

3 Environmental Protection

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Environmental Policy and Management

► Environmental Policy

Qisda knows that the impact of human beings on the environment is irreversible, and only focusing on economic and social development is not sufficient to meet the expectations of the stakeholders. Hence, Qisda is committed to investing resources into reducing volume, saving energy and reducing carbon in the product design, introducing integrated design (ISO 14006) and combining green design (IEC 62430) to ensure both products and processes can save more energy and are more environmentally friendly. Qisda guarantees to manufacture products that are compliant with relevant laws and meet health and safety demands from customers. In the meantime, all manufacturing sites of Qisda have passed ISO 14001 environmental management system verification, and external stakeholders such as suppliers, service providers, contractors, transportation and logistics providers, group companies, value chain partners, and joint ventures are required to comply with Qisda's environmental policies to achieve Qisda's commitment to social responsibility, environmental protection, and energy. (For the complete environmental policy, please visit the website of the Company.)

► Environmental Management

We continue to conduct regular environmental audits at global manufacturing sites in accordance with the management system framework, and implement in-plant management to ensure that the operations of the Company comply with local environmental regulations and the expectations of stakeholders.

To promote the environmental protection awareness among employees, Qisda introduces the Company's environmental policies and explains energy conservation, carbon reduction, water conservation, resource recycling and waste reduction management measures during the orientation education and training for new employees. On occasion, Qisda also communicates the importance of environmental protection to all employees through various meetings and announcements. Environmental management performance is reviewed and reported quarterly by members at the ESG Committee meeting.

No violations of environmental laws or regulations have occurred in the past four years (2021-2024). All manufacturing facilities of Qisda have achieved 100% certification for the ISO 14001 Environmental Management System. The statistics are presented as follows:

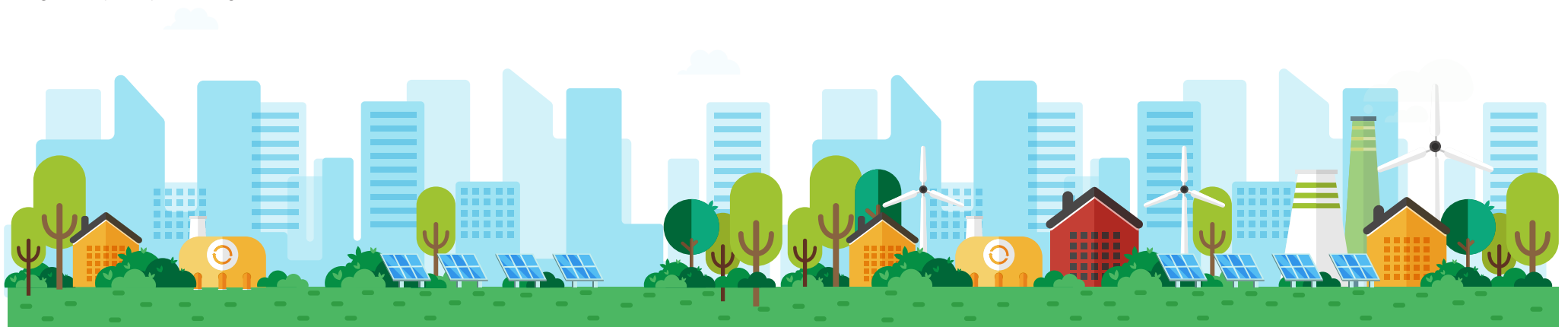
Number of environmental violations			
2021	2022	2023	2024
0	0	0	0



Climate Adaptation and Mitigation

Since the industrial revolution, humans have been burning fossil fuels on an extensive scale, causing large amounts of carbon dioxide and other greenhouse gases to be generated and released into the atmosphere. The increasing concentration of GHG in the atmosphere worsens the greenhouse effect and raises the average surface temperature of the Earth, leading to sea level rise, changes in rainfall and climate in some areas, and further altering the entire ecosystem. The issue of climate change poses a significant threat to the living environment of all organisms, and as domestic regulations on the reduction of GHG and the international Paris Agreement have come into effect, the general public are becoming more concerned about carbon management issues. Hence, in addition to monitoring the business operations that may be affected by climate change, Qisda promotes corporate sustainable development by planning climate strategies and implementing carbon management and also plans to implement internal carbon pricing. We have referred to the recommended framework of the Task Force on Climate-Related Financial Disclosures (TCFD) to assess the risks and opportunities and formulate countermeasures in response to the risk of climate change. Simultaneously, Qisda also follows the TNFD (Taskforce on Nature-related Financial Disclosures) framework to analyze its dependencies and impacts on nature. Every year, we regularly illustrate the results of sustainability development and the performance of reduction to the stakeholders through our annual sustainability report. Qisda also shows concern about the issue of climate change and its management methods by actively participating in the international Carbon Disclosure Project (CDP) survey, and Qisda has been recognized by many for taking this action.

Climate Governance Framework



► Task Force on Climate-Related Financial Disclosures (TCFD)

Governance

To promote corporate sustainability and climate change governance, the Company established the Corporate Sustainable Development Committee under the Board of Directors on August 4, 2023 to define the business vision, create strategies, and set goals for corporate sustainable development. The Committee members are comprised of members from the Board, including 2 directors and 5 independent directors. The Committee holds regular annual meetings. To align with the establishment of the Corporate Sustainable Development Committee, we have expanded the scope of the existing ESG Committee. All Level 1 executives have been made members of the ESG Committee, and the Chairman and President shall set short-term and medium-term sustainability goals. We have made management more effective with an internal top-down approach. The Company has decided to establish a long-term remuneration plan for the Chairman, CEO, President and other senior managerial officers starting from 2023. This plan is connected to the ESG performance (corporate governance, social engagement, and environmental sustainability performance indicators) and grants long-term rewards and compensations based on the achievement of ESG performance targets every year.

Climate issues are becoming increasingly severe, and as paying attention to climate risks aligns with Qisda's overall sustainability goals, the Company deems climate-related risks immediate and highly important, appointing the Chief Sustainability Officer to take the responsibility for climate related issues, and designates the ESG Committee to promote sustainability related developmental affairs. Relevant issues are discussed at the senior managers' meeting on a quarterly basis, and a report is made to the Board of Directors once a year. The Board has committed itself to reaching net-zero targets by 2050 (it has passed the SBTi target review in 2024). Please refer to the "Metrics and Targets" chapter for more details. Qisda has introduced the corporate risk management structure since 2005, and has further established the Risk Management Committee. In addition to the annual risk radar chart and Top 3 risk assessment at the management level, we also assess risks at the operational level through risk checklists. Preventive and mitigation measures against high-risk items are followed-up on a quarterly basis. The climate change risk has been part of the annual risk radar chart since 2016. We assessed the severity and likelihood of the risk in 2024, and followed up on two major risks: power shortage risks and changes in energy consumption regulations caused by extreme weather. We also established response strategies such as the Business Continuity Plans (BCP).

Strategy

a. Identified climate-related risks and opportunities over the short, medium, and long term

The short-, medium-, and long-term climate-related risks and opportunities are linked to Qisda's sustainability goals, assessing their impact on operational strategies. These are defined as short-term (0-3 years), medium-term (3-10 years), and long-term (over 10 years). Adopting the climate scenarios of the RCPs, we have identified 9 transition risks, 3 physical risks and 8 opportunities. Through the creation of a climate risk matrix, we have completed the management of climate risks and formulated countermeasures. The climate risk matrix can help Qisda better understand the impact of climate change on our business and guide the Company on how to respond to and manage risks that may arise due to climate change in the future. The items that affect the Company's business are transition risks related to domestic and foreign regulations and laws (short-term and long-term) and green products and technology (long-term), and energy-efficient products (medium- and long-term) as an opportunity. In terms of risk, the Company's products may not be allowed into target markets due to new carbon reduction policies or regulation. To meet customers' carbon reduction goals, we conduct carbon emission inventories and obtain certifications for all the plants. A systematic platform has also been adopted to manage product carbon footprint inventory. In addition, the benefits of green product R&D are taken into consideration for our transformation plans, as it will have a positive and long-lasting financial impact on the Company. In this matrix, risks are divided into two major aspects: "impact/benefit" and "frequency," and then classified as "low," "low-medium," "medium," "medium-high" and "high" according to their levels. The period of impact for each climate risk is also identified in advance, enabling Qisda more accurately estimate the duration our operations will be impacted by climate risks.

b. Climate-related risks and opportunities that have significant impacts on business, strategies and financial planning

We have not only inventoried climate-related risks and opportunities, but also calculated and listed the potential impacts that these risks and opportunities may have on our business, strategies, and finances. Based on the identified climate risks and opportunities, the responsible department manages the "risk content," "potential impacts on business, strategies and finances," and "adaptive and responsive actions," which serve as references for Qisda when setting up relevant hedging and risk control measures. (Please refer to the following paragraphs on climate-related risks and financial impacts.)

c. Taking different scenarios of climate change into consideration

Qisda's 2°C scenario is based on the RCP 2.6, 4.5 and 8.5 climate scenarios of the UN Intergovernmental Panel on Climate Change (IPCC). Further, we not only conduct assessments on transition risks along with immediate and long-term physical risks, but also implement the NDCs' simulation scenarios with respect to transition risks. (Please refer to the detailed content below for the simulation data for physical and transition risks)

Risk Management

a. Process of identifying and assessing climate-related risks

In compliance with the TCFD framework, Qisda identifies risks/opportunities that have impacts on business, strategies, and financial planning. Risks/opportunities are defined and listed by the department concerned.

Apart from that, Qisda's 2°C scenario is based on the RCP 2.6, 4.5 and 8.5 climate scenarios of the UN Intergovernmental Panel on Climate Change (IPCC). Further, we not only conduct assessments on transition risks along with immediate and long-term physical risks, but also identify and analyze the climate-related risks and opportunities within the Company's scope of operations over the short, medium, and long term. The Company also proceeds risks and opportunities among value chain, including upstream, own operations and downstream activities. In 2023, Vietnam experienced extreme heat and drought, resulting in a critical electricity supply shortage. The Vietnamese government implemented planned power outages, and Qisda's Vietnam site adopted measures for power backup, energy conservation, and production scheduling to ensure that operations were not affected.

Remark:

Qisda identifies climate related risks, including: Current Regulation, Emerging Regulation, Technology Risk, Legal Risk, Market Risk, Reputational Risks, Acute Physical Risk and Chronic Physical Risk.



b. Process for managing climate-related risks

To address the risks associated with climate change, each unit implements countermeasures for the identified risks, such as the issue of carbon reduction. The ESG Committee sets relevant goals and takes countermeasures. With the approval of the Chairperson, the implementation of these goals is reviewed on a quarterly basis to ensure that the Company's sustainability goals can ultimately be achieved. In addition, Qisda proposes responsive plans in accordance to the risk scenario analyses. We commissioned Fubon Insurance to investigate the risks of floods in 2020. The investigation is taken as a reference for establishing responsive strategies against physical climate risks. In order to mitigate and adapt to relevant climate risks, we have also established responsive strategies for climate change issues such as droughts resulting from the rising surface temperature, or floods brought by the increasing precipitation.

1. Business Continuity Planning (BCP) for Droughts

Drought fighting measures will be activated once the drought monitoring signal of any area turns green. We use water consumption inventory and days of stored water supply as main indicators, and aim to deal with the situation through plans to "provide water for two days and cut off the supply for another two."

2. Flood Control BCP

If there are potential climate risks in the region where the supplier is located, Qisda thoroughly investigates the supplier's BCP or recommends it to take appropriate adaption measures. By playing a proactive role in risk management, we are able to stabilize the supply chain in a crisis, further preventing damage in the business operation of the supplier as well as protecting the benefits and rights of our stakeholders. Qisda also commissions external experts to perform climate risk assessment on the Company's key facilities as a reference for improving and adapting to climate risks.

c. Methods of integrating and including the process of climate-related risk identification, assessment, and management in the overall risk management

Qisda has introduced the corporate risk management structure since 2005. We have also established the Risk Management Committee and conducted annual risk identification and assessment every year. In addition, preventive and mitigation measures against high-risk items are also taken and followed up on a quarterly basis. The climate change risk has been a part of the annual risk radar chart since 2016. We implemented assessments according to the severity and likelihood of the risk in 2023, and followed up on two major risks: power shortage risks and changes in energy consumption regulations caused by extreme weather. We also established response strategies such as the Business Continuity Plans (BCP).

Metrics and Targets

a. The metrics used to assess climate-related risks and opportunities in line with the strategy and risk management process

Qisda is concerned about the impact of climate issues on our operation. Hence, the Board of Directors has approved of the commitment to and focus on relevant goals, and attached importance to:

1. Renewable energy target: Achieve RE60 by 2030 and RE100 by 2040.

2. Carbon reduction target: Reduce Scope 1 and Scope 2 GHG emissions by 42% by 2030.

Achievement status: Renewable energy usage reached 36.7% in 2024; excluding the reduction of emissions due to lowered business operation, Scope 1 and Scope 2 GHG were still reduced by 32.6%.

b. Scope 1, 2 and 3 emissions and relevant risks

In accordance with SBTi and the Company's carbon reduction roadmap, Qisda continues to invest in green power and carbon reduction projects.

GHG emissions have been listed as one of the important sustainability performance indicators by Qisda and are assessed by the ESG Committee every quarter. Due to changes in industry in 2024, the production output value declined and thus the greenhouse gas emission intensity slightly increased by 8.15% compared to 2023.

We prioritize the replacement of old, energy-consuming equipment and the use of energy-saving equipment to save energy. Smart electric meters are introduced in the factory to analyze the power consumption of production lines and processes to find out the best control solutions. We set up self-owned solar power generation and storage systems within the plant and purchased renewable energy certificates to offset our energy use.

As for the responsive measures for possible carbon fees in the future, the collection mechanism is yet to be determined. While we have identified this as a potential GHG emission-related risk, the full extent of its impact is currently unknown. Qisda will continue to pay attention to this issue.

Qisda's GHG emissions summary by scope in 2024

2024 Unit: tCO ₂ e	Scope 1	Scope 2	Scope 3
GHG emissions equivalent	2,575	Location-based: 68,513 Market-based: 45,782	2,087

Management of targets for climate-related risks and opportunities and performance against targets

Short-term: Use 40% renewable energy by 2025; Scope 1 and Scope 2 carbon reduction of 21% by 2025

Medium term: Use 60% renewable energy by 2030; Scope 1 and Scope 2 carbon reduction of 42% by 2030; Scope 3 carbon reduction of 25% by 2030

Compliance of renewable energy use with RE100 by 2040; achievement of zero carbon emissions (net zero) by 2050.

Governance

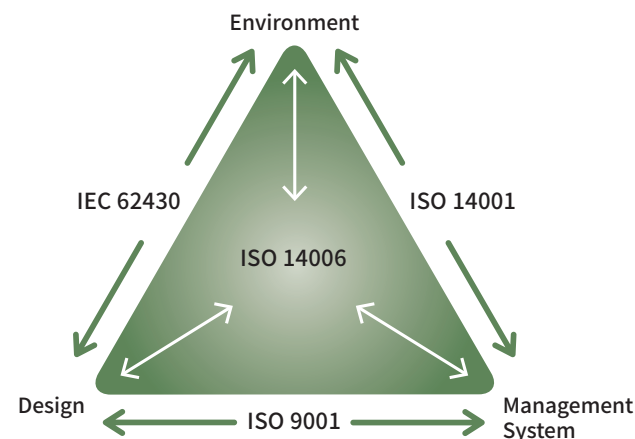
The Board of Directors of the Company is responsible for the review and supervision of climate change strategies, action plans and annual goals. The Chief Sustainability Officer is authorized to take the responsibility for the formulation, planning and implementation of the strategies. He/she detects and responds to climate change risks in the Risk Management Committee and Corporate Sustainability Management Committee every quarter, and in addition to reporting the implementation of mitigation measure to the Board of Directors regularly every year, he/she reviews the greenhouse gas reduction goals and its achievement.

Strategy

Qisda implements environmental sustainability and sustainable development from the three facets of "green products," "green operations," and "green supply chains." The goals set for the development strategies and management measures are monitored through Key Performance Indicators (KPIs). As a company engaging in the design and manufacture of electronic products, Qisda is not only concerned about the greenhouse gas emissions of the organization, but also conducts analysis and management with respect to the environmental impact of the products to ensure compliance with international standards, such as EU Energy-related Products Directive (ErP) and the carbon footprint of the organization (ISO 14064-1).

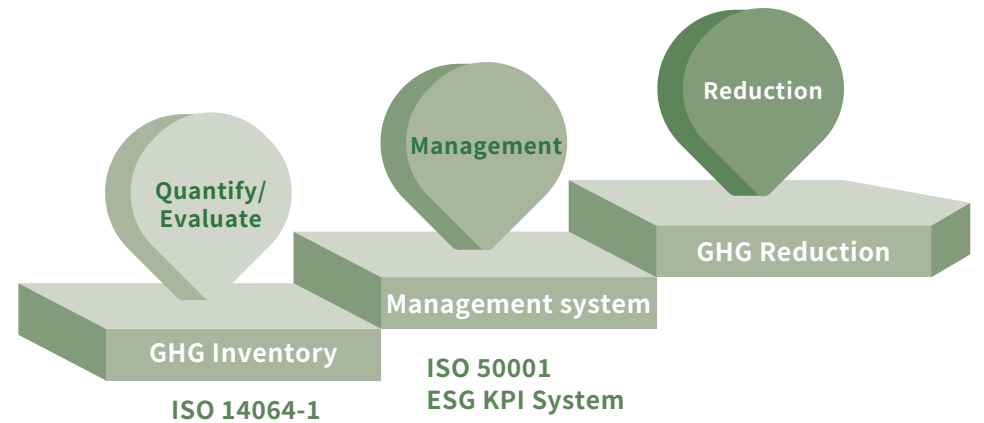
Green product

Qisda reviews the carbon emissions of the products and identifies opportunities to reduce carbon through the application of life cycle thinking. The Company places importance on the green design, uses the eco-design approach, and takes the environmental impact and carbon reduction into account at the design stage. A carbon footprint report is produced via the management platform and the Company takes follow-up and management measures for the performance of the carbon reduction.



Green operations

With the quantification/assessment, management and carbon reduction as the core, Qisda takes actions starting from the inventory of the organization's greenhouse gas emissions (ISO 14064-1) and sets up the energy management system (ISO 50001) and the corporate sustainable development (ESG) KPI management system to understand the accomplishment status and reduction performance of each energy saving measure.



Green supply chain

This is implemented in three phases as planned: Awareness, Implementation and Sustainability. Education and training of key suppliers on GHG inventories is an element in the awareness phase. The suppliers of key components are encouraged to conduct GHG inventory and reduction in the implementation phase. In the last sustainability phase, it is expected to improve the independent management capability of the suppliers and disclose their climate change strategies and reduction performance in the Corporate Social Responsibility (CSR) Report.

Cognition	● Inspection of the supplier's social responsibility, environment, safety and health ● Self-assessment on the Responsible Business Alliance Code of Conduct (RBA Code)
Promotion	● On-site audit of the supplier's social responsibility, environment, safety and health ● Implementation of the Responsible Business Alliance Code of Conduct (RBA Code)
Sustainability	● Supplier's independent management ● Preparation of the Sustainability Report ● Extension to the Tier 2 supplier



Currently, Qisda has assessed the identified risks and scenarios as follows: the climate simulation scenarios cover 100% of the operational sites, and adaptation measures have been developed based on the potential risks of each scenario. All planned relevant adaptation measures will be implemented within five years.

At present, the risks and scenarios that Qisda has identified through assessments are sorted below:

Qisda's Climate Simulation Scenario in 2050

Scenario RCP 2.6			RCP 4.5		RCP 8.5	
Indicator	mean air temperature	precipitation	mean air temperature	precipitation	mean air temperature	precipitation
Country	Average temperature in 2050	Average precipitation in 2050	Average temperature in 2050	Average precipitation in 2050	Average temperature in 2050	Average precipitation in 2050
Taiwan	Increase by 0.3 ~ 2.1°C	Increase by -5.3 ~ 12%	Increase by 0.7 ~ 2.4°C	Increase by -4.7 ~ 13.6%	Increase by 1 ~ 3.1°C	Increase by -7.7 ~ 13%
China	Increase by 0.8 ~ 2.7°C	Increase by 1.7 ~ 11.3%	Increase by 1.2 ~ 3.2°C	Increase by 2.1 ~ 12.8%	Increase by 2 ~ 4°C	Increase by 3 ~ 17.1%
Vietnam	Increase by 0.6 ~ 1.7°C	Increase by -6.6 ~ 10%	Increase by 0.8 ~ 2.0°C	Increase by -4.6 ~ 9.9%	Increase by 1.1 ~ 2.6°C	Increase by -2.7 ~ 14%
Possible impact on climate	The annual temperature is expected to increase 1.7°C in Vietnam and more than 2°C in both Taiwan and China, which will possibly result in a temperature rise in facilities and their surroundings, further affecting production efficiency. As a result, investment into devices for improvement is required. The increase in precipitation might cause increases in flooding, especially when the maximum rate of precipitation increase in all 3 countries exceeds 10%. If drainage equipment around the facilities is poor, the facilities can be easily flooded, and losses of raw materials, end products and machines will become highly likely.		The annual temperature in Vietnam and Taiwan is expected to increase by 2.4°C and 2.0°C respectively. On the other hand, the annual temperature in China can rise 3.2°C to the most. This will possibly result in a temperature rise in facilities and their surroundings, further affecting production efficiency. As a result, investment into devices for improvement is required. Not only that, due to the longer duration of high temperatures in recent summers, improvements in ventilation and air conditioning equipment might be necessary to prevent the employees from experiencing heat stroke. Hence, electricity bills and equipment maintenance expenses will increase. In addition, the increase in the average precipitation might cause increases in flooding. Currently, the annual precipitation in the locations of Qisda's plants has risen by around 9.9% to 13.6%. If drainage equipment around the facilities is poor, the plants can be easily flooded, and losses of raw materials, end products and machines will become highly likely. Furthermore, factors such as the local terrain, drainage and flood prevention measures shall be taken into consideration.		Although Taiwan and Vietnam still have lower temperatures compared to China, it is possible that the temperatures increase more than 2°C and further lead to progressively increasing temperatures. As a result, continuous improvements of air conditioning in facilities are necessary. The rise of the annual temperature can cause a decrease in the number of typhoons and increase the occurrence of droughts. In extreme climate conditions, floods are more likely to occur in the three regions/countries where Qisda operates when compared to other climate scenarios. Apart from potential flooding in facilities, transportation disruptions, employee commute and employee injuries may also occur.	

Physical Climate Scenarios	Parametric Hypothesis	Today ~ 2030	2031~2050	Operational & Financial Impact			Management Methods
				Upstream (Suppliers)	Qisda	Downstream (Customers)	
RCP2.6	Annual temperature Annual rainfall		Annual temperature: Increase 0.3 ~ 2.1°C in Taiwan Increase 0.8 ~ 2.7°C in Suzhou Increase 0.6 ~ 1.7°C in Vietnam Annual rainfall: Increase -5.3 ~ 12% in Taiwan Increase 1.7 ~ 11.3% in Suzhou Increase -6.6 ~ 10% in Vietnam	If precipitation increases abnormally, it may cause shipping delays and further affect Qisda's production and shipment.	The annual temperature is expected to increase 1.7°C in Vietnam and more than 2°C in both Taiwan and China, which will possibly result in a temperature rise in facilities and their surroundings, further affecting production efficiency. The increase in precipitation might cause increases in flooding, especially when the maximum rate of precipitation increase in all 3 countries exceeds 10%. If drainage equipment around the facilities is poor, the plants can be easily flooded, and losses of raw materials, end products and machines will become highly likely.	The customers can require Qisda to prepare materials in the warehouse in advance to respond to possible material shortage crisis	We require the factories and the internal units of Qisda to pay attention to the height of the plant's foundation for flood prevention. We also regularly pay attention to occurrences of abnormal natural disasters that affect the operation of factories and Qisda. In addition, Qisda conducts BCP drills with respect to natural disasters, checks the height of each plant's foundation, and implements improvement and flood prevention measures. Finally, sufficient key materials are regularly stored in the warehouse in accordance to the FCST in preparation for unexpected needs.
RCP4.5	Annual temperature Annual rainfall		Annual temperature: Increase 0.7 ~ 2.4°C in Taiwan Increase 1.2 ~ 3.2°C in Suzhou Increase 0.8 ~ 2.0°C in Vietnam Annual rainfall: Increase -4.7 ~ 13.6% in Taiwan Increase 2.1 ~ 12.8% in Suzhou Increase -4.6 ~ 9.9% in Vietnam	Most suppliers are located in Suzhou. If the temperature increases 3.2°C, the attendance and health of factory personnel can be affected, leading to production disruptions and material shortages. If precipitation abnormally increases up to 10%, the flood it brings can affect the attendance of employees, and factories will be unable to proceed with production and shipment. This will have further impact on Qisda's production and shipment. Abnormal natural disasters can also affect the stability of the power supply. If the Company fails to proceed with production, costs will eventually increase.	The annual temperature in Vietnam and Taiwan is expected to increase 2.4°C and 2.0°C respectively. On the other hand, the annual temperature in China can rise 3.2°C to the most. This will possibly result in a temperature rise in plants and their surroundings, further affecting production efficiency. As a result, investment into devices for improvement is required. Additionally, the longer duration of high temperatures in recent summers can lead to sick employees and further affect the operation of the Company. In addition, the increase in the average precipitation might cause increases in flooding. Currently, the annual precipitation in the locations of Qisda's facilities has risen by around 9.9% to 13.6%. If drainage equipment around the plant is poor, the plants can be easily flooded, and losses of raw materials, end products and machines will become highly likely. Furthermore, factors such as the local terrain, drainage and flood prevention measures shall be taken into consideration.	In addition to more inventory, customers require an additional second source.	We require the factories and the internal units of Qisda to pay attention to the height of the plant's foundation for flood prevention. We also regularly pay attention to occurrences of abnormal natural disasters that affect the operation of factories and Qisda. In addition, Qisda conducts BCP drills with respect to natural disasters, checks the height of each plant's foundation, and implements improvement and flood prevention measures. In addition to preparing inventory, key materials are imported into the second source.

Physical Climate Scenarios	Parametric Hypothesis	Today ~ 2030	2031~2050	Operational & Financial Impact			Management Methods
				Upstream (Suppliers)	Qisda	Downstream (Customers)	
RCP8.5	Annual temperature Annual rainfall		Annual Average Temperature: Increase 1 ~ 3.1°C in Taiwan Increase 2 ~ 4°C in Suzhou Increase 1.1 ~ 2.6°C in Vietnam Annual rainfall: Increase -7.7 ~ 13% in Taiwan Increase 3 ~ 17.1% in Suzhou Increase -2.7 ~ 14% in Vietnam	Higher temperatures and extreme precipitation or drought can result in severe power shortage. Thus, the suppliers may need to spend more money to improve working environments and ensure personnel safety. The time needed for material preparation may be longer, and transportation methods may need to be changed, which will result in increasing costs.	Although Taiwan and Vietnam still have lower temperatures compared to China, it is possible that the temperatures increase more than 2°C and further lead to progressively increasing temperatures. As a result, continuous improvements of air conditioning in facilities are necessary. The rise of the annual temperature can cause a decrease in the number of typhoons and increase the occurrence of droughts. In extreme climate conditions, floods are more likely to occur in the three regions/countries where Qisda operates when compared to other climate scenarios. Apart from potential flooding in plants, transportation disruptions, employee commute and employee injuries may also occur.	The customers hope to have a second or third production site to prevent delivery dates from being affected by disasters in different locations.	Both manufacturers and Qisda have requested to pay attention to the height of the foundation at the location of the plant to avoid flooding. We also regularly pay attention to occurrences of abnormal natural disasters that affect the operation of factories and Qisda. In addition, Qisda has conducted BCP drills for natural disasters, checked the height of the foundation at each plant, and implemented improvement and flood control measures. Qisda has proactively established three production locations in Suzhou, Taiwan, and Vietnam respectively in response to different situations in each region as well as customer requirements.
NDCs	Net zero emissions SBTi 1.5°C	1. Reaching an annual carbon reduction of 4.2% (Scope 1 & 2) 2. Reaching 60% green power by 2030	1. Reaching an annual carbon reduction of 4.2% (Scope 1 & 2) 2. Reaching 100% green power by 2040 3. The commitment to net zero by 2050	Due to the need for industrial transformation: 1. This will drive the growth of investment in low-carbon products, and the operating costs of the suppliers will inevitably increase. 2. Suppliers that fail to combat the challenge of low-carbon transformation will gradually lose orders and competitiveness.	In line with Taiwan's Pathway to Net-Zero Emissions in 2050, international trends, laws and regulations, and policies with respect to low-carbon transformation, the Qisda Group has established the goals of reaching 60% green power by 2030 and then 100% in 2040. According to the Group's product planning and the assessment of the plant capacity, the total electricity consumption in 2030 is 349,650 MWh, an increase of 20.3% compared to 2021. Therefore, it is necessary to increase the investment in energy-saving practices to accelerate energy transformation and increase the utilization rate of green electricity.	In response to the trend of low carbon transformation, we will focus on Increasing the ODM products originating from green manufacturing and design of low-carbon products. More demands for renewable energy and green products will be required from upstream suppliers.	1. Continue to invest in energy-saving plants for plants, with an estimated electricity reduction of 1.642 million kWh. 2. Purchase 39,064 million kWh of renewable energy certificates (I-REC) 3. Implement carbon reduction according to SBT.

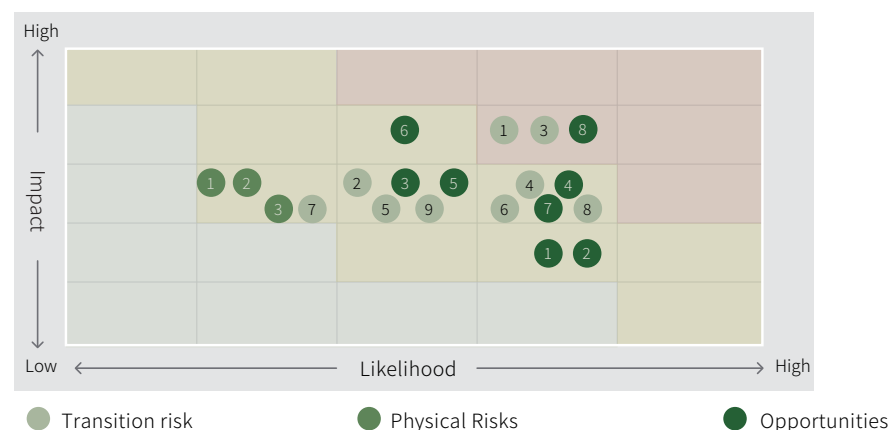
Risk Management

Every year, Qisda's Risk Management Committee leads the annual climate change risk and opportunity assessment with reference to the RCP climate scenarios. Each unit identifies transition risks, physical risks, and related opportunities, and predicts the possible time of occurrence (short-term, mid-term, long-term), which issue may arise, and the financial impact of these risks. Considering the frequency of occurrence, impact, and the Company's ability to adapt to the risks and opportunities identified, the units are further asked to plan management measures and strategies in response. We have identified 9 transition risks, 3 physical risks, and 8 opportunities, and created the climate risk matrix to help Qisda better understand the impact of climate change on our business and guide the Company in addressing and managing risks of climate change. In this matrix, risks are divided into two major aspects of "impact/benefit" and "frequency," and then classified into "low", "medium to low", "medium", "medium to high" and "high (scoring from 1 to 5)" according to the level of the risk. The period of impact is identified in advance for each climate risk, which enables Qisda to more accurately estimate the duration of which our operations will be impacted by climate risks. Lastly, for the estimate the duration of which our operations will be impacted by climate risks. Lastly, for the identified climate risks and opportunities that Qisda faces, the responsible department manages the "risk content," "potential impacts on business, strategies and finances," and "adaptive and responsive actions," which serve as references for Qisda when setting up relevant hedging and risk control measures in response to the challenges that the climate change brings about.



2024 Qisda Matrix of Climate Change Risks and Opportunities

Climate-Related Opportunities and Risks Matrix



No.	Transition risk
1	Domestic and international regulations and laws (short-term and medium-term)
2	Carbon trading and carbon tax (medium-term)
3	Green products and technology (long-term)
4	Energy-saving equipment (medium-term and long-term)
5	Purchase of green electricity (medium-term and long-term)
6	Consumer's sustainability awareness (long-term)
7	Rising costs of raw materials (medium-term)
8	Customer behavior change (medium-term and long-term)
9	Reputation (long-term)

No.	Physical Risks
1	Typhoon, flood, and snowstorms (medium-term and long term)
2	Water and electricity shortage (medium-term)
3	Increase of annual temperature (medium-term and long-term)

No.	Opportunities
1	Energy-saving benefit (short-term)
2	Water-saving benefit (short-term)
3	Efficient green building (medium-term and long Term)
4	Installation of solar power (medium-term and long-term)
5	Low-carbon commodities and services (short-term and medium-term)
6	Sustainable value (medium-term and long-term)
7	Green finance (short-term)
8	Energy-saving commodities (medium-term and long-term)

Remark: The severity of each identified risk was determined by multiplying its likelihood (scored from 1 to 5) by its impact (scored from 1 to 5), resulting in a risk score ranging from 1 to 25. Based on the total score, risks were categorized as follows: Low risk: 1-4/ Medium risk: 5-14/ High risk: 15-25

Climate-Related Risks and Financial Impacts

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions
Transformation Risk	Policy and Regulation	Qisda regularly checks for compatibility with climate change-related laws and regulations every year, incorporating laws that pose a higher risk in the assessment performed by the Risk Management Committee and the ESG Committee. If they are confirmed as potential risks, they will be set as a key performance indicator for management that year, and will continue to be monitored every quarter.			
	Domestic and international regulations and laws	Short-term and medium-term	▲ The MOEA's Bureau of Energy has required companies to reduce their electricity consumption by 1% every year. ▲ The Administrative Yuan has introduced summer energy-saving measures. ▲ The "Climate Change Response Act" was enforced in 2015, and major energy consuming companies are required to report problems relating to this Act. Inventory and certification of carbon emissions must be performed at the Company level in response to the requirement of "carbon disclosure". ▲ Possible risks can emerge when product labels (such as carbon labels, green labels) are found to be noncompliant with regulations in areas where we sell our products. ▲ International issues and regulations have become increasingly stringent. Domestic and foreign regulations may ban or control the sale of energy-intensive products (e.g., Australia's adoption of green packaging). ▲ For cases of interpretation and fine from the competent authorities once the law is violated, it is time-consuming and time-consuming to seek relevant external law firms. ▲ The FSC requires disclosure of the Company's ESG-related reports. Corresponding talent cultivation and education and training are required to comply with regulations. Annual reports and financial statements are mandatory disclosures authorized by the Securities and Exchange Act. If the sustainability information in the annual report presented at the shareholders' meeting is found to be inaccurate, penalties may be imposed under the Securities and Exchange Act. (Implementation of IFRS S1 and S2) ▲ The FSC requires annual carbon disclosure and assurance.	▲ An increase in operating costs results in possible rise of electricity bills. In April and October 2024, consecutive electricity price adjustments resulted in an average unit price increase of approximately NT\$13 million compared to pre-adjustment levels. ▲ Energy saving improvement measures planned for the Taiwan plant at a cost of NT\$2 million per year. ▲ The cost of obtaining evidence will increase. (e.g., the fees for the inventory and certification of carbon emissions that must be performed at the Company level in response to the "carbon disclosure" requirement are about NT\$3 million. ▲ The government has implemented stricter environmental regulations, enhancing corporate greenhouse gas emission oversight and mandating carbon emission reductions. As a result, companies must procure higher-cost construction or filtration materials. In 2024, Qisda's Suzhou plant incurred an additional cost of approximately NT\$550,000 due to these requirements. ▲ In 2024, Qisda's Vietnam plant purchased green certificates at a cost of approximately NT\$179,000. ▲ Failure to comply with the regulations in a timely manner may result in a potential impact on revenue or the imposition of fines. ▲ The implementation plan for IFRS S1 and S2 incurred a cost of approximately NT\$3.6 million. ▲ The labor cost for the legal affairs department and the fees for external professional training courses, consultation, and external law firms are estimated to be about NT\$560,000. ▲ Qisda's subsidiary needs to recruit sustainability professionals and cover external training expenses, leading to an increase in labor costs of approximately NT\$1.45 million. ▲ Qisda's subsidiary incurred approximately NT\$4 million in consulting fees for the implementation of ISO 14067 carbon footprint and SBTi. ▲ In 2024, Qisda's subsidiary conducted a greenhouse gas inventory and verification, resulting in an additional cost of approximately NT\$400,000.	▲ The Company implements an energy saving improvement plan every year and sets goals through the ESG Committee. In terms of administrative and engineering control, we have implemented smart lighting and turn-off inspection measures, conducted air compression system improvements, and added scheduled checkpoints for electricity consumption on weekends and at night. We have held quarterly follow-up meetings to review the results achieved. ▲ In 2025, TR equipment energy-saving chiller replacement is planned, with an estimated cost of approximately NT\$4 million. ▲ To comply with environmental regulations, Qisda's Suzhou plant requires the procurement of more environmentally friendly raw materials and paving materials, along with VOC (Volatile Organic Compounds) testing reports to ensure levels remain below a specified threshold. Additionally, certain plant areas have upgraded from primary activated carbon boxes to secondary activated carbon boxes to purify the air and reduce carbon emissions. ▲ Relevant key performance indicators (KPIs) have been set up for control by the ESG Corporate Sustainable Development Committee. We continue to pay attention to domestic and foreign regulatory requirements. Currently, Qisda has no domestic or foreign regulatory risks. The Company connects the strategic goals of the organization with the KPI of each unit, pursuing the achievement of their goals at all levels in a top-down manner. By setting quantitative targets, clear scoring principles, and assigning weight to different criteria, we drive the members to take corresponding actions to achieve the targets and thus achieve the strategic goals of the organization. For the strategic goals, the net-zero carbon roadmap must be followed and social engagement and influence in sustainability shall be continuously enhanced to strive for recognition and ensure the effectiveness of Qisda's ESG promotion. ▲ We plan the evidence collection schedules and resources, incorporate ESG orientation in the continuous improvement process (CIP), increase ESG-related activities and competitions, organize professional ESG talent training courses, and implement ISO14064 and ISO50001. In addition, we have introduced systems to assist in carbon inventory and improve carbon hotspot analysis for effective carbon reduction. We have also obtained certification to meet the "sustainability pathway" required by the FSC. ▲ We participate in courses on climate change to stay updated with the latest information. Qisda responds to new regulations in a timely manner, and communicates with customers about plans to introduce relevant requirements into products. For example, the EU bans the sale of 8K TVs. To help employees better understand the risks associated with climate change and transition, we discuss long-term implementation plans with customers and conduct a pilot program starting in Europe. ▲ Regulations related to energy conservation are growing stricter. Qisda will work with suppliers to meet such standards.

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Transformation Risk	Policy and Regulation		Qisda regularly checks for compatibility with climate change-related laws and regulations every year, incorporating laws that pose a higher risk in the assessment performed by the Risk Management Committee and the ESG Committee. If they are confirmed as potential risks, they will be set as a key performance indicator for management that year, and will continue to be monitored every quarter.		
	Carbon trading and carbon tax	Medium-term	▲ The Carbon Border Adjustment Mechanism (CBAM) has been gradually implemented since 2023. ▲ The US Clean Competition Act (CCA) may impact the Company's business. ▲ As carbon fees continue to increase, more carbon credits must be purchased. According to the regulations of the Ministry of Environment, carbon fees are expected to be levied on companies with carbon emissions over 25,000 tons from 2024 onwards. ▲ Internal carbon pricing (ICP): In accordance with the requirements of the FSC, we will adopt IFRS-S1, S2.	▲ Importers will start paying for the EU's CBAM charge, which will cause a rise in import and export costs. To comply with European customers' CBAM requirements, Qisda's subsidiary has implemented a product carbon footprint tracking system, incurring a cost of approximately NT\$130,000. ▲ Clean Competition Act (CCA), was implemented in 2024, is mainly devoted to the establishment of the U.S. carbon tax system and imposes carbon tariffs on various industries. ▲ The estimated annual cost of introducing carbon pricing-related systems and systems is NT\$9.6 million.	▲ At present, Qisda's products have not yet been included in the scope of carbon tax. We will continue to pay attention to this trend, and will respond to relevant issues that arise in advance. ▲ In 2023, suppliers were required to conduct product carbon inventory and set carbon reduction KPIs. ▲ In 2023, we completed our greenhouse gas inventory using ISO 14064-1 as a guide, and obtained third-party certification for the greenhouse gas inventory. The results of this inventory helped us to better understand the emissions of the Company's business operations, and are used as reference in carbon reduction assessments. Through the Qisda Corporate Sustainable Development Committee, we have set carbon reduction goals for each unit and product, reviewed them quarterly, and actively enhanced the awareness of energy conservation amongst our employees, promoting action through education and training. ▲ We analyzed the Company's carbon emission sources and the overall proportions of emissions coming from each of these sources through carbon emission hotspots. We further evaluated reduction measures for manufacturing, air conditioners, air compressors and other equipment. We continue to march toward the goal of "reduction first, energy conversion second" to effectively reduce carbon emissions. ▲ We have formed a Task Force team to monitor changes in laws and respond to them in order to meet the requirements of the IFRS Sustainable Disclosure Standards in 2026. Establishing an internal carbon pricing system can help enterprises better understand and manage their carbon footprints and encourage them to take more sustainable business actions.



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Transformation Risk	Technology	Starting from the initial stage of product realization—product design—we aim to minimize carbon emissions and impact on the environment. As stakeholders have become more aware of product carbon reduction, Qisda has included this issue in our risk assessments since 2009.			
	Green product and technology	Long-term	▲ The shift in consumer awareness will lead to increased demand for green products, making it essential to meet consumer expectations and market needs. This includes adopting low-carbon technologies and circular economy principles, as well as considering low-carbon or recyclable materials and packaging during product design. ▲ To reduce carbon footprints and promote environmental protection, employees are encouraged to transition their daily operations and meeting practices to online processing and communication. ▲ We purchase energy-saving equipment and materials. ▲ Safety regulations in various countries have increasingly stringent requirements for energy efficiency. ▲ Suppliers fail to achieve the goal of carbon reduction. ▲ If enterprise fails to invest in the development of low-carbon technologies and the training of relevant personnel in a timely manner, it may miss future industry trends and be at a competitive disadvantage in the market.	▲ The energy-saving equipment used in R&D and production requires higher costs. For example, for LCD products, about NT\$6 million is invested in R&D every year. The evaluation of low-carbon design for BenQ eye-care desk lamps incurs a cost of approximately NT\$100,000. Additionally, BenQ incorporates recycled materials in LCD production, with all new models adopting 85% recycled plastic for external casings. For mid-to-high-end new models, cushioning materials are entirely made of folded paper or paper pulp. The introduction of recycled materials in 2024 models is expected to impact costs by approximately NT\$41.6 million. ▲ Procurement of computer software: The annual cost for software licenses, such as Microsoft Teams, is approximately NT\$2 million. ▲ Training for environmental material management personnel: The annual cost is approximately NT\$1.2 million. ▲ Replacement of LCD products with low-carbon materials: Costs have increased by approximately NT\$44 million; however, these costs have been absorbed by customers and do not impact the Company's operating expenses. ▲ EU ban on mercury lamps in projectors by 2027: Combined with the sharp rise in electricity costs in Europe, this trend has increased consumer awareness of energy consumption. Alternative semiconductor light-source projectors must demonstrate strong energy efficiency to compete with rivals and alternative products (such as large flat-panel displays). As of 2024, the Qisda Group's products remain unaffected. ▲ Current OEMs and suppliers: All are capable of implementing plastic reduction or environmentally friendly materials.	▲ We officially established an internal carbon footprint calculation system - the Carbon Management Platform - in 2010. Whenever a customer requires the provision of this type of information, we can calculate the volume of carbon emitted from the product. ▲ Qisda has begun to incorporate eco-design concepts into our product development process, such as IEC 62430-verified eco-design, including liquid crystal displays and projectors, to create more environmentally friendly green products. ▲ BenQ continues to expand the coverage of recycled materials and packaging across its product lines. Additionally, BenQ collaborates with material suppliers to mitigate the cost impact of adopting these sustainable materials. ▲ To comply with regulations and meet customer demands for energy-saving and environmentally friendly materials, we plan to assign unique codes to green energy-saving components for better identification and management. Additionally, we will focus on cultivating professionals capable of managing these low-carbon components, covering areas such as part number management, BOM selection, component approval, and compliance report preparation. Through these initiatives, we aim to meet regulatory and customer requirements while enhancing the Company's competitiveness and reputation. ▲ The safety department regularly pays attention to international regulations and customer requirements, and worked with the R&D team to develop products and designs that comply with regulations. ▲ The R&D team enhanced the energy-saving design of the products to boost the competitiveness of the Company and add value to products. It also helped to increase the selling price and revenue of these products. ▲ We encouraged low-carbon and efficient meeting options and tools, such as Teams/Zoom meeting/Skype, etc., to reduce the movement of employees around the world, reduce carbon footprints, and save costs and time. ▲ We developed an online electronic signature system to reduce the consumption of paper and toner, not only improving work efficiency and facilitating environmental protection, but also reducing the costs of the Company. ▲ The maximum amount of power saved by the newly purchased chamber equipment reached up to 70%; the equipment saved 45% per unit on average. The water consumption unit can save up to 80% of water at the maximum. It is required that test equipment must bear a green label prior to purchase. ▲ We developed and optically designed a laser light source with high energy efficiency, and used the vision and image quality adjustment technology to assist in improving the light efficiency. We introduced appropriate semiconductor light sources according to the characteristics of each market segment to provide consumers with more choices. While maintaining good color performance, we aim to improve energy efficiency every year to form a competitive advantage over competitors. ▲ Qisda's goals for sustainable raw materials and recycled materials: (1) No less than 75% of monitor models uses recycled materials (The original target was 60%, and the target was adjusted to 75% in 2024) (2) No less than 75% of models uses paper plastic/paper folding. (The original target was 50%, and the target was adjusted to 75% in 2024)

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Transformation Risk	Energy-saving equipment	Medium-term and long-term	▲ Old equipment operates on reduced efficiency, leading to high energy and electricity consumption. ▲ In response to the rising temperature, the demand for air conditioning increases, and the equipment and energy consumption must be reviewed to prevent power outages due to the simultaneous increase in electricity consumption.	▲ Old equipment may lead to a 5% increase in electricity costs. ▲ The cost of replacing the energy-saving label for NB/PC in 2024 is expected to increase by approximately NT\$100,000. ▲ Qisda's Taoyuan plant has scheduled a system inspection and maintenance plan for energy-saving equipment, with an estimated cost of approximately NT\$11 million. ▲ In 2024, Qisda's subsidiary implemented scheduled energy-saving improvements for water dispensers at its Hsinchu, Changshu, and Vietnam plants, as well as scheduled energy-saving improvements for the aging room and office area FCU at the Vietnam plant. The estimated cost is approximately NT\$113,000. ▲ In 2024, Qisda's subsidiary scheduled equipment replacement based on service life, selecting high-efficiency equipment to replace outdated ones and purchasing energy-saving certified NB/PC and equipment. The estimated cost is approximately NT\$936,000. ▲ Qisda's Suzhou Plant 9 replaced its air compressors in 2024, with a cost of approximately NT\$43 million. Additionally, the phase-out of outdated ITS equipment incurred a cost of approximately NT\$8.6 million.	▲ We set equipment lifespan and replace outdated equipment with high-efficiency equipment, assess the lifespan of existing equipment, and prepare an annual plan for the replacement of high-pressure equipment. ▲ We purchase NB/PC and equipment bearing power saving labels. ▲ We made replacement for other production-related equipment to improve energy efficiency. ▲ We replace UPSs and generators to improve performance. ▲ Qisda's subsidiary plans to upgrade the air compressors, cooling tower fans, and main air conditioning units at its Changshu plant in 2025. The upgrades will include variable frequency technology and smart control systems, with a total estimated budget of approximately NT\$4.2 million.
	Purchase green electricity	Medium- and long-term	▲ 39,064 I-RECs were purchased at a cost of NT\$527,373 in 2024. ▲ The Company enhances the use of green energy and installs solar power-related equipment.	▲ The Qisda Suzhou plant's solar energy project collaborates with vendors, requiring no construction costs; it only necessitates payment for green electricity at rates below market prices. ▲ Qisda's solar energy construction project cooperates with manufacturers and does not require construction costs. As part of the collaboration, we pay electricity bills lower than the market price to purchase green electricity. ▲ In 2024, a subsidiary installed its own solar photovoltaic system, with a construction cost of approximately NT\$7.25 million. ▲ In 2024, Qisda's subsidiary purchased green electricity and certificates for approximately NT\$45,000.	▲ In addition to generating solar energy on the top floor of the plant for self-consumption, renewable energy certificates are purchased to increase the Company's renewable energy proportion. We purchase I-REC certificates every year for the factories in Suzhou and Vietnam, and the Taiwan plant purchases green electricity every year. ▲ Cooperate with manufacturers to build solar energy projects and purchase green electricity to reduce the cost of purchasing electricity. ▲ In 2024, Qisda's Suzhou plant completed the construction of its solar power generation project. Full-scale power generation is expected to commence after obtaining national approval in May 2025. ▲ The solar power generation project at the Vietnam plant is scheduled to commence construction in 2025. ▲ The second phase of the solar power generation project at the Taoyuan plant is expected to be constructed in 2026, with an estimated annual power generation capacity of 600 MWH and an estimated construction cost of NT\$20 million. ▲ Qisda assists the subsidiary to establish a solar photovoltaic system in the future and has formed a renewable energy project team to meet the growing demand for renewable energy.

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions
Transformation Risk	Market	Consumers are becoming more and more aware of the environmental impact of the products they purchase. If the environmental performance of our products cannot meet their expectations, there will be market risks.			
	Consumer's sustainability awareness	Long-term	▲ The increasing costs of additional labor and work hours associated with conducting LCA studies have eaten away at our revenues and profits. ▲ The market demand for cloud services or low-carbon products increases and transition is required more quickly.	▲ Since 2010, the financial impact caused by changes in consumer behavior on the cost of conducting an LCA has accumulated to approximately \$341,000. ▲ Agency or development of related cloud and low-carbon products is needed to maintain market competitiveness.	▲ Qisda launched the "Carbon Management Platform System" in 2010 to provide customers with product carbon footprint reports immediately after mass production. Qisda conducts quarterly reviews through the ESG Committee, establishes and maintains a product greenhouse gas inventory system, and engages third-party verification to ensure data accuracy and compliance. ▲ Distributing low-carbon products in the face of competition in the green market: Assist distributors in the sale of low-carbon products (cloud-based, process automation). In the future, we will continue to request transition to carbon reduction technology and low-carbon materials. ▲ We implement carbon reduction practices and performance through transparent disclosure of ESG reports and communication with stakeholders.
	Rising costs of raw materials	Short-term and medium-term	▲ Reduced oil production affects transportation related material expenses. ▲ Customers request recyclable packaging materials. ▲ In response to our declaration of cutting carbon emissions by 30% in the supply chain by 2030, suppliers with better carbon emissions and higher costs are selected. ▲ Suppliers who fail to pass the RBA (Responsible Business Alliance) written and on-site audits are required to suspend production, resulting in an inability to continue supplying materials.	▲ The increase in transportation and related material costs amounts to approximately NT\$14,000 per year. ▲ The cost of recycled packaging materials is about 20% higher than that of ordinary materials (The average cost increases by NT\$6 million per year). ▲ The carbon reduction target has impacted material costs, amounting to approximately NT\$26 million. ▲ Expanding the low-carbon supply chain and reducing the proportion of suppliers unable to comply with carbon reduction requirements, along with modifying R&D designs, has resulted in a cost increase of approximately NT\$2.63 million. ▲ If suppliers are unable to maintain a stable supply, Qisda will face risks such as the need to purchase spot materials or seek alternative suppliers, leading to increased costs. In severe cases, this could result in production halts, ultimately impacting shipments and revenue.	▲ We introduce local procurement to reduce the risk of transportation and material costs, which affect the profitability. ▲ We use recycled plastic for injection molding to achieve recycling, environmental protection, and reduction of the costs. ▲ The Company introduces a second source to the supply chain to improve the bargaining power of the procurement unit. ▲ In response to high-risk suppliers identified as a result of RBA audits, substitute material manufacturers will be organized.

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Transformation Risk	Customer behavior changes	Long-term	▲ Customers have increasingly high expectations for the Company to conduct carbon footprint assessments. ▲ The customer sets goals for carbon reduction. ▲ Customer or regulatory requirements require the use of FSC (Forest Verified) certified paper.	▲ Calculating a product's carbon footprint adds additional time and labor. ▲ Our customers are planning to request the Company to apply EPEAT to our products through PAS2050 or ISO14067. This will increase the annual product certification fees. ▲ To comply with FSC, the estimated paper cost will increase by approximately NT\$160,000. ▲ Qisda's subsidiary have developed energy-efficient products in response to customer requirements, resulting in an additional cost of NT\$1.5 million.	▲ In 2010, the carbon footprint calculation system was used to improve calculation efficiency, meet customer requirements, and successfully reduce transformation risks. ▲ We reduce the carbon emissions during transportation, increase the proportion of local procurement, and combine and ship raw materials from the same location to reduce the frequency of transportation. Some mechanical component manufacturers use recycling bins for delivery to reduce the one-time use of boxes. ▲ We add ESG-related indicators to supplier evaluations, and include ESG as reference indicators for order allocation. ▲ The transition to carbon reduction technologies and low-carbon materials will continue to be a requirement in the future. ▲ We developed a sustainable supplier evaluation system and continue to collaborate with sustainable suppliers. If suppliers are required to move their production bases, we will work with the procurement department to complete an investigation into the supplier's green product-related qualifications in advance. In addition, mineral oil-containing inks are completely prohibited, and we will cooperate with customers to gradually reduce the use of printed matter and paper. ▲ To meet consumer demand for environmental sustainability, BenQ is not only developing energy-efficient products but also actively pursuing EPEAT certification to enhance its competitiveness in environmental performance. The estimated cost for this initiative is NT\$1.55 million.
	Reputation	The identification and management of climate risks can affect the way the Company is viewed by external stakeholders and further influence business in long term.			
	Reputational risk	Long-term	▲ Sales will decrease if errors occur during the certification of energy-saving products. ▲ Due to poor carbon reduction efficiency, financial ratings are affected and financing costs will increase. ▲ The lack of good corporate sustainability actions and failure to meet the expectations of stakeholders will indirectly affect the Company's image and long-term development. In particular, if our carbon reduction efforts do not meet expectations, it will have a negative impact on our corporate reputation. At the same time, as domestic climate and sustainability-related regulations increase, operating costs will rise. ▲ Failure to achieve carbon reduction targets will affect corporate reputation, thereby reducing the willingness of talents to apply for jobs.	▲ The impacted recertification and sales of some products are estimated to affect 1% of the revenue. Therefore, it is necessary to cultivate professional environmental protection talents to avoid related risks. The annual training course fee is estimated to be approximately NT\$200,000. ▲ If the supplier cannot continue to supply materials normally, it will lead to production suspension and ultimately affect shipments and turnover. ▲ The Company has launched many projects for sustainability issues and consequently needs talents with professional knowledge of sustainability. As such, we will increase the cost of manpower and educational training courses. For example, a subsidiary has set up dedicated sustainability Dep. and personnel, and continues to provide employee education and training. A total investment of approximately NT\$2.6 million will be made in 2023. In addition, in accordance with relevant laws and regulations, we regularly compile sustainability reports every year, conduct greenhouse gas inventories and third-party audits, etc. The annual operating cost is approximately NT\$1.45 million. ▲ This may lead to an extension of talent recruitment time by approximately 20% (approximately NT\$13,000), while affecting the retention rate of existing talent, increasing the turnover rate by approximately 6%.	▲ Qisda will incorporate reputational issues with a high level of risk in the assessment conducted by the Risk Management Committee and the ESG Committee. The ESG Committee will establish a working group to suggest improvement plans and set KPIs for ESG-related issues, for example, establishing a carbon reduction plan with the relevant units to meet the stakeholders' expectations. ▲ The Company has environmental safety professionals who pay attention to environmental protection laws and regulations, conduct compliance evaluations, participate in professional courses on corporate sustainable development, avoid related risks, follow the guidance of headquarters, and carry out related operations as planned. ▲ In accordance with the customers' requirements, Qisda provides the GHG emissions data of the organization and products along with corresponding carbon emissions reduction plans. ▲ Implement carbon reduction measures and performance tracking with transparency, ensuring public disclosure to prevent the deterioration of financial equity. ▲ By promoting the Company's ESG activities and awards in campus talent recruitment activities, and by organizing related activities and industry-academia cooperation projects, the Company can simultaneously attract outstanding talents, deepen the understanding of ESG on campus, and cultivate sustainable talents to further promote the sustainable development of both society and the corporation itself. ▲ Information related to Qisda's ESG sustainability results is disclosed on the official website, highlighting the Company's continued emphasis and efforts on sustainability issues. The content of the ESG area is regularly updated to reflect the Company's latest progress and achievements in sustainable development in a timely manner. Through continuous information disclosure and transparency, the Company can build trust and interaction with stakeholders, further enhance the positive image and recognition of the Company, and simultaneously strengthen the attraction and persuasiveness of the Company when recruiting outstanding talents and investors.

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Physical Risk	Acute physical risks	Qisda has established an emergency joint defense mechanism, further integrating the Company and the Group's resources to assess and analyze climate events that may impact the Company's operations every year.			
	Typhoon, flood, and snowstorms	Medium-term and long-term	▲ Floods can disrupt the business activity, production, and delivery of products. For example, some of Qisda's factories in Mainland China are low-lying and may suffer from flooding if there is strong torrential rain. ▲ Extreme weather events, such as typhoons, earthquakes, and lightning strikes, lead to an increase in both the frequency and degree of property damage within factories and warehouses. Containers and front-line warehouses may be damaged during transportation, resulting in product loss. ▲ Shipment will be suspended for 3 days due to torrential rain/snowstorm. ▲ The severe flooding disaster will cause interruptions in upstream product production and transportation delays, resulting in delayed deliveries. ▲ Heavy rainfall will pose a threat to employee commuting safety, increasing the Company's personnel safety management costs.	▲ If Qisda's Suzhou plant experiences flooding, it may lead to power outages, causing a one-day production disruption, with an estimated financial impact of approximately NT\$600,000. Production processes would need to be adjusted accordingly. Qisda's Taoyuan plant has allocated approximately NT\$10,000 for emergency response supplies. In the event of a one-day production halt, the estimated loss would be around NT\$1.29 million. To prevent flooding, Qisda's Vietnam plant has invested approximately NT\$380,000 in sandbags and water pumps. ▲ Qisda's Taoyuan plant conducts annual maintenance on flood barriers and drainage pump equipment, with an estimated maintenance cost of approximately NT\$800,000. ▲ If goods are damaged, revenue will be affected; insurance premiums will also increase due to climate change factors. ▲ Supply chain suspension and non-arrival of goods: As a result, materials are not completely available for the production line and production and shipment are affected; goods cannot be delivered to customers as scheduled, affecting subsequent payment collections.	▲ In 2021, we re-configured river drainage pipes for the plant in Mainland China and equipped them with flood prevention materials. In the event of an emergency of heavy rainfall, we will formulate plans to reschedule the work shift. Currently, we continue to monitor the annual water level changes and will take further measures if the risk increases. In addition, the confirmation of the availability of flood control and emergency supplies should be completed before the end of May every year, and the estimated amount is RMB 50,000 per year. ▲ We plan capacity deployment in advance and organize alternative solutions with respect to manufacturers and products. We continue to cooperate with sustainable suppliers. ▲ Through comprehensive professional analysis of climate disasters, we are able to transfer risks through insurance. In 2020, Fubon Insurance identified whether Qisda's Taiwan Plant was exposed to climate-related risks. We implement the relevant BCP and conduct practical inspections, maintenance, and drills, such as cross-plant and remote production deployment support, to minimize risks and disasters. ▲ In 2024, considering the impact of climate change, Qisda's Suzhou plant implemented a composite disaster scenario for the first time to enhance its Business Continuity Plan (BCP) drills. This initiative aims to strengthen emergency response capabilities, operational resilience, and crisis management effectiveness while optimizing collaboration and resource allocation to ensure stable operations during extreme climate events. The drill simulated a scenario in which continuous heavy rainfall caused severe flooding in the Suzhou plant area. During water pumping operations, an electrical fire broke out due to a short circuit, creating a dual-disaster situation. Through coordinated efforts in disaster response and resource deployment within the plant, the exercise improved overall disaster management capabilities, minimizing operational disruptions. ▲ Office buildings and warehouses are equipped with flood protection facilities, and an emergency response team is formed to cope with the occurrence of extreme rainfall. The plant is equipped with flood prevention materials; manual water flaps and manual emergency water pumping systems are installed in the engine room. We evaluate the construction of an autonomous floodgate system and establish early rainfall detection, guiding and drainage devices for the underground raft foundation (to increase the drainage water storage capacity). ▲ In the case of a typhoon forecast, we negotiate with the customer in advance to change the cargo flight schedule. We also collaborate with customers to conduct regular inspection of frontline warehouses.

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Physical Risk	Long-term physical risks	Regarding the long-term global climate trend, Qisda has identified risks and progressively adopted responsive strategies to prevent possible impact.			
	Water and electricity shortage	Long-term	▲ If power shortage occurs in the Suzhou Plant for a long period of time, production will be affected. ▲ The capacity of the Taiwan Plant will be affected in the scenario when Northern Taiwan suffers water scarcity and the policy “providing water for two days and cut off the supply for another two” is implemented. ▲ Water shortages in Vietnam have led to power restrictions during the summer, impacting production capacity. Additionally, unstable voltage fluctuations may further disrupt manufacturing operations. ▲ Global climate variability leads to a decrease in rainfall. For example, the severe drought in the Panama Canal in 2023 affected ocean shipping and the global supply chain. ▲ Power shortage affects the supplier’s production, and materials cannot be supplied as scheduled. ▲ Unstable power supply results in power outages or frequent generator starts.	▲ Qisda Suzhou Plant: During the summer, the most likely risk is production shutdowns due to government-imposed power restrictions. If power restrictions last for three days, production capacity can be adjusted to mitigate the impact. However, in a worst-case scenario where production is halted one day per week, leading to a total of nine shutdown days in July and August, it could potentially affect orders valued at approximately NT\$860 million. ▲ Qisda Taoyuan Plant: In the event of a water shortage, manufacturing costs are expected to increase by 0.11%. Power restrictions leading to reduced production capacity could result in a 0.44% rise in manufacturing costs. However, since the plant contributes a relatively small portion to the Company’s overall operations, the financial impact remains minimal. To enhance water supply resilience, the plant is investing NT\$2 million in additional water storage equipment, ensuring at least two days of on-site water availability. ▲ The estimated impact of one day’s shutdown of the Vietnam Plant is about NT\$430,000. Or, voltage instability may cause decrease in production capacity. The cost of procuring a generator is approximately NT\$138,000. ▲ The cost of maritime transportation has risen by 1.4 times (NT\$3.4 million). ▲ Lack of materials makes it impossible to produce normally, resulting in loss of the production capacity and turnover. ▲ The computer room maintenance increases. ▲ Establish a cloud operating environment for key systems to reduce the number of on-premises servers that do not store confidential data, with an annual cost of NT\$2 million.	▲ In 2020, Qisda investigated in the status of the Group’s water use and simulated complementary management plans for water shortage during the occurrence of droughts. ▲ The non-production personnel at the Qisda Taoyuan plant will implement remote work (Work From Home) to minimize the impact on production. The original water storage period of 2.5 days can be extended to 3.5 days, ensuring that production will not be affected. Regarding power restrictions, we will utilize existing solar energy storage for production and adjust work schedules during evenings or holidays to compensate for any shortfall in production. ▲ In response to the power shortage problem in Vietnam, solar energy generation facilities are installed and generators and voltage stabilizers are purchased (at the cost of about RMB 115,000). ▲ As Qisda has three factories in different countries, if a risk has a long-lasting impact on business in one country, the Company will appropriately allocate work to the other two factories to support production in that country. ▲ Bookings and shipments are made in advance to reduce the risk of port congestion and prolonged delivery time. ▲ We prevent material shortage on the supplier side by introducing a second source. ▲ We establish a cloud operating environment for critical systems and implement offsite backup plans to prevent power shortage. ▲ In the future, Qisda’s Taoyuan Plant will continue to evaluate water conservation measures and install additional rainwater harvesting systems, such as retrofitting cooling towers to utilize recycled water.

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions
Physical Risk	Increase of annual temperature	Medium-term and long-term	▲ More electricity consumption is required to satisfy the need for air conditioning and heating due to the rise of the average temperature. ▲ Environmental factors lead to an increased machine maintenance rate. ▲ Overheating of equipment accelerates asset degradation and reduces operational efficiency. ▲ High temperatures increase the risk of heatstroke for outdoor workers. ▲ Excessive laboratory temperatures exceeding regulatory requirements hinder measurement and calibration tasks (e.g., length calibration and dimensional measurement areas). Overheated equipment (e.g., chambers) may experience shutdowns, impacting testing schedules.	▲ Expenses for purchasing air conditioners may cause a rise in costs. ▲ Electricity costs increase. (The Vietnam plant is projected to experience a 1% rise in maintenance costs, resulting in an increase in manufacturing costs) ▲ Install cooling system protection equipment, with an estimated cost of approximately NT\$500,000. ▲ Qisda's subsidiary purchases energy-saving products and implements energy-saving measures, with an estimated cost of approximately NT\$200,000. ▲ Qisda's subsidiary estimates that power restrictions will result in work stoppages, leading to an increased cost of approximately NT\$1.06 million. ▲ Qisda's subsidiary has procured energy-efficient products and implemented energy-saving measures. Regular maintenance of air conditioning systems is conducted to maintain efficiency, with a cost of approximately NT\$8.92 million. ▲ The existing equipment rooms at Qisda's Suzhou plant are generally equipped with air conditioning and ventilation fans, amounting to NT\$1.29 million. The replacement of low-efficiency air conditioning systems incurs an additional cost of NT\$400,000. ▲ To prevent heat-related illnesses, reasonable work hour adjustments have been made, along with the provision of cooling measures such as air conditioning, fans, ice, and cold beverages. Employees are also trained in heatstroke prevention and first aid, with an annual expenditure of NT\$400,000. ▲ At Qisda's Taoyuan plant, the current maximum temperature does not exceed 38°C. All production equipment areas are air-conditioned, and additional ventilation fans and air conditioning units have been installed in server rooms. The increased air conditioning costs for 2024 and 2023 total approximately NT\$1.32 million. ▲ Qisda's Vietnam plant has also incurred additional costs of approximately NT\$960,000 for air conditioning and additional fans in workshops. ▲ Procurement of UPS and generators to reduce generator usage rate (NT\$800,000 annually, with ongoing replacements and continuous investments, to be conducted after mid-year each year). ▲ Qisda's Taoyuan plant conducts regular maintenance to ensure the energy efficiency of its equipment, including air conditioning systems, with an annual maintenance cost of approximately NT\$1.6 million.	▲ We have completed the replacement of the air conditioning and water-cooled chillers at a cost of NT\$22.2 million after deducting government subsidies. ▲ To cope with the rising global temperature, we have purchased energy saving products and adopted energy-saving measures to regulate office temperature at 26°C. We perform regular air conditioning maintenance to ensure efficiency, promote water and electricity saving habits, and plan to commence evaluation of green building improvement projects after 2023. ▲ The improvement of the air conditioning system in the plant has increased the efficiency and stability of cooling to ensure smooth and on-time calibration and measurement without affecting the plant and R&D product schedule. Air conditioners and blowers are installed to reduce the ambient temperature and increase the cooling efficiency, thus reducing equipment damage and maintenance needs, extending equipment service life, ensuring that the product verification schedule is not affected, and reducing additional expenses for the Company. ▲ Control of the temperature and humidity of basic materials (15-35°C, 30-80% humidity) is performed. When the average climate exceeds the standard, the PCB will be relocated and stored in the same environment as the big warehouse. ▲ When purchasing temperature and humidity regulating equipment, we have introduced an evaluation to assess the water recycling function of the system. ▲ The highest temperature in Taiwan currently does not exceed 38°C, and the highest temperatures in Suzhou and Vietnam currently does not exceed 42°C. All production equipment areas are equipped with air conditioners, and exhaust fans and air conditioners are installed in the server room. If daytime temperatures exceed 45°C for a long period of time, employees will be asked to work at night and rest during the day. ▲ Energy efficiency is optimized through the continuous promotion of energy-saving and carbon reduction measures. ▲ The laboratory uses temperature and humidity recorders to monitor the temperature in the length calibration and dimensional measurement areas, maintaining it at 20±1°C to comply with calibration and measurement standard requirements.

Climate-Related Opportunities and Financial Impacts

	Type	Impact Period	Potential Financial Impact	Responsive Actions
Resource Efficiency	Energy-saving benefit	Short-term	▲ The Taoyuan plant's energy-saving plan saves approximately NT\$830,000 in 2024. ▲ We reduce paper usage and save company expenses (approximately NT\$260,000 per year). ▲ Instruction manuals are digitalized to reduce operating costs by 10% - 15%. ▲ We monitor the risk of abnormal power consumption and immediately correct the problem and equipment, with a benefit of NT\$2.2 million. ▲ The replacement of the air compressor to enhance energy efficiency, the optimization of energy consumption for the air conditioning water pump, and the adjustment of the gas source at the measurement center are projected to yield annual electricity cost savings of NT\$3.9 million. ▲ Circular economy initiatives, such as recycling hot gas to reduce operating costs, creates an estimated benefit of RMB 200,000/year. ▲ We optimize the production process and introduce automation to reduce our carbon footprint and production labor costs. ▲ We introduce the use of low-carbon energy to reduce carbon emissions and carbon fees that may be levied in the future. ▲ The Experimental Testing Center upgrades its energy-efficient testing equipment to conserve electricity and water.	▲ In 2024, the frequency adjustment of the Taoyuan Plant's exhaust 40HP*2 equipment will be reduced from 60hZ to 55HZ, saving approximately 224,069 kWh. ▲ In order to mitigate the effects of customer requirements on Qisda, we have devised plans for relevant GHG emissions reduction. These plans fall into one of two categories: engineering improvement and administrative management. ▲ The Company investigates the energy use of all plants, identifies energy-intensive equipment and processes, invests resources in their improvement, establishes energy management and energy saving goals, conducts an energy review on a quarterly basis, and monitors and continuously improves energy performance by promoting ISO 50001 (Energy Management Systems) and conducting energy reviews. We prioritize the replacement of old energy-consuming equipment and the use of energy-saving equipment as our main energy-saving measures. Smart electric meters are introduced in the plant to analyze the power consumption status of production lines and processes to find out the best control solutions. The daily production plan is adjusted through the smart cloud situation room. ▲ Qisda continues to use energy conservation data as the basis for achieving sustainability goals, and conducts quarterly reviews to track our progress in emissions reduction. Using 2021 as a baseline year for our key performance indicators, we aim to achieve a 42% reduction in Scope 1 and Scope 2 greenhouse gas emissions in 2030. ▲ In order to reduce energy consumption, Qisda has established relevant programs, such as replacing the original T8 (40W) fluorescent lights with LED (20W) lights in all office areas and some warehouses. ▲ The Suzhou plant replaced energy-efficient air compressors, optimized air conditioning water pumps, and adjusted the air supply in the measurement center in 2024. ▲ Employees are encouraged to use scanning for archiving or reuse waste paper to reduce printing. The Company has implemented a paperless internal approval process, aiming to protect the environment, conserve energy, reduce pollution, and lower costs. ▲ In addition to publishing electronic manuals on the website, the Company will explore other appropriate distribution methods in compliance with customer needs and regulations, such as embedding them in machines or providing them via USB storage devices. ▲ In 2024, Qisda's subsidiary implemented intelligent monitoring and control systems for server room temperature, humidity, air conditioning, and power consumption to conserve energy. This initiative aims to detect abnormal electricity usage, identify causes, and promptly implement corrective measures. ▲ In the future, the heat from the air conditioner is expected to be collected to preheat hot water for use in the dormitory, reducing electricity consumption. ▲ Conduct production process simplification projects through CIP to improve energy conservation and carbon reduction benefits. ▲ We implement carbon reduction measures, carbon inventory, and transparent disclosure. ▲ The Experimental Testing Center has upgraded to new energy-efficient equipment, achieving an average electricity savings of approximately 45% and a maximum water savings of about 80% per unit.

	Type	Impact Period	Potential Financial Impact	Responsive Actions
Resource Efficiency	Water-saving benefit	Short-term	▲ The cost for water bills and hazardous waste disposal in the Suzhou Plant is reduced by NT\$7.3 million. ▲ The Company promotes engineering improvements and administrative management of water conservation related plans. (If the Vietnam Plant is expected to reduce water consumption by 0.05%, NT\$54,000 can be saved).	▲ To reduce water usage and consumption, Qisda's ESG Committee has set a KPI (Key Performance Indicator), aiming to reduce water consumption per million USD of production value by 18% compared to the 2021 base year by 2030 through relevant initiatives. In 2024, the global manufacturing sites set a water usage target of 126 tons per million USD of production value, with an actual result of 100 tons, successfully achieving the goal. ▲ Each manufacturing facility shall conduct quality inspection for discharged wastewater in line with the requirements of the local competent authority. ▲ Qisda establishes relevant plans to reduce water consumption and leakage, which fall into one of two categories: engineering improvement and administrative management. These plans include checks on and repair of leakage, replacement of old pipelines, installation of water-saving equipment and promotion of water conservation. ▲ The recycling rate of the wastewater in the production of the Suzhou Plant varies depending on the production line. The recycling rate is between 70% and 100%. As for the Taiwan Plant, the production volume is small and water consumption is not large, accounting for a relatively low proportion of the Company's overall cost, so its impact on operations is relatively minimal. The Vietnam Plant has launched a water-saving campaign and adopted smart technologies such as pressure regulators and automated water supply systems etc. to achieve more effective use of water resources and minimize waste.
	Efficient green building	Medium-term and long-term	▲ Lower indirect (operating) cost. ▲ Due to Qisda Suzhou's outstanding performance in air pollution control, Qisda successfully received an RMB 3.17 million central air environmental protection subsidy from the People's Republic of China in December 2024.	▲ The increase of energy efficiency in plants can bring about energy conservation and cost reduction. Qisda has set up relevant engineering improvement plans to make our buildings more efficient. ▲ In 2022, the Shuangshing Plant in Taiwan successfully obtained a three-year extension (2022-2025) for its Green Factory Label. ▲ In 2023, the Shuangshing Plant in Taiwan upgraded its Green Building Label for existing buildings to Silver level (Bronze level in 2022). ▲ In 2024, the Shuangshing Plant in Taiwan maintained its valid Green Factory Label and Silver-level Green Building certification. ▲ We applied for China's Green Factory Certificate of Jiangsu Province for the Suzhou Plant in 2023. For this, we will inventory our existing green products, green design and energy-saving measures as well as expand the scope for the ISO 50001 certification. ▲ Through continuous improvement in air pollution control, Suzhou Qisda has received national-level recognition. The plant upgraded its soldering fume treatment system from primary activated carbon adsorption to a zeolite rotor adsorption-desorption system, significantly enhancing processing efficiency. The new system achieves non-methane emissions below 20mg/m³, far lower than the local Suzhou government's regulatory limit of 60mg/m³. Additionally, all exhaust collection pipelines were replaced to minimize fugitive emissions, effectively improving the working environment for employees.
Energy Source	Solar energy installation	Medium-term and long-term	▲ The Suzhou Plant cooperates with an energy company by providing a site for the power company to install power generating equipment. After operation, Qisda purchases green electricity to use and pays the energy company electricity fees that are lower than the utility rate. ▲ In 2024, annual electricity cost savings amounted to NT\$2.2 million. ▲ Qisda's subsidiary solar energy installation saves NT\$400,000 in electricity costs annually; another company's solar energy installation saves approximately NT\$1.3 million in electricity costs annually.	At the end of 2021, solar energy installations were completed, including the grid connection of Suzhou Phase I Solar Power and Taoyuan Shuangshing solar power grid connection. Each year, these installations generate electricity savings. ▲ In 2024, the total solar power generation at Qisda's Taoyuan plant reached 560,000 kWh, all for self-consumption, saving approximately NT\$2.35 million. ▲ In 2024, Qisda's seven plants in Suzhou completed the rooftop solar power installation project. The system is expected to receive approval from the national power grid by May 2025, with an estimated annual electricity cost savings of approximately NT\$3.5 million. ▲ Qisda Taoyuan Plant is expected to start subsequent solar energy construction projects in 2026, with an estimated annual power generation capacity of 600 MWH. ▲ In 2024, Qisda's subsidiary completed the installation of solar energy facilities, which will reduce energy costs. Starting in 2025, the annual electricity savings are expected to be approximately NT\$400,000. ▲ In 2024, the subsidiary completed the first phase of rooftop solar power installation. If the second phase, covering four major center buildings, is completed, the estimated annual electricity savings will be approximately NT\$1.76 million.
Product and Service	Low-carbon products and services	Short-term and medium-term	▲ The indirect (operating) cost is reduced. The reduction of water consumption can result in a decrease in carbon and costs. ▲ Using local maintenance services saves NT\$19,000 per shipment when shipping back to the plant. ▲ The Vietnam plant arranges two sea shipments per month, resulting in an annual shipping cost savings of approximately NT\$520,000.	▲ The use of materials and GHG emissions shall be reduced by 5% in comparison with 2015. This goal must be achieved with the specific product of each business unit. ▲ Establishment of local maintenance services: By establishing or seeking cooperation in local markets, there is no need to send maintenance products back to the plant, which can reduce carbon footprint and costs, as well as save maintenance time. ▲ Each plant is increasing the use of local suppliers to reduce reliance on sea and air transportation. For example, the Vietnam plant is reducing factory-to-factory or supplier shipments via sea freight (such as bulk cargo, consolidated containers, and electronic materials). This not only lowers shipping costs but also reduces the carbon footprint. ▲ Collect information on green products domestically and internationally to develop environmental sustainability plans. Enhance green procurement management and refine process technologies.

	Type	Impact Period	Potential Financial Impact	Responsive Actions
Market	Sustainable value	Medium- and long-term	▲ Responding to the government's sustainability policy, we strive for subsidies. ▲ We disclose ESG reports on a regular basis. We show a positive corporate image of sustainability and obtain relevant certifications, such as the TCO certification for promoting the industry-leading environmental and ecological protection, in order to win the recognition of customers and increase sales. ▲ Gradually implement renewable energy with the goal of achieving RE100. ▲ Improve supply chain evaluation scores and expand the green market. ▲ Reduce carbon footprint and promote environmental protection by encouraging online meetings, saving approximately NT\$29 million in travel expenses annually. ▲ Selected for the S&P Yearbook Top 5%, expected to increase revenue by approximately NT\$10 million.	▲ Qisda's subsidiary plans to implement energy-saving and carbon reduction measures through government technology project subsidies in 2025. These measures will focus on the HCF EMS system, AIoT heterogeneous carbon reduction sensing, energy monitoring, smart facility management, and cooling tower power savings, with a total budget of NT\$14 million. ▲ For display products, we promote TCO certification together with customers to improve product competitiveness. ▲ We assist and request suppliers to comply with domestic and international sustainable supply chain regulations and implement environment-related regulations. ▲ Addressing deficiencies found in the sustainability supply chain audits of subcontractors, improvements and corrective actions have been implemented. Sustainability issues have been integrated into supplier screening and procurement evaluation processes, with supplier questionnaires also included as a reference for assessing suppliers' sustainability performance ▲ Utilize low-carbon energy by installing solar panel systems. ▲ Incorporate sustainability values into the annual supplier evaluation to enhance supply chain sustainability management. To improve the Company's sustainability performance, establish a dedicated unit with responsible personnel and continuously provide training for all employees. ▲ Fully promote online meetings (such as Teams/zoom meeting/Skype, etc.) to replace physical meetings, reducing the carbon footprint of global conferences, improving work efficiency, and effectively saving travel costs.
	Green finance	Short-term	▲ We introduce green finance (financing). In 2024, we secured syndicated loans to the amount of NT\$18 billion from 13 financial institutions, thereby reducing the operating cost and interest by approximately NT\$3 million per year.	▲ The Company complied with the requirements of the bank's joint loan project and continued to achieve ESG indicators. ▲ We implement carbon reduction measures, carbon inventory, and transparent disclosure. Based on the ESG performance, we continue to look for appropriate financing channels to benefit the Company.

	Type	Impact Period	Potential Financial Impact	Responsive Actions
Resilience	Energy-saving commodities	Medium-term and long-term	▲ We proactively develop the energy market to boost revenue growth. ▲ Qisda's subsidiary develops green products and achieves an annual turnover of NT\$475 million. ▲ In 2024, Qisda's projector products pursued government and enterprise procurement projects through green certifications such as TGM and CECP/CEL, generating approximately NT\$64 million in revenue. The development of energy-saving solid-state light source products contributed around NT\$350 million in revenue. Additionally, 82% of LCD product models met Energy Star standards, accounting for 70% of total revenue. ▲ BenQ's PDP products have achieved 100% energy-saving certification. ▲ Qisda's subsidiary acts as an agent for low-carbon and cloud-based products, increasing opportunities in the green market. In 2024, low-carbon product sales grew by 52% compared to the same period last year. ▲ Reusable turnover boxes and various pallets have extended their usage cycles, achieving a recovery rate of over 90%, saving approximately NT\$11,000. ▲ Actively localizing suppliers has reduced transportation costs and inventory expenses by approximately NT\$5.6 million.	▲ Qisda Group is actively engaged in the development of energy-saving products, and expects that green energy products will make up a growing proportion of the Company's revenue every year. ▲ Qisda's subsidiary company, ACE Energy is committed to provide comprehensive energy services based on smart energy-saving solutions and ESG sustainability principles. Their solutions cover air conditioning, air compression, heat recovery, lighting, power management, UPS (uninterruptible power supply) systems, energy storage, and electrical equipment monitoring, integrating data into networked management systems. Through energy performance sharing and green energy system implementation, ACE Energy establishes long-term partnerships with clients to achieve sustainable development goals. From design to operation, they offer professional energy-saving solutions and maintenance services to ensure safe operation and efficiency. Additionally, by acting as an agent for low-carbon and cloud-based products, they enhance the company's competitiveness in the green product market while proactively preparing for customers' growing demand for low-carbon goods and services, supporting businesses in their low-carbon transformation. ▲ Business units incorporate energy label needs in the early product development stage, and adjust product specifications according to the needs during the development process. In addition, our panel manufacturers are constantly seeking new materials and technologies to reduce energy consumption. As for the safety regulations, OEMs, and panel manufacturers also pay close attention to the latest regulatory updates from the U.S. Energy Star to cope with the stricter energy conservation standards. ▲ The transition to carbon reduction technologies and low-carbon materials will continue to be a requirement in the future. ▲ BenQ currently uses 35% recycled materials in plastic casings and EPS for cushioning packaging. In the future, they plan to increase the recycled content in plastic casings to 65% or 85% and transition to fully paper-folded or paper-plastic composite materials for cushioning packaging. BenQ is actively enhancing its product green certification efforts, which are expected to boost revenue by approximately NT\$3.3 billion. Beyond energy efficiency, the company is also committed to obtaining EPEAT certification to strengthen its competitiveness in environmental sustainability, with an estimated additional revenue increase of NT\$28 million in the future. ▲ We implement circular economy and reuse plastic, iron parts, and paper packaging materials. Modular packaging materials helps us reduce waste and carbon. ▲ Qisda's Suzhou S3 plant completed the implementation of the UL2799 landfill waste flow declaration in 2024. ▲ The Vietnam plant has increased the localization of key material suppliers (such as structural components), reducing the number of freight shipments per month and lowering inventory levels.

Climate Change Risks, Opportunities, and Financial Impact Assessment

In accordance with the TCFD framework, the Company has estimated the financial impacts of climate change-related risks. The primary transition risks assessed include costs associated with green product investments, technological transformation, and energy-saving improvements. Specifically, we have estimated expenses related to energy efficiency enhancements and solar energy storage installations at both our Taiwan and overseas plants for 2024. Market risks are evaluated based on the financial impact of changing consumer behavior on Life Cycle Assessment (LCA). Policy and regulatory risks include costs associated with "carbon disclosure" audits and certifications, ESG-related training and guidance, and the implementation of carbon pricing. For the financial assessment of physical risks, we have considered the potential impacts of extreme weather events such as heavy rainfall, flooding, and power shortages on production and shipments. The preliminary financial impact estimates of these risk factors are detailed in Climate-Related Risks Financial Impacts Table 1.

Additionally, Qisda has evaluated the financial impact of climate-related opportunities, which include improving energy and water resource efficiency, expanding into the energy market, and aligning with sustainability and environmental policies to create long-term value. The development of green products is expected to have a positive financial impact on overall revenue, as detailed in Climate-Related Opportunities Financial Impacts Table 2. Based on the analysis, while climate change adaptation may lead to short-term financial costs, actively addressing potential risks also presents opportunities. Qisda remains committed to focusing on low-carbon products and services, advancing towards becoming a more climate-resilient and sustainable company.

Climate-Related Risks Financial Impacts Table 1

Risks	Reasons for Financial Impact	Amount (NTD 10,000)
Policy and Regulation	Energy-saving improvements at Taiwan plants, carbon disclosure inventory and certification, ESG-related training and guidance, and the implementation of carbon pricing.	3,847
Technical Risk	Investment in R&D costs for green products and technology transformation, procurement of online communication equipment to enhance meeting efficiency, replacement of outdated equipment, adoption of low-carbon materials, and purchase of I-REC certificates.	12,237
Market Risk	The growing sustainability awareness among consumers has financial implications for implementing Life Cycle Assessment (LCA), as well as for the adoption of green packaging materials and eco-friendly paper.	4,721
Reputational Risk	Training related to environmental safety and greenhouse gas issues in terms of corporate reputation.	450
Physical Risk	The Suzhou plant is most likely to experience production halts due to power restrictions during the summer. In the worst-case scenario, if production is suspended one day per week, operations would be halted for a total of nine days in July and August, impacting order value.	8,600
	To mitigate operational risks caused by power shortages, water shortages, flooding, and rising temperatures, costs related to the procurement and maintenance of relevant equipment.	2,123
	To mitigate the impact of power shortages, a cloud-based operational environment for critical systems has been established, reducing the number of on-premises servers that do not store confidential data.	200

Climate-Related Opportunities Financial Impacts Table 2

Opportunity	Reasons for Financial Impact	Amount (NTD 10,000)
Resource Efficiency	Taiwan plant's green factory energy-saving plan; Suzhou plant and hospitals effectively monitor abnormal electricity usage, optimize water and hazardous waste disposal costs, implement waste heat recovery and reuse, and receive government subsidies for high-efficiency building certification.	2,970
Energy Source	Installation of solar energy to reduce electricity costs	625
Product and Service	The Vietnam plant reduces two ocean shipments per month, saving transportation costs throughout the year.	52
Market	In response to government sustainability policies, subsidies are obtained; the adoption of online meetings reduces travel costs and carbon footprint; green financing is secured to lower interest rates.	4,200
Resilience	Actively expanding in the energy market and introducing new green products to increase revenue.	89,461

Metrics and Targets

To achieve the goal of becoming a green enterprise, Qisda had committed to joining the SBTi in 2022 and has set up carbon reduction goals in 2023. In the future, we will engage with the value chain to march towards our RE100 and net-zero emission goals. The impacts of climate-related issues are of great concern to Qisda. Considering that the scope of these impacts covers every aspect of the Company's operations and future development, the Chairman of the Board of Directors personally supervises these impacts to ensure that the Board of Directors understands the implications of climate change for the Company's sustainability. At the same time, through effective internal top-down management, we have integrated ESG performance and achievement into the KPIs and remuneration of the CSO and other senior executives. The Company has decided to establish a long-term remuneration plan for the Chairman, CEO, President, and other senior managerial officers starting from 2023. This plan is connected to their ESG performance (corporate governance, social engagement, and environmental sustainability performance indicators) and grants long-term reward and compensations based on the achievement of ESG performance targets every year. Taking the President for example, the compensation is estimated to account for up to 10% of his total remuneration of the year.

Energy Consumption and Conservation

► Energy Management

Qisda Energy Management Policy

Qisda is committed to the implementation and promotion of energy management practices and principles. Qisda has established an energy management policy to fulfill its corporate social responsibility commitments. This policy emphasizes improving energy efficiency and reducing greenhouse gas emissions, requiring all plants and offices to implement effective energy management. Qisda continuously monitors energy targets and management performance to achieve environmental sustainability.

Qisda joined the RE100 initiative in 2022 and pledges to use 100% renewable energy by 2040. Qisda promotes ISO 50001 (Energy Management Systems) at the three manufacturing sites in Taiwan, Suzhou, China (Electronics and telecommunications equipment plants) and Vietnam. The Company uses energy audits to better understand the use of energy within the scope of its business, identifying energy-intensive equipment and processes, and investing resources into its improvement. Additionally, the Company establishes energy management and energy saving goals, and conducts an energy review on a quarterly basis to monitor and improve their energy performance. Replacement of old energy-consuming equipment and use of energy-saving equipment takes priority in our energy-saving measures. Smart electric meters are introduced in the plant to analyze the power consumption status of production lines and processes to find out the best control solutions. Energy consumption is monitored daily, and production plans are adjusted accordingly. It is expected to save energy by 9,698 MWh and reduce carbon emissions by 5,578 tCO₂e.

Through the implementation of ISO 50001 (Energy Management System), the aim is to enhance employees' understanding of and engagement in energy management, ensuring the effective operation of the Energy Management System (EnMS) within the organization. The training covers topics such as energy policies, objectives, energy-saving measures, actions to address energy risks, and individual roles, with an emphasis on continuous improvement and performance monitoring. By providing training, the company seeks to raise awareness of energy conservation, promote the adoption of best practices, reduce energy consumption and costs, comply with ISO 50001 requirements, and achieve corporate sustainability goals.

Qisda Greenhouse Gas Scope 1 and Scope 2 – Location-based

Climate Indicator	2021 Base Year	2021	2022	2023	2024	Reduction % (Compared to the Baseline Year)
Total GHG emissions (tCO ₂ e)	106671.70	106671.70	77836.79	66584.99	71088.26	-33%
Carbon emission per personal hourly electricity consumption (kgCO ₂ e)	2.5	2.5	2.0	2.3	2.19	31%
Electricity consumption per million USD production value (kWh)	27,532	27,532	29,436	38,957	41,179.74	50%
GHG emissions for each million USD value (tCO ₂ e)	0.47	0.47	1.15	1.19	0.89	88%
GHG emissions for each million USD value (tCO ₂ e) (Scope 1)	21.44	21.44	17.47	21.52	23.56	10%
GHG emissions for each million USD value (tCO ₂ e) (Scope 2)	21.9	21.9	18.6	22.7	24.44	12%
Greenhouse gas (GHG) emissions include Scope 1 and Scope 2, calculated using the location-based approach.						
GHG inventory boundary is aligned with the reporting boundary and covers Taiwan, China, and Vietnam.						

Qisda Greenhouse Gas Scope 1 and Scope 2 – Market-based

Climate Indicator	2021 Base Year	2021	2022	2023	2024	Reduction % (Compared to the Baseline Year)
Total GHG emissions (tCO ₂ e)	106671.70	106671.70	75,563.55	51,905.90	48356.67	-55%
Carbon emission per personal hourly electricity consumption (kgCO ₂ e)	2.5	2.5	1.9	1.8	2.19	-12%
Electricity consumption per million USD production value (kWh)	27,532	27,532	29,436	38,957	41,179.74	50%
GHG emissions for each million USD value (tCO ₂ e) (Scope 1)	0.47	0.47	1.15	1.19	0.89	88%
GHG emissions for each million USD value (tCO ₂ e) (Scope 2)	21.44	21.44	16.93	16.51	15.74	-27%
GHG emissions for each million USD value (tCO ₂ e)	21.9	21.9	18.1	17.7	16.63	-24%
GHG Emissions Include Scope 1 and Scope 2. They are Incorporated in the Market-Based Calculation						
Greenhouse gas inventory scope: Aligned with the reporting boundaries, covering Taiwan, China, and Vietnam.						

Greenhouse Gas Reduction Measures in 2024

Reduction Type	Project	Categorization & Scope of Emissions Reduced	Annual Energy Savings (MWh)	Annual Energy Savings (GJ)	Annual Emission Reduction (tCO ₂ e)
Policy or behavioral change	Installation of microwave sensor tube lights	Scope 2	4	14	2.28
Process energy efficiency	Converting partial workstations to independent gas supply	Scope 2	360	1,296	205.31
	DQ9 air compressor energy saving	Scope 2	650	2,340	370.70
	DQ9 water pump energy-saving retrofit	Scope 2	60	216	34.22
	Control of streetlight in the plant area	Scope 2	55	198	31.37
	S1, S4, and DQ8 air compressor energy saving	Scope 2	1,100	3,960	627.33
	S5 HVAC water pump energy saving	Scope 2	13.2	47.52	7.53
	Measurement center gas supply adjustment	Scope 2	95.8	344.88	54.63
	Energy conservation in QTY facility management	Scope 2	350	1,260	172.90
	Energy conservation in QTY production	Scope 2	10	36	4.94
Energy saving	Subtotal		2,698	9,713	1,511.20
Use of green energy	Phase II solar power generation project in Suzhou Plant	Scope 2	7,000	25,200	4,067
Total			9,698	34,913	5,578

► Energy Consumption

The energy consumption within the Qisda Group includes electricity used in offices and factories and fuels (natural gas, gasoline and diesel fuel). According to the ISO 14064-1:2018 inventory, the electricity used in offices and factories is the main source of energy consumption. A solar power system has been built in the plants in Taiwan and Suzhou, for self-consumption. Energy storage equipment has been installed to facilitate both load shifting and peak shaving. In 2024, Suzhou Plant expanded its second phase of the solar power system to continuously reduce the use of gray electricity and increase the percentage of renewable energy. In 2024, the in-plant solar power system generated about 4.85 million kWh, accounting for 4.1% of Qisda's overall electricity consumption. The Company purchased approximately 39,064 MWh of renewable energy certificates for the plants in China and Vietnam, accounting for 32.7% of Qisda's overall electricity consumption. The proportion of renewable energy was 36.7%. The energy intensity in 2024 was 41,179.74 kWh per million USD production value.

Energy		Unit	2021	2022	2023	2024
Electricity	Self-consumed & renewable	kWh	9,680	5,200,534	5,208,939	4,851,830
		MJ	34,848	18,721,922	18,752,180	17,466,588
	Purchased & renewable	kWh	0	3,500,000	24,700,000	38,044,000
		MJ	0	12,600,000	88,920,000	136,958,400
	Purchased & non-renewable	kWh	127,900,000	117,846,382	109,008,914	116,703,000
		MJ	460,440,000	424,246,977	392,432,091	420,130,800
Natural gas		1,000 cubic meters	180.6	339.16	198.53	302.41
		kWh	1,957,154	3,675,461	2,151,506	3,277,162
		MJ	7,045,748	13,231,649	7,745,414	11,797,772
Gasoline		Tonnes	13.9	99.97	96.86	193.33
		kWh	273,778	1,244,072	1,205,357	2,405,886
		MJ	985,600	4,478,656	4,339,283	8,661,184
Diesel fuel		Tonnes	10.8	14.68	29.58	28.10
		kWh	118,222	182,685	368,091	349,683
		MJ	425,600	657,664	1,325,125	1,268,857
renewable energy consumption (self-consumption)		kWh	9,680	8,700,534	5,208,939	4,851,830
		MJ	33,480	31,321,922	18,752,180	17,466,588
renewable energy consumption (Renewable Energy Certificate)		kWh	0	3,500,000	24,700,000	39,064,000
		MJ	-	12,600,000	88,920,000	140,630,400
Total renewable energy consumption		kWh	9,680	12,200,534	29,908,939	43,915,830
		MJ	33,480	43,921,922	107,672,180	158,096,988
Total non-renewable energy consumption		kWh	130,164,532	122,948,600	112,733,868	120,952,455
		MJ	464,583,608	442,614,946	405,841,914	435,428,821

► GHG Emissions

With the issue of global warming becoming more and more severe, Qisda, as a global citizen, has established a GHG inventory for global manufacturing sites with reference to ISO 14064-1 (Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals) and the GHG Protocol since 2007. GHG inventories and third-party verifications have been conducted annually. Currently, the GHG inventory of the organizational boundaries has reached 100%. Qisda further conducted third-party verification according to the ISO 14064-1:2018 standard for the GHG inventory data of all factories around the globe in 2024.

In 2024, the global total Scope 1 and Scope 2 GHG emissions of Qisda amounted to around 48,356.67 tCO₂e (market-based). The main source of emission was found to be carbon dioxide resulting from the generation of the electricity we purchased for our operations. This accounted for more than 90% of overall emissions of the Company. In accordance with the ISO 14064-1:2018 standard, Qisda has also included Scope 3 indirect greenhouse gas emissions in the disclosure since 2021, which has been verified by a third-party verification institution. In the future, we will expand the scope of the disclosure and verify the types of indirect GHG emissions in each plant. Qisda complies with the principles of the National Renewable Energy Certification Center and applied for the Renewable Energy Certificate (T-REC) for the Taiwan Plant based on its volume of solar power generation in 2022. We also purchased international renewable energy certificates (I-RECs) for the Suzhou Plant. We will follow the GHG Protocol Scope 2 Guidance to disclose and describe Scope 2 GHG inventory reductions in the CDP survey.



Scope (tCO ₂ e)		2021	2022	2023	2024
Scope 1	Stationary combustion	413.51	769.02	466.31	689.08
	Mobile combustion	71.13	292.18	284.41	110.75
	Process emissions	0.00	0.00	0.00	0.00
	Fugitive emissions	1,808.11	3,743.77	2,750.32	1,775.10
Subtotal		2,292.75	4,804.97	3,501.04	2,574.93
Scope 2	Location-based	102,262.35	73,031.83	63,083.95	68,513.33
	Market-based	102,262.35	70,758.59	48,404.86	45,781.74
Total (Scope 1 & 2)	Location-based	104,555.10	77,836.79	66,584.99	71,088.26
	Market-based	104,555.10	75,563.55	51,905.90	48,356.67

Substance of GHG emissions (tCO ₂ e)	2021	2022	2023	2024
CO ₂	102,927.43	71,882.54	49,142.83	46,574.92
CH ₄	825.65	726.54	776.37	957.58
N ₂ O	3.63	10.53	9.38	12.44
NF ₃	0.00	0.00	0.00	0.00
HFC	778.68	2,924.18	1,956.48	790.90
PFC	0.00	0.00	0.00	0.00
SF ₆	19.76	19.76	20.84	20.84
Total	104,555.16	75,563.554	51,905.90	48,356.67

Source of Scope 3 emissions (tCO ₂ e)	2021	2022	2023	2024
Purchased goods and services	–	–	–	–
Capital goods	–	–	–	–
Fuel- and energy-related activities*	–	1,473.79 (*QTY)	1,252.61 (*QTY)	1,438.03 (*QTY)
Upstream transportation and distribution	–	–	–	–
Waste generated in operations*	–	65.20 (*QTY)	75.28 (*QTY/QVH)	97.65 (*QTY/QVH)
Business travel*	59.62 (*QTY/QCS)	127.67 (*QTY/QCS/QVH)	315.97 (*QTY/QCS/QVH)	452.71 (*QTY/QCS/QVH)
Employee commuting *	16.77 (*QTY/QCS)	135.19 (*QTY/QCS/QVH)	111.98 (*QTY/QCS/QVH)	98.62 (*QTY/QCS/QVH)
Upstream leased assets	–	–	–	–
Downstream transportation and distribution	–	–	–	–
Processing of sold products	–	–	–	–
Use of sold products	–	–	–	–
End-of-life treatment of sold products	–	–	–	–
Downstream leased assets	–	–	–	–
Franchises	–	–	–	–
Investments	–	–	–	–
Total	76.39	1801.85	1,755.84	2,087.62

Remark:

- The GHG inventory at the organization level is based on the ISO 14064-1:2018 version. Operational control is adopted as the method of compiling the amount of GHG.
- We adopted the global warming potential in IPCC's Sixth Assessment Report in 2021. The emission factor is calculated in accordance with the value announced by the central competent authority at the location of the plant.
- The amount of direct and indirect GHG emissions as well as emissions from imported energy (Scope 1 and Scope 2) has been verified by a third-party verification organization.
- Scope 3 GHG emissions marked with "*" have been verified by a third-party verification institution: verified according to AA1000 in 2020, and verified according to ISO 14064-1 in 2021, 2022, 2023, and 2024.

► Reduction Targets and Commitments

Qisda has committed to short-, medium- and long-term carbon reduction goals: cutting carbon from the supply chain by 30% by 2030, switching to 100% renewable energy by 2040, and reaching net-zero emissions by 2050. We have passed the target verification review under the Science Based Targets initiative (SBTi), an authoritative international climate action organization. With the scope of financial statements as the organizational boundary, we actively propose carbon reduction goals in line with the 1.5°C global warming threshold specified under the Paris Agreement of the United Nations Climate Summit. With 2021 as the baseline year, we will achieve a 42% reduction in Scope 1 and Scope 2 greenhouse gas emissions and a 25% reduction in Scope 3 greenhouse gas emissions by 2030.

The primary source of Qisda's operational emissions is the use of the purchased electricity under Scope 2, accounting for approximately 90% of Scope 1 and Scope 2 emissions. Qisda officially joined RE100 in December 2022 to achieve the goals of carbon reduction. We actively promote the construction of renewable energy and energy storage systems at all manufacturing sites, and launch carbon reduction actions through replacing old equipment, applying power saving management measures, procuring renewable energy, and reducing the use of fossil fuels. After achieving RE100 in 2040, at least 90% absolute Scope 1 and 2 GHG emission reductions by 2050 from a 2021 base year. We also commits to reduce absolute Scope 3 GHG emissions 90% by 2050 from a 2021 base year. The Company will subsequently offset the remaining 10% of carbon emissions through carbon removal technologies or carbon trading, based on the prevailing technological and market environment, to achieve net-zero emissions by 2050.

The main sources of Scope 3 emissions include the procurement of raw materials, services, and during the product use stage. Qisda has established sustainable supply chain management by assisting suppliers in performing a carbon inventory in order to thoroughly reduce the carbon footprint of the supply chain. In terms of products, we are committed to implementing green design, creating low-carbon products, further reducing product energy consumption, and reducing material consumption to achieve our carbon reduction goals.

Qisda's 345 Carbon Reduction Target



Remark:

Qisda targets to reach Net Zero by 2050. This target has been validated by the Science-Based Targets Initiative (SBTi), with a base year of 2021. The percentage of total base year emissions is 100%, including emissions from all subsidiaries and joint ventures within Qisda's inventory and target boundary: Scope 1 and 2: 106,671.701 tCO₂e; Scope 3: 9,337,890.91 tCO₂e.

The Use of Water Resources

► Water Management

As extreme weather and climate events grown more common across the world, the issue of water resources has gradually attracted the attention of stakeholders. Qisda has obtained the ISO 14001 Environmental Management Systems certification to systematically manage environmental issues. Regarding water consumption, Qisda manages water resources with reference to the ISO46001 management framework. And our processes are not highly water-consuming and as such, does not require large amounts of water during production. As the water consumption assessment and analysis shows, the biggest sources of water consumption come from domestic water use and water used for factory equipment (e.g. cooling towers). Only a small portion of water is used during production processes. Water consumption in the plant area is achieved through the measures of attaching water-conserving devices to faucets and conducting rainwater and process wastewater recycling and reuse. The plant tracks water intensity every year to analyze the status of water consumption, sets water-saving targets, conducts monitoring and testing, and identifies water-saving opportunities to continuously improve water efficiency. Regarding the issue of wastewater, we have launched a process wastewater reuse project to reduce the concentration of pollutants in wastewater. Discharged wastewater is regularly sampled and monitored to prevent pollution to the environment and ensure that the quality of wastewater discharged meets the effluent standards required by local environmental protection authorities.

Qisda Water Policy

- ◆ Water use assessments to identify opportunities to water efficiency improvement
- ◆ Actions to reduce water consumption
- ◆ Actions to improve wastewater quality
- ◆ Establishment of targets to reduce water use
- ◆ Application of water recycling
- ◆ Awareness training provided to employees on water efficiency management programs



► Utilization of Water

In 2024, the total water consumption of Qisda's global manufacturing sites was approximately 379.66 million liters; total volume of discharge water was approximately 303.73 million liters. The total water consumption in 2024 was 137.9 million liters less than in 2021, and the water consumption per million USD production value was 0.131 million liters, an increase of about 22.8% compared to 2021. All Qisda's factories rely on the municipal water supply as the only source of water, and no groundwater has been drawn for operational purposes. Although Qisda does not have any processes that are highly water-consuming or highly polluting, we still recycle and reuse process wastewater. In 2024, the recycling and reuse of process wastewater accounted for approximately 2% of our total water consumption.

Item	Water Saving in 2024 (m ³)	Process Wastewater Reuse Rate (%)
Plant 8 reclaimed water reuse project + low-temperature evaporation system	1,610	98
Plant 9 reclaimed water reuse project	1,200	100
S5 washing reclaimed water reuse project	4,080	100
Total	6,890	99.52

The water pollution control equipment of the Taoyuan Plant in Taiwan is operated and maintained by professional personnel and the contact aeration method is used to treat domestic sewage, which is then redirected to the sewage management system set up by the government. The sewage generated from the Suzhou Plant is directly discharged to the municipal sewer system. The wastewater generated from the Vietnam Plant is first discharged to the wastewater treatment facility of the plant and then to the wastewater treatment plant in the industrial zone. Wastewater from all three plants is directed to sewer management systems, so wastewater will not directly affect bodies of water and land. In terms of water quality testing, the water quality at the Taiwan Plant was found to be higher than the standard set forth by the Guishan Industrial Park. Our Suzhou Plant complies with the Integrated wastewater discharge Standard and the Vietnam Plant complies with industrial park discharge standards. The water discharged from all the factories is monitored periodically and it is not reused by other organizations. All Qisda's factories are located in industrial parks; we do not own, rent or manage any plant in ecological reserves or water reserves. We do not engage in any event that creates negative impacts on biodiversity. Likewise, our services and the process of product manufacturing does not harm the environment and the ecology.

Year	2021	2022	2023	2024
Water withdrawal (Million cubic meters)	0.518	0.441	0.417	0.380
Water discharge (Million cubic meters)	0.414	0.353	0.333	0.304
Water consumption (Million cubic meters)	0.102	0.088	0.084	0.076

Remark:

1. The total water discharge is the tap water consumption of global manufacturing sites * 0.8 (0.2 is the estimated percentage of water vaporized due to the use of air conditioners).
2. The water consumption is statistically calculated based on the data in the organization's water bill (minus the consumption by the tenants).
3. According to the World Resources Institute's "Aqueduct Water Risk Atlas," Suzhou (China) and Ha Nam (Vietnam) have been identified as regions of water stress.

Taiwan: The minimum standard of effluent water quality is COD: 480mg/L, SS: 200mg/L. The value we use for comparison to local standards is the maximum value of the annual testing data provided by the Guishan Industrial Park Service Center. The value in 2024 was COD: 51.15 mg/L, SS: 14.00mg/L.

Suzhou, China: The minimum standard of effluent water quality is COD:500mg/L, SS:400mg/L. The value we use for comparison to local standards is the maximum value of the data in the test report. The value in 2024 was COD: 251 mg/L and SS: 77.0mg/L.

Vietnam: The minimum standard of effluent water quality is COD: 150mg/L. The value we use for comparison to local standards is the average value in the test report, and the actual value is the average value in the test report. The value in 2024 was about 25mg/L.

► Water Risk Assessment

Qisda conducts water stress assessment using the water resource risk assessment tool (Aqueduct Water Risk Atlas) of the World Resources Institute (WRI). The most prominent risk Qisda faces in relation to water use is the inability to supply water for domestic uses in the occasion of a water shortage. Other water resource risks are analyzed in the following table. To reduce water consumption, Qisda has established the ESG Committee, set up water saving KPIs, and manages the performance and achievement status of these KPIs regularly. We also adjust the goals for the following year with respect to water consumption and other related risks at the end of each year. In addition, Qisda holds meetings with all companies within the Qisda Group to check the water consumption status of all companies and factories and conduct simulations based on water limitation scenarios. By doing so, we are able to assess the regional water supporting mechanism of the Group, and further improve our response capabilities when water shortage or limitation occurs.

Item	Description/Impact on Qisda's Operation	
Water withdrawal	Qisda does not have water-intensive process, but we need to provide clean domestic water for employees' daily demands. According to the results analyzed by the WRI Aqueduct's global water risk mapping tool, Taiwan is located in an area of medium to low risk, while the Suzhou (China) Plant and Vietnam Plant both located in high-risk areas in terms of water stress. However, as all Qisda's water supply is provided by the municipality, only one water shortage has occurred over the past 15 years. Qisda has established procedures for emergency response with respect to water shortages. Upon receiving notice from either the government or the media about the limitation or suspension of water due to water resource contamination resulting from typhoons or water shortage caused by droughts, the Company will notify contracted water trucks to compensate for the insufficient water supply. This way, we can avoid operational disruption caused by water shortage.	
Level of Risk Low	Coping Strategies/ Management Mechanism	1. Continuous implementation of water saving 2. Drawing up water shortage response plan
Drinking water quality	All of Qisda's factories rely on the municipal water supply as the only source of water, and have not extracted groundwater for operational use. We also establish drinking-water filtration systems and regularly inspect water quality in accordance with the laws and regulations so as to ensure safe water.	
Level of Risk Low	Coping Strategies/ Management Mechanism	None
Water pollution control	The water pollution control equipment in the Taiwan Plant is operated and maintained by professional personnel. We use contact aeration to treat domestic sewage; the processed wastewater is then discharged into the sewerage system built by the government. The sewage discharged by the Suzhou Plant is directly discharged into the municipal sewer system without causing any direct impact on water bodies and the land. Moreover, effluent quality is regularly monitored and inspected in accordance with regulations at all operating sites, and the results have surpassed legal standards. In recent years, there have been no incidences of water pollution at any of the plants.	
Level of Risk Low	Coping Strategies/ Management Mechanism	None

Item	Description/Impact on Qisda's Operation	
Flooding	According to results analyzed by the WRI (World Resources Institute) Aqueduct's global water risk mapping tool, none of the factories located in Taiwan, Suzhou, and Vietnam face "high level" flood risks. For the past 16 years, there has been no loss caused by flooding in the factories. In addition, Qisda has set up control procedures for precautions and emergency response. Before typhoon occurs, we ask cleaning service providers to clean the drains to improve drainage and avoid factories being flooded due to poor drainage. We also prepare emergency equipment such as sandbags and floodgates beforehand lest any issue occurs.	
Level of Risk LOW	Coping Strategies/ Management Mechanism	Regular drills
Legal compliance	Qisda regularly checks our compliance with water-related laws and regulations at every quarter. If there are regulatory updates, we comply with them immediately. In recent years, there have not been any violations of water-related laws and regulations.	
Level of Risk LOW	Coping Strategies/ Management Mechanism	Maintenance
Water bill	The water bills in Suzhou, Vietnam and Taiwan are relatively low, and the Taiwan government has not yet imposed the water conservation charge. Considering that the factories maintain a medium amount of water usage, water bills have little impact to the costs in the future.	
Level of Risk LOW	Coping Strategies/ Management Mechanism	Implementation of water saving

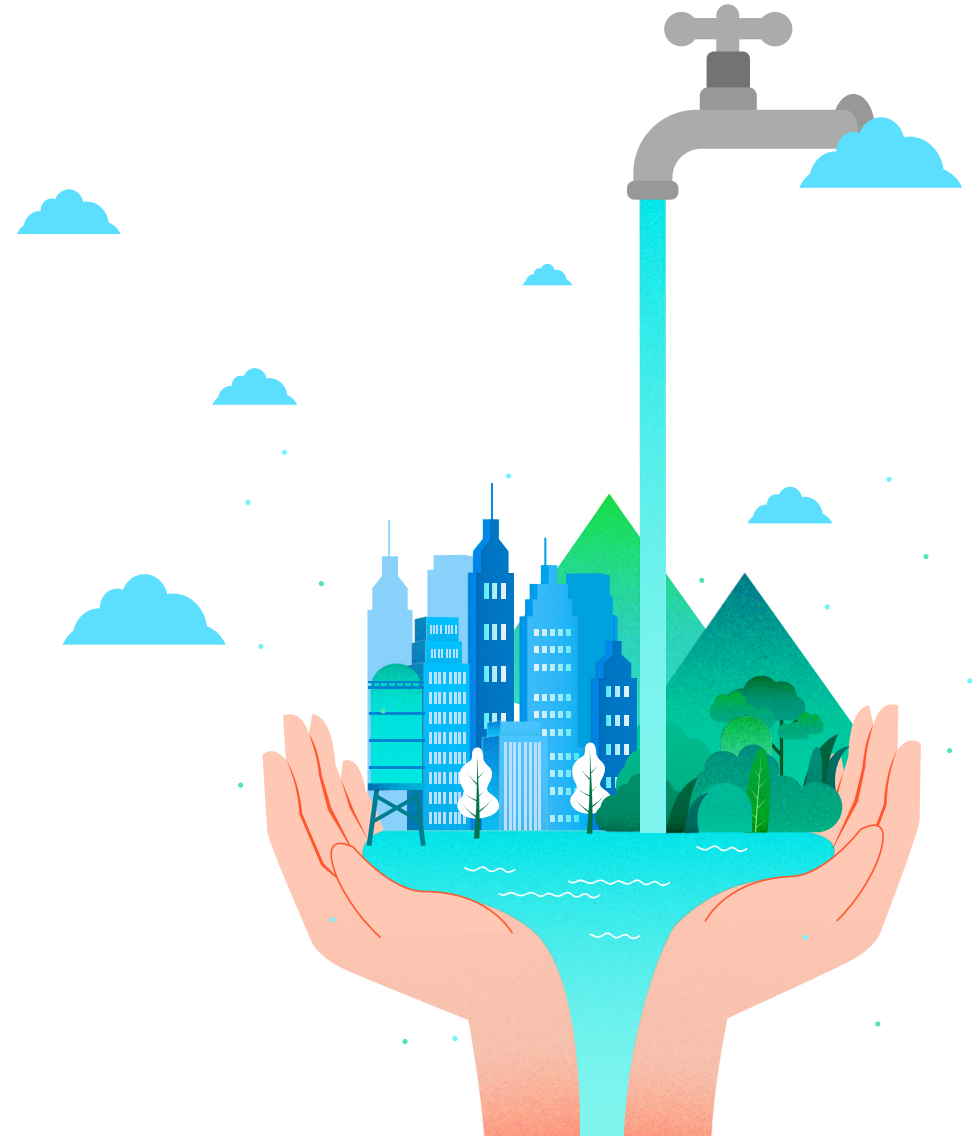
Table of Water Withdrawal, Discharge and Consumption

	Water Withdrawal (1,000 tons)	All Regions	Regions Facing High Levels of Water Stress	Percentage of Water Use in Regions with High Levels of Water Stress
Water withdrawal by source	Surface water (total) Freshwater ($\leq 1,000$ mg/L total dissolved solids)	0	0	0
	Other water ($> 1,000$ mg/L total dissolved solids)	0	0	0
	Groundwater (total) Freshwater ($\leq 1,000$ mg/L total dissolved solids)	0	0	0
	Other water ($> 1,000$ mg/L total dissolved solids)	0	0	0
	Seawater (total) Freshwater ($\leq 1,000$ mg/L total dissolved solids)	0	0	0
	Other water ($> 1,000$ mg/L total dissolved solids)	0	0	0
	Produced water (total) Freshwater ($\leq 1,000$ mg/L total dissolved solids)	0	0	0
	Other water ($> 1,000$ mg/L total dissolved solids)	0	0	0
	Third-party destinations (total) Freshwater ($\leq 1,000$ mg/L total dissolved solids)	379.66	306.92	80.84%
	Other water ($> 1,000$ mg/L total dissolved solids)	0	0	0
Total water withdrawal	Total water withdrawal by source of the third party Surface water, Groundwater, Seawater, Produced water	0	0	0
	Surface water (total) + groundwater (total) + seawater (total) + produced water (total) + third-party destinations (total)	379.66	306.92	80.84%

	Water discharge	All Regions	Regions Facing High Levels of Water Stress	Percentage of Water Use in Regions with High Levels of Water Stress
Total water discharge by destination	Surface water			
	Groundwater	0	0	0
	Seawater	0	0	0
	Third-party destinations (total)	303.72	245.54	80.84%
	Surface water + groundwater + seawater + third-party destinations (total)	303.72	245.54	80.84%
Water discharge by freshwater and other water	Freshwater (≤1,000 mg/L total dissolved solids)	0	0	0
	Other water (> 1,000 mg/L total dissolved solids)	0	0	0

	Water consumption (1,000 tons)	All Regions	Regions Facing High Levels of Water Stress	Percentage of Water Use in Regions with High Levels of Water Stress
Total water consumption		75.936	61.380	80.84%

According to the World Resources Institute's "Aqueduct Water Risk Atlas," Suzhou (China) and Ha Nam (Vietnam) have been identified as regions of water stress.



Waste and Pollutants

► Waste Management

Waste Management Policy

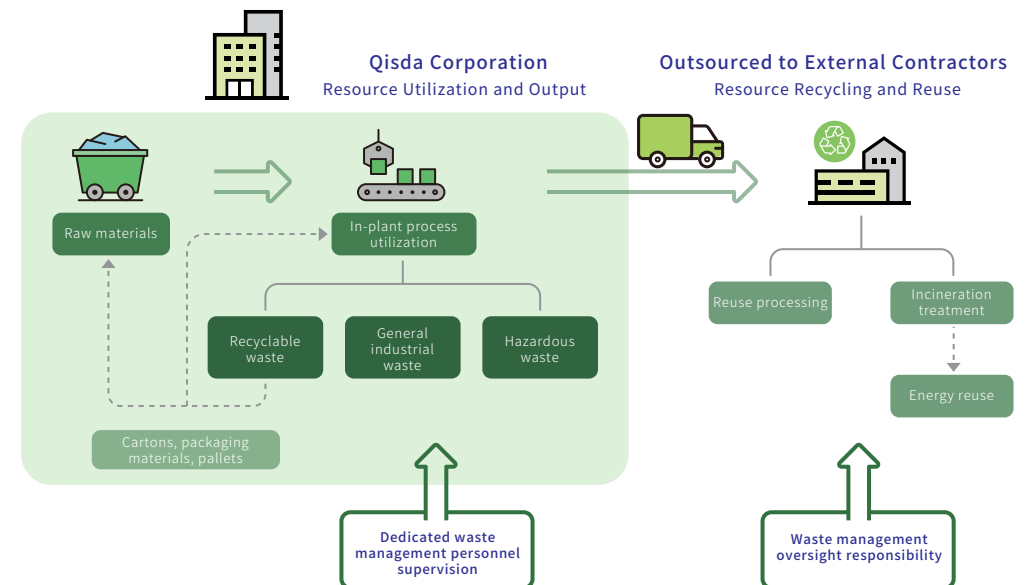
Qisda implements a source management strategy for waste management and actively promotes resource recycling through continuous energy-saving and waste reduction initiatives. By enforcing strict waste sorting at the source, the Company significantly reduces waste generation while increasing recycling rates. Qisda conducts annual waste reduction and recycling rate assessments to ensure progress toward its zero-landfill goals aligns with planned targets.

Qisda's Suzhou and Vietnam plants have obtained UL 2799 Platinum and Gold certifications, respectively. By conducting a comprehensive audit of waste types and disposal flows, the Company identifies opportunities to improve waste management performance and formulates waste reduction action plans. Qisda integrates waste recycling programs by promoting resource reuse and recycling, effectively reducing manufacturing site waste and minimizing incineration. The Company has set a waste recycling rate target of maintaining above 90%. In 2024, the recycling rate increased by 2.01% compared to 2023. Additionally, Qisda provides waste management training for employees in key departments to enhance awareness of waste classification and recycling. These efforts strengthen the Company's environmental commitment and support its long-term sustainable development.

► Waste Recycling

Qisda complies with regulatory requirements by assigning dedicated environmental personnel to effectively manage the generation, disposal, and treatment of waste. In addition to implementing continuous energy-saving and waste reduction initiatives, Qisda adopts a source management strategy to control waste: 1. Design Phase: Incorporating non-toxic raw materials, recycled materials, reusable materials, and easy-to-disassemble structural designs to minimize environmental impact at the end of a product's lifecycle; 2. Manufacturing Phase: Optimizing process design to reduce waste generation while actively implementing resource classification (reuse and recycling) to minimize waste in manufacturing facilities. The manufacturing process does not generate hazardous waste as defined by the Basel Convention; 3. Distribution Phase: Utilizing standardized wooden pallets to reduce the use of non-standard-sized pallets, thereby increasing reuse rates; 4. Production Process: Recycling and refining waste tin dross through

Waste Management Process



original suppliers for reuse, effectively reducing resource waste and minimizing environmental pollution. For waste treatment, in addition to outsourcing incineration or recycling to qualified waste management service providers, Qisda adheres to the principle of extended producer responsibility. The Company conducts regular audits of waste treatment contractors to ensure proper waste disposal. Recyclable waste is sorted and collected in on-site recycling areas by external contractors. To enhance the proportion of recyclable waste, Qisda has established waste management procedures and recycling targets, which are reviewed quarterly in corporate sustainable development (ESG) meetings to ensure long-term monitoring and progress. Over the past four years, the proportion of recyclable and reusable waste at Qisda has consistently exceeded 90%.

Unit: Ton

Type	2021			2022			2023			2024		
	Non-Hazardous Waste	Hazardous waste	Total	Non-Hazardous Waste	Hazardous waste	Total	Non-Hazardous Waste	Hazardous waste	Total	Non-Hazardous Waste	Hazardous waste	Total
Preparation for reuse	–	–	–	–	–	–	–	–	–	–	–	–
Recycling	37,619	12	37,631	31,561	6	31,567	24,317	127	24,444	12,873	162	13,035
Recovery	–	–	–	–	–	–	–	–	–	–	–	–
Incineration with energy recovery	2,968	196	3,164	2,578	163	2,741	1,599	148	1,747	515	138	653
Incineration without energy recovery	20	0	20	35	0	35	64	8	71	0	0	0
Landfilled	–	–	–	–	–	–	–	–	–	–	–	–
Other disposal operations	–	418	418	–	708	708	–	438	438	351	65	417
Total	40,606	627	41,233	34,174	877	35,051	25,979	721	26,700	13,739	366	14,105

Remark: Wastes are disposed of off-site.

► Pollutant Management

Qisda's Suzhou Plant is committed to continually to enhancing environmental protection. The main measures taken are as follows: Oil-based paints were replaced with water-based paints for the coating production line with relatively high waste gas emissions and substituted raw materials in manufacturing. On the previous measure basis, the terminal waste gas treatment equipment was upgraded by changing methods from the original activated carbon adsorption to the activated carbon adsorption and desorption process, with the treatment efficiency exceeding 80%. This project was praised by the Department of Ecology and Environment of Jiangsu Province and Suzhou Municipal People's Government, and reported by multiple media outlets. Simultaneously, the project was selected as Suzhou's Environmental Protection Model Case of the Past Decade and was broadcasted during prime time on Suzhou TV. Regarding the waste gas treatment of the soldering process, Qisda introduces water spraying and activated carbon adsorption facilities to strictly control the quality of the iodine value. Moreover, the frequency of replacement of the activated carbon has changed from annual to quarterly. Also, we are committed to replacing traditional highly volatile solvents with environmentally friendly aqueous solvents for the use of cleaning solvents. Our improvement plans such as raw material substitution and optimization of treatment equipment not only greatly assists in reducing atmospheric emissions, but also make the workplace culture of Qisda more eco- friendly.

In 2024, due to the renovation of exhaust gas treatment equipment at Qisda's Suzhou site, the coverage area for exhaust gas collection expanded, leading to an increase in emission rates. As a result, the overall emissions slightly increased compared to previous years.

None of the manufacturing processes of Qisda's plants worldwide release SOx and NOx. No use of ozone-depleting substances is also one of a focus of our environmental management. We do not use ozone-depleting substances in our manufacturing processes. However, R22 refrigerant, which has ozone-depleting characteristics, is used in the air conditioners of employee dormitories. The filling amount in 2024 was 0kg and did not cause the depletion of ozone.

Year	2020	2021	2022	2023	2024
VOCs emissions of volatile organic gases (metric tons)	15.33	11.62	7.33	5.76	11.67

Biodiversity and Forest Conservation

Biodiversity conservation is one of the major global issues of the 21st century and serves as a foundation for sustainable human development. Qisda aligns with the United Nations Sustainable Development Goal (SDG 15) by committing to forest ecosystem protection and halting biodiversity loss. The Company continuously works to stabilize the impact of its value chain on biodiversity, has publicly issued a **No Deforestation and Biodiversity Commitment**, and regularly reports to the Sustainable Development Committee and the Board of Directors.

► Policies and Commitments

Qisda's global operating sites are mainly located in industrial parks, and the Company does not conduct any of its business activities in key biodiversity areas. However, we still highly value the ecosystem resources in the areas surrounding our factories, and have conducted biodiversity surveys in the surrounding environment in addition to establishing action plans for avoiding, repairing, and offsetting any impact our operations may have on biodiversity.

We are committed to offsite compensation and afforestation efforts, complying with local regulations and conducting regular monitoring. By collaborating with customers, suppliers, and partners (i.e. academy, communities, and NGO), we actively contribute to the preservation of forest ecosystems and biodiversity. Qisda is committed to avoiding and minimizing impacts on nature and biodiversity. We actively engage in ecological restoration, and any residual impacts are addressed through maximized remediation based on the principle of No Net Loss (NNL). Our goal is to achieve a Net Positive Impact (NPI) on biodiversity by 2050, while putting an end to all forms of deforestation, reaching no gross deforestation.

Additionally, we have included biodiversity within the scope of sustainability management. This procedure includes:

1. Developing a Biodiversity policy and action plans, and report to the Board of Directors on a regular basis.
2. Incorporating biodiversity issues into risk management assessments.
3. Confirming the scope of management for biodiversity risks within the first year (2023), and establish goals and benchmarks for management.
4. Collaborating with external partners (e.g., academic research institutions and local communities) to establish long-term biodiversity projects, which include but are not limited to regular surveys, monitoring, habitat conservation, farmland restoration, and watershed protection.
5. Disclosing biodiversity-related investments and outcomes in the sustainability report to stakeholders.

In 2025, Qisda scheduled to execute a biodiversity assessment across its value chain, extending the scope to include evaluations of suppliers and customers. This initiative aims to deepen the understanding of the Company's dependence on and interaction with natural capital throughout its operations, identifying actual or potential risks and opportunities at various stages of business activities.



Achieving SDG 15, ensuring the sustainability of forest ecosystems and halting biodiversity loss

Adopting the TNFD recommended framework and the LEAP methodology

Identify

Material issues for the organization

Key biodiversity concerns of stakeholders

Assess

Incorporating global operational sites

Applying the BRF analysis model to understand physical and reputational risks

Risks and Opportunities

Analysis of actual and potential risks

Identification of positive and negative impacts

Target

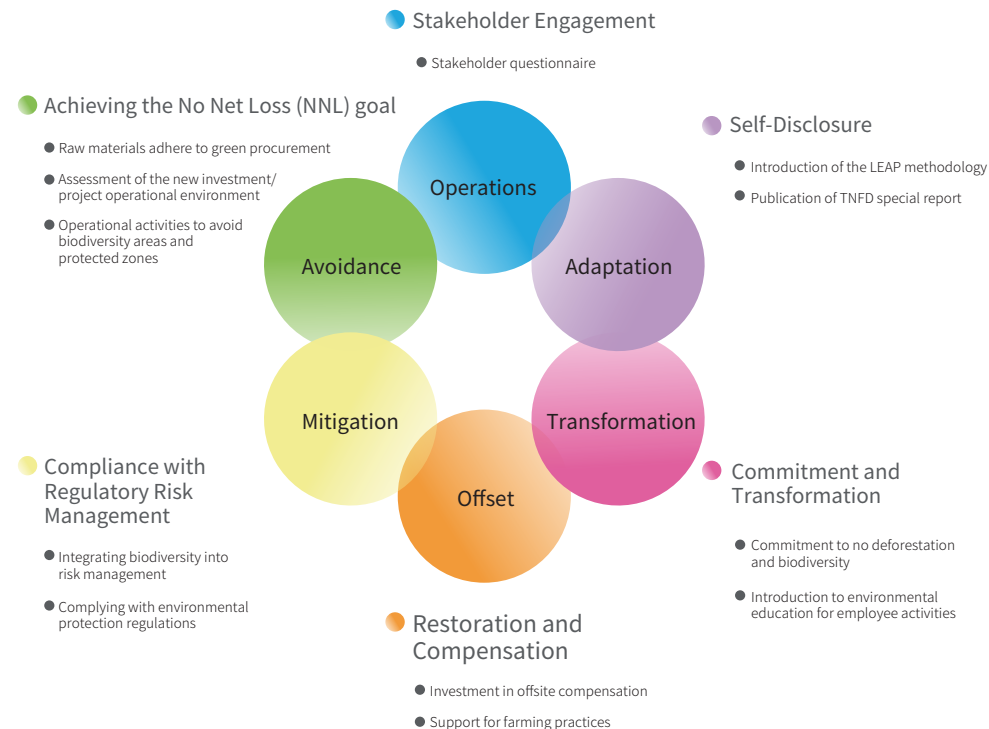
Short-term: Establishing a comprehensive biodiversity inventory database
Long-term: Achieving Net Positive Impact (NPI) across all operations



Address Nature-Related Risks and Implement the TNFD Framework

In response to global concerns on nature, Qisda has adopted the TNFD framework (Taskforce on Nature-related Financial Disclosures) and actively invests in biodiversity conservation. By integrating risk management and opportunity assessment into its core sustainability strategy, Qisda goes beyond traditional financial risk considerations, incorporating nature-related risks into decision-making processes. This approach enables the Company to explore ways to transform nature-related risks into opportunities for advancing sustainable development.

Since 2023, Qisda has conducted comprehensive annual risk assessments through its Risk Management Committee and holds quarterly meetings to review ongoing risk developments. The Company references global risk reports from professional institutions to monitor key risk areas, including climate change, human rights, nature-related risks, and biodiversity, while also assessing their operational impact. Although nature-related and biodiversity risks are not currently classified as top-priority concerns, Qisda remains committed to these issues by regularly tracking risk trends and developing appropriate response strategies.



At the same time, we are actively monitoring issues and developments related to biodiversity. Through collaboration with domestic industries and academia, in 2023, Qisda participated in the “Taiwan Nature Positive Initiative” launched by the Business Council for Sustainable Development Taiwan (BCSD-Taiwan). In July 2024, Qisda co-published “Taiwan Corporate toward Nature Positive Journey - Nature Positive – Taiwan Report.”



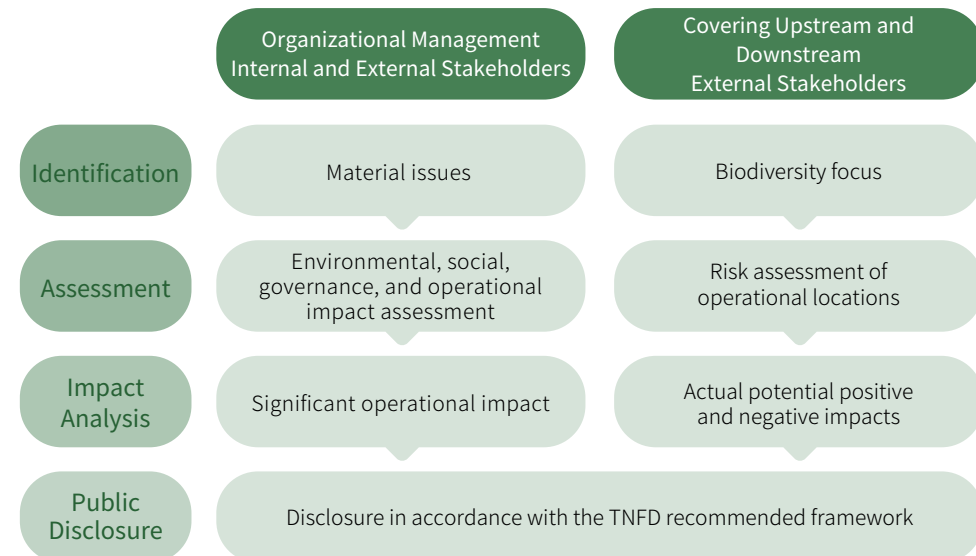
Stakeholder Engagement

Stakeholder engagement

In the management of material issues within the organization, Qisda adopts the concept of triple materiality, conducting a materiality analysis based on three dimensions: stakeholder concerns (both internal and external), operational impact, and sustainable development impact. The analysis also incorporates the attention and assessment of topics related to the natural environment.

In 2024, Qisda conducted its first independent biodiversity questionnaire to assess stakeholders' fundamental understanding of biodiversity. The objective was to identify potential impacts of business operations on biodiversity from the stakeholders' perspective, evaluate the effectiveness of Qisda's biodiversity support measures, and enhance awareness of biodiversity's significance to society and daily life. This initiative aims to foster collaborative efforts toward sustainable business development.

Currently, there are no significant impacts or risks identified. Despite the lack of widespread attention, we continue to support biodiversity through the BenQ Foundation by adopting farmland, promoting eco-friendly farming, and fostering a harmonious relationship with nature. Additionally, we actively engage in ecological surveys to enhance public awareness of our commitment to biodiversity and environmental stewardship.



In 2025, Qisda will initiate a biodiversity assessment across the value chain, extending the evaluation to suppliers and customers. This effort aims to enhance understanding of the Company's dependence on and interconnection with natural capital throughout its operations. By doing so, Qisda seeks to identify actual or potential risks and opportunities associated with biodiversity at different stages of its business activities.



► Scope of Assessment

Qisda identifies its dependencies and impacts on nature-related topics, prioritizing water scarcity, extreme heat, and tropical cyclones. Based on the Shared Socioeconomic Pathways (SSP) climate change projection scenarios, Qisda conducts simulation exercises to assess risks and opportunities, further evaluating potential effects.

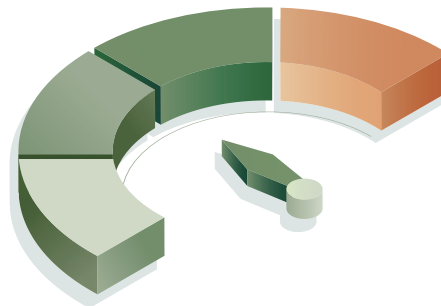
Evaluation Method

(1) Biodiversity Assessment

Qisda utilizes the Biodiversity Risk Filter (BRF), a risk assessment tool provided by the World Wide Fund for Nature (WWF), to identify potential dependency and impact risks faced by the electronics manufacturing industry. Subsequently, the BRF internal analysis model, along with Qisda's biodiversity survey questionnaire, is employed for further assessment.

(2) Utilization of the LEAP Methodology

Locate:	Locate the Corporation's interface with nature
Evaluate:	Evaluate the Corporation's dependencies and impacts on nature
Access:	Access the Corporation's nature-related risks and opportunities
Prepare:	Prepare to respond to, and report on, material nature-related issues, aligned with the TNFD's recommended disclosures



Scope of Locate

The assessment scope covers Qisda's global operational sites, including the Taoyuan plant in Taiwan, which serves as both an R&D center and a manufacturing site, the Taipei plant as a business division, and the Suzhou and Vietnam plants as manufacturing centers.

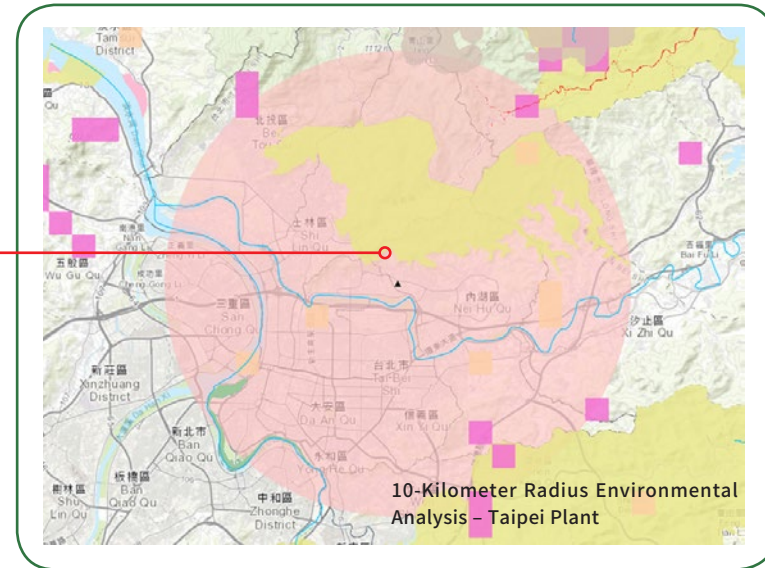
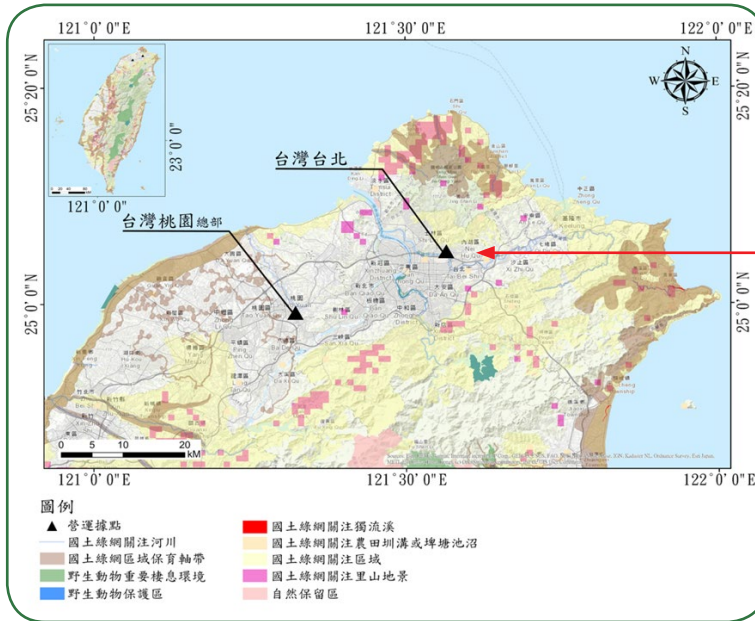
To ensure localized implementation of the TNFD assessment, Qisda adopts different data sources for Taiwan and overseas sites. For the Taoyuan headquarters and Taipei business division, the National Ecological Green Network Database, provided by Taiwan's Forestry and Nature Conservation Agency under the Ministry of Agriculture, is used instead of the World Database on Protected Areas (WDPA), as it more accurately reflects Taiwan's ecological conditions. This approach ensures the representativeness and accuracy of the risk assessment results through detailed local environmental data. For overseas operational sites, Qisda applies the WDPA database, managed by the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature (IUCN), to conduct a spatial overlay analysis of the designated marine, terrestrial, and inland water protected areas defined by local governments in Ha Nam, Vietnam, and Suzhou, China.

Evaluate of Operational Sites

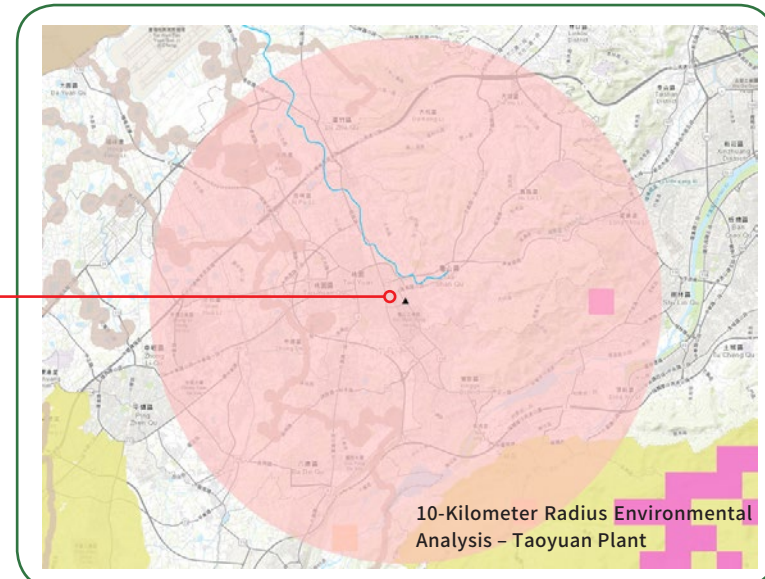
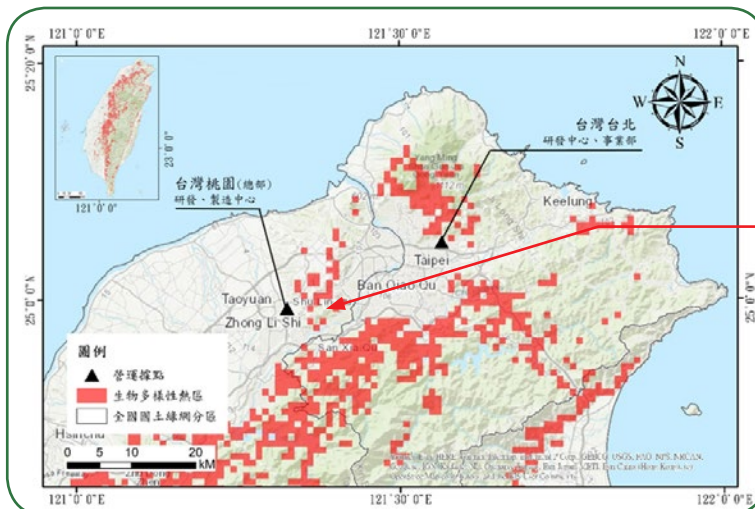
Domestic Operational Sites

The overlay analysis of the Taiwan Ecological Network Database indicates that Qisda's Taoyuan headquarters and Taipei business division are located in the northwestern and northern subzones, respectively. Both sites are in close proximity to rivers of ecological concern within the green network. In response, Qisda has reinforced water stewardship to prevent any negative environmental impact on water quality while effectively controlling water consumption to enhance water conservation. Additionally, as both operational sites are situated near biodiversity hotspots, Qisda recognizes the potential for indirect environmental impacts despite no direct disruption to local habitats. The Company has already implemented environmental monitoring and management at both sites in Taiwan. For future construction projects, Qisda will conduct comprehensive environmental impact assessments, establish buffer zones, implement pollution control measures, and undertake ecological restoration initiatives to minimize operational impacts on the natural environment.

Taiwan Operating Sites



Biodiversity Hot Spots

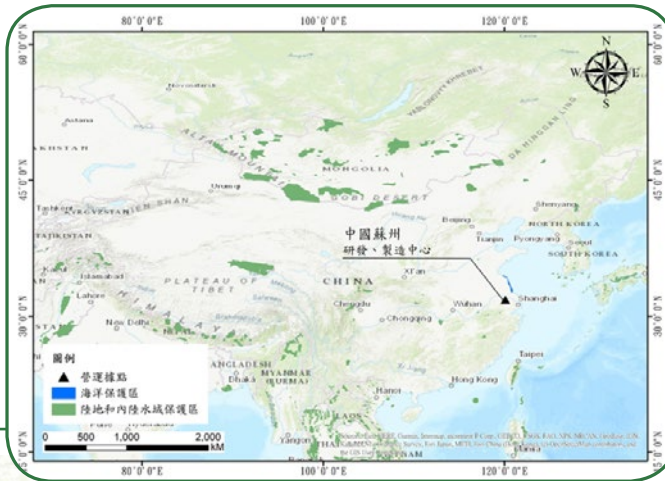


Overseas Operational Sites

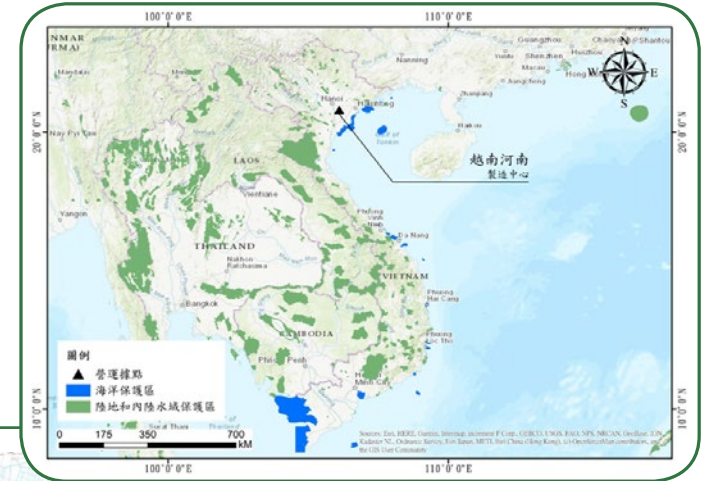
Qisda's plants in Ha Nam, Vietnam, and Suzhou, China do not overlap with any protected areas. The Ha Nam plant is located approximately 7 kilometers from the nearest nature reserve, while the Suzhou plant is about 105 kilometers away.

As a result, the operations at these plants do not pose a direct threat to local biodiversity. However, given the Ha Nam plant's relative proximity to a nature protected area, Qisda remains committed to implementing ecological conservation initiatives and mitigation measures to prevent any potential indirect impact on the surrounding ecosystem, aligning with the Company's sustainable development objectives.

Suzhou Operational Sites



Vietnam Operational Sites



Access of Risk and Impact

To ensure progress toward the 2030 commitment of minimizing or avoiding biodiversity impacts, Qisda integrates risk assessment into its business strategy planning. This approach enables a clearer understanding of the nature, extent, and impact of potential risks, facilitating the development of targeted and effective risk management strategies. These efforts support ecosystem sustainability and biodiversity conservation, ultimately aligning with the 2050 goal of achieving zero deforestation, net-zero biodiversity loss, and net-positive ecological impact.

Analysis of actual and potential risks

The analysis of actual and potential risks allows Qisda to systematically identify, assess, and disclose risks in a transparent manner.

Qisda's actual and potential positive and negative impacts



In 2024, Qisda identified eight actual risks and eight potential risks. Since risks vary in severity based on their impact level, they are classified into positive and negative impacts. As shown in the diagram below, risks positioned closer to the center indicate a higher level of impact and severity, requiring longer response times to implement mitigation measures.

No.	Description of Risk
1	The degree of which the corporation implements biodiversity promotion measures.
2	The degree of concern the corporation shows on the subject of biodiversity.
3	Proper implementations of carbon footprint inventories can assist in monitoring carbon emissions and reducing excessive emissions through the course of business activity.
4	The practice of friendly farming can increase biodiversity and sustainable development.
5	Participation in environmental sustainability-related courses and lectures can enhance the understanding of biodiversity.
6	Proper conservation and management of watersheds can increase Yellow Carbon, Green Carbon and Blue Carbon.
7	Employing modern marketing techniques can improve the sales performance of agricultural products.
8	Holding environmental sustainability-related courses and lectures can enhance others' understanding of biodiversity.
9	Sustainable development can be achieved by combining agricultural production management with environmental standards.
10	The degree of dependency the Company's products have on ecosystem services during the production process.
11	The degree of impact the Company's business activity has on biodiversity.
12	Environmental pollution caused by business activity.
13	Potential scarcity of water resources in operating sites in the future.
14	The potential impact of business activity water use on stakeholders.
15	Reputational damage caused by the breaching of laws and the inability to keep up to date with evolving global standards.
16	Business activity interrupted by extreme heat results in poor business performance.

Risks and Opportunities Related to Nature Dependency and Impact

Dependency and Impact	Risks and Opportunities	Description of Risks and Opportunities	Potential Effects
Water Scarcity	Water stress	In situations of limited water resources, insufficient water supply to factories, office areas, and employee dormitories may disrupt normal business operations.	Increased operating costs Decreased financial revenue
	Resource efficiency	Establish internal management policies, join RE100, actively increase the use of renewable energy, and optimize process water efficiency.	Increased operating costs Decreased financial revenue
Extreme Heat	Decline in productivity	Increased maintenance requirements for machinery and equipment, impacts on material storage, and adverse effects on employee health, leading to a decline in production efficiency.	Increased operating costs
	Policy transformation	The Company's human rights management system incorporates working hour management measures in response to high temperatures. Additionally, after 2023, the Company initiated evaluations for green building projects to address the ongoing rise in global temperatures.	Improved corporate reputation
	Human rights policy	To ensure employee safety in high-temperature environments, the Company has developed an operational hazard identification process, established emergency response measures for heat-related incidents, and implemented training and awareness programs.	Improved corporate reputation
Tropical Cyclones	Production line interruption	Flooding may occur in plants, posing risks of damage to raw materials, finished products, and equipment. Disruptions in transportation and logistics could further impact employee commuting and material deliveries, raising safety concerns.	Increased operating costs
Greenhouse Gas (GHG) Reduction	Energy Transition	Greenhouse gas emissions from the Company's operational activities have contributed to global warming and negatively impacted ecological systems. In response, the Company prioritizes carbon reduction strategies by continuously investing in energy-efficient equipment across its facilities, while also setting a renewable energy target to achieve RE100 by 2040.	Increased operating costs Improved corporate reputation
	Market Transition	To comply with customer requirements and the regulations of countries where products are sold, the Company enhances product energy efficiency and reduces resource consumption.	Increased operating costs Improved corporate reputation
Waste and Pollutants	Resource Recycling Efficiency Improvement	By implementing source-level management, the Company actively promotes resource recycling. Qisda's Suzhou facility in China and Ha Nam facility in Vietnam have obtained UL 2799 Platinum and Gold certifications, respectively. Both sites conduct comprehensive reviews of waste categories and flow, identify opportunities for improving waste management performance, and establish action plans for waste reduction.	Increased operating costs Improved corporate reputation

Scenario Analysis and Setting

Qisda prioritizes its Taiwan operational sites as the primary subject for assessment. This scenario simulation analysis incorporates the aforementioned stakeholder survey results and BRF assessment outcomes to identify material risks for scenario modeling. Considering Taiwan's geographical and environmental conditions and the impacts of climate change, we have identified "tropical cyclones," "water scarcity," and "extreme heat" as material risks. These three risks have also been assessed as the most probable and severe in our analysis.

We reference the warming scenarios and climate projections outlined in the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) to consolidate three different scenarios. These scenarios further analyze potential operational risks under varying conditions, examining dependency risks, impact risks, and the interrelationships between socio-economic factors and the natural environment.



► Collaborative Long-Term Sustainable Contract Farming: Joint Efforts to Preserve Biodiversity

In partnership with the BenQ Foundation, Qisda has collaborated with the Department of Soil and Water Conservation at National Chung Hsing University on a long-term contract farming project. This initiative includes ecological surveys and soil sampling assessments at two contracted sites: a tea plantation in Hengshan Township, Hsinchu County, and a Chun Yuan farm in Xizhou Township, Changhua County. According to the survey results from October 2023 to 2024, the Hengshan eco-friendly tea plantation has successfully created a biodiversity-friendly habitat, maintaining a balanced

“Hong Bao” tea plantation, Hengshan Township, Hsinchu County



“Chun Yuan” farm, Xizhou Township, Changhua County

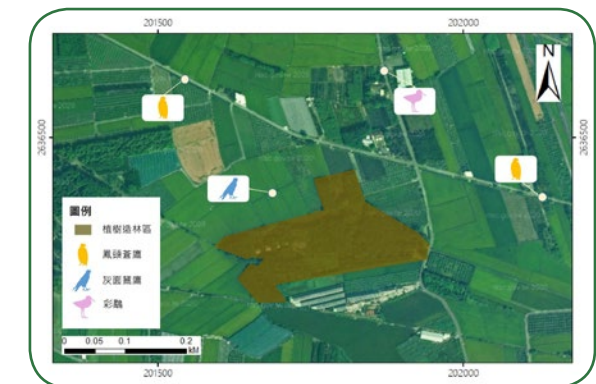


tea plantation ecosystem that supports biodiversity and strengthens the food chain. Meanwhile, ecological monitoring at the Xizhou eco-friendly rice farm began in March 2024. Findings indicate that the adoption of sustainable farming practices not only sustains crop yields but also enhances long-term soil fertility. The organic carbon content in soil under eco-friendly farming is over 50% higher than in conventionally farmed fields. Additionally, each hectare of eco-friendly farmland can store approximately 40 more metric tons of carbon compared to conventional farming practices.

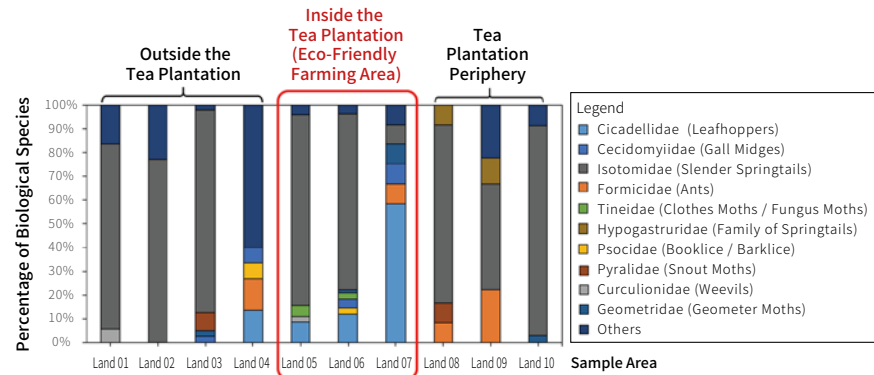
Overview of Protected Wildlife Distribution in Hengshan Shaking Tea Plantation



Overview of Protected Wildlife Distribution in Xizhou Chunyuan - Shangshui Farmland



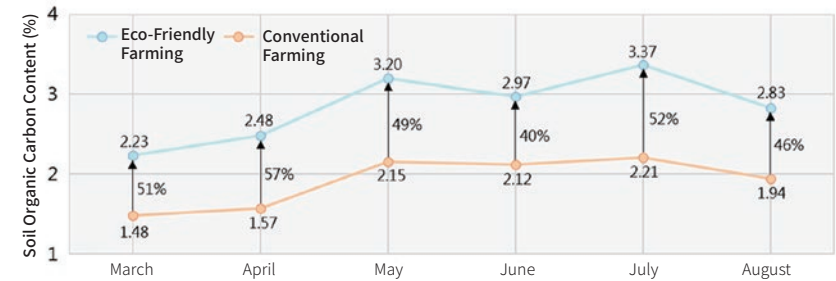
Percentage Composition of Insect Species Inside and Outside Hengshan Shakeng Tea Plantation



Biodiversity within eco-friendly tea plantations is significantly higher than that outside the plantations.



Trends in Soil Organic Matter Content: Eco-Friendly Farming vs. Conventional Farming



► Forest Protection

Supporting Ecological Restoration and Disaster Prevention through Reforestation Certification

In 2024, Qisda collaborated with the Agency of Rural Development and Soil and Water Conservation (Nantou Branch) to support reforestation compensation efforts. The Company adopted a 0.6-hectare greenbelt as part of the Jiufen Ershan and Zhongguakeng Creek Restoration Project, under the agency's initiative. This area, located in a severely affected zone of the 921 Earthquake, was restored through a "subtractive engineering" approach. To mark the occasion, a land adoption ceremony and a corporate tree-planting event were organized.

"Corporate Reforestation Initiative" – Jiufen Ershan Tree-Planting Action: Connecting People and the Environment for Sustainable Prosperity

This year marks the 25th anniversary of the 921 Earthquake. In commemoration, we organized an adoption ceremony and a corporate tree-planting event. Participants also visited the Earthquake Memorial Park and the post-disaster reconstruction model, Taomi Village, to gain a deeper understanding of the importance of disaster prevention education and environmental restoration. A total of 101 employees from 9 affiliated companies took part in the event.



Nature-Based Solution Centered on "Stream Restoration"

Focusing on disaster mitigation, conservation, and ecology, we implemented a "subtractive engineering" approach to restore the Zhongguakeng Creek rehabilitation site. This involved removing existing concrete revetments, creating buffer green belts and floodplain areas, and restoring the natural ecological environment.



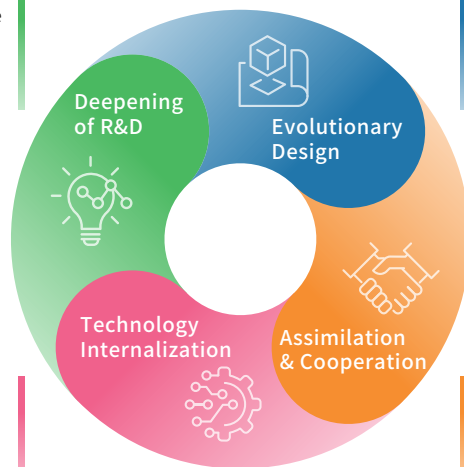
Green Products and Circular Economy

Qisda is an electronic design and OEM company, whose large range of operations span across a variety of sectors. Our products and technical fields include high-end and professional displays; precision optics products; and industrial/commercial computers and peripherals. In recent years, we have actively accelerated the expansion of the medical industry and developed smart solutions in the hopes of combining the “blue ocean strategy” with our value-added products to capture new markets. We have maintained in a leading position in the field of LCD displays and projectors around the world through advantages such as proficiency in innovative and diverse product design, profound R&D technical ability, high-quality and flexible manufacturing capabilities around the globe, capacity for vertical integration for Group resources, and exceptional industrial design.

Continuing to leverage the existing innovative momentum of R&D and integration skills, we will uphold product design and manufacturing applications as well as commit to energy saving and environmental protection in line with corporate social responsibility to focus on the R&D and manufacturing of products, reducing emissions of all substances in a sustainable manner. In the future, we will focus on four major strategies for R&D to move towards the Company’s vision of “Bringing Enjoyment N Quality to Life.”

Qisda’s R&D Strategies

Account for the front-end R&D of products to ensure their quality and safety.



Continue to introduce the idea of innovative design for products in order to meet the ever-changing requirements in the market.

Keep on exploring and establishing new product technologies, and then applying them to product design and manufacturing.

Continue the implementation of industry-university cooperation for the joint R&D of new technologies and products.

Product Innovation and Responsibility

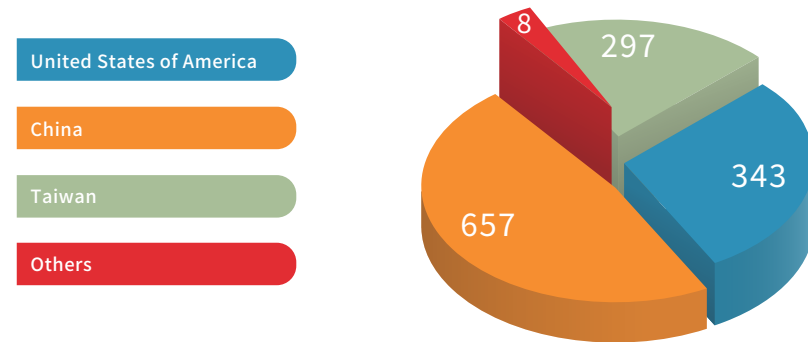
Qisda spares no effort in the innovation and development of products to maintain our competitive advantages. In the past 4 years, we have invested an average amount of more than 2% of our revenue in the innovation and R&D of products every year. Moreover, the “Regulations for Rewarding Employees with Patents” has been established to encourage the employees to innovate, invent and apply for patents. Statistics show that in 2024, a total of 76 essential patents⁽¹³⁾ were obtained. As of the end of 2024, we had accumulated a total of 1,305 valid patents worldwide.

Item \ Year	2021	2022	2023	2024
Funds invested in R&D (NT\$ thousand)	2,274,898	2,464,509	2,267,941 ⁽¹⁴⁾	1,948,901
Percentage of R&D funds in revenue (%)	2.17	2.42	3.00% ⁽¹⁴⁾	2.54
R&D personnel (persons)	599	587	581	560
Percentage of R&D personnel in employees (%)	39.7	37.6	37.2	35
Number of valid patents	1,192	1,199	1,251	1,305
Number of patent applications	206	238	248	206
Reward for employees with patents (NT\$)	2,279,041	1,808,242	1,819,762	1,515,989

(13) Essential patents are defined as patents in the U.S. The goal is to obtain 100 essential patents per year by 2025.

(14) The originally disclosed financial figures for 2023 were based on self-assessed data. For the current year, the original funds invested in R&D and percentage of R&D funds in revenue for 2023 have been adjusted to reflect the official 2023 financial statements. (In the 2023 Sustainability Report, the original funds invested in R&D was NT\$2,315,570,000, with a percentage of R&D funds in revenue of 3.02%.)

Total Number and Regional Distribution of Valid Patents in 2024



Technologies and Products Successfully Developed in 2024



LCD Display Product

OLED Display Products:

- (1) Enhanced refresh rate: QD-OLED 34" (WQHD 240Hz)
- (2) Dual-mode switching: W-OLED gaming monitor with Dual Mode Support 32" (UHD 240Hz<->FHD 480Hz)

LCD Display Products:

- (1) Dual-mode switching: Gaming monitor with dual mode support 27" (UHD 160Hz<->FHD 320Hz)
- (2) Ambient light sensing for synchronized brightness and chroma adjustments
- (3) TÜV Eye comfort-certified eye care display technology
- (4) Professional color management monitor for photography and post-production
- (5) Display application software compatible with Windows on ARM
- (6) Consistent color calibration between display and operating system settings



Projector Product

In 2024, we successfully developed a new solid-state light source platform for projectors, utilizing only solid-state light sources as the illumination technology for the new platform. For instance, the LED light source platform supports home and commercial projectors, while the blue laser-excited phosphor light source platform is used for home projectors, commercial projectors, and golf simulator projectors. Additionally, the pure RGB laser light source, which meets the high color gamut standard of BT.2020, is integrated into ultra-short throw micro projectors.

We have also incorporated 50% post-consumer recycled (PCR) plastics and plastic-reduced packaging, adopting paper-fold packaging designs. As a result, over 30% of our projector models now utilize recycled materials.



Medical Service

Dialysis: BenQ Dialysis has officially launched the "E-Strong Qflux Dialyzer" in the Taiwan market in 2024. Designed specifically for first-time dialysis patients, bedridden individuals, the elderly, and patients with weakened cardiovascular function, this low-flux hemodialyzer provides a gentler dialysis treatment option, reducing the physical burden on patients.

Smart Medical Imaging: The newly developed tablet-based ultrasound system with wireless probes enhances convenience and flexibility, minimizing environmental and spatial limitations. Alongside the previously developed portable laptop-based and flagship cart-based ultrasound systems, this comprehensive product lineup meets the diverse needs of various medical departments, offering high-efficiency, reliable, and versatile imaging solutions.

AI-Driven Digital Healthcare Innovation: In collaboration with the Industrial Technology Research Institute (ITRI), we have developed two groundbreaking AI-powered products: AI Surgical Reports and the AI Ultrasound Integration Platform. By leveraging deep learning models for ultrasound image analysis and integrating AI speech recognition and large language models (LLM), these innovations enable faster diagnostics, reduce the time required for surgical reporting, and enhance accuracy and efficiency in medical decision-making. This advancement drives digital transformation in the healthcare sector, strengthening Taiwan's healthcare and ICT industries and accelerating their transition to higher-value, technology-driven solutions.

Business Model

Eye-Care Display Products

Qisda's display products, distinguished by advanced eye-care technology and innovative design, have been awarded the highest-level "Eye Comfort 5-Star Rating" certification by TÜV Rheinland, solidifying our position as a global leader in eye-care display technology. This prestigious certification not only recognizes our excellence in fundamental eye-care features such as low blue light and flicker-free technology, but also highlights our breakthroughs in color accuracy and adaptive ambient light adjustment. Our displays intelligently adjust brightness and color temperature based on surrounding light conditions, ensuring users enjoy a comfortable and visually optimized experience in any environment while maintaining vivid and true-to-life colors. This achievement reflects our commitment to user health and experience, as well as our relentless pursuit of technological innovation.

4K HDR Flagship Gaming Projector

Designed for high-end gamers, video enthusiasts, and home entertainment, this cutting-edge projector delivers stunning 4K resolution, HDR10 support, and high brightness output, providing an unparalleled ultra-high-definition visual experience. With built-in Android TV, Wi-Fi connectivity, and voice control, it seamlessly integrates smart technology, breaking traditional boundaries and enabling effortless access to premium entertainment. Powered by Qisda and BenQ's industry-leading technology, this projector is optimized for gamers, featuring low latency and high refresh rates for an immersive and responsive gaming experience. Whether gaming or watching movies, every scene becomes more lifelike and breathtaking than ever before.



Pocket-Sized Water Filter

Utilizing Taiwan's only medical-grade hollow fiber membrane encapsulation technology, this world's smallest portable water purifier is developed in collaboration with local hollow fiber membrane manufacturers. It effectively filters bacteria and microorganisms, providing clean and safe drinking water on the go. Designed with a universal bottle cap compatible with standard PET bottles, this innovative filter helps reduce bottled water waste. It also serves as a critical resource for emergency relief, disaster preparedness, and use in harsh environments, offering sterile water for wound care when needed. This groundbreaking product has been recognized with the CES Innovation Award and the 2024 Taiwan Excellence Silver Award.



Smart Medical Imaging

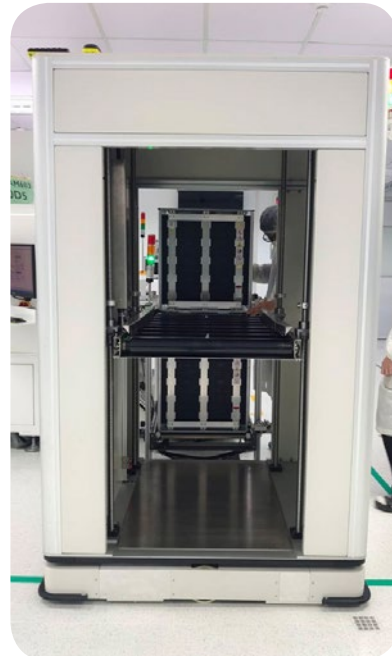
The newly designed wireless ultrasound probe eliminates the constraints of traditional cables, offering greater convenience and flexibility in various medical scenarios. By reducing spatial limitations, this innovation allows physicians to perform bedside examinations and emergency assessments with ease, minimizing the need for patient relocation. Its compact and portable design also enhances access to healthcare services in remote areas, improving both diagnostic efficiency and accessibility.

This wireless ultrasound probe is compatible with off-the-shelf tablets and smartphones, requiring only software installation for immediate use. This not only enhances cost efficiency by reducing investments in new equipment and electronic waste from obsolete devices but also provides an intuitive touch-screen interface for effortless operation. Furthermore, with seamless connectivity to tablets and smartphones, it facilitates learning for beginners and enhances teaching applications, making medical education more versatile and accessible.



Smart Factory Innovations

To meet market demands and maintain competitiveness, Qisda began implementing smart factory designs in 2015, integrating data analytics, robotics, and artificial intelligence into the manufacturing process to transform production models, enhancing efficiency and quality. As an industry leader, we introduced manufacturing information system solutions with a highly integrated hardware-software platform and established the second phase of our smart factory at the Taoyuan headquarters in 2017. In 2019, we implemented a three-tier safety mechanism based on ISO 10218 and TS 15066, significantly improving human-robot collaboration safety and earning Taiwan's first human-robot collaboration safety certification. Through smart manufacturing solutions, we have enhanced production quality while reducing space inefficiencies, thereby improving overall factory productivity. In 2021, we expanded smart factory technologies, deploying Automated Guided Vehicles (AGVs) in semiconductor and automotive factories. By 2022, we introduced an intelligent warehouse system, enabling fully automated inventory tracking and unmanned logistics from warehouse storage to dock shipments. In 2023, we integrated intelligent automation into automotive product manufacturing, achieving full product traceability and automated production testing and packaging. In 2024, we introduced an unmanned transport system for automotive product manufacturing, automating test package transportation and reducing labor requirements by 50%.



Development History of Smart Factories

Unmanned transport system

Adopted unmanned transport systems for in-vehicle products, automating test package logistics

Automation

Intelligent automation was introduced into products delivered by car to complete product production history and achieve automated production, testing, and packages

Smart warehousing

Introduction of intelligent storage for unmanned warehouse operation and smart management throughout the process

Product marketing

Extension of the application of the AGV guided vehicle (AGV) to wafer fabs and automobile factories

Collaborative operations

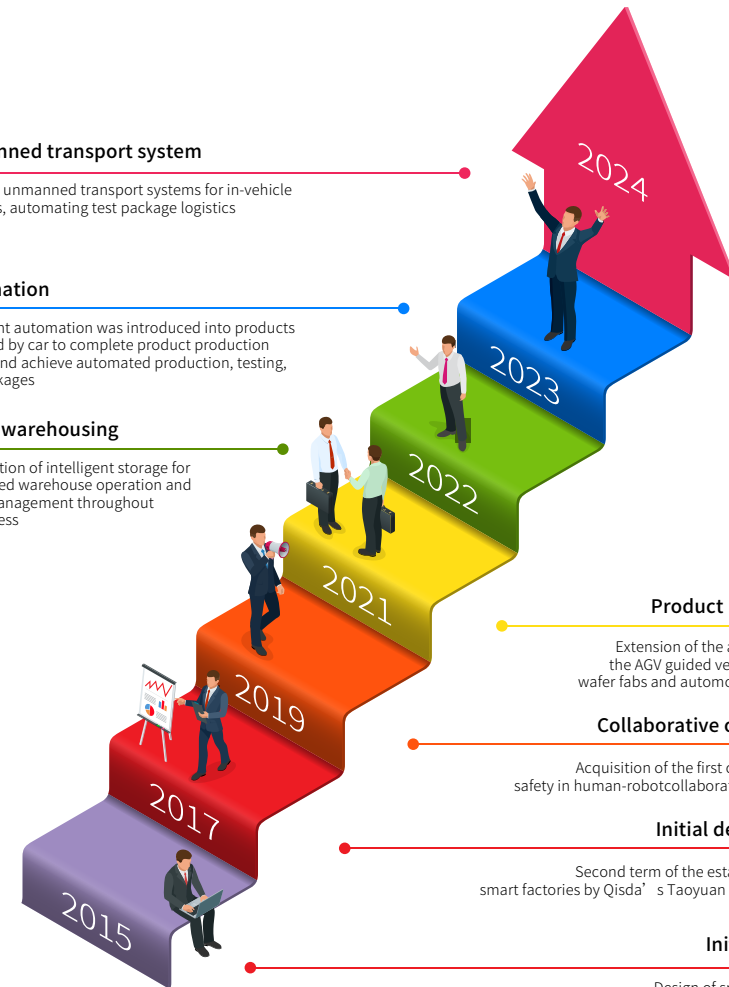
Acquisition of the first certification of safety in human-robot collaboration in Taiwan

Initial deployment

Second term of the establishment of smart factories by Qisda's Taoyuan headquarters

Initial design

Design of smart factories



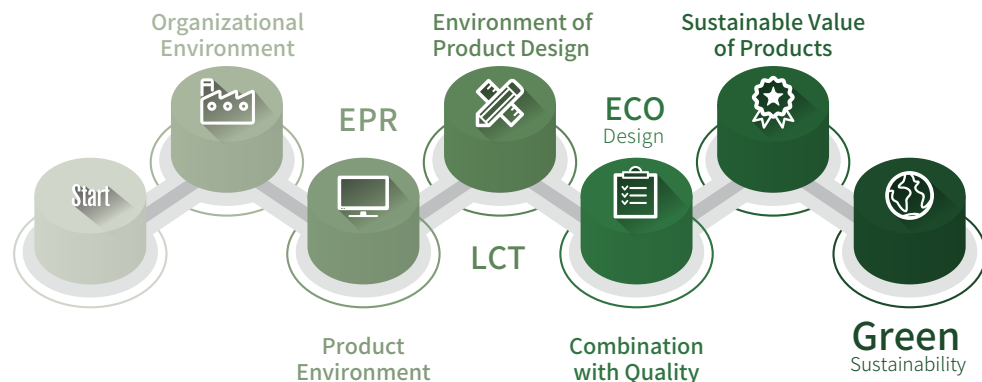
► Green Products

Qisda aims to maintain and implement their corporate sustainable development (ESG) vision of “being an innovator for the design and manufacturing of ICT and medical products, boosting quality of life and staying environmentally friendly” through the production of green products. The process of promoting green, sustainable products can be divided into different phases. Our scope of focus extends beyond the organizational environment to look at the whole product environmental footprint, and we pay close attention to the environmental impact of our products during their life cycle, including after they leave the factories.

Qisda places importance on introducing green design elements from the early stages of design, believing that it is the only way to reduce the products’ impact on the environment at each stage of their life cycle. We combine the techniques of green design with the quality control process, product design, and R&D procedure, conducting inspections at each stage of design and making the corresponding adjustments to reach the highest level of efficiency.

Starting from 2010 (using 2009 as the baseline year), we have incorporated the elements of green design within our product design and R&D process, and established management systems with respect to the environmentally conscious design (IEC 62430) the incorporated ecodesign (ISO 14006) guidelines.

Qisda integrates a life cycle perspective into its product design process, incorporating green design objectives from the early stages. Each design phase undergoes rigorous review to ensure that products not only comply with customer requirements and regulatory standards in sales countries but also achieve continuous improvement by enhancing energy efficiency and reducing resource consumption. The original Green Design 555 five-year target was successfully achieved ahead of schedule in 2023. In response to net-zero emission policies, the Company has set ESG annual targets for its key product lines through 2030, aiming to reduce environmental impact while enhancing product performance, delivering superior solutions to customers, and establishing sustainable product value.



Green Product ESG Goals and Performance

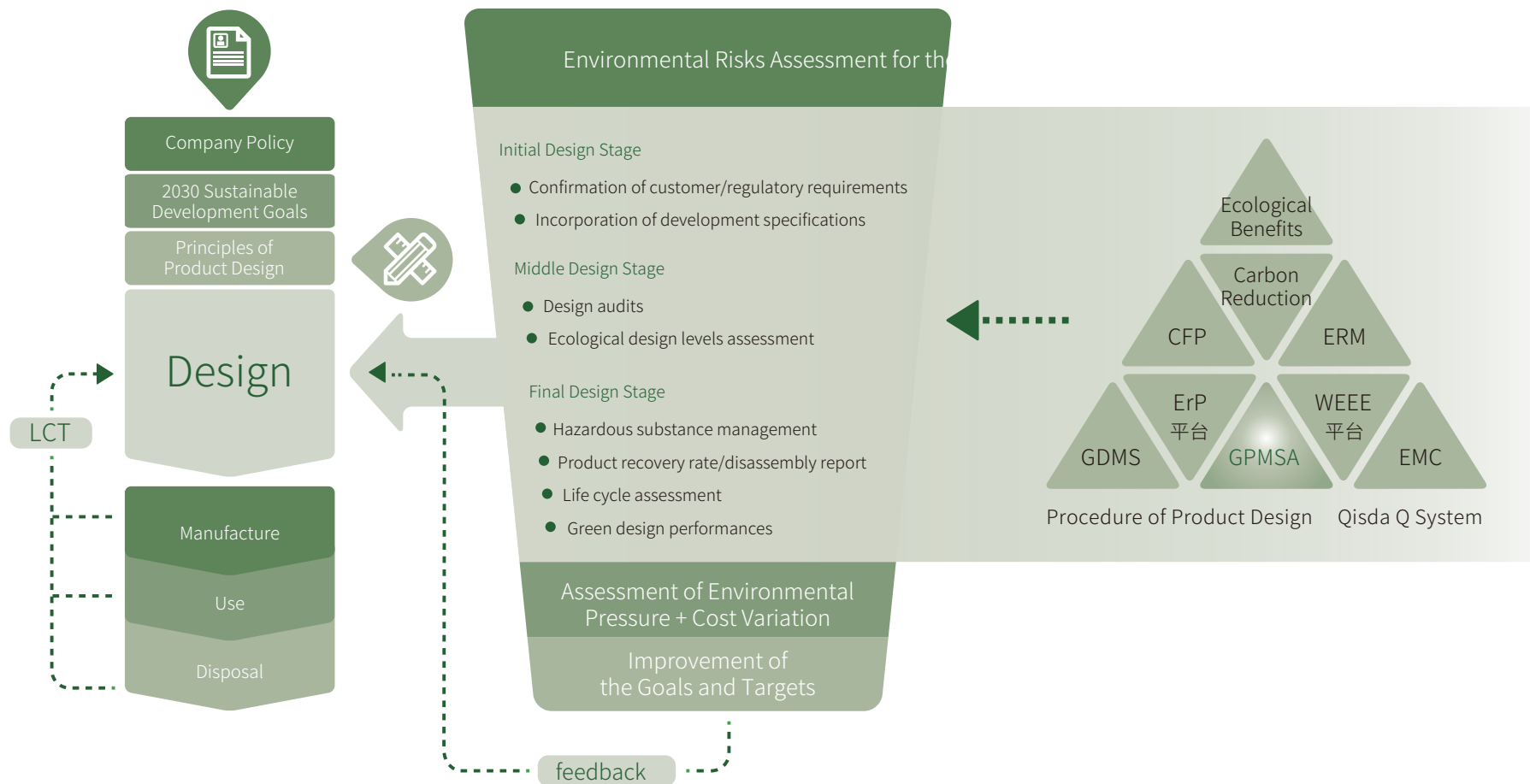
Product Line	Displays			
Goal	Energy efficiency improvement	Manufacturing efficiency improvement: Percentage of single-sided printing machine models in IF BD	Proportion of new models with reduced material usage through thinner plastic design	Proportion of models using recycled steel
2030	14%	80%	80%	80%
Goal for 2024	2%	60%	63%	25%
2024 Achievement	3.39%	67.7%	65.3%	28.4%

Product Line	Projector		
Goal	Proportion of models using recycled materials (new project models)	Energy efficiency improvement	Proportion of products with mercury lamps
2030	67%	7%	32%
Goal for 2024	30%	1%	62%
2024 Achievement	31.8%	2.8%	59%

Concept of Incorporated Design

Qisda has introduced environmentally conscious design (IEC 62430) since 2010, and continued to promote life cycle thinking with regards to the products we design. We require that green design elements be included in the beginning of the product R&D process to assess the potential environmental impact and risks caused by the designed products/components in different phases of the life cycle. Furthermore, we hope to simplify our design, so that we can begin to reduce the environmental impact of our products from the initial design stage. We believe that we should combine ecological design with quality management and produce products that are both helpful to the environment and possess great functionality. Since 2013, we have combined the guidelines

for incorporating ecodesign (incorporated design; ISO 14006) with environmentally conscious design (IEC 62430), the environmental management system (ISO 14001) and the quality management system (ISO 9001), and introduced them to the R&D process, establishing a structure of incorporated ecological design. Since 2013, we have received statements of the integrated design (ISO 14006) and the green design (IEC 62430) for products such as displays, projectors, smart phones, scanners, multimedia players and light fixtures.



Concept

Principle/Approach of ecological design

Requirements

Qisda specifies that green design must be incorporated from the beginning of the product R&D process to assess the potential environmental impact and risks caused by the designed products/components in different phases of the life cycle. We also require implementation of proper management from the very beginning of the design. Thus, based on the status and design experience of each product line, we established interdepartmental green design principles for the R&D staff as a guideline to inform choices for related manufacturing procedures. We place importance on four major green design approaches during the R&D stage, which are material reduction, hazardous substance management, energy saving and recycling. In the middle stages of design, we use the internal WEEE platform to make product recyclability assessments, and see if the recyclability of the product meets Qisda's basic requirements. The product can only move on to the next stage of the design process after receiving confirmation that it has met all necessary requirements.

Methods

1. Reduction of raw material consumption

Reduce the volume and weight of products and packaging as well as the number of components within the product, taking modular design into consideration. In 2024, 65.3% of new display models featured a slimmed-down plastic design, effectively reducing material usage.

2. Hazardous substances

For environmentally harmful chemicals that could be used in products or during the production process, Qisda has formulated the "Hazardous Substance Control List" according to international regulations and the requirements of the customers. Qisda strictly manages the approval of components and raw materials, and conducts rigorous inspections of imported materials. We establish a systematic management mechanism to ensure that our products comply with international regulations and meet the customers' requirements. We hope to progressively reduce the usage of hazardous chemicals, simultaneously avoiding damage to both the human body and the environment during product transportation, use and disposal.

3. Energy saving

Qisda primarily focuses on increasing energy efficiency and reducing energy consumption during the product's shutdown and standby modes. We also compare the data of contemporary models with that of models from the previous generation to confirm the achievement of energy saving goals. Qisda not only meets international requirements (such as ErP, TCO and Energy Star), but also takes self-enhancement and continuous improvement as an aim, an area of consideration and a crucial part of our operational framework. In 2024, the newly developed display products improved energy efficiency by 3.39%, while projector products improved energy efficiency by 2.8%.

4. Product disposal:

Qisda takes the products' recyclability and the difficulty of disassembly into consideration from the start of the product design process. We think about the composition of products components and avoid using materials and manufacturing processes that make hard to dismantle, such as bonding, soldering or embedding. Products and samples with plastic components that weigh 25g or above should be labeled with a list of materials, and the plastic components used cannot be composed of more than two kinds of materials.

Concept

Process of ecological product design

Requirements

In order to implement ecological design for all models and meet the requirements of customers/importing countries while continuing to promote material reduction, energy saving and carbon reduction, the design process of the machines can be roughly divided into three stages.

Methods

1. Initial Design Stage

- ▲ Confirmation of customer/regulatory requirements: Confirm the regulations/demands of the customers and the importing countries, and submit the requirements to the system, sending them internally to the management units responsible for subsequent processes.
- ▲ Incorporation of development specifications: Convert the regulations of the customers and the importing countries to design specifications as design inputs at the initial design stage.

2. Middle Design Stage

- ▲ Design audits: Double-check the blueprints and prototypes to see if they meet the requirements and if there's any quality issue.
- ▲ Ecological design levels assessment: See if the products meet other international requirements in addition to those of the customers and the importing countries, and label the products with golden, silver and bronze medals according to their ecological design status. The advantages and disadvantages of the product design is also provided as an improvement guide for the next generation of products.

3. Final Design Stage

- ▲ Hazardous substance management: Provide corresponding reports for customers based on their requirements and check the compliance status of each component again.
- ▲ Product recovery rate/disassembly report: Calculate the recovery rate of the models and make disassembly analysis reports through the internal WEEE platform.
- ▲ Life cycle assessment: Collect internal and external information through Qisda's carbon management platform, and provide product carbon footprint reports and lists of recommendations for reducing carbon right after mass production.
- ▲ Green design performances: Compare existing products with the previous generation models and make assessments of design improvement performances to see the status of achieving goals such as energy saving, material reduction and carbon reduction.

Concept

Environmental impact assessment and benefits of products

Requirements

Based on the requirements of the customers/importing countries, Qisda actively assesses if the design of products can be further simplified to leave out unnecessary manufacturing processes and parts. Every year, we perform periodical assessments on the environmental impacts of each product type. The current and new design specifications/process of the product line are taken into consideration when assessing the possible impacts and risks brought by it in each stage of the life cycle. We also make comparisons with previous models or benchmark products in the industry to identify high-risk parts and manufacturing processes, and then establish affordable and feasible improvement plans to reduce environmental pressure. These plans shall be implemented for the next generation's models.

Methods

1. Environmental impact assessment for products

Assessment method	Approach	As a percentage of the Company's total product revenue (%)
Full Life Cycle Assessments (Full LCAs)	Qisda utilized the SimaPro software and the Ecoinvent database to conduct LCAs of all products. The Company's LCA methodology continues to be designed in accordance with the ReCiPe 2016 Midpoint assessment method.	12.16
Simplified Life Cycle Assessments (LCAs)	For only one impact category: climate change, the carbon footprint calculation platform of Qisda and the Ecoinvent database were used for calculation.	46.54
Others (excluding those that have undergone the above two assessments)	Compliant with EU RoHS Directive	40.30
Products of the Company as a percentage of the environmental impact assessment		100

2. In 2024, products certified with the Energy Star label accounted for 57.89% of the Company's annual revenue. Based on the measured Typical Energy Consumption (ETEC) of these products compared to the Maximum Typical Energy Consumption (ETEC_max), and assuming an average product lifespan of 6.6 years, it is estimated that a total of 3,709,525 GJ of energy can be saved, equivalent to a reduction of 509,029 tCO₂e in carbon emissions."

Concept

Platform data integration

Requirements

- ▲ In 2010, Qisda became one of the first companies to establish a carbon management platform. By using the bill of materials (BOM) system, we listed the corresponding components and integrated them with the component approval system to collect the material and process parameters of each component. Then, we imported the data into the Simapro system before mass production, generating a product carbon footprint report. This led to significant reductions in operation time, allowing carbon footprint reports to be available immediately after mass production, when it previously would've taken six months to produce. We also widened the scope of our carbon inspection, inspecting not only one model, but other product lines and models at the same time. Thus, Qisda has achieved the goal of providing carbon footprint reports for all main models since 2012.
- ▲ In the future, Qisda will also integrate information relating to product disposal and energy consumption on the WEEE platform so as to present the complete cradle-to-grave carbon footprint of the products. In 2013, Qisda established the product-related environmental regulation management platform to connect with the customers'/company's requirements. Based on the various requirements of each model, the system adapts to suitable specifications for mandatory and optional design audits, offering audit lists at the subsequent design stages to ensure that our product design meets the customers'/company's requirements, all the while avoiding rework costs.
- ▲ We will continue to connect/integrate Qisda's systems and resources to make the most of our data, and further reduce time spent on rework and sending information between departments.

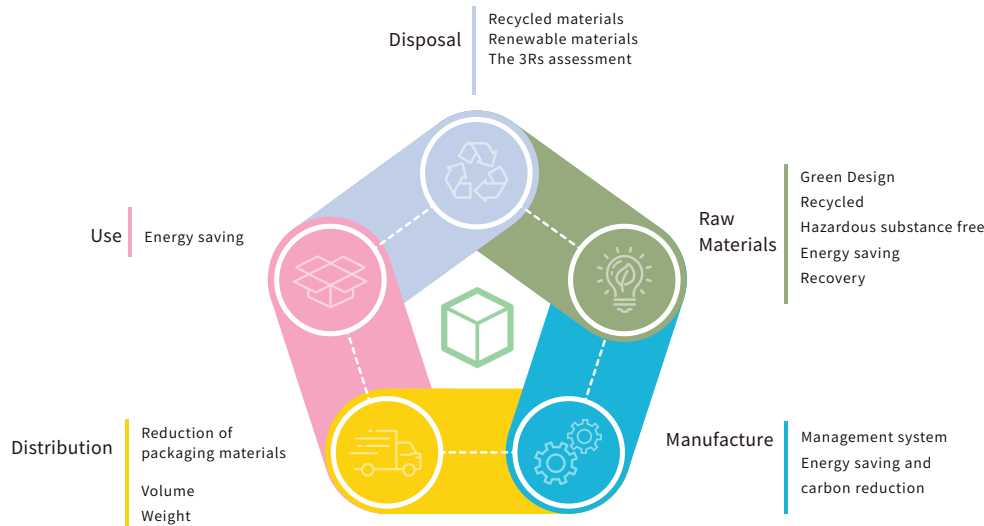
Methods

- ▲ Continue to optimize the carbon footprint management system and avoid omissions with inspection reports.
- ▲ Starting from the third quarter of 2023, the emission coefficient quoted on the Carbon Footprint Platform has been updated through the Ecoinvent database, and an independent third-party verification is expected to be carried out in early 2024 to ensure the "Product Carbon Footprint Report" generated by the software platform fulfils its intended purpose and that the GHG emission data outputted by the system for the products are consistent. In the future, we will continue to obtain carbon footprint data from suppliers to increase the proportion of primary data.

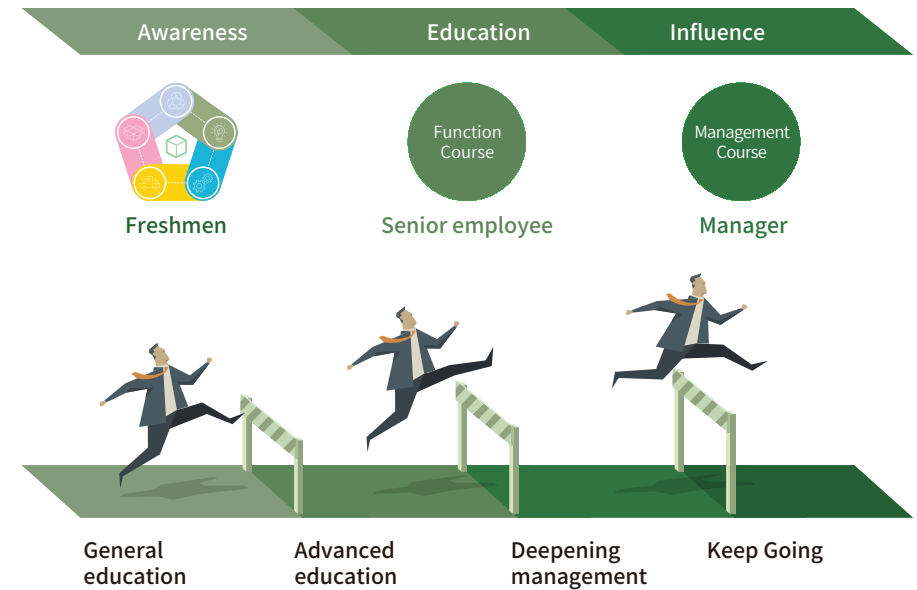
Requirements and Cases at Each Stage of Product Life Cycle

Stage of Life Cycle	Requirements	Action Taken
Raw materials	In addition to considering using parts that consume less energy and reducing the quantity of the parts used, parts used are required to adhere to the EU Restriction of Hazardous Substances (RoHS) Directive or the customer's personal requirements regarding the prohibition and limitation of the use of hazardous substances.	- In 2024, all of the raw materials of the new products were in compliance with the EU RoHS Directive. - In 2024, 65.3% of new models featured a slimmed-down plastic design, effectively reducing material usage. - Continue to promote the use of recycled materials: - The proportion of recycled plastic materials (housing) in new models for major display customers must reach at least 85%. For the largest display customer, the proportion of recycled aluminum used in new model heat sinks has increased from 90% to 100%, while the recycled content of SGCC BKT has also reached 50%. - Some high-end projectors have incorporated recycled plastic materials for their external casing, with a recycled content of approximately 50%. - The reuse or recycling of materials in hemodialyzers reduces over 5,000 kg of PP material and 800 kg of PC material waste annually. - Continuous promotion of eco-friendly packaging materials: - In 2024, all new display models have gradually adopted folded paper or molded pulp packaging. - In 2024, certain projector customers have implemented fully folded paper or molded pulp cushioning materials in new models, aiming for a 30% adoption rate of molded pulp packaging by 2025. - Starting in 2024, cartons for dialysis devices are manufactured using 85–90% recycled pulp, printed with water-based ink, and supplied by certified eco-friendly vendors.
Manufacture	Qisda has implemented the environmental management system (ISO 14001) since 1997 and introduced the occupational safety and health management system (ISO 45001) in 2001, committing to lowering both the impact on the environment and potential risks during production. We obtained the Green Factory Label in 2016 and established relevant energy saving and waste reduction performance indicators to achieve our green operation goals.	- In 2024, the solar power generation amounted to 5,912,767 kWh, resulting in an annual carbon reduction of 3,151.02 tCO₂e. - A new energy-saving project was introduced in 2024, which is expected to reduce electricity by 1.642 million kWh/year. - The purchased renewable energy certificates totaled 39,064,000 MWh, accounting for 36.7% of its total electricity consumption. - In our sites around the world, the carbon emissions per personal hourly electricity consumption were 2.32 kgCO₂e in 2024, falling by 7.2% compared to that of 2021, which was 2.5 kgCO₂e. - The proportion of recyclable waste reached 94% in 2024.
Distribution	In the early stages of new product design, Qisda considers reducing the packaging volume of finished products and using lighter-weight materials as much as possible. At the same time, the Company optimizes the stacking of finished products to reduce fuel consumption during distribution, and avoid more impact on the environment.	- Continue to optimize the pallet stacking method to increase transportation volume. - Increase the loading rate through optimization of packaging material design. - In 2024, some display models have incorporated strap designs on stands to optimize loading efficiency. For a specific model, this improvement has increased the loading rate by 4%. - Since 2023, idle raw material pallets within the group have been repurposed for shipping hemodialyzers, with over 1,200 pallets reused annually, effectively promoting resource recycling and reinforcing the implementation of a circular economy.
Use	Qisda not only meets international requirements and customer requirements (such as the ErP, TCO and Energy Star), but also takes self enhancement and ongoing improvement as an aim to continue refining the energy consumption of products. In addition, Qisda has established an internal design for service and design verification mechanism to ensure that products meet brand customers' after-sales service and reliability requirements.	In 2024, the energy efficiency of newly developed display products improved by 3.39%, while projector products saw a 2.8% improvement in energy efficiency.
Waste disposal	Qisda takes the products' recyclability and the difficulty of disassembly into consideration since the start of the product design process. We think about the product composition and avoid using materials or manufacturing processes that make products hard to dismantle, such as bonding, soldering or embedding. Products and samples with plastic components that weigh 25g or above should be labeled with a list of materials, and the plastic components used cannot be composed of more than two kinds of materials. In the middle stages of design, we use the internal WEEE platform to make product recyclability assessments, and see if the recyclability of the product meets Qisda's basic requirements. The product can only move on to the next stage of the design process after confirmation that the product complies with all necessary requirements.	From 2021 to 2024, the product recyclability had been in line with the WEEE requirements. Percentage of Products Complying with WEEE Requirements 2021 100% 2022 100% 2023 100% 2024 100%

Qisda's product life cycle mindset



Plans for training green talents



Training for Green Talents

Qisda organizes three levels of training for R&D personnel. For newcomers, the Company provides general education and training on green product design, and establishes internal instructors to help new employees develop awareness of the green design process. Through simple games, the Company gradually introduces green design elements and approaches to the product function design. This in turn guides employees to think about the design process and familiarize themselves with practical cases of Qisda's green products. Content of these courses include: the concept of the product life cycle, application of life cycle thinking, green product redesign, and green product structures and elements.

For senior R&D personnel, professional improvement courses are provided based on the needs of each business unit or project. After incorporating the relevant knowledge and technology into internal documents and SOPs, the Company distributed courses on this new information to R&D personnel through software platforms. Every year, relevant R&D personnel are also trained to continue constructing advanced green product courses, such as: understanding and interpretation of international regulations, life cycle inventory and evaluation, ecological design, design methods, product disassembly research and analysis, software platform application, and other related courses. Additionally, concepts related to circular economy and the use of recycled materials are incorporated into the course content.

At the management level, Qisda regularly organizes green product management courses for R&D executives, strengthens management through influence, and continues to pay attention to the performance of product management to determine the appropriate management method based on the conditions of each product line.

Life Cycle Assessment

In accordance with the ISO 14044:2006 standard, the product life cycle stages include raw material acquisition, manufacturing, transportation and distribution, consumer use, and end-of-life disposal. Since 2022, Qisda has conducted assessments for end products such as LCD monitors and digital projectors. The system boundary is defined as “Cradle to Grave,” encompassing the entire life cycle from raw material acquisition to end-of-life disposal.

The following presents the environmental impact categories and results of the 2024 Life Cycle Assessment (LCA) for a 24-inch LCD monitor:

Method of calculation used to determine environmental footprint of products:

Environmental
footprint

=

Activity
intensity data

X

emission
coefficient

The product life cycle is based on the verification and calculation of the product's environmental footprint at each stage of the life cycle (from raw material exploitation/manufacturing, transportation, and manufacturing to product distribution and transportation, product use, and product disposal), including all emissions produced within the supply chain.



The principles of allocation are as follows:

Stage of Life Cycle	Allocation Method
 Raw Material Acquisition	Parameters for the calculation of raw materials are set according to the actual amount (weight) of materials used in the production of a single unit. For the transport of raw materials, these parameters are multiplied by the actual transportation distance from the supplier's production location to Qisda's Suzhou (China) Plant.
 Manufacturing	For the input, output, and emission data at the manufacturing stage, "production working hours" is used as a factor to allocate activity to a single product.
 Distribution and Sales	The actual weight of the subject product shipped from the plant to the first distribution point (or warehouse) is multiplied by the transportation distance and then allocated to a single product.
 Consumer Use	Allocation is made according to the proportion of sales in each region.
 Waste Disposal and Recycling	Based on the disposal method of each part after the product is disassembled, the weight is used as the basic allocation parameter for the calculation.

Energy-saving, material reduction, and carbon reduction goals and implementation results for display product development are reviewed quarterly

This year, we continue to use the ReCiPE 2016 midpoint method to evaluate the selected product's environmental footprint with respect to 18 environmental impact categories and indicators at each stage of its life cycle, from cradle to grave. The life cycle assessment tool used is SimaPro 9.6.0.1, and the database used is Ecoinvent 3.10.

The energy-saving/consumption reduction/carbon reduction goals and implementation results are reviewed every quarter for the development of displays.

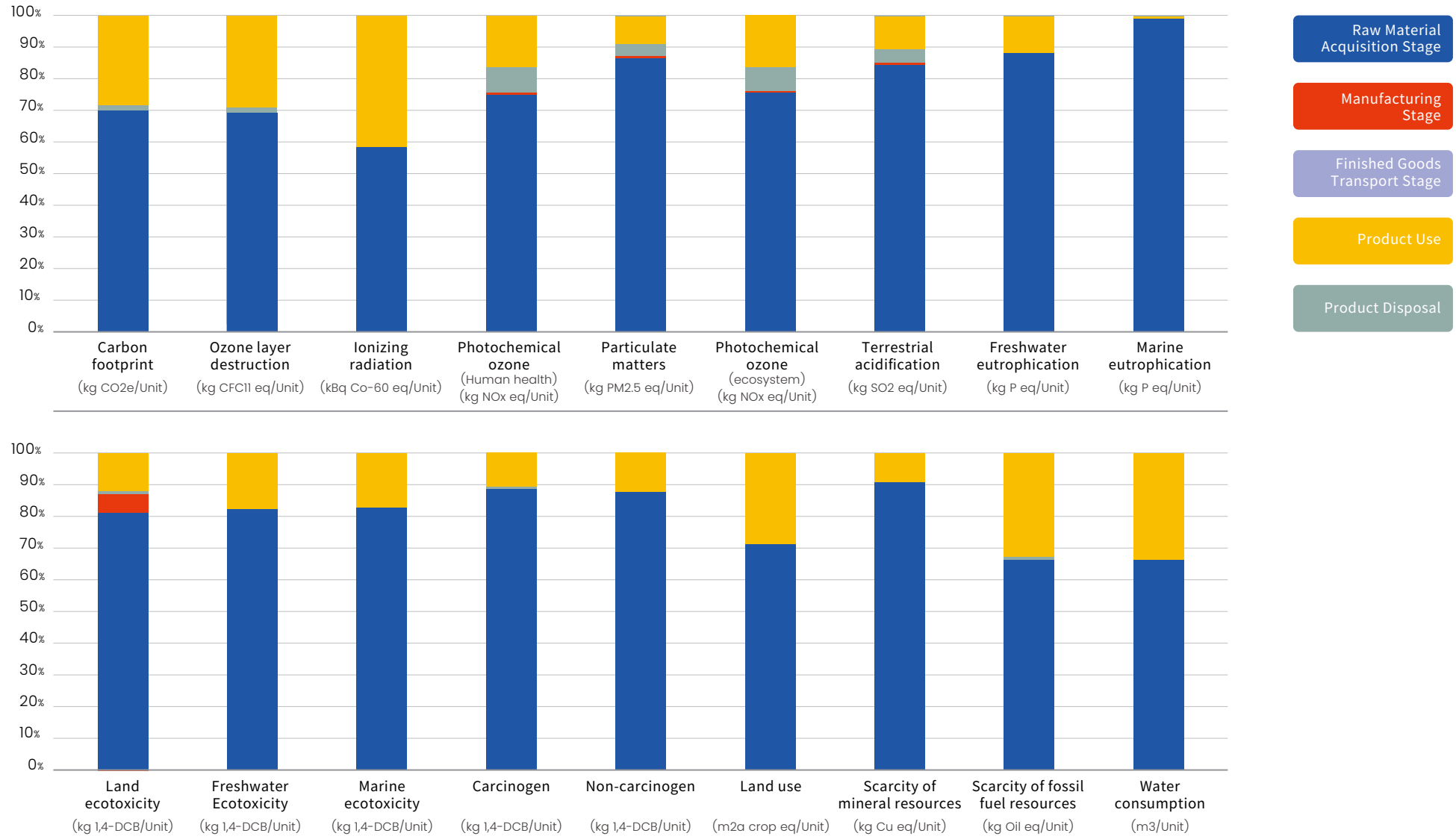
For detailed results, please refer to the LCA report.

Environmental Hotspots	Description	Management and Mitigation Measures
Use phase	During the use phase of the LCD monitor's lifecycle, the total electricity consumption is relatively high (106.8408 kWh). This phase not only contributes significantly to the carbon footprint, but also results in notable impacts on terrestrial ecotoxicity and non-carcinogenic health effects.	In response, Qisda has implemented carbon emission management measures during the product development phase, specifically targeting power consumption: 1. Conduct thorough evaluations to reduce the overall power usage of the device. 2. Adopt modular design to reduce the number of components.
Raw material stage – Panel	The panel contributes significantly to environmental impacts such as high carbon emissions, terrestrial ecotoxicity, non-carcinogenic and carcinogenic effects, and marine ecotoxicity. The primary environmental hotspots are associated with energy-intensive manufacturing processes, including thin-film deposition, photolithography, and etching. These steps require substantial electricity consumption to maintain high temperatures, vacuum conditions, and cleanroom operations, leading to increased carbon emissions. Furthermore, the production and processing of raw materials, such as glass substrates and metals like indium, molybdenum, copper, and silver, can result in heavy metal pollution and land degradation. Hazardous chemicals used during the process—such as fluorinated etchants, photoresists, and strong acid solvents—may release VOCs and pollute water and air, thereby affecting ecosystems and human health.	1. Promote Qisda's environmental requirements to suppliers to encourage improvement efforts, such as waste and carbon reduction in panel raw materials and processes. 2. Suppliers are actively increasing the proportion of raw material recycling, solar power generation, and solvent reuse in chemical material processing on an annual basis.
Raw material stage – Stand	The stand exhibits significant environmental impacts, including high carbon emissions, terrestrial ecotoxicity, non-carcinogenic and carcinogenic effects, and fossil fuel resource depletion. The main environmental hotspots stem from raw material production and processing. Stands are typically made from metals (such as aluminum and steel) and plastics (such as ABS and PC), both of which require high energy input during smelting and manufacturing processes. These activities may release heavy metals and VOCs, affecting soil and air quality. In addition, manufacturing and surface treatment processes—such as cutting, die-casting, electroplating, and painting—require energy-intensive equipment, contributing to increased carbon emissions and the generation of toxic wastewater and volatile organic compounds, which pose risks to ecosystems and human health.	During the product development phase, carbon emission reduction is managed through design strategies: 1. Use of low-carbon materials. 2. Use of recycled materials. 3. Reduction of material weight. 4. Simplification of assembly processes to reduce energy consumption.
Raw material stage – PCB	In addition to high carbon emissions, PCBs also contribute significantly to terrestrial ecotoxicity, non-carcinogenic effects, marine ecotoxicity, and freshwater ecotoxicity. The primary environmental hotspot of PCBs lies in the energy consumption during manufacturing processes, particularly electricity use, as PCB production involves energy-intensive heating and material processing. Furthermore, the raw materials used in PCBs contain a large proportion of metals, the extraction and processing of which consume substantial energy and cause considerable environmental impact. The extensive use of cleaning and etching chemicals also represents a major source of environmental burden.	For this model, halogen-free materials have been adopted for the PCB. The controlled thresholds for bromine (Br) and chlorine (Cl) are individually limited to below 900 ppm, with a combined total of less than 1500 ppm.

Environmental Impact Assessment Results at Every Stage of the Lifecycle

Impact category	Unit	Environmental impact results					
		Raw Material Acquisition Stage	Manufacturing Stage	Finished Goods Transport Stage	Use Stage	Product Disposal	Total
		1.15E+02	1.49E+00	5.04E-01	2.96E+02	1.54E-01	4.13E+02
Ozone layer destruction	kg CFC11 eq/set	8.11E-03	3.41E-07	2.04E-07	7.67E-05	3.47E-08	8.19E-03
Ionizing radiation	kBq Co-60 eq/set	1.09E+01	5.86E-02	3.19E-03	1.59E+01	1.06E-04	2.68E+01
Photochemical ozone - human health	kg NOx eq/set	3.64E-01	4.06E-03	7.23E-03	3.42E-01	3.50E-05	7.17E-01
Particulate matters	kg PM2.5 eq/set	2.82E-01	2.29E-03	2.26E-03	6.43E-01	7.52E-06	9.29E-01
Photochemical ozone - ecosystem	kg NOx eq/set	3.79E-01	4.09E-03	7.34E-03	3.54E-01	3.52E-05	7.44E-01
Terrestrial acidification	kg SO2 eq/set	6.04E-01	5.22E-03	6.91E-03	5.71E-01	1.95E-05	1.19E+00
Freshwater eutrophication	kg P eq/set	1.34E-01	2.91E-04	2.48E-05	1.08E-01	7.57E-06	2.43E-01
Marine eutrophication	kg P eq/set	1.66E-02	2.21E-05	9.16E-06	6.99E-03	9.89E-07	2.36E-02
Land ecotoxicity	kg 1,4-DCB/set	2.57E+03	3.25E+00	1.51E+00	5.96E+02	2.96E-01	3.17E+03
Freshwater Ecotoxicity	kg 1,4-DCB/set	5.60E+01	6.37E-02	5.20E-03	1.27E+01	1.18E-02	6.87E+01
Marine ecotoxicity	kg 1,4-DCB/set	7.42E+01	8.11E-02	7.77E-03	1.61E+01	1.68E-02	9.04E+01
Carcinogen	kg 1,4-DCB/set	1.30E+01	4.81E-02	2.30E-02	8.33E+00	9.76E-04	2.14E+01
Non-carcinogen	kg 1,4-DCB/set	8.94E+02	1.05E+00	1.12E-01	2.03E+02	2.21E-01	1.10E+03
Land use	m2a crop eq/set	3.84E+00	2.15E-02	5.41E-03	5.17E+00	6.84E-05	9.04E+00
Scarcity of mineral resources	kg Cu eq/set	3.63E+00	2.13E-03	1.04E-03	3.55E-01	1.79E-05	3.99E+00
Scarcity of fossil fuel resources	kg Oil eq/set	3.04E+01	3.00E-01	1.25E-01	4.90E+01	1.02E-03	7.98E+01
Water resource consumption	m3/set	1.02E+00	4.32E-03	5.52E-04	1.55E+00	9.14E-05	2.58E+00

Results of environmental impacts at various stages and their percentage share



Quality/Hazardous Substance Management

Qisda devotes itself to promoting the quality management system (ISO 9001), the medical devices quality management system (ISO 13485), the automotive quality management system (IATF 16949) and the hazardous substance process quality management system (IECQ QC 080000). We design and manufacture products that conform to laws, regulations and the requirements for customer safety and health. In the “Quality and No-Hazardous Substance Handbook,” we clearly disclose Qisda’s policies for quality and prohibition of hazardous substance use, and the policies are verified by a third party.

The President is the person at the highest position in charge of the quality/harmful substance management system at Qisda. He/she oversees dedicated personnel and establishes organizations at different levels to ensure that the requirements of the quality/harmful substance-free policy are implemented throughout the Company and adhered to by all employees. The President makes all employees of the Company understand the importance of compliance with regulatory requirements, the Company’s quality policy, quality goals, and customer requirements through education and training, the Company intranet, and information dissemination cards, and reviews the suitability of the management system and the availability of resources in the management review meeting. These practices aim to pursue continuous improvement and problem prevention in the most economical/refined manner to achieve the continuous improvement process, reduce defects, reduce waste, improve quality and productivity, and meet the EU RoHS directive and customer requirements so that our products can fulfill social expectations and reduce its impact on the natural environment.

In the past four years (2021-2024), customers’ demands for the control of hazardous substances in products has been continuously updated to a total of 71 requirements, and inventories have been carried out in accordance with customers’ requirements and international environmental regulations (EU RoHS regulations and customers’ hazardous substance requirements). The inventory rate and compliance rates are both 100%.

Management of Hazardous Substances in Products	Description of Management Objectives	Actual Achievement
2024	100% compliance with EU RoHS regulations and customer requirements - To be controlled on July 21, 2024: (Lead)/6(a)/7(a)/7(c)-I	- All mass-produced models 100% comply with the EU RoHS Directive and customer requirements - The execution details of the directive exemption clauses have not been announced and are included as ongoing monitoring items. The implementation timeline will be re-evaluated once the details are released
2025	100% compliance with EU RoHS regulations and customer requirements - To be controlled on July 21, 2025: (Cadmium)8(b)-I	
2026	100% compliance with EU RoHS regulations and customer requirements - To be controlled on July 21, 2026: (Lead)/6(a)-1/6(c)/7(a) 7(c)-V/7(c)-VI/7(c)-II	
2027~2030	100% compliance with EU RoHS regulations and customer requirements	

Remark: (1) In 2024, Qisda will continue to update its management of hazardous substances in products in accordance with the Regulatory classification of hazardous substances (Annex XVII of the EU REACH Regulation, Candidate List of Substances of Very High Concern for Authorization above 0.1% (weight percentage) (EU Regulation), EU Persistent Organic Pollutants (POPs) Regulation), accounting for 80% of product-related revenue.

(2) In order to ensure the safety of the products we provide, Qisda's full range of products are 100% compliant with the local regulations of the countries in which they are sold, and product risk assessments are conducted to assess their potential impact on human health and the environment.

In the past three years (2022-2024), the hazardous substances used in the organization's production have been managed through elimination, replacement, and engineering control. In addition to protecting the safety and health of personnel, these practices have minimized the environmental impact of our products.

Year	Production (Equipment Using Hazardous Substances)	Name of Hazardous Substance	Management through Elimination/Replacement	Scope of Improvement
2022	20 solder pots	Hydrocarbon 15 tons/year	Water-based substitutes for hydrocarbon were introduced in May (reduction of hydrocarbon consumption by 15 tons/year)	SMT/MI shop 200 people
2023	18 solder pots	Water-based 2.8 tons/year	Filter cotton was introduced in November (reduced water-based consumption by 0.3 tons/year)	SMT/MI shop 180 people
2024	18 solder pots and 19 SMT lines	Volatile organic compound emissions	The exhaust gas treatment facilities have been upgraded from activated carbon boxes to a dry filtration system combined with a zeolite rotor adsorption concentration and catalytic combustion system	Reduced volatile organic compound emissions by 29 tons
	22 SMT lines	Volatile organic compound emissions	An additional activated carbon box was added to the exhaust gas treatment system	Reduced volatile organic compound emissions by 5.65 tons

In 2024, there were no violations of laws and regulations or voluntary standards related to health and safety impacts in the product life cycle, or related to product and service information and labeling. In the same year, in response to customer requirements, a total of 97 models met the requirements for the new version of the TCO Certified Displays 9 voluntary display standard, and thus applied for certification. In terms of management, Qisda transforms feasible requirements into an implementation plan through the new product development system. From the initial conception to the final termination stage, the plan is divided into seven stages (Q00-Q60) according to differing tasks and management objectives to ensure product quality and reliability. In addition, Qisda establishes an internal product development process through the management system described above. We also ensure that all products produced by Qisda and delivered to the customers meet the following requirements.

According to the customer's requirements, Qisda can only start mass production after obtaining product-related certifications through tests in order to ensure that the customers can receive the products without concerns about product safety.

1. Product Safety

Reduction and precaution of product-related danger such as electrical leakage, energy and fire generated by short circuits, heat during operations, chemicals and radiation. For instance, the Taiwan BSMI certification, the U.S. UL standards (UL62368-1/IEC62368-1/UL62368-1), the China CCC standards (GB4943.1-2022, GB/T 9254.1-2021, GB 17625.1-2022), etc.

2. Electromagnetic Compatibility (EMC)

Detection of electromagnetic radiation emitted by electronic products and its impact on human bodies, public electrical grid and other electronic products that function normally; testing of whether the electronic products function stably without being affected in electromagnetic environments. For instance, the U.S. FCC labeling, the Canada ICES-003 issue 7, the EU CE marking (EMC Directive 2014/30/EU, Low voltage (LVD) Directive 2014/35/EU), etc.

3. Energy Consumption of Products

Reduction of energy consumption during the product life cycle to improve efficiency and reduce energy use. For instance, the U.S. Energy Star, the EU ErP Lot 5, the EU Energy Label, and the China Energy Label (CEL), etc.

All products must meet the requirements of the “Non-hazardous Substance Process Management Procedures”

Prohibitive measures with respect to environmentally hazardous substances have been implemented for all products produced by Qisda. In addition, we have presented requirements to the suppliers in accordance with relevant specifications to ensure the compliance with laws, regulations and Qisda’s rules. With this, source management can be implemented.

1. Qisda’s Policy of Quality/Non-Hazardous Substance

Qisda complies with the goal: “Our products and services must conform to the promised quality, specification, cost and delivery date; We must devote ourselves to energy saving and environmental protection when designing and manufacturing the products, and fulfill the corporate social responsibility.” We also comply with the quality/hazardous substance free policy and will spare no effort to promote and establish systems that meet the international standards, such as the ISO 9001 “quality management system” and IECQ QC 080000 “hazardous substance process quality management system.” We strive to continuously improve our process, reducing defects and waste, and making improvements in quality and productivity by pursuing continuous enhancement and precaution with the most economical methods. Meanwhile, we are dedicated to complying with regulations related to hazardous substances (such as the EU RoHS Directive), meeting the customers’ requirements, and further complying our products with the society’s expectation and reducing negative impacts to the environment.

- Qisda also makes cards and built a mobile app (Qplay) about the quality policies for all employees to check them out anytime.
- Relevant certificates are also stored on the internal and external websites.
- Qisda verifies that its products comply with the EU Restriction of Hazardous Substances (RoHS) Directive and conform to the customers’ personal requirement that we prohibit and limit the use of hazardous substances before mass production. Meanwhile, Qisda audits all suppliers regularly, strictly manages component and material approvals, and stringently inspects imported materials. By doing so, we establish a systemized management mechanism to ensure that the customers can receive the products without concerns about health.

Environmental Certification	Number of Models Submitted in 2024	Remarks
 TCO Certified Displays 9	97 models	TCO Certified is a world-leading sustainability certification for IT products. Its criteria are designed to drive social and environmental responsibility throughout the product life cycle. Compliance is independently verified, both pre and post certification.
 TCO Certified Displays 10	16 models	On June 11, 2024, TCO announced the updated TCO Certified Displays 10 Final Standard. Applications for TCO Certified Displays 10 was open starting August 19, 2024. Beginning December 5, 2024, new models can only apply for TCO Certified Displays 10, while TCO Certified Displays 9 certificates will expire on December 3, 2026.
 China Environmental Labeling (the Ten-Ring Certification)	11 models	The China Environmental Labeling is a certification launched by the government. Products certified with the label not only pass the quality standard, but also meet the requirement of environmental protection during the process of production, use and disposal. Compared to other similar products, the certified products have advantages in environmental aspects, such as low toxicity and hazardous substances, resource saving, and so on.
 U.S. Energy Star	58 models	The U.S. Energy Star program was launched by the U.S. Environmental Protection Agency in 1992 with the aim of reducing energy consumption and the greenhouse gas emission of power plants. Participation in this program is not compulsory. Companies voluntarily participating in the program are allowed to put an Energy Star label on their qualified products. In 2024, the Energy Star products had a 57.89% share of the annual revenue.
 RoHS EU RoHS/WEEE	All models	EU RoHS/WEEE is a compulsory standard formulated by the EU, mainly aiming to restrict hazardous substances in electric and electronic devices and further protect human health. It also ensures proper recovery and disposal of waste for environmental protection. Qisda’s products that are in compliance with the EU RoHS Directives account for 100% in the total product revenue.

Declaration and Label

Qisda provides product information and labeling based on customer requirements. For example, for its largest customer, Qisda submits a Substance Inventory Specification that discloses the material composition of the product; a Declaration of Conformity (DoC) to inform the customer of any substances that may pose environmental impacts; a User Guide that includes product safety usage instructions; and a Safety and Regulatory Information document that specifies relevant product recycling information.

Among the models shipped in 2024, the percentage in product revenue with respect to the environmental labels and declarations is as follows:

Proportion of Product Line in Product Revenue (%)	Total
 Energy Star	57.89%
 TCO	55.34%
 China Environmental Labeling	53.22%
 Taiwan ECO Label	17.74%
 Compliant with RoHS	100



Circular Economy and Recycling Benefits

At Qisda, we constantly seek opportunities at all stages of the product life cycle to create sustainable value, enable sustainable use of resources, and reduce environmental impact.

Raw material stage: In response to customer requirements and Qisda's pursuit of environmental friendliness, we gradually increase the use of recycled materials.

- The proportion of the Company's recycled materials in terms of weight to the Company's purchased materials (excluding electronic materials) in 2024 is as follows:

Item	Plastic	Metal	Total
Weight of non-recycled materials (tons)	3,276	10,377	13,653
Weight of recycled materials (tons)	8,066	3,769	11,836
Total weight (tons)	11,342	14,147	25,489
Recycled material weight percentage (%)	71	27	46

In the case of plastic and metal recycling materials, for example, a total of 11,835 tonnes were purchased in 2024. It is estimated that 27,904 tCO₂e can be saved when using recycled materials instead of new ones.

- The revenue ratio of display models using recycled plastics and metals from 2021 to 2024 is as follows:

Proportion of display products that use recycled plastics in total product revenue	2021	2022	2023	2024
	52%	62%	85%	85%

- The revenue proportion of products using recycled plastics and recycled metals in 2024 is as follows:

Proportion of Full Product Line in Product Revenue (%)	Using Recycled Plastics	Using Recycled Metals
	70.79%	28.78%

- The revenue share of products using recycled/environmentally friendly packaging materials in 2024 is as follows.

Product Line	Cartons Using Recycled Pulp	Use of Eco-Friendly Water-Based Ink	Use of Soy-Based Ink	Use of Molded Pulp Material/ Folded Paper
Displays	99.70%	52.92%	46.78%	82.16%
Projector	99.95%	98.59%	1.82%	18.29%
Industrial and Commercial Products	93.62%	89.38%	11.64%	47.75%
Automotive Solutions	100.00%	100.00%	0.00%	0.00%
Others	100.00%	100.00%	0.00%	0.00%
Total	99.19%	60.42%	39.46%	72.78%

Manufacturing stage: The waste in the manufacturing process can generate economic benefits.

- The annual waste recycling income of Suzhou and Vietnam plants from 2021 to 2024 is as follows:

Currency: NT\$

Item	2021	2022	2023	2024
Suzhou Plant's Income from Waste Recycling	126,411,292	128,665,285	94,820,377	82,694,306
Vietnam Plant's Income from Waste Recycling	2,666,677	2,676,476	7,550,331	11,694,531
Total	129,077,969	131,341,761	102,370,708	94,388,838

Sustainable Materials

Qisda continues to collaborate with its customers in setting targets for sustainable and recycled materials. For example, for a major display customer, the target for new models launched in 2024 was to use at least 85% recycled plastic in the housing. This target was successfully achieved in 2024.

Qisda's "Sustainable Raw Materials Policy" defines sustainable materials as those that impose minimal and least harmful impact on the global environment and human health throughout the stages of raw material extraction, product manufacturing, distribution, usage, and end-of-life disposal. The sourcing regions for raw materials should not fall within areas recognized as critical biodiversity regions at the international or national level. In addition, social impacts are considered during raw material procurement, with an emphasis on avoiding human rights violations and harm to the rights or development of local communities.

In Qisda's "Green Product Design Procedure", R&D personnel are required to follow Qisda's Green Design Guidelines. During the product design and development stage, they must adhere to four key green design principles: material reduction, hazardous substance management, energy conservation, and recyclability. Material selection is also carried out in alignment with these green design directions.

For product identification and assessment of environmental aspects and impacts, Qisda conducts IEC62430/ISO 14006/ISO 14001 internal and external audits annually in accordance with our "Impact Source and Risk Identification Management Procedures" in order to reduce the impact of materials on the environment by selecting environment-friendly materials, such as reducing the use of mercury lamps in our projector product lines. The online training courses on green design and sustainable raw materials are held every year for R&D personnel. The courses cover life cycle concepts, application of life cycle thinking, green product redesign, green product architecture and elements. Additionally, concepts such as the circular economy and the use of recycled materials are integrated into the course content. (For further details, see Training for Green Talents.)

- Suppliers, unique specifications, and the material composition of raw materials can be traced through the company's internal GPMSA system, and source information is obtained from upstream suppliers to meet customer needs.

Qisda has planned a biodiversity survey across its value chain, extending the scope to include assessments of both suppliers and customers. This initiative aims to understand the company's high dependency and impact on natural capital throughout its operations, identify actual or potential risks and opportunities during the business lifecycle, and avoid human rights violations or harm to the rights and development of local communities, thereby minimizing social impacts.

Qisda requires its suppliers to comply with the "Code of Conduct for Sustainable Development of Suppliers," which covers labor, health and safety, environment, ethics, and management systems. Suppliers are also required to avoid human rights violations and any harm to the rights or development of local communities when sourcing raw materials.

For the highest revenue-generating display model in 2024, the composition of materials used is as follows:

Material	2024 Consumption (KG)	Recycling Proportion
Plastic	3,388,310	41%
Aluminum	766,290	95%
Cobalt	61	0%
Copper	364,681	0%
Steel	3,936,426	12%
Nickel	8,169	0%
Lithium	—	0%
Titanium	3,220	0%