



南亞電路板股份有限公司

Nan Ya PCB Co., Ltd.



2024

Task Force on Climate-Related Financial  
Disclosures Report



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# Preamble

In recent years, greenhouse gas emissions have accelerated global warming, posing significant risks to the global economy and increasingly impacting businesses across sectors. Despite this, investors continue to face challenges in identifying which companies are most exposed to climate-related risks, which are adequately prepared, and which are proactively responding.

To address this gap, the Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures (TCFD). After 18 months of consultation with business and financial leaders, the TCFD published its Recommendations Report in June 2017, providing a clear set of principles for disclosing climate-related risks and opportunities, along with a comprehensive framework for integrating these considerations into financial reporting.

In alignment with international trends, Nan Ya Printed Circuit Board Corporation (hereinafter referred to as "the Company") is committed to disclosing climate-related risks and opportunities in accordance with the TCFD Recommendations. Through this commitment, the Company seeks to demonstrate its corporate responsibility and strategic direction, enabling a more effective and rational allocation of capital, and advancing its vision of transitioning to a low-carbon economy.





# 1

## chapter Governance

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## 1.1 Company Profile

The Company commenced operations in 1985 as part of the Printed Circuit Board Division of Nan Ya Plastics Corporation and was officially established as Nan Ya Printed Circuit Board Corporation in 1997. The Company is engaged in the research and development, manufacturing, and sales of printed circuit boards (PCBs) and IC substrates.

Through continuous process improvements and research and development efforts, the Company strives to meet evolving customer requirements for product quality. At the same time, it leverages vertical integration across operations to reduce production costs and enhance operational efficiency.

The Company firmly believes that meaningful existence is achieved not only by generating reasonable profits but also by contributing positively to society. In line with this philosophy, Nan Ya Printed Circuit Board Corporation remains committed to strengthening its performance across environmental protection, social responsibility, and corporate governance, thereby fulfilling its role as a responsible corporate citizen.

## 1.2 Organization and Responsibilities

The Board of Directors serves as the highest decision-making and supervisory body for the Company's response to climate change, with the Chairman of the Board acting as the top executive responsible for overseeing climate-related issues and initiatives.

To further strengthen the Board's oversight responsibilities on climate change and broader sustainability matters, the Company established a Sustainable Development Committee under the Board of Directors in 2022. The Committee is tasked with reviewing sustainable development policies, strategies, and management approaches, and supervising the implementation of sustainability initiatives.

At the management level, the Company has established an ESG Promotion Organization, with the President serving as the General Convener and the Vice President acting as the Management Representative. This organization is responsible for formulating the Company's sustainable development strategies and monitoring performance. Dedicated supervisors are appointed for major ESG focus areas to coordinate sustainability initiatives across the Company and to report ESG-related matters to the Board of Directors, providing essential input for the development of the Company's overall sustainability policy.

At the operational level, the Company has established dedicated working groups for environmental protection, social responsibility, and corporate governance. Among them, the Environmental Protection Task Force is responsible for collecting and assessing climate-related information, formulating and regularly reviewing climate change response plans, and implementing climate-related actions such as energy conservation and emission reduction.

## 1.3 Organizational Boundary

Sites	Location
Headquarters	7F., No. 390, Sec. 6, Nanjing E Rd., Neihu District, Taipei City, Taiwan
Jinshing Plant	No. 338, Section 1, Nankan Road, Luzhu District, Taoyuan City, Taiwan
Shulin Plant	No. 57, Weiwang Street, Shulin District, New Taipei City, Taiwan





# 2

## chapter **Strategy**

2.1 Short-Term Strategy (0~3 years)

05

2.2 Medium and Long-Term Strategy (within 3-10 years)

06



The Company recognizes its responsibility in addressing environmental and climate protection challenges and is actively promoting pollution prevention, energy conservation, emission reduction, and other environmental initiatives in response to climate change. Through a spirit of root-cause analysis and continuous improvement, the Company is committed to ensuring sustainable operations and fulfilling its social responsibilities.

Within the Company's business strategy, climate change is regarded as a critical issue—both a challenge to be addressed and an opportunity to be pursued. In alignment with global trends and the United Nations Sustainable Development Goal (SDG) 13 on Climate Action, the Company has adopted the global target of limiting temperature rise to well below 2° C as a key assumption. Taiwan's Intended Nationally Determined Contribution (INDC) is also incorporated into scenario analyses to assess the potential impacts on the Company's operations. Based on these analyses, the Company formulates short-, medium-, and long-term strategies to minimize environmental impacts and contribute to the creation of a sustainable society.

## 2.1 Short-Term Strategy (0~3 years)

1. The Company is committed to improving energy efficiency, promoting energy-saving and water conservation initiatives, introducing AI-driven applications, and implementing cleaner production processes to reduce energy and water demand  
The implementation status for 2024 is as follows:

- (1) In 2024, the Company completed 97 electricity-saving improvement projects, achieving energy savings of 23,294.7 kWh per day and reducing carbon emissions by 7,872.6 tons per year. Projects included replacing air compressors, chillers, and high-efficiency utility equipment, as well as converting diesel forklifts to electric forklifts.

- (2) Through equipment upgrades, process improvements, and enhanced water recycling, the Company completed 26 water-saving improvement projects, achieving daily water savings of 330.8 tons.

To further enhance energy conservation and reduce greenhouse gas emissions, the Company continues to replace traditional lighting fixtures with LED or other energy-efficient alternatives.

2. In alignment with government green procurement policies, the Company actively purchases products certified with labels such as "Energy Saving," "Water Saving," "Environmental Protection," "Carbon Reduction," and "Green Building Materials." Procurement results are reported annually to relevant government agencies and have consistently received recognition from environmental authorities.

The Company also participates in the industrial sector's voluntary greenhouse gas (GHG) reduction initiatives. The results of its various energy-saving measures have been reviewed and affirmed by the Green Productivity Foundation, commissioned by the Industrial Development Bureau, demonstrating the effective execution of the Company's sustainable development strategy.

Additionally, since 2022, the Company has regularly compiled quarterly statistics on green procurement products and corresponding corporate material codes. Priority requisition and procurement control measures have been implemented to minimize resource consumption, reduce environmental pollution, and mitigate impacts on the planet.

In 2024, the Company's total green procurement spending reached NT\$7.121 million.

3. To enhance all employees' awareness of carbon reduction and integrate it into business decision-making, the Company implemented an internal carbon pricing mechanism in 2022. This mechanism references the Climate Change Response Act and incorporates carbon fees as well as additional charges for emissions exceeding targets.

Relevant carbon costs are included in the Company's internal profit and loss statements and serve as a key foundation for carbon risk management. Beyond supporting the ongoing development of greenhouse gas reduction measures, the carbon cost data are also used as critical indicators for performance evaluation, product operations, and investment assessments, helping the Company maintain its competitiveness in a low-carbon economy.

4. The Company actively promotes a low-carbon energy transition by installing renewable energy generation systems and purchasing or introducing green energy sources such as wind and solar power.

The implementation status for 2024 is as follows:

- (1) A solar power generation system was installed on the rooftop of Shulin Plant 2. In 2024, the system generated approximately 387,000 kWh of electricity, resulting in a carbon reduction of 191.2 metric tons of CO<sub>2</sub>e.

- (2) Although the original plan was to introduce green electricity in 2024, due to factors such as the scheduling of third-party supply, the introduction has been postponed to 2025. The planned volume of green electricity procurement is 9.21 million kWh per year, which is expected to achieve a carbon reduction of approximately 4,500 metric tons of CO<sub>2</sub>e. The estimated annual expenditure for green electricity will be approximately NT\$50.14 million.

## 2.2 Medium and Long-Term Strategy (within 3-10 years)

### 1. Promoting Green Product Applications:

In response to global warming and to reduce environmental impacts, the Company has developed circuit boards and IC substrates designed to meet the application needs of the electric vehicle market, 5G technology, the Internet of Things (IoT), and other emerging industries.

### 2. Building a Green Supply Chain:

The Company incorporates environmental management performance into supplier assessments to ensure suppliers understand the Company's commitment and goals regarding environmental protection. Greenhouse gas (GHG) emission performance is also included as a key evaluation factor.

The Company conducts regular supplier assessments with senior executives from key suppliers. New suppliers are required to obtain ISO 9001 (Quality Management System) and ISO 14001 (Environmental Management System) certifications. A comprehensive evaluation covering technology (T), quality (Q), responsiveness (R), delivery (D), cost (C), and environmental (E) indicators is used to determine supplier eligibility for the Company's supply chain.

Additionally, the Company conducts semi-annual evaluations of existing suppliers, requiring them to prioritize Environmental, Social, and Governance (ESG) performance, with ESG indicators accounting for 10% of the overall evaluation score. The Company also actively encourages suppliers to obtain certifications such as RBA (Responsible Business Alliance), ISO 45001 (Occupational Health and Safety Management Systems), and AEO (Authorized Economic Operator) certifications.

Each year, approximately 20 suppliers are evaluated and provided with guidance to help them meet environmental and social responsibility requirements. Suppliers with outstanding evaluation results are considered preferred long-term partners. Supplier assessment results are used as a key reference for future procurement decisions. Currently, the Company's major assessed suppliers meet its environmental governance requirements.





# 3

chapter

## Management of Climate Change Risks and Opportunities

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## 3.1 Risk and Opportunity Identification Process

The Environmental Health and Safety (EHS) Department leads the process of collecting climate-related risk and opportunity information every six months, in collaboration with relevant units including the Operations Analysis Group, Management Group, Sales Division, and Utility Division. The Company evaluates transition risks (policy and legal, market, technology, reputation) and physical risks (chronic and acute), and documents potential risk events, including assessments of financial impact magnitude, time horizon (short, medium, long term), affected parties within the value chain, and likelihood of occurrence.

When identifying climate-related opportunities, the Company considers factors such as resource efficiency, energy, products and services, market development, and organizational resilience. For each identified opportunity, the Company similarly assesses the potential financial impact, impact duration, affected value chain parties, and probability of occurrence.

Following the assessment of climate-related risks and opportunities, these issues are integrated into the Company's ISO 14001 Environmental Management System for ongoing monitoring alongside other environmental topics. For potential events assessed as material risks, the Company proactively develops response measures, including strategies such as risk transfer, risk avoidance, and mitigation actions aimed at reducing event frequency, minimizing financial impacts, and limiting potential losses.



## 3.2 Risk and Opportunity Assessment

A matrix is used to determine material risks and opportunities based on the level of financial impact and the likelihood of occurrence. Assessment indicators are divided into five levels, with scores ranging from 5 (highest) to 1 (lowest), as shown below.

Financial impact level	Amount	Risk and opportunity probability				
		Almost certain (5 points)	Very likely (4 points)	Likely (3 points)	Unlikely (2 points)	Rarely (1 point)
		Certain to occur	May occur several times in a given period of time (e.g., 10 years)	May occur more than one time in a given period (e.g., 10 years)	Never occurred in a given period of time (e.g., 10 years)	Never occurred
High (5 points)	Over 20 million	R1~R5~O1	R3	O2		R6
Medium to high (4 points)	Over 5 million ~ less than 20 million		O3			
Medium (3 points)	Over 1 million ~ less than 5 million			O4		
Medium to low (2 points)	Over 0.5 million ~ less than 1 million				R7	R4
Low (1 point)	less than 0.5 million					R2

Based on the results of the risk and opportunity matrix analysis, risks and opportunities are classified as follows:

- (1) Score 15–25: Material Risk/Opportunity (Red)
- (2) Score 6–14: Moderate Risk/Opportunity (Blue)
- (3) Score 1–5: Low Risk/Opportunity (Green)

Note: For details on the 11 identified risks and opportunities, please refer to Section 3.3.



### 3.3 Summary Table of the Impacts of Risks and Opportunities on the Company

No.	Current Risk or Opportunity Analysis (Potential Impact on the Company)	Issue Category	Risk/Opportunity <sup>b</sup> Level	Response Strategy
<b>R1. Carbon Fee Implementation</b>	<p>Under the "National Climate Change Action Guideline" and the "Climate Change Response Act," Taiwan has established long-term greenhouse gas (GHG) reduction targets and implemented a total emissions control and allocation system for the manufacturing sector. Following the implementation of total emissions control, the Company may be required to purchase emission allowances, leading to increased energy costs and higher production expenses.</p> <p>In addition, with the official enactment of the "Climate Change Response Act" in 2023, carbon pricing has been formally set at NT\$300 per metric ton, effective from 2024, which will further increase the Company's operating costs. If the additional carbon costs cannot be passed on to customers, product competitiveness could be significantly impacted, resulting in material financial losses.</p>	Transition Risk / Policy and Legal	Material Risk	<p>The Company leverages AI technology to streamline manufacturing processes and improve production yields, thereby reducing raw material consumption. Initiatives include optimizing the solder ball placement process, improving solder paste application yields, and minimizing the need for baking processes.</p> <p>In addition, the Company categorizes its internal energy-saving and water conservation initiatives into three main areas: "Process Energy Reduction," "Energy Management," and "Utility Equipment Efficiency Enhancement." Energy and water consumption at each plant site are monitored and managed on a monthly basis.</p> <p>The Company also establishes voluntary reduction plans by adopting "benchmark technology-specified reduction rates" to proactively lower carbon fee expenditures and mitigate financial impacts.</p>
<b>R2. Renewable Energy Development Act – Green Energy Installation Requirements</b>	The amendment to Taiwan's Renewable Energy Development Act was officially enacted in April 2019. Under this regulation, companies with a contracted electricity demand exceeding 5,000 kW — including the Company, whose contracted capacity is 47,117 kW — are required to either install renewable energy equipment or storage facilities equivalent to 10% of their contracted capacity within five years (or 8% within three years), or purchase renewable energy certificates. Otherwise, a compensatory payment must be made in lieu of compliance.	Transition Risk / Policy and Legal	Low Risk	<p>The Company has been incorporated into the parent company's overall electricity consumption quota planning and is therefore exempt from the direct obligations under the "Large Electricity User" requirements.</p> <p>Nevertheless, to promote green manufacturing and achieve net-zero goals, the Company continues to increase the proportion of renewable energy use. In 2023, a 347 kW solar photovoltaic (PV) system was successfully installed at the Shulin Plant and has been connected to the power supply system.</p>
<b>R3. Energy Technology Changes</b>	In response to climate change, coal-producing countries have reduced or even ceased coal mining activities, leading to rising coal prices. As a result, the Nan Ya Utility Power Plant may face increased energy cost expenditures, which could impact the Company's overall power supply costs.	Transition Risk / Energy Technology	Material Risk	<ol style="list-style-type: none"> <li>1. Implement initiatives for process energy reduction, energy management, and utility equipment efficiency improvement; regularly monitor and manage energy and water consumption at each plant site on a monthly basis to mitigate the risks associated with rising energy costs.</li> <li>2. Continuously identify available spaces for the installation of additional solar photovoltaic (PV) systems to further reduce electricity purchase costs.</li> </ol>
<b>R4. Negative Reputational Impact Due to Climate Change</b>	In recent years, the growing emphasis on ESG has led investment institutions to incorporate clients' ESG performance into their investment and lending evaluations. Failure to meet ESG sustainability requirements could not only negatively impact the Company's reputation but also affect financing terms with financial institutions, potentially resulting in higher borrowing costs.	Transition Risk / Reputation	Low Risk	<p>The Company actively participates in domestic and international ESG evaluations and carbon reduction initiatives. Key initiatives include:</p> <ol style="list-style-type: none"> <li>1. Joining international programs such as the Carbon Disclosure Project (CDP), the Task Force on Climate-related Financial Disclosures (TCFD), and the Science Based Targets initiative (SBTi), demonstrating a strong commitment to advancing ESG practices and achieving tangible carbon reduction results.</li> <li>2. Actively promoting energy conservation and carbon reduction initiatives, including the continuous installation of solar photovoltaic (PV) systems, the procurement of green electricity, and the promotion of circular economy practices, in order to accelerate the transition toward low-carbon energy and reduce fossil fuel consumption.</li> </ol>

No.	Current Risk or Opportunity Analysis (Potential Impact on the Company)	Issue Category	Risk/Opportunity Level	Response Strategy
R5. Customer Requirements for Green Energy	A major consumer electronics customer (one of the Company's top ten customers) has required the full adoption of green electricity by 2025. Failure to meet this requirement could result in a loss of related revenue.	Transition Risk / Market	Material Risk	<ol style="list-style-type: none"> <li>To meet customer requirements, the Company has developed a renewable energy deployment plan. In 2023, a 347 kW solar photovoltaic (PV) system was installed at the Shulin Plant and has been connected to the power grid. A second-phase solar PV project is planned for construction in 2025 and is expected to be completed and operational in 2026.</li> <li>The Company has also begun evaluating power purchase agreements (PPAs) with multiple renewable energy suppliers and is dynamically adjusting its procurement strategy based on the evolving green energy market. The Company plans to procure 9.21 million kWh of green electricity annually starting in 2025, increasing to 18.42 million kWh annually from 2026 onward.</li> </ol>
R6. Changes in Rainfall Patterns – Flooding	<p>Extreme weather events such as strong winds or typhoons caused by climate anomalies may require the temporary suspension of production lines to prevent manufacturing hazards. In cases of heavy rainfall or flooding, plant operations may be disrupted due to inundation, affecting business operations and potentially leading to revenue losses.</p> <p>According to flood simulation maps provided by the National Science and Technology Center for Disaster Reduction, an assessment based on 24-hour cumulative rainfall of 650 mm indicates that the Company must remain vigilant against flood risks caused by extreme rainfall. Upon reviewing the drainage capacity and emergency response procedures (typhoon response and emergency response plans) at the two plant sites, it has been confirmed that the sites possess adequate capabilities to manage heavy rainfall scenarios, thereby minimizing the potential production impact.</p>	Physical Risk / Acute	Low Risk	<ol style="list-style-type: none"> <li>The Company regularly monitors and manages energy and water consumption at each plant on a monthly basis and has developed climate action plans to mitigate the risks associated with climate change.</li> <li>Flood prevention pumps have been installed at the plant sites and are subject to regular inspection, maintenance, and servicing to reduce the likelihood of flooding caused by heavy rainfall events.</li> </ol>
R7. Changes in Rainfall Patterns – Water Scarcity	<p>The Company recognizes that climate anomalies causing water shortages or droughts could result in operational disruptions and revenue losses.</p> <p>Based on climate scenario simulations conducted by the Taiwan Climate Change Projection and Adaptation Knowledge Platform (TCCIP), four Shared Socioeconomic Pathway (SSP) scenarios were analyzed for the periods 2021–2040 and 2041–2060. The results indicate an overall increase in annual average rainfall; however, localized drought risks must still be considered.</p>	Physical Risk / Chronic	Low Risk	The Company has signed an agreement with the Taoyuan North District Water Resources Recycling Center for the supply of reclaimed water. Starting in 2025, approximately 11,000 tons of reclaimed water per day will be available to support the plant's operational needs and ensure a stable water supply.
O1. Growth of the Electric Vehicle Market	<p>In response to net-zero emission targets, many countries around the world have established timetables between 2020 and 2040 for banning the sale of internal combustion engine vehicles. Within the next 20 years, consumers in these countries will only be able to purchase electric vehicles (EVs) or hydrogen fuel cell vehicles, leading to a rapid expansion of the EV market.</p> <p>The Company is actively investing in the research and development of products related to the EV industry, such as substrates for EV peripheral products, which is expected to drive growth in the Company's related product revenues.</p>	Opportunity / Products and Services	Material Opportunity	<p>To meet the wireless transmission and Internet of Vehicles (IoV) application demands driven by the electric vehicle market, the Company is focusing on the development of high-layer, large-size substrates. In addition, for high-end communication substrates, the Company is advancing precision alignment technologies for multilayer boards and is developing technologies for high-speed I/O counts and 90μm solder ball pitch.</p> <p>In response to future technological challenges, the Company has established short-, medium-, and long-term R&amp;D programs for critical processes to ensure continued technological leadership. New material development initiatives are also underway, including the adoption of high-reliability substrates and inks, low-surface-roughness and high-dimensional-stability substrates, and low-signal-loss build-up insulation films to meet the evolving needs of next-generation high-speed communication products.</p>



No.	Current Risk or Opportunity Analysis (Potential Impact on the Company)	Issue Category	Risk/Opportunityb Level	Response Strategy
<b>O2. Development of Renewable Energy Facilities</b>	The Company evaluates existing sites for opportunities to install solar photovoltaic (PV) systems. Where feasible, such installations would reduce the Company's reliance on purchased electricity, lower carbon emissions, and support the achievement of its sustainability development goals.	Opportunity / Energy Sources	Material Opportunity	The Company completed the installation of a 347 kW solar photovoltaic (PV) system at the Shulin Plant in 2023, which has been connected to the power grid. In 2024, the system is expected to generate approximately 387,000 kWh of electricity annually, resulting in a carbon emissions reduction of 191 tons of CO <sub>2</sub> e.
<b>O3. Circuit Boards for Electric Vehicle-Related Products</b>	If the Company successfully collaborates with customers to develop printed circuit boards (PCBs) and substrates for electric vehicle (EV) peripheral products, the growing demand in the EV market is expected to significantly boost the Company's revenue.	Opportunity / Products and Services	Material Opportunity	To meet customer demands for automotive electronic applications that address next-generation environmental regulations (low emissions) and energy efficiency needs (electric vehicles), the Company is actively developing related products, including solutions for autonomous driving systems and in-vehicle entertainment systems.
<b>O4. Enhancing Supplier Procurement Resilience</b>	The Company is enhancing its resilience to climate change by adopting a multi-source supplier strategy, shifting from reliance on materials imported from Japan to sourcing locally produced materials in Taiwan, and establishing inventory reserves.	Opportunity / Resilience	Moderate Opportunity	The Company continuously seeks to diversify procurement sources for critical raw materials in order to stabilize market purchasing prices and enhance resilience against climate-related supply chain disruptions.

### 3.4 Climate Risk Scenario Analysis

In accordance with the TCFD recommendations, the Company applies worst-case scenarios for both transition and physical risks, and incorporates the analysis results into its strategic resilience assessment.

For transition risks, the Company has set a target of achieving carbon neutrality by 2050. The emission reductions required to meet the near-term targets by 2030 serve as the parameters for the scenario analysis. Using the official SBTi assessment tool, the Company input its Scope 1 and Scope 2 emissions data with 2020 as the base year and confirmed a target of a 25% reduction by 2030, representing a 25% reduction over 10 years.

The Company further analyzes the potential transition strategies, operating costs, capital expenditures, and other relevant factors necessary to achieve the emission reduction targets.

Since electricity consumption accounts for approximately 90% of the Company's greenhouse gas emissions, the Company has adopted the purchase of green electricity as the primary scenario to assess the increase in operating costs required to achieve its 2030 reduction target. Assumptions for input parameters: the unit price of green electricity is estimated to increase by NT\$2.5–3.0 per kWh compared to the current electricity cost. Based on a preliminary estimate using the Company's electricity consumption in 2024, the additional operating cost is projected to be approximately NT\$50 million.

For physical risks, the Company uses the Shared Socioeconomic Pathways (SSPs) defined in the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) to estimate future emission scenarios, considering four different pathways: low emissions (SSP1-2.6), medium emissions (SSP2-4.5), high emissions (SSP3-7.0), and very high emissions (SSP5-8.5).

Using the key climate indicators provided by the Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP), the Company conducted scenario analyses focusing on the projected extent of temperature rise in the 21st century relative to the 1850–1900 baseline, as well as the potential medium-term impacts (2041–2060) of climate change. This was further combined with disaster potential data from the National Science and Technology Center for Disaster Reduction (NCDR) to analyze the potential acute flood, high temperature, drought, and slope disaster risks at each plant under different scenarios.

Assuming the occurrence of extreme weather events such as heavy rainfall, flooding, or drought, production suspensions could occur. Based on the Company's 2024 operating conditions, it is estimated that such events could affect daily operating revenue by approximately NT\$80 million. However, after reviewing the drainage capacity and emergency response procedures (typhoon preparedness and emergency response plans) at the Jinshing Plant and Shulin Plant, it has been confirmed that both sites possess sufficient capacity to cope with heavy rainfall scenarios.

Regarding physical risks, the Company references data from TCCIP and the NCDR to estimate changes under scenarios SSP2.6, SSP4.5, and SSP8.5, including sea level rise, temperature increase, the maximum number of consecutive days without rainfall, and total precipitation changes.

### Summary Table of Climate Change Physical Risk Scenario Analysis (by Plant Site)

	Jinshing Plant	Shulin Plant
Average Temperature (Temperature Change ° C)	+ 1.6 °C (1.1 °C ~ 2.2°C )	+ 1.6 °C (1.1 °C ~ 2.2°C )
Maximum Daily High Temperature (Temperature Change ° C)	+ 1.5 °C (0.9 °C ~ 2.1°C )	+ 1.5 °C (1.1 °C ~ 2.1°C )
Heat Wave Duration Index (HWDI) (Increase in Number of Days)	+40.3 days (24.5 ~ 63 days)	+39.9 days (25.2 ~ 61.9 days)
Total Precipitation (Change Rate %)	+ 6.0 % (-9.3% ~ 23.1%)	+5.2 % (-8.6% ~ 23.1%)
Maximum Consecutive Dry Days (Increase in Number of Days)	+ 2 days (-3.4 ~ 8.8 days)	+ 1.9 days (-4.4 ~ 13.1 days)
Sea Level Rise Overflow Risk (1 meter)	No overflow risk within 500 meters	No overflow risk within 500 meters

\*Note 1: The values in this table are based on the SSP5-8.5 scenario for managing extreme climate risks in the medium term (2041–2060).

\*Note 2: The ranges shown in parentheses represent the 95th and 5th percentile values.

### Summary Table of Climate Change Physical Risk Scenario Analysis (by Plant and Scenario)

The acute flooding scenario is assessed based on the flood simulation map developed by the National Science and Technology Center for Disaster Reduction, using an accumulated 24-hour rainfall of 650 mm as the evaluation parameter. The results indicate that the Company must remain vigilant regarding the flood risks associated with heavy rainfall. After reviewing the drainage capacity and response procedures (including typhoon preparedness and emergency response plans) of the Jinshing Plant and Shulin Plant, it has been confirmed that both facilities possess sufficient capacity to respond to heavy rainfall scenarios, significantly minimizing the potential impact of such events on the Company's production activities.

Plant Site	Scenario	Climate Disasters				
		Acute Flooding	Drought	High temperature	Landslide	Slope Disasters*
Shulin Plant	SSP1-2.6	5	1	1	0	1
	SSP2-4.5	5	1	2	0	1
	SSP3-7.0	5	1	2	0	1
	SSP5-8.5	5	1	2	0	1
Jinshing Plant	SSP1-2.6	3	1	1	0	1
	SSP2-4.5	3	1	2	0	1
	SSP3-7.0	5	1	2	0	1
	SSP5-8.5	5	1	2	0	1

Disaster Potential	Shulin Plant	Jinshing Plant
Potential debris flow streams	No Risk	No Risk
Large-scale landslide-prone areas	No Risk	No Risk
Dip slopes	No Risk	No Risk
Rock mass movement	No Risk	No Risk
Rockfall and debris slides	No Risk	No Risk
Falling rocks	No Risk	No Risk
Soil liquefaction potential zones	No Risk	Low Risk
Active fault zones	No Risk	No Risk

**Risk Level Categories**

No Risk	1	2	3	4	5	No Data
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Low → High

Note 1: Slope disaster analysis is based on historical events.

**Risk Level Categories**

- No Risk (No hazard zones within a 500-meter radius)
- Low Risk (Not directly located in a hazard zone, but within 500 meters of one)
- Medium Risk (Directly located in a low hazard zone)
- High Risk (Directly located in a medium or high hazard zone)



# 4

## chapter Metrics and Targets

- 4.1 Absolute Carbon Reduction Targets and Emission Indicators 14
- 4.2 Scope 3 Emission Indicator 16

## 4.1 Absolute Carbon Reduction Targets and Emission Indicators

The Company has established the following short-, medium-, and long-term climate-related targets:

Strategy	Indicator	Target
Deploy Green Technology Production	Scope 1 and 2 Greenhouse Gas Emission Reduction (%)	25% reduction by 2030, with 2020 as the base year
	Installed Capacity of On-site Renewable Energy (kW)	Completion of Phase 2 solar photovoltaic installation (993 kW) by 2026
Adapt to Climate Change Risks	Unit Water Consumption per Revenue (million liters per NT\$ million)	Annual 2% reduction based on the previous year's actual water consumption
	Reclaimed Effluent Volume (million liters/day)	Annual 1% increase based on the previous year's actual reclaimed effluent volume
	Unit Waste Generation per Revenue (tons per NT\$ million)	Annual 1% reduction based on the previous year's actual waste generation
	Ratio of Recycled Water Use (%)	Ratio of Recycled Water Use (%)
Collaborate for Sustainability with Partners	Scope 3 Greenhouse Gas Emission Reduction (%)	Scope 3 Greenhouse Gas Emission Reduction (%)
Climate Initiatives	CDP Climate Change Score	Achieve Leadership Level or above
	CDP Water Security Score	Achieve Leadership Level or above

The Company conducts an annual greenhouse gas (GHG) emissions inventory and completes third-party verification through the British Standards Institution (BSI) to ensure the accuracy of its reported GHG emissions.

The Company has received approval for its Science Based Target (SBT), setting 2020 as the base year and committing to a 25% reduction in Scope 1 and Scope 2 emissions by 2030, aligned with the goal of limiting global warming to well below 2° C.

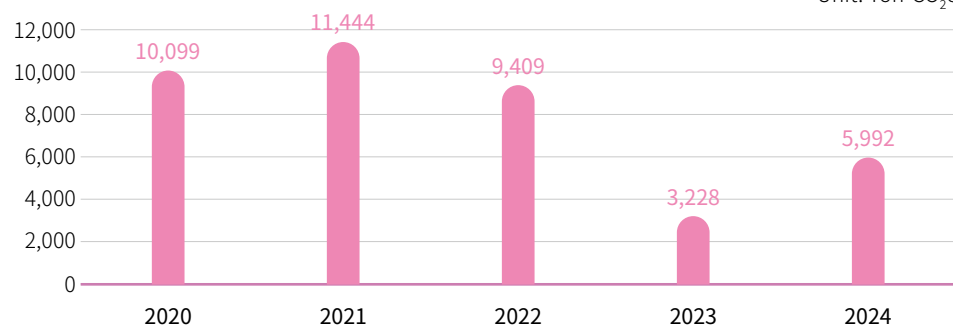
Following the expansion and commencement of production at the Shulin Plant in 2022, the Company's GHG emissions for 2022 and 2023 have been included in the inventory, resulting in an increase in total emissions compared to the base year.

Table 4.1 Explanation of Emissions and Target Year Emissions

Year	2020 (Base Year)	2024	2030 (Target Year)
Carbon Emissions (Ton-CO <sub>2</sub> e)	419,319	431,676	-
Comparison to Base Year (%)	-	2.9%	-25%

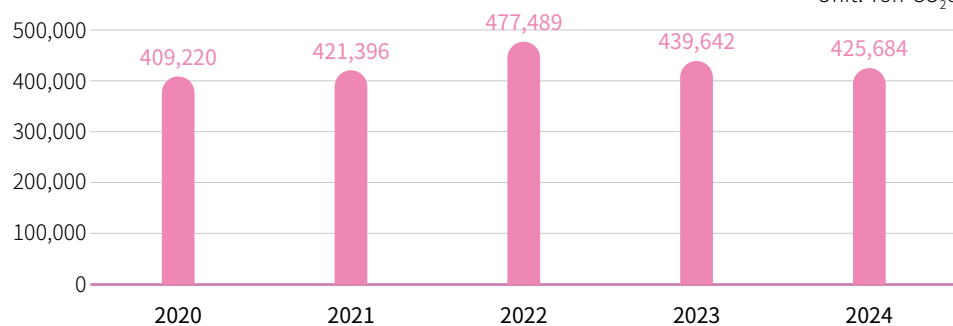
Scope 1 Emissions

Unit: Ton-CO<sub>2</sub>e



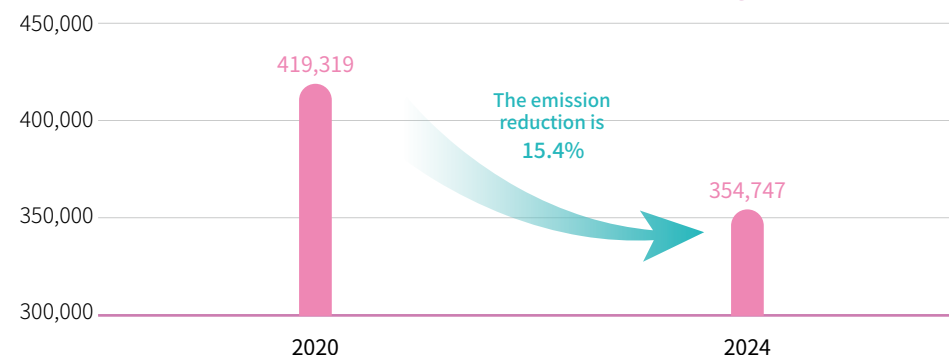
Scope 2 Emissions

Unit: Ton-CO<sub>2</sub>e



If analyzing only the emissions from the Jinshing Plant, there is a 15.4% reduction from the base year to 2024.

Combined Scope 1 and Scope 2 Emissions of the Jinshing Plant



Note 1: Scope 1 refers to direct greenhouse gas emissions.

Note 2: Scope 2 refers to indirect greenhouse gas emissions from energy consumption.

Note 3: Emission data for 2020–2023 are based on verification by SGS and BSI; 2024 emission data are from internal calculations (pending external verification).

Accordingly, 2024 data are based on internal audit figures (sourced from the Formosa Plastics Group enterprise database), and third-party verification for 2024 data is expected to be completed and disclosed in the third quarter of 2025.

Note 4: From 2016 onward, the calculation of emissions has adopted the Global Warming Potential (GWP) values announced in the IPCC Fourth Assessment Report (2007), in accordance with Taiwan Environmental Protection Administration (EPA) regulations.

The Company's GHG emissions from Taiwan sites are verified annually by independent third-party organizations. A summary of the verified data is provided below.

Year	Data Coverage	Scope 1	Scope 2	Scope 1 and 2 Emissions Intensity (tons CO <sub>2</sub> e per NT\$ million revenue)
2024	All Taiwan Sites	5,992	425,684	13.37

Note: 2024 data are pending verification.



## 4.2 Scope 3 Emission Indicator

The Company conducts an annual inventory of Scope 3 emission sources and relevance, with data verified by a third party. The base year for Scope 3 emissions is 2020, the start year is 2021, and the target year is 2030. A total reduction of 12.3% is expected over the 10-year period.

Table 4.3 Scope 3 Emissions Indicator Information

Scope 3 Emission Source	Relevance	2023 Emissions (Ton-CO2e)	Calculation Scope
Purchased Goods and Services	Relevant, calculated	79,089	100% of raw material procurement value
Capital Goods	Relevant, calculated	84,683	Includes land, buildings, machinery, transportation equipment, IT equipment, boiler equipment, utilities, office and administrative equipment, and miscellaneous equipment (100%)
Fuel- and Energy-Related Activities (not included in Scope 1 or 2)	Relevant, calculated	69,840	Includes all fuel and energy activities such as coal, light cracking fuel oil, and natural gas (100%)
Upstream Transportation and Distribution	Relevant, calculated	1,303	100% of raw material procurement value
Waste Generated in Operations	Relevant, calculated	768	Emissions from treatment of all business waste (100%)
Business Travel	Relevant, calculated	144	Emissions from air travel
Employee Commuting	Relevant, calculated	1,750	Emissions from employees applying for car parking spaces (excluding dormitory residents)
Upstream Leased Assets	Not Relevant	–	No such activities
Downstream Transportation and Distribution	Relevant, calculated	0	Deliveries to first-tier customers where freight is paid by the customer
Processing of Sold Products	Relevant, calculated	130,592	Emissions mainly from product packaging and testing processes
Use of Sold Products	Not Relevant	–	Circuit boards are intermediate products and do not consume electricity
End-of-Life Treatment of Sold Products	Relevant, calculated	1,096	Emissions from the disposal of carton packaging materials used for sold products
Downstream Leased Assets	Not Relevant	–	No such activities
Franchises	Not Relevant	–	No such activities
Investments	Lower relevance, calculated	63,283	Emissions associated with investment activities

As of the reporting deadline, Scope 3 emissions for 2024 are still under calculation and pending third-party verification. Updated information will be disclosed through other public channels once available.

# 5

chapter


## Report Management








- This report covers the period from January 1, 2020 to December 31, 2024.
- Preparation frequency of this report: Annually
- This report has been prepared primarily based on the Recommendations of the Task Force on Climate-related Financial Disclosures (June 2017).

#### Report Contact Information

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## TCFD Index

Category	TCFD Recommended Disclosure Items	Corresponding Page
Governance	Describe the monitoring of climate-related risks and opportunities by the Board of Directors.	P.3
	Describe the management's process in assessing and managing climate-related risks and opportunities.	P.3
Strategy	Describe the short, medium and long term climate-related risks and opportunities already identified by the organization.	P.5
	Describe the climate-related risks and opportunities that cause major impacts to the business, strategy, and financial planning of the organization.	P.5
	Describe the organization's strategy resilience incorporating the different scenarios of climate change, including 2° or a more severe scenario.	P.5
Risk Management	Describe the processes for the identification or assessment of climate-related risks by the organization.	P.8
	Describe the processes for managing climate-related risks by the organization.	P.9
	Describe the organization's procedures for identifying, assessing, and managing climate-related risks and how these are integrated and incorporated into the overall risk management.	P.11
Metrics and Target	Disclosure of the indicators used by the organizations for the evaluation on climate-related risks and opportunities complying to their strategies and risk management processes.	P.14
	Disclose the emissions and related risks for Scope 1, 2, and 3.	P.15
	Describe the organization goals for managing climate-related risks and opportunities and the performance of related goals.	P.15



## Climate-related Information of TWSE/TPEX Listed Companies

Climate-Related Risks and Opportunities and the Company’s Response Measures		Implementation Status	Corresponding Chapter of NY PCB 2024 Annual Report														
1	State the supervision and governance of climate-related risks and opportunities of the Board of Directors and the management.	<p>The Board of Directors serves as the highest decision-making and oversight body to address climate change issues, with the Chairman serving as the top executive responsible for supervising climate change-related matters. To enhance the Board's oversight responsibilities regarding sustainability matters, the Company established the Sustainable Committee under the Board in May 2022. This committee is responsible for reviewing sustainable development policies, strategies, and management principles, overseeing the implementation of sustainable development initiatives, and reporting to the Board. The Board supervises the goals of promoting sustainable development.</p> <p>At the management level, the Company has established an "ESG Promotion Organization," with the president Ann-De Tang serving as the overall convener and the vice president Lien-Jui Lu serving as the management representative. This organization is responsible for formulating the Company's sustainable development strategies and monitoring their performance. Supervisory managers are appointed under this organization according to the main projects, coordinating various sustainability efforts within the Company and reporting ESG-related matters to the Board, serving as an important reference for formulating the Company's sustainability policies.</p>	3.2.1 Framework of Climate Change Management														
2	State how identified climate risks and opportunities affect the business, strategies, and finance of the Company in the short-term, medium-term and long-term.	<p>The climate risks and opportunities identified by the Company and their effects:</p> <table><tr><th>Items of Climate Risks and Opportunities</th><th>Description of Effects</th></tr><tr><td>Transition risk - imposition of carbon fees</td><td>The "Climate Change Response Act" will classify manufacturing industries with greenhouse gas emissions exceeding 25,000 tons of carbon dioxide equivalent (CO<sub>2</sub> e) as major carbon emitters subject to carbon fees, resulting in increased expenditures. If there is no carbon cost pass-through, product prices will be less competitive, leading to a material financial impact.</td></tr><tr><td>Transition risk – Energy costs</td><td>In response to climate change, coal-producing countries are reducing or even ceasing coal mining, leading to a rise in coal prices. As a result, our company may face an increase in energy cost expenditures.</td></tr><tr><td>Transition risk – customer demand for green energy adoption</td><td>One of our top ten consumer electronics clients is requesting a full transition to green energy by 2025. Failure to comply with this request could potentially result in a loss of related revenue.</td></tr><tr><td>Physical risk – flood</td><td>Impact of strong winds or typhoons due to climate anomalies leads to the necessity of safe shutdown of plants to prevent process hazards. Impact of heavy rainfall/floods may cause the plants to suspend due to flooding, which will affect operations and may result in financial losses.</td></tr><tr><td>Physical risk – water scarcity</td><td>Based on the baseline period from 1986 to 2005, we estimate that in the near term (2016 to 2035), there could be two months each year affected by water shortages or droughts at our factory site. Addressing the water shortages or droughts caused by climate anomalies is essential to mitigate potential revenue losses.</td></tr><tr><td>Transition opportunity – electric vehicle market</td><td>Several countries globally have set timelines from 109 to 129 to ban fossil fuel vehicle sales, driving the rapid growth of the electric vehicle market. Our company is investing in electric vehicle-related products like charging stations, anticipating increased revenue.</td></tr></table>	Items of Climate Risks and Opportunities	Description of Effects	Transition risk - imposition of carbon fees	The "Climate Change Response Act" will classify manufacturing industries with greenhouse gas emissions exceeding 25,000 tons of carbon dioxide equivalent (CO <sub>2</sub> e) as major carbon emitters subject to carbon fees, resulting in increased expenditures. If there is no carbon cost pass-through, product prices will be less competitive, leading to a material financial impact.	Transition risk – Energy costs	In response to climate change, coal-producing countries are reducing or even ceasing coal mining, leading to a rise in coal prices. As a result, our company may face an increase in energy cost expenditures.	Transition risk – customer demand for green energy adoption	One of our top ten consumer electronics clients is requesting a full transition to green energy by 2025. Failure to comply with this request could potentially result in a loss of related revenue.	Physical risk – flood	Impact of strong winds or typhoons due to climate anomalies leads to the necessity of safe shutdown of plants to prevent process hazards. Impact of heavy rainfall/floods may cause the plants to suspend due to flooding, which will affect operations and may result in financial losses.	Physical risk – water scarcity	Based on the baseline period from 1986 to 2005, we estimate that in the near term (2016 to 2035), there could be two months each year affected by water shortages or droughts at our factory site. Addressing the water shortages or droughts caused by climate anomalies is essential to mitigate potential revenue losses.	Transition opportunity – electric vehicle market	Several countries globally have set timelines from 109 to 129 to ban fossil fuel vehicle sales, driving the rapid growth of the electric vehicle market. Our company is investing in electric vehicle-related products like charging stations, anticipating increased revenue.	3.2.2 Climate Change Strategy
Items of Climate Risks and Opportunities	Description of Effects																
Transition risk - imposition of carbon fees	The "Climate Change Response Act" will classify manufacturing industries with greenhouse gas emissions exceeding 25,000 tons of carbon dioxide equivalent (CO <sub>2</sub> e) as major carbon emitters subject to carbon fees, resulting in increased expenditures. If there is no carbon cost pass-through, product prices will be less competitive, leading to a material financial impact.																
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Physical risk – flood	Impact of strong winds or typhoons due to climate anomalies leads to the necessity of safe shutdown of plants to prevent process hazards. Impact of heavy rainfall/floods may cause the plants to suspend due to flooding, which will affect operations and may result in financial losses.																
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Transition opportunity – electric vehicle market	Several countries globally have set timelines from 109 to 129 to ban fossil fuel vehicle sales, driving the rapid growth of the electric vehicle market. Our company is investing in electric vehicle-related products like charging stations, anticipating increased revenue.																



Climate-Related Risks and Opportunities and the Company's Response Measures	Implementation Status	Corresponding Chapter of NY PCB 2024 Annual Report
<p>3 State the effects of extreme climate events and transition actions on finance.</p>	<p>(1) <b>Extreme Weather Events:</b> Assuming occurrences like heavy rainfall causing floods or droughts happen, the Company might halt production. Based on 2024's revenue estimate, such events could impact daily business income by approximately NT\$80 million.</p> <p>A. Drought Response Strategy: The Company has signed a contract with the Taoyuan North District Water Resource Recycling Center for recycled water usage. It's estimated that 11,000 tons of recycled water for domestic use will be available daily for factory use starting in 2025.</p> <p>B. Flood Response Strategy: Regular inspections of the Company's drainage system and emergency response measures are in place to minimize the impact of heavy rainfall events on production.</p> <p>(2) <b>Transition Action:</b> With over 90% of emissions coming from electricity usage, the Company is adopting renewable energy in line with SBTi decarbonization pathways. Green electricity will be introduced starting in 2025, which will increase operating costs. Therefore, the Company is actively promoting energy efficiency and carbon reduction initiatives, such as the continuous installation of solar photovoltaic systems and the promotion of circular economy practices, to support the transition to low-carbon energy and reduce fuel consumption in order to lower costs. In 2023, Phase 1 of the solar photovoltaic system at the Shulin Plant was completed and integrated into the power system, and Phase 2, with an installed capacity of approximately 993 kW, is expected to be completed by 2026.</p>	<p>3.2.3 Management of Climate Change Risk and Opportunity</p>
<p>4 State how the process for identifying, assessing, and managing climate risks is integrated into the overall risk management system.</p>	<p>The climate-related risk management process of our company involves background data collection, risk and operational assessment, risk and operational impact analysis, and control measures and goal setting. Led by the Safety and Health Department, relevant units from the General Manager's Office gather biannually to collect information on risks and opportunities.</p> <p>Transformation risks (policy and legal/market/technology/reputation) and physical risks (chronic and acute) are considered, and risk explanations are provided for potential events, including financial impact, impact duration (short, medium, long), impacted objects in the value chain, and likelihood of risk occurrence. When drafting opportunity scenarios, resource efficiency, energy, products and services, markets, and adaptability are considered. Opportunity explanations are provided for potential events, including financial impact, impact duration (short, medium, long), affected objects in the value chain, and likelihood of opportunity occurrence.</p> <p>A matrix chart of financial impact and risk and opportunity likelihood is used to determine significant risks and opportunities, with assessment indicators divided into five levels, scored from 5 to 1. Depending on the nature of the risk, units collaborate to assess the likelihood and impact and provide timely feedback to management to adjust company operational strategies.</p>	<p>3.2.3 Management of Climate Change Risk and Opportunity</p>
<p>5 If using scenario analysis to assess resilience to climate change risks, it is necessary to explain the scenario, parameters, assumptions, analysis factors used, and major financial impacts.</p>	<p>NYPCB utilizes the TCFD recommendations by assessing The Worst-case Scenarios faced by transformation and physical risk types, incorporating the analysis results into our strategy resilience evaluation.</p> <p>1. For transition risks, NYPCB uses the official assessment model of SBTi. Jinshing Plant takes 2020 as the base year and confirms the Scope 1 and Scope 2 target emissions for 2030, aiming for a 25% reduction. The Company further analyzes possible transition strategies, operating costs, capital expenditures, and other items necessary to achieve the reduction targets. Since electricity accounts for about 90% of the Company's total emissions, purchasing green electricity is used as the scenario for assessing the operational cost needed to achieve the reduction goal. Assuming a parameter where the green electricity unit price is NT\$2.5 to NT\$3.0 higher than the current electricity cost, and using the electricity consumption in 2024 as the evaluation scenario, the Company's annual operating cost would increase by approximately NT\$50 million.</p> <p>2. For physical risks, the Company adopts the Shared Socioeconomic Pathways (SSP) defined in the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) to estimate future emission scenarios, considering four different pathways: low emissions (SSP1-2.6), medium emissions (SSP2-4.5), high emissions (SSP3-7.0), and very high emissions (SSP5-8.5). Using the climate change key indicators of the Taiwan Climate Change Projection and Information Platform (TCCIP), the analysis focuses mainly on the extent of temperature rise relative to 1850-1900, and the potential impacts of climate change in the mid-term (2041-2060). Additionally, disaster potential data from the National Science and Technology Center for Disaster Reduction (NCDR) is incorporated to further analyze potential acute flooding, heatwaves, droughts, and slope disaster risks at each plant under different scenarios.</p> <p>Assuming extreme climate events such as heavy rainfall causing flooding and droughts lead to production halts, it is estimated that based on the Company's 2024 revenue forecast, daily operating revenue could be affected by approximately NT\$80 million. However, after reviewing the drainage capacities and response procedures (typhoon preparedness procedures, emergency response procedures) at the Jinshing and Shulin Plants, both sites are deemed to have sufficient capacity to handle heavy rainfall scenarios. (For further details, please refer to Chapter 3 of the Company's 2024 TCFD Report – Climate Change Risk and Opportunity Management.)</p>	<p>3.2.3 Management of Climate Change Risk and Opportunity</p>





Climate-Related Risks and Opportunities and the Company’s Response Measures		Implementation Status			Corresponding Chapter of NY PCB 2024 Annual Report
6	If disclosing the management status of climate-related risks and opportunities (including governance, strategies, risk management, indicators, and targets), please provide relevant information.	The Company promotes climate-related risk and opportunity management through five main strategies, setting corresponding indicators and targets under the following areas: low-carbon product development, green technology production deployment, climate risk adaptation, building sustainable partnerships, and climate advocacy and awareness.			3.2.4 Climate Change Metrics and Target
		Strategy	Indicator	Target	
		Green Technology Production Deployment	Scope 1 and Scope 2 GHG emissions	25% reduction by 2030 with 2020 as the base year	
			Self-installed renewable energy capacity (kW)	Addition of 993 kW Phase 2 solar PV system by 2026	
		Climate Risk Adaptation	Unit Water Consumption per Revenue (million liters per NT\$ million)	Annual 2% reduction based on the previous year’s actual water consumption	
			Reclaimed Effluent Volume (million liters/day)	Annual 1% increase based on the previous year’s actual reclaimed effluent volume	
			Unit Waste Generation per Revenue (tons per NT\$ million)	Annual 1% reduction based on the previous year’s actual waste generation	
			Ratio of Recycled Water Use (%)	Ratio of Recycled Water Use (%)	
			Scope 3 Greenhouse Gas Emission Reduction (%)	Scope 3 Greenhouse Gas Emission Reduction (%)	
		Climate Initiatives	CDP Climate Change Score	Achieve Leadership Level or above	
			CDP Water Security Score	Achieve Leadership Level or above	
To ensure stakeholders fully understand the Company's efforts and achievements in promoting energy conservation, carbon reduction, and circular economy practices, as well as its capability in managing physical and transition risks related to climate change, the Company prepares a TCFD report in accordance with the TCFD framework. The report is updated annually and published on the Company’s website. The 2023 version was published in June 2024. For details on indicators and targets related to the management of physical and transition risks, please refer to the Company’s TCFD Report.					
7	If using internal carbon pricing as a planning tool, the basis of price determination shall be explained.	To increase the sense of involvement in greenhouse gas emissions and strengthen the implementation of carbon reduction across all sites and departments, the Company has been implementing Internal Carbon Pricing (ICP) since 2022. Through the Company's self-developed greenhouse gas calculation system, the cost of greenhouse gas carbon emissions (including the cost of excess carbon emissions) is included in the monthly operational performance calculation, aiming to deepen the greenhouse gas reduction efforts in all sites and departments. The Company has adopted an internal carbon price ranging from NT\$300 to NT\$100 per ton, referencing the Ministry of Environment’s “Carbon Fee Collection Regulations,” and has estimated its carbon fee obligations for 2025. The Company will continue to promote energy-saving and carbon reduction measures in response.			3.2.3 Management of Climate Change Risk and Opportunity
8	If climate-related goals are set, the activities covered, scope of GHG emissions, planning schedule, and annual progress should be explained. If carbon offset or Renewable Energy Certificates (RECs) are used to achieve the related goals, the source and quantity of carbon reduction credit offset or the quantity of Renewable Energy Certificates (RECs) should be specified.	The absolute reduction target for Scope 1 and Scope 2 greenhouse gas emissions, with 2020 as the base year, 2021 as the starting year, and 2030 as the target year, aims for a 25% reduction over 10 years. The target scope covers our Taiwan facilities.			3.2.4 Climate Change Metrics and Target
		Year	2020 (Base Year)	2024	
		Carbon Emissions (Ton-CO2e)	419,319	431,676	
		Comparison to Base Year(%)	-	3%	
Note: Shulin plant completed its expansion and commenced full-scale production in 2022, thus being included in the calculation of greenhouse gas emissions. Therefore, emissions increased compared to the base year.					
9	Greenhouse gas inventory and assurance	Please refer to the tables 1-1-1 and 1-1-2 below.			-
	Greenhouse gas inventory, reduction targets, strategies, and specific action plans.	Please refer to the tables 1-2 below.			-

## 1-1 The Company's greenhouse gas inventory and assurance in the recent two years

### 1-1-1 Information on greenhouse gas inventory

The Company conducts its greenhouse gas (GHG) inventory in accordance with ISO 14064-1 standards published by the International Organization for Standardization (ISO), and performs inventories on an annual basis. Over the past two years, the GHG inventory data has been compiled using the operational control approach.

	Year	Total Emissions (metric tons CO2e)		Emissions Intensity (metric tons CO2e per NT\$ million revenue)	Coverage Scope
Nan Ya Printed Circuit Board Corporation	2023	Scope 1	3,227.8	10.48	The inventory covers all manufacturing facilities in Taiwan. As emissions from the corporate headquarters account for less than 5% of total emissions, they are currently not included in the inventory.
		Scope 2	439,642.31		
		Sub Total	442,870.11		
	2024	Scope 1	5,992	13.37	
		Scope 2	425,684.19		
		Sub Total	431,676.14		

Note 1: The GHG verification statement for 2024 emissions is expected to be obtained in August 2025. The scope covers all manufacturing facilities in Taiwan, excluding the corporate headquarters.

Note 2: The Company follows the ISO 14064-1:2018 standard for GHG inventory and uses the Global Warming Potential (GWP) values from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) as the basis for emissions calculations.

### 1-1-2 Information on greenhouse gas assurance

Assurance Status for Greenhouse Gas Inventories of the Company and Certain Subsidiaries Covered under the Consolidated Financial Report (Most Recent Two Years):

	Year	Assurance Bodies	Assurance Standard	Assurance Findings
Nan Ya Printed Circuit Board Corporation	2023	SGS Taiwan Ltd. British Standards Institution (BSI) Taiwan Branch (BSI Group Singapore Pte Ltd.)	ISO14064 — 1:2018-ISO 14064- 3:2019 Reasonable Assurance	The disclosed total GHG emissions (Scope 1 + Scope 2) are 442,870.11 metric tons CO <sub>2</sub> e, with an unqualified opinion (no reservations).
	2024			<ul style="list-style-type: none"> <li>Verification at Jinshing Plant is scheduled across three phases on March 17, March 28, and April 11.</li> <li>Verification at Shulin Plant is scheduled across three phases on June 20, July 4, and July 11.</li> </ul>

## 1-2 Greenhouse gas reduction targets, strategies, and specific action plans

	Greenhouse gas reduction targets	Strategy	Action Plans
Nan Ya Printed Circuit Board Corporation	<ul style="list-style-type: none"> <li>2050 Net-Zero Carbon Emissions Target</li> <li>Short-Term Target: A 25% reduction in GHG emissions by 2030, using 2020 as the base year.</li> </ul>	<ol style="list-style-type: none"> <li>Continue promoting the ISO 14001:2015 Environmental Management System and ISO 14064-1:2018 GHG Inventory, and implement operational activities to conserve energy and resources.</li> <li>Support government green procurement policies by prioritizing the purchase of products with environmental and energy-saving certifications, and annually report procurement results to government authorities.</li> </ol>	<ol style="list-style-type: none"> <li>Collect and assess climate change-related information to formulate climate response strategies, conduct regular reviews for improvement, and implement climate-related initiatives such as energy conservation and carbon reduction.</li> <li>Promote process optimization, enhance utility equipment efficiency, replace motors with high-efficiency IE3 motors, and improve the energy efficiency of drying equipment.</li> <li>Develop plans for the use of renewable energy.</li> </ol>

