT\$ 1 million)	0.14	0.09	0.30	0.29	0.18	0.21	0.26	0.24
Recycled Water (1,000 m ³)	-		-		14.3		-	
Water Recycling Rate	-		-		2.40%		-	

b. Waste Water Management

The waste water from production and from domestic sewage, which are produced by various plants in the Company, are divided into separate pipes and collected separately. After having been properly treated by appropriate waste water treatment and controlled by a series of measurements to meet the discharging requirements, they will be directly discharged to receiving water or sewage treatment centers in industrial areas according to laws and regulations.

After having been treated by a high-concentration pretreatment system, biological oxidation treatment, chemical coagulation treatment, sand filtration and activated carbon purification, the

treated water of our Taoyuan Plant I and Taoyuan Plant II are discharged into Dakeng Creek or Wayao Creek and finally flow into Nankan River. The treated water of our Pingzhen Plant, after having been treated by a high-concentration pretreatment system, biological oxidation treatment and chemical coagulation treatment, are discharged into the sewage treatment center of Pingzhen Industrial Zone. Our Changshu plants has a dedicated waste water treatment plant which discharges the treated water to Dawengjiang after having treated them by a high-concentration pre-treatment system, an A2O system, a chemical coagulation system and a tertiary treatment system. Relevant water quality conditions are uploaded to the website of the local environmental protection agency in real time in accordance with the regulations of the local environmental protection agency and are available for public inspection.

In 2022, the volume of the treated water discharged from our plants in Taiwan and in China were around 1.76 million and 1.18 million tons respectively, accounting for 59% and 41% of our total discharge. The average wastewater discharge intensity by NT\$ 1 million of revenue in 2020, in 2021 and in 2022 are 256.4 m³, 218.1 m³ and 191.0 m³ respectively. Our Taoyuan Plants and Pingzhen Plant have also cooperated with environmental protection agencies and the sewage treatment center in Pingzhen Industrial Zone to implement total discharge control or voluntary discharge reduction to decrease the loading of sewage treatment. In addition to complying with regulations, we have adopted stricter standards to manage copper residue and ammonia nitrogen in the discharged water in order to reduce the pollution and the impact on the receiving water and to achieve the goal of environmental friendliness.

Volume and Intensity of Wastewater Discharge						
Plant	Receiving Water	Unit	2019	2020	2021	2022
Taoyuan Plant I	Wayao Creek	m ³	91,301	83,250	129,344	94,033
Taoyuan Plant II	Wayao Creek		1,849,487	1,581,613	1,502,561	1,282,016
Pingzhen Plant	Pingzhen Sewage Treatment Center		303,095	360,208	362,598	389,366
Changshu Plants	Dawengjiang		1,261,793	1,188,801	1,389,186	1,189,268
Total			3,505,676	3,213,872	3,383,689	2,954,683
1,000 m ³ / NT\$ 1 million of revenue			237.7	256.4	218.1	191.0

Furthermore, in order to confirm the results of waste water treatment, we actively review and improve the waste water pollution prevention and control system in our plants. Currently, the discharge levels of our plants in Taiwan and in China are maintained far better than the required criteria of local regulations.

The following table shows the water quality measured by our plants on a regular basis. All of them meet the national criteria for the discharged water.

Water Discharge Criteria and Our Plants' Status								
Monitoring Items	Taoyuan Plant I		Taoyuan Plant II		Pingzhen Plants		Changshu Plants	
	Criteria	Status	Criteria	Status	Criteria	Status	Criteria	Status
Discharge Volume (million tons / year)	0.53	0.09	2.55	1.28	0.65	0.39	2.23	0.12
pH	6~9	7.21	6~9	7.56	5~9	P1: pH7.9 P5: pH7.3	6~9	7.31
Copper (mg/l)	1.5	0.37	1.5	0.43	1.5	P1: 0.15 P5: 0.55	0.3	0.09
COD (mg/l)	120	22.15	120	48.5	400	P1: 143 P5: 105	50	23.19
BOD (mg/l)	50	5.62	50	7.33	-	-	-	-
Suspended Solids (mg/l)	50	5.05	50	5.19	100	P1: 7 P5: 15	30	7.56
Ammonia Nitrogen (mg/l)	-	-	-	25.9	30	ND	30	0.98

(4) Capital Expenditure related to Energy Conservation, Water Conservation and Pollution Prevention

The Company actively implements the ISO14001 management system and responds to sustainable development requirements. In 2021, the capital expenditure related to energy conservation, water conservation and pollution prevention for our plants in Taiwan and in China were NT\$ 34.74 million and NT\$ 28.66 million respectively, accounting for 8.0% and 2.7% of our total capital expenditure. Those in 2022 were NT\$ 26.95 million and NT\$ 45.88 million respectively, accounting for 5.8% and 13% of our total capital expenditure. In 2023, that in Taiwan is planned to be NT\$ 22.91 million, accounting for 7.6% of our total capital expenditure. The amount of that in 2023 is less than that in 2022, but we still continue to look for and focus on new technologies and approaches to optimize the equipment and projects for energy conservation, water conservation and pollution prevention in our plants.

Items	2021		2022		2023	
	Taiwan	China	Taiwan	China	Taiwan	China
Total Capital Expenditure (NT\$ in millions)	431.82	1,053.96	467.24	354.12	302.70	90.16
Capital Expenditure of Energy Conservation, Water Conservation and Pollution Prevention (NT\$ in millions)	34.74	28.66	26.95	45.88	22.91	0

Note: Exchange Rate: 1CNY = 4.4 NTD

(5) Use of Recycled Materials and Green Product Management

a. Compliance with laws and regulations

The Company actively follows the trend of green environmental protection and conforms to our customers' requirements of green products, and takes such approaches as a full participation of all employees and a comprehensive implementation of green products in the manufacturing and maintaining. We have formulated "Hazardous Substance Management Procedure ", and

manages suppliers, raw materials and product quality accordingly to ensure that products meet relevant international standards on requirements of hazardous substances management (such as: RoHS, REACH, California’s Proposition 65, etc.), which are our customers’ requirements as well. We have achieved 100% compliance with laws and regulations in 2022.

2022	Number of Cases	Compliance Rate
Compliance Risk Assessment	26	100%

b. Hazardous Substance Management

In order to effectively manage the implementation of suppliers' green products approaches, we compulsorily require suppliers to provide such documents as "Warranty of Non-Use of The Hazardous Substances" and "The Activity in Compliance with REACH Regulation" and other surveys and commitments. We also commission third party inspection organizations to provide reports to verify whether there are hazardous substances. In order to avoid contamination of raw materials, packaging materials and finished printed circuit boards during transportation or production, we also arrange for XRF testing of raw materials, packaging materials and finished goods every month.

c. Actions of Green Products Management

Item	Subitem	Achievement Rate
Commitment/ Declaration Signing Completion Rate	Warranty of Non-Use of The Hazardous Substances Signed by Suppliers	100%
	Declaration of Environmental And Occupational Health And Safety Management System	100%
Questionnaire Completion Rate	The Activity in Compliance with REACH Regulation	100%
	Supplier Hazardous Substance Questionnaire	100%
XRF Inspection Pass Rate	Raw Materials/Packaging Materials	100%
	Final Product	100%
Third-Party Inspection Report Pass Rate		100%

In addition, for raw material suppliers, we conduct regular audit plans every year. For suppliers with audit deficiencies, we will provide specific improvement suggestions and time limit for correction. In order to maintain better mutual understanding and good interaction with our supplier, we will hold seminars and training programs for our supplier from time to time and provide multiple and timely communication channels, such as: Email, telephone or face-to-face communication. We have established a dedicated unit for a direct contact to enhance our suppliers' better understanding of green products.

(6) Waste management

In order to achieve sustainable resources recycling, the Company's principle of waste treatment is to give priority to reuse in the factories and reducing the use of raw materials. The resources which cannot be reused in the factories will be sent to recycling facilities. In the end, those which cannot be recycled will be treated with incineration or other treatments. We have been managing to actively move towards the goal of green industry. The wastes needed to be cleaned up must be clearly classified first, and then

be commissioned to the companies obtaining the waste clearance and disposal permission in accordance with the Waste Disposal Act. All commissioned companies are required to have obtained the waste clearance and disposal permission. Those companies should be under strict selection procedures before the commissions and their performance should be subject to uncompromising audits. Following the correct procedures of clearance and disposal of the wastes, we will file the wastes clearance declaration before their removal, classify them during their removal, and obtain proper disposal documents after their treatment.

The types of waste are divided into two categories: general industrial waste and hazardous industrial waste. Their volume in the past two years is as follows:

Categories	Treatment	2020		2021		2022	
		kg	kg / M ²	kg	kg / M ²	kg	kg / M ²
General	Incineration & Physical Treatments	2,204,391	1.49	2,376,451	1.46	2,105,870	1.51
	Recycling	1,084,368	0.73	1,112,006	0.68	1,285,258	0.92
Hazardous	Incineration & Physical Treatments	932,878	0.63	988,933	0.61	810,080	0.58
	Chemical Treatments & Stabilization	1,186,812	0.80	1,971,778	1.21	1,414,469	1.01
	Recycling	2,380,010	1.61	2,762,200	1.70	2,553,879	1.83

Whether it is general industrial waste or hazardous industrial waste, we gradually enhance the recycling methods to reduce the impact on the environment.

(7) Air Pollution Management

The air pollutants generated in the production of printed circuit boards mainly include acid waste gas, alkaline waste gas and volatile organic waste gas. In our results of air pollution

management, the total emissions of all pollutants in 2022 decreased compared with 2021, except for nitrogen oxides which increased by 46%. There will be no emissions of sulfur oxides. And volatile organic compounds and suspended particles decreased by 13% and by 28% respectively.

The Company has been managing to reduce the air pollutants emitted during production by taking such measures as changing raw materials, increasing the efficiency of collecting air pollutants at the processes of production and properly maintaining equipment for air pollution prevention that the levels of pollutants detected over the years were all lower than the criteria set by the laws and regulations of environmental protection.

In order to reduce more air pollutants emitted by production, in addition to setting up a variety of facilities for air pollution prevention and control, the Company has also actively carried out a lot of projects to improve air pollution prevention. The achievements over the years are as follows:

- Replacing diesel boilers with natural gas boilers in Taoyuan Plants and having reduced annual emission of sulfur oxide by 2.6 kg and of nitrogen oxide by 130.8 kg.
- Centralizing production of aluminum lamination in Pingzhen Plant to reduce consumption of natural gas on idle time in production and having reduced annual emission of nitrogen oxide by 1200 kg.
- Replacing organic 2-1 unit of processing volatile organic compound with zeolite rotor concentrator + CO exhaust gas treatment device in Changshu Plant I and having reduced annual emission of volatile organic compounds by 160 kg.
- Replacing pleated filters in the dust collectors with sintered porous polyethylene (PE) filter in Changshu Plant II and having reduced annual emission by 1721 kg per year.
- Re-modelling the boilers into using low-nitrogen combustion and having reduced annual emission of nitrogen oxide by 1001 kg.

These measures and others have effectively enhanced the

efficiency of air pollution prevention and control.

The air pollutants emission intensity by NT\$ 1 million of revenue in 2021 is 4.27 kg, and reduced to 3.79 kg in 2022, which shows a downward trend.

● 2020-2022 Statistics of Air Pollutants Emission

Air Pollutants Emission and its Intensity					
Pollutant	Unit	Plant	2020	2021	2022
Nitrogen oxides	kg	Taoyuan Plant I	0.0	0.0	0.0
		Taoyuan Plant II	960.0	1,100.7	1,053.2
		Pincheng Plant	1,059.7	1,348.5	1,342.1
		Changshu Plant I	0.0	155.0	238.0
		Changshu Plant II	1,260.0	259.0	1,533.0
	Total		3,279.74	2,863.2	4,166.3
	kg / NT\$ 1,000,000 (Revenue)		0.26	0.18	0.27
Sulfur oxides	kg	Taoyuan Plant I	0.0	0.0	0.0
		Taoyuan Plant II	0.1	0.0	0.0
		Pincheng Plant	0.0	0.0	0.0
		Changshu Plant I	0.0	0.0	0.0
		Changshu Plant II	0.0	0.0	0.0
	Total		0.1	0.1	0.0
	kg / NT\$ 1,000,000 (Revenue)		0.00	0.00	0.00
Volatile Organic Compounds	kg	Taoyuan Plant I	23,019.9	26,508.2	22,275.3
		Taoyuan Plant II	26,912.1	19,426.1	12,446.3
		Pincheng Plant	8,770.3	9,693.5	12,861.5
		Changshu Plant I	1,193.0	1,026.0	1,869.0
		Changshu Plant II	717.0	1,398.0	1,081.0
	Total		60,612.3	58,051.8	50,533.1
	kg / NT\$ 1,000,000 (Revenue)		4.84	3.74	3.27
Suspended Particles	kg	Taoyuan Plant I	3.2	4.2	5.0
		Taoyuan Plant II	3,636.0	3,817.5	3,076.0
		Pincheng Plant	20.3	32.8	37.3
		Changshu Plant I	193.0	205.0	38.8
		Changshu Plant II	1301.0	1311.0	683.3
	Total		5,153.6	5,370.5	3,840.3
	kg / NT\$ 1,000,000 (Revenue)		0.41	0.35	0.25

(8) Inventory of greenhouse gas emissions

The Company regularly checks greenhouse gas emission in accordance with ISO 14064-1. The boundary range includes plants

in Taiwan and in China, so as to grasp the overall greenhouse gas emission status and to review and set our yearly goals. Our results of the greenhouse gas inventory in 2021 and in 2022 were 197,445.978 tons CO₂e / year and 173,929.290 tons CO₂e / year, respectively. That in 2022 was 12% lower than that in 2021. We continue to implement carbon reduction measures to meet the emission targets expected by our customers and the government.

The scope of inventory is as follows:

Category	Scope	Execution Method
Scope 1 Direct greenhouse gas emission	<ol style="list-style-type: none"> 1. Direct emissions from stationary combustion, such as electricity generators, boilers 2. Direct emissions from mobile combustion, such as official vehicles, stackers, etc., which consume petrochemical raw materials to produce greenhouse gases. 3. Direct fugitive emissions from the release. 	Qualitative and quantitative examination.
Scope 2 Energy indirect greenhouse gas emission	Imported electricity	Qualitative and quantitative inspections.
Scope 3 Other indirect greenhouse gas emission	Employees' commuting, outsourcing, such as: waste removal, air/sea/land transportation contractors, etc.	Verification not carried out.

Greenhouse Gas Emissions

Unit: tons CO_{2e}/ year

Region		Taiwan	China
2021	Scope 1	5,141.674	4,870.448
	Scope 2	102,451.450	84,982.405
	Subtotal	107,593.124	89,852.854
	Total	197,445.978	
2022	Scope 1	2,171.627	1,434.032
	Scope 2	93,838.269	76,485.362
	Subtotal	96,009.896	77,919.394
	Total	173,929.290	

Note:

1. The above data are rounded to the third decimal place.
2. In April 2023, the greenhouse gas inventory inspection has been completed and verified by a third-party, and its verification certificate is expected to be obtained in June 2023.
3. Greenhouse gas emission factors are based on "2006 IPCC Guidelines for National Greenhouse Gas Inventories ", "Electricity Carbon Emission Factor for 2020" by the Bureau of Energy, Ministry of Economic Affairs, Taiwan, and "Greenhouse Gas Emissions Factors Management Table Version 6.0.4" by the Environmental Protection Administration, Executive Yuan, Taiwan, "Baseline Emission Factors for Regional Power Grids in China " and "China Energy Statistical Yearbook 2016".
4. The Global Warming Potential (GWP) values for various greenhouse gases in 2021 were based on the IPCC's fifth assessment report in 2013 (GWP 100-year). The GWP values for various greenhouse gases in 2022 were based on the IPCC's sixth assessment report in 2013 (GWP 100-year).
5. The greenhouse gas include CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃.
6. The Company's inventory of the greenhouse gas emissions is based on the emissions in the production of printed circuit boards, which is characteristic of the PCB industry where the Company is.

(9) Climate Change Management Policy

The Company takes the Sustainability Committee as the top authority on climate change management, which is presided by the chairperson of the board of directors. It reviews the Company's climate change strategy and goals, manages climate change risks and opportunities, reviews the implementation status and discusses future plans, and reports to the board of directors every year.

The Company regularly checks greenhouse gas emissions in accordance with ISO 14064-1 to review the impact on our operations. Based on the 2023 results of the greenhouse gas inventory, we will continue to implement carbon reduction measures. In April 2023, the greenhouse gas inventory inspection has been completed and verified by a third-party, and its verification certificate is expected to be obtained in June 2023.

At the same time, in accordance with the framework developed by the Task Force on Climate-related Financial Disclosures (TCFD) published by the Financial Stability Board, the Company have considered the characteristics of the production process and supply chain in the PCB industry, and evaluated the risks and opportunities of climate change for the Company. In order to reduce the risk factors, the Company has also established the Sustainability Committee to supervise and manage issues on environmental conservation and climate change, to identify feasible opportunities and develop proper approaches, and to evaluate and manage the short-term, medium-term and long-term risks and to develop the transformation strategies for climate change. The committee use the "risk matrix" to evaluates the frequency of major climate risk events and the severity of their impact on our operations, to prioritize items of risk control and define a full spectrum of risk levels and to take proper approaches of risk control to deal with issues with different risk level. In the long-term, our vision is to implemented in the Company the system developed by Task Force on Climate-Related Financial Disclosure (TCFD) and to disclose the TCFD report. The Company is planning to gradually improve our related disclosure from "climate risk disclosure" to

"climate-related financial disclosure", and to establish a target management and a disclosure mechanism, which are based all on quantitative performance indicators.

a. Framework for Climate Risk and Opportunities

Working Group I report in the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) states that the average global surface temperature from 2011 to 2020 was approximately 1.09°C higher than the average temperature from 1850 to 1900, representing the pre-industrialization period. The report explicitly indicates the need for active measures such as net-zero carbon emissions or carbon neutrality to control global warming and limit temperature increase to no more than 1.5°C.

In the face of highly uncertain climate risks and the global pursuit of net-zero carbon emissions, the Financial Stability Board (FSB) has introduced the Task Force on Climate-Related Financial Disclosures (TCFD) framework to assist enterprises in managing climate-related issues.

We recognize that climate change risks and opportunities for enterprises should not only be identified but also linked to operational strategies through assessment and management. This is one of the most critical issues of sustainable management for enterprises. Therefore, the Company has adopted the TCFD framework to analyze risks and opportunities in various aspects, such as policy and regulations, market and technological transitions, reputational and physical risks. We develop adaptation and mitigation strategies, disclose climate-related financial information, and enhance communication with stakeholders.

Framework	Strategies and Actions
Governance	<ul style="list-style-type: none"> ● "Board of Directors": It reviews sustainable management strategies, major action plans, risk management policies, and annual execution results. ● "Sustainable Development Committee": This is the highest management committee responsible for climate-related issues, which is chaired by the Chairperson and CEO with department heads overseeing the operation of subsidiary committees. The committee includes representatives from all operational units and is responsible for establishing and implementing guidelines for ESG issues, reviewing performance targets, monitoring implementation, and reporting to the Board of Directors annually. ● "Greenhouse Gas Audit Team": Under the jurisdiction of the Sustainable Development Committee, this team is primarily responsible for assessing and/or managing climate-related issues, reviewing key performance indicators, setting short, medium, and long-term goals, and implementing strategies to enhance resource efficiency, to assess the use of renewable energy and to manage carbon emissions, and actively achieving effective green management.
Strategy	<ul style="list-style-type: none"> ● Five opportunities and ten risks have been identified based on the TCFD framework. ● Three different warming scenarios are analyzed to assess the potential financial impacts of climate change on the Company's operations. ● Guided by the "ESG Policy" and "Environmental Resource Policy," plans and actions are implemented to mitigate climate change-related issues, while staying updated on global climate action trends and continuously striving towards carbon neutrality goals.
Risk Management	<ul style="list-style-type: none"> ● Based on the range and conditions of climate change impacts, risks are scored according to the probability and severity of physical and transitional risks (degree of impact). They are then divided into different quadrants. For risks of high-frequency and of high-severity, the management measures are developed through cross-departmental discussions.
Indicators & Goals	<ul style="list-style-type: none"> ● Climate change-related management indicators are set, including:

Framework	Strategies and Actions
	<ul style="list-style-type: none"> - Greenhouse gas emissions intensity by NT\$ 1 million of revenue (tCO₂e / NT\$ in million): Maintain below 15.5 in 2023 and below 12 in 2025. - Water consumption intensity by NT\$ 1 million of revenue (m³ / NT\$ in million): Maintain below 222 in 2023 and below 200 in 2025. - Electricity consumption intensity by NT\$ 1 million of revenue (kWh / NT\$ in million): Maintain below 3,544 in 2023 and below 3,198 in 2025. ● In accordance with the Greenhouse Gas Inventory Guidelines and ISO 14064-1 standard, our emissions inventory has been audited and verified by a third-party to assess the climate change impacts faced by the Company and to implement mitigation measures. In April 2023, the greenhouse gas inventory inspection has been completed and verified by a third-party, and its verification certificate is expected to be obtained in June 2023. ● In response to regulations on climate change and greenhouse gas reduction, our targets for greenhouse gas reduction have been set for 2025 (-25%) and 2050 (net zero).

b. Identification of Climate Change Risks and Opportunities

Through relevant departments within the "Sustainable Development Committee," climate change risks and opportunities that may be faced within their business scope respectively are identified and analyzed. Using a matrix based on the probability (3 levels) and impact (3 levels) of each risk and opportunity, significant risks and opportunities are identified, and management measures are developed to mitigate, transfer, or avoid potential impacts. The matrix analysis indicate that transitional and physical risks include total amount control, carbon emissions trading, changes in average rainfall, uncertainty of new regulations, carbon taxes, energy taxes / fuel taxes, renewable energy regulations, etc. In terms of opportunities, they include production processes, low-carbon energy, water utilization, alternative or diversified resources,

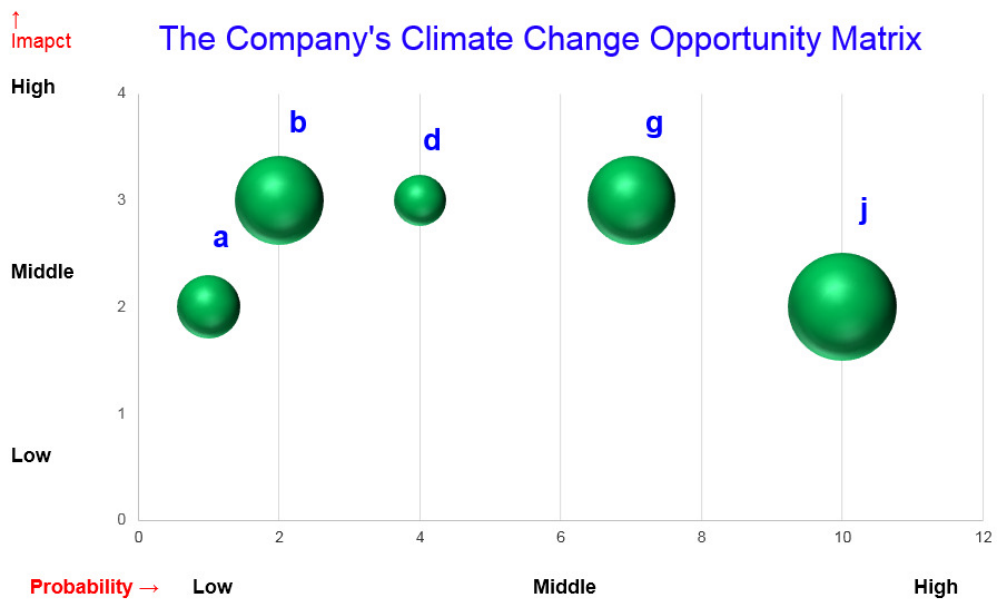
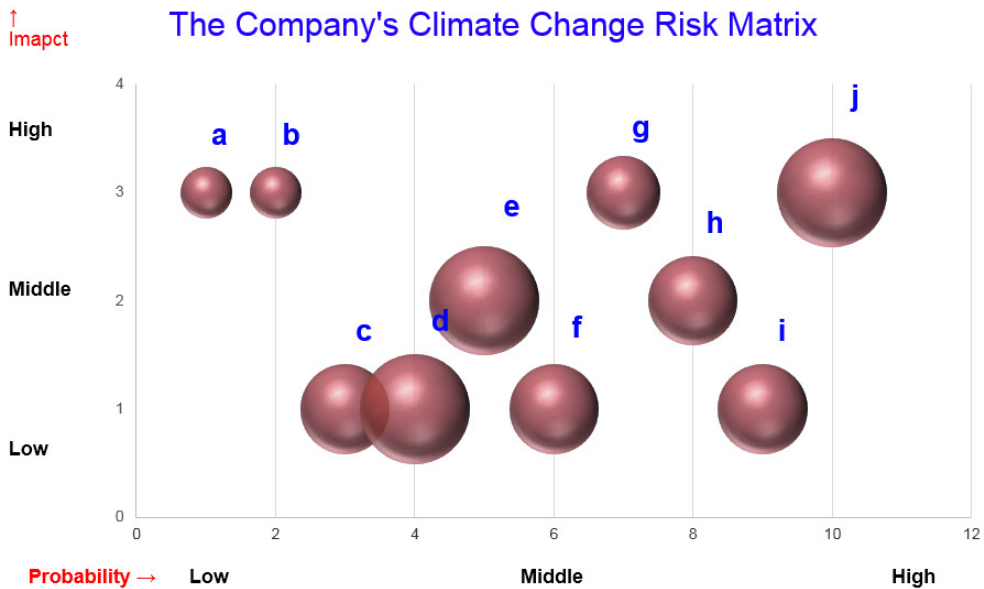
etc.

Indicator	Description	Risk Level
Exposure	Loss of an enterprise due to climate change	1 : Below NT\$ 200,000 2 : NT\$ 200,000~1,000,000 3 : Above NT\$ 1,000,000
Vulnerability	Degree to which an enterprise is vulnerable to climate change	1: completely or almost unlikely 2: likely to happen 3: very likely or certainly to happen
Hazard	Probability of climate disasters occurring in the future	1 : 50% ↓ 2 : 50~90% 3 : 90% ↑

Indicator	Description	Risk Level
Benefit	Benefits from the resources invested	1 : Below NT\$ 1,000,000 2 : NT\$ 1,000,000~5,000,000 3 : Above NT\$ 5,000,000
Positivity	Likelihood that the business will be subject to positive change	1: completely or almost unlikely 2: likely to happen 3: very likely or certainly to happen
Occurrence	Probability of external opportunities occurring in the future	1 : 50% ↓ 2 : 50~90% 3 : 90% ↑

Hazard / Benefit		Low	Middle	High	Low	Middle	High	Low	Middle	High	Vulnerability / Occurrence
		1	2	3	1	2	3	1	2	3	
High	3	M	M	H	M	H	H	H	H	H	Exposure / Positivity
Middle	2	L	L	M	L	M	H	M	H	H	
Low	1	L	L	M	L	L	M	L	M	H	
Climate Risk Assessment		1			2			3			Exposure / Positivity
		Low			Middle			High			

Code	Assessment Item	Risk				Risk Status	Opportunity				opportunity Status
		Impact	Probability				Impact	Probability			
		Exposure	Hazard	Vulnerability	Hazard * Vulnerability		Positivity	Benefit	Occurrence	Benefit * Occurrence	
a	Triggered Natural Resource Changes	3	1	2	2	Middle	2	1	3	3	Middle
b	Introduction of New Technologies (low-carbon, environmentally friendly technologies, etc.)	3	2	1	2	Middle	3	3	2	6	High
c	Sea Level Rise	1	2	3	6	Middle	-	-	-	-	-
d	Regulatory Compliance (renewable energy, carbon emissions, etc.)	1	3	3	9	High	3	1	2	2	Middle
e	Mandatory Reporting (carbon emissions, air pollution control)	2	3	3	9	High	-	-	-	-	-
f	Temperature Changes	1	3	2	6	Middle	-	-	-	-	-
g	Investment in New Equipment	3	2	2	4	High	3	3	2	6	High
h	New Tax Systems (fuel/energy/carbon taxes)	2	2	3	6	High	-	-	-	-	-
i	Shifts in Rainfall Patterns	1	3	2	6	Middle	-	-	-	-	-
j	Total Amount Control / Carbon Emissions Trading	3	3	3	9	High	2	3	3	9	High



Category	Source of Risk/Opportunity	Risk Detail	Category	Impact/Relevance	Likely Time to Occur
Transformational / Physical Risks	New Tax Systems (carbon taxes)	Carbon tax	Transformational	High	Medium-term
	Mandatory Reporting (carbon emissions, air pollution control)	Carbon emissions control	Transformational	High	Medium-term
	Triggered Natural Resource Changes	Requirements for the proportion of renewable energy	Transformational	Middle	Medium-term
	Total Amount Control / Carbon Emissions Trading	Increased requirements for climate information disclosure	Transformational	High	Medium-term
	Total Amount Control / Carbon Emissions Trading	More demand from customers for verification of implementation on sustainable development	Transformational	High	Medium-term
	Introduction of New Technologies (low-carbon, technologies)	Low carbon technology transformation	Transformational	Middle	Long-term
	New Tax Systems (fuel/energy tax)	Rising fossil fuel prices and changes to tax requirements	Transformational	High	Long-term
	Regulatory Compliance (renewable energy, carbon emissions, etc.)	Uncertainty of new regulations	Transformational	High	Medium-term
	Temperature Changes	Extreme temperature changes	Physical	Middle	Long-term
	Shifts in Rainfall Patterns	Changes in rainfall patterns and distribution	Physical	Middle	Long-term
Opportunity	Investment in New Equipment	Production processes	Opportunity	High	Long-term
	Triggered Natural Resource Changes	Low carbon energy	Opportunity	Middle	Medium-term
	Triggered Natural Resource Changes	Water utilization	Opportunity	Middle	Medium-term
	Triggered Natural Resource Changes	Alternative or multi-sourced resources	Opportunity	Middle	Medium-term

Remarks: Short-term: 1~3 years; Medium-term: 4~7 years; Long-term: more than 7 years

Risk Sources	Category	Occurrence	Impact	Management Measures
Total Amount Control / Carbon Emissions Trading (Increased requirements for climate information disclosure) (More demand from customers for verification of implementation on sustainable development)	Transformational	Medium-term	China - In response to Suzhou's energy development plan, Changshu Plants implements energy transformation from six aspects such as energy, supply, structure, industry, technology and change. Facing more stringent power and carbon total amount control in the future, we need to consider equipment with capability of power saving and low carbon emissions when we are planning to expand our operation scale and production capacity.	<ul style="list-style-type: none"> Follow the ISO14064 greenhouse gas inventory standard to implement inventory operations, and continuously monitor and manage to reduce carbon emission intensity. Continue to expand R&D capabilities and cooperate with equipment manufacturers and material manufacturers to develop low-carbon technologies.
Shifts in Rainfall Patterns (Changes in rainfall patterns and distribution)	Physical	Long-term	Most of the rainfall is concentrated in some areas, leading to water shortages.	<ul style="list-style-type: none"> Regularly monitor the water situation. At the initial stage of construction, each plant has taken into account the usage and retention of water resources and has set up water storage tanks in the plant. In normal times, track the storage volume of reservoirs in each region and monitor and manage the water usage of each plant. Hold a contingency meeting during the drought. The emergency response team for water usage will make unified scheduling of

Risk Sources	Category	Occurrence	Impact	Management Measures
				water trucks, water tanks, water sources and other water resources to ensure uninterrupted operation.
Regulatory Compliance (renewable energy, carbon emissions, etc.) Triggered Natural Resource Changes	Transformational	Medium-term	"Climate Change Response Act", "Renewable Energy Development Act", "Sustainable Development Roadmap for Listed Companies" and other regulations and requirements in the future.	<ul style="list-style-type: none"> ● Continue to pay attention to the trend of regulations and assess the content of the drafts of new regulations.
New Tax Systems (carbon taxes) Introduction of New Technologies (low-carbon technologies)	Transformational	Medium-term	<p>"Climate Change Response Act" will levy carbon fees in Taiwan, which will limit capacity expansion and increase operating costs.</p> <p>The installation and operation of carbon reduction equipment will increase operating costs.</p>	<ul style="list-style-type: none"> ● Follow the ISO 14064 greenhouse gas inventory standard, implement inventory and continuous monitoring management and reduce carbon emission intensity. ● Continue to expand R&D capabilities and cooperate with equipment manufacturers and material manufacturers to develop low-carbon technologies. ● Set carbon reduction goals, continuously evaluate and plan carbon offset strategies, and move towards the goal of carbon neutrality.
New Tax Systems (fuel / energy taxes)	Transformational	Long-term	The introduction of energy tax and fuel tax will increase operating expenses.	<ul style="list-style-type: none"> ● Pay attention to changes in laws and regulations, and establish the responsive measures in advance to meet the requirements of laws and regulations. ● Improve energy efficiency through equipment improvement and renewal.
Triggered Natural Resource Changes (Requirements for the proportion of renewable energy) Regulatory Compliance (renewable energy)	Transformational	Medium-term	In response to the regulations on the development of renewable energy, the plants in Taiwan will install and use renewable energy in accordance with the regulations, which will increase capital expenditure.	<ul style="list-style-type: none"> ● Plan the use of renewable energy according to the demand and evaluate the installation of solar photovoltaic before 2030.
Temperature Changes (Extreme temperature changes)	Physical	Long-term	The average temperature rises in summer. In order to maintain the temperature and humidity conditions in the plants, more air-conditioning systems need to be turned on to meet the demand for production or electricity.	<ul style="list-style-type: none"> ● Improve the efficiency of the air conditioning system and install inverters for intelligent control, which can reduce energy usage and greenhouse gas emissions

Opportunity Sources	Category	Occurrence	Impact
Investment in New Equipment (Production processes)	Long-term	<ul style="list-style-type: none"> ● Reduce the defective rate of products to reduce the cost of scrapping. ● Reduce the consumption of other potions to reduce the cost of potions. 	<ul style="list-style-type: none"> ● Introduce circular economy thinking to reduce carbon emissions and energy usage. ● Introduces new potions used in the plating process.
Triggered Natural Resource Changes (Low carbon energy)	Medium-term	The boilers in our plants used to use fuel oil, diesel oil, etc. as fuel, and have gradually changed the fuel source to natural gas, which can effectively reduce the greenhouse gas emissions generated by burning fossil fuels.	<ul style="list-style-type: none"> ● Continue to replace high-energy-consuming equipment and improve energy efficiency before 2025, plan to use renewable energy and solar photovoltaic devices before 2030, and continue to pay attention to the trend of laws and policies to promote improvement plans for low-carbon and energy-saving.
Triggered Natural Resource Changes (Water utilization)	Medium-term	Improve water usage efficiency and reduce dependence on raw water.	<ul style="list-style-type: none"> ● Recycle the water used in production, monitor the water quality of recycled water, direct them to proper systems according to their water quality, and continuously improve the recycling rate of used water.
Triggered Natural Resource Changes (Alternative or multi-sourced resources)	Medium-term	Improve the climate resilience and risk tolerance of the supply chain and stabilize supply sources.	<ul style="list-style-type: none"> ● Plan to assess and manage procurement risks through cross-departmental supply chain management.

c. Climate Transition Scenario Analysis

Based on the identification of climate risks, the Company has conducted an analysis of three different warming scenarios such as RCP2.6, RCP4.5-6.0, and RCP8.5, which are projected for the year 2050. These scenarios represent three scenarios with strict temperature control, with attempts to reduce greenhouse gas emissions and with no attempts at all respectively. We have made the parametric assumptions on the transformational and physical risk factors and estimated financial impacts. The risk factors assumed were carbon taxes, market share and changes in temperature and precipitation. We have conducted the simulations based on them. In all three scenarios, the primary financial impacts were increased costs and decreased revenue.

Item		Scenario Analysis		
		RCP2.6 (low emission)	RCP4.5-6.0 (stable / moderate emission)	RCP8.5 (high emission)
Transformational Risk Factors	Emission Intensity (tCO ₂ e / NT\$ 1 million of revenue)	15.5	12	-
	Market Share (%)	Down by 3%-5%	Down by 3%-5%	-
Physical Risk Factors	Temperature	<1.5°C	+0.9~2.3°C	+3.2~5.4°C
	Rainfall (mm / day)	4.2 mm / day	4.55 mm / day	4.8 mm / day
Impact on Financials		Carbon tax leads to cost increase. Products are replaced by low-carbon products, resulting in decrease of the revenue.	Carbon tax leads to cost increase. Products are replaced by low-carbon products, resulting in decrease of the revenue.	Extreme weather causes damage to equipment and interrupt operations. Extreme weather leads to supply chain disruption.

Note 1: Representative Concentration Pathways (RCP) are "scenario assumptions" for different levels of anthropogenic greenhouse gas emissions.

Note 2: RCP2.6 represents a scenario with relatively lower greenhouse gas increases. Radiative forcing peaks around the mid-21st century at 3Wm⁻², approximately equivalent to a carbon dioxide concentration of 490ppm, and then gradually declines by the end of the 21st century. This scenario assumes strict temperature control by countries and significant reductions in greenhouse gas emissions.

Note 3: RCP4.5-6.0 represents a scenario where radiative forcing stabilizes by the end of the 21st century, ranging from approximately 4.5Wm⁻² to 6Wm⁻², approximately equivalent to carbon dioxide concentrations of 650-850ppm. It signifies efforts by countries to achieve greenhouse gas reduction targets while maintaining moderate to moderately high emissions.

Note 4: RCP8.5 represents a scenario with a continuous increase in radiative forcing exceeding 8.5Wm⁻², resulting in carbon dioxide concentrations greater than 1,370ppm. This represents the worst-case scenario with no reduction in greenhouse gas emissions by countries and high emissions continuing.

Note 5: The decrease in market share is attributed to the continuous high expectations and requirements for green products in the market.