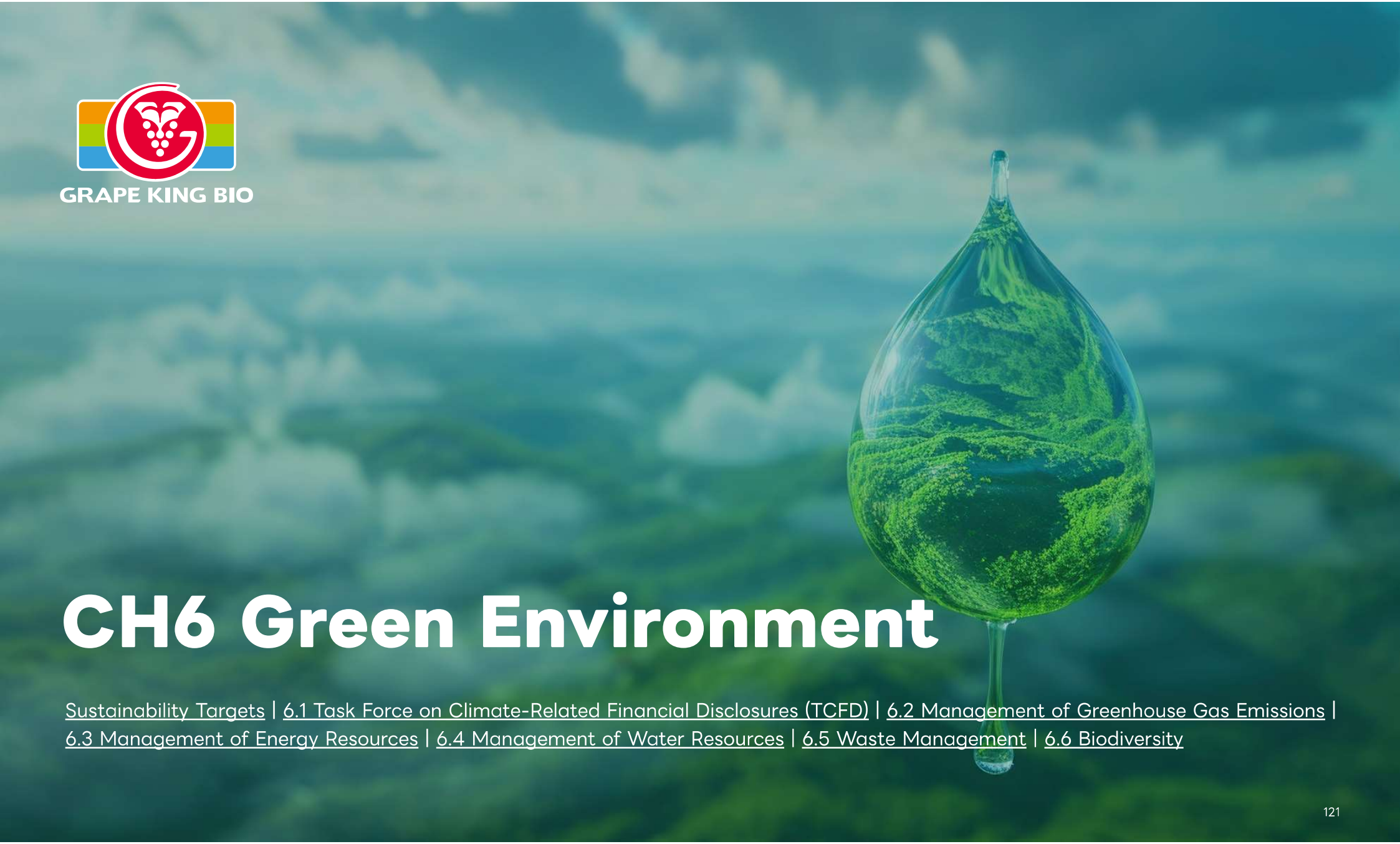


GRAPE KING BIO

# CH6 Green Environment

# Sustainability Targets

| Short-, Medium-, and Long-Term Goals and Current-Year Achievement Status | Energy and Process Water Management | Wastewater Management | Management of Toxic Substances and Waste |
|---|---|---|---|
| Progress achieved in 2025 | 1. The electricity savings reached 736,558 kWh, resulting in a reduction of carbon emissions by 349,128 kg $CO_2e$, with an average electricity savings of 2.3% for the three factories compared to the 2024 electricity consumption.<br>2. The Longtan Factory generated 188,919 kWh of solar power, reducing carbon emissions by 89,547 kg $CO_2e$.<br>3. The Pingzhen Factory accumulated a total of 1,201,000 kWh of green energy supply.<br>4. The Zhongli Factory successfully completed the Ministry of Economic Affairs' Energy Saving Project Subsidy Program on schedule, achieving an overall energy saving rate of 39.5%, exceeding the target of 33.2%. | 1. In 2025, 100% of wastewater met regulatory discharge standards, with an average Chemical Oxygen Demand (COD) that is 30% better than the standard.<br>2. Wastewater discharge: The Zhongli Factory reduced discharge by 16,522 tons, a decrease of 11%. The Pingzhen Factory increased discharge by 162 tons, an increase of 1%. The Longtan Factory reduced discharge by 716 tons, a decrease of 1%.<br>3. Improve wastewater pipelines and catch basins at our Zhongli Factory to enhance emergency response capacity.<br>4. Replace the roots blowers with air bearing blowers at our Pingzhen Factory to optimize equipment energy efficiency and reduce carbon emissions.<br>5. Install fine screening conveyor equipment at our Yungfeng Factory to improve personnel operational efficiency. | 1. In 2025, eleven waste disposal factories have been audited and are operating legally (annual target: at least 8 per year).<br>2. Enhancing the value of sludge reuse: Food sludge has been repurposed as R-0902, reducing environmental burden, with 244.74 metric tons cleared in 2025.<br>3. Increasing the resource recovery rate: We have identified a recycling channel for waste plastic (R-0201) and are currently executing the cleanup, with 47.14 metric tons cleared in 2025.<br>4. Increased the recycling rate of resources and reused plant residues (waste code R-0120), with 2595.47 metric tons cleared in 2025.<br>5. Enhanced the reusability value of waste cooking oil and reused waste cooking oil (waste code R-1702), with 0.4 metric tons cleared in 2025. |
| Short-term targets for 2026-2027 | 1. Continue to promote energy conservation and set targets for a total energy saving of 462,657 kWh and a carbon reduction of 228,552 kg $CO_2e$ (1.5%) for our four factories based on the 2023 reference year.<br>2. Transfer solar power to our Pingzhen Factory, and target to transfer 1,500,000 kWh in 2026.<br>3. Complete the evaluation of green power suppliers and the execution of contracts for 2027 to 2030.<br>4. Longtan Factory install pipelines for the recovery and reuse of activated carbon backwash wastewater from the water purification system.<br>5. Longtan Factory participates in the selection for the Energy Conservation Benchmarking Award. | 1. Ensure all wastewater is legally discharged and the quality of water discharge exceeds average Chemical Oxygen Demand (COD) standards by 35%.<br>2. Reduce the average amount of water discharge by more than 2%.<br>3. Implement the following measures:<br>(1) repair the rainwater and wastewater pipelines at the Zhongli Factory to improve system availability;<br>(2) conduct inspection, maintenance, and repair of the contact aeration tank at the Pingzhen Factory to enhance wastewater treatment efficiency; and<br>(3) carry out preventive maintenance on the MBR wastewater systems at the Longtan Factory and Yongfeng Factory to improve system availability. | 1. Conduct at least 8 audits of waste disposal and reuse vendors per year.<br>2. Enhance the reusability value of sludge and reuse food sludge (waste code R-0902) to reduce environmental impacts.<br>3. Enhance the reusability value of waste plastics and reuse waste plastics (waste code R-0201) to reduce environmental impacts.<br>4. Enhanced the reusability value of plant residues and reused plant residues (waste code R-0201), to reduce the impact on environment. |
| Mid-term targets for 2028-2029 | 1. Continue to promote energy conservation and set targets for total energy saving of 462,657 kWh and a carbon reduction of 228,552 kg $CO_2e$ (1.5%) for our four factories based on the 2023 reference year.<br>2. Increase total tap water usage at all four factories by no more than 3% compared to 2023.<br>3. Plan to upgrade the air handling units at our Pingzhen Factory by replacing traditional belt-driven fans with EC fans to reduce electricity consumption.<br>4. Gradually increase renewable energy consumption to achieve a target of over 7%, and transfer green power across all four factories. | 1. Ensure all wastewater is legally discharged and the quality of water discharge exceeds average Chemical Oxygen Demand (COD) standards by 40%.<br>2. Reduce the average amount of water discharge by more than 3%<br>3. Actively obtain ISO 14001 and other environmental management system certifications (Pingzhen Factory and Longtan Factory are certified; plan to obtain ISO 14001 at our Yungfeng Factory).<br>4. Continue to plan reclaimed water recovery solutions for each factory. | 1. All waste disposal vendors hold legal licenses.<br>2. Reduce waste and target domestic waste reduction at all factories by 1-3%.<br>3. Actively obtain ISO 14001 and other environmental management system certifications. |
| Long-term targets for 2030 and beyond | 1. Continue to promote energy conservation and set targets for a total energy saving of 462,657 kWh and a carbon reduction of 228,552 kg $CO_2e$ (1.5%) for our four factories based on the 2023 reference year.<br>2. Gradually increase renewable energy consumption and achieve a target of 15% of total renewable energy consumption across all four factories.<br>3. Increase total tap water usage at all four factories by no more than 5% compared to 2030.<br>4. Evaluate new energy-saving measures by optimizing or replacing aging, energy-intensive equipment to reduce electricity consumption. | 1. Ensure all wastewater is legally discharged and the quality of water discharge exceeds average Chemical Oxygen Demand (COD) standards by 40%.<br>2. Continue to reduce the average amount of water discharge by more than 4%.<br>3. Achieve company-wide environmental protection targets and become an environmentally friendly enterprise.<br>4. Obtain awards related to environmental protection. | 1. Achieve company-wide environmental protection targets and become an environmentally friendly enterprise.<br>2. Obtain awards related to environmental protection. |
| Corresponding SDGs |  |  |  |

Director of Manufacturing Division
Yi-Ru Hu

***Grape King Bio strives to co-exist with nature. Our manufacturing processes incorporate energy-saving, carbon-reduction, water-saving, and waste-reduction concepts into all stages of product life cycle to minimize environmental impacts.***

| Management Approach | | Key Issue - Energy Management and Circular Economy |
|---|---|---|
| Policies | | We have established environmental, health, safety and energy policies to:<br>Fulfill compliance obligations and reduce hazard risks.<br>Support low-carbon energy and improve energy efficiency. Promote full employee participation and improve sustainable cycles. |
| Commitments | | In response to global warming and climate change, we continue to advance energy management, process water management, and energy consumption reduction.<br>Concurrently, we are committed to enhancing resource utilization efficiency, reducing wastewater discharge and waste generation, and improving the recycling rates of reclaimed water and waste. We pledge to achieve 15% renewable energy usage by 2030 and 100% by 2035, advancing toward a circular economy and net-zero emissions. Through these efforts, we aim to mitigate the impacts of climate change and achieve our environmental sustainability management goals. |
| Targets | Short-term | **Energy Management:**<br>Continue promoting energy-saving and carbon-reduction optimization measures and implementing RE100 short-term targets through ongoing collaboration with green power suppliers.<br>**Wastewater Management:**<br>Install pipelines for the recovery and reuse of activated carbon backwash wastewater from the water purification system to increase the water recovery rate, and conduct regular maintenance and repair of drainage systems to improve wastewater treatment efficiency.<br>**Waste Management:**<br>Continue enhancing waste recycling and reuse rates to reduce environmental burden, and increase the number of vendor audits to improve overall management efficiency and reduce the rate of non-compliance. |
| | Mid-term | **Energy Management:**<br>1. Continuously implement optimization measures for energy conservation and carbon reduction<br>2. Plan to upgrade the air handling units at our Pingzhen Factory by replacing traditional belt-driven fans with EC fans to reduce electricity consumption.<br>3. Gradually increase renewable energy consumption to achieve a target of over 7%.<br>**Wastewater Management:**<br>1. Ensure all wastewater is legally discharged and the quality of water discharge exceeds average Chemical Oxygen Demand (COD) standards by 40%.<br>2. Reduce the average amount of water discharge by more than 3%.<br>3. Actively obtain ISO 14001 and other environmental management system certifications.<br>4. Continue to plan reclaimed water recovery solutions for each factory.<br>Waste Management:<br>1. All waste disposal vendors hold legal licenses.<br>2. Reduce waste and target domestic waste reduction at all factories by 1-3%.<br>3. Actively obtain ISO 14001 and other environmental management system certifications. |
| | Long-term | **Energy Management:**<br>1. Continue advancing energy conservation targets and evaluate new energy-saving measures to optimize or replace aging, energy-intensive equipment.<br>2. Gradually increase renewable energy consumption.<br>**Wastewater and Waste Management:**<br>1. Ensure all wastewater is legally discharged and the quality of water discharge exceeds average Chemical Oxygen Demand (COD) standards by 40%.<br>2. Continue to reduce the average amount of water discharge by more than 4%.<br>3. Achieve company-wide environmental protection targets and become an environmentally friendly enterprise.<br>4. Obtain awards related to environmental protection. |

| | |
|---|---|
| **Responsibilities** | Internal communication and collaboration:<br>Guided by the short-, medium-, and long-term goals set by the ESG Steering Committee, we utilize the "PDCA cycle" to plan annual energy-saving targets under the ISO 50001 Energy Management System. Energy management personnel at each factory convene relevant units to collect and review equipment energy consumption data, identify major energy-use factors, and jointly discuss and formulate electricity-saving action plans for implementation. External energy-saving information is also shared irregularly to support internal communication.<br>Our environment, health, safety, and energy policies are signed by the highest-level executive, the Chairman. The Environmental Protection Administration provides education and training, while each unit proposes environmental protection management plans and internal audit operations. Management review meetings are regularly convened by the environmental management representative, and external audits and inspections are conducted by third-party organizations to ensure the effective operation of the environmental protection management system. |
| **Resources** | The Plant Engineering Department and Environmental Protection Administration are staffed by 18 personnel. |
| **Specific Performance** | 1. The electricity-saving initiatives across our four factories achieved an energy saving of 736,558 kWh, equivalent to a reduction of approximately 349,128 kg of carbon emissions, with an average electricity-saving rate of 2.3%.<br>2. Successfully obtained the ISO 50001 Energy Management System certification at our Longtan Factory.<br>3. Replaced the roots blowers with air bearing blowers at our Pingzhen Factory, saving 185,449 kWh of electricity annually and reducing carbon emissions by 87.9 $CO_2e$. This initiative also secured a low-carbon technology subsidy of NT$280,000 from the Taoyuan City Government.<br>4. Ensured all wastewater is legally discharged and the quality of water discharge exceeded average Chemical Oxygen Demand (COD) standards by 30% in 2025.<br>5. Installed an MBR effluent recovery system at our Longtan Factory, recovering a total of 898 tons of water between May and December 2025.<br>6. In 2025, eleven waste disposal vendors have been audited and are operating legally, achieving the annual target of at least 8 audits.<br>**Circular Economy Results for 2025:**<br>1. Food sludge (waste code R-0902) has been reused, reducing environmental burden, with 244.74 metric tons cleared.<br>2. Waste plastics (waste code R-0201) have been recycled and reused, reducing environmental burden, with 47.137 metric tons cleared.<br>3. Plant residues (waste code R-0120) have been reused, reducing environmental burden, with 2595.47 metric tons cleared.<br>4. Waste cooking oil (waste code R-1702) has Pingzhen Factory won Finalist<br>been reused, reducing environmental burden, with 0.4 metric tons cleared.<br>5. Lactic acid bacteria fermentation filtrate was developed for reuse, totaling 9.352 metric tons.<br>6. Plastic bottles were reused for the HDPE particle recycling, totaling 0.23 metric tons.<br>**Awards for 2025:**<br>Zhongli Factory received the Energy Conservation Benchmarking Silver Award from the Ministry of Economic Affairs Energy Administration.<br>Pingzhen Factory won the Finalist Award at the National Enterprise Environmental Protection Award in 2025.<br>Colleague Chen Shih-Yan at the Longtan Factory received the Exemplary. Environmental Dedicated Personnel and Technicians Award from the Ministry of Environment in 2025.<br>Longtan Factory received the SGS ISO PLUS Awards for Excellence in Environmental Management System Performance in 2024 and 2025.<br>Longtan Factory received the National Sustainable Development Award in 2025. |

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

Since 2020, we have adopted the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations issued by the Financial Stability Board (FSB), as the primary framework for climate issue management and information disclosure. Under this framework, we systematically identify climate change-related transition risks, physical risks, and related opportunities, and assess their potential impacts on our short-, medium-, and long-term operations and financial performance. The results of these assessments have been integrated into our strategic planning and risk management processes. In 2021, we are the first company in the Taiwan Health Care industry to officially sign on as a TCFD Supporter, demonstrating our concrete commitment to incorporating climate-related risks and opportunities into our corporate governance and decision-making mechanisms. In response to international climate policy trends and investor expectations for transparent decarbonization pathways, we initiated the target-setting process for a 1.5°C-aligned target under the Science Based Targets initiative (SBTi) in 2023 and successfully passed the target review in 2024, thereby establishing a greenhouse gas reduction pathway consistent with global climate goals.

Recognizing that climate change could materially affect corporate operations, finances, and long-term development, we aim to improve the comparability and quality of sustainability-related information. Moving forward, we will progressively strengthen climate scenario analysis, financial impact quantification, and internal management mechanisms to disclose climate-related risks and opportunities in accordance with the IFRS S2 Climate-Related Disclosures issued by the International Sustainability Standards Board (ISSB). Currently, the reporting entity is Grape King Bio; where certain disclosures cover Group subsidiaries, additional notes will be provided. In compliance with the Regulations Governing Information to be Published in Annual Reports of Public Companies and sustainability disclosure standards endorsed by competent authorities, we are dedicated to elevating the completeness and reliability of our climate-related disclosures, thereby providing stakeholders with critical references for their economic decision-making.

## 1. Governance

We stay highly attentive to our climate change risks and opportunities to ensure that we fulfill our responsibilities to society, the environment, and all our stakeholders. To ensure that the Board of Directors possesses adequate climate-related expertise and capabilities to effectively oversee climate-related risks and opportunities, we regularly plan and arrange relevant training programs for directors. These programs cover sustainable development and climate change trends, climate-related risk management, green and low-carbon technology development, as well as domestic and international climate-related laws and policy updates. Through these efforts, we seek to enhance the quality of the Board's decision-making quality and oversight effectiveness on climate-related matters and to support the formulation and implementation of our sustainability and climate strategies.

1. Board of Directors: The ESG Steering Committee reports to the Board on the implementation of climate-related strategies and their status of target achievement each year. In 2025, the Board reviewed the implementation results of climate-related plans for the previous year, the progress of targets set for the current year, and implementation strategies for climate-related risks and opportunities.
2. ESG Steering Committee: The Committee convenes one guidance meeting annually and reports implementation results to the Board. Additionally, the ESG Committee reports quarterly to the Steering Committee on implementation results and work plans related to climate strategies. In 2025, the ESG Committee reviewed sustainability issues related to climate-related risks and opportunities, which were subsequently reported to the ESG Steering Committee for future reference.
3. Risk Management Committee: Climate change-related risks have been incorporated into the Company's risk management framework and are identified as one of the six major risk categories (please refer to Section 1.3 Risk Management for details). The Risk Management Committee is responsible for reviewing risk management policies, procedures, and overall implementation, overseeing the Group's overall operational risks, and regularly reviewing the risk assessment results and mitigation measures proposed by the Risk Management Task Force. The Committee reports to the Board of Directors at least once a year.


Our remuneration policy has incorporated the management of climate-related risks and opportunities into the performance evaluation mechanism for senior managers. As part of the annual performance evaluation, a portion of senior managers' remuneration is adjusted based on their performance in advancing climate-related targets, including the Scope 1 to Scope 3 greenhouse gas reduction, energy efficiency improvements, the proportion of renewable energy use, and the fulfillment of other sustainable development indicators. The Remuneration Committee is responsible for reviewing and validating the alignment between remuneration and climate-related performance indicators, making compensation recommendations based on the actual level of achievement of each indicator, and submitting such recommendations to the Board for approval. The Remuneration Committee also regularly reviews the overall remuneration policy to ensure that the remuneration framework effectively addresses climate change risks and capitalizes on climate-related opportunities. Specific items include:

| Title | Percentage of Performance link | Climate Strategy Content |
|---|---|---|
| Chairman and General Manager | 30% | 1. Low-carbon revenue milestone: Achieve carbon emissions per unit of revenue for Grape King Bio below 18.3 $tCO_2e$.<br>2. Promote increased renewable energy use at our factories in Taiwan.<br>3. Continuously update and obtain sustainability-related system certifications. |
| Senior Managerial Officer | 10-40% | 1. Advance 33 key sustainability projects, implement a strategic and visionary talent cultivation, and achieve carbon emissions per unit of revenue for Grape King Bio below 18.3 $tCO_2e$.<br>2. Build low-carbon factories and increase renewable energy use at our factories in Taiwan to 4%.<br>3. Continuously update and obtain sustainability-related system certifications.(ISO 14001、ISO 14064、ISO 50001、ISO 45001、ISO 27001、ISO 37001) |

## 2. Strategies

To mitigate the impacts of climate change on the company, the ESG Committee coordinated and convened senior managers from each unit to conduct cross-functional communication in 2025. This comprehensive management process includes issue collection, management participation, risk assessment, risk identification, response strategy development, metrics and target setting, and continuous improvement. In identifying climate-related risks and opportunities, we consolidated domestic and international climate change issues and industry trends, and further assessed the impacts of climate-related risks and opportunities on our business model and value chain, enabling primary users to fully understand the potential impacts of these risks on the company.

During the identification process, we classify the time horizons for the possible occurrence of climate-related risks and opportunities into the short term (1-3 years), medium term (3-5 years), and long term (more than 5 years).

| Timeline | Definition |
|---|---|
| Short-term | 1-3 years ( 2026-2028 ) |
| Mid-term | 3-5 years ( 2029-2030 ) |
| Long-term | More than 5 years ( 2031-2050 ) |

## Climate-Related Risk and Opportunity Analysis

We initially identified 12 potential climate-related risks, including 8 transition risks and 4 physical risks, along with 5 actionable climate-related opportunities. Department heads were invited to conduct questionnaire-based scoring based on the likelihood of occurrence and the degree of financial impact, and the results were used to develop a climate risk and opportunity matrix. We then held a climate risk and opportunity identification meeting, where internal responsible units and external experts jointly identified the material climate-related risks and opportunities that require focus. Based on discussions of possible development scenarios, we formulated response strategies and action plans, and established management targets and checkpoints to closely monitor timelines and progress, thereby mitigating potential financial impacts arising from climate-related risks.

| Risk/Opportunity | Item | Impacts on the Business Model and Value Chain | Value Chain Impact | | | Time Horizon | | |
|---|---|---|---|---|---|---|---|---|
| | | | Upstream Suppliers | The Company | Downstream Brand Customers | Short-term | Mid-term | Long-term |
| Transition risks - Policy and Legal | Increased carbon taxes/ fees on greenhouse gas emissions | Increased operating costs: The imposition of carbon fees will directly increase manufacturing-related operating expenses (OpEx), compressing product gross margins. | V | V | V | V | V | V |
| Transition risks - Policy and Legal | Increased use of renewable energy | Higher capital expenditures: Installing solar power generation systems and increasing the budget for renewable energy procurement to comply with RE100 and SBTi requirements. | V | V | | V | V | V |
| Transition risks - Policy and Legal | Mandates on and regulation of existing products and services | Increased R&D and packaging costs: In response to regulations on "Excessive Product Packaging Restrictions", packaging must be redesigned to be lightweight or recyclable. Products are also required to undergo external carbon verification to obtain environmental labels, increasing compliance costs. | | V | | | | V |
| Transition risks - Technology | Substitution of existing products with low-carbon options | Market competition pressure: If competitors take the lead in launching "zero-carbon" or "carbon-neutral" health drinks/capsules, our existing products may face the risk of losing market share, necessitating accelerated product carbon neutrality certification. | V | V | | V | V | V |
| Transition risks - Technology | R&D and investment in low-carbon technology transition | Equipment replacement costs: Early retirement of outdated boilers or inefficient chillers and the introduction of high-efficiency variable frequency equipment and heat recovery systems will increase depreciation expenses and investment amounts in the short term. | V | V | | V | V | V |
| Transition risks - Market | Changing customer behavior | Revenue volatility risk: Younger generations and direct-selling members are increasingly prioritizing ESG. If the brand's environmental image is poor, it may affect members' willingness to promote products and the purchasing decisions of end consumers. | V | V | V | V | V | V |
| Transition risks - Market | Increased cost of raw materials | Supply chain instability: Extreme weather events affect the yield of upstream crops, such as cane sugar and certain herbal ingredients, leading to procurement cost volatility and impacting inventory management and production scheduling. | V | V | V | V | V | V |
| Transition risks - Reputation | Stakeholder concern | Impacts on financing and share price: Foreign investors and ESG funds, particularly those incorporate MSCI ESG Rating or Sustainalytics ESG Risk Rating into their investment methodology, strictly scrutinize ESG performance. Failure to meet targets could result in capital withdrawal or higher green financing costs, thereby affecting corporate valuation. | | V | V | V | V | V |
| Physical risks - Acute | Typhoons or flooding caused by heavy rainfall | Logistics and production disruption: Although the plants are located on relatively elevated ground, intense rainfall may still disrupt surrounding logistics and distribution, affecting the timely pickup of goods by UVACO members or e-commerce shipments, resulting in short-term revenue deferrals. | V | V | V | V | V | V |
| Physical risks - Acute | Water shortages caused by El Niño | Capacity constraint risk: Biological fermentation processes and cleaning equipment require substantial amounts of clean water. Water rationing may necessitate additional costs for water procurement (such as tanker supply), and reduced production loads in severe cases, resulting in opportunity costs. | V | V | V | V | V | V |

| Risk/ Opportunity | Item | Impacts on the Business Model and Value Chain | Value Chain Impact | | | Time Horizon | | |
|---|---|---|---|---|---|---|---|---|
| | | | Upstream Suppliers | The Company | Downstream Brand Customers | Short-term | Mid-term | Long-term |
| Physical risks - Chronic | Rising mean temperatures/ long-term water scarcity | Higher energy costs: Fermentation tanks require strict temperature control and cooling. Rising mean temperatures will increase the load on air conditioning and chillers, thereby driving up electricity costs. | V | V | | V | V | V |
| Physical risks - Chronic | Rising sea levels | International logistics costs: Although inland plants are not directly exposed to inundation risk, sea level rise may affect port operations for imports and exports, resulting in shipping delays and higher freight costs for exports to Southeast Asian markets or imported raw materials. | V | V | | | V | V |
| Climate opportunities - Resource usage efficiency | Use of more efficient production | Improved gross margin: By introducing smart manufacturing and high-density fermentation technologies, energy consumption per unit of output is reduced, which will lower unit manufacturing costs in the long run and enhance competitiveness. | | V | | V | V | V |
| Climate opportunities - Resource usage efficiency | Recycling and reuse | Waste valorization: Post-fermentation waste, such as residual by-products, can be converted into fertilizer or bioenergy, reducing waste disposal costs and potentially creating new revenue streams through the circular economy. | | V | | V | V | V |
| Climate opportunities - Products and Services | Development or expansion of sustainable health products | Revenue growth driver: The development of "plant-based" or "sustainably packaged" product lines can attract green consumers and support premium pricing for products carrying environmental labels. | | V | | V | V | V |
| Climate opportunities - Products and Services | Access to new markets | Expansion of export footprint: Outstanding ESG performance and carbon disclosure data facilitate access to highly regulated European and U.S. markets, or qualify us as an approved ODM/OEM supplier for major international brands. | | V | | V | V | V |
| Climate opportunities - Resilience | Energy substitution/ diversification | Business continuity assurance: Deployment of energy storage systems and diversified power sources can maintain fermentation tank operations during grid instability or power outages (preventing strain loss), ensuring asset protection and uninterrupted production. | | V | | V | V | V |

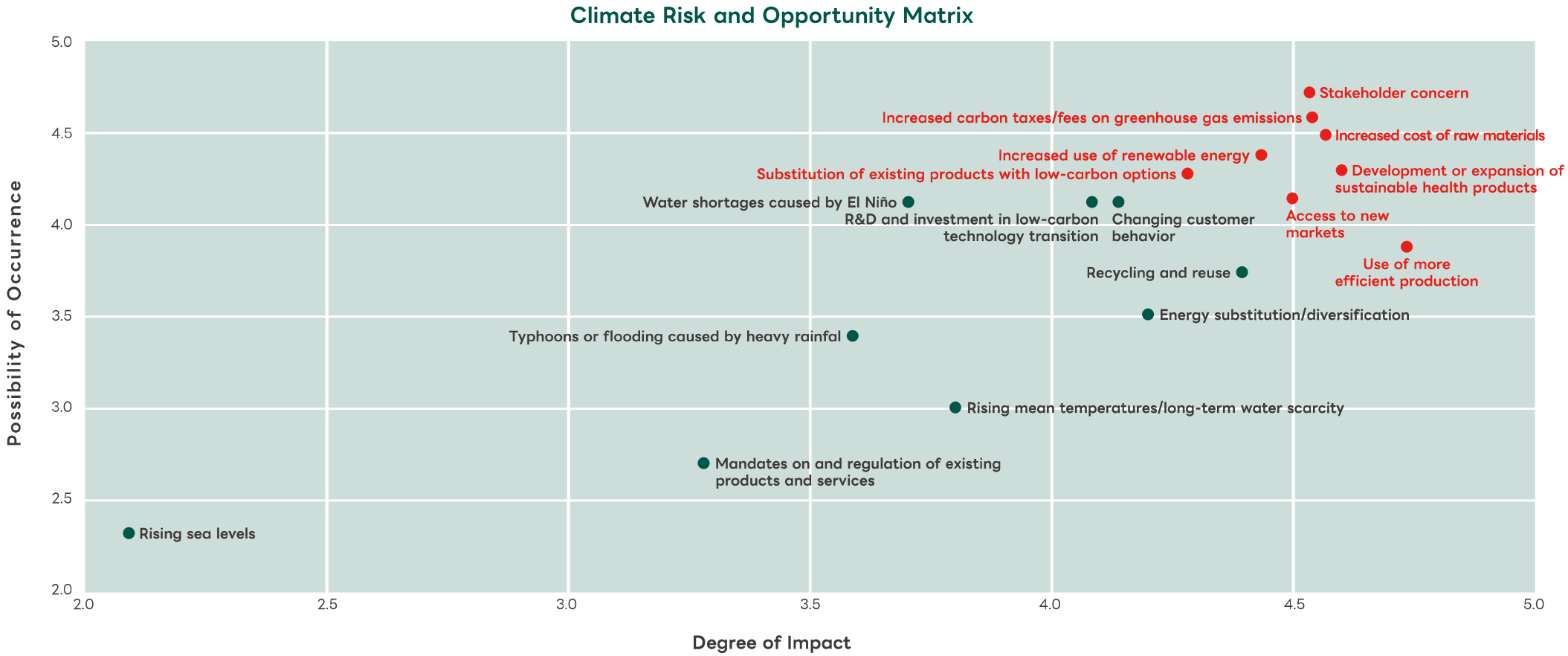
By assessing the likelihood of occurrence and financial impact scores for the above climate-related risks and opportunities, we further calculated risk/opportunity values using Euclidean distance and developed the risk and opportunity matrix shown below. Through joint discussions among our responsible departments and external experts, we identified 7 transition risks, 1 physical risk, and 3 climate opportunities prioritized as high and medium risk, analyzed their potential financial impacts, and formulated corresponding response strategies.

| Risk/ Opportunity | Category | Item | Risk/ Opportunity Value |
|---|---|---|---|
| Transition risks | Policy and Legal | Increased carbon taxes/ fees on greenhouse gas emissions | 6.43 |
| | Policy and Legal | Increased use of renewable energy | 6.22 |
| | Technology | Substitution of existing products with low-carbon options | 6.08 |
| | Technology | R&D and investment in low-carbon technology transition | 5.83 |
| | Market | Changing customer behavior | 5.87 |
| | Market | Increased cost of raw materials | 6.47 |
| | Reputation | Stakeholder concern | 6.51 |
| Physical risks | Acute | Water shortages caused by El Niño | 5.56 |
| Climate opportunities | Resource usage efficiency | Use of more efficient production | 6.11 |
| | Products and Services | Development or expansion of sustainable health products | 6.34 |
| | Products and Services | Access to new markets | 6.09 |

| | |
|---|---|
| High risk | Risk/Opportunity Value >=6 |
| Medium risk | 5<= Risk/Opportunity Value <6 |

## 2025 climate change risks and opportunities matrix

| | |
|---|---|
| Short-term | 1-3 years |
| Mid-term | 3-5 years |
| Long-term | More than 5 years |



## Analysis of Potential Financial Impacts and Response Measures for Climate-Related Risks and Opportunities

We have formulated comprehensive climate-related strategies to address eight material climate risks and opportunities with high risk/opportunity scores (greater than 6), in response to the impacts of climate change and taking into account potential policy and regulatory changes. This strategy covers investment in low-carbon technologies, enhancement of energy efficiency, and adjustments to operating models to reduce compliance risks and ensure operational resilience.

| Risk/ Opportunity | Category | Material Risk Issues | Potential Financial Impact | Key Response Measures |
|---|---|---|---|---|
| Transition risks | Policy and Legal | Increased carbon taxes/ fees on greenhouse gas emissions | Carbon pricing on greenhouse gas emissions in Taiwan increases manufacturing-related operating expenses, compressing product gross margins. | ● Conduct annual greenhouse gas inventories in accordance with ISO 14064-1 and obtain third-party verification.<br>● Implement ISO 50001 to integrate energy monitoring and carbon reduction efforts across all departments.<br>● Install a 180 kW solar PV system for on-site self-use to reduce non-renewable electricity usage and carbon emissions<br>● Join the international initiative RE100 and commit to achieving 5% renewable energy use by 2026, 15% by 2030, and 100% by 2035. |
| | Policy and Legal | Increased use of renewable energy | ● Capital expenditure for investment in green power equipment.<br>● Increased operating costs from renewable energy procurement. | |
| | Technology | Substitution of existing products with low-carbon options | R&D costs associated with the use of low-carbon packaging materials. | Invest resources in the development of products using low-carbon packaging. |
| | Market | R&D and investment in low-carbon technology transition | Climate change affects raw material costs. | Introduce raw material carbon management and evaluate the feasibility of procuring lower-carbon materials. |
| | Reputation | Concerns from stakeholders | Poor sustainability performance may adversely affect share price. | Continue to improve performance in international sustainability ratings and recruit sustainability professionals. |
| Climate opportunities | Resource usage efficiency | Use of more efficient production | By introducing smart manufacturing, energy consumption per unit of output is reduced, which will lower unit manufacturing costs in the long run and enhance competitiveness. | Promote energy-saving and electricity-conservation measures to reduce the cost impacts of rising electricity prices and future carbon fee imposition. |
| | Products and Services | Development or expansion of sustainable health products | ● The development of "plant-based" or "sustainably packaged" product lines can attract green consumers and support premium pricing for products with environmental labels.<br>● Outstanding ESG performance and carbon disclosure data facilitate access to highly regulated European and U.S. markets or qualify us as an approved ODM/OEM supplier for major international brands. | Develop health products aimed at preventing health issues arising from climate change impacts. |
| | Products and Services | Access to new markets | | |

## Climate Change Scenario Assumptions

We have developed scenario settings based on physical risks, transition risks, and climate opportunities. As climate-related risks and opportunities may affect future strategy and financial planning, the following scenario analysis has been adopted to assess the resilience of our climate strategy.

| Climate-Related Risk Type | Scenarios for Evaluating Risks and Strategies | Scenario Description |
|---|---|---|
| Transition risks | International Energy Agency (IEA)[1]<br>1. Stated Policies Scenario (STEPS) (2.5°C)<br>2. Net Zero Emissions (NZE) Scenario (1.5°C) | The "Stated Policies Scenario" reflects the energy and climate measures actually implemented by countries worldwide to date, as well as specific policy measures currently under development. Under this scenario, nearly all "net growth in energy demand" through 2050 is met by low-emission sources, while annual emissions remain broadly at current levels. By 2100, the global mean temperature is projected to rise to 2.6°C and continue increasing thereafter.<br><br>The "Net Zero Emissions" 1.5°C scenario aims to reduce carbon dioxide emissions by nearly 60% by 2050 compared to 2013, with emissions continuing to decline after 2050 until net zero is achieved. |
| Physical risks | Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP), adapted from the Sixth Assessment Report (AR6) SSP3-7.0 and SSP5-8.5 scenarios[2]<br>Climate Change Summary 2024: Taoyuan City | ● Scenario simulations were conducted using Taiwan climate data based on the AR6 downscaled framework.<br>● Under the 2° C warming scenario (SSP3-7.0), sea level rise around Taiwan is estimated at 0.5 meters.<br>● Under the 4° C warming scenario (SSP5-8.5), sea level rise around Taiwan is estimated at 1.2 meters.<br>● The maximum number of consecutive dry days per year in Taoyuan City ranges from 20.8 to 23 days. |

1 Reference : World Energy Outlook 2025

2 Reference : Scientific Highlights from the IPCC Sixth Assessment Report on "Impacts, Adaptation, and Vulnerability" and the Updated Report on Climate Change Impact Assessment in Taiwan

Under the 2°C warming scenario (SSP3-7.0), sea level rise around Taiwan is estimated at 0.5 meters and none of our factories in Taiwan are located within inundation zones. Under the 4°C warming scenario (SSP5-8.5), sea level rise around Taiwan is estimated at 1.2 meters, and none of our factories in Taiwan are located within inundation zones.

Furthermore, regarding the risk of water shortages potentially caused by the annual maximum number of consecutive dry days, such risk is no longer considered likely to occur following the implementation of dredging projects at the Shihmen Reservoir and the interconnection and dispatch of water resources between the Shihmen Reservoir and Feitsui Reservoir through projects such as the "North-to-South Water Transfer" and the "Reservoir Interconnection Project."

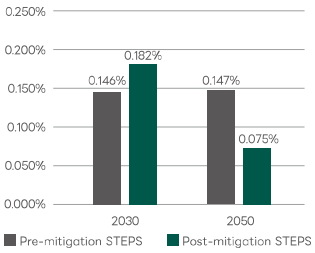
The financial impacts of transition risks mainly stem from increased carbon fees driven by legal risks, higher raw material costs caused by market risks, and investment costs required for decarbonization measures resulting from technology risks. However, actively advancing the low-carbon transition can improve corporate energy efficiency and reduce energy costs, thereby generating positive benefits in mitigating impacts on revenue.

Different carbon pricing mechanisms will affect the extent to which a company is exposed to carbon price impacts. Grape King Bio therefore conducted a separate regulatory carbon pricing impact analysis for transition risks. By selecting two climate scenarios, STEPS and NZE, we evaluated the potential financial impacts of carbon pricing under two strategies: "Business as Usual (BAU)" and "Proactive Carbon Reduction Management." The analysis results show that the financial impact under the NZE scenario will be higher than those under the STEPS scenario. If proactive carbon reduction management measures are adopted, the financial impacts caused by carbon pricing can be reduced, as explained below:

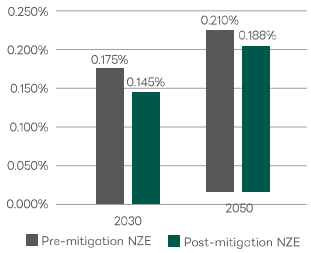
Unit: Financial Impact as a Percentage of Revenue (%)

| Transition scenario | 2030 | 2050 |
|---|---|---|
| Pre-mitigation STEPS | 0.146% | 0.147% |
| Post-mitigation STEPS | 0.182% | 0.075% |
| Pre-mitigation NZE | 0.175% | 0.210% |
| Post-mitigation NZE | 0.145% | 0.188% |

STEP Scenario




NZE Scenario

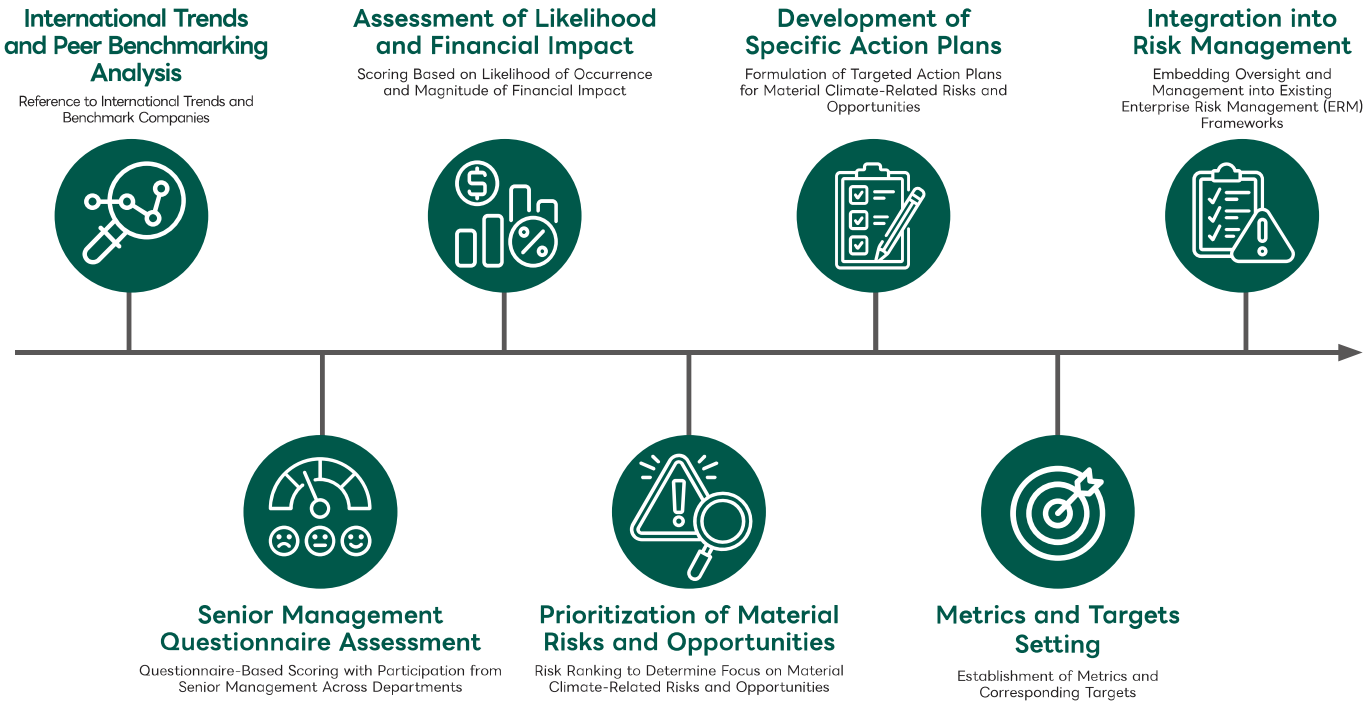



## 3. Risk management

To mitigate the impacts of climate change on the company, the ESG Committee coordinated and convened senior managers from each unit to conduct cross-functional communication in 2025, and designed the "Climate Change Risk and Opportunity Management Process" with reference to the TCFD framework. This comprehensive management process includes issue collection, management participation, risk assessment, risk identification, response strategy development, and management tracking. By consolidating domestic and international climate change issues alongside industry trends, we determined the applicable disclosure topics to identify the climate-related risks and opportunities relevant to the Group. To identify the material climate-related risks and opportunities that require focus, we discussed possible development scenarios, formulated response strategies and action plans, and established management targets and checkpoints to closely monitor timelines and progress, thereby mitigating potential financial impacts arising from climate-related risks.

In the future, we will identify climate change-related risks and opportunities once every two years, and may make rolling annual adjustments to risk and opportunity items if any temporary material climate issues arise. The procedures adopted for the management pathway, identification, and assessment of risks and opportunities are outlined as follows:

### Climate Change Risk and Opportunity Management Roadmap



# 4. Metrics and Targets

The purpose of our climate-related financial disclosures in the metrics and targets pillar is to enable the primary users of general-purpose financial reports to understand our performance in climate-related risks and opportunities, the climate-related targets we have set, and our progress toward any targets required by laws and regulations. In accordance with IFRS S2, we disclose information relevant to the cross-industry metric categories, including seven categories: greenhouse gas (GHG) emissions, climate-related transition risks, climate-related physical risks, climate-related opportunities, capital allocation, internal carbon prices, and remuneration, as described below.

**1. Climate-related metrics relating to greenhouse gas：**

Please refer to 6.2 Management of Greenhouse Gas Emissions

**2. Climate-related transition risks**

Information regarding our key operating activities vulnerable to climate-related transition risks is as follows:

Our major procured food raw materials, including soy milk, cane sugar, and Chinese herbal ingredients, may in the future be affected by climate change or by export controls in sourcing regions, resulting in reduced output, supply shortages, or supplier replacement risks. Going forward, we will continue to monitor the impacts of climate change on procurement costs and actively seek alternative, sustainably certified food raw materials. The ratio of related procurement costs to revenue is expected to decrease from 0.575% in the short term to 0.47%.

For carbon fees and renewable energy procurement costs arising from legal risks, we are able to effectively reduce the financial impacts of carbon fees under both the STEPS and NZE scenarios through effective energy inventories and monitoring, supplemented by response measures such as the phased replacement of old, energy-intensive equipment and the procurement of green electricity.

**3.Climate-related physical risks**

We do not have assets or business activities vulnerable to climate-related physical risks.

**4.Climate-related opportunities**

Our business activities associated with climate-related opportunities include the R&D of health products aimed at preventing health issues caused by climate change impacts. The estimated R&D expenditure to be invested ranges from NT$8 million to NT$15 million, which is expected to support steady growth in both internal Group revenue and external OEM sales.

**5.Capital allocation**

Relevant information on the capital expenditure allocated to our climate-related risks and opportunities is described below:

Apart from the provisional annual electricity-saving target of 1.5% at our factories, we also plan to progressively replace energy-efficient air compressors and new liquid filling machines from 2026 to 2028. The total investment is approximately NT$88.43 million, with an estimated carbon reduction of 60.6 $tCO_2e$.

**6. Internal Carbon Pricing**

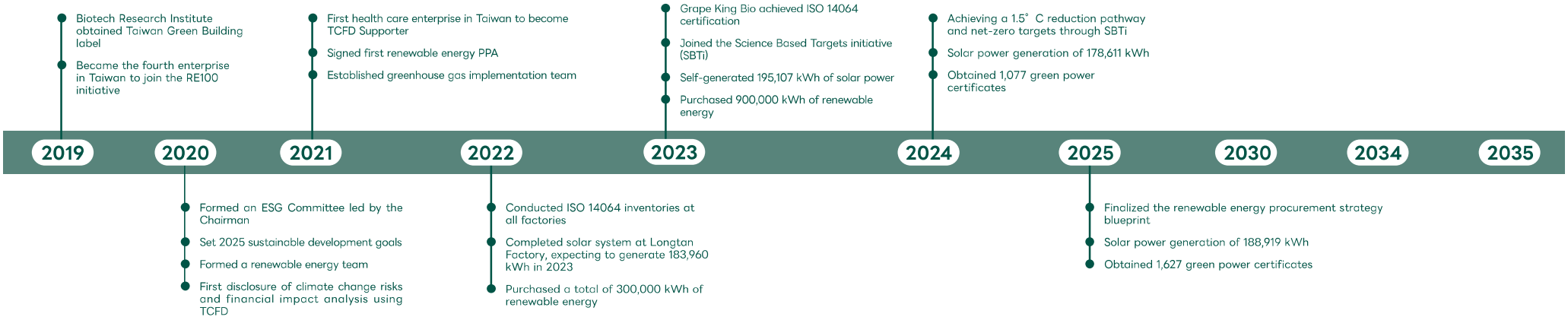
The Company has not yet established or implemented an internal carbon pricing mechanism. In the future, the Company will take into consideration domestic and international carbon market prices, greenhouse gas–related regulations, and the Company's internal carbon reduction costs when formulating such a price. The internal carbon price will serve as a reference for carbon reduction management and planning.

**7.Remuneration**

In the Group's annual performance evaluation, the remuneration of senior executives is linked to their performance in advancing climate related goals and strategies. This includes the establishment of specific carbon reduction targets and sustainability performance indicators, with executive remuneration adjusted based on the level of achievement of these indicators. Based on the evaluation results and their impact on operations, the Remuneration Committee proposes incentive and compensation recommendations, which are then reviewed and approved by the Board of Directors. The Remuneration Committee also conducts regular reviews of remuneration policies to ensure alignment with the Group's strategies for managing climate related risks and opportunities. For further details, please refer to Section 6.1 Climate Related Financial Disclosures (TCFD), I. Governance.

# Information on targets set by the entity for managing climate-related risks or opportunities

Grape King Bio is a company with many food manufacturing factories. Therefore, energy usage, greenhouse gas emissions, water consumption, and waste management are all indicators that have direct impacts on operations (For detailed historical data and related management measures, please refer to 6.2 Management of Greenhouse Gas Emissions, 6.3 Management of Energy Resources, 6.4 Management of Water Resources, and 6.5 Waste Management.). Please refer to the following image for information on our timeline of climate change responses, future plans, and targets:




## Grape King Bio climate change timeline

**"As a leader in Taiwan's biotech healthcare industry, Grape King Bio has a responsibility to fulfill environmental commitments. In the future, we will continue to work towards the Science Based Targets Initiative (SBTi) 1.5°C and Net Zero targets."**


## Grape King Bio Science-Based Targets initiative (SBTi) Targets

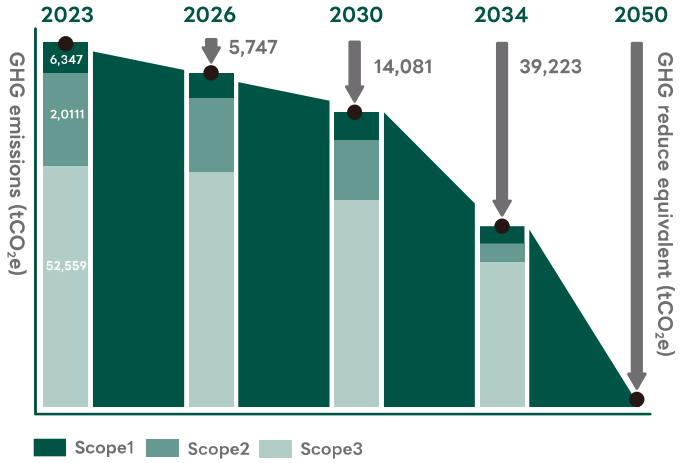
In 2024, Grape King Bio established targets aligned with the 1.5° C reduction pathway based on the Net-Zero Standard released by the Science Based Targets initiative (SBTi) at the end of 2021, officially receiving SBTi recognition in the same year, successfully passing the review of our Science-Based Targets.

| | |
|---|---|
| **Near-Term Targets** | Grape King Bio sets the climate target consistent with limiting temperature rise to 1.5°C, with 2023 as the base year. It aims to achieve an absolute reduction of 58.8% in scope 1 and scope 2 emissions by 2034, and an absolute reduction of 35% in scope 3 emissions (including purchased goods and services, fuel- and energy-related activities, upstream transportation and distribution, downstream transportation and distribution, and end-of-life treatment of sold products) by 2034. |
| **Net-Zero Targets** | Grape King Bio commits to achieving net-zero emissions by 2050, with 2023 as the base year. We aim to achieve an absolute reduction of 90% in scope 1, scope 2, and scope 3 emissions by 2050. |

Note: 100% of Grape King Bio Ltd. is included in the Near-Term Targets and Net-Zero targets.

- Achievement status in 2025: Alternative energy initiatives were advanced by procuring renewable energy to replace high-emission energy sources. Since 2021, green power (solar) purchase agreements have been signed with a renewable energy based electricity retailing enterprise, with the wheeling of green power to the Headquarters commencing in June 2022. By 2025, cumulative green power consumption reached 3 million kWh. The renewable energy usage ratio reaches 4.28% and is projected to reach 5% by 2026 and 15% by 2030. Energy reduction actions are executed by continuously promoting energy conservation and carbon reduction measures based on the PDCA operating mode, enhancing energy management intensity, and establishing specific electricity-saving targets.

## Grape King Bio Carbon Reduction Roadmap




## Energy Management Reduction Targets and Achievement Status

- Reduction Targets: (1) Set annual targets for electricity savings of 1.5% at our factories under the PDCA energy management system framework in 2025. Compared to the electricity consumption of 32,155,100 kWh in 2024, the target for electricity savings is set at 482,326 kWh. For the medium-to-long term (2026-2028), the target is to achieve an electricity saving rate of over 1.5% across all four factories. (2) Joined the international initiative RE100 in 2019 and committed to achieving a renewable energy rate of 15% by 2030 and 100% by 2035, in accordance with the RE100 policies.
- Achievement status: (1) We implemented a total of 31 energy-saving measures in 2025, achieving an average energy saving rate of 2.3% and total electricity savings of 736,558 kWh. This effort reduced carbon emissions by approximately 340,000 kg of $CO_2e$, successfully meeting the targets set in our action plans. (2) To progressively achieve our renewable energy targets, we purchased green power and installed solar photovoltaic systems for self-consumption. In 2023, Pingzhen Factory signed a green power purchase agreement for 3.6 million kWh from 2024 to 2026 with a renewable-energy-based electricity retailing enterprise. In 2025, the wheeling of 1,201,000 kWh of green power was completed, equivalent to a reduction of 569,274 kg of CO2 emissions. Additionally, the Longtan Factory invested NT$8 million to install a 180 kW solar PV system; in 2025, the system generated 188,919 kWh of electricity, reducing carbon emissions by 89,547 kg. Furthermore, the Zhongli Factory completed the wheeling of 240,000 kWh of small-scale green power from the Taiwan Power Company. Moving forward, we will continue to seek other diversified sources of renewable energy. (3) Longtan Factory was included in the extended certification scope of ISO 50001 (Energy Management System).
- Related Certification: Obtained ISO 50001 (Energy Management System) certification. Validity period: October 8, 2025 to October 8, 2028.

# 6.2 Management of Greenhouse Gas Emissions

Our absolute gross greenhouse gas emissions generated during the reporting period, expressed in metric tons of carbon dioxide equivalent ($tCO_2e$), are shown below:

## Scope 1, Scope 2, and Scope 3 Greenhouse Gas Emissions Disclosed for 2025

| Metric | Emission Item | Total Emissions ($tCO_2e$) (Voluntary) |
|---|---|---|
| Scope 1 | | 6,562.1762 |
| Scope 2 | Location-based | 18,590.8163 |
| | Market-based | 17,907.7823 |
| Scope 3 | Category 1 : Purchased goods and services | 14,277.3613 |
| | Category 3 : Fuel- and energy-related emissions (not included in scope 1 or scope 2) | 4,819.2072 |
| | Category 5 : Waste generated in operations | 552.2632 |
| | Scope 3 Subtotal | 19,648.8317 |
| 總計 | | 44,118.7902 |

Note:
1. Since 2021, Grape King Bio has conducted voluntary GHG inventories in accordance with "ISO 14064-1:2018" and the "Greenhouse Gas Protocol (GHG Protocol)." Relevant factors were taken from the "Greenhouse Gas Emission Factors" announced by the Ministry of Environment.
2. The Global Warming Potential (GWP) adopts the factors of the Sixth Assessment Report (AR6) of Intergovernmental Panel on Climate Change (IPCC).
3. Grape King Bio introduced ISO 14064-1:2018 inventories for the first time in 2022. Due to changes in organizational boundaries in 2023, the base year has been set as 2023.
4. Inventory boundaries include all subsidiaries within the Group in 2025.

## Analysis of Scope 1, Scope 2, and Scope 3 Greenhouse Gas Emissions

| Item (Unit: tons $CO_2e$) | 2023 | | | 2024 | | | 2025 (Voluntary) | | |
|---|---|---|---|---|---|---|---|---|---|
| By company | Grape King Bio Ltd. | UVACO GLOBAL LTD. | Total | Grape King Bio Ltd. | Subsidiaries | Total | Grape King Bio Ltd. | Subsidiaries | Total |
| Scope 1 | 6,184.3812 | 63.6897 | 6,248.0709 | 6,546.9894 | 189.6295 | 6,736.6189 | 6,444.3541 | 117.8221 | 6,562.1762 |
| Scope 2 | 15,425.4568 | 969.0220 | 16,394.4788 | 14,897.7098 | 2,947.9149 | 17,845.6247 | 15,139.9968 | 2,767.7855 | 17,907.7823 |
| Total | 21,609.8380 | 1,032.7117 | 22,642.5497 | 21,444.6992 | 3,137.5444 | 24,582.2436 | 21,584.3509 | 2,885.6076 | 24,469.9585 |
| Greenhouse gas emissions per unit of revenue (tons $CO_2e$ /per million NTD) | 2.1 | | | 2.2 | | | 2.4 | | |

Note:
1. Inventory boundaries include Grape King Bio, UVACO GLOBAL LTD., and Rivershine Ltd. in 2023; Inventory boundaries include Grape King Bio, UVACO GLOBAL LTD., Rivershine Ltd., and Shanghai Grape King Enterprise Corp. in 2024.
2. Inventory boundaries include all subsidiaries within the Group in 2025.

| Scope 3 emission (Unit: tons $CO_2e$) | 2023 | 2024 | 2025 (Voluntary) |
|---|---|---|---|
| Category 4 Indirect greenhouse gas emissions from products used by the organization. | | | |
| Purchased goods and services | 17,182.4308 | 15,269.2663 | 14,277.3613 |
| Fuel- and energy-related emissions (not included in scope 1 or scope 2) | 4,242.3611 | 4,303.1046 | 4,819.2072 |
| Waste generated in operations | 92.6555 | 381.0524 | 552.2632 |
| Total | 21,517.4474 | 19,953.4233 | 19,648.8317 |

Note:
1. Inventory boundaries include Grape King Bio, UVACO GLOBAL LTD., and Rivershine Ltd. in 2023; Inventory boundaries include Grape King Bio, UVACO GLOBAL LTD., Ltd., Rivershine Ltd., and Shanghai Grace King Enterprise Corp. in 2024.
2. Inventory boundaries include all subsidiaries within the Group in 2025.

Scope 1, Scope 2, and Scope 3 greenhouse gas emissions were measured in accordance with the methodology specified in ISO 14064-1:2018. Among the total greenhouse gas emissions disclosed in the table above, Scope 1 and Scope 2 emissions have been verified by a verification body in accordance with ISO 14064-3:2019, with a reasonable assurance opinion issued.

We have adopted the operational control method for emissions calculation to ensure the accuracy and consistency of reported data. Greenhouse gas emissions were quantified using the emission factor method. Emission factor values for the Taiwan region are based on the "Greenhouse Gas Emission Factors" released by the Ministry of Environment. The Global Warming Potential (GWP) values used for all factories and headquarters are cited from the IPCC Sixth Assessment Report (AR6). For 2025 data relating to factories in Taiwan, both Scope 1 and Scope 2 calculations are based on the 2024 electricity emission factor of 0.474 kg$CO_2e$/kWh published by the Ministry of Environment. Scope 3 emissions in Taiwan have been inventoried since 2022 and have also passed third-party verification.

After obtaining verification of our ISO 14064 greenhouse gas inventory system in the second half of 2026, we will release the details of the final greenhouse gas emission figures for Grape King Bio. on our website (Green Environment: Energy and greenhouse gas management). Please refer to our corporate website for more information.

## Our Carbon Reduction Actions

| Scope | Carbon Reduction Strategy | Specific Actions |
|---|---|---|
| Scope 1 & 2 | ● Energy Transition<br>● Improvement in energy usage efficiency | ● Grape King Bio has implemented a Manufacturing Execution System (MES) as part of the factory's digital transformation. Through visualization charts of the energy management system, we can monitor real-time energy consumption, carbon emissions, and water usage across both office spaces and production processes.<br>● Grape King Bio actively enhances energy usage efficiency in our production operations. In 2025, we continued to engage all production units in refining energy-saving and carbon-reduction initiatives. These initiatives included replacing roots blowers with air bearing blowers at our Pingzhen Factory, installing an MBR effluent recovery system, installing fine screen conveyor equipment at our Yungfeng Factory, and promoting the resource reuse of manufacturing waste such as plant-based residues. |
| | Renewable energy use | ● Generated 188,919 kWh of total electricity and reduced 89,547 kg $CO_2e$ of carbon emissions by solar photovoltaic system at Longtan Factory in 2025.<br>● Accumulated 1,441,000 kWh of solar power purchased and wheeled to Pingzhen Factory by the end of 2025. |
| | Internal carbon pricing | We have not yet established or implemented an internal carbon pricing mechanism. In the future, we will formulate this price with reference to domestic and international carbon market prices, greenhouse gas-related regulations, and our internal decarbonization costs. This formulated price will subsequently serve as a reference for our carbon reduction management and planning. |
| Scope 3 | Raw Materials | We are committed to promoting a local procurement strategy to minimize the carbon footprint generated during the transportation of raw materials. Taiwan-based Grape King Bio sourced 54.27% of raw materials locally, while Shanghai Grape King Enterprise Corp. in mainland China achieved a local procurement rate of 99% in 2025. |
| | Packaging | ● Starting in September 2024, our Grape King online store channels began using recycled boxes that can be returned to designated locations managed by partnered cleaning services after use, where they will be cleaned and reused. Compared to traditional cartons, each use of a recycled box can reduce carbon emissions by approximately 0.38 kg. In 2025, a total of 2,311 recycled boxes were used, resulting in a carbon emission reduction of 878 kg.<br>● UVACO's circular cardboard box initiative processed a total of 790 boxes in 2025, comprising 640 recycled boxes and 150 donated recycled boxes. |

# 6.3 Management of Energy Resources

Grape King Bio explicitly stipulated our obligation to implement environmental protection in the Environmental, Health, Safety and Energy Policy. Grape King Bio adheres to the ISO 14001 environmental management system and adopts the PDCA methodology for continued implementation of key environmental protection and management tasks. Our Pingzhen headquarters has already obtained ISO 14001 environmental management system certification.

## RE100: Working with Global Enterprises to Achieve 100% Renewable Energy

"Grape King Bio is committed to RE100 targets and will continue to improve energy efficiency and use of renewable energies to generate value from waste, create positive environmental impacts, and maximize benefits from energy consumption."

Grape King Bio joined the international RE100 renewable energy initiative in 2019, committing to the first stage of 15% renewable energy usage by 2030 and the second stage of 100% renewable energy usage by 2035.

The main energy sources used at Grape King Bio are electric power and natural gas. Electricity is mostly used to power common systems and production equipment, while natural gas is used for boiler fuel within factories.

RE 100

## 6.3.1 Energy Usage

Total natural gas, electric power, diesel, and gasoline energy usage for the past three years is shown in the following table:

| Item (Unit: MWh) | | 2023 | 2024 | 2025 | | |
|---|---|---|---|---|---|---|
| | | | | Taiwan | China and Malaysia | total |
| Direct energy use | Natural Gas Energy Consumption | 19,931 | 25,256 | 20,003 | 4,664 | 24,667 |
| | Diesel Energy Consumption | 83 | 75 | 101 | 0 | 101 |
| | Gasoline Energy Consumption | 198 | 202 | 206 | 0 | 206 |
| Indirect energy use | Electric Power Consumption | 33,114 | 36,787 | 33,998 | 2,412 | 36,410 |
| | Purchasing of Renewable Energy (Power Purchase Agreement ,PPA) | 600 | 900 | 1,441 | 0 | 1,441 |
| | Renewable energy from Self-generation and Self-consumption (Solar Photovoltaic, PV) | 195 | 179 | 189 | 0 | 189 |
| Total energy consumption | | 54,121 | 63,399 | 55,938 | 7,076 | 63,014 |

Notes:
1. Inventory boundaries include Grape King Bio, UVACO GLOBAL LTD., and Rivershine Ltd. in 2023; inventory boundaries include Grape King Bio, UVACO GLOBAL LTD., Rivershine Ltd., and Shanghai Grape King Enterprise Corp. in 2024.
2. Inventory boundaries include all subsidiaries within the Group in 2025.
3. Taiwan region includes Grape King Bio, UVACO GLOBAL LTD., and Rivershine Co. Ltd.
4. Mainland China and Malaysia region includes the Group's other subsidiaries.

## Energy Intensity

Production weight was used as a basis for calculating our energy intensity levels. Our energy intensity levels for the past three years are shown below.

| Item | Unit | 2023 | 2024 | 2025 |
|---|---|---|---|---|
| Total energy consumption | GJ | 194,777 | 228,171 | 226,782 |
| Energy intensity | GJ/ million NTD in revenue | 18.3 | 20.45 | 22.12 |

Notes:
1. Inventory boundaries include Grape King Bio, UVACO GLOBAL LTD., and Rivershine Ltd. in 2023; inventory boundaries include Grape King Bio, UVACO GLOBAL LTD., Rivershine Ltd., and Shanghai Grape King Enterprise Corp. in 2024.
2. Inventory boundaries include all subsidiaries within the Group in 2025.

## 6.3.2 Energy Management Measures

Guided by our ESG governance guidelines, Grape King Bio actively plans and advances energy reduction optimization measures and low-carbon energy transition initiatives. In October 2025, we completed the re-evaluation of the ISO 50001 Energy Management System. By continuously adhering to the PDCA energy management system, we have set an energy-saving target of 1.5% for all three factories in 2025. Through equipment efficiency optimization, we seek to reduce energy intensity, while utilizing energy performance indicator baseline tools to survey the electricity usage of key energy-consuming equipment and areas within our factories, and tracking and managing overall power consumption. Additionally, we have developed internal training programs, conducted internal audits and management reviews, and regularly updated documentation regarding internal and external risk issues. In line with our decarbonization pathway and energy transition targets, we will increase the proportion of renewable energy use year by year, thoroughly implementing our Environment, Safety, Health, and Energy Policy.

**Selected electricity-saving measures in 2025 are listed below:**

| Factory | Measures |
|---|---|
| Pingzhen Factory | (1) Replace 100 HP roots blowers with air bearing blowers in wastewater plants, saving 123,633 kWh.<br>(2) Optimized the frequency reduction scheduling of air handling units (AHU), saving 46,485 kWh.<br>(3) Optimized operational scheduling of air handling units (AHU), saving 16,801 kWh.<br>(4) Adjusted operational scheduling of dry air handling units (DAH), saving 28,600 kWh.<br>(5) Adjusted the operating hours of oil-water separators, saving 4,105 kWh. |
| Zhongli Factory | (1) Replaced the chillers in the raw material warehouse, saving 91,990 kWh.<br>(2) Replaced the air conditioning units in the Quality Assurance office, saving 8,081 kWh.<br>(3) Adjusted the brine chiller to a "one duty, one standby" operating mode, saving 188,494 kWh. |
| Longtan Factory | (1) Adjusted the outlet pressure of the pure water supply motor on production lines, saving 16,598 kWh.<br>(2) Adjusted the supply and return water pressure differential of PCW pumps, saving 8,332 kWh.<br>(3) Adjusted the end-of-line pressure of the pumps for 400RT chillers, saving 7,841 kWh.<br>(4) Adjusted the supply air outlet pressure of the MAU-A501 make-up air unit (MAU) on the 5th-floor laboratory (160 Pa → 100 Pa), saving 39,487 kWh..<br>(5) Adjusted the pressure load/unload range of the low-pressure fixed-frequency air compressors, saving 40,186 kWh. |

We convene EHS and Energy Management Committee meetings hosted by our chairman every quarter to report on implementation status, project progress, internal and external issues, and follow-up items relating to ISO 14001/ISO 50001 systems.

## Environmental Management Plans for Grape King Bio Biotech Research Institute (Longtan Branch)

Our Biotech Research Institute regularly repairs and maintains all our environmental protection equipment to ensure they operate normally. We installed gas collection devices in our production areas and linked these to our gas processing equipment to improve environmental air quality. Our carbon reduction highlight is the flash steam heat recovery and reuse project at our Longtan Factory. Its operational efficiency statistics in 2025 are as follows:

(1) The energy saved by condensate water and flash steam recovery amounted to NT$366,857.

(2) The system reduced cumulative carbon emissions by 45 $tCO_2e$.

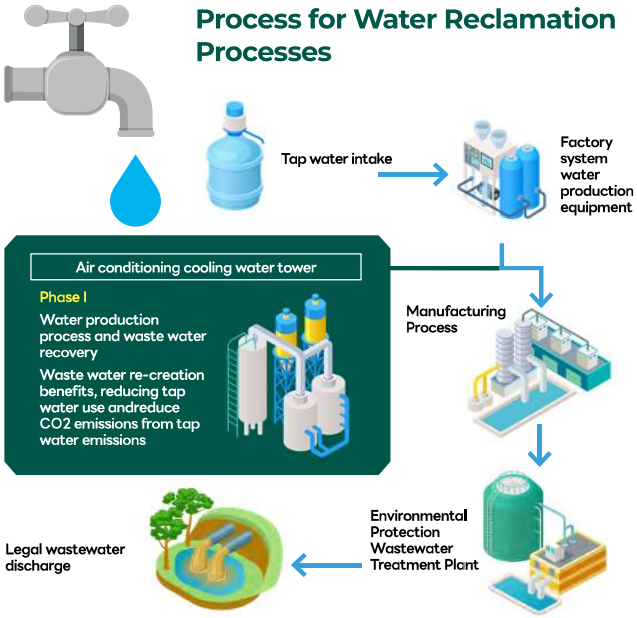
Our Biotech Research Institute has passed Green Building label evaluations. To enhance overall production capacity and maximize resource usage rates, we continue to implement environmental management facilities such as heating, ventilation and air conditioning (HVAC) designs, steam condensate recovery equipment, boiler economizers, and so on.

# 6.4 Management of Water Resources

To avoid wasting water resources while improving energy efficiency, Grape King Bio has developed a "Process Water Recirculation System" based on a circular economy framework. By making simple adjustments to existing equipment and systems, we are able to recycle and reuse high-concentration process water generated during the production process, which was originally discharged to wastewater plants. This initiative reduces wasted water resources and wastewater volumes. Our manufacturing department manages this system, and we monitor our water management goals quarterly through the ESG Committee. We expect the total water consumption from our four factories to decrease by more than 5% in 2030 compared to 2022. As of 2025, we have saved a total of 16,770 tons of process water, accumulating to 82,857 tons of water saved since 2021.

Additionally, as a food manufacturer, Grape King Bio places high importance on the control and management of water quality inspection and wastewater discharge. We are also evaluating the introduction of water-saving manufacturing equipment and the expansion of wastewater treatment facilities. By increasing our water recovery rate, we can effectively reduce water usage and wastewater discharge, thereby reducing our impact on the environment.

## Process for Water Reclamation Processes




| Year | | 2023 | | 2024 | | | 2025 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Category | | Manufacturing sites (Note 4) | Office sites | Manufacturing sites in Taiwan (Note 4) | Office sites in Taiwan (Note 5) | China | Manufacturing sites in Taiwan (Note 5) | Office sites in Taiwan (Note 5) | Manufacturing sites in China and Malaysia (Note 6) | Office sites in China and Malaysia (Note 6) |
| Water withdrawal (million liters) (Note 1) | Groundwater withdrawal (million liters) | 122.16 | 0 | 105.10 | 0 | 0 | 117.76 | 0.00 | 0.00 | 0.00 |
| | Water from third party-municipal potable water withdrawal (million liters) | 218.82 | 14.2 | 213.64 | 17.78 | 44.54 | 195.85 | 15.76 | 42.00 | 0.07 |
| | Total water withdrawal (million liters) | 355.18 | | 336.52 | | 44.54 | 329.37 | | 42.07 | |
| Water discharge (million liters) (Note 2) | | 238.55 | NA (Note4) | 232.81 | NA (Note4) | 18.73 | 234.88 | NA (Note4) | 12.28 | NA (Note4) |
| Water consumption (million liters) (Note 3) | | 102.43 | | 85.93 | | 25.81 | 78.73 | | 29.72 | |
| Water use intensity (million liters/million NTD in revenue) | | 0.033 | | 0.034 | | | 0.036 | | | |
| Wastewater disposal intensity (million liters/ million NTD in revenue) | | 0.022 | | 0.023 | | | 0.024 | | | |

Note:
1.All water was freshwater, sources from ground water and third party - municipal potable water, and was not taken from any other sources. All water was taken from Taiwan, no. from water stressed sites.
2.All discharged water is freshwater. After the sewage treatment, it will be discharged into the sanitary sewer.
3.Water consumption = Water withdrawal - Water discharge
4.Because the amount of water discharge of office sites could not be calculated, the amount of water discharge only included Grape King Bio (Pingzhen Factory, Zhongli Factory, Longtan Branch, and Yungfeng Factory) and Shanghai Grape King Enterprise Corp.
5.The Taiwan region includes Grape King Bio, UVACO GLOBAL LTD., and Rivershine Ltd.
6.China and Malaysia region includes the Group's other subsidiaries.
7.Due to the use of recycled water (such as rain water and domestic water) solely for irrigation of landscaping, it does not re-enter the production process, and therefore, no data is disclosed.

## 6.4.1 Production and Related Inspections for Process Water

The pure water used in manufacturing processes at Grape King Bio passes through multiple stages to remove impurities and hazardous substances. We continually inspect and monitor water quality to ensure compliance with standards of raw materials used for health food manufacturing.

**Pure water production process**

(1) Impurities are removed by quartz filter machines

(2) Activated carbon is used to neutralize residual chlorine and absorb dissolved organic substances

(3) Water softener machines are used to filter out calcium and magnesium ions

(4) Finally, reverse osmosis and UV sterilizers are used to remove heavy metals, bacteria, hazardous substances, and dead bacteria to meet the requirements for pure water.

In 2025, Grape King Bio invested NT$ 570,000 in outsourced water quality inspections. Grape King Bio not only conducts internal monitoring procedures but also commit external institutes to conduct periodic water quality inspections. Quality assurance specialists periodically collect water samples and perform multiple inspection procedures under relevant regulations (please refer to Appendix Table 3. Water Quality Inspection Items at all Grape King Bio Factories for more information).

## 6.4.2 Wastewater Discharge Management

To expand green benefits, Grape King Bio adheres to the 3R principles (reduce, recycle, reuse) to further optimize waste classification processes while also working to create additional value from waste sludge. Grape King Bio has formulated comprehensive operational procedures for management of wastewater disposal. All discharged wastewater must pass through specific processing procedures. Water quality is inspected periodically to ensure compliance with governmental regulations. We implemented the following wastewater management measures:

### 1. Production EHS requirements:

For water pollution prevention and control management, in addition to complying with laws and regulations, it is also oriented towards water-saving planning and management.

(1) To strengthen wastewater management, we voluntarily conduct water quality inspections at our wastewater treatment plants at frequencies exceeding legal requirements, ensuring that the quality of our discharged water adheres to environmental regulations.

(2) Water-saving improvements for process water: Installed new machinery and equipment with water-saving designs that can be used during planned periods to reduce the amount of water consumption and wastewater discharge.

(3) Reusing reclaimed water: Our Pingzhen and Longtan factories are respectively equipped with 690-ton and 400-ton rainwater storage tanks for water for non-process and non-contact personnel use.

### 2. Preventive maintenance procedures:

As part of our aim to become an eco-friendly company, we not only replace old equipment and pipelines from time to time, but also implement preventive maintenance procedures and regular internal water quality inspections to ensure that our discharged water adheres to relevant standards.

### 3. Upgrades to wastewater treatment equipment:

(1) We voluntarily conduct irregular sampling and testing of the water quality discharged by our treatment vendors. A total of two sampling tests were carried out in 2025, and all test results complied with applicable standards.

(2) Zhongli factory: Preventive maintenance was proactively performed twice a year on the wastewater manholes to strengthen the operational reliability of the wastewater system.

(3) Pingzhen factory: The aeration blowers in biological aerobic tanks were replaced with air bearing blowers to reduce energy consumption and improve wastewater treatment efficiency. This project received a subsidy of NT$280,000 from the Taoyuan City Low-Carbon Technology Industry Subsidy Program.

(4) Longtan Factory: We continued to enhance circular recycling of water resources and accumulated 82,857 tons of ROR recycled water in our three factories as of 2025, reducing carbon emissions by 12,919 kg $CO_2e$. MBR effluent recovery systems were installed to recycle wastewater discharge for reuse in scrubbers. From May to December 2025, approximately 898 tons of water were recovered.

(5) Process wastewater which has undergone chemical treatment and biological decomposition processes can only be discharged when water quality adheres to legal standards. Additionally, hazardous industrial waste is collectively stored and managed before periodic disposal and treatment by government-approved vendors.

## Wastewater Quality Inspections: Inspection Items for Discharged Water

| Zhongli Factory | | | | | | | |
|---|---|---|---|---|---|---|---|
| Inspection Items | Standard Range | 2023 (First half) | 2023 (Second half) | 2024 (First half) | 2024 (Second half) | 2025 (First half) | 2025 (Second half) |
| pH value | 6~9 | 7.4 | 8.1 | 7.8 | 7.8 | 7.4 | 7.6 |
| COD (Chemical oxygen demand) | <100mg/l | 42.7 | 17.2 | 39.7 | 29.2 | 27.9 | 64.9 |
| BOD (Biochemical oxygen demand) | <30mg/l | 2.4 | 1 | 4.2 | 17.3 | 1.8 | 23.1 |
| True color | <400ADMI | 46 | <25 | 45 | 34 | 26 | 68 |
| SS (Suspended solids) | <30mg/l | 13.1 | 5.3 | 10 | 8.7 | 20.9 | 26.5 |
| Water temperature | <38℃ (May to September) <35℃ (October to April) | 29.1 | 26.2 | 31.6 | 26.7 | 29.2 | 24.8 |
| Free available residual chlorine | <2.0mg/l | 0.05 | 0.03 | ND | 0.06 | 0.04 | 0.03 |
| Coliform levels | <200,000 CFU/100 ml | 85,000 | 45,000 | 30,000 | 58,000 | 26,000 | 36,000 |

| Pingzhen Factory | | | | | | | |
|---|---|---|---|---|---|---|---|
| Inspection Items | Standard Range | 2023 (First half) | 2023 (Second half) | 2024 (First half) | 2024 (Second half) | 2025 (First half) | 2025 (Second half) |
| pH value | 6~9 | 7.9 | 8.2 | 8.0 | 7.9 | 7.8 | 6.9 |
| COD (Chemical oxygen demand) | <100mg/l | 16.4 | 14.3 | 6.2 | 15.4 | 11 | 15.3 |
| BOD (Biochemical oxygen demand) | <30mg/l | 4.4 | 1.1 | 4.1 | 7.1 | 1.6 | 3.5 |
| True color | <400ADMI | --- | --- | --- | --- | --- | --- |
| SS (Suspended solids) | <30mg/l | 9.9 | 2.6 | 1.7 | 3.8 | 7.5 | 7 |
| Water temperature | <38℃ (May to September) <35℃ (October to April) | 31.5 | 27.2 | 31.3 | 26.5 | 30.8 | 21.2 |
| Oil levels | <10mg/l | <5 | <5 | 4.2 | 2.6 | 0.2 | <0.5 |
| Coliform levels | <200,000 CFU/100 ml | 16,000 | <10 | 59,000 | 52,000 | <10 | 1800 |

| Yungfeng Factory | | | | | | | |
|---|---|---|---|---|---|---|---|
| Inspection Items | Standard Range | 2023 (First half) | 2023 (Second half) | 2024 (First half) | 2024 (Second half) | 2025 (First half) | 2025 (Second half) |
| pH value | 6~9 | - | - | 8.7 | 8.4 | 7 | 8.3 |
| COD (Chemical oxygen demand) | <100mg/l | - | - | 16.0 | 18.4 | 10.2 | 13.4 |
| BOD (Biochemical oxygen demand) | <30mg/l | - | - | <1.0 | <1.0 | <1.0 | 1.0 |
| True color | <400ADMI | - | - | --- | --- | --- | --- |
| SS (Suspended solids) | <30mg/l | - | - | 4.2 | 19.9 | 3.9 | 2.8 |
| Water temperature | <38℃ (May to September) <35℃ (October to April) | - | - | 28.7 | 28.3 | 28.0 | 24.2 |
| Oil levels | <10mg/l | - | - | <0.4 | <0.4 | <0.4 | <0.4 |
| Coliform levels | <200,000 CFU/100 ml | - | - | 2,900 | 85 | 520 | 160 |

| Longtan Factory | | | | | | | |
|---|---|---|---|---|---|---|---|
| Inspection Items | Standard Range | 2023 (First half) | 2023 (Second half) | 2024 (First half) | 2024 (Second half) | 2025 (First half) | 2025 (Second half) |
| pH value | 6~9 | 8.3 | 8.2 | 8.2 | 8.3 | 8.2 | 8.5 |
| COD (Chemical oxygen demand) | <100mg/l | 13.6 | ND | 13.5 | 15.9 | 47.2 | 16.3 |
| BOD (Biochemical oxygen demand) | <30mg/l | <1 | <1 | <1 | 3.2 | 7.3 | 1.7 |
| True color | <400ADMI | <25 | <25 | 58 | 27 | 51 | <25 |
| SS (Suspended solids) | <30mg/l | 2.7 | <1.25 | <1.25 | 10.1 | 21.6 | 1.9 |
| Water temperature | <38℃ (May to September) <35℃ (October to April) | 27.5 | 24.7 | 26.1 | 21.8 | 26.1 | 26.3 |
| Oil levels | <10mg/l | <0.5 | 0.5 | 0.6 | 1.1 | 1.5 | <0.5 |
| Coliform levels | <200,000 CFU/100 ml | - | - | - | - | - | - |

# 6.5 Waste Management

Grape King Bio conducts waste classification, collection, storage, management, and disposal to effectively manage industrial waste and other types of waste. Disposal, handling, and reuse of waste materials are conducted per environmental laws and regulations.

Other relevant management measures included:

1. In accordance with environmental laws and regulations, our factories have formulated industrial waste disposal plans and implemented waste management procedures in accordance with law.
2. In accordance with ISO 14001 environmental management system requirements, our factories have established waste management operational standards and implement waste management procedures in accordance with our management regulations.
3. We have signed waste disposal and treatment contracts with authorized public and private waste disposal and treatment companies to handle relevant procedures.
4. In accordance with laws and regulations, waste disposal and treatment processes are filed online, and tracking and confirmation of final processing statuses are implemented within required time limits.
5. Our environmental management personnel conduct irregular on-site inspections of waste treatment companies to ensure that waste disposal and treatment processes adhere to relevant regulations. We have completed 11 audits of waste treatment and reuse vendors in 2025, including Kunsheng Livestock Farm, Jian Changru Livestock Farm, Ta-Yuan Cogen Co., Ltd. , Revivegen Co., Ltd., Huaguan Environmental Protection Co., Ltd., Ximei Environmental Technology Co., Ltd., Dafon Environmental, Jack Sustainable Resources Ltd., Hua yi Environmental Protection CO., LTD., Tseng Ming Group Environmental Engineering Inc., and Long Ho Co., Ltd.

## Waste disposal amounts for Grape King Bio from 2023 to 2025 were as follows:

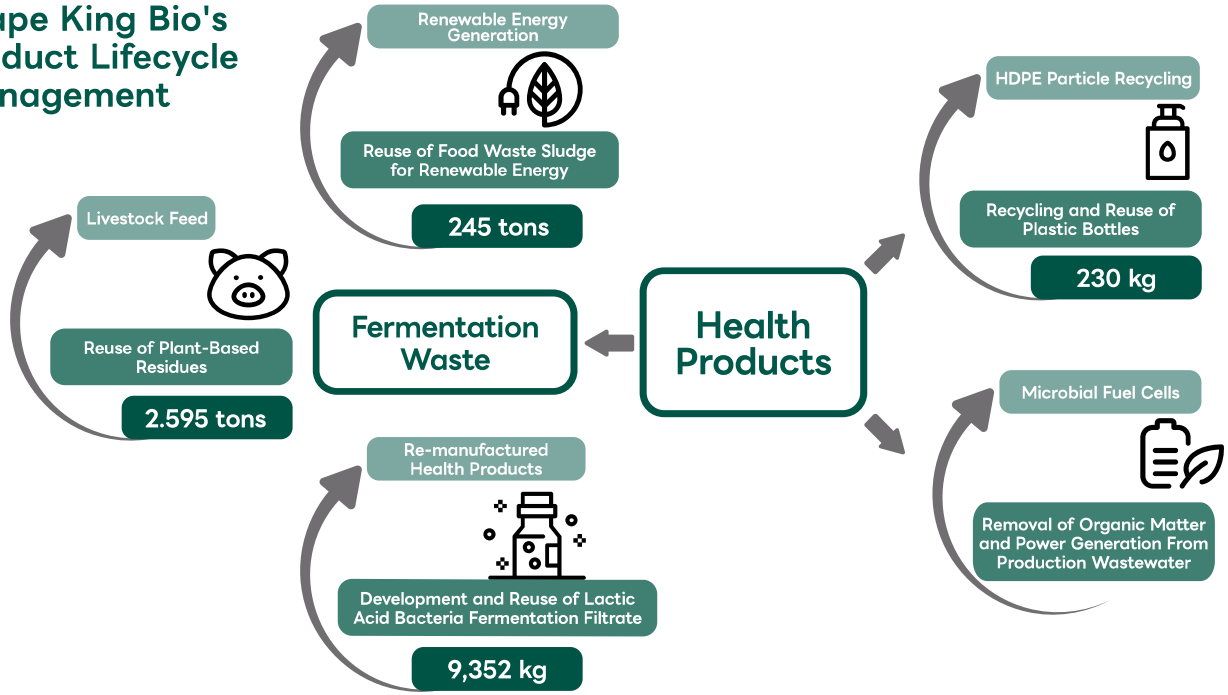
| Types and disposal method Unit (ton) | | 2023 | 2024 | 2025 | | |
|---|---|---|---|---|---|---|
| | | | | Taiwan | China | Total |
| Non-Hazardous Waste | Reuse and recycling | 3,256.91 | 2,781.21 | 2,887.75 | 25.19 | 2912.94 |
| | Incineration | 124.38 | 187.84 | 166.32 | 64.440 | 231.50 |
| | Landfill disposal | 0 | 0 | 0 | 0 | 0 |
| | Other disposal methods (physical treatment) | 14.19 | 29.19 | 23.79 | 0 | 23.76 |
| | Other disposal methods (thermal treatment) | 29.93 | 36.70 | 15.51 | 0 | 15.51 |
| | Total | 3,425.41 | 3,034.94 | 3,093.37 | 89.63 | 3,183.00 |
| Hazardous Waste | Reuse and recycling | 4.49 | 5.54 | 0 | 0.26 | 0.26 |
| | Incineration | 0 | 0 | 3.61 | 0.46 | 4.07 |
| | Landfill disposal | 0 | 0 | 0 | 0 | 0 |
| | Other disposal methods | 0 | 0 | 0 | 0 | 0 |
| | Total | 4.49 | 5.54 | 3.61 | 0.72 | 4.33 |
| Recyclable | | 93.23 | 146.75 | 163.24 | 0.00 | 163.24 |

Compared to 2024, there was no significant rise in the non-hazardous waste generated in 2025; the volume of recyclable waste grew substantially through strengthened waste sorting and internal awareness campaigns, resulting in a 10% increase in the recycling rate.

## Grape King Bio Environmental Program Investments in 2025 (NTD):

| Items | Total amounts |
|---|---|
| Air pollution management costs | 431,074 |
| Wastewater management costs | 40,378,611 |
| Waste management costs | 7,146,008 |
| Noise management costs | 0 |
| Total | 47,955,693 |

# Grape King Bio's Product Lifecycle Management




## Wastewater Reuse

Grape King Bio collaborated with academic experts to develop microbial fuel cells using liquid waste generated at our factories. This approach helps remove organic matter while generating bioenergy, thereby achieving the dual benefits of liquid waste treatment and electricity recovery. Currently, the capacity of the microbial fuel cell module has been increased from 140ml to 700ml, demonstrating stable operation with proven power generation and COD (Chemical Oxygen Demand) degradation capabilities. Future phases will transition from batch to continuous flow processes to enhance power generation efficiency and system stability. By putting sustainability and circular economy principles into practice, the project promotes technological innovation and the development of green energy. This project was awarded the "2025 Subsidy Program for Innovation and R&D in Wastewater Treatment Technologies" by the Ministry of Environment and was presented at the Water Environmental Engineering Technology Seminar during the 37th Annual Conference of the Chinese Institute of Environmental Engineering and various specialized seminars.

## Circular Reuse of Plant Residues

Grape King Bio repurposes plant residues generated during the manufacturing process as a nutrient-rich feed source for livestock farms. These residues help boost the immunity and breeding survival rates of pigs while reducing their demand for drinking water, thereby lowering overall tap water consumption. Over the past three years, our Longtan Factory has maintained a plant residue reuse rate of over 99%, simultaneously reducing wastewater generation by 2,595 tons. This approach yields multiple environmental benefits, substantially lowering our in-house wastewater treatment costs and sludge output.

## Sludge Reuse

In collaboration with external enterprises, Grape King Bio delivers sludge generated from production processes to specialized operators for treatment. By closely monitoring clearance volumes, we processed 245 tons of food processing sludge in 2025. This initiative not only effectively reduced waste volume but also converted these materials into valuable energy resources by using them as auxiliary fuel for power generation. This practice diverts waste from landfills, supplies renewable energy, reduces our reliance on fossil fuels, and ultimately lowers environmental burdens while enhancing resource circularity.

## Resource Reuse

Enhanced the reusability value of waste plastics and reused waste plastics (waste code R-0201), with 47.137 metric tons cleared in 2025. (Pingzhen Factory)
Enhanced the reusability value of waste cooking oil and reused waste cooking oil (waste code R-1702), with 0.4 metric tons cleared in 2025. (Pingzhen Factory)

## "Bottles of Love"

Under the CSR charity event, our Environmental Protection Administration collected and temporarily stored 230 kgs of recycled bottles, which are sent to vendors for processing into reusable plastic pellets in 2025, supporting recycling and reuse as part of our environmental protection initiative. (Pingzhen Factory)

## Environmental Awards and Social Initiatives Highlights

1. Environmental and Social Initiatives: Highlighted in the ESG Environmental Sustainability Feature Series by Global Views Magazine.
2. Environmental and Social Initiatives: Attended the Green Factory Establishment Demonstration Meeting hosted by the Taiwan Industry Service Foundation.
3. Environmental and Social Initiatives: Attended the Practical Sharing Session on Net-Zero Carbon Emissions at Chaoyang University of Technology.
4. Environmental and Social Initiatives: Participated in the Visit Program for Outstanding Carbon Reduction Enterprises by the Taoyuan City Government.
5. Environmental and Social Initiatives: Participated in the Green Factory Label Workshop by the Industrial Development Administration, Ministry of Economic Affairs.
6. Environmental and Social Initiatives: Highlighted in the ESG Environmental Sustainability Feature Series by CommonWealth Magazine.
7. Environmental Awards: Received the National Enterprise Environmental Protection Award - Finalist Award (Pingzhen Factory).
8. Environmental Awards: Received the Exemplary Environmental Dedicated Personnel and Technicians Award from the Ministry of Environment (Longtan Factory - Chen Shih-Yan).
9. Environmental Awards: Received the SGS ISO PLUS Awards for Excellence in Environmental Management System Performance (Longtan Factory, for two consecutive years).
10. Environmental Awards: Received National Sustainable Development Award (Longtan Factory).


# 6.5.1 Prevention of Air Pollution

Grape King Bio has installed and maintained air pollution prevention equipment to enhance and improve environmental protection. All our factories implement regular maintenance procedures for our equipment to ensure that they operate normally.

### Results of Air Pollution Inspections at Zhongli Factory

| Inspection Items | Standard Range (2022) | Boiler (E001) | | | |
|---|---|---|---|---|---|
| | | 2022 | 2023 | 2024 | 2025 |
| Particulate contaminants | <30mg/Nm3 | — | No inspection required. | 3 | No inspection required. |
| Sulfur oxides | <150ppm | — | | — | |
| Nitrogen oxides | <100ppm | 26 | | 25.5 | |

| Inspection Items | Standard Range (2022) | Boiler (E002) | | | |
|---|---|---|---|---|---|
| | | 2022 | 2023 | 2024 | 2025 |
| Particulate contaminants | <30mg/Nm3 | — | No inspection required. | 2.7 | No inspection required. |
| Sulfur oxides | <150ppm | — | | — | |
| Nitrogen oxides | <100ppm | 67 | | 43.2 | |

Note: In 2023, the factory was exempt from testing due to the previous two consecutive tests showing concentrations below the emission standards by 50%. According to the "Regulations for the Management of Monitoring and Reporting of Stationary Air Pollution Sources," the testing frequency can be adjusted from annually to biennially. As a result, the biennial inspection was conducted in 2024, and no inspection was required in 2025.

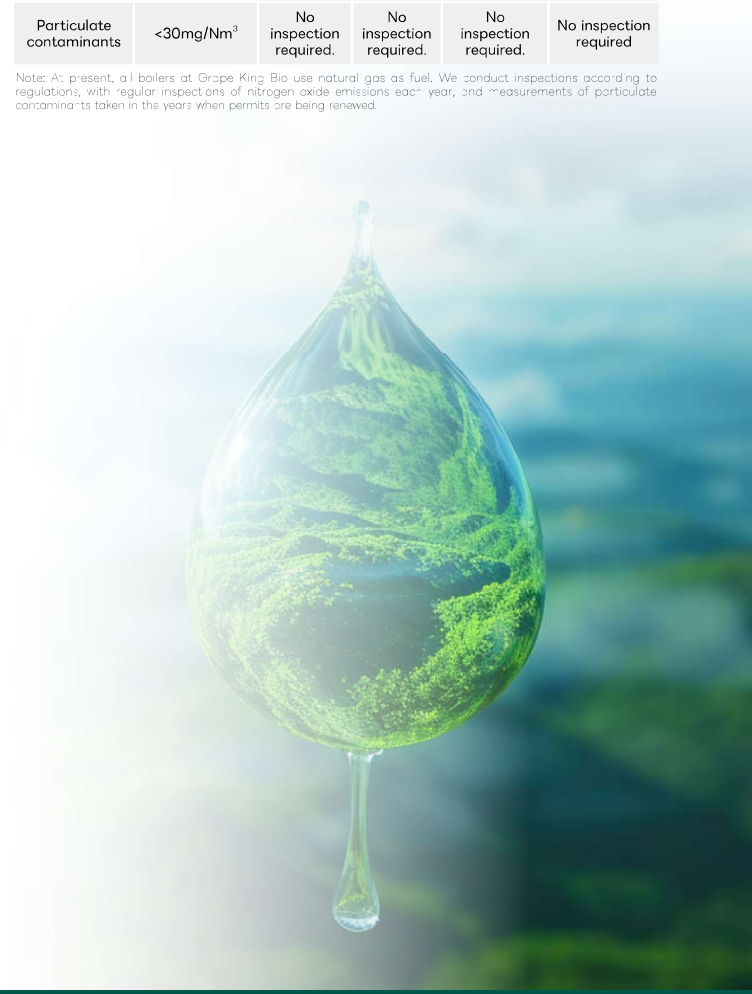
### Results of Air Pollution Inspections at Yungfeng Factory

| Inspection Items | Standard Range (2022) | Boiler (E001) | | | |
|---|---|---|---|---|---|
| | | 2022 | 2023 | 2024 | 2025 |
| Particulate contaminants | <30mg/Nm3 | — | — | ND<0.1 | No inspection required. |
| Sulfur oxides | <150ppm | — | — | — | |
| Nitrogen oxides | <100ppm | — | — | 33.8 | |

### Results of Air Pollution Inspections at Longtan Factory

| Inspection Items | Standard Range (2022) | Boiler (E001) | | | |
|---|---|---|---|---|---|
| | | 2022 | 2023 | 2024 | 2025 |
| Nitrogen oxides | <100ppm | 43 | 34 | 37 | 34 |
| Particulate contaminants | <30mg/Nm$^3$ | No inspection required. | No inspection required. | No inspection required. | No inspection required |

Note: At present, all boilers at Grape King Bio use natural gas as fuel. We conduct inspections according to regulations, with regular inspections of nitrogen oxide emissions each year, and measurements of particulate contaminants taken in the years when permits are being renewed.



# 6.6 Biodiversity

Biodiversity is a critical factor for the health, stability, and prosperity of ecosystems. It refers to the richness of biological species in a specific region, ecosystem, or the entire planet, encompassing species diversity, genetic diversity, and ecosystem diversity. To support biodiversity, Grape King Bio has established a Biodiversity and No-Deforestation Commitment, with the goal of achieving No Net Loss and a Net Positive Impact on biodiversity. Based on the Company's operational characteristics, key stakeholder concerns, and regulatory developments, Grape King Bio will prudently assess and plan specific implementation directions and timelines. These efforts will be progressively aligned with the 2030 Action Targets of the Kunming–Montreal Global Biodiversity Framework, with implementation progress disclosed periodically to continuously enhance biodiversity management and information transparency.

The Company is committed to halting all deforestation (No Gross Deforestation), and compensating for any forest loss through reforestation (No Net Deforestation) across all operating sites by 2050. Our goal is to mitigate environmental impacts across our own operations and our entire value chain, including suppliers and partners. We strictly avoid conducting operational activities in or near areas of global or national biodiversity importance. In addition to proactively assessing the potential impacts of our operations on biodiversity, we mandate rigorous environmental impact assessments prior to the construction of plants in protected areas. Please refer to [Link ] for more details.

We also actively participate in and support various projects aimed at protecting and restoring ecosystems, as well as raising public awareness of the importance of this issue. In 2025, our projects were conducted as follows:

| SDGs | Issue | Collaborating Unit | Project Name | Description | Total Input |
|---|---|---|---|---|---|
|  | Clean water | Northern Region Water Resources Branch of the Water Resources Agency under the Ministry of Economic Affairs | Subscription of farmland utilizing rationalized fertilization | Grape King Bio collaborated with the Northern Region Water Resources Branch of the Water Resources Agency under the Ministry of Economic Affairs and farmers to subscribe to farmland utilizing rationalized fertilization. This initiative not only reduces soil degradation and preserves biodiversity but also conserves water resources. The Oldham bamboo shoots produced by farmers not only serve as our company's lunch and catered meals for colleagues but also benefit children in orphanages, individuals with Down Syndrome and solitary seniors, which achieves multiple positive outcomes at once. A total of 11 hectares of organic farmland were promoted to implement optimized fertilization practices in 2025. | NT$200,000 starting from 2023 |
|  | Biodiversity | Taiwan People's Food Bank Association | Restoration program for Taiwan oil millet | The program is based on food and agriculture education and strives to integrate local knowledge and professional education. By teaching about the restoration of the "Taiwan oil millet, "we enabled children to participate in growing "future foods" while also gaining an understanding of the history and culture of their ancestors, so they could become a protector of sustainable climate goals and take actions corresponding to SDG 13 "Climate Action." We plan to establish exhibition rooms on campuses all over Taiwan as well as a demonstration area of around 20 pings for food and agriculture education, where we will arrange professional teachers to promote the Taiwan oil millet, invite tribe elders to participate in farming activities, promote local education by cultivating and training teachers, and finally disseminate these concepts domestically and internationally in hopes of restoring growth of the Taiwan oil millet both at home and overseas as it is a super crop which can adapt to climate change and regions lacking arable land. In 2025, one demonstration field for oil millet restoration was established in the Wutai Tribal Village of Wutai Township, covering an area of 1 fen (approximately 293 ping). | NT$2,000,000 starting from 2022 |
|  | Ocean conservation | Taiwan Cetacean Society | Cetacean stranding rescue van program | The Taiwan Cetacean Society initiated the establishment of a Marine Wildlife Medical Rehabilitation Station in northern Taiwan to address the shortage of medical resources for marine wildlife. To support marine wildlife protection, Grape King Bio donated funds to the Society, enabling timely rescue and rehabilitation of stranded whales, dolphins, and sea turtles. The donation also helped establish holding pools, medical rooms, and autopsy facilities, allowing the training of more marine veterinarians and improving the overall quality of marine wildlife care in northern Taiwan. Grape King Bio adopted one 3.5-ton and one 2-ton rescue pool, aiming to support more sea turtle rescues. The company also promoted the Society's mission internally by offering beachside rescue training and education to its employees. Employees were also invited to join naming and blessing activities, with the hope that more "GK Little Turtles" would be successfully rescued and one day return to the ocean to live freely. | NT$1,600,000 starting from 2022 |
|  | Biodiversity | WildOne Wildlife Conservation Association | Wild animal rescue support program | Grape King Bio has donated medical expenses required for wild animals, including fruits and vegetables, feed, live bait, nutritional supplements, materials for surgery and care, animal medications, autopsies, pathological examinations, and materials to enrich the environments of veterinarian hospital cages to enhance the immediate medical resources used by wild animals in the eastern region and increase the number of rescued wild animals. We have rescued 2,000 wild animals over the past four years. | NT$3,200,000 starting from 2020 |
|  | Biodiversity | Taiwan Environmental Information Association | Commitment to a sustainable Earth | Through habitat management, Grape King Bio protects and establishes freshwater pond wetlands and low-elevation forests to promote biodiversity. By integrating local resources, we promote nature-based environmental education and foster strong community engagement. Additionally, we aim to promote our environmental education program and build an environmental learning center for all, which participates in environmental education classes in elementary schools, designs teaching activities, exchanges educational resources, and trains volunteer guides to strengthen environmental education and cultivate relevant sensibilities. Protected under an environmental trust, formerly abandoned orchards have been transformed into thriving secondary forests that now serve as habitat for 500 species of plants and animals. The area also contains three ecological hotspots, and three new ecological tour routes have been completed. | NT$1,200,000 starting from 2022 |

## 【Column 1】

## Sustainable Co-Prosperity: Grape King Bio Partners with Huayuan Elementary School to Revitalize Tetrapanax Culture

Grape King Bio has long been committed to corporate social responsibility and sustainable development, actively investing resources to support the preservation and transmission of local culture. To deepen this commitment, the company launched a cultural revitalization program focused on Tetrapanax (Tetrapanax papyrifer), fully supporting the implementation of the "Prosperity through Tetrapanax, "program, a school-based curriculum and cultural initiative at Huayuan Elementary School in Wufeng Township, Hsinchu County since 2024.

The collaboration between Huayuan Elementary School and Grape King Bio centers on revitalizing the valuable Tetrapanax culture. Tetrapanax, a native plant species in Taiwan, once flourished across Huayuan Village, which was named after its widespread blossoms. Its pith was historically used as a natural papermaking material and exported to Europe and the United States during the Japanese colonial and post-war periods. However, with the rise of plastic products in the 1950s, this labor-intensive industry gradually declined. Upon learning of this heritage, our chairman sought to leverage Grape King Bio's resources to help preserve traditional Tetrapanax craftsmanship, ensuring the initiative provides long-term, sustainable support for the local culture.

The "Prosperity through Tetrapanax" program integrates external resources with local community assets and consists of two main pillars:

1. Tetrapanax Cultural Carnival: An annual event combining the school anniversary sports day with cultural exhibitions, attracting approximately 150 participants. Activities include Tetrapanax art exhibitions, hands-on workshops, and guidance from tribal elders and cultural health stations on traditional craftsmanship. The event promotes sustainable forest ecosystem management and supports the preservation of Atayal cultural heritage.

2. Outdoor Education and Urban-Rural Exchange: The school has transformed its original "Atayal Traditional Mountain Ecology Field Study Program" into the "Prosperity through Tetrapanax: Urban-Rural Exchange and Cultural Promotion Program". Guided by the philosophy of "learning beyond the classroom and engaging with nature", the program trains students to serve as docents introducing Tetrapanax applications, its cultural context, and tribal ecology. Through cultural exchanges and collaborative learning with schools outside the region, the program fosters interaction between urban and indigenous students, cultivating environmental awareness, cultural respect, and social responsibility. Implementation of this program is planned for 2026. Through continued sponsorship, Grape King Bio not only encourages students to appreciate nature and conserve resources but also helps them develop a strong sense of cultural identity and pride as members of the Atayal community. By integrating corporate resources with educational outreach, the company ensures the preservation of Tetrapanax culture while advancing a sustainable vision of educational inheritance and community co-prosperity.


## 【Column 2】

## Grape King Bio Partners with Shei-Pa National Park to Protect Taiwan's Iconic Butterfly

In an era of increasing global focus on climate change and biodiversity, the role of corporations extends beyond economic contributions to encompass proactive environmental stewardship. Grape King Bio has long been committed to advancing sustainable development and implementing ESG principles. The company has formally signed a "Memorandum of Understanding on Habitat Restoration for the Agehana maraho in Taiwan" with the Shei-Pa National Park Headquarters under the National Park Service, Ministry of the Interior, to jointly protect this endangered and national-treasure species.

This collaboration aligns with Shei-Pa National Park's initiative, "Join Conservation for Reviving Butterfly Habitats", and represents a concrete commitment to safeguarding Taiwan's natural assets. To address conservation needs, Grape King Bio is partnering in the "Agehana Maraho Habitat Restoration Project" proposed by Shei-Pa National Park.

The project includes a planned donation of NT$500,000 to support habitat restoration efforts. Key contributions include:

- Identification of suitable afforestation areas to serve as restoration sites
- Planting of Sassafras randaiense (host plant for larvae) and nectar plants (primary food source for adult butterflies)
- Support for soil preparation, planting, cultivation, and ongoing maintenance
- Promotion of local community participation, including land-sharing mechanisms in the Bilan Tribe

Restoration sites will cover potential areas within Shei-Pa National Park, including:

- Areas surrounding the Guanwu Salamander Ecological Center
- Along the Yunwu Trail
- Wuling Farm
- Bilan Tribe

This collaboration with Shei-Pa National Park marks a significant milestone in Grape King Bio's advancement into the field of biodiversity conservation. Beyond financial support, the company aspires to act as both a driver and a connector of conservation initiatives, channeling corporate resources into meaningful environmental protection efforts.