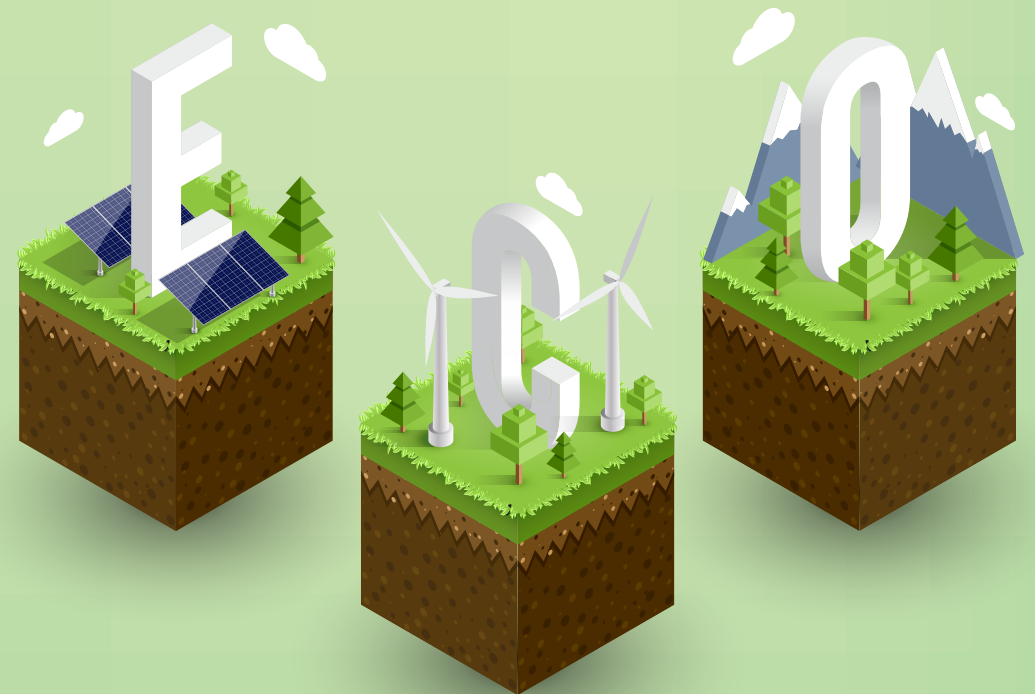


2 Environmental protection

- Environmental Policy and Management
- Climate Adaptation and Mitigation
- Energy Consumption and Conservation
- Making Good Use of Water Resources
- Waste and Pollutants
- Biodiversity and Forest Conservation
- Green Products and Circularity



Environmental Policy and Management

Environmental Policy

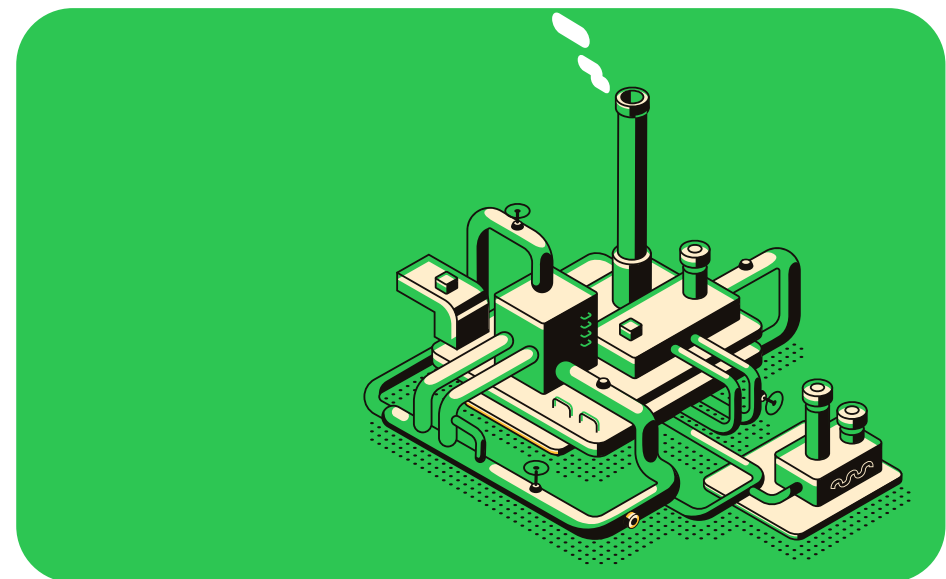
Qisda knows that the impact of human beings on the environment is irreversible, and only focusing on economic and social development is not sufficient to meet the expectations of the stakeholders. Hence, Qisda is committed to investing resources into reducing volume, saving energy and reducing carbon 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 plants 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.

Qisda did not have environmental violations in the past four years from 2020 to 2023. The statistics are as follows:

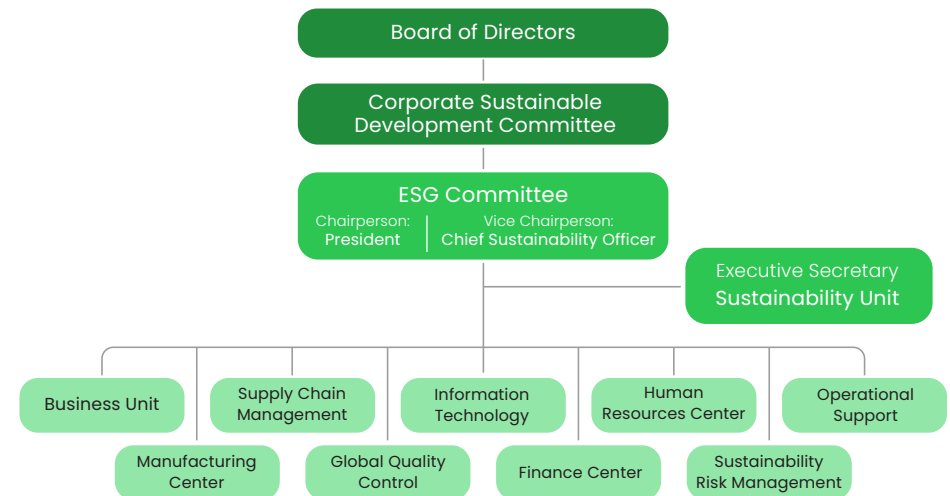


Climate Adaptation and Mitigation

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 also promotes corporate sustainable development by planning climate strategies and implementing carbon management. 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. 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

Climate Governance Framework



TCFD

Governance

a. The Board' s oversight of climate-related risks and opportunities

To promote corporate sustainability and climate change governance, the Company established the Corporate Sustainability 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 meetings on a regular basis. 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.

b. Management' s influence in assessing and managing climate-related risks and opportunities

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 already committed to join the SBTi in 2022). 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 2023, and followed up on two major risks: production interruption in factories and supply interruption of suppliers. 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

Qisda has defined the period for the short term (2021–2025), medium term (2026–2030), and long term (2031–2050). 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 (medium-term and long-term) and customer behavior changes (medium-term), and energy-saving commodities have been identified as an opportunity (medium-term and long-term). 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" 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 plans

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.



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. Plans for fighting 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: production interruption in factories and supply interruption of suppliers. 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 26.2% in 2023; excluding the reduction of emissions due to lowered business operation, Scope 1 and Scope 2 GHG were still reduced by 29.1%.

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 2023, the production output value declined and thus the greenhouse

gas emission intensity increased by 28.68% compared to 2022. 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.

2023 Unit: tCO2e	Scope 1	Scope 2	Scope 3
GHG emissions equivalent	3,501	Location-based: 63,084 Market-based: 48,405	1,756

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

Short term:

Use 30% 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

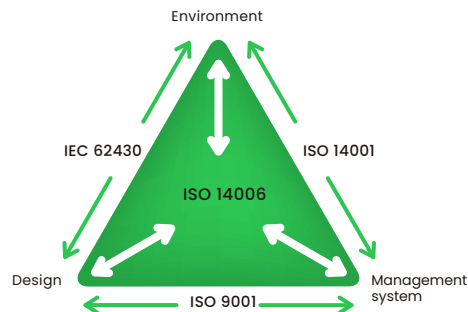
The Board of Directors of the Company is responsible for the review and supervision of climate change strategies, action plans and annual goals. The Sustainability Officer is authorized to take the responsibility for the formulation, planning and implementation of the strategies. He/she detects and responds 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 KPIs (Key Performance Indicators). 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).

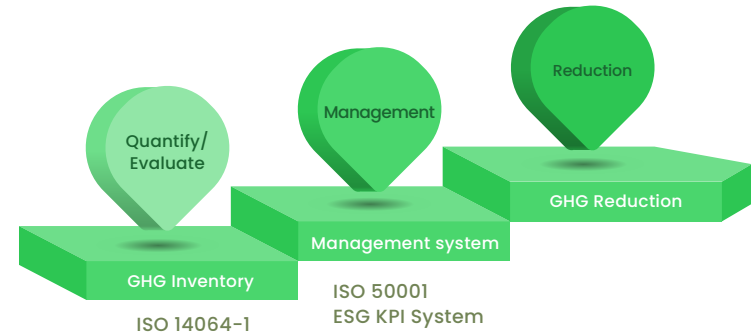
Green Product

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 Operation

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.

Awareness

- Inspection of the supplier's social responsibility, environment, safety and health
- Self-assessment on the Responsible Business Alliance Code of Conduct (RBA Code)

Implementation

- 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 Corporate Social Responsibility Report
- Extension to the Tier 2 supplier

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
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% to 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	<p>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.</p> <p>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.</p>		<p>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.</p> <p>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 facilities is poor, the facilities 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.</p>		<p>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 factories are necessary. The rise of the annual temperature can cause a decrease in the number of typhoons and increase the occurrence of droughts.</p> <p>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 factories, transportation disruptions, employee commute and employee injuries may also occur.</p>	

Parametric Hypothesis	Today - 2023	2031-2050	Operational & Financial Impact			Management Methods
			Upstream (Suppliers)	Qisda	Downstream (Customers)	

Physical Climate Scenario RCP2.6

Annual temperature		<p>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</p> <p>Annual rainfall: Increase -5.3 - 12% in Taiwan Increase 1.7 - 11.3% in Suzhou Increase -6.6 - 10% in Vietnam</p>	<p>If precipitation increases abnormally, it may cause shipping delays and further affect Qisda's production and shipment.</p>	<p>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.</p> <p>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.</p>	<p>The customers can require Qisda to prepare materials in the warehouse in advance to respond to possible material shortage crisis.</p>	<p>We require the factories and the internal units of Qisda to pay attention to the height of the factory's foundation for flood prevention. We also regularly pay attention to occurrences of abnormal natural disasters that affect the operation of factories and Qisda.</p> <p>In addition, Qisda conducts BCP drills with respect to natural disasters, checks the height of each factory's foundation, and implements improvement and flood prevention measures.</p> <p>Finally, sufficient key materials are regularly stored in the warehouse in accordance to the FCST in preparation for unexpected needs.</p>
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Physical Climate Scenario RCP4.5

Annual temperature		<p>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</p> <p>Annual rainfall: Increase -4.7-13.6% in Taiwan Increase 2.1-12.8% in Suzhou Increase -4.6-9.9% in Vietnam</p>	<p>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.</p> <p>Abnormal natural disasters can also affect the stability of the power supply. If the Company fails to proceed with production, costs will eventually increase.</p>	<p>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 facilities 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.</p> <p>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 facilities is poor, the facilities 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.</p>	<p>In addition to more inventory, customers require an additional second source.</p>	<p>We require the factories and the internal units of Qisda to pay attention to the height of the factory's foundation for flood prevention. We also regularly pay attention to occurrences of abnormal natural disasters that affect the operation of factories and Qisda.</p> <p>In addition, Qisda conducts BCP drills with respect to natural disasters, checks the height of each factory's foundation, and implements improvement and flood prevention measures.</p> <p>In addition to preparing inventory, key materials are imported into the second source.</p>
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Parametric Hypothesis	Today - 2023	2031-2050	Operational & Financial Impact			Management Methods
			Upstream (Suppliers)	Qisda	Downstream (Customers)	

Physical Climate Scenario RCP8.5

<p>Annual temperature</p> <p>Annual rainfall</p>		<p>Annual temperature: Increase 1-3.1°C in Taiwan Increase 2-4°C in Suzhou Increase 1.1-2.6°C in Vietnam</p> <p>Annual rainfall: Increase -7.7-13% in Taiwan Increase 3-17.1% in Suzhou Increase -2.7-14% in Vietnam</p>	<p>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.</p>	<p>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 factories are necessary. The rise of the annual temperature can cause a decrease in the number of typhoons and the occurrence of droughts.</p> <p>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 factories, transportation disruptions, employee commute and employee injuries may also occur.</p>	<p>The customers hope to have a second or third production site to prevent delivery dates from being affected by disasters in different locations.</p>	<p>Both manufacturers and Qisda have requested to pay attention to the height of the foundation at the location of the factory to avoid flooding. We also regularly pay attention to occurrences of abnormal natural disasters that affect the operation of factories and Qisda.</p> <p>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.</p> <p>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.</p>
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Climate-related Transformation Scenario NDCs

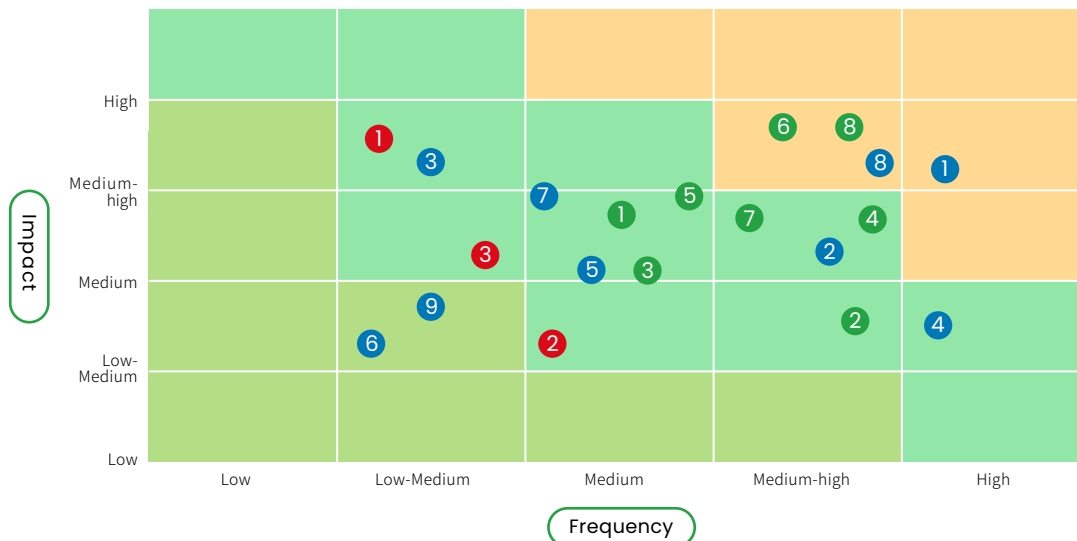
<p>Net zero emissions The 1.5°C</p>	<ol style="list-style-type: none"> 1. Reaching an annual carbon reduction of 4.2% (Scope 1 & 2) 2. Reaching 60% green power by 2030 	<ol style="list-style-type: none"> 1. Reaching an annual carbon reduction of 4.2% (Scope 1 & 2) 2. Reaching 100% green power by 2040 3. The commitment to net zero by 2050 	<p>Due to the need for industrial transformation:</p> <ol style="list-style-type: none"> 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. 	<p>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 factory 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.</p>	<p>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.</p>	<ol style="list-style-type: none"> 1. Continue to invest in energy-saving facilities for plants, with an estimated electricity reduction of 25.89 million kWh. 2. Purchase 247 million kWh of renewable energy certificates (I-REC) 3. Implement carbon reduction according to SBT.
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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 substantive (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” and “frequency,” and then classified into “low,” “medium to low,” “medium,” “medium to high” and “high” 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.

2023 Qisda Matrix of Climate Change Risks and Opportunities



Transition risk

- Domestic and international regulations and laws (medium-term and long-term)
- Carbon trading and carbon tax (medium-term)
- Green products and technology (long-term)
- Energy-saving equipment (medium-term and long-term)
- Purchase of green electricity (medium-term and long-term)
- Consumer’s sustainability awareness (long-term)
- Rising costs of raw materials (medium-term)
- Customer behavior change (medium-term and long-term)
- Reputation (long-term)

Substantial risk

- Typhoon and flood (Short Term)
- Water and Power shortage (Short Term)
- Increase of annual Temperatures (Short Term)

Opportunities

- Energy-saving benefit (short-term)
- Water-saving benefit (short-term)
- Efficient green building (medium-term and long-term)
- Installation of solar power (medium-term and long-term)
- Low-carbon commodities and services (short-term and medium-term)
- Sustainable value (medium-term and long-term)
- Green finance (short-term)
- Energy-saving commodities (medium-term and long-term)

Climate Change Related Risks and Their Financial Impact

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions
Transition 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	Medium-term and long-term	<ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> An increase in operating costs results from possible rise of electricity bills. Energy saving improvement measures planned for the Taiwan factory at a cost of NT\$500,000 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. Failure to comply with regulations in a timely manner may impact the revenue of NT\$100 million per project or bring about a fine (estimated to be approximately NT\$1 million for a single model). 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\$840,000. For compliance with laws and regulations, relevant units provide education and training, consultation, and publicity, optimization and improvement of software and hardware. This will cost about NT\$430 thousand in total. 	<ul style="list-style-type: none"> 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. An exhaust system optimization project has been implemented in 2023 (costing approximately NT\$175,000). We expect to commence improvement of our air compression system in 2024, with a budget of NT\$800,000. Relevant key performance indicators (KPIs) have been set up for control by the ESG 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 as early as possible, 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.

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions
Transition risk	Carbon trading and carbon tax	Medium-term	<ul style="list-style-type: none"> The Carbon Border Adjustment Mechanism (CBAM) will gradually enter into force in 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 (The 2023 annual report for the shareholders' meeting must disclose TCFD information). 	<ul style="list-style-type: none"> Importers will start paying for the EU's CBAM charge, which will cause a rise in import and export costs. Clean Competition Act (CCA), expected to be 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. 	<ul style="list-style-type: none"> 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.
	Green product and technology	Long-term	<ul style="list-style-type: none"> Changes in consumer awareness will lead to an increase in demand for green products. Consumer expectations and market demands must be met. For example, when integrating low-carbon technology and circular economy in the design of products, low-carbon materials or recyclable packaging materials must be considered. 	<ul style="list-style-type: none"> 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 cost of cultivating environmentally friendly materials management talents is approximately NT\$1.2 million per year. 	<ul style="list-style-type: none"> 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. In order to comply with laws and regulations and customers' requirements for identifying low-carbon parts and components made of energy-saving and environmentally friendly materials, we have assessed and separately coded the part numbers of green and energy-saving parts and components to facilitate identification and management. 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.

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.

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions
Transition risk	Green product and technology	Long-term	<ul style="list-style-type: none"> To reduce carbon footprint and protect the environment, we encourage employees to move daily operations and meetings online. 	<ul style="list-style-type: none"> To reduce carbon footprint and protect the environment, we encourage employees to move daily operations and meetings online. 	<ul style="list-style-type: none"> 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.
	Green product and technology	Long-term	<ul style="list-style-type: none"> We purchase energy-saving equipment and materials. 	<ul style="list-style-type: none"> In 2023, we replaced the chamber equipment with 3 energy-efficient units at a procurement cost of approximately NT\$970,000. Replacing low-carbon materials results in an increase of the cost by about NT\$40 million. 	<ul style="list-style-type: none"> 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.
	Green product and technology	Long-term	<ul style="list-style-type: none"> Safety regulations in various countries have increasingly stringent requirements for energy efficiency. 	<ul style="list-style-type: none"> The European Union will prohibit mercury projector lamps by 2027, and the electricity bill in Europe will rise sharply, thus driving consumers to pay attention to energy consumption. The replacement of the semiconductor light source projectors must have good energy consumption performance in order to compete with competitors or competing products (such as large flat-panel displays). As of 2024, no impact was imposed on Qisda products. 	<ul style="list-style-type: none"> The safety regulation unit regularly pays attention to international regulations and customer requirements, and works with the R&D team to develop products and designs that comply with regulations. 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.
	Green product and technology	Long-term	<ul style="list-style-type: none"> Suppliers fail to achieve the goal of carbon reduction. 	<ul style="list-style-type: none"> At present, both OEMs and suppliers can cooperate to introduce plastic-reducing or environmentally friendly materials. There was no financial impact in 2023. 	<ul style="list-style-type: none"> Qisda's goals for sustainable raw materials and recycled materials: (1) No less than 60% of monitor models uses recycled materials, (2) No less than 50% of models uses paper plastic/paper folding. The above goals have been achieved in 2023.
	Energy-saving equipment	Medium-term and long-term	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Electricity expenses increased by 5%. Energy-efficient NB/PCs with energy-saving labels was purchased in 2023 to replace old equipment. In 2023, Taiwan Plant replaced the old UPS batteries; the cost of replacement was about NT\$800,000. 	<ul style="list-style-type: none"> We set equipment lifespan and replace outdated equipment with high-efficiency 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.

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions	
Transition risk	Purchase green electricity	Medium- and long-term	<ul style="list-style-type: none"> In response to the RE100 plan, the proportion of purchased green power certificates increases year by year. The Company enhances the use of green energy and installs solar power-related equipment. 	<ul style="list-style-type: none"> 24,700 I-RECs were purchased at a cost of NT\$413,625 in 2023. 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, MetaAge expects to build its own solar power facilities at a cost of about NT\$7.25 million. 	<ul style="list-style-type: none"> In addition to generating solar energy on the top floor of the factory 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 factory purchases green electricity every year. Cooperate with manufacturers to build solar energy projects and purchase green electricity to reduce the cost of purchasing electricity. Phase II solar power generation project in Suzhou Plant in 2023. Phase I solar power generation project in Vietnam Plant in 2024. 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. MetaAge plans to complete the construction of its rooftop solar power facilities by Q2 2024. 	
	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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Qisda launched the "Carbon Management Platform System" in 2010 to provide customers with product carbon footprint reports immediately after mass production. The cost of conducting quarterly reviews on the ESG committee, establishing and maintaining a product greenhouse gas inventory system, and third-party verification has exceeded \$342,700 in total. 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	<ul style="list-style-type: none"> Reduced oil production affects transportation-related material expenses. Customers request recyclable packaging materials. In response to our declaration of cutting carbon emissions in the supply chain by 2030, suppliers with better carbon emissions and higher costs are selected. 	<ul style="list-style-type: none"> The costs of transportation and related materials rise. 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 may increase the cost of materials. 	<ul style="list-style-type: none"> 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. 		

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions	
Transition risk	Customer behavior changes	Medium- and long-term	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. In order to meet customers' carbon reduction requirements, the costs associated with developing a GHG inventory system for products and requesting verification of data from suppliers continues to increase. To comply with FSC, the estimated paper cost will increase by approximately NT\$80,000. 	<ul style="list-style-type: none"> 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. In the future, the transition to carbon reduction technology and low-carbon materials will continue to be a requirement. Taking Energy Star, a major energy efficiency regulation, as an example, 81% of our products complies with its energy-saving requirements as of 2023. 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. 	
	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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions
Transition risk	Reputational risk	Long-term		<ul style="list-style-type: none"> 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 units 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%. 	<ul style="list-style-type: none"> 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.
			<p>Acute physical risks</p> <p>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.</p>		
Physical risk	Typhoon, flood, and snowstorms	Medium-term and long-term	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> If the factory in Mainland China is flooded, there is a possibility of power outages and production interruption for one day. It is estimated that the disaster may affect about RMB 150,000, and it is necessary to adjust the production process. If goods are damaged, revenue will be affected; insurance premiums will also increase due to climate change factors (In 2023, no insurance claims were filed for typhoons and floods.) 	<ul style="list-style-type: none"> 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.

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions	
Physical risk	Typhoon, flood, and snowstorms	Medium-term and long-term		<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	
	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	<ul style="list-style-type: none"> 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 of "providing water for two days and cut off the supply for another two" is implemented. In Vietnam, water shortage causes power curtailment in the summer, and this affects the production capacity. The resulting unstable voltage may affect production. 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. 	<ul style="list-style-type: none"> Suzhou Plant: If the power is cut off by the government for 3 days, the production capacity can be adjusted without being affected. If power outage lasts for more than 5 days, it may affect orders of RMB 20 million. Taiwan Plant: The cost of purchasing water resources will increase, but as it accounts for a small proportion of production in the overall operations of the Company, the extent of impact is insignificant. 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. Using diesel to generate power costs about NT\$53,000 for 12 hours of power. Ocean shipping costs increase by 1.3 times. Lack of materials makes it impossible to produce normally, resulting in loss of the production capacity and turnover. The computer room maintenance increases. In 2023, the preliminary SAP & Oracle DR cloud "drill" was completed at a cost of approximately NT\$218,000. 	<ul style="list-style-type: none"> 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. Work From Home is implemented for non-production line personnel in Taiwan to reduce the impact on production, extending water storage from 2.5 days to 3.5 days without affecting 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. 	

Type	Climate Change Related Risk	Impact Period	Description of Risk Content	Potential Impact on Business, Strategies & Finance	Adaption & Responsive Actions
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.				
	Increase of annual temperature	Long-term	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Expenses for purchasing air conditioners may cause a rise in costs. The electricity bill increases. (The Vietnam Plant increases by 1%). Increased maintenance costs and increased manufacturing costs. 	<ul style="list-style-type: none"> 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 factory has increased the efficiency and stability of cooling to ensure smooth and on-time calibration and measurement without affecting the factory 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.

Climate-related Opportunities and Financial Impacts

	Type	Impact Period	Potential Financial Impact	Responsive Actions
Resource Efficiency	Energy-saving benefit	Short-term	<ul style="list-style-type: none"> The Taoyuan plant's energy-saving plan will save approximately NT\$830,000 in 2023. We reduce paper usage and save company expenses (about RMB 60,000/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 RMB 600,000/year. Replacement of air compressors can save up to RMB 1.16 million of electricity per year. 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. 	<ul style="list-style-type: none"> In 2023, 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 factory 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 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 total accumulated expenses of restructuring engineering for energy saving are around US\$190,000. Suzhou Plant will switch to using energy-saving air compressors in 2023 and 2024. We encourage employees to archive documents through scanning and reuse waste paper to reduce the amount of paper used for photocopying; we also digitalized the internal approval process to protect the environment, save energy, reduce pollution, and lower costs. In addition to publishing the electronic manuals on the website, we cooperate with customers to find other appropriate publishing (providing) methods in accordance with regulations, such as integrating the manual in the machine or providing it in a USB storage device. In 2024, Suzhou Plant set up a power consumption monitoring system to identify abnormal power consumption problems and their causes and make improvements in a timely manner. 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.

	Type	Impact Period	Potential Financial Impact	Responsive Actions
Resource Efficiency	Water-saving benefit	Short-term	<ul style="list-style-type: none"> The cost for water bills and hazardous waste disposal in the Suzhou Plant is reduced by NT\$12.7 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). 	<ul style="list-style-type: none"> To reduce water consumption, Qisda has established a KPI (Key Performance Indicator) through the ESG Committee. Our target is to reduce water consumption by 18% per million USD of production by 2030 compared to the baseline year of 2021 through related programs. 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	<ul style="list-style-type: none"> Lower indirect (operating) cost. Obtaining this certification can have positive impacts on the corporate image and facilitate business development. We can collect the corresponding national policy support and provincial incentive funds, and have the opportunity to receive incentives up to RMB 500,000. 	<ul style="list-style-type: none"> The increase of energy efficiency in factories 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 factory in Taiwan received a three-year extension for its Green Factory Label. In 2023, the Green Building Label for the factory in Taiwan has been upgraded from the Bronze Level to the Silver Level for all existing buildings. 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.
Energy sources	Solar energy installation	Medium-term and long-term	<ul style="list-style-type: none"> 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. It is estimated that the electricity bill will be saved by RMB 710,000 per year. By deploying solar power, MetaAge can save electricity bills by NT\$380,000 per year. 	<ul style="list-style-type: none"> At the end of 2021, solar energy installations were completed, including the grid connection of Suzhou Phase I Solar Power and Taoyuan factory. In 2022, Qisda generated a total of 5.2 million kWh solar power, all of which were for self-consumption purposes. In 2023, Qisda's solar power generation reached a total of 596,425 kWh, all of which are for self-use. Approximately NT\$2.2 million was saved. The Phase-II solar power installation at the Suzhou Plant will be implemented in 2023. MetaAge completed the construction of its solar energy facilities in the second quarter of 2024. It plans to seek government subsidies for about NT\$1.5 million. Qisda Taoyuan Factory is expected to start subsequent solar energy construction projects in 2026, with an estimated annual power generation capacity of 600 MWH.

	Type	Impact Period	Potential Financial Impact	Responsive Actions
Product and service	Low-carbon products and services	Short-term and medium-term	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 factory, which can reduce carbon footprint and costs, as well as save maintenance time.
	Sustainable value	Medium-to long-term	<ul style="list-style-type: none"> Responding to the government's sustainability policy, we strive for subsidies to reduce operating costs by approximately NT\$2.1 million. 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. The Company improves the supply chain evaluation result and expands the green market. 	<ul style="list-style-type: none"> We strive for the subsidies from the Industrial Development Bureau for the "One-Leads-Ten Project". 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. We make improvements and address deficiencies identified through third-party sustainable supply chain audits. We include sustainability issues in the supplier screening and procurement evaluation process. These issues are also incorporated in the supplier questionnaire as a reference for evaluating suppliers' sustainability performance.
Market	Green finance	Short-term	<ul style="list-style-type: none"> We introduce green finance (financing). In 2023, we secured syndicated loans to the amount of NT\$12 billion from 14 financial institutions, thereby reducing the operating cost and interest by approximately NT\$3 million per year. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> We proactively develop the energy market to boost revenue growth. For example, <ul style="list-style-type: none"> ACE Energy develops green products and achieves an annual turnover of NT\$450 million. In 2023, 81% of Qisda's LCD products, accounting for 72% of sales, met energy-saving regulations. BenQ's products: In 2023, LCD product energy-saving products will account for 45% of the overall revenue. In addition, PDP has 100% obtained the energy-saving trademark. Reuses crates and pallets to extend their life cycle. The recycling rate has reached over 90%, and has saved the Company about NT\$11,000. 	<ul style="list-style-type: none"> Qisda 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. Based on the concepts of smart energy saving and ESG sustainability, ACE Energy focuses on the provision of a full range of energy services, including energy-saving equipment and data management. They establish long-term partnerships with their customers to achieve their sustainability goals. From design to operation, they provide professional energy-saving solutions and maintenance services to ensure safe operation and energy-saving benefits. For example, they distribute low-carbon and cloud-based products to help enhance the Company's competitiveness in green products, and help enterprises make the transition to lower carbon by meeting customers' needs for low-carbon products and services as early as possible. 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, we use recovered materials for 35% of the plastic coats, and use EPS for packaging filler materials. In the future, we will use recovered materials for 65% of the plastic coats, and use folded paper or molded pulp materials for 85% of the packaging filler materials. We implement circular economy and reuse plastic, iron parts, and paper packaging materials. Modular packaging materials helps us reduce waste and carbon. In 2024, the Vietnam and Suzhou plants obtained the UL2799 landfill waste diversion certification.

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 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, China (Suzhou), 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 factory 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 2,589 MWh and reduce carbon emissions by 1,481 tCO_{2e}.

Climate Indicator	2021 (used as the Baseline Year)	2020	2021	2022	2023	Reduction % (Compared to the Baseline Year)
Total GHG emissions (10,000 tCO _{2e})	10.66	9.56	10.66	7.56	5.19	-51%
Carbon emission per personal hourly electricity consumption (kgCO _{2e})	2.5	2.3	2.5	1.9	1.8	-29%
Electricity consumption per million USD production value (kWh)	27,532	29,338	27,532	29,436	38,957	41%
GHG emissions for each million USD value (tCO _{2e})	21.9	23.1	21.9	17.7	17.7	-19%

● GHG emissions include Scope 1 and Scope 2. They are incorporated in the market-based calculation

Reduction Type	Project	Categorization & Scope of Emissions Reduced	Annual Energy Savings (MWh)	Annual Energy Savings (GJ)	Annual Emission Reduction (tCO _{2e})
Policy or behavioral change	Installation of microwave induction lamps	Scope 2	4	14	2
Energy efficiency of processes	Addition of an independent gas supply for some workstations	Scope 2	360	1,296	209
Energy efficiency of processes	DQ9 air compressor energy saving	Scope 2	650	2,340	378
Energy efficiency of processes	Reconstruction of DQ9 water pump for energy saving in Winter	Scope 2	60	216	35
Policy or behavioral change	Street lighting control in the Suzhou Plant	Scope 2	55	198	40
Energy efficiency of processes	Energy saving of public equipment systems in the Taoyuan Plant	Scope 2	350	1,260	173
Energy efficiency of processes	Optimization of production equipment system in the Taoyuan Plant	Scope 2	10	36	5
Energy efficiency of processes	S1, S4, and DQ8 air compressor energy saving	Scope 2	1,100	3,960	639
Energy saving	Subtotal		2,589	9,320	1,481
Use of green energy	Phase II solar power generation project in Suzhou Plant	Scope 2	7,000	25,200	4,067
Use of green energy	Phase I solar power generation project in Vietnam Plant	Scope 2	3,000	10,800	2,166
Total			12,589	45,320	7,714

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 2023, 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 2023, the in-plant solar power system generated about 5.2 million kWh, accounting for 4.6% of Qisda’s overall electricity consumption. The Company purchased approximately 24,700 MWh of renewable energy certificates for the plants in China and Vietnam, accounting for 21.6% of Qisda’s overall electricity consumption. The proportion of renewable energy was 26.2%. The energy intensity in 2023 was 38,957 kWh per million USD production value.

Energy		Unit	2020	2021	2022	2023
Electricity	Self-consumed & renewable	kWh	9,300	9,680	5,200,534	5,208,939
		MJ	33,480	34,848	18,721,922	18,752,180
	Purchased & renewable	kWh	0	0	3,500,000	24,700,000
		MJ	0	0	12,600,000	88,920,000
	Purchased & non-renewable	kWh	121,900,000	127,900,000	117,846,382	109,008,914
		MJ	438,840,000	460,440,000	424,246,977	392,432,091
Natural gas	1,000 cubic meters	623.7	180.6	339.16	198.53	
	kWh	6,759,008	1,957,154	3,675,461	2,151,506	
	MJ	24,332,408	7,045,748	13,231,649	7,745,414	
Gasoline	Tonnes	22	13.9	99.97	96.86	
	kWh	273,778	172,978	1,244,072	1,205,357	
Diesel fuel	MJ	985,600	622,720	4,478,656	4,339,283	
	Tonnes	9.5	10.8	14.68	29.58	
	kWh	118,222	134,400	182,685	368,091	
Total renewable energy usage	MJ	425,600	483,840	657,664	1,325,125	
	kWh	9,300	9,680	8,700,534	29,908,939	
Total non-renewable energy consumption	MJ	33,480	34,848	31,321,922	107,672,180	
	kWh	129,051,008	130,164,532	122,948,600	112,733,868	
	MJ	464,583,608	468,592,308	442,614,946	405,841,914	
	kWh					

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 2023.

In 2023, the global total Scope 1 and Scope 2 GHG emissions of Qisda amounted to around 51,906 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 factory. 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)		2020	2021	2022	2023
Scope 1	Stationary combustion	353.3010	413.5096	769.0186	466.3072
	Mobile combustion	84.4237	71.1329	292.1813	284.4134
	Process emissions	0.0000	0.0000	0.0000	0.0000
	Fugitive emissions	1,799.2807	1,808.1099	3,743.7680	2,750.3169
Subtotal		2237.0054	2,292.7524	4,804.9678	3,501.0375
Scope 2	Location-based	93,414.1813	102,262.3510	73,031.8256	63,083.9485
	Market-based	93,414.1813	102,262.3510	70,758.5866	48,404.8585
Total (Scope 1 & 2)	Location-based	95,651.1866	104,555.1034	77,836.7934	66,584.9860
	Market-based	95,651.1866	104,555.1034	75,563.5544	51,905.8960

Substance of GHG emissions (tCO ₂ e)	2020	2021	2022	2023
CO ₂	93,848.0291	102,927.4345	71,882.5382	49,142.8280
CH ₄	848.4418	825.6514	726.5444	776.3730
N ₂ O	4.0222	3.6326	10.5304	9.3804
NF ₃	0.0000	0.0000	0.0000	0.0000
HFC	930.9330	778.6795	2,924.1810	1,956.4792
PFC	0.0000	0.0000	0.0000	0.0000
SF ₆	19.7605	19.7605	19.7605	20.8354
Total	95,651.1866	104,555.1586	75,563.5544	51,905.8960

Source of Scope 3 emissions (tCO _{2e})	2020	2021	2022	2023
Purchased goods and services				
Capital goods				
Fuel- and energy-related activities			1,473.7881 (*QTY)	1,252.6095 (*QTY)
Upstream transportation and distribution				
Waste generated in operations			65.2047 (*QTY)	75.2811 (*QTY)
Business travel	45.9524 (*QTY)	59.6214 (*QTY/QCS)	127.6748 (*QTY/QCS/QVH)	315.9706 (*QTY/QCS/QVH)
Employee commuting		16.7734 (*QTY/QCS)	135.1860 (*QTY/QCS/QVH)	111.9803 (*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	45.9524	76.3948	1801.8536	1,755.8415

1. 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.
2. 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 factory.
3. 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.
4. 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, and 2023.

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, the Company will subsequently offset the remaining 10% of carbon emissions through carbon removal technology or carbon trading based on the prevailing technology and market environment at the time to achieve net-zero emissions.

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.

S1+S2 2023-2050 Roadmap



Making Good 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’s 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 Management Actions and Goals

- 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 2023, the total water consumption of Qisda’s global manufacturing sites was approximately 410 million liters; total volume of discharge water was approximately 328 million liters. The total water consumption in 2023 was 106,977 tons less than in 2021, and the water consumption per million USD production value was 140 tons, an increase of about 31.7% 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 2023, the recycling and reuse of process wastewater accounted for approximately 2% of our total water consumption.

Item	Water saving in 2023 (m ³)	Process wastewater reuse rate
Plant 8 reclaimed water reuse project	990	73%
Plant 9 reclaimed water reuse project	2700	99%
S5 washing reclaimed water reuse project	4500	100%
Plant 8 low-temperature evaporation system	20	97%

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 factory 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.

Water withdrawal (m³)	2020	2021	2022	2023
Water withdrawal (Million m³)	0.562	0.518	0.441	0.417
Water discharge (Million m³)	0.449	0.414	0.353	0.333
Water consumption (m³)	0.113	0.102	0.088	0.084

- 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).
- The water consumption is statistically calculated based on the data in the organization’s water bill (minus the consumption by the tenants).
- According to the World Resources Institute’s “Aqueduct Water Risk Atlas,” Suzhou (China) and Hà 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 2023 was COD: 49.6 mg/L, SS: 17.8mg/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 2023 was COD: 47 mg/L and SS: 42.0mg/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 2023 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.

Table of Risk Assessment of Water Resources

Item	Description / Impact on Qisda’s Operation
 <p>Water Withdrawal</p>	<p>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.</p>
<p>Level of Risk Low</p>	<p>Coping Strategies/ Management Mechanism</p> <ol style="list-style-type: none"> Continuous implementation of water saving Drawing up water shortage response plan

Item	Description / Impact on Qisda's Operation	
 <p>Drinking water Quality</p>	<p>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.</p>	
<p>Level of Risk Low</p>	<p>Coping Strategies/ Management Mechanism</p>	<p>None</p>
 <p>Water Pollution Control</p>	<p>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 factories.</p>	
<p>Level of Risk Low</p>	<p>Coping Strategies/ Management Mechanism</p>	<p>None</p>
 <p>Flooding</p>	<p>According to results analyzed by the WRI (World Resources Institute) Aqeduct's global water risk mapping tool, none of the factories located in Taiwan, Suzhou, and Vietnam face "high level" flood risks. For the past 15 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.</p>	
<p>Level of Risk Low</p>	<p>Coping Strategies/ Management Mechanism</p>	<p>Regular drills</p>

Item	Description / Impact on Qisda's Operation	
 <p>Legal Compliance</p>	<p>Qisda regularly checks our compliance with water-related laws and regulations at the end of 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.</p>	
<p>Level of Risk Low</p>	<p>Coping Strategies/ Management Mechanism</p>	<p>Maintenance</p>
 <p>Water Bill</p>	<p>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.</p>	
<p>Level of Risk Low</p>	<p>Coping Strategies/ Management Mechanism</p>	<p>Implementation of water saving</p>

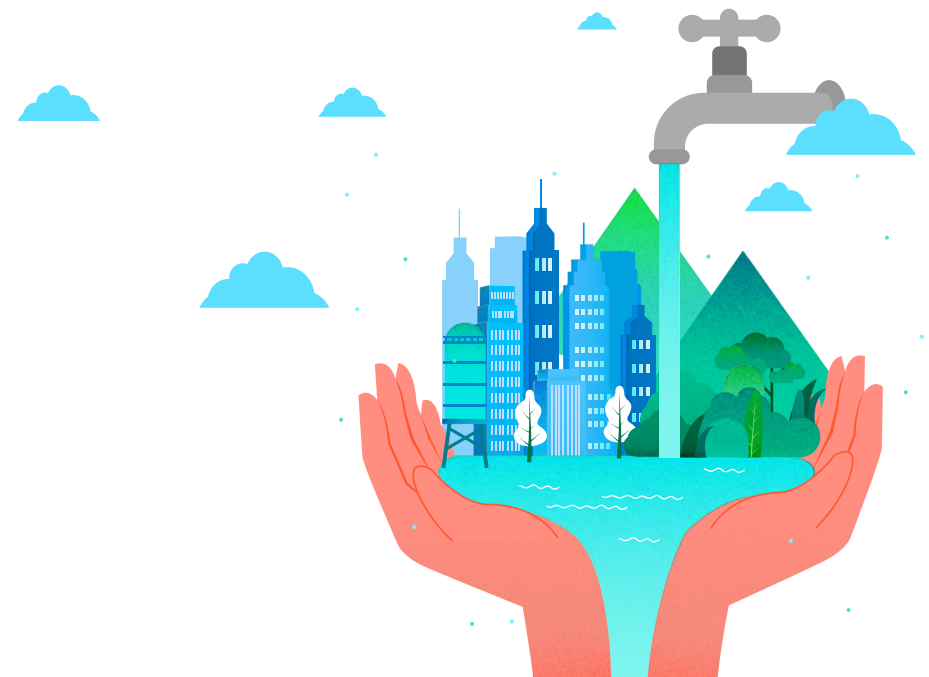


Table of Water Withdrawal, Discharge and Consumption

Water Withdrawal by Source	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
Surface water (total)			
Freshwater (≤1,000 mg/L total dissolved solids)	0	0	0
Other water (> 1,000 mg/L total dissolved solids)	0	0	0
Groundwater			
Freshwater (≤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 (≤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 (≤1,000 mg/L total dissolved solids)	0	0	0
Other water (> 1,000 mg/L total dissolved solids)	0	0	0
Third-party water (total)			
Freshwater (≤1,000 mg/L total dissolved solids)	410.586	350.206	85.29%
Other water (> 1,000 mg/L total dissolved solids)	0	0	0
Total water withdrawal by source of the third party, Total Water Withdrawal	0	0	0
Surface water, ground water, seawater, produced water			
Total Water Withdrawal			
Surface water (total) + groundwater (total) + seawater (total)	410.586	350.206	85.29%
+ produced water (total) + third-party water (total)			

Total Water Discharge by Destination	Water Discharge		
	All regions	Regions facing high levels of water stress	Percentage of water use in regions with high levels of water stress
Fresh surface water	0	0	0
Groundwater	0	0	0
Brackish surface water/ Seawater	0	0	0
Third-party destinations (total)	328.468	280.165	85.29%
Fresh surface water + ground water + seawater + Third-party destinations (total)	328.468	280.165	85.29%
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			
Total Water Consumption	82.118	70.041	85.29%

Qisda conducts evaluations of water stress according to the World Resources Institute's (WRI) Aqueduct Water Risk Atlas.

Waste and Pollutants

Waste Management

Qisda's Suzhou Plant and Vietnam Plant have obtained **UL 2799** platinum and gold certifications respectively. We classify types of waste and waste flow to seek opportunities of reducing waste by creating waste volume reduction plan. Moreover, we limit waste produced in plants by managing waste with 3Rs (Reduce, Reuse, and Recycle) and minimizing volume of waste incineration. Furthermore, the Company conducts education and training for employees of key units to enhance their awareness of resource recycling and sorting.

Waste Cycle

Qisda complies with regulations and designates responsible personnel in charge of environmental protection to effectively manage the generation, clearance, and disposal of waste. In addition to continuously conducting activities related to energy conservation and waste reduction, we adopt a source management strategy to manage waste: Incorporating non-toxic raw materials, recycled materials, reusable materials, and easy-to-disassemble structures in the design stage to minimize the environmental impact of product waste,

	2020			2021			2022			2023		
	Hazardous waste (Ton)	Non-hazardous waste (Ton)	Subtotal (Ton)	Hazardous waste (Ton)	Non-hazardous waste (Ton)	Subtotal (Ton)	Hazardous waste (Ton)	Non-hazardous waste (Ton)	Subtotal (Ton)	Hazardous waste (Ton)	Non-hazardous waste (Ton)	Subtotal (Ton)
Preparation for reuse	-	-	-	-	-	-	-	-	-	-	-	-
Recycling	32,521	16	32,537	37,619	12	37,631	31,561	6	31,567	24,317	127	24,444
Recovery	-	-	-	-	-	-	-	-	-	-	-	-
Incineration with energy recovery	2,838	191	3,029	2,968	196	3,164	2,578	163	2,741	1,599	148	1,747
Incineration without energy recovery	-	-	-	20	0	20	35	0	35	64	8	71
landfilling	-	-	-	-	-	-	-	-	-	-	-	-
Other disposal operations	-	277	277	-	418	418	-	708	708	-	438	438
Total	35,359	484	35,843	40,606	627	41,233	34,174	877	35,051	25,979	721	26,700

Note: Wastes are disposed of off-site.

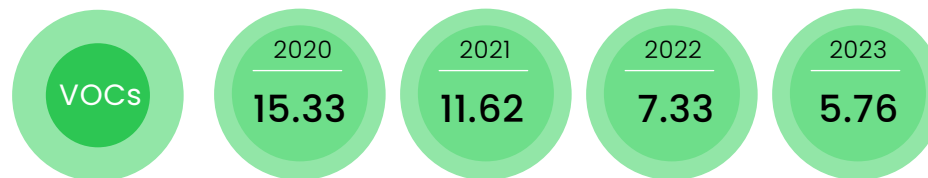
reducing waste generated through process design, and actively implementing resource classification (reuse and recycle) in the manufacturing stage to achieve waste reduction in manufacturing plants and ensure that no hazardous wastes as defined under the Basel Convention are generated in the manufacturing process; Using standard wooden pallets in the distribution process to limit volumes of specific pallets and boost reuse rates; solder spatter, which appears during the manufacturing process, is reused after it is recycled and refined by the suppliers. Recyclable wastes are sorted and recycled in the onsite recycling area by outsourcing to contractors. To increase the recycling rate, Qisda has established waste management procedures and recycling targets, which are presented at the quarterly corporate ESG meetings for review of action plans and goals to achieve long-term monitoring goals. The rates of reusable and recyclable resources at Qisda have been 90% over the past four years.

Pollutants Management

Qisda's Suzhou Plant is committed to continually enhancing environmental protection. The air emissions have decreased steadily year by year. 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.

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 2023 was 0kg and did not cause the depletion of ozone.

VOCs Emissions of volatile organic gases (metric tons)



Biodiversity and Forest Conservation

Biodiversity loss is a sustainability issue that has garnered an increasing amount of attention globally over the past few years. Qisda commits to protecting forest ecosystems and halting the loss of biodiversity in accordance with the United Nations Sustainable Development Goals and continues to stabilize the impact of its value chain on biodiversity. We have further published a publicly accessible **Commitment to No-Deforestation and Biodiversity**, and regularly report progress on this front to both the Corporate Sustainable Development Committee and the Board of Directors.

Policy and Commitment

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. Through reforestation efforts and compliance with domestic and international laws, Qisda collaborates with its customers, suppliers, and partners to contribute to the protection of forest ecosystems and biodiversity. We commit to:

- Minimizing negative impacts on biodiversity by 2030.
- Achieving No Net Loss (NNL) and Net Positive Impact (NPI) goals regarding no-deforestation and biodiversity by 2050.

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

1. Developing a Commitment to No-Deforestation and Biodiversity and regularly holding Board meetings to review relevant sustainability issues.
2. In future years, assessing changes in biodiversity risks on a yearly basis, and include related issues in risk management discussions.
3. Confirming the scope of management for biodiversity risks within the first year (2023), and establish goals and benchmarks for management.
4. Designing long-term plans for biodiversity surveys.

5. Regularly conducting biodiversity surveys and confirming survey results; establishing a database and continuing to manage this over the long-term.
6. Confirming changes in biodiversity survey results on an annual basis, and reporting results to the Board of Directors.

Biodiversity Risk Assessment and its Scope

Qisda actively follows and responds to international ecological trends, biodiversity, and the Taskforce on Nature-related Financial Disclosures (TNFD). Qisda's Risk Management Committee performs a comprehensive risk analysis annually, and holds regular meetings on a seasonal basis. They identify annual material issues by referencing domestic and international Global Risks Reports from professional organizations; following issues such as climate change, human rights, nature-related and biodiversity risks; and considering the operational impact of the Company. Although nature-related risks and biodiversity risks have not been classified as a material issue, the company continues to place high value on this issue, monitoring risk transformations and understanding ways to respond.

I. Stakeholder Engagement

Through the process to determine material topics, Qisda found that the issue of biodiversity is not currently of high concern to its stakeholders, as no significant impacts or risks have been identified. Despite biodiversity not being a prominent issue to our stakeholders, we continue to collaborate with the BenQ Foundation to adopt fields long-term, not only supporting friendly farming but protecting the environment at the same time. Additionally, we conduct ecological surveys and hope to make the general public aware of our responsibility towards biodiversity conservation. Qisda has begun applying the TNFD framework to its operations, and will conduct simulations based on the Shared Socioeconomic Pathways (SSP) climate change scenarios. Henceforth, the Company will continue collaborating with external partners, actively consolidating the industrial value chain to perfect the relevant mechanisms and responses. This will allow us to promote biodiversity, accumulate carbon sinks, implement Nature-based Solutions and be a positive influence on nature overall.



II. Risk Assessment and its Scope

The corporation first employed the Biodiversity Risk Filter and its weightings table provided by the World Wide Fund for Nature (WWF) to identify potential dependencies and impacts in the field of electronics industry. Then, the assessment consisted of two parts – an evaluation using Biodiversity Risk Filter (BRF) analytical tool and a Questionnaire survey for the biodiversity efforts of the corporation.

The BRF analytical tool was introduced by the World Wide Fund for Nature (WWF) to assess risks and opportunities of corporate operations in different industries. The corporation utilized this tool to assess the global operations related to eight categories: Provisioning Services, Regulating & Supporting Services – Enabling, Regulating Services – Mitigating, Cultural Services, Pressures on Biodiversity, Environmental Factors, Socioeconomic Factors and Additional Reputational Factors.

Biodiversity Risk Weightings Table

BRF INDICATORS	BRF INDUSTRY ESG DOR	Agriculture (animal products)	Agriculture (food products)	Automotive (land vehicles)	Automotive (aircraft, marine)	Chemicals & consumer products	Construction	Consumer Electronics	Energy	Finance	Food & Beverage	Healthcare	Information Technology	Infrastructure	Manufacturing	Media & Entertainment	Non-Profit	Other
Water Scarcity	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Forest Productivity and Distance to Markets	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Limited Wild Flora & Fauna Availability	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Limited Marine Fish Availability	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Soil Condition	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Water Condition	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Air Condition	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ecosystem Condition	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Pollination	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Landslides	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wildfire Hazard	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Plant/Forest/Aquatic Pests and Diseases	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Pesticide Resistance	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Extreme Heat	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Tropical Cyclones	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Tourism Attractiveness	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Land, Freshwater and Sea Use Change	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Tree Cover Loss	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Invasives	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pollution	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Protected/Conserved Areas	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Key Biodiversity Areas	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Other Important Delimited Areas	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Ecosystems Condition	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Range Rarity	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Indigenous Peoples (IIP): Local Communities (LC) Lands and Territories	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Resource Scarcity: Food - Water - Air	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Labor/Human Rights	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Financial Inequality	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Media Scrutiny	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Political Situation	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sites of International Interest	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Risk Preparation	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2



1. Methodologies and Frameworks

In 2023, Qisda Corporation collaborated with BenQ Foundation and the Department of Soil and Water Conservation of the National Chung-Hsing University to investigate biodiversity dependencies and impacts. The corporation employed the Taskforce on Nature-related Financial Disclosures (TNFD) framework to disclose the natural risks and opportunities management of the corporation. The Locate, Evaluate, Assess and Prepare (LEAP) approach was used to demonstrate the resilience of the corporation when facing nature-related risks and meet the general public’s expectation regarding sustainable development. The TNFD LEAP approach is as follows:

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



2. Assessment Results (Biodiversity-related dependencies and impact)

■ BRF analytical tool

The results indicated that on average, the Physical Risks at each operating base were evaluated as high, while Reputational Risks were evaluated as moderate and Cultural Services received very low risk scores. Bases in Taipei, Taoyuan and Hanam were evaluated as low risk in Regulating & Supporting Services – Enabling, while the Suzhou base was evaluated as medium risk. All bases received medium-risk scores in Additional Reputation Risks. In regards to reputational risks, bases in Suzhou and Hanam were evaluated as medium risk in Pressures on Biodiversity while bases in Taipei and Taoyuan were evaluated as low risk. Aside from Suzhou base being evaluated as low risk, bases in Taipei, Taoyuan and Hanam received medium-risk scores in the Environmental Factors. In the Socioeconomic Factors, bases in Taipei, Taoyuan and Suzhou were given medium-risk scores, while the base in Hanam was evaluated as low risk .

In regards to physical risk categories that were evaluated as high risk all operating bases received high-risk scores in Provisioning Services and Regulating Services – Mitigating (see next page). As seen in the Physical and Reputational Risk Assessment Results, under

📊 Risk Type Matrix Diagram

Biodiversity Risk Assessment			
Operating site	Country	Physical Risk	Reputational Risk
Taipei site	Taiwan	3.42	3
Taoyuan site		3.45	3
Suzhou site	China	3.75	2.95
Hanam site	Vietnam	3.63	3.02

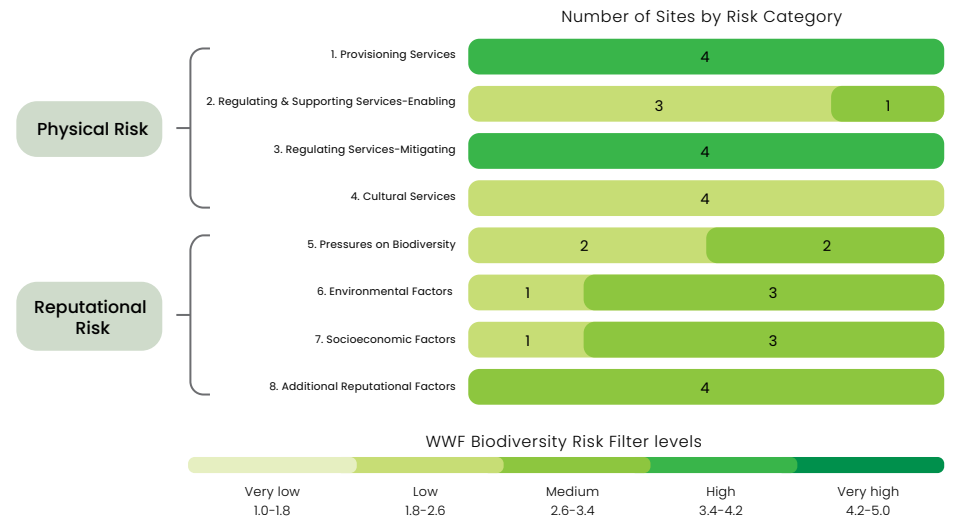
WWF Biodiversity Risk Filter Level				
Very low	Low	Medium	High	Very high
1.0-1.8	1.8-2.6	2.6-3.4	3.4-4.2	4.2-5.0

Regulating & Supporting Services – Enabling, bases in Taipei, Taoyuan and Hanam were evaluated as high risk while the Suzhou base was evaluated as medium risk in Water Scarcity. All bases received high-risk scores in Limited Wild Flora & Fauna Availability. As such, Provisioning Services as a whole was evaluated as high risk. Under Regulating Services – Mitigating, bases in Taipei and Taoyuan were evaluated as very high risk while the Hanam and Suzhou bases were evaluated as high risk in Landslides. In Wildfire Hazard, the Hanam base received a high-risk score, the Taipei and Suzhou bases received medium scores while the Taoyuan base was given a low-risk score. In Extreme Heat, bases in Taipei and Taoyuan received low-risk scores while the Suzhou and Hanam bases were given high-risk scores. All bases were evaluated as high risk in Typhoons. As such, Regulating Services – Mitigating was evaluated as high risk overall.

Reputation Risk Assessment Results of Each Base

Physical Risk		Taipei site	Taoyuan site	Suzhou site	Hanam site
Pressures on Biodiversity	Land, Freshwater and Sea Use Change	1.5	1.5	2.2	1.8
	Tree Cover Loss	1.5	2.0	1.5	2.5
	Pollution	4.0	4.0	4.2	4.2
Environmental Factors	Protected/Conserved Areas	3.5	3.5	2.0	3.0
	Key Biodiversity Areas	2.5	3.0	1.5	2.5
	Other Important Delineated Areas	2.5	2.5	1.5	2.5
	Ecosystem Condition	2.2	2.2	2.0	2.2
Socioeconomic Factors	Range Rarity	3.0	3.0	1.5	3.0
	Resource Scarcity	2.5	2.5	2.5	1.8
	Labor/Human Rights	3.5	3.5	3.5	3.0
Additional Reputational Factors	Financial Inequality	2.5	2.5	2.5	2.0
	Media Scrutiny	3.0	3.0	3.0	2.0
	Political Situation	2.9	2.9	2.9	2.9
	Sites of International Interest	1.5	1.5	1.5	3.5
Risk Preparation	2.0	2.0	2.0	2.5	

Risk Analysis Stacked Bar Chart



Physical Risk Assessment Results of Each Base

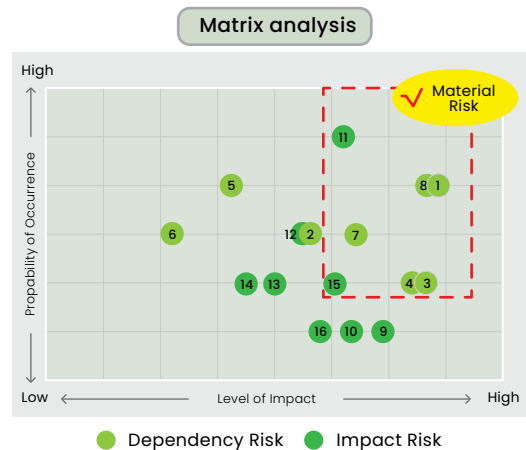
Physical Risk		Taipei site	Taoyuan site	Suzhou site	Hanam site
Provisioning Services	Water Scarcity	2.9	2.9	3.6	3.2
	Limited Wild Flora & Fauna Availability	4.0	4.0	4.0	4.0
Regulating & Supporting Services - Enabling	Water Condition	2.5	2.5	3.0	2.5
	Air Condition	2.5	2.5	3.0	3.0
Regulating Services - Mitigating	Landslides	4.5	4.5	3.0	3.0
	Wildfire Hazard	3.0	2.5	3.0	3.5
	Extreme Heat	2.5	2.5	4.0	4.0
	Tropical Cyclones	4.5	4.5	4.5	4.5

Biodiversity Questionnaire

The following diagram presents the results of biodiversity questionnaire. The table on the left indicated the evaluated risks and the corresponding numbers. A risk with high probability of occurrence and level of impact will be classified as the material risk. A total of 7 risks were identified as material risks, including Water Scarcity, Water Condition, Air Condition, Extreme Heat, Typhoons, Pollution and Ecosystem Condition. Among the material risks, Water Scarcity and Typhoons were evaluated as the most significant risks. In response, the corporation will develop corresponding management measures and conduct scenario analyses in accordance to these significant risks.

Questionnaire Risk Matrix Diagram

No.	Risk	
1	Water Scarcity	✓
2	Limited Wild Flora & Fauna Availability	
3	Water Condition	✓
4	Air Condition	✓
5	Landslides	
6	Wildfire Hazard	
7	Extreme Heat	✓
8	Tropical Cyclones	✓
9	Land,Freshwater and Sea Use Change	
10	Tree Cover Loss	
11	Pollution	✓
12	Protected/Conserved Areas	
13	Key Biodiversity Areas	
14	Other Important Delineated Areas	
15	Ecosystem Condition	✓
16	Range Rarity	



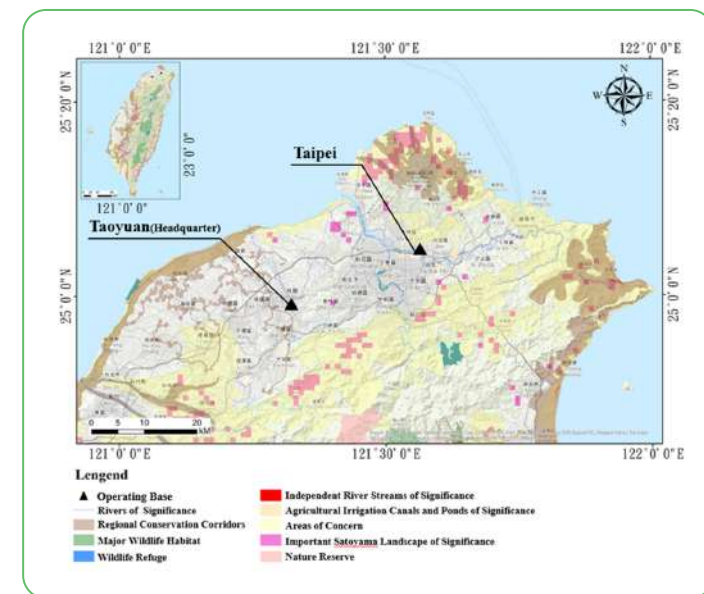
Scope of Assessment

Taiwan operating bases

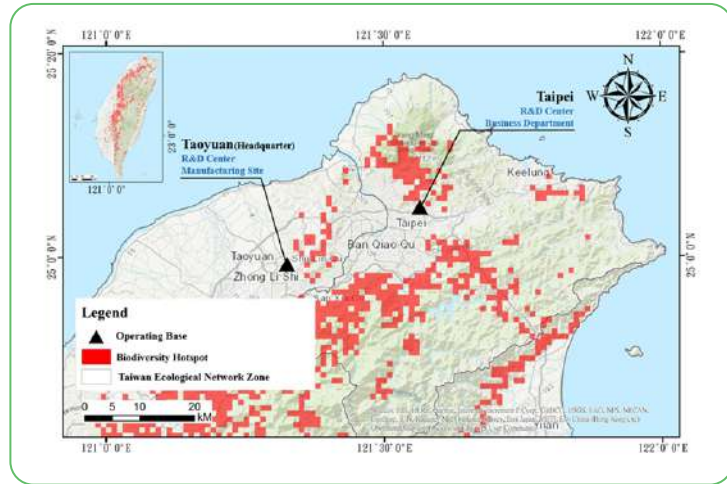
For Taoyuan and Taipei operating bases, the corporation conducted assessments based on the data from the Forestry and Nature Conservation Agency, Ministry of Agriculture, Taiwan. This data reflected the present environmental conditions of Taiwan. Through the application of the Taiwan Ecological Network Mapping platform, the corporation was able to conduct small-scale analyses and enhanced the reliability and precision of risk assessment.

By overlapping the Taiwan Ecological Network map with our operating sites, results show that the Taoyuan and Taipei operating bases are situated in the Northeast and North areas of the Ecological Network Map respectively. The Taoyuan operating base is located 3 kilometers from the Taoyuan Pond Plain Wetland Conservation Corridor and 700 meters from Nankan River, which is one of Taiwan's rivers of significance. To preserve pond and wetland ecosystems of Taoyuan, the conservation efforts of the Taoyuan operating base emphasized the preservation of water resources. The Taipei operating base is located 800 meters from the Keelung River, and south of Yangmingshan National Park. Conservation will focus on the surrounding rivers, grasslands and forests connecting the base, Keelung River and Yangmingshan National Park. As both bases are close to rivers of significance, the corporation enhanced water resource management measures to prevent negative impacts on the environment due to change in water quality. Simultaneously, the corporation monitored and controlled water use in business activity to conserve water resources. Although the business activity of the corporation has no direct effect on local habitats, there are biodiversity hot spots located close to these two bases. Considering

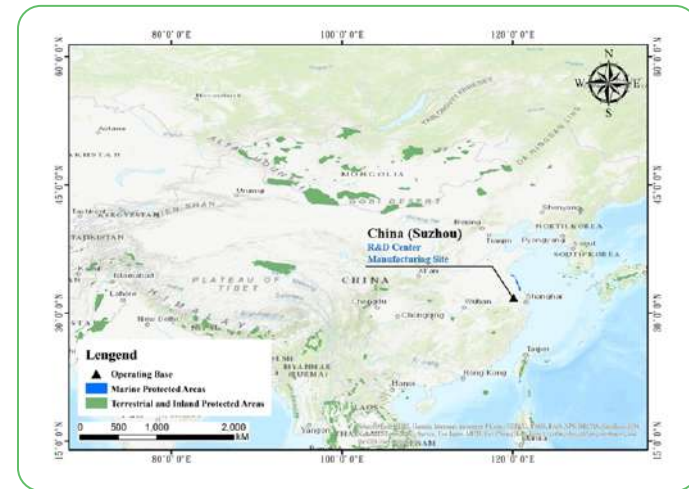
Taiwan Operating Bases



Biodiversity hot spots



Suzhou Operating Base

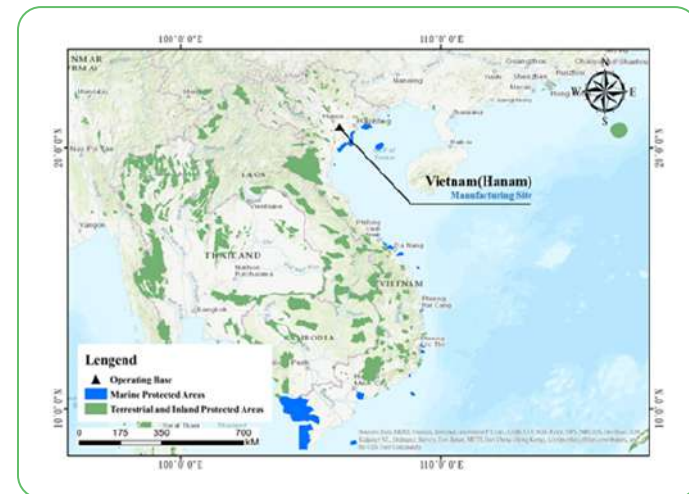


ecosystems may still be impacted, to maintain the biodiversity, the corporation continuously manages and monitors the environmental conditions in the areas surrounding these two bases. To minimize the impact, the corporation will conduct detailed evaluations of the potential impact on environment, establish buffer zones, as well as implement pollution control and ecosystem restoration measures during new projects.

Overseas operating bases

The corporation employed the World Database on Protected Areas (WDPA), a joint project between the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature and Natural Resources (IUCN), to determine whether Hanam and Suzhou plants are located in Marine, Terrestrial and Inland Waters Protected Areas designated by local and international government institutions. It was found that the overseas operating bases of the corporation are not located in any protected areas. Business activities are shown to not directly impact local biodiversity. Nevertheless, the corporation employed ecosystem conservation and impact mitigation measures were taken to prevent the business activities from indirectly impacting the surrounding environment.

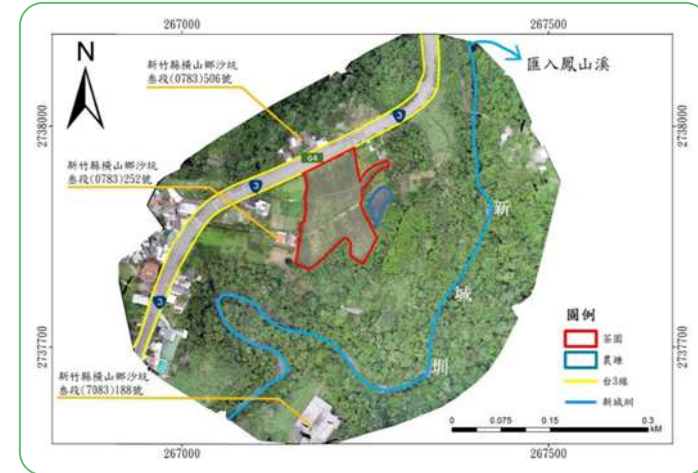
Hanam Operating Base



Other Corporation related regions

Aside from its domestic and international operation bases, the corporation also conducted biodiversity related investigations in corporation-sponsored friendly farming regions in Taiwan. Said regions include the “Hong Bao” tea plantation located in Hengshan Township, Hsinchu County and the “Chun Yuan” farm located in Xizhou Township, Changhua County . The biodiversity investigation covered mammals, birds, reptiles, amphibians, butterflies, and other arthropods. Other than manual methods such as Visual Encounter Surveys, Line Transects and Point Count Transects, automatic devices such as infrared cameras and microclimate monitoring systems were also utilized to assist the investigation effort. Through the results of investigation, the corporation was able to assess the effectiveness of the biodiversity promotion policy as well as accumulate biocredits. To assess effectiveness and overall carbon sink gains of long term friendly farming, soil samples from both friendly farming zones and non-friendly farming zones were collected from “Chun Yuan” farm on a monthly basis for further examination and analysis to compare and contrast the deviation between soil fertility and organic matter in each respective zone.

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



“Chun Yuan” farm, Xizhou Township, Changhua County



III. Identification of Risks

To identify and compile the biodiversity risks, the corporation analyzed the results of questionnaire and presented this in charts. Risks are divided into two charts, actual and potential risks, and further categorized the risks into positive effect or negative impact. The closer a risk is to the center of the chart, the more severe the impact and the more time the corporation needs to devote to measure the impact.

Qisda has already taken the appropriate measures to correct physical biodiversity risks. The high-degree negative impacts of the corporation include the dependency on ecosystem services and the destruction of ecosystems through the course of business activity. When ecosystem services such as water resources, land resources or atmosphere regulation are extracted from the environment during business activity, this may cause the environment to sustain damage.

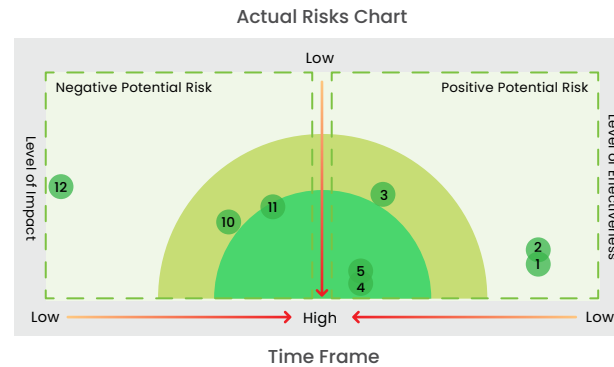
An actual risk with a positive effect is the use of environmentally friendly farming to promote the sustainable development. The corporation devoted long-term efforts on encouraging local farmers to conduct natural farming without the use of chemical fertilizers and pesticides. This prevents chemical residue in soil from altering the soil property and having a negative impact on microorganisms. These contribute to maintaining the fertility and health of soil and strengthening ecosystem services.

The potential risks chart presents threats the current business activity of the corporation may pose to the environment in the future, even if it is not evident now. Of these risks, risks with high-degree negative impacts include the scarcity of water resources in future business activity, the potential impact of business activity water use on stakeholders, and the environmental and reputational damage caused by breaching of the laws or inability to comply with new global standards. Risks with high-degree positive effects include the management and conservation of reservoirs and the accumulation of yellow, green, and blue carbon sinks. Through the conservation and effective management of watersheds, the corporation aims to secure the hydrologic cycle of water resources, enhance the capacity of water retention and carbon sequestration in watersheds.

The aforementioned results enable the corporation and related organizations to identify various risks of biodiversity associated with the business activity. Furthermore, these results are made available to the public. The policy makers can gain a better understanding of the

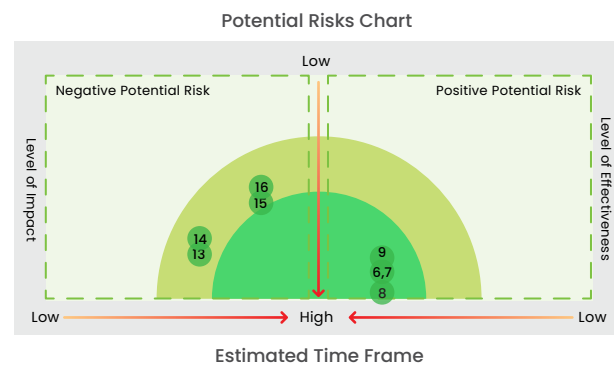
nature and impact of these risks and establish precise and purposeful risk management strategies. It is expected to ensure ecological sustainability and preserve biodiversity.

Actual Risks Chart



No.	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.
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.

Potential Risks Chart



No.	Risk
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.
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.

Protection of Forests

The world has lost a large amount of forest land due to deforestation, resulting in global warming and the loss of biodiversity, both of which pose significant threats to the survival of the environment we live in. In addition to developing the Commitment to No-Deforestation and Biodiversity, we pledge to use deforestation-free products such as toilet paper and printing paper.

We plan to restore deforested land by planting trees and comply with domestic and international laws, collaborating with our customers, suppliers, and partners to reach our NNL and NPI goal in 2050.

Giving Our All for Environmental Sustainability

Qisda collaborates with Taishin Securities to support the growth of bamboo forests and promote carbon fixation

Taiwan's geography and climate conditions are optimal for bamboo growth. The efficient carbon storage and sequestration potential of bamboo plants are 3 to 6 times that of normal trees; using 8,000 *Phyllostachys edulis* plants per hectare as an example, around 47.36 tons of carbon will be sequestered per year, which is greater than the annual amount of carbon sequestered per hectare of an average forest, which ranges from 7.45 to 14.9 tons.

Making good use of resources from bamboo forests can help enhance the green competitive advantage of Taiwan's industries. Through innovative processing technology, bamboo is also expected to be used as a natural fiber composite (NFC) and may replace plastics and other high-carbon materials.

This project is carried out in Nantou County's Zhushan Township. With regards to the three facets of ESG, on an environmental (E) level, our participation in this project can contribute to the protection of the environment, as bamboo has an excellent carbon sequestration ability and can mitigate the effects of greenhouse gas. Socially (S), we play a role in increasing job opportunities and income for farmers and locals, and in relation to governance (G), we show that the Company's Board of Directors is actively responding to our stakeholders' expectation of environmental sustainability.



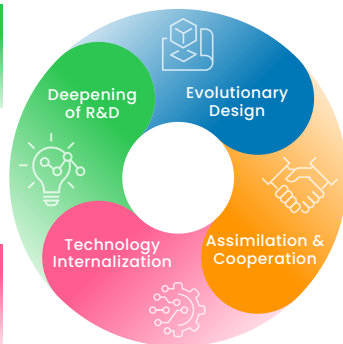
Green Products and Circularity

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’s Quality to Life.”

Qisda’s R&D Strategies

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



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

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

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

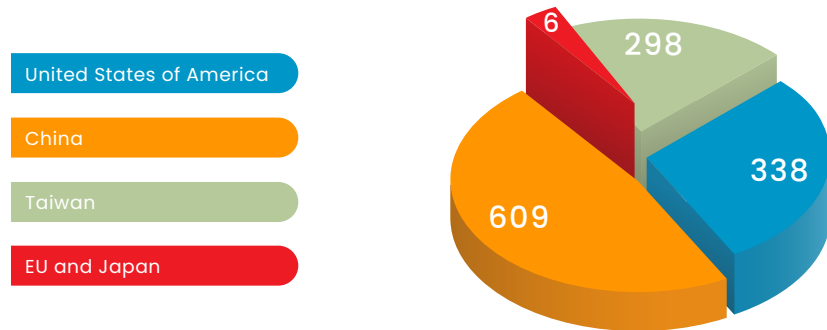
Product Innovation and Responsibility

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 2023, a total of 52 essential patents were obtained. As of the end of 2023, we had accumulated a total of 1,251 valid patents worldwide.

Item	Year	2020	2021	2022	2023
Funds invested in R&D (NT\$10 thousand)		216,174	227,490	246,451	231,557
Percentage of R&D funds in revenue (%)		2.34	2.17	2.42	3.02
R&D personnel (persons)		588	599	587	581
Percentage of R&D personnel in employees (%)		40.3%	39.7%	37.6%	37.2%
Number of valid patents		1140	1192	1199	1251
Number of patent applications		289	206	238	248
Reward for employees with patents (NT\$)		1,942,630	2,279,041	1,808,242	1,819,762

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

Total Number and Regional Distribution of Valid Patents in 2023



Successfully developed technologies/products in 2023



Curved QD-OLED 27" (360Hz) QHD/31.5" (240Hz) UHD, Ultra-fast/500Hz IPS and 540Hz E-TN gaming monitors, cost-effective local dimming with 96 zones, the DisplayHDR 1400 certification, DP 2.1/4K displays, 1,000R curved displays, Thunderbolt 4 displays, 4-side like borderless displays, displays for special purposes with eye-care technologies and Privacy, Portable and Eyesafe certifications, G-Sync R4/high refresh rate and night vision monitors for gaming, professional color management display (for photography and photo-editing), and the Display Arrangement Manager application.



- Projectors used ultra-high-pressure mercury lamps as their main light source. In recent years, solid-state light sources have gradually matured. Qisda is committed to applying solid-state light sources to projectors as the main light source to replace ultra-high-pressure mercury lamps in the future. Solid-state light sources include LED light sources, blue lasers with fluorescent color wheels, and pure RGB lasers.
- Working with different solid-state light source manufacturers, Qisda integrates different solid-state light source manufacturers and successfully mixes different solid-state light sources to achieve a new generation of projectors that has a LED/Laser hybrid light source and high competitiveness in terms of the cost and size, Enabling projectors to reduce the proportion of mercury lamps year by year and creating greener and more environment-friendly projection products.



- We are committed to complying with new medical regulations and certifications. The entire ultrasound product line has obtained EU MDR certification within one year. This makes the Qisda become the first company in Taiwan to obtain the MDR certification for medical ultrasound.
- We use panel-related technologies to develop and demonstrate a new capacitive ultrasound probe technology, QMUT, which has three major characteristics: ultra-broadband, high-definition, and easy bending. It fully combines top medical level with the strength of innovative technology.
- BenQ Dialysis Tech reduces man-made process pollution through automated processes, strengthens quality management, and strictly controls the quality. Its excellent green manufacturing process won the TSAA Taiwan Sustainability Action Award for two consecutive years.
- We provide better user experiences and services, and introduce AI and intelligence, including AI dentistry, smart operating rooms, and smart care for seniors.

Business Model

Smart eye protecting displays

Nowadays, people use screens frequently. When it is needed to use displays for a long time, people should pay attention to eye protection functions, as well as fulfilling other requirements. Qisda has the second largest display market share in the world and performs in-depth research and development of exclusive eye care technology - eye care - in the technical field. We have key technologies such as professional color management of displays, zone dimming, high dynamic range (HDR), etc. These can reduce blue light components that are harmful to the eyes through hardware and software design.



Teaching for love – health-based smart classrooms

As a leader in technological innovation, Qisda Group has developed educational interactive touch displays, taking teachers and students as the starting point to create a warm digital learning environment, strengthening participation in education both in and out of class, and improving learning effectiveness.

The educational touch display has functions such as monitoring air quality, protecting eye health, and reducing the spread of bacteria. The panel uses multi-layer non-toxic and long-lasting nano-silver ion antibacterial coating, allowing teachers and students to have a healthier learning environment, thus achieving the goal of health-based smart teaching and creating positive influence in the field of education.



Smart Factory and Innovative Actions

In order to meet market demands and maintain competitiveness, Qisda has introduced the design of smart factories since 2015. By combining statistical analysis, robots, AI and other technologies during the production, we have successfully transformed the production process in our factories, improving product efficiency and quality. We lead the industry in launching a production and manufacturing information system, providing a platform that integrates both hardware and software. In 2017, Qisda established the second term of the smart factory at its headquarters in Taoyuan, and further designed three safety protection mechanisms based on ISO 10218 and TS 15066 in 2019, through which we significantly enhance the safety of human-robot collaboration, being the first to obtain certification for this in

Taiwan. Through the setup of smart manufacturing solutions, production quality can be improved while simultaneously reducing waste caused by sales per unit area, which enhances the overall production efficiency of the plants. We promoted the use of a smart factory-related technology - automated guided vehicles (AGV) - in wafer fabs and automobile factories in 2021. Further in 2022, we advanced to using an intelligent storage system that allowed products to be transported and stored in the warehouse, then shipped to the dock to achieve unmanned operations and implement smart inventory management throughout the process.

In 2023, intelligent automation was introduced into products travelling by car to complete product traceability and achieve automated production, testing, and packages.

Development History of Smart Factories

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 operation

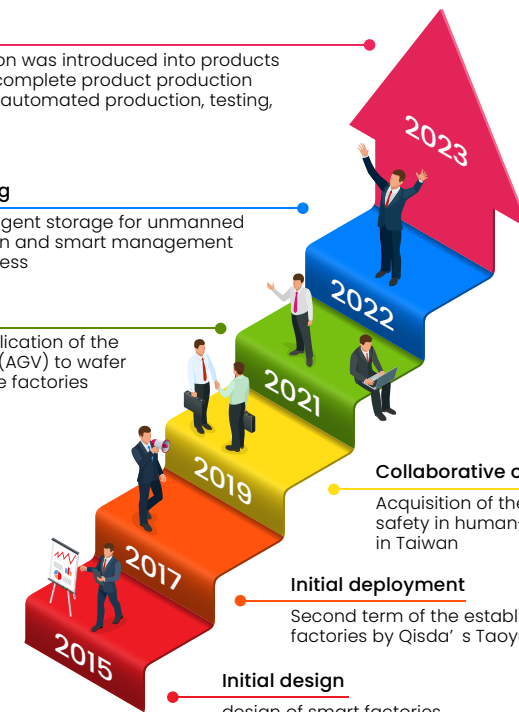
Acquisition of the first certification of safety in human-robot collaboration in Taiwan

Initial deployment

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

Initial design

design of smart factories



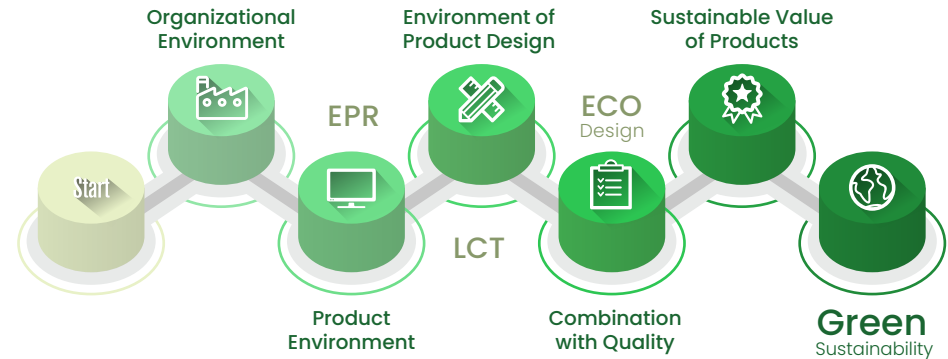
Green Products

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 applies life cycle thinking to all stages of product design and R&D, setting up goals for green design from the beginning of the design process. We conduct inspections at every stage of design to ensure product compliance with the customers’ requirements and the laws of importing countries. Moreover, we continue to enhance our products each year, improving the energy efficiency of the products and reducing resource consumption by doing so. Compared to the previous year, we saved 2.30% of energy usage, reduced material and resource consumption by 8.89%, and lowered carbon emissions by 1.90% in 2023; Furthermore, compared to our performance in 2020, we saved 8.46% of energy, reduced 13.68% of material and resource consumption, and reduced 8.07% of carbon in 2023. Qisda has mapped the future for 2025 and continued promoting the green design 555 (saving energy by 5%, reducing materials by 5%, reducing carbon by 5%) plan to reduce environmental pressure and increase the efficiency of products, providing better quality products to customers and establishing sustainable value in the products.

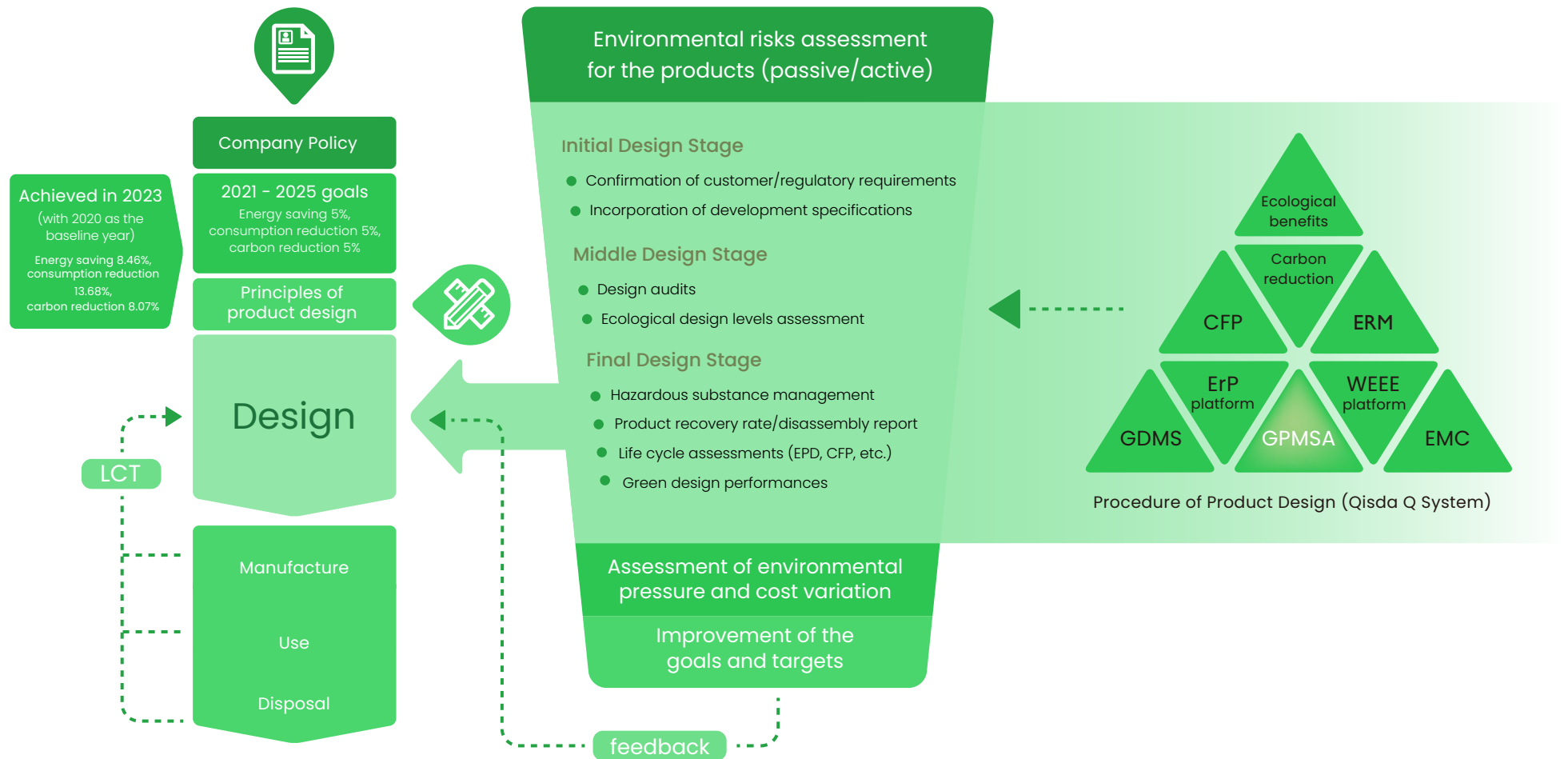
Qisda’s Green Product Evolution Stages



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.

Qisda's Structure of Incorporated Ecological Design



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. As of 2023, the weight and the materials of products had been reduced by 8.89% on average across all production lines.

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. Until 2023, all product lines had increased energy efficiency and saved energy by 2.3% on average.

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.

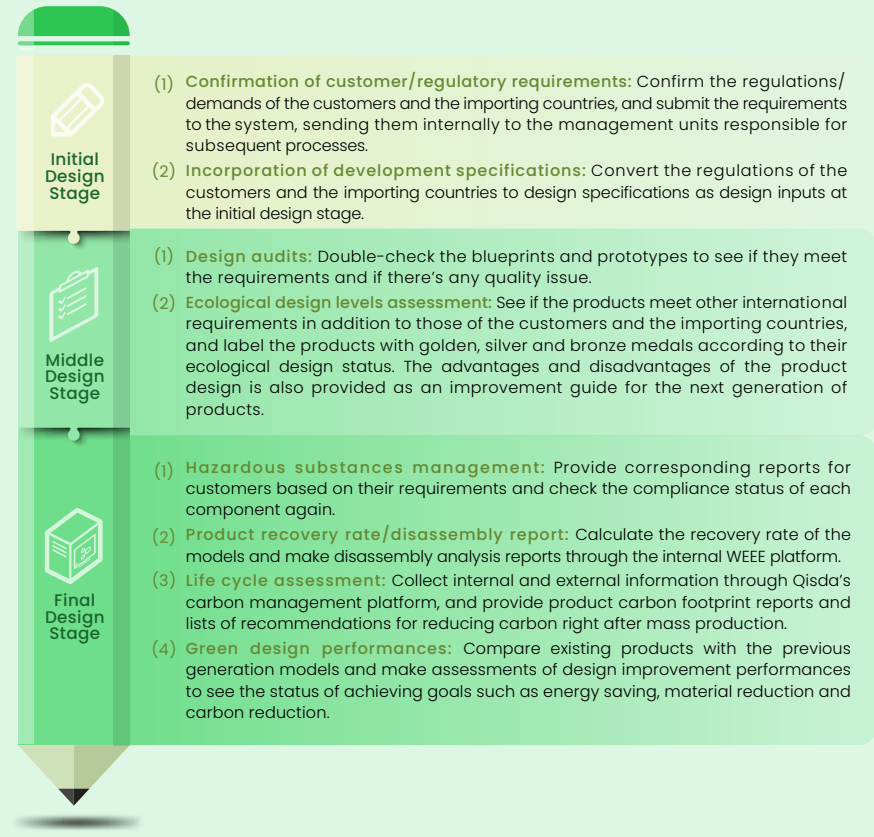
Concept

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



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 LCIA methodology continues to be designed in accordance with the ReCiPe 2016 Midpoint assessment method.	11.45
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.	43.23
Others (excluding those that have undergone the above two assessments)	Compliant with EU RoHS Directive	45.32
Products of the Company as a percentage of the environmental impact assessment		100

In 2023, products that received the Energy Star label accounted for 58.07% of the Company's annual revenue. Products given the label saved 471,443 tCO₂e in total

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.

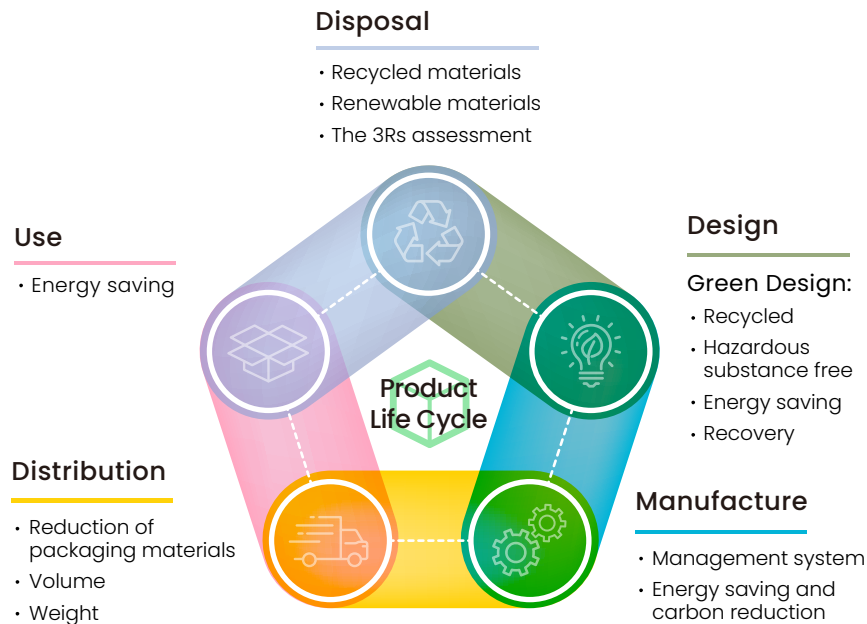
Methods

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.

Requirements and Cases at each stage of product life cycle

Stage of Life Cycle	Requirements	Actions taken
 <p>Raw materials</p>	<p>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.</p>	<ol style="list-style-type: none"> 1. In 2023, all of the raw materials of the new products were in compliance with the EU RoHS Directive. 2. The quantity of materials for product design in 2023 was reduced by 8.89%. 3. Continue to promote the use of recycled materials. 4. Continue to promote the use of folded paper or molded pulp materials as packaging filler materials and acquire the FSC certificate.
 <p>Manufacture</p>	<p>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.</p>	<ol style="list-style-type: none"> 1. Qisda has been building solar power systems since 2022. In 2023, the electricity generated reached approximately 5,208,939 kWh, and helped reduce approximately 2,924 tCO₂e of carbon. 2. A new energy-saving project was introduced in 2023, which is expected to reduce electricity by 1.489 million kWh/year. 3. The purchased renewable energy certificates totaled 24,700 MWh, offsetting 21.6% of the total power consumption. 4. In our sites around the world, the carbon emissions per personal hourly electricity consumption were 1.77 kgCO₂e in 2023, falling by 29% compared to that of 2021, which was 2.5 kgCO₂e. 5. The proportion of recyclable waste reached 91% in 2023.
 <p>Distribution</p>	<p>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.</p>	<ol style="list-style-type: none"> 1. Continue to optimize the pallet stacking method to increase transportation volume. For example, the recent shipments of models to Xiamen, China have increased by 8% and 50%, respectively. 2. Increase the loading rate through optimization of packaging material design.
 <p>Use</p>	<p>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.</p> <p>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.</p>	<p>Energy consumption at the product use stage was reduced by 2.3% in 2023 as a result of the energy-saving design.</p>
 <p>Waste disposal</p>	<p>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.</p> <p>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.</p>	<p>From 2020 to 2023, the product recyclability had been in line with the WEEE requirements.</p> <div style="display: flex; align-items: center;"> <div style="background-color: #4CAF50; color: white; padding: 5px; margin-right: 10px;">Percentage of products complying with WEEE requirements</div> <div style="display: flex; gap: 10px;"> <div style="text-align: center;"> <div style="background-color: #4CAF50; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; color: white;">2020</div> <div style="background-color: #4CAF50; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; color: white; font-size: 24px; margin-top: 5px;">100%</div> </div> <div style="text-align: center;"> <div style="background-color: #4CAF50; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; color: white;">2021</div> <div style="background-color: #4CAF50; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; color: white; font-size: 24px; margin-top: 5px;">100%</div> </div> <div style="text-align: center;"> <div style="background-color: #4CAF50; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; color: white;">2022</div> <div style="background-color: #4CAF50; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; color: white; font-size: 24px; margin-top: 5px;">100%</div> </div> <div style="text-align: center;"> <div style="background-color: #4CAF50; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; color: white;">2023</div> <div style="background-color: #4CAF50; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; color: white; font-size: 24px; margin-top: 5px;">100%</div> </div> </div> </div>

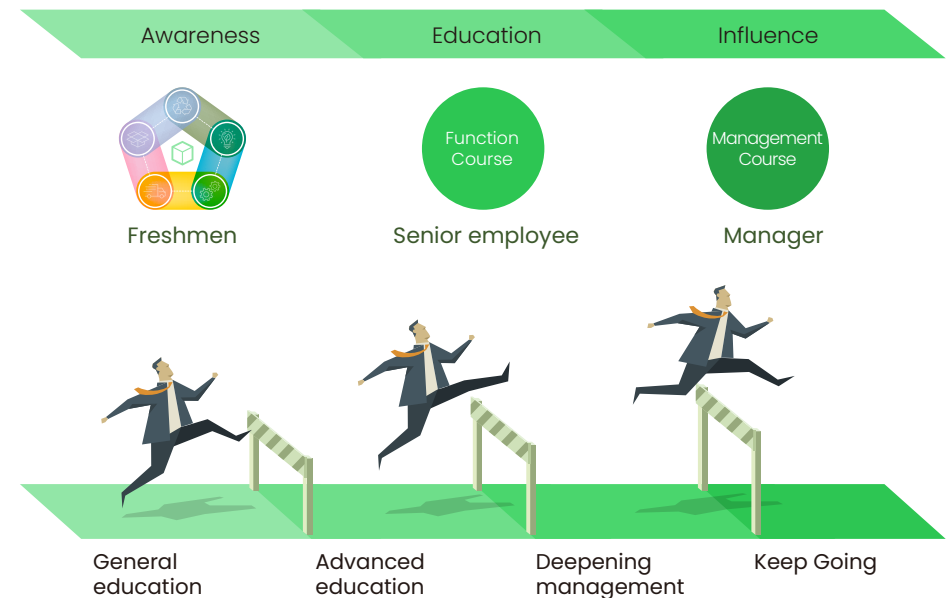
Qisda's Concept of Product Life Cycle



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. In 2023, courses related to carbon footprint and circular economy were provided. 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.

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.

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.



● Circular Economy Workshop



● Carbon Footprint Management Practice Workshop

i. Life Cycle Assessment

According to the ISO 14044:2006 standard, the product life cycle consists of five stages, including raw material acquisition, production and manufacturing, transportation and distribution, consumer use, and disposal. In the past two years, Qisda has conducted evaluations for products such as liquid crystal displays and digital projectors. The scope of the system is set as Cradle to Grave, covering the entire life cycle from raw material acquisition to disposal.

The following section details the 2023 environmental impact categories and results of the digital projector (3200/3500 lumen, 280W) life cycle assessment:

- 1) Method of calculation used to determine environmental footprint of products: Environmental footprint = activity intensity data × emission coefficient
- 2) 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 sale	The actual weight of the subject product shipped from the factory 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.

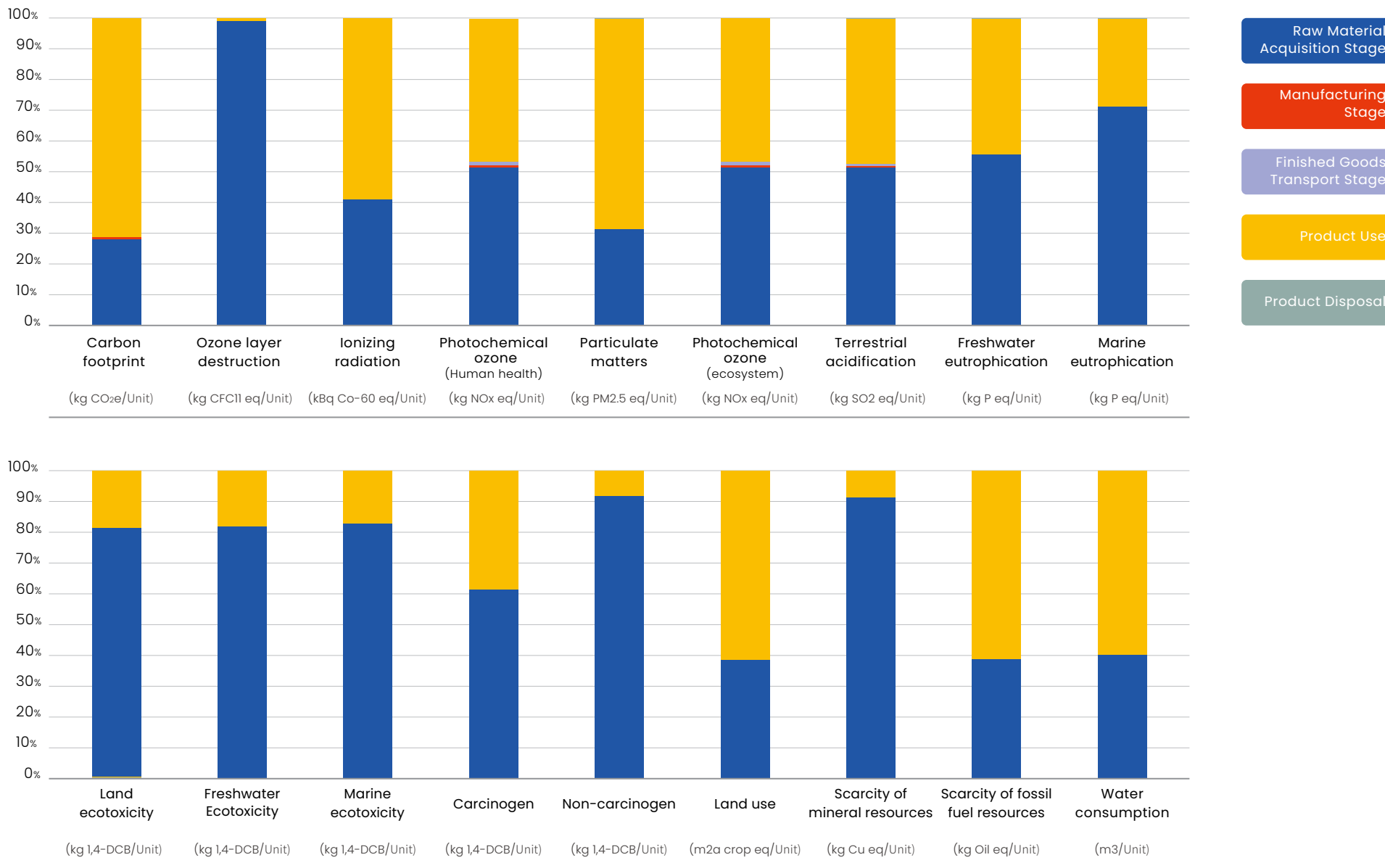
This year, we continue to use the ReCiPE 2016 midpoint method to evaluate the selected product's environmental footprint with respect to 18 environmental impact categories and indicators at each stage of its life cycle, from cradle to grave. The life cycle assessment tool used is SimaPro 9.5.0.2, and the database used is Ecoinvent 3.9.1. The analysis results show that the hotspots for environmental impact mainly occur at the raw material acquisition stage. Taking carbon footprint as an example, the product generates a total of 413.1 kgCO₂e GHG emissions throughout its life cycle. Among them, the most significant 71.63% of the emissions occur in the product use stage, followed by the raw material stage, accounting for 27.83%. Among various parts and components, in terms of carbon footprint, printed circuit board assembly (PCBA) (77.65kgCO₂e, accounting for 66.68%), optical assembly (OP) (16.7 kgCO₂e, 14.33%) and mechanical assembly (MD) (7.7kgCO₂e, 6.61%) had high environmental hotspot rating.

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

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
Carbon footprint	kg CO ₂ e/set	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 NO _x eq/set	3.64E-01	4.06E-03	7.23E-03	3.42E-01	3.50E-05	7.17E-01
Particulate matters	kg PM _{2.5} eq/set	2.82E-01	2.29E-03	2.26E-03	6.43E-01	7.52E-06	9.29E-01
Photochemical ozone - ecosystem	kg NO _x eq/set	3.79E-01	4.09E-03	7.34E-03	3.54E-01	3.52E-05	7.44E-01
Terrestrial acidification	kg SO ₂ 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	m ² a 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	m ³ /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



II. 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.

Management of Hazardous Substances in Products	Description of Management Objectives
2024	<ul style="list-style-type: none"> ① 100% compliance with EU RoHS regulations and customer requirements ② To be controlled on July 21, 2024: (Lead)/6(a)/7(a) / 7(c)-I
2025	<ul style="list-style-type: none"> ① 100% compliance with EU RoHS regulations and customer requirements ② To be controlled on July 21, 2025: (Cadmium)8(b)-I
2026	<ul style="list-style-type: none"> ① To be controlled on July 21, 2024: ② (Lead)/6(a)-I/6(c)/7(a) 7(c)-V/7(c)-VI/7(c)-II
2027	100% compliance with EU RoHS regulations and customer requirements

In the past three years (2021-2023), customers' demands for the control of hazardous substances in products has been continuously updated to a total of 54 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%.

In the past two years (2022-2023), 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
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
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

In 2023, 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:

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

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 (UL60950-1 E d. 2/ IEC62368-1/UL62368-1), the China CCC standards (GB 4943.1-2011/GB8898-2011), 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 2004/108/EC, Low Voltage Directive 2006/95/EC), etc.

3. Energy consumption of product



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.



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.

Qisda’s policy of quality/non-hazardous substance

1. 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.
2. Qisda also makes cards and built a mobile app (Qplay) about the quality policies for all employees to check them out anytime.
3. Relevant certificates are also stored on the internal and external websites.
4. 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.

The numbers of models qualified for environmental certifications and applications in 2023 are as follows:

Environmental Certification	Number of Models Submitted in 2023	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.
 U.S. Energy Star	57 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 2023, the Energy Star products had a 58.07% share of the annual revenue. In terms of product environmental efficiency, the carbon emissions of the products are expected to be reduced by a total of 471,443 tons of CO ₂ e.

Environmental Certification	Number of Models Submitted in 2023	Remarks
 China Environmental Labeling (the Ten-Ring Certification)	7 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.
 RoHS	All models	RoHS 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

Among the models shipped in 2023, the percentage in product revenue with respect to the environmental labels and declarations is as follows:



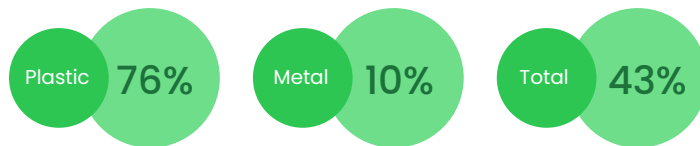
III. Circular Economy and Recycling

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 2023 is as follows:



The revenue ratio of display models using recycled plastics and metals from 2020 to 2023 is as follows:



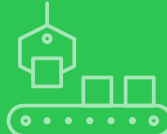
Proportion of display products that use recycled plastics in total product revenue	2020	2021	2022	2023
	36%	52%	62%	85%

In the case of plastic and metal recycling materials, for example, a total of 7,951 tonnes were purchased in 2023. It is estimated that 20,037 tCO₂e can be saved when using recycled materials instead of new ones.

Proportion of full product line in product revenue (%)	Using recycled plastics	Using recycled metals
	70.55%	3.03%

The proportion of revenue from the use of recycled/environmentally friendly materials in the packaging materials of each product in 2023 is as follows:

Product Line Proportion in product revenue (%)	Cartons using recycled pulp	Use of eco-friendly water-based ink	Use of soy-based ink	Use of molded pulp material/ folded paper
Display	100.00%	54.16%	47.14%	72.49%
Projector	100.00%	98.17%	2.70%	0.58%
Industrial and commercial products	94.15%	88.38%	15.22%	46.09%
Automotive solutions	100.00%	100.00%	0.00%	26.97%
Others	52.91%	0.00%	0.79%	0.00%
Total	99.39%	62.19%	38.91%	62.16%



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

The annual waste recycling income of Suzhou and Vietnam plants from 2020 to 2023 is as follows:

Item	2020	2021	2022	2023
Suzhou Plant's income from waste recycling (Currency: NT\$)	118,956,768	126,411,292	128,665,285	94,820,377
Vietnam Plant's income from waste recycling (Currency: NT\$)	0	2,666,677	2,676,476	7,550,331
Total	118,956,768	129,077,969	131,341,761	102,370,708

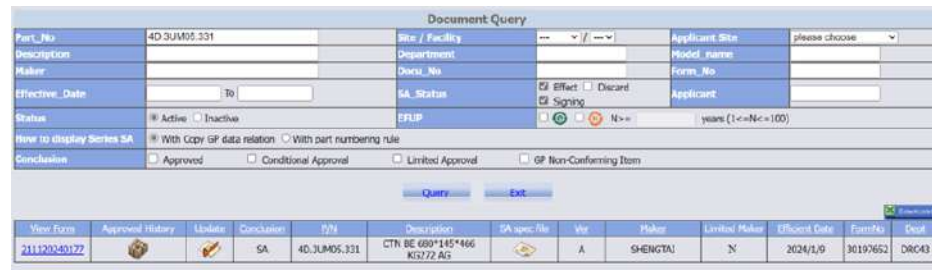
IV. Sustainable Materials

Qisda’s goal for sustainable raw materials and recycled materials is that (1) no less than 60% of the display models use recycled content; and (2) no less than 50% of the models use molded pulp material/folded paper. All of the above goals were achieved by 2023.

According to **Qisda’s Sustainable Raw Materials Policy**, sustainable materials are defined as “materials that impose minimal and harmless impact on Earth’s environment and human health across the product’s life cycle, from resource extraction, product manufacturing, transport, use and disposal.” In Qisda’s “Green Product Design Process,” R&D personnel are required to follow the Qisda Green Design Guidelines. During the product design and development stage, the four main approaches taken to ensure green design are material reduction, hazardous substance management, energy saving, and recycling. The selection of materials is also included within our green design approach.

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. An online green design course is 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. (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 requires suppliers to understand and abide by the “Code of Conduct for Sustainable Development of Suppliers” which covers labor, health and safety, environment, ethics, and management systems. The environmental aspect further includes the commitment to biodiversity and no-deforestation to reduce environmental and social impacts. Qisda also conducts audits of suppliers, evaluating key areas such as whether their human rights policies regulate forced labor, child labor, youth labor, anti-discrimination, anti-harassment, and freedom of association. For deficiencies identified during the audit, suppliers are required to propose action plans and provide suggestions for improvement within the deadline. We guide them to complete the improvement as soon as possible.

Material	2023 Consumption (KG)	Recycling Proportion
Plastic	6,884,494	30%
Aluminum	1,572,671	0%
Cobalt	29,672	0%
Copper	578,591	0%
Steel	5,961,202	2%
Nickel	55,092	0%
Lithium	0	0%
Titanium	23,458	0%