

# **2024 Zhen Ding Technology Holding Limited Environmental Supplementary Disclosure**

## 1. TCFD DISCLOSURE

### Climate Action

In response to global climate change and the shift toward a low-carbon economy, Zhen Ding actively focuses on the risks and opportunities that climate change presents. With support and oversight from the Board of Directors and senior executives, the ESG Execution Committee and its working group are responsible for establishing and strengthening related mechanisms. From the four dimensions of governance, strategy, risk management, and metrics & targets, we formulate climate-change strategies and actions. Each year, Zhen Ding jointly identifies and executes climate-related risks and opportunities, evaluates their impact on our operations, pinpoints potential threats and possible opportunities, and regularly reviews quantitative goals and performance indicators to ensure robust climate-change governance.

#### Task Force on Climate Related Financial Disclosures (TCFD)

<p>Governance</p>	<ul style="list-style-type: none"> <li>In climate-risk governance, the <b>Board of Directors</b> oversees climate-related risks and opportunities and appoints a member of the Corporate Governance, Sustainability, and Nominating Committee to supervise climate-risk management.</li> <li><b>The Corporate Governance, Sustainability and Nominating Committee</b> is responsible for reviewing the implementation status of climate change-related issues and appoints a project manager to reports to the Board of Directors annually on the strategy and operational direction of climate change related issues, monitor risk events, review energy-saving and carbon reduction targets and annual budgets, and the implementation outcomes of climate change-related initiatives.</li> <li><b>The Chairperson</b> also serves as the convener of the Corporate Governance, Sustainability, and Nominating Committee, making them the highest authority responsible for climate-risk management.</li> <li>At the operational level, the company has established an <b>ESG Execution Committee</b> and assigned both the Sustainable Governance Team and the Energy Conservation Team to oversee climate-risk management. These teams evaluate and manage climate-related risks and opportunities, monitor international climate trends, gain an in-depth understanding of stakeholder needs, and develop response strategies and implementation plans.</li> <li>The Sustainable Governance Team and Energy Conservation Team review the implementation status of management plans to the Chairperson of the Board on a quarterly basis for in-depth discussion and decision-making.</li> <li>The Energy Conservation Team holds quarterly meetings on the Seven Greens, and it is responsible for promoting energy conservation projects at the manufacturing campuses and reviewing the KPIs of each department to reduce greenhouse gas emissions and mitigate climate change.</li> </ul>
<p>Strategy</p>	<ul style="list-style-type: none"> <li>In line with the TCFD framework, we identify <b>short- (1–2 years), medium- (3–5 years), and long-term (6+ years)</b> climate-related risks and opportunities, and assess their impact on our operations, strategy, and financial planning.</li> <li>Zhen Ding conducts scenario analysis of physical and transition risks using the IPCC’s SSP1-2.6 and SSP2-8.5 pathways, together with the Nationally Determined Contribution (NDC) scenario, to evaluate potential impacts under different future conditions.</li> </ul>
<p>Risk Management</p>	<ul style="list-style-type: none"> <li>Following the TCFD guidelines, Zhen Ding gathers information on <b>climate-related risks and opportunities</b>, identifies those relevant to the company and its entire value chain, and evaluates each item’s potential impact, likelihood, and financial effect.</li> <li>After completing the risk assessment, we develop strategies and take corresponding actions for the prioritized risks and opportunities, maintaining continuous monitoring and management to achieve effective risk control.</li> <li>Climate-change considerations are integrated into the Group’s existing enterprise risk-management framework, facilitating long-term tracking and ensuring the effectiveness of climate-related governance.</li> </ul>
<p>Metrics &amp; Targets</p>	<ul style="list-style-type: none"> <li>For each identified climate-related risk, we set management indicators covering carbon emissions, energy use, waste, and water resources, and embed them into our sustainability strategy and risk-management system. Zhen Ding establishes <b>short-, medium-, and long-term targets</b> for these indicators, reviews performance and gaps annually, and continually refines its management measures to mitigate climate risks and demonstrate our commitment to climate action.</li> <li>In accordance with ISO 14064:2018, we conduct annual greenhouse-gas inventories for Scope 1, Scope 2, and Scope 3 emissions, which are externally verified by a third-party assurance provider. The results give us a clear picture of emissions in each scope and serve as the basis for validating our reduction achievements.</li> <li>ESG performance—including external ESG ratings and environmental indicators—is incorporated into the variable-compensation evaluation of senior management, aligning their interests with those of the company and making corporate sustainability a shared objective.</li> </ul>

## Identification and Assessment of Climate Risks and Opportunities

To manage climate risks effectively and realize our 2050 net-zero commitment, we apply the TCFD recommendations to comprehensively identify every category of climate risk—including current and emerging regulations, technology, compliance, market, and reputation, as well as acute and chronic physical risks—and every category of opportunity, such as resource efficiency, energy, products and services, markets, and resilience. We also assess how each risk and opportunity relates to Zhen Ding and its entire upstream and downstream value chain. All identified climate risks are integrated into the Group’s existing risk-management framework, supporting long-term monitoring and ensuring the effectiveness of our climate governance. For each risk and opportunity, we exercise targeted controls and have released our net-zero key strategies, deploying concrete action plans to reduce our carbon footprint and proactively address critical climate issues.

### Climate Risk Information and Response Strategies

Category	Issues	Risks	Operational Impact	Impact Period	Likelihood of Occurrence	Level of Impact	Management Measures
Policies/ Regulation	Renewable Energy - Related Regulations	The national policies and regulations regarding the use of renewable energy and energy-efficiency requirements for our production locations have been strengthened. In compliance with regulations, the replacement of old equipment or the mandatory purchase of a certain proportion of renewable energy may lead to potential challenges in the future. These challenges could include shortages in the supply of renewable energy in the market and an increase in energy prices.	<ol style="list-style-type: none"> <li>Increase in operating cost</li> <li>Increased expenses</li> </ol>	Short-Term	Low	High	<ol style="list-style-type: none"> <li>Advance planning to adjust the energy structure and sign long-term cooperation agreements in advance with power-supply companies on the market to ensure the supply of renewable energy.</li> <li>Research renewable-energy development projects and negotiate collaboration in advance.</li> </ol>
	Greenhouse Gas-Related Regulations	The Shenzhen Manufacturing Campus is a market-controlled enterprise as it is a part of the Shenzhen Emission Trading Pilot Program. It is mandatory to participate in the inventory and carbon trading, and it has set up emission limits (emissions per unit of industrial value added). In the future, if the carbon quota does not meet usage requirements, carbon credits must be purchased, which may increase operating costs.	Increased expenses	Mid-Term	High	Medium	<ol style="list-style-type: none"> <li>Continue to implement ISO 14064 verification, pass certification, and set reasonable carbon management goals.</li> <li>Study the development trend and cooperate with international organizations to develop carbon management plans.</li> <li>Actively participate in carbon trading markets.</li> </ol>
	Water Resources-Related Regulations	Currently, there are no regulations governing water usage and recycling. At present, the competent authorities are encouraging enterprises to manage water resources voluntarily.	<ol style="list-style-type: none"> <li>Increase in operating cost</li> <li>Suspension of operations</li> </ol>	Long-Term	Low	Medium	<ol style="list-style-type: none"> <li>Develop water conservation measures, including wastewater reuse, machine shop reuse, and process-water conservation measures.</li> <li>Promote advanced management systems and standards, such as the Clean Water Program and AWS, which are jointly promoted with customers.</li> <li>Monitor and control water-consumption targets, review regularly, avoid excessive consumption, and continuously improve water-utilization efficiency.</li> </ol>
	Energy Saving-Related Regulations (electricity restrictions)	Currently, there are no regulations on power saving or restrictions in Zhen Ding’s industry; however, in the future, we may face power shortages and production restrictions, such as limited electricity consumption to those with low unit-energy-production values.	<ol style="list-style-type: none"> <li>Increase in operating cost</li> <li>Suspension of operations</li> </ol>	Long-Term	Low	Medium	<ol style="list-style-type: none"> <li>Develop power-saving measures, including energy saving in production equipment and automatic water and electricity shutdown.</li> <li>Use advanced energy-saving equipment, such as permanent-magnet motors and magnetic-bearing chillers.</li> <li>Promote energy-management platforms to monitor equipment operating rates and</li> </ol>

							<p>automatically analyze energy-consumption rationality.</p> <p>4. Monitor and control power-consumption targets, review regularly, and continuously improve energy efficiency.</p>
Market	Upstream – Raw Material Supply Interruption or Cost Increase	<p>1. Different countries are investing in green-energy development, and regulations are requiring the use of new-energy vehicles, resulting in a significant increase in demand for copper and an imbalance between supply and demand, which leads to a substantial rise in copper prices.</p> <p>2. Due to various factors, including extreme weather conditions and fluctuations in market supply and demand, there is a shortage in the supply of upstream chemical raw materials. This shortage has led to price increases for raw materials and disruptions in transportation, resulting in delays in the delivery of raw materials and subsequent production processes.</p>	<p>1. Increase in operating cost</p> <p>2. Reduce revenue</p>	Long-Term	High	Low	<p>1. Establish second-tier suppliers to prevent the risk of having only a single supplier, in order to ensure uninterrupted supply and improve price negotiation and services.</p> <p>2. Provide the current pricing trend and the impact of material increase for the business to propose price increase to customers.</p>
	Upstream – Poor Supply-Chain Adaptability	In response to global climate change, upstream supply chains have increased their investment in energy conservation and carbon reduction, resulting in higher operating costs for the supply chain and increased product sales prices, which may impact sales.	Reduce revenue	Mid-Term	High	Medium	<p>1. Establish second-tier suppliers to prevent the risk of having only a single supplier, in order to ensure uninterrupted supply and improve price negotiation and services.</p> <p>2. Provide the current pricing trend and the impact of material increase for the business to propose price increase to customers.</p>
	Downstream – Low Carbon and Environmental Requirements for Products	Increasingly stringent product environmental regulations, such as RoHS 2.0, REACH, and California 65, or specific customers' demand for environmentally friendly materials (e.g., halogen-free materials) that surpass regulations, are driving additional costs to ensure products do not exceed harmful-substance standards.	Increase in operating cost	Short-Term	High	Medium	<p>1. Evaluate new or changed laws and regulations in accordance with ST-2B0-006 Compliance Assessment Management System for Regulatory and Other Requirements, and make timely improvements to non-compliant items.</p> <p>2. Strictly follow the “Five No” Principle for corporate hazardous-substance control, enhance inspection levels, increase inspected items or frequency, and block non-compliant inflow/outflow.</p> <p>3. Introduce green circular-manufacturing technology and utilize recycled materials; develop low-carbon, green products based on circular-economy principles.</p>
	Investment – ESG Ratings	The Company is currently a constituent of the FTSE4Good TIP Taiwan ESG Index and the TWSE Taiwan Corporate Governance 100 Index. Failure to continuously improve ESG performance may damage the Group's reputation and hinder capital raising.	Not easy to raise capital	Short-Term	High	Low	<p>1. Continuously monitor ESG goals and strategies, execution impact, effectiveness and sustainability, performance outcomes, and leadership.</p> <p>2. Improve report quality in terms of completeness, credibility, and communication.</p> <p>3. Enhance external disclosure channels—multimedia design, interactive functions, stakeholder feedback, website sustainability section management, and electronic reports.</p>

Acute / Chronic Physical Issues	Extreme Heat / Drought	<p>1. Extreme high temperature may cause heatstroke or food poisoning, equipment abnormalities, and the risk of spontaneous combustion of materials.</p> <p>2. Drought caused by prolonged extreme heat may result in insufficient water for manufacturing processes, daily use, and firefighting, thereby affecting production.</p>	<p>1. Increase in operating cost</p> <p>2. Suspension of operations</p>	Long-Term	Low	Low	<p>1. Notify all departments promptly based on weather-station forecasts and supervise them to make emergency preparations.</p> <p>2. Lower air-conditioning temperature, reduce the duration of high-temperature operations, and ensure health stations are equipped with medicine to prevent heatstroke.</p> <p>3. Increase the frequency of equipment and facility inspections and maintenance; prepare equipment for cooling.</p> <p>4. Implement drought-response measures: regularly inspect firefighting and daily-use water reservoirs to ensure adequate supply, and intensify water-conservation promotion.</p>
	Extreme Cold	<p>May cause frostbite to personnel, food shortages, equipment abnormalities, freezing and bursting of firefighting and other fuel-transportation lines, and result in raw-material supply interruption.</p>	<p>1. Increase in operating cost</p> <p>2. Suspension of operations</p>	Long-Term	Medium	Low	<p>1. Notify all departments in a timely manner according to the weather-station forecast, and supervise all departments to make emergency preparations.</p> <p>2. Raise air-conditioning temperature, reduce the time of low-temperature operations, and ensure health stations are well-prepared with medicine to prevent frostbite.</p> <p>3. The employee-dormitory department should prepare bedding against the cold to meet the needs of employees who are stranded and cannot return home.</p> <p>4. The mechanical and electrical department should take measures to keep machines, equipment, and pipes warm.</p>
	Heavy Rainfall and Flooding	<p>Floods affect employee attendance and wastewater-treatment systems, and may cause disruptions in water and electricity supply, logistics and transportation, or supply-chain disruptions, resulting in production stoppages or reductions and loss of resources.</p>	<p>1. Increase in operating cost</p> <p>2. Suspension of operations</p>	Long-Term	Medium	Low	<p>1. Forward the typhoon warning from the city weather station to all departments and immediately prepare for the storm upon receiving the heavy-rainfall announcement.</p> <p>2. Activate contingency mechanisms: prepare drainage pumps for E&amp;M, conduct comprehensive inspection of the system; environmental workers should check sewage-pipe blockages; different departments should check drainage-outlet blockages, and contact government units for assistance if necessary.</p> <p>3. Each manufacturing campus has built flood-prevention facilities, such as flood-control stations, flood gates, flood pumps, flood barriers, etc.</p>

## Climate Opportunities Information and Response Strategies

Category	Issues	Opportunities	Operational Impact	Impact Period	Likelihood of Occurrence	Level of Impact	Management Measures
Resource Efficiency	Water Resource Management	Improve overall water-management performance to strengthen climate-adaptation resilience. By boosting water-use efficiency and diversifying water sources, we can cut production costs, secure business continuity, earn customer recognition and build greater client trust.	Decrease in operating cost	Long-Term	Low	Medium	<ol style="list-style-type: none"> <li>1. Actively test and adopt high-performance water-recycling equipment.</li> <li>2. Promote water-saving projects in manufacturing processes; keep refining processes and monitoring water consumption.</li> </ol>
Energy Source	Participation in the Carbon-Trading Market	Establish a robust carbon-management system with clear reduction targets. This not only lowers the cost of excess-emissions fees, but also allows the company to convert emissions into carbon assets in line with market developments.	<ol style="list-style-type: none"> <li>1. Decrease in operating cost</li> <li>2. Increase in Revenue</li> </ol>	Mid-Term	High	Medium	Proactively comply with government policies and participate in the carbon-trading market.
Products & Services	R&D of Low-Carbon Products	Develop low-carbon, green products to boost market competitiveness and secure long-term customer partnerships.	Increase in Revenue	Short-term	High	Medium	Promote eco-design from material selection through manufacturing; develop green products and low-carbon solutions.
	Customer Preference	Develop low-carbon, green products to boost market competitiveness and secure long-term customer partnerships.	Increase in Revenue	Short-term	High	Medium	Promote eco-design from material selection through manufacturing; develop green products and low-carbon solutions.
Market	Government Incentives	By implementing solid carbon-management measures and meeting policy targets, the company can earn government support and related incentives.	Decrease in operating cost	Mid-Term	High	Medium	Join government sponsored carbon-reduction programs.
Resilience	Resource Substitution / Diversification	Maintain diversified sources of raw materials to minimize climate-related supply-interruption risks. When supply is tight, customers will favor suppliers with dependable deliveries.	Decrease in operating risk	Long-Term	High	Low	Build a multi-supplier network to avoid single-supplier dependence.

## Climate Risk Scenario Analysis and Quantified Analysis

To further assess the impact of climate change, Zhen Ding Tech. Group conducted a climate scenario analysis in 2024 for the most significant physical and transition risks. The analysis quantified the potential financial impact of climate risks, enabling Zhen Ding to incorporate climate risks into future decision-making processes.

### 1) Physical Risk Scenario Analysis

Taking the issue of water resources as the main assessment criterion for the physical risk scenario analysis, Zhen Ding has selected the “flooding due to heavy rainfall” event with the most significant impact assessed by the group as the actual quantification of the potential financial impact of the actual risk under the possible future temperature-scenario development of Zhen Ding, so Zhen Ding can make preparations for future operations and planning based on the results of scenario analysis and assessment.

### Assessment Assumptions for Water-related Impacts in 2050

Commonality Assumptions		
Scenario Assumptions for Extreme Weather Events	Impact and Influence Assumptions for Extreme Events	
<ol style="list-style-type: none"> <li>Zhen Ding Tech. Group selected two scenarios, SSP1-2.6 and SSP5-8.5, to analyze the potential financial impact under the worst-case scenario (SSP5-8.5) and the scenario where the warming level aligns with the Paris Agreement target (SSP1-2.6).</li> <li>Referring to the CMIP6 climate model on the IPCC WGI Interactive Atlas climate information platform, Zhen Ding estimated the frequency of extreme weather events in 2050 (mid-century) by analyzing the average change rate of future rainfall days under the aforementioned scenarios.<sup>1</sup></li> </ol>	<p>Using the actual number of Zhen Ding Tech. Group’s campus shutdowns caused by floods in the past decade as the basis for financial impact assessment, the loss caused by operational disruptions is estimated based on the 2024 operating revenue:</p> <ol style="list-style-type: none"> <li>In the past ten years, there have been two incidents of flooding that led to the Shenzhen Campus shutting down for half a day. Under the SSP1-2.6 scenario, the estimated change rate is expected to be 1.08 times per decade by 2050. Under the SSP5-8.5 scenario, the estimated change rate is expected to be 1.11 times per decade by 2050.</li> <li>In the past ten years, there has been one incident of flooding that led to the Qinhuangdao Campus shutting down for half a day. Under the SSP1-2.6 scenario, the estimated change rate will be 1.08 times per decade by 2050. Under the SSP5-8.5 scenario, the estimated change rate will be 1.11 times per decade by 2050.</li> <li>In the past ten years, there have been no incidents of flooding that led to the Huai’an Campus shutting down.</li> </ol>	
Item	Scenarios	2050 (mid-century)
Average change of rainfall days (base period: 5 days)	SSP1-2.6	8%
	SSP5-8.5	11%

### Financial Impact Assessment

Zhen Ding Tech. Group’s capital expenditure on water-resource-related issues in 2024 accounted for approximately 0.03 % of our revenue in 2024.<sup>2</sup>

According to the aforementioned climate-scenario assumption models, under the SSP1-2.6 scenario, the property losses caused by operational interruptions due to heavy rainfall events in 2050 will account for 0.11 % of Zhen Ding’s revenue in 2024. Under the SSP5-8.5 scenario, it will account for 0.11 % of revenue in 2024.

### Flood Prevention Measures and Planning for Each Campus

For all existing operations, context-specific physical climate risk adaptation plans and measures have already been implemented. All new projects and facilities incorporate physical risk assessments and preventive adaptation measures during the design and construction phase, ensuring 100% coverage of new operations.

Manufacturing Campus	Risk Response					Management Measures
	Flood Wall	Installation of Water Pumps	Flood Barrier for the Main Door	Sandbags	Flood Barrier for the Basement	
Shenzhen Campus	●	●	●	●	●	<ol style="list-style-type: none"> <li>Routine inspections of the roof and underground rain-drainage facilities.</li> <li>Pay attention to rainfall forecast and open rain-drainage valves immediately for heavy rainfall.</li> <li>Monitor the water level of the river, check for any blockage, and promptly report to government units for assistance.</li> <li>Pumps are connected to emergency power and regularly tested for pumping function. In case of heavy rainfall, rainwater cannot be discharged outside, so the rainwater discharge valve should be closed and the pump should be turned on to pump water outside the compound wall.</li> <li>BoardTek is situated at the highest point of the Guanyin Industrial Park in Taoyuan, located 21 meters above sea level. BoardTek has never experienced flooding since its establishment. A software prediction and analysis report from the National Science and Technology Center for Disaster Reduction indicates that even with a rainfall of 650 mm within 24 hours, there is still no risk of flooding for BoardTek.</li> </ol>
Huai’an Campus	●	●	●	●	●	
Qinhuangdao Campus	●	●	●	●	●	
Taiwan Campus (BoardTek)	●	The evaluated risk is very low and the drainage facilities are sufficient.	The risk is very low, therefore sandbags are used as backup.	●	The risk is very low and the drainage facilities are sufficient.	
Taiwan Campus (Kaohsiung)	The evaluated risk is very low and the drainage facilities are sufficient.	The evaluated risk is very low and the drainage facilities are sufficient.	●	●	●	

## 2) Transitional Risk Scenario Analysis

For transitional risks, Zhen Ding selected carbon pricing as the evaluation target for climate-scenario analysis. The assessment considered Taiwan’s Carbon Fee System and China’s Carbon Emissions Trading Scheme to evaluate the potential costs of carbon fees and carbon-emissions trading for the Group. Additionally, the potential financial impact of purchasing green-energy certificates was also taken into consideration. The analysis assessed the potential financial impacts on Zhen Ding’s operations under (a) the current climate environment and (b) a climate scenario aligned with the Paris Agreement’s goal of limiting global warming to 1.5 °C by the end of the century.

### Assessment Assumptions for Financial Impacts of Greenhouse Gases in 2030

Regional Assumptions	
Taiwan	China
<ol style="list-style-type: none"> <li>Assumptions for the scope of impact of carbon fees: Assuming full carbon pricing is applied based on emissions in Taiwan, and the evaluation is conducted using the contractual capacity of the Kaohsiung site, the goal is to achieve a 30 % reduction in carbon emissions through green energy by 2030, with an ambitious goal of 52 %.</li> <li>Taking into account changes in power-grid emission factors, it is assumed that the power-emission-factor target for 2030, currently set at 0.388 kgCO<sub>2</sub>e/kWh, will be adopted in 2025.</li> </ol>	<ol style="list-style-type: none"> <li>Assumptions for the scope of impact of carbon pricing: Assuming full carbon pricing is applied based on emissions in China, the goal is to achieve a 30 % reduction in carbon emissions through green energy by 2030, with an ambitious goal of 52 %.</li> <li>Taking into account changes in power-grid emission factors, the “China Regional Power Grid Carbon Dioxide Emission Factor Study in 2023” is used to estimate provincial power-grid emission factors for 2030.</li> </ol>

Commonality Assumptions													
Carbon Pricing Scenarios													
<b>NDCs scenario carbon pricing</b>													
<ol style="list-style-type: none"> <li>In Taiwan, according to the preliminary plan from the competent authority, the price may gradually increase from the original NT\$300 to NT\$1,200–1,800 by 2030.</li> <li>In China, the carbon price of the Shenzhen Carbon Market is approximately NT\$234 per metric ton of CO<sub>2</sub>e. Recently, CCER recorded trades at NT\$405 per metric ton of CO<sub>2</sub>e.</li> </ol>													
<b>Net-zero scenario carbon pricing</b>													
<ul style="list-style-type: none"> <li>Based on the scenarios from the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), assessments were conducted using the Net Zero 2050 climate scenarios. The evaluations utilized the average carbon price derived from the GCAM and REMIND-MAGPIE models.</li> </ul>													
	<table border="1"> <thead> <tr> <th>Item</th> <th>Taiwan</th> <th>China</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>NDCs scenario carbon pricing</td> <td>\$1,200–1,800</td> <td>\$231–405</td> <td>NTD / tCO<sub>2</sub>e</td> </tr> <tr> <td>Net-zero scenario carbon pricing</td> <td>\$4,087</td> <td>\$4,305</td> <td>NTD / tCO<sub>2</sub>e</td> </tr> </tbody> </table>	Item	Taiwan	China	Unit	NDCs scenario carbon pricing	\$1,200–1,800	\$231–405	NTD / tCO <sub>2</sub> e	Net-zero scenario carbon pricing	\$4,087	\$4,305	NTD / tCO <sub>2</sub> e
Item	Taiwan	China	Unit										
NDCs scenario carbon pricing	\$1,200–1,800	\$231–405	NTD / tCO <sub>2</sub> e										
Net-zero scenario carbon pricing	\$4,087	\$4,305	NTD / tCO <sub>2</sub> e										

- In the Sixth Assessment Report (AR6) released by the IPCC in 2021, the “Shared Socioeconomic Pathway” (SSP) was proposed by combining the results of multiple research groups within the international climate-change research community for setting climate-change scenarios. SSP5-8.5 is a high-forcing pathway. SSP5-8.5 is the only scenario with emissions high enough to produce radiative forcing of 8.5 W/m<sup>2</sup> by 2100. SSP1-2.6 is a low-forcing pathway, and its simulation results show that it will produce a multi-model average below 2 °C by 2100.
- The capital expenditures related to water resources cannot be fully attributed solely to greenhouse-gas-related categories. Therefore, pollution prevention, cost savings related to water-resource consumption, and flood-control water pressure have been included in the statistics.

Commonality Assumptions					
Zhen Ding’s Emissions by 2030	Renewable Energy Usage of Zhen Ding				
Evaluation based on the projected scale of electricity consumption in Taiwan and China by 2030.	Conservative estimate based on actual self-generated renewable energy for self-use in 2024 and assuming no expansion in 2030.				
Zhen Ding’s Green Electricity Certificate Scenario	Green Electricity Certificate Cost Assumptions				
Setting the target that Zhen Ding achieves 52 % green energy and carbon-reduction by 2030, it is assumed that when self-generation of renewable energy is insufficient, the Group will adopt the strategy of purchasing green-power certificates from China.	<p>Due to uncertainty surrounding the supply and demand of green electricity certificates in 2030—and the difficulty of evaluating average certificate prices in China in the future—Taiwan’s certificate prices are based on the additional cost of NT\$ 4.63 /kWh stated in the “RE10 × 10 Enterprise Green Electricity Initiative 2023 Annual Report”. According to Taipower’s “2024 Small-Scale Green Electricity Sales Q&amp;A”, the floor price is approximately NT\$ 5–6 /kWh.</p> <p>In China, the price of green-electricity certificates is based on the average listed price on the China Green Electricity Certificate Trading Platform.</p> <table border="1"> <tbody> <tr> <td>Green Electricity Certificate Price in Taiwan</td> <td>\$4,630–6,000 NTD / certificate</td> </tr> <tr> <td>Green Electricity Certificate Price in China</td> <td>\$67.5–112.5 NTD / certificate</td> </tr> </tbody> </table>	Green Electricity Certificate Price in Taiwan	\$4,630–6,000 NTD / certificate	Green Electricity Certificate Price in China	\$67.5–112.5 NTD / certificate
Green Electricity Certificate Price in Taiwan	\$4,630–6,000 NTD / certificate				
Green Electricity Certificate Price in China	\$67.5–112.5 NTD / certificate				

### Financial Impact Assessment

In 2024, Zhen Ding’s investment in carbon management and energy-saving environmental-protection equipment to address climate-change issues accounted for approximately 0.12 % of revenue.

Based on the results of the climate-scenario analysis, under the Nationally Determined Contributions (NDC) scenario, the financial-impact costs for Zhen Ding due to carbon pricing in 2030 are estimated to be 0.15 % to 0.28 % of the revenue in 2024. Under the net-zero scenario, it will account for 1.12 % to 1.21 % of revenue in 2024.

## Climate Indicators and Targets

Climate change has emerged as one of the world’s most pressing challenges. Under the Paris Agreement, signatory nations seek to keep this century’s temperature rise “well below 2 °C” and, ideally, cap it at 1.5 °C. The 2023 COP 28 Global Stocktake shows that achieving the 1.5 °C pathway requires a 42 % reduction in global emissions by 2030.

In line with this ambition, Zhen Ding has integrated government requirements and the Group’s sustainability strategy to establish climate-change management and green-development goals. We promote greenhouse-gas (GHG) reduction, draw on the Science Based Targets initiative (SBTi) methodology to analyze multiple abatement scenarios, and commit to using 100 % renewable energy—setting our course toward net-zero emissions by 2050.

Zhen Ding’s short-, medium-, and long-term climate targets are defined as follows:

	Targets	2024 Performance
Greenhouse-Gas (GHG) Emissions	<ul style="list-style-type: none"> <li>By 2025: Cut Scope 1 &amp; 2 carbon-emissions intensity by <math>\geq 40</math> % vs. 2013 baseline</li> <li>By 2050: Achieve net-zero emissions</li> </ul>	<ul style="list-style-type: none"> <li>Scope 1 &amp; 2 carbon-emissions intensity 69 % lower than in 2013</li> </ul>
Renewable Energy	<ul style="list-style-type: none"> <li>By 2025: Deliver <math>\geq 15</math> % carbon reduction via green energy</li> <li>By 2030: Deliver <math>\geq 30</math> % carbon reduction (stretch goal 52 %)</li> </ul>	<ul style="list-style-type: none"> <li>Share of electricity from renewable energy reached 50 %</li> </ul>
Water Resources	<ul style="list-style-type: none"> <li>Keep wastewater-recycling rate <math>\geq 50</math> % and plant-wide water-reuse rate <math>\geq 41</math> %</li> </ul>	<ul style="list-style-type: none"> <li>Wastewater-recycling rate 50.1 %; water-reuse rate 43.1 %</li> </ul>
Waste	<ul style="list-style-type: none"> <li>Sustain a waste-to-resource conversion rate of <math>\geq 90</math> %</li> </ul>	<ul style="list-style-type: none"> <li>Waste-to-resource conversion rate reached 92 %</li> </ul>

## 2. Climate-Related Management Incentives (CDP 4.5.1)

Position entitled to monetary incentive	Incentives	Performance Metrics	Further details
CEO	Bonus – set figure	<ul style="list-style-type: none"> <li>• Progress towards environmental targets</li> <li>• Achievement of environmental targets</li> <li>• Increased share of renewable energy in total energy consumption</li> <li>• Reduction of water withdrawals</li> <li>• Improvements in water efficiency</li> <li>• Reduction of water pollution incidents</li> <li>• Reduction of phase out hazardous substances</li> </ul>	<p>The CEO’s incentive structure includes a long-term incentive plan in which 30% of variable compensation is tied to ESG-related performance. Of this, 10% is directly linked to environmental milestones, with a defined target for the total volume of water recycled and the share of renewable energy in the company’s total energy consumption. To further support the company’s broader environmental strategy and meet evolving disclosure expectations, additional performance indicators—such as improvements in water efficiency, reductions in withdrawals, enhancements in water accounting and verification, and progress on pollution prevention—are also considered as supporting elements. These metrics contribute indirectly to Zhen Ding’s ESG ratings, which account for another 20% of the CEO’s variable compensation. The bonus is awarded as a set figure based on progress toward these goals over a multi-year period, reinforcing accountability for long-term sustainability outcomes.</p>
Environmental / Sustainability Manager	<ul style="list-style-type: none"> <li>• Bonus – set figure</li> <li>• Promotion</li> <li>• Salary increase</li> </ul>	<ul style="list-style-type: none"> <li>• Progress towards environmental targets</li> <li>• Achievement of environmental targets</li> <li>• Organization performance against an environmental sustainability index</li> <li>• Reduction in absolute emissions in line with net-zero target</li> <li>• Implementation of an emissions reduction initiative</li> <li>• Reduction in emissions intensity</li> <li>• Increased share of renewable energy in total energy consumption</li> <li>• Reduction in absolute emissions</li> <li>• Improvements in emissions data, reporting, and third-party verification</li> <li>• Energy efficiency improvement</li> <li>• Reduction in total energy consumption</li> </ul>	<p>The Environmental/Sustainability Manager is eligible for a set-figure bonus, salary increases, and promotion opportunities based on performance against environmental and climate-related objectives. These incentives are aligned with short-to medium-term targets and assessed annually. Key performance indicators include progress toward company-level GHG reduction goals, implementation of emissions reduction initiatives, increased use of renewable energy, and improvement in the company’s external sustainability ratings. These incentives are intended to reward leadership in driving environmental progress and to recognize contributions that directly advance Zhen Ding’s climate transition plan.</p>
Energy Manager	<ul style="list-style-type: none"> <li>• Bonus – set figure</li> <li>• Promotion</li> <li>• Salary increase</li> </ul>	<ul style="list-style-type: none"> <li>• Progress towards environmental targets</li> <li>• Achievement of environmental targets</li> <li>• Increased share of renewable energy in total energy consumption</li> <li>• Energy efficiency improvement</li> <li>• Reduction in total energy consumption</li> </ul>	<p>The Energy Manager is eligible for both short-term and long-term incentives, including a set-figure bonus, promotion opportunities, and salary increases. These incentives are based on annual and multi-year performance evaluations. Key performance metrics include improvements in energy efficiency, reduction in total energy consumption, and an increased share of renewable energy in overall usage. Progress toward corporate environmental targets and broader climate goals is also considered. This incentive structure rewards sustained energy management performance and reinforces the importance of aligning operational energy use with the company’s climate commitments.</p>
All Employees	<ul style="list-style-type: none"> <li>• Monetary awards</li> <li>• Recognition</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency improvement</li> </ul>	<p>Zhen Ding encourages all employees to participate in environmental and operational improvements through a structured proposal improvement mechanism. This initiative enables staff to submit ideas aimed at enhancing efficiency and sustainability in daily operations. To further incentivize participation, the company organizes an annual presentation conference, where outstanding proposals are recognized and eligible for monetary rewards, fostering a culture of continuous improvement and engagement.</p>

### 3. Financial Risks of Climate Change (CDP 3.1.1)

Risk Type and Primary Environmental Risk Driver	Carbon pricing mechanisms
Organization-specific description of risk	The Taiwanese government is drafting carbon-tax legislation and industry-specific emission caps, while in mainland China certain facilities are already covered by local carbon-trading schemes. These measures will likely raise our operating expenses. Zhen Ding's Shenzhen plant falls under the Shenzhen Emissions Trading Pilot Program as a market-regulated entity. The site must conduct regular greenhouse-gas inventories, comply with its emission-intensity cap (emissions per unit of industrial value added), and trade allowances as needed. Should its free quota prove insufficient, the plant will have to purchase additional carbon credits, driving up operating costs.
Primary financial effect of the risk	Increased indirect [operating] costs
Time horizon over which the risk is anticipated to have a substantive effect on the organization	Medium-term
Likelihood of the risk having an effect within the anticipated time horizon	Virtually certain
Magnitude	Medium
Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons	As Taiwan's forthcoming carbon-fee regime and mainland China's emissions-trading systems progressively raise prices—tightening caps, scaling back free allowances, and expanding coverage—the cost of carbon is on a long-term upward trajectory. For Zhen Ding, any quota shortfall will require buying additional allowances on the market. As these carbon charges climb, they will consume a larger share of operating expenses.
Anticipated financial effect figure in the medium-term – minimum (currency)	257,495,768
Anticipated financial effect figure in the medium-term – maximum (currency)	480,658,766
Explanation of financial effect figure	This estimate is based on projected carbon prices and green electricity certificate costs for the year 2030, as well as anticipated carbon emissions. It reflects the potential financial impact on Zhen Ding from carbon pricing and emissions trading expenses, while also accounting for the cost of purchasing green energy certificates under the expected pricing and regulatory mechanisms.
Primary response to risk	Increase environmental-related capital expenditure
Cost of response to risk	205,996,614
Explanation of cost calculation	The estimated cost includes capital expenditures and operational expenses associated with carbon management and energy-saving environmental protection equipment. This covers investments in emission abatement systems, adoption of low-GWP process gases, solar generation and storage infrastructure to meet decarbonization goals.
Description of response	In response to this risk, Zhen Ding will focus on the following activities: 1) Pursuing innovative carbon reduction initiatives, including the implementation of abatement systems and the adoption of low GWP (Global Warming Potential) process gases to reduce greenhouse gas emissions. Zhen Ding is dedicated to investing in innovative ideas and capital to achieve continuous carbon emission reduction. 2) Exploring the option of purchasing renewable energy or renewable energy certificates to lower emissions. 3) Enlarge solar generation construction and introducing energy storage construction

Risk Type and Primary Environmental Risk Driver	Heavy precipitation (rain, hail, snow/ice)
Organization-specific description of risk	Zhen Ding's manufacturing campuses in southern China are exposed to seasonal typhoons and increasingly intense rainfall events, consistent with regional climate trends. Heavy precipitation can lead to localized flooding, which poses risks to factory access and logistics delays.
Primary financial effect of the risk	Decreased revenues due to reduced production capacity
Time horizon over which the risk is anticipated to have a substantive effect on the organization	Long-term
Likelihood of the risk having an effect within the anticipated time horizon	Very unlikely
Magnitude	Low
Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons	Heavy downpours can overwhelm the local drainage system, flood loading bays and access roads, and force a temporary shutdown of production lines. Flood-related stoppage halts shipments and defers the associated revenue until operations resume, directly reducing sales for the affected period.
Anticipated financial effect figure in the long-term – minimum (currency)	188,830,230
Anticipated financial effect figure in the long-term – maximum (currency)	188,830,230
Explanation of financial effect figure	The financial effect figure is based on estimated disruptions to operations caused by floods, drawing on historical data from the past decade across key operational regions. Using CMIP6 models and IPCC WGI Interactive Atlas projections, the frequency of such events was projected for 2050 under SSP1-2.6 and SSP5-8.5 scenarios. Estimated losses incorporate potential downtime and associated revenue impacts under each scenario.
Primary response to risk	Increase environment-related capital expenditure
Cost of response to risk	51,499,154
Explanation of cost calculation	The cost calculation is based on the capital expenses associated with flood risk mitigation measures across key manufacturing sites. This includes the installation of flood walls, pumping systems, flood gates, sandbags, and underground flood barriers, as well as ongoing maintenance, drainage system upgrades, and coordination with local authorities.
Description of response	To address physical climate risks such as flooding and sea level rise, Zhen Ding has implemented a range of site-specific flood protection strategies. These include constructing flood walls, installing water pumps and flood gates, preparing sandbags, and reinforcing underground entrances across facilities in Shenzhen, Huai'an, Thailand, and Taiwan. Risk assessments are conducted regularly to determine the adequacy of existing drainage systems and the need for further mitigation. In areas assessed as low risk, such as Kaohsiung and Hsinfeng, existing elevation and drainage infrastructure are considered sufficient. Management measures also include routine inspections, early warning protocols, and coordination with local governments to ensure flood resilience and business continuity.

#### 4. Financial Opportunities of Climate Change (CDP 3.6.1)

Opportunity type and primary environmental opportunity driver	Reduced water usage and consumption
Organization-specific description	PCB industries require significant amounts of water for their production processes. To effectively reduce the environmental impact of the company, we have introduced high-performance water recycling equipment to process wastewater for use based on demands. Water is recycled for reuse in production, environmental cleaning, and irrigation. The company has engaged in multiple water recycling projects, such as recycling of high-concentration wastewater, and War Horse Water Saving Project (lower overflow rate). The amount of water recycled by manufacturing sites has surpassed the regulatory requirements of local governments.
Primary financial effect of the opportunity	Reduced indirect (operating) costs
Time horizon over which the risk is anticipated to have a substantive effect on the organization	Medium-term
Likelihood of the risk having an effect within the anticipated time horizon	Very likely
Magnitude	Medium-high
Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons	As we predict that water prices will continue to rise, we are taking proactive measures to improve the amount of wastewater reused after treatment and consistently increase our water reuse rate each year. Over the next 3 to 5 years, we plan to further promote the use of recycled water as a key water source to alleviate water stress. While water resource management requires investment in the short term, our analysis shows that, over the long term, these efforts will reduce marginal costs, ultimately decreasing our operational expenses and improving our financial performance.
Anticipated financial effect figure in the medium-term – minimum (currency)	130,500,000
Anticipated financial effect figure in the medium-term – maximum (currency)	174,000,000
Explanation of financial effect figure	We estimate that the annual volume of recycled and reused water ranges from 9,000,000 m <sup>3</sup> to 12,000,000 m <sup>3</sup> . The financial effect is calculated by multiplying this volume by the average unit cost of water.
Cost to realize opportunity	55,262,755
Explanation of cost calculation	The estimated cost primarily includes the capital expenditures for constructing new water recycling systems, as well as the annual maintenance costs for existing systems.
Strategy to realize opportunity	To seize this opportunity, Zhen Ding will focus on the following strategies: 1) Implementing water conservation activities to reduce water consumption at facilities. 2) Making investments in water recycle systems to enhance facility wastewater recycling.

## 5. Internal Carbon Pricing (CDP 5.10.1)

Type of pricing scheme	Shadow Price
Objectives for implementing internal price	<ul style="list-style-type: none"> <li>• Conduct cost-benefit analysis</li> <li>• Drive energy efficiency</li> <li>• Drive low-carbon investments</li> <li>• Incentivize consideration of climate-related issues in decision making</li> <li>• Incentivize consideration of climate-related issues in risk assessment</li> <li>• Identify and seize low-carbon opportunities</li> <li>• Influence strategy and/or financial planning</li> <li>• Navigate regulations</li> <li>• Reduce upstream value chain emissions</li> <li>• Setting and/or achieving of climate-related policies and targets</li> <li>• Set a carbon offset budget</li> <li>• Stress test investments</li> </ul>
Factors considered when determining the price	Alignment with the price of allowances under an Emissions Trading Scheme
Calculation methodology and assumptions made	In October 2011 China's National Development and Reform Commission approved seven pilot emissions-trading schemes, including Shenzhen. When the Shenzhen carbon market opened on 18 June 2013, Zhen Ding's Shenzhen campus became one of the first participating enterprises; its energy-saving and emission-reduction results were recognized by the local government. The campus continued to trade allowances in 2024, further strengthening our carbon-asset management in partnership with the authorities. To internalize the external cost of greenhouse-gas emissions and spur additional abatement, Zhen Ding applies an internal carbon price. Because our main production facilities are in mainland China and only the Shenzhen campus is currently covered by a regulatory ETS, we benchmark the internal price to the Shenzhen market. For 2024 the adopted rate is RMB 51.3 per tonne of CO <sub>2</sub> -e (about NTD 231).
Scopes covered	Scope 1, Scope 2
Actual priced used (NTD per metric ton CO <sub>2</sub> e)	231
Application	For all decision-making process

## 6. Emissions Reduction Targets (CDP 7.53.1 & 7.53.2)

Target type and metric	Scope covered	Target Timeframe	Baseline year emissions covered and as a % of total base year emissions	% reduction target from base year	Is this a science-based target?
Absolute target	<ul style="list-style-type: none"> <li>Scope 1</li> <li>Scope 2</li> </ul>	<ul style="list-style-type: none"> <li><b>Base Year:</b> 2022</li> <li><b>Target Year:</b> 2030</li> </ul>	<ul style="list-style-type: none"> <li><b>Base year emissions:</b> 1,086,026</li> <li><b>Percentage of total base year emissions:</b> 100%</li> </ul>	55	No, but we have publicly committed to seek validation to the target by the SBTi
Absolute target	<ul style="list-style-type: none"> <li>Scope 1</li> <li>Scope 2</li> </ul>	<ul style="list-style-type: none"> <li><b>Base Year:</b> 2022</li> <li><b>Target Year:</b> 2035</li> </ul>	<ul style="list-style-type: none"> <li><b>Base year emissions:</b> 1,086,026</li> <li><b>Percentage of total base year emissions:</b> 100%</li> </ul>	60	No, but we have publicly committed to seek validation to the target by the SBTi
Intensity target (Metric tons CO <sub>2</sub> e per unit revenue)	<ul style="list-style-type: none"> <li>Scope 1</li> <li>Scope 2</li> </ul>	<ul style="list-style-type: none"> <li><b>Base Year:</b> 2022</li> <li><b>Target Year:</b> 2025</li> </ul>	<ul style="list-style-type: none"> <li><b>Base year emissions:</b> 0.00000634</li> <li><b>Percentage of total base year emissions:</b> 100%</li> </ul>	40	No, but we have publicly committed to seek validation to the target by the SBTi

## 7. Net-Zero Commitment (CDP 7.54.3)

According to the initiative of limiting global warming to 1.5°C, Zhen Ding integrated local government requirements and our sustainable development strategies, formulated climate change management strategies and green development goals, and actively implemented various GHG emissions reduction programs. We have adopted greenhouse gas reduction strategies based on methodologies such as SBTi. We are evaluating various decarbonization scenarios and integrating the use of 100% renewable energy to achieve our net-zero emissions target by 2050.

Target Timeframe	Target scope & related emission reduction target (as % of base year emissions)	Is the target validated by Science Based Targets initiative?
<ul style="list-style-type: none"> <li><b>Base Year:</b> 2022</li> <li><b>Target Year:</b> 2050</li> </ul>	<ul style="list-style-type: none"> <li><b>Scope 1 &amp; 2:</b> 90%</li> <li><b>Scope 3:</b> 90%</li> </ul>	No, but the company considers the target to be science-based

## Main Strategies

Conducting ISO 14064-1 Inventory	We conduct a thorough inventory of Scopes 1, 2, and 3 GHG emissions and acquire external verification to ensure accuracy and transparency in our reporting.
Innovative Energy Conservation and Emission Reduction Projects	We continue to implement various innovative projects aimed at conserving energy and reducing emissions across our operations.
Active Participation in CDP	We actively participate in the Carbon Disclosure Project (CDP) to disclose our environmental impact and progress in emission reduction efforts.
Use of Clean/Renewable Energy	We are committed to using clean and renewable energy sources to power our operations and reduce our carbon footprint.
Low Carbon Manufacturing	We realize low carbon manufacturing through energy conservation, the use of green energy, and energy storage solutions.
ISO 50001 Energy Management System	We continue to implement the ISO 50001 Energy Management System to optimize our energy use and enhance our energy performance.
Reducing Scope 3 Emissions	We recognize that Scope 3 emissions are a significant part of our overall carbon footprint. To address these emissions, we actively engage with our suppliers to reduce GHG emissions, focus on designing sustainable products with lower environmental impacts, optimize transportation and logistics to reduce emissions, and implement comprehensive waste management programs to increase recycling rates.
Neutralize residual emissions	To neutralize residual emissions and further mitigate emissions beyond our value chain, we will consider investing in carbon credits to offset emissions that cannot be eliminated through our operational improvements and invest in permanent carbon removal technologies to ensure any remaining emissions are effectively neutralized.