

5 Environmental management



Due to environmental degradation, energy and natural resource scarcity, intensified climate change, and stricter government regulations, businesses face pressure and challenges. Facing these external pressures is both a challenge and an opportunity. We continue to promote the work of "energy conservation and carbon reduction" with practical actions in an honest and responsible attitude. We set the environmental protection goals of power, energy and water conservation and carbon reduction and try our best to reduce the impact of business operations on the environment, further achieving the eco-friendly goals of low pollution and low energy consumption.

5.1 Environmental Management Policy

CGPC (including subsidiaries TVCM and CGPCP, and excluding overseas invested affiliates, and the same applies to the rest of the chapter) considers the protection of personnel safety and health and the environment and ecosystem as the goals of environmental management. We have always complied with environmental protection and occupational health and safety regulations, continuously and effectively implemented practices such as reusing and recycling of leftover materials, pollution prevention, energy/resource conservation and recycling, industrial waste reduction, and promoting harmonious relationships with our neighbors. All factories of CGPC have passed the ISO 14001 environmental management system verification, providing a good environmental protection framework, reducing the impact on the environment due to accidents, and ensuring compliance with regulations.

5.1.1 Environmental Overview

The certifications or product-related certificates obtained by the Company (please refer to the website: [Environmental/Product Certifications](#)).



5.1.2 Hazardous Substances and Waste Management (SASB : RT-CH-150a.1)

1. All raw materials and products used by CGPC have passed the inspection of Restriction of Hazardous Substances (RoHS) to prevent the impact of the products on the environment.
2. Hazardous air pollutants discharged from production all meet the emission standards for hazardous air pollutants from stationary sources to reduce the impact on the environment.

Hazardous Substances and Waste Disposal and Management

◆ Hazardous Substances Disposal and Management

CGPC takes comprehensive measures in the management of hazardous substances across its research, procurement and production activities. From the assessment to the use, management and disposal processes, the company strictly adheres to standards and relevant regulations to minimize its operational impact on the natural environment and human health.

◆ Following Domestic and International Standards and Establishing Systems

In order to prevent hazardous substance-related accidents, reduce occupational hazards, ensure the health of employees, and comply with government regulations, CGPC has established operational standards such as "Hazardous Substance General Management Guidelines," "Specific Chemical Operations Management Guidelines," "Lead Operations Management Guidelines," "Dust Operations Management Guidelines," and "Organic Solvent Operations Management Guidelines." These guidelines are in place to effectively control the safe use of hazardous substances.

◆ Management Structure

Please refer to the ["CGPC Hazardous substance safety management structure"](#) link.



Hazardous Substances and Waste Disposal and Management

♦ Implementation Status

Regarding the product design and development process, we adhere to international guidelines and standards. The content of hazardous substances in our products complies with environmental regulations and meets the green product requirements of our customers. We have established relevant management regulations to ensure proper control and management.

♦ Various Guidelines:

- ♦ New Product Development Management Guidelines
- ♦ Product Environmental Substance Management Guidelines
- ♦ Initial Product Quality Planning Guidelines
- ♦ Raw Materials Inspection Operations Guidelines
- ♦ Raw Materials and Finished Product Management Guidelines
- ♦ Processing Finished Product Management Guidelines

In terms of the use, management, and disposal of hazardous substances, we strictly follow legal procedures. We require relevant personnel to obtain technical certifications and install detection and alarm systems in the work environment. In terms of environmental and safety aspects, we implement operational environmental monitoring for hazardous substances to ensure that the exposure concentration does not have adverse health effects on our employees. We also implement chemical classification management to effectively prevent potential health hazards caused by hazardous substances to our employees. During the production, service and related activities, we handle waste gases and wastewater properly, ensuring compliance with national emission standards.

In 2025, we conducted measurements of harmful substance concentrations in the work environment air, covering a total of 20 types. The results showed good control of these substances. In 2025, the total quantity of hazardous industrial waste generated by CGPC and TVCM was 149.54 metric tons. Of this amount, 91.4% was reused, while 8.6% was disposed of through landfilling. (As shown in the table below). Furthermore, CGPC conducts regular visits to the waste disposal contractors to ensure proper handling of the waste.

2025 Hazardous Substances Treatment Methods and Quantity Statistics

(Unit: ton)

Item	Year	Final Disposal Method	CGPC	TVCM
Hazardous Industrial Waste	2025	Landfill	—	12.82
		Reuse	137.72	—
		Preparation for Reuse	2.0	—

5.1.3 SASB Chemical safety and environmental management (SASB: RT-CH-410b.1)

The performance indicators of CGPC's chemical safety and environmental management are calculated based on hydrochloric acid, caustic soda, and bleaching water used, and the chemical classification management and exposure assessment are carried out according to their related hazards. The data of various indicators are as follows:

1. The percentage of product revenue (%) of products containing chemical substances classified as Type 1 and 2 health and environmental hazards by the GHS hazard categories, CGPC is 19.88% and TVCM is 100%.
2. The percentage (%) of relevant products that have undergone hazard analysis is 100%. Besides, as hydrochloric acid, caustic soda, and bleaching water are not chemicals of high concern, they have less significant impact on humans and the environment.

Environmental Penalty Overview – 2025

- ♦ In 2025, CGPC, TVCM, and GGTC had no environmental-related penalty cases.
- ♦ CGPCP experienced one environmental penalty incident, due to discrepancies between the factory's reporting data on the manufacture, processing, and use of hazardous substances and the results of on-site verification. The Kaohsiung City Government Economic Development Bureau imposed a fine of NT\$50,000. The relevant corrective measures are described below.

Company	Disaster Types	Cases	Fine (NT\$10,000)	Corrective Measures Implemented
CGPCP	Discrepancy in Hazardous Substance Reporting	1	5	The incident occurred due to discrepancies between the factory's reporting data on the manufacture, processing, and use of hazardous substances and the results of on-site verification. The competent authority required an adjustment to the reporting method. In accordance with the audit principles of the Kaohsiung City Government Economic Development Bureau, the Company has adopted the "maximum storage capacity of the factory" as the reporting basis. A comprehensive inventory of historical maximum stock levels was conducted, and the reporting data was corrected to ensure consistency between reported information and actual conditions. These measures aim to align reporting content with operational reality and to prevent recurrence of similar incidents.
	Total	1	5	CGPCP was fined NT\$50,000 by the Kaohsiung City Government Economic Development Bureau due to discrepancies between the factory's reporting data on the manufacture, processing, and use of hazardous substances and the results of on-site verification.

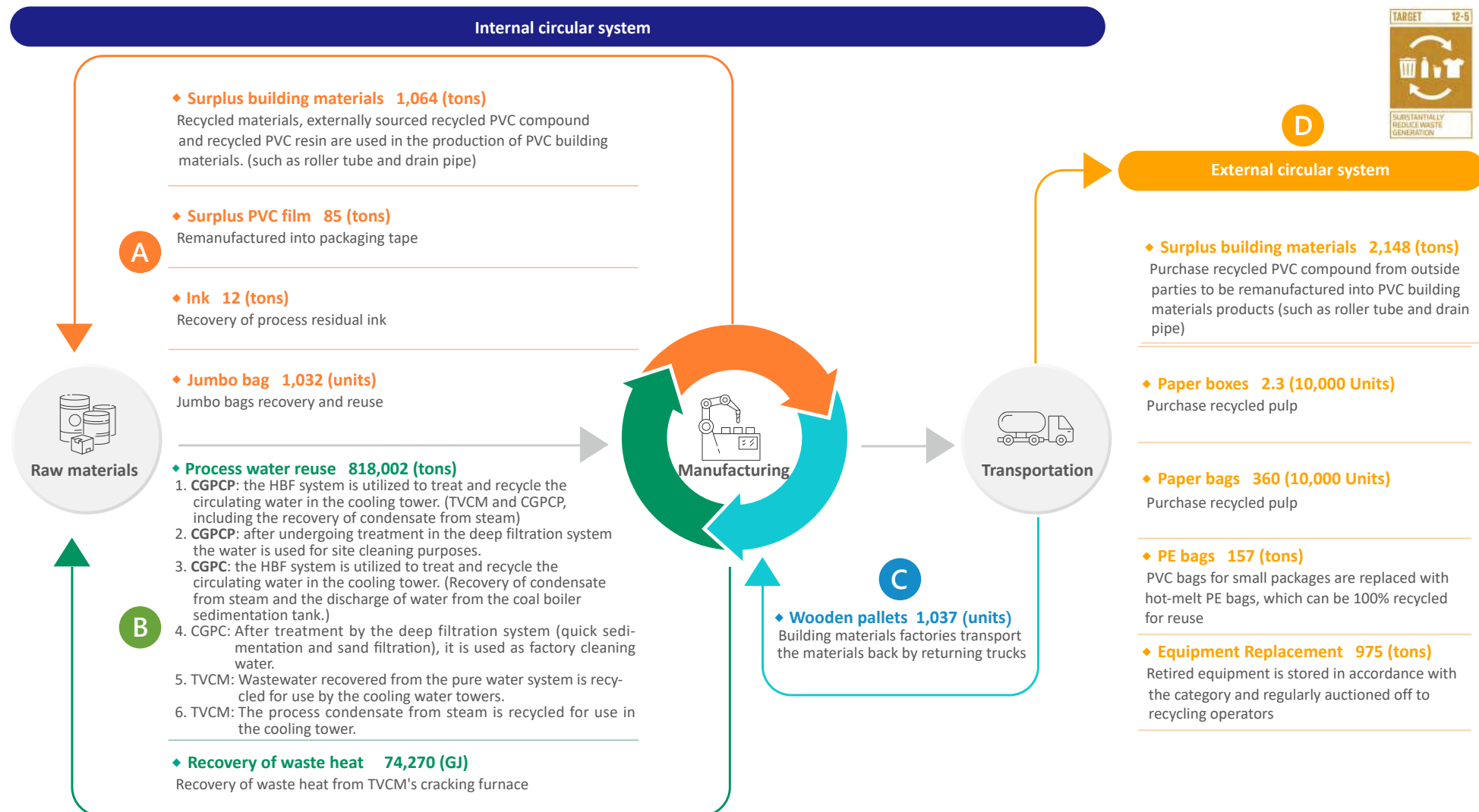
CGPC's Green Transformation Achievements

To fulfill its commitment to corporate sustainability and low-carbon transition, CGPC has invested approximately NTD 6.5 billion in recent years to upgrade its facilities, introduce smart manufacturing, improve energy efficiency, and strengthen environmental management. With guidance from the Foundation of Taiwan Industry Service, CGPC began implementing process improvements and energy-saving, carbon-reduction measures in 2023. In June 2024, the Company obtained the "[Clean Production Assessment System Certificate](#)". Later that year, in November, the fabric coating plant (machines 41 and 43) at the Main Plant was also awarded the "[Green Building Label Certificate](#)", demonstrating CGPC's commitment to low-carbon and sustainable manufacturing. In 2025, CGPC Main Plant continued to make progress. In addition to passing the "Clean Production" follow-up audit, the new construction of the Control Building and Maintenance Plant obtained the Ministry of the Interior's "[Candidate Green Building Certificate](#)" system certification, further enhancing the plant's environmental friendliness and resource efficiency performance.



5.1.4 Description of recycling

CGPC is committed to promoting circular economy policies. Through raw material recycling and reuse, process improvements, and resource circulation management mechanisms, the Company creates low-carbon, green products. CGPC actively drives key initiatives—including pure water recovery, scrap material diversion, waste heat and condensate recovery, as well as packaging material recycling and sharing. The internal and external recycling and reuse achievements for 2025 are as follows:



2025 Group Strategy and Certification Plan for Sustainable Packaging Materials

1. Under the premise of maintaining product quality, the Group actively promotes packaging reduction through the following measures:

- ◆ Replacing single-use paper cores with recyclable plastic cores: Group-produced recyclable plastic cores are used to replace externally purchased single-use paper cores, significantly reducing waste and increasing packaging material reuse rates.
- ◆ Carton-free packaging: New carton-free packaging solutions are introduced to reduce paper box usage and waste.

2. Benefits:

- ◆ Reduces storage space and labor required for handling discarded packaging materials, and lowers transportation carbon footprint.
- ◆ Decreases packaging costs, eliminates the need for unpacking, and reduces occupational safety risks.
- ◆ CGPC uses recycled pellets to produce plastic cores, which can be reused multiple times and recycled again, achieving source reduction.

3. Sustainability Planning by the Group and CGPC Building Materials Plant:

- ◆ Innovative product applications within the Group: Waste information is integrated to promote recycling and reuse, thereby increasing the value of new products.
- ◆ CGPC Construction Manufacturing Department: In July 2025, the department initiated the ISO 14021 verification for recycled material content ([PVC-U pipes](#) · [UPVC for electric conduit use](#)) and will begin carbon footprint calculation to support customers in achieving their green building material procurement goals.



2025 circular economy implementation results for building materials products



- ◆ Since 2021, the building materials plant has begun to collect all kinds of recycled materials and recovered PVC resin in the plant, and purchased recycled rubber pellets to be put into production of new products for sale, striving for environmental protection.
- ◆ 2025 recovery and reuse volume of pipes: **3,212** tonnes, the recovery and reuse rate accounts for 24.2% of the 2025 product volume of piping materials.

5.2 Climate Change and Energy Management (GRI 201-2、302-4、302-5、2-4、3-3)

CGPC is committed to mitigating greenhouse gas emissions for sustainable development. We formulate improvement plans on the basis of various management operating systems (ISO 50001, ISO 14064-1, ISO 14067, ISO 46001, ISO 14046, PSM, GRS) and with reference to several international and technological developments. Through academia-industry collaborations introducing AI, big data, and algorithmic technology, we combined professional knowledge with practice to elevate various performances. Examples include the establishment of renewable energy, separation and recycling of wastewater, rainwater and sewage, energy conservation and carbon reduction solutions, and the establishment of a smart energy management system. Additionally, annual carbon reduction targets are appropriately set according to the carbon reduction targets set by the Group. Each year, review is conducted for continuous implementation of the old facility replacement plan to build a smart factory. For details regarding certificate validity, please refer to CH-2.3.1 [Stakeholder communication management and issues of concern](#).

✓ Material issue : Climate change and energy management Main target : SDG 13.3, Secondary target : SDG 7.3



The Significance and Impact of CGPC

With the deterioration of the environment and ecology, shortage of energy and natural resources, exacerbation of climate change and stricter government laws and regulations, CGPC takes concrete actions to continuously promote and implement energy conservation, carbon reduction, and the development of green products to meet government requirements. Affected Parties: Government agencies, supply chains, communities, and employees.



Develop Strategy

Renovation and replacement of old equipment and Improve equipment efficiency in order to achieve the eco-friendly goals of low pollution and low energy consumption.



Policy Commitment

Reduce carbon emissions (Scope 1 and 2) by 27% in 2030 compared to 2017, long-term goal: carbon neutrality by 2050.



Grievance Unit

Engineering Department



SASB Indicator

◆ RT-CH-110a.1 ◆ RT-CH-110a.2
◆ RT-CH-130a.1

5.2.1 Climate change management (GRI 201-2、302-3)

Facing the impacts of climate change, carbon reduction has become a global shared objective. In early 2022, the USI Group set its 2030 carbon reduction target: to reduce carbon emissions by 27% compared to 2017 levels. Furthermore, in 2023, the Group established carbon neutrality by 2050 as its long-term corporate goal.

To achieve its corporate sustainability vision, the USI Group has actively implemented corresponding strategies and management mechanisms. The Group has fully adopted ISO 14064-1 greenhouse gas inventory and verification/assurance, and has planned and executed carbon reduction programs.

In addition, the Group has proactively developed external renewable energy projects. By the end of 2025, investments in solar power plants have reached a cumulative grid-connected capacity of 9 MW, generating approximately 11.25 million kWh of green electricity annually.

Following the Group's 2030 carbon reduction target, CGPC has planned a clear carbon reduction pathway. By 2025, greenhouse gas emissions had already decreased by 33.85% compared to the baseline year (2017), and the Company will continue to actively implement energy-saving and carbon-reduction programs. Since 2023, carbon reduction targets have covered consolidated entities and incorporated Scope 1 and Scope 2 greenhouse gas (GHG) management.

◆ Mid-Term Carbon Reduction Strategy:
Focus on low-carbon energy transition, energy efficiency improvement intelligent monitoring, and the deployment and utilization of renewable energy.

◆ Long-Term Carbon Reduction Strategy:
Continue to explore low-carbon fuels, carbon capture and utilization technologies, and negative emission technologies to achieve carbon neutrality and advance sustainable development.

To achieve sustainable operations, CGPC has proposed various renovation plans since 2016, all of which have been completed successively. For detailed information, please refer to [the ESG Video Section](#).

Indicator items	Unit	2025 goal	2025 result	2026 goal	2027 goal	2030 goal
GHG emissions	10,000 tons of CO ₂ e	26.85	27.16 ⊖	24.94	28.76	29.97
Energy consumption per unit of core product - CGPC PVC Resin	GJ/ton	2.46	2.53 ⊖	2.38	2.44	2.44
Energy consumption per unit of core product - TVCM VCM		6.96	7.21 ⊖	7.35	6.81	6.67
Energy consumption per unit of core product - CGPCP PVC Resin		2.08	2.16 ⊖	2.23	2.04	2.02

Note : 1. Starting from 2023, the scope of inventory includes CGPC's subsidiaries in the consolidated financial statements, with a coverage rate of 100%.

2. In 2025, the greenhouse gas emissions data for TVCM and CGPCP are based on third-party verification, while CGPC's data are based on internal inventory.

3. Reasons for not meeting the combined emission targets: For greenhouse gas emissions, please refer to

[Note 3 of the Carbon Reduction pathway](#); for energy consumption per unit of core product, please refer to the notes in the ["Energy consumption of products of each unit in the last 3 years"](#) section.



Exceeded Target



Achievement



Partially achieved



Not met

CGPC's consolidated greenhouse gas emissions

(Unit: tons CO₂e)

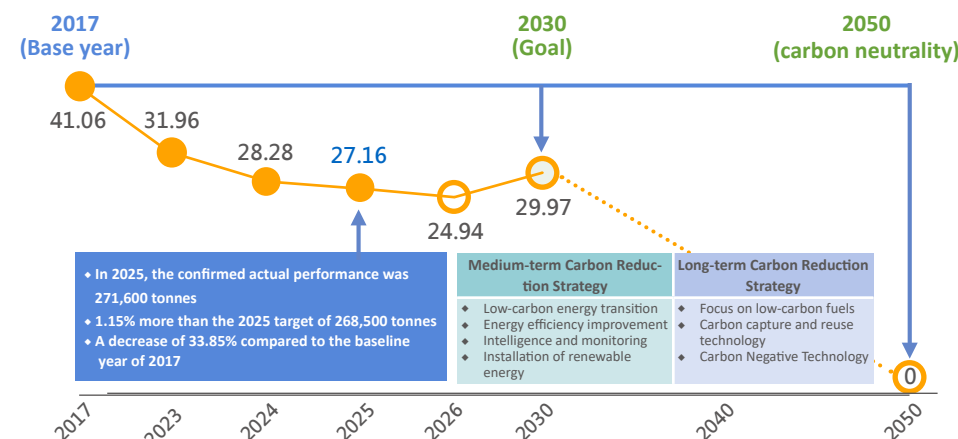
Company	2017 Base year Scope 1, 2	2023 Performance Scope 1, 2	2024 Performance Scope 1, 2	2025 Performance Scope 1, 2	2030 Goal Scope 1, 2
CGPC	150,575	104,899	90,679	80,379	109,920
TVCM	210,713	176,681	160,511	163,010	153,821
CGPCP	49,292	38,032	31,598	28,163	35,984
Total	410,580	319,612	282,788	271,552	299,725

Note:

- The scope of the 2022 inventory includes CGPC Main plant, and TVCM and CGPCP plants in Linyuan. Scope of inventory starting in 2023: (1) CGPC includes: CGPC Main plant, Taipei office, and overseas subsidiaries. (2) TVCM Company includes: TVCM Linyuan plant, Taipei office, and GGT Company. (3) It was Linyuan plant for the CGPCP Company. The above are CGPC's subsidiaries in the consolidated financial statements, and their coverage rate is 100%. The difference between the emissions in the inventory scope in 2023 and the emissions in the inventory scope in the base year is 0.1%.
- Scope 1: The main emission sources include natural gas, fuel coal, gasoline, and diesel. Scope 2: Include purchased electricity and purchased steam. Scope 3 items are temporarily excluded from the carbon reduction pathway planning. GHG inventory includes: CO₂, CH₄, N₂O, and HFCs.
- CGPC (Main plant) has been conducting greenhouse gas emissions inventory based on ISO 14064-1:2018 and has obtained third-party verification since 2022.
- TVCM (Linyuan plant) and CGPCP (Linyuan plant) have been conducting greenhouse gas emissions inventory based on ISO 14064-1:2018 and have obtained third-party verification since 2021.
- For the 2025 Greenhouse Gas (GHG) Verification Report of China General Plastics Corporation (CGPC) on a consolidated basis, please refer to the [website](#); for GHG verification information from 2023 to 2024, please refer to the USI Corporation (USIC) Consolidated Limited Assurance Reports (2023, 2024).

CGPC's consolidated greenhouse gas emissions and carbon reduction pathway

● Actual Emissions (Unit: 10,000 tons CO₂e)
○ Target Emissions (Unit: 10,000 tons CO₂e)



Note 1: The target was set using 2017 as the base year.

Note 2: The carbon reduction pathway targets and inventory scope include: subsidiaries listed in CGPC's consolidated financial statements (Scope 1 and 2). Additionally, since 2023, the carbon reduction targets have covered all consolidated entities.

Note 3: The primary reason for not achieving the 2025 target was that TVCM reduced its self-produced steam output in 2025 and instead relied on externally purchased steam. This adjustment in the energy structure subsequently affected greenhouse gas emissions. However, due to a sharp decline in production over the past two years, the Group has already reached its 2030 carbon reduction target ahead of schedule.

(Unit: 10,000 tons CO₂e)

	2025	2026
Target Emissions	26.85	24.94
Actual Emissions	27.16	-
Achievement Rate	98.86%	-

Note: Achievement rate = 2025 target emissions / 2025 actual emissions

The Group's cross-factory technical exchange seminar in 2025

The USI Corporation holds an annual "Group Plant Technical Case Presentation" and several "Northern/Southern Plant Resource Integration Meetings" each year. Through technical sharing and problem-solving discussions between plants, the Group promotes resource sharing and enhances energy-saving and carbon-reduction performance.

The 2025 Group Plant Technical Case Presentation was held on October 28 in a competition format, focusing on the core themes of "Occupational Safety and Environmental Protection," "Equipment Preventive Maintenance," and "Energy Conservation and Carbon Reduction." After case submissions and a document review process, seven cases advanced to the final presentation round. Senior executives and representatives from participating plants jointly voted to select the top three outstanding cases. Certificates and cash awards were presented by the Group Chairman. Through this selection, recognition, and cross-plant exchange, the event fostered mutual learning and elevated the Group's overall technical capabilities.



2025 Technical Case Award Information

Item	CGPC (Main Plant)	TVCM (Linyuan Plant)	CGPCP(Linyuan Plant)
Award Descriptions	Awarded the Group's Technical Exchange Case Studies (Second Place)	Awarded the Group's Technical Exchange Case Studies (Third Place)	Achieved 5,000 Consecutive Accident-Free Days (Excellent)
Project Name	Eco-Sustainability & Energy-Saving, Carbon-Reduction New Product	Cracking Furnace Coating & Pump Energy-Saving Project	—
Presenter	Processing Technology Section - Lin, Pei-Tzu	Engineering Section Tsai, Tsung-Yi	—

Implementation and results



Promote establishment of the ISO-50001 energy management system

- ◆ The USI Group has successfully verified 9 plants.

CGPC has obtained ISO 50001 energy management certification, valid from November 17, 2025 to November 17, 2028.

TVCM has obtained ISO 50001 energy management certification, valid from April 13, 2024 to April 13, 2027.

CGPCP has obtained ISO 50001 energy management certification, valid from June 25, 2025 to July 31, 2028.



Actively carry out energy conservation and carbon reduction actions

- ◆ Continue to participate in the Earth Hour movement to reduce environmental impact.

5.2.2 Climate-Related Risks and Opportunities Assessment

CGPC actively responds to the challenges of climate change by integrating it into the Company's core governance framework. The Board of Directors serves as the highest governance body. Under its authority, the Sustainability Development Committee is responsible for strategic review and oversight, while the Risk Management Group implements risk monitoring. Furthermore, CGPC has linked ESG performance to the executive compensation system to strengthen accountability for organizational climate action.

In terms of strategy and risk management, CGPC references the IFRS S2 standard to establish a comprehensive process for climate risk identification, assessment, and financial impact analysis.

To achieve our sustainability vision, the Company has clearly defined a carbon reduction pathway for the consolidated entities: using 2017 as the base year, we target a 27% reduction in carbon emissions by 2030, marching towards carbon neutrality by 2050. Through specific response actions such as equipment replacement, renewable energy deployment, and production optimization, along with the regular disclosure of carbon emission data, we demonstrate USI's commitment to climate resilience and the sustainable development of the value chain.

To strengthen climate risk management and align with international standards, the Company references the IFRS S2 "Climate-related Disclosures" standard to assess the impact of climate-related risks and opportunities on the corporate strategy and financial position of entities included in the consolidated financial statements. Through scenario analysis, we identify key factors and incorporate corresponding response strategies into our business decision-making process.

For physical risks, we reference the Atlas of Key Climate Change Indicators in Taiwan (AR6 Statistical Downscaled Edition) published by the Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP), as well as research data from the National Science and Technology Center for Disaster Reduction (NCDR). We adopt scenarios from the IPCC Sixth Assessment Report (AR6) that combine Shared Socioeconomic Pathways (SSPs) with Representative Concentration Pathways (RCPs).

The Company has selected the SSP5-8.5 (very high greenhouse gas emissions) scenario as its baseline, under which carbon dioxide emissions are projected to double by 2050. Based on this, we conducted financial impact analyses for climate hazards including extreme heat, flooding, and drought.

For transition risks, we reference the World Energy Outlook (WEO) published by the International Energy Agency (IEA) in 2021. The report outlines three scenarios based on varying energy trends and climate policies: STEPS (Stated Policies Scenario), APS (Announced Pledges Scenario), and NZE (Net Zero Emissions by 2050 Scenario). Among these, the NZE scenario assumes that all countries will achieve net-zero emissions by 2050, representing the most aggressive scenario for driving emission reduction measures.

Furthermore, we referenced "Taiwan's Pathway to Net-Zero Emissions in 2050" published by the National Development Council (NDC) in 2022. This aligns our efforts with the national carbon reduction trajectory and ensures the Company maintains its operational resilience for sustainable growth in the face of extreme climate change impacts.

TCFD Structure



2025 Climate and Nature-Related Disclosures Report



To ensure the assessment results align with actual operational practices, the Company distributed questionnaires to senior department heads. Five climate risks were evaluated across four dimensions: "impact level," "likelihood of occurrence," "vulnerability," and "speed of onset." Simultaneously, five climate opportunities were evaluated based on "impact level" and "likelihood of occurrence."

Following the statistical analysis of the questionnaires and quantitative modeling, and the subsequent generation of a two-dimensional scatter plot, we ultimately identified five key material topics to be prioritized in our risk management and strategic planning:

- ♦ Three high-priority risks:
 - R1-Transition Risk – Carbon Pricing
 - R4-Physical Risk – High Temperatures and Unstable Energy Supply
 - R5-Physical Risk – Extreme Rainfall and Flooding
- ♦ Two high-potential opportunities:
 - O1-Introduction of Low-Carbon Energy
 - O5-Enhancing Corporate Reputation and Brand Awareness

Addressing the material climate issues identified above, CGPC conducted scenario modeling and financial impact assessments, and formulated corresponding response strategies and management mechanisms. To ensure the effectiveness of our risk management, the Company conducts regular annual monitoring of climate-related risks. The execution results are consolidated into the Company's risk management operational report and presented annually to the Audit Committee and the Board of Directors. This ensures the effective implementation of risk management measures, aiming to accurately grasp and mitigate the operational impacts brought by extreme weather, and demonstrating our commitment to building a resilient climate change culture.



5.2.3 Sustainability and Climate-Related Risks and Opportunities Reasonably Expected to Affect the Company

To address the uncertainties posed by climate change, CGPC has identified the key physical risks, transition risks, and climate-related opportunities relevant to its operations. We have also assessed their potential impacts on the Company's business, operational strategies, and financial performance across different time horizons. Based on our specific operational characteristics and the industry environment, the Company defines these time horizons as follows:



Category	Issue	Description	Expected Time Horizon			Concentration in the Business Model / Value Chain	Impact on Business Model / Value Chain
			Short term	Mid term	Long term		
Transition Risk	Carbon Pricing	According to the "Climate Change Response Act," Taiwan will officially begin imposing carbon fees starting in 2025, targeting business entities with annual carbon emissions exceeding 25,000 metric tons. As CGPC's Main Plant and TVCM's Linyuan Plant are both classified as carbon fee-paying entities, the significant annual carbon fees will lead to increased operating expenses. The continuous expansion of low-carbon and energy-saving initiatives can mitigate the impact of this risk.	⊙	⊙	⊙	◆ Suppliers ◆ Own Operations ◆ Customers	Current Business Model & Value Chain ◆ Formulating Low-Carbon Transition Plans. ◆ Establishing an Internal Carbon Pricing (ICP) Mechanism: Integrating otential carbon fee expenditures into annual operating cost budgets to evaluate the specific impacts on gross margins and cash flow. ◆ Actively Planning and Executing "Voluntary Emission Reduction Plans". Anticipated Business Model & Value Chain ◆ Accelerating the Advancement of Corporate Low-Carbon Transition Policies. ◆ Cost Pass-Through from Upstream Suppliers: Potential passing on of carbon fee costs by upstream suppliers, leading to increased raw material procurement costs (Green Premium). ◆ Stringent Downstream Demands: Increasingly rigorous requirements from customers for "Low-Carbon Products" or "Green Supply Chains." Failure to comply with carbon reduction demands may lead to the risk of losing orders.
Physical Risk	High Temperatures and Unstable Energy Supply	As climate change intensifies, the continuous rise in annual average temperatures and a significant increase in the number of high-temperature days have become a global trend. According to data from the Central Weather Administration (CWA), the frequency of annual average temperature increases and heatwave events in Taiwan shows a clear upward trajectory, indicating that summer heat may become a permanent source of risk in the future. High temperatures elevate the risk of power supply instability for public retail electricity utilities. To address this, the Company will conduct regular maintenance of power equipment to enhance resilience against power instability.	—	—	⊙	◆ Suppliers ◆ Own Operations ◆ Customers	Current Business Model & Value Chain ◆ Strengthening Maintenance of On-site Backup Generators and Uninterruptible Power Supply (UPS) Systems: Ensuring readiness to address sudden power load reductions or unexpected blackouts. Anticipated Business Model & Value Chain ◆ Increased Cooling Demand: Rising demand for air conditioning in plants and offices will lead to higher electricity consumption and daily operating costs (utility expenses). ◆ Capital Expenditure (CAPEX) Requirements: Necessity to budget for capital expenditures to replace aging, energy-intensive equipment and implement Smart Energy Management Systems to enhance energy efficiency. ◆ Upstream Supply Chain Pressures: Costs incurred by upstream suppliers to enhance their own climate resilience may lead to an escalation in procurement costs. ◆ Downstream Operational Disruptions: If downstream customers are forced to suspend operations due to high-temperature power rationing or sudden blackouts, it may result in reduced purchase volumes and a lower frequency of pull-ins.

Category	Issue	Description	Expected Time Horizon			Concentration in the Business Model / Value Chain	Impact on Business Model / Value Chain
			Short term	Mid term	Long term		
Physical Risk	Extreme Rainfall and Flooding	According to observations from the Central Weather Administration (CWA) and IPCC reports, there has been a significant increase in typhoons, heavy rainfall, and localized rainstorms in Taiwan in recent years. These events not only cause recurring flooding in urban and low-lying areas but also bring immediate and severe impacts to industrial operations, categorizing them as acute physical risks.	–	⊙	⊙	◆ Suppliers ◆ Own Operations ◆ Customers	Current Business Model & Value Chain ◆ Assessing Flood Susceptibility of Operational Sites: Integrating potential expenditures for flood defense installations, disaster recovery, and insurance premiums into annual operating budgets to evaluate the specific impacts on gross margins and cash flow. Anticipated Business Model & Value Chain ◆ Accelerating Resilience Upgrades and Climate Adaptation: Expediting the enhancement of protective resilience at operational sites and the advancement of climate adaptation policies. ◆ Upstream Supply Chain Vulnerabilities: Potential damage to facilities or transportation disruptions for upstream suppliers due to extreme rainfall and flooding. This creates risks of raw material delays and supply chain fragmentation, leading to increased procurement and logistics costs. ◆ Downstream Delivery Pressures: Increasingly stringent requirements from customers regarding "supply chain climate resilience" and "stable delivery capabilities." Any production halts or delivery delays caused by extreme weather may lead to risks of breach-of-contract penalties or loss of orders.
Opportunity	Introduction of Low-Carbon Energy	Driven by increasingly stringent global climate policies and the 2050 Net-Zero goal, corporate energy consumption structures are undergoing a rapid transition. The deployment of renewable energy has become a critical opportunity for companies to fulfill their carbon reduction commitments and maintain international competitiveness. For carbon-intensive manufacturing industries, self-generating or procuring renewable energy—such as solar, wind, and geothermal power—can effectively reduce indirect greenhouse gas (GHG) emissions generated during electricity consumption.	⊙	⊙	⊙	◆ Suppliers ◆ Own Operations ◆ Customers	Current Business Model & Value Chain ◆ Assessing Renewable Energy Potential at Production Sites: Integrating capital expenditures (CAPEX) for equipment installation and renewable energy procurement costs into annual operating budget planning. Anticipated Business Model & Value Chain ◆ Increasing the Share of Low-Carbon and Renewable Energy: Expanding the proportion of low-carbon and renewable energy within the overall energy mix. ◆ Upstream Supply Chain Pressures: Upstream suppliers may face pressure from brand owners to increase their renewable energy usage, prompting them to increase green energy procurement, which in turn leads to rising operating costs. ◆ Downstream Green Market Opportunities: Actively responding to strong customer demand for "Green Manufacturing" and "Low-Carbon Products" by offering products with "low-carbon premiums" to secure green procurement opportunities and expand market share.
	Enhancing Corporate Reputation and Brand Awareness	By developing and promoting innovative, low-carbon, and eco-friendly products and services, the Company proactively responds to rising consumer demand for green solutions. These initiatives not only enable the Company to tap into emerging sustainable markets but also allow us to stand out in highly competitive existing markets. By leveraging the competitive advantage of green value differentiation, we aim to comprehensively enhance our overall market competitiveness.	⊙	⊙	⊙	◆ Own Operations ◆ Customers	Current Business Model & Value Chain ◆ Allocating R&D Resources to Sustainability-Related Products: Directing research and development efforts toward the creation of products with environmental and sustainable benefits. Anticipated Business Model & Value Chain ◆ Continuous Development of Emerging Sustainable Products: Sustaining R&D efforts for various innovative sustainable products in response to the growing market demand for low-carbon solutions and energy transition. ◆ Capturing Downstream Green Demand: Leveraging strong customer demand for "Green Manufacturing" and "Low-Carbon Products" by offering products with low-carbon premiums to prioritize green procurement opportunities and expand market share.

5.2.4 Strategic Decision-Making and Financial Impacts of Sustainability and Climate-Related Risks and Opportunities (GRI 201-2)

Category	Issue	Financial Impact	Strategic Responses & Decision Impact
Transition Risk	Carbon Pricing	Financial Impacts for the Current Period: - The CGPC Toufen Main Plant and TVCM Linyuan Plant have met the Ministry of Environment's criteria for "High Carbon Leakage Risk." Having submitted and received approval for their Voluntary Emission Reduction Plans, both plants have been granted the preferential carbon fee rate of NT 4,372 thousand based on current emissions. - To reduce carbon emissions and mitigate the impact of carbon fees, the Group invested NT\$61,119 thousand in capital expenditures during this period. These funds were allocated to energy-saving equipment, including energy-efficiency improvements for dryer coils, replacement with high-efficiency pumps, upgrades of air compressor equipment, and motor renewals/energy-saving enhancements for calendaring machines. These investments resulted in an increase in non-current assets and cash outflows from investing activities. - While equipment investments lead to increased depreciation expenses and cash outflows in the short term, the long-term benefits—including reduced electricity expenses through improved energy efficiency and lower carbon fee costs—will help optimize overall operational efficiency and safeguard the Company's profitability.	- The Company has introduced Internal Carbon Pricing (ICP) utilizing a Shadow Pricing mechanism. By incorporating carbon costs into investment appraisals, we enhance the feasibility and implementation opportunities of carbon reduction projects. - We have established an Energy Management System (EnMS) to analyze operational data and identify opportunities for energy efficiency improvements.
Physical Risk	High Temperatures and Unstable Energy Supply	Financial Impacts for the Current Period: - To ensure the operational stability of production equipment under extreme weather conditions, the Group has intensified inspections of on-site substations, extra-high voltage (EHV) insulation cleaning, and annual maintenance/testing of generator sets. These measures ensure the reliability of power supply systems and core operational equipment. Related investments included NT\$1,900 thousand in capital expenditures (CAPEX) and NT\$3,127 thousand in operating expenses (OPEX). - By strengthening energy infrastructure and equipment resilience, although there is a short-term increase in capital expenditures and maintenance costs, these efforts effectively mitigate the risk of potential business interruption losses caused by heat-related downtime or power rationing in the future.	- Promoting energy-saving and carbon reduction initiatives by replacing aging equipment to enhance overall energy efficiency and operational stability. - Conducting continuous annual maintenance for main substation equipment, including DC power supplies, transformers, extra-high voltage (EHV) lines, and high-voltage switchgear panels. This includes EHV insulator cleaning, periodic insulation oil testing across the entire plant, and annual maintenance for generators and Uninterruptible Power Supply (UPS) systems. - Executing comprehensive maintenance for plant power and HVAC (Heating, Ventilation, and Air Conditioning) systems. Key activities include maintenance for generators and UPS equipment, statutory inspections of high-voltage electrical equipment at substations, and routine servicing of the administration building's chillers and on-site cold storage units.
	Extreme Rainfall and Flooding	Financial Impacts for the Current Period: - The water consumption charges for 2025 amounted to NT\$268 thousand. - To address the potential increase in flood and accumulation risks under the long-term trend of climate change, the Group's investment in insurance increased by NT\$69,914 thousand compared to the previous year. - Considering the protection requirements against long-term physical risks, the Group allocated NT\$806 thousand in maintenance and upgrade expenses for drainage system enhancements and flood defense improvement projects. These initiatives aim to strengthen the operational resilience of production sites, resulting in an increase in non-current assets. - Through proactive dredging, insurance risk transfer, and hardware infrastructure reinforcement, the Company is committed to reducing restoration costs and business interruption risks during medium- to long-term extreme weather events, thereby maintaining long-term financial stability.	- Water Consumption Levy Management: - Implementing the ISO 46001 Water Efficiency Management System to optimize water utilization and systematically address the impact of water consumption charges. - Lean Water Management and Risk Prevention: - Actively promoting water-saving initiatives to reduce total water intake and consumption. This includes the periodic dredging of plant drainage systems and stormwater intercepting ponds. Through proactive maintenance, we ensure drainage efficiency during extreme rainfall events, strengthening the site's defensive resilience against water resource volatility and physical climate risks.
Opportunity	Introduction of Low-Carbon Energy	Financial Impacts for the Current Period: Through the procurement of renewable energy, the Company incurred NT\$9,497 thousand in additional power purchase costs during this period. While this resulted in a short-term increase in operating expenses, it will—in the long term—reduce our reliance on traditional fossil fuels and effectively mitigate the impact of rising carbon fee costs. Furthermore, these initiatives will enhance the Company's green competitiveness and overall brand value.	- Developing and constructing self-owned solar power plants to increase the proportion of self-generated renewable energy. - Prioritizing natural gas as the primary fuel source for steam supply to reduce carbon intensity compared to traditional coal or heavy oil sources.
	Enhancing Corporate Reputation and Brand Awareness	Financial Impacts for the Current Period: Driven by the rising market demand for low-carbon transition, sustainability-related products—including Heat-Reducing PVC Synthetic Leather and TPO Automotive Floor Mats—contributed a total of NT\$17,260 thousand to operating revenue during this period.	Developing innovative products: - Promoting products certified under ISO 14021 for recycled content. - Advancing sustainable product development and improving resource efficiency. - Promoting the use of recyclable packaging materials.

Resilience Assessment of Climate-Related Risks

Risk	Significant Assumptions	Selected Scenarios	Impact Assessment and Resilience Evaluation
Transition Risk: Carbon Pricing	1. Taiwan will continue to implement the "Taiwan's Pathway to Net-Zero Emissions in 2050." In alignment with this national strategy, the Company expects to achieve a 27% carbon reduction by 2030 and reach carbon neutrality by 2050. 2. The Company has proposed a Voluntary Emission Reduction Plan that meets the designated reduction targets. This plan complies with the "Technological Benchmark Designated Reduction Rates" specified in Appendix 2 of the "Designated Greenhouse Gas Reduction Targets for Regulated Entities" public notice.	1. Stated Policies Scenario (STEPS) 2. Net Zero Emissions by 2050 Scenario (NZE)	1. Impact Assessment - STEPS : The Carbon Fee Review Committee of the Ministry of Environment (MOENV) initially suggested that carbon fee rates be phased in for adjustment. It is projected that between 2030 and after, the rates should rise to between NT\$1,200 and NT\$1,800 per metric ton. - NZE : According to IEA research, the effective carbon price in advanced economies should reach US\$140 per metric ton (approximately NT\$4,500) by 2030 to align with net-zero pathways. 2. Resilience Capabilities - The Company will strictly execute its Voluntary Emission Reduction Plans to maintain eligibility for the MOENV's preferential carbon fee rates, thereby minimizing the financial impact of carbon expenditures. - By proactively adopting high-efficiency energy-saving equipment and low-carbon energy sources, the Company aims to transform carbon neutrality pressures into a driver for process optimization. This strategy will solidify the Company's competitive advantage within the international low-carbon supply chain.
Physical Risk: High Temperatures and Unstable Energy Supply	3. Based on official reports from the Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP) and national meteorological observations: Climate models indicate that winters in Taiwan will gradually shorten, total annual rainfall will progressively increase, and the intensity of extreme rainstorms will show a rising trend.	SSP 5-8.5	1. Impact Assessment - The increasing number of consecutive days of extreme heat will keep cooling demands at peak levels for extended periods, leading to a significant accumulation of electricity expenditures. Furthermore, the risk of power rationing or blackouts due to regional grid overloads poses a severe threat, potentially causing unplanned production downtime and yield rate losses. - Prolonged high-temperature environments increase the risk of heat hazards in the workplace, impacting the health and safety of frontline personnel. Additionally, cooling equipment operating at full capacity for extended durations may shorten the service life of critical machinery. 2. Resilience Capabilities - The Company strictly implements equipment maintenance protocols, intensifying routine servicing for core machinery such as compressors, generators, and air compressors to ensure operational stability under extreme weather. Through asset modernization and equipment upgrades, we effectively mitigate business interruption losses caused by heat-related shutdowns or power curtailment. - We continuously execute heat-insulation coating projects for factory buildings and upgrade the insulation for piping systems (both heating and cooling). These measures enhance thermal efficiency and significantly reduce overall energy consumption.
Physical Risk: Extreme Rainfall and Flooding		SSP 5-8.5	1. Impact Assessment - The significant increase in the intensity and frequency of extreme rainfall may lead to drainage failures around plant sites, triggering flood disasters. This poses a direct risk of physical loss, including damage to production equipment, raw materials, and inventory. - Infrastructure damage and logistics paralysis caused by extreme storms can lead to interruptions in raw material supply and delays in finished goods delivery. Such disruptions adversely affect overall operational performance and the Company's ability to fulfill contractual obligations to customers. 2. Resilience Capabilities - The Company is strengthening on-site flood defense infrastructure and implementing elevation projects for critical equipment rooms. These measures are designed to mitigate the risk of damage to physical assets during extreme flooding events. - We are optimizing our Business Continuity Plan (BCP) by establishing cross-regional backup supplier lists and integrated logistics solutions. These strategic preparations ensure the Company can effectively respond to supply chain disruptions triggered by extreme weather.

Group Promotion of Internal Carbon Pricing

To proactively address government carbon fee policies, effectively respond to climate change, and reduce carbon-related risks, USI Group introduced an Internal Carbon Pricing (ICP) system in 2024. The scope of implementation covers all production sites in Taiwan. With reference to domestic carbon fee pricing benchmarks, the initial carbon price is set at NT\$300 per metric ton, with plans for phased increases based on rolling reviews. This system primarily integrates carbon costs into the corporate decision-making and investment appraisal processes, allowing the Group to evaluate the impact of carbon emissions on business operations, accelerate the execution of carbon reduction measures, and drive low-carbon investments. To ensure the effective implementation of this mechanism, the Group manages and reviews execution status on a regular annual basis. In May 2025, the Group completed a verification of each unit's performance in incorporating carbon pricing into project evaluations. This ensures that the mechanism substantively transforms into a driver for low-carbon transition, thereby achieving the enterprise's long-term sustainable development goals.

Development of innovative products in response to climate change

TPO Cutting Mat

- TPO Material – Widely Applied in Teaching and Arts in Taiwan, the U.S., and Japan
- 100% recyclable and renewable, compliant with circular economy principles.
 - PVC substitute, free of heavy metals, halogens, and plasticizers.
 - Meets international certifications: REACH / RoHS / CPSIA.
 - Low-carbon and lightweight, reducing carbon footprint and energy consumption.
 - Cut-resistant without whitening, scratch-resistant matte finish, supports customized color options.



TPO Apron

- Adopting Eco-Friendly TPO Material to Replace Traditional PVC – Developed for Food Processing and High-Humidity Work Environments.
- Lightweight and durable: Cut-resistant and wear-resistant, enhancing operational safety.
 - Safe and eco-friendly: Free of halogens and plasticizers, reducing the use of harmful substances.
 - Achievement: Delivered 3,700 yards in February 2025.



TPO Single-Material Fully Recyclable Leather

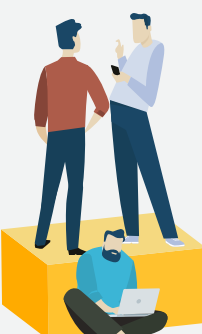
- Product Features:
- Excellent durability.
 - Non-toxic and safe.
 - Lightweight TPO reduces transportation costs and saves energy.
 - Footwear design aligned with ESG principles, enabling low-cost and low-energy recycling.
- Achievements:
1. Hiking shoes: 10,000 pairs launched in the French market.
 2. Hotel slippers: 2,600 pairs tested with positive hotel feedback.



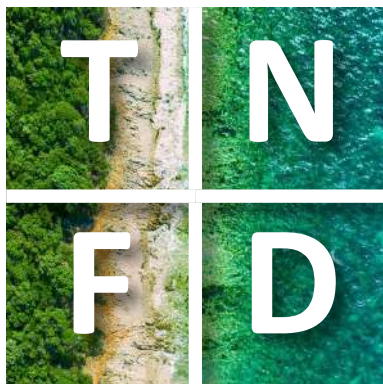
Compliance with IFRS Sustainability Disclosure Standards

According to the “Roadmap for Aligning Taiwan with the IFRS Sustainability Disclosure Standards” released in August 2023, listed companies in Taiwan will begin applying the IFRS Sustainability Disclosure Standards in three phases starting in 2026. In 2024, the USI Corporation established a cross-departmental IFRS task force, with implementation progress reported quarterly to the Board of Directors of USI Corporation for oversight. The IFRS task force is led by the Group Chief Financial Officer and consists of two cross-functional teams: the Operational Impact Team and the Financial Impact Team. These teams collaborate to assess the potential financial impacts and effects of material risks and opportunities on the Company. CGPC is a member of the Operational Impact Team. The second phase of the project was completed in 2025. In accordance with regulatory timelines, progress updates on implementation are reported to the Board of Directors on a quarterly basis. Related disclosures are scheduled to be included in the Sustainability Section of the 2028 Annual Report.

Work Plan for Implementation

Tasks by Phase	1 Analysis and Plan (Completed)	2 Design and Execution (Completed)			3 Implementation	4 Adjustment and Improvement
Schedule	2024 Q4	2025 Q2	2025 Q3	2025 Q4	2027 Q3 - Q4	2028 Q1
Summary of Implementation Items	- Establish a cross-departmental task force for adopting the IFRS Sustainability Disclosure Standards - Initially identify major differences and impacts between current sustainability information and the IFRS Sustainability Disclosure Standards - Initially identify the reporting entity - Formulate an implementation plan 	- Identify sustainability-related risk and opportunity topics - Assess the potential impacts of sustainability-related risks and opportunities on current and expected financial performance - Evaluate whether sustainability-related information constitutes material financial information to be disclosed across metrics and targets, risk management, and strategy 	- Inventory the sustainability-related data required within the Company's reporting boundary and across the value chain - Establish the linkage between sustainability-related data and data used in financial reporting (e.g., inputs and parameters) 	Adjust and refine company processes, including financial and non-financial reporting procedures, information systems, supply chain management processes, internal controls, and daily operations across departments 	- Pilot the preparation of the sustainability section in the annual report - Continuously update the internal control operating manual related to IFRS sustainability information and conduct training programs 	In accordance with the IFRS Sustainability Disclosure Standards, disclose relevant information in the sustainability section of the 2026 annual report, and complete public announcement and filing simultaneously with the 2026 financial statements. 

5.2.5 Biodiversity



Biodiversity serves as the cornerstone for sustaining the stable operation of Earth's ecosystems. It exerts a critical influence on key ecosystem services - such as climate regulation, water cycles, soil productivity, and food supply - which are, in turn, vital to the long-term development, health, and well-being of human society.

In 2022, nations worldwide reached a consensus at the 15th Conference of the Parties to the Convention on Biological Diversity (COP15) to adopt the new Global Biodiversity Framework (GBF), explicitly defining the global action directions and management targets for biodiversity conservation leading up to 2030.

Faced with the challenges posed by climate change and the ongoing loss of biodiversity, the strain on natural resources is intensifying.

Approaching from the perspectives of risk management and corporate sustainability, CGPC actively strengthens its natural capital management. For the first time, the Company has adopted the Taskforce on Nature-related Financial Disclosures (TNFD) framework and formulated its Biodiversity and No-Deforestation Policy. In alignment with international conventions and initiatives—including the UN Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework - we collaborate with upstream suppliers and key business partners to co-create a sustainable future, aiming to gradually achieve No Net Loss (NNL) and advance toward a Net Positive Impact (NPI).

Taskforce on Nature-related Financial Disclosures

Following the LEAP methodology of the Taskforce on Nature-related Financial Disclosures (TNFD), CGPC systematically identifies and assesses nature-related risks and opportunities. The Company recognizes that the correlation between the state of natural capital and our operational activities depends heavily on the "geographic location" of our operational sites and our "degree of dependency and impact" on ecosystems.

Whether through the operations of our own production sites or the supply and manufacturing processes of upstream raw materials in the chemical industry, both have the potential to exert direct or indirect impacts on local ecosystems.

Accordingly, the Company utilizes science-based methodologies to inventory key operational sites and value chain activities, assessing their dependencies and impacts on natural resources. We further identify high-risk areas and material topics to establish a solid foundation for subsequent risk management and action strategies. Our specific practices are detailed below ([2025 Climate and Nature-Related Disclosures Report](#)):

TNFD LEAP

Locate	Assessment Outcomes : CGPC
L1 : Mapping Corporate Footprint and Value Chain	- CGPC's value chain is positioned in the mid-to-upstream sector of the chemical industry. The upstream encompasses petrochemical raw material suppliers, while the downstream extends to plastic product manufacturers and end consumers, comprehensively linking the entire industry chain from raw material sourcing to product application. - In terms of assessment scoping, we establish a 1-kilometer radius buffer zone around each operational facility as our analytical boundary. By classifying this area as an indirect impact zone, we integrate potential effects on local stakeholders and neighboring ecosystems, ensuring that our natural capital assessment is both comprehensive and highly representative. - Following the Corporate scoping refinement, CGPC has inventoried three primary operational sites. Their operational attributes encompass manufacturing and raw material storage and transportation. The specific characteristics of these sites will serve as a critical foundation for subsequent assessments of natural resource dependencies and environmental impacts.
L2 : Screening Value Chain Sectors with High Dependencies and Impacts	- Utilizing the ENCORE database recommended by the TNFD, the Company compiled the ecosystem services and impact drivers associated with CGPC's value chain sectors. The identification results for ecosystem services and impact drivers rated as medium or higher are as follows: (1) Ecosystem Services of Concern : Water supply, Flow regulation, Soil and sediment retention, Flood regulation, Climate regulation, Water quality regulation, Storm mitigation. (2) Impact Drivers of Concern : Disturbance, Greenhouse gas (GHG) emissions, Land use, Solid waste generation and disposal, Air pollutant emissions, Soil and water pollutant emissions, Water use.
L3 : Mapping the Interface with Nature	CGPC utilizes international and national biodiversity spatial databases, integrated with the buffer zone scope defined in the L1 stage, to systematically analyze the spatial correlation between each operational site and its surrounding ecosystems. By integrating key indicators - such as Key Biodiversity Areas (KBAs), water stress, and ecological integrity - the Company assesses the locational and species sensitivity within each site's buffer zone to identify whether they qualify as ecologically sensitive areas.
L4 : Mapping Priority Locations Across the Value Chain	CGPC screens for priority locations within its value chain based on two major assessment factors: "Identification of High-Dependency and High-Impact Sectors" and "Ecologically Sensitive Areas." Incorporating the buffer zone analysis for each operational site, the Company has established a priority grading mechanism, classifying locations into Priority Tiers 1 through 3. The assessment results indicate that among CGPC operational sites, one facility is classified as a Priority 2 location, and two facilities are classified as Priority 1 locations.

TNFD LEAP

Evaluate	Assessment Outcomes : CGPC	Assess / Prepare	Assessment Outcomes : CGPC
E1 : Identifying Natural Capital, Ecosystem Services, and Impact Drivers	Utilizing the spatial data referenced in the Locate phase to identify surrounding natural capital, and referencing literature regarding the ecosystem services potentially provided by specific ecosystem assets, the Company further maps out the ecosystem services upon which Huaxia Company may depend or impact.		
E2 : Mapping Dependency and Impact Pathways of Operational Activities	- To understand the interactions between these dependencies, impacts, and our business, we referenced the Natural Capital Protocol and TNFD guidance to establish the Dependency Pathways and Impact Pathways for the operational activities of each facility. The relevant elaborations are detailed below: (1) Dependency Pathway : Potential external environmental or social changes may impact the state of nature, leading to alterations in the ecosystem services upon which we depend, which in turn affects Huaxia Company's operational activities. (2) Impact Pathway : Impact drivers generated by operational activities lead to changes in the state of nature, resulting in the reduction or loss of ecosystem services, which in turn triggers external environmental or social changes.	A : Assessment of Risks and Opportunities	- In accordance with the TNFD Risk and Opportunity Framework and an analysis of international reporting trends, we have identified and preliminarily assessed potential risk and opportunity issues across our value chain. For detailed information, please refer to the Company's standalone Nature-Related Disclosure Report. - Following our risk and opportunity assessment process, risks and opportunities identified and ranked as "medium or higher" are placed under active management control. For comprehensive details, please refer to the Company's standalone Nature-Related Disclosure Report.
E3 : Measuring Dependencies and Impacts	- Based on the characteristics of each operational site, CGPC evaluates its level of dependency on specific ecosystem services, as well as the potential impacts of relevant impact drivers on surrounding stakeholders and the environment. A four-quadrant matrix is then utilized to conduct a systematic analysis and classification. - The results of the ecosystem services analysis are as follows: (1) Areas Requiring Monitoring : Stable Water Supply. (2) Low-Risk Zone: Water flow regulation, Soil and sediment retention, Flood control, Rainfall pattern regulation, Water purification, Storm mitigation.		In response to material risks and opportunities, we have formulated corresponding mitigation strategies to address the associated impacts. Furthermore, we regularly track progress with the responsible departments to evaluate the implementation status of these strategies. For detailed information, please refer to the Company's standalone Nature-Related Disclosure Report.
E4 : Materiality Assessment	- The results of the impact driver analysis are as follows: (1) General Monitoring Zone : Disturbance, Greenhouse gas (GHG) emissions, Land use, Solid waste generation and disposal, Air pollutant emissions, Soil and water pollutant emissions, Water use.	P : Preparing to Respond and Report	Regarding nature-related metrics and targets, CGPC prioritizes climate change as a primary impact driver, setting concrete and ambitious carbon reduction targets to respond to associated risks and opportunities. Simultaneously, to address air pollutant emissions, we have established corresponding management targets and control measures to continuously reduce our environmental impact and strengthen our overall environmental management performance.

5.2.6 Energy management (GRI 302-1、302-3)

Since 2016, The USI Group has proactively set its own energy management targets, aligning with Taiwan's energy development policies while continuously monitoring international trends and national regulations for dynamic reviews. After evaluating both internal and external factors, the Group established a 2030 carbon reduction target in early 2022, and further advanced to a 2050 carbon neutrality goal in 2023. Starting from 2018, the Group's nine core domestic production plants have successively implemented the ISO 50001 Energy Management System and obtained certification. This enables effective management of energy performance and ensures the continuous execution of energy-saving and carbon-reduction improvement actions. Through these efforts, the Group aims to exert greater influence and ultimately reduce environmental impacts. The company has disclosed its renewable energy usage in the Green Enterprise Declaration Section of the [National Renewable Energy Certificate Center \(T-REC\)](#), thereby enhancing information transparency.

◆ 2025 Energy Conservation Performance

Company	CGPC	TVCM	CGPCP
Target / Results	1.5% / 1.29%	1.5% / 2.17%	1% / 1.40%

1. The data comes from the Energy Administration's annual energy conservation inspection system reporting form.
2. Description of achievement rate: TVCM and CGPCP have already met their energy-saving rate targets. CGPC 2025 equipment improvement plan focuses on the replacement of outdated recombination tanks. Since this project has not yet been completed, the current energy-saving rate is below target. However, once the recombination tank project is finalized, the energy-saving rate is expected to exceed the target in 2026.

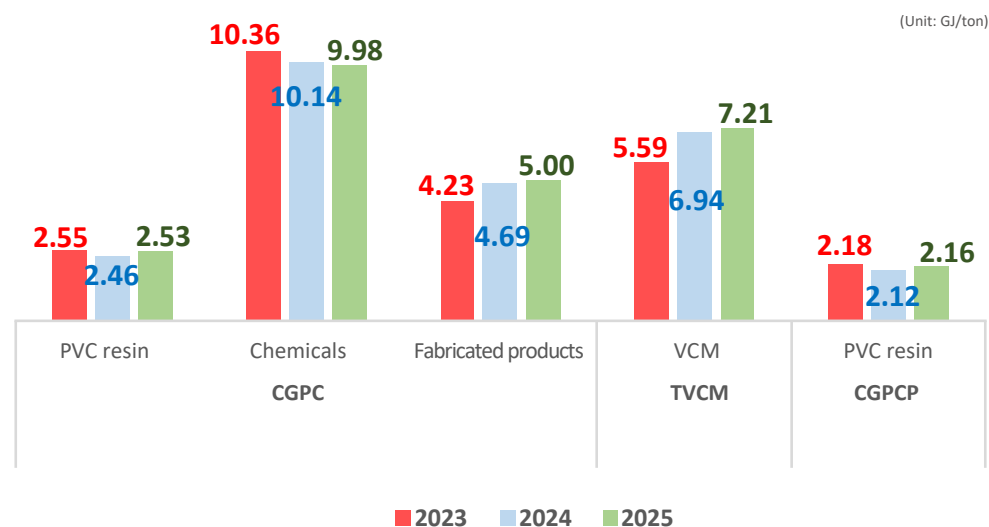
Energy usage in the last 3 years

(Unit: GJ)

Company	Energy type	2023	2024	2025
CGPC (Main plant)	Purchased Electricity from Taipower	546,155	517,426	469,167
	Green Electricity (Solar Photovoltaics)	0	349	1,025
	Fuel coal	32,229	0	0
	Natural gas	516,187	424,845	356,194
	Diesel fuel	4,384	3,921	4,413
	Gasoline	183	144	181
	Total energy consumption	1,099,138	946,685	830,980
TVCM (Linyuan plant)	Purchased Electricity from Taipower	344,205	312,557	305,618
	Green Electricity (Solar Photovoltaics)		0	5,952
	Purchased steam	119,687	103,067	223,359
	Natural gas	1,991,576	1,854,341	1,571,018
	Diesel fuel	312	245	328
	Gasoline	129	106	63
	Total energy consumption	2,455,909	2,270,316	2,106,338
CGPCP (Linyuan plant)	Purchased Electricity from Taipower	135,440	123,494	95,137
	Purchased steam	298,127	242,332	221,933
	Diesel fuel	265	168	76
	Gasoline	21	27	20
	Total energy consumption	433,853	366,021	317,166
Total Energy Consumption of the Three Plants		3,988,900	3,583,022	3,254,484

Note 1: The fuel coal and natural gas of the CGPC Main plant are calculated according to the unit calorific value table of energy products announced by the Energy Administration.

Energy consumption of products of each unit in the last 3 years



◆ Explanation of Changes in Unit Product Energy Consumption in 2025:

- **CGPC (Main Plant):** Due to insufficient order loads for PVC powder and processed products, the frequency of production line start-ups and shutdowns increased, affecting process energy efficiency and resulting in higher unit product energy consumption.
- **TVCM (Linyuan Plant):** In 2025, self-produced steam output decreased, with part of the demand met by purchased steam. The increased use of purchased steam led to higher unit energy consumption for VCM products.
- **CGPCP (Linyuan Plant):** Adjustments to PVC powder processing equipment, combined with production and sales requirements, caused more frequent start-ups and shutdowns. This increased energy usage, leading to a slight rise in unit product energy consumption.

Promotion of renewable energy

1. CGPC starts it from the construction of solar photovoltaic equipment on the factory roof, and gradually expanded the use of green electricity in each factory area. In 2019, the CGPC main plant leased its rooftop space for the installation of a 1,437.9 kWp solar power system. In May 2022, CGPC repurchased the entire solar PV system. By the end of 2023, an additional 679.82 kWp of solar capacity was installed. However, due to a fire incident in 2024, 236.84 kWp of solar capacity was affected. As of the end of 2025, the total installed solar capacity was 1,880.88 kWp, recycled Content Percentage is 0.21% in 2025.
 2. From January to November 2025, CGPC generated approximately 2.1 million kWh of solar power, all of which was sold to Taipower under a wholesale arrangement. Beginning in December 2025, about 130,000 kWh of solar power was redirected for self-use
 3. In 2025, since the Linyuan Plant of Taiwan VCM Company had no suitable rooftops for installing solar equipment, the company purchased approximately 1.653 million kWh of green electricity and certificates.
- In 2025, CGPC purchased approximately 154,000 kWh of green electricity and certificates.

TVCM was recognized by the Industrial Park Management Bureau of the Ministry of Economic Affairs as an Outstanding Energy-Saving Enterprise

TVCM Company (a subsidiary of CGPC) has long promoted process optimization and energy efficiency improvements. By introducing high-efficiency equipment and energy-saving management measures, the company has continuously reduced energy consumption and carbon emissions. On March 12, 2025, due to its outstanding achievements in energy conservation, TVCM was recognized by the Industrial Park Management Bureau of the Ministry of Economic Affairs as a "2024 Outstanding Energy-Saving Enterprise." This honor highlights the company's concrete results in advancing low-carbon transformation and sustainable development.

This energy-saving improvement project included the optimization of equipment such as cooling water circulation pumps, cracking furnace distillation tower reflux pumps, and EDC pumps. The maximum power-saving efficiency reached 42%, resulting in an annual reduction of approximately 659 metric tons of carbon emissions. This serves as an important demonstration case for promoting energy conservation and carbon reduction in the Linyuan Industrial Park.

For detailed information, please refer to the latest [News](#) release. °



In response to green finance: ESG-linked loan approved by bank

In response to the government's green finance policy, CGPC (including TVCM and CGPCP) actively collaborated with banks to propose indicator items aligned with Environmental, Social, and Governance (ESG) standards, with environmental protection as the top priority. Through a rigorous review process, CGPC successfully obtained bank approval to link ESG indicators with loan amounts, demonstrating the Company's strong commitment to carbon reduction and sustainable development.

Securing ESG Financing Quotas and Low-Interest Loan Programs

- CGPC, CGPCP, and TVCM have continued to implement ESG initiatives and have signed sustainability-linked loan agreements with banks including Chang Hwa Bank, Taipei Fubon Bank, The Export-Import Bank of the Republic of China, and Bank of China. CGPC and TVCM's
- Low-Interest Loan Programs:
 - * CGPC : Rooting Enterprises in Taiwan - Automated Warehousing, Returning Taiwanese Businesses - Polymerization Tank.
 - * TVCM: Under the SME Project - Intercontinental Phase 2.
- In 2025, the company received government support through a low-interest special project, with total subsidies amounting to approximately NT\$15.08 million.

In 2025, the Group participated in the "Neihu Green Commuting Day" event

In response to the Taipei City Government's plan to construct the eastern section of the Circular MRT Line, which may affect traffic around the Neihu Technology Park, the Taipei City Department of Transportation, through the Neihu Association, invited park enterprises to jointly participate in the "Neihu Green Commuting Day" initiative. The campaign encourages employees to adopt low-carbon commuting methods such as public transportation or carpooling. The USI Group supported this initiative by encouraging employees who normally commute by private car to switch to public transportation or carpooling on the event day. To further promote participation, the company offered parking fee reductions as an incentive, thereby actively supporting green commuting and reducing traffic volume. Through this activity, employees were also able to experience firsthand the time required for different commuting methods, helping them prepare for future traffic adjustments while collectively advancing low-carbon commuting and sustainable transportation. For detailed information, please refer to the [2025 Results Report](#).



5.2.7 Greenhouse gas management (GRI 305-1、305-2、305-3、305-4、305-5)

GHG inventory is carried out every year to effectively manage the emissions of each plant of CGPC. Starting from 2024, the scope of inventory includes the subsidiaries of CGPC in the Consolidated Financial Statements, with a coverage rate of 100%. Among them, CGPC Main plant and TVCM Linyuan plant must register and verify greenhouse gas emissions because they are subject to the “Climate Change Response Act”. Therefore, relevant operations are carried out in accordance with the Ministry of Environment’s “Greenhouse Gas Emissions Inventory Registration and Verification Management Regulations”, and the inventory data is regularly verified by an impartial third-party verification unit. For carbon reduction targets, please refer to [Note 2](#) of “CGPC Consolidated Greenhouse Gas Emissions and Carbon Reduction Pathway”.

Carbon Data Management Platform Development

To enhance the timeliness and accuracy of carbon emission data, USI Corporation initiated the development of a carbon data management platform in 2024 to strengthen the Group’s internal carbon inventory processes and data integration capabilities.

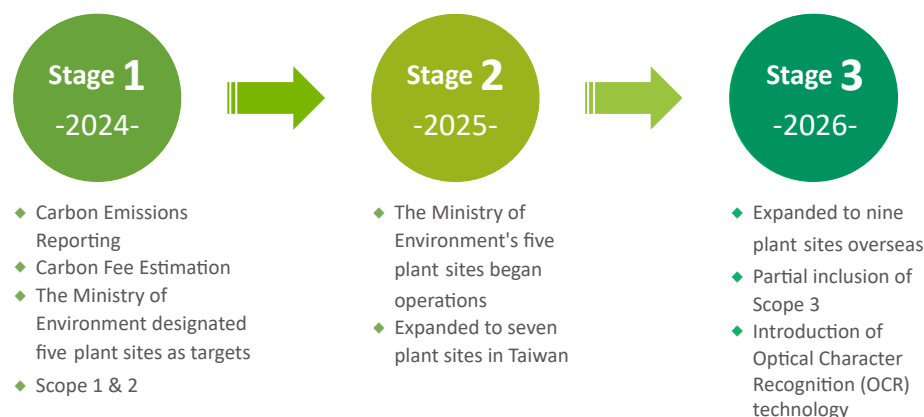
The first phase of the platform covers five plants in Taiwan, focusing primarily on the systematic collection of Scope 1 and Scope 2 emissions, with selected Scope 3 items to be gradually incorporated.

The system design integrates existing monthly reporting mechanisms and certificate uploading processes to ensure the consistency and traceability of activity data and source documents.

The platform features flexible export functions that support output formats in line with various regulatory requirements.

Through this platform, USI Corporation can manage carbon emissions more efficiently, demonstrating a commitment to data-driven carbon management, enhanced information transparency, and climate resilience.

Implementation Plan



Byproduct Hydrogen Project

At the end of 2025, CGPC completed the integration and small-module demonstration verification of its Byproduct Hydrogen Recovery System.

1. Project Background

- Supported by the Ministry of Economic Affairs’ Energy Administration under the Industrial Energy Project
- Converted process byproduct hydrogen into electricity and thermal energy
- Established a low-temperature PEMFC fuel cell cogeneration system

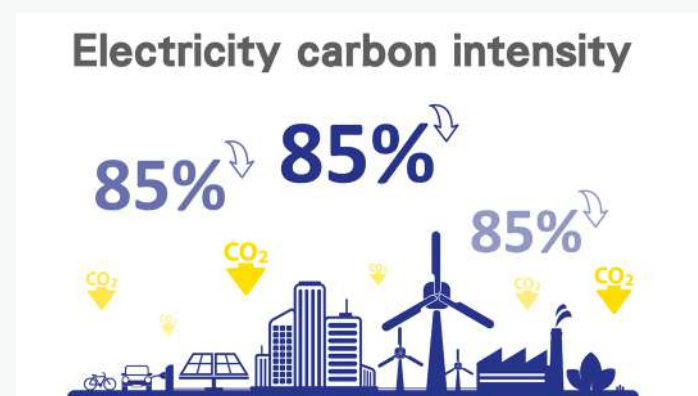
2. Core Achievements

- Transformed process byproduct hydrogen into clean energy
- Developed technical capability to operate under non-pure hydrogen conditions
- Balanced process safety, energy recovery, and carbon reduction benefits

3. Carbon Reduction Benefits (Small-Module Demonstration Stage)

- Power generation emission factor: 0.068 kg-CO₂e/kWh
- Taipower announced value: 0.474 kg-CO₂e/kWh
- Achieved approximately 85% reduction in carbon emissions (excluding thermal energy recovery benefits)

For detailed information, please refer to the latest [news](#) and [project introduction](#).



Greenhouse Gas Offset Project

Since 2018, CGPC has implemented two Greenhouse Gas Offset Projects. Following third-party verification and approval through registration review, Huaxia's "IEM Caustic Evaporation Tank Upgrade Offset Project" and TVCM's "Upgrade of Two Cracking Furnaces (F-6201, F-6202) Offset Project" were both approved by the Ministry of Environment. Their first quota applications were passed on February 23, 2022 and May 3, 2022, respectively, resulting in a total reduction credit of 7,464 metric tons of CO₂e. These credits help mitigate future carbon regulation risks.

In 2025, CGPC and TVCM completed third-party verification for their second quota applications, which are currently under review by the Ministry of Environment for approval.

Please refer to the first official letter issued by the Ministry of Environment, Executive Yuan:

- ◆ CGPC – “[IEM Caustic Evaporation Tank Offset Project](#)”
- ◆ TVCM – “[Upgrade of Two Cracking Furnaces \(F-6201, F-6202\) Offset Project](#)”



Product Carbon Footprint – ISO 14067

In 2025, CGPC completed verification of 11 product carbon footprints.

At the Toufen main plant, the first-stage verification for hydrochloric acid, caustic soda, and sodium hypochlorite products was conducted on July 21, 22, and 31. For the second stage, documentation for eight additional products was prepared, and on November 6, 7, 14, and 25, 2025, third-party verification was carried out by AFNOR Certification Taiwan Co., Ltd. (formerly AFAQ International Taiwan Co., Ltd.).

Products verified in the second stage include:



Raw Material Product:

- PVC Polyvinyl Chloride Resin Powder



Building Material Products:

- CNS 1302 Rigid PVC Electrical Conduit
- CNS 1302 ESG Rigid PVC Electrical Conduit
- CNS 1298 Rigid PVC Pipe
- CNS 1298 ESG Rigid PVC Pipe



Processed Products:

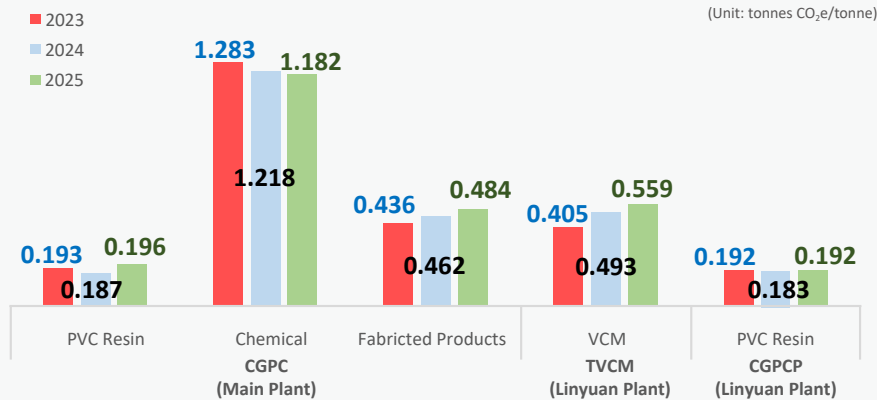
- Furniture Fabric
- Insulation Fabric
- Huafu Automotive Soft Leather

The scope of verification covers the entire life cycle (Life Cycle Assessment, LCA) of products, from raw material acquisition, production processes, to warehousing and transportation. By precisely quantifying carbon emissions at each stage, we are able to identify carbon reduction hotspots and establish a comprehensive product carbon footprint inventory.

Greenhouse gas emissions intensity by product in the last 3 years

(Unit: tonnes CO₂e/tonne)

Company	Product	2023	2024	2025	goal	Achievement
CGPC (Main plant)	PVC resin	0.193	0.187	0.196	0.248	✓
	Chemicals	1.283	1.218	1.182	1.366	✓
	Fabricated products	0.436	0.462	0.484	0.455	X
TVCM (Linyuan plant)	VCM	0.405	0.493	0.559	0.446	X
CGPCP (Linyuan plant)	PVC resin	0.192	0.183	0.192	0.234	✓



Note 1: Calculation formula = Total GHG emissions by product (tonnes CO₂e) / Total output by product (tonnes)

Note 2: Considering that the industry has been affected by uncontrollable external environmental factors, resulting in significant fluctuations in recent production volumes, the 2025 targets will continue to adopt the 2024 targets. These targets were originally set based on the average product-specific emission intensity from 2019 to 2021, in order to maintain stability and comparability of the indicators.

Note 3: For additional information, please refer to the [remarks in the Carbon Reduction Pathway Plan](#).

Note 4: CGPC revised the 2024 emission intensity values for three products due to the fact that the electricity emission factor had not been updated according to the latest official announcement. Therefore, the correction was made accordingly.

Note 5: Explanation of Why 2025 Product-Specific Greenhouse Gas Emission Intensities Did Not Meet Targets:

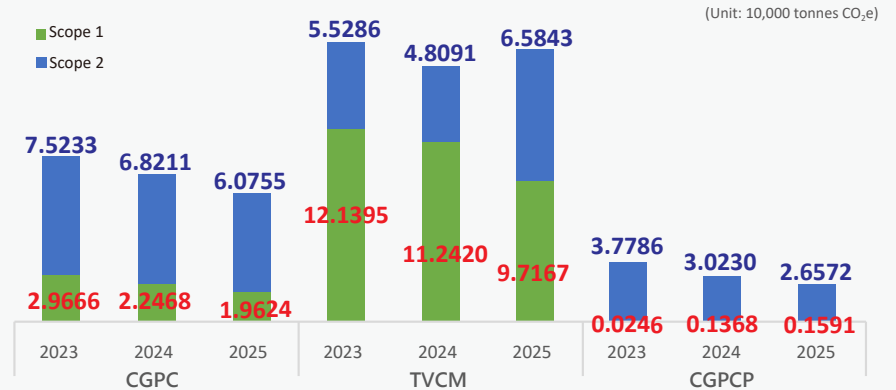
- CGPC (Main Plant): For processed products, insufficient order loads led to more frequent production line start-ups and shutdowns. This affected process energy efficiency, resulting in unit product greenhouse gas emission intensity being higher than the original target.
- TVCM (Linyuan Plant): In 2025, the amount of self-produced steam decreased, and part of the demand was met through purchased steam. The purchased steam (from Taiwan Benzene) was produced using coal-fired boilers, with the CO₂ emission factor increasing from 184.1 kgCO₂/ton to 332.7 kgCO₂/ton. Combined with higher consumption of purchased steam, the unit emission intensity of VCM products exceeded the original target.

Note 6: CGPC's combined greenhouse gas emission intensity can be found in CH 7.4 [Implementation of Climate-Related Information](#).

Greenhouse gas emissions of various companies in the last 3 years

(Unit: 10,000 tonnes CO₂e)

Company	Scope	2023	2024	2025
CGPC	Scope 1	2.9666	2.2468	1.9624
	Scope 2	7.5233	6.8211	6.0755
TVCM	Scope 1	12.1395	11.2420	9.7167
	Scope 2	5.5286	4.8091	6.5843
CGPCP	Scope 1	0.0246	0.1368	0.1591
	Scope 2	3.7786	3.0230	2.6572



Note 1: Scope of inventory in 2024: (1) [CGPC](#) includes: CGPC Toufen main factory, Taipei office, and overseas subsidiaries. (2) [TVCM](#) includes: TVCM's Linyuan factory, Taipei office, and [GGTC Company](#). (3) It was Linyuan factory for [CGPCP Company](#). The above scopes include CGPC's subsidiaries in the consolidated financial statements, with a coverage rate of 100%. Greenhouse gas inventory includes: CO₂, CH₄, N₂O, and HFCs.

Note 2: The calculation adopts the operational control method, and the emission factors are based on officially announced coefficients.

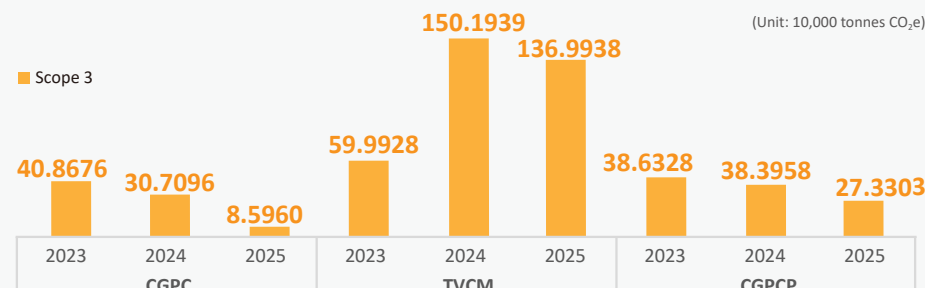
Note 3: For additional information, please refer to the remarks in the Carbon Reduction Pathway Plan.

Other indirect greenhouse gas emissions (Scope 3)

The company's Scope 3 emission inventory is conducted in accordance with ISO 14064-1:2018 standards, with classification following the GHG Protocol framework (Appendix I of the Greenhouse Gas Inventory Guidelines).

For CGPC (2025) : No new inventory categories were added. Overall Scope 3 emissions decreased, mainly due to reduced procurement of VCM (vinyl chloride monomer), which lowered upstream supply chain emissions.

For TVCM(2025) : Categories 3 and 4 increased compared to the previous year. Category 10 decreased significantly, primarily due to reduced downstream production capacity. As a result, the company's total Scope 3 emissions continued to decline in 2025.



Scope 3: Other indirect greenhouse gas

(Unit: tons CO₂e/year)

GHG Protocol Classification	2023			2024			2025		
	CGPC	TVCM	CGPCP	CGPC	TVCM	CGPCP	CGPC	TVCM	CGPCP
Category 1. Emissions from purchased goods and services	371,284	490,801	352,080	256,949	628,710	324,428	33,727	549,026	249,306
Category 2. Emissions from capital goods				679			5		
Category 3. Emissions from Fuel and Energy-Related Activities (not included in Scope 1 or 2)	22,212	36,990	3,737	20,121	31,435	3,505	19,886	42,566	3,118
Category 4. Upstream transportation and distribution emis	11,817	63,317	110	10,566	26,085	38,971	9,821	33,877	34
Category 5. Emissions from waste generated in operations	179	402	29	150	397	19	145	280	49
Category 6. Business travel emissions	41	5	0	42	5	0	32	5	0
Category 7. Employee Commuting	200	92	24	189	95	23	183	93	24
Category 9. Downstream transportation and distribution emissions	2,943	8,267	30,348	1,508	5,881	17,001	1,511	9,031	20,772
Category 10. Emissions from processing of sold products				16,809	809,331	11	20,629	735,060	0
Category 12. Emissions from end-of-life treatment of sold products				11			21		

Note 1: Starting from 2023, the scope of inventory includes CGPC's subsidiaries in the consolidated financial statements, and the data has been assured by a third-party institution.

1.1 Obtained the 2023 Greenhouse Gas Verification Opinion Statement (ISO 14064-1:2018) for [CGPC](#) (including Taipei Office, CGA, CGPC(ZS), and CGPC(BVI)), [TVCM](#) (including Taipei Office), [GGTC](#), and [CGPCP](#).

1.2 Obtained the 2024 Greenhouse Gas Verification Opinion Statement (ISO 14064-1:2018) for [CGPC \(Toufen Main Plant\)](#), [TVCM \(Linyuan Plant\)](#), and [CGPCP](#).

1.3 Obtained the 2025 Greenhouse Gas Verification Opinion Statement (ISO 14064-1:2018) for [CGPC \(Toufen Main Plant\)](#), [TVCM \(Linyuan Plant\)](#), and [CGPCP](#).

Note 2: Since 2021, Scope 3 has been included for TVCM's Linyuan factory and CGPCP's Linyuan factory; since 2022, Scope 3 has been included for the CGPC Toufen main factory; and since 2023, Scope 3 has covered CGPC's subsidiaries in the consolidated financial statements.

Note 3: Scope 3 GHG Protocol classification in 2022: CGPC: Categories 1, 3, 4, 5; TVCM: Categories 1, 2, 3, 4, 5, 9; CGPCP: Categories 1, 3, 4, 5, 7, 9.

Note 4: Scope 3 GHG Protocol classification in 2023: CGPC added 3 categories: Categories 6, 7, and 9; CGPCP added 1 category: Category 6.

Note 5: Scope 3 GHG Protocol classification in 2024: CGPC added 4 categories: Categories 2, 10, and 12; TVCM added 1 category: Category 10; CGPCP added 1 category: Category 10.

Note 6: The Scope 3 inventory items for 2025 remain the same as those in 2024. As of 2024, Scope 3 covers 10 GHG Protocol categories, corresponding to 9 categories under ISO 14064-1:2018, including: Purchased goods and services, Fuel- and energy-related activities, Upstream transportation and distribution, Waste generated in operations, Business travel, Employee commuting, Downstream transportation and distribution, Processing of sold products, Use of sold products.

Note 7: Newly added items for each year are indicated in blue text.

5.2.8 Energy-saving and carbon-reduction plans and performance (GRI 302-4)

2025 Energy Saving and Carbon Reduction Initiatives and Achievements

Company	Energy Conservation and Carbon Reduction Initiatives	2025 Achievements	
		Energy Savings(GJ)	Carbon Reduction (tons CO ₂ e)
CGPC (Main Plant)	◆ Replacement of wastewater equalization pumps and blowers ◆ Replacement of direct current (DC) motors ◆ Energy efficiency improvement of wind turbines ◆ Energy efficiency improvement of natural gas boilers	16,693	889
TVCM (Linyuan Plant)	◆ Replacement of the light fraction pump (P-6001A) with a high-efficiency pump ◆ Replacement of the OXY JOY air compressor motor (KM-6151)	1,705	221
CGPCP (Linyuan Plant)	◆ Replacement of air compressor equipment ◆ Replacement of hot water pumps (PU-1205A/B) ◆ Conversion of dryer hot water coils to steam coils	19,946	1,307
Total		38,344	2,417

2026 Carbon Reduction Plan and Targets (tons CO₂e)

Company	2026 Key Energy Conservation and Carbon Reduction Initiatives	2026 Target Carbon Reduction Volume
CGPC (Main Plant)	◆ Replacement of chiller units ◆ Energy efficiency improvement of extruder barrel electric heaters ◆ Upgrade of feeding system cold tanks and hot tanks ◆ Replacement of transformers ◆ Energy efficiency improvement of cooling towers and pumps ◆ Replacement of exhaust fans ◆ Energy efficiency improvement of foaming furnaces	289
TVCM (Linyuan Plant)	◆ Installation of AI-based variable frequency control for cooling tower fan (B-6003) ◆ Replacement of cooling tower circulation pump (P-6010C)	292
CGPCP (Linyuan Plant)	--	--
Total		581

Note: 1. The data source is the annual Energy Conservation Audit Report for Energy Users submitted to the Energy Administration (investment amounts and energy-saving/carbon reduction details are [provided in the attached table](#)).

2. Calculation benchmark:

- (1) The unit calorific value conversion factors refer to the unit calorific value table for energy products announced by the Energy Administration (for energy statistics only), including: electricity 860 kcal/kWh, coal 5,600 kcal/kg, natural gas 8,710 kcal/m³, gasoline 7,520 kcal/L, and diesel 8,629kcal/L. One cal equals 4.187 J.
- (2) The CO₂ emission factor for natural gas used by CGPC's Toufen factory in 2025 is calculated at 1.894 kg CO₂e/m³.
- (3) The CO₂ emission factor for natural gas used by TVCM's Linyuan factory in 2025 is calculated at 2.090 kg CO₂e/m³.
- (4) The calorific value 184.1 kg of the purchased steam used by TVCM and CGPCP's Linyuan factories in 2025 were 669,000 kcal/ton and 665,534 kcal/ton, respectively, and the CO₂ emission factors were calculated at 327.6 kg CO₂e/ton and 148.7 kg CO₂e/ton, respectively.
- (5) The types of gases included in the calculation of carbon reduction in the energy conservation and carbon reduction plan include carbon dioxide, methane and nitrous oxide.

3. This program does not include the carbon reduction benefits of offset projects. Please refer to the explanation provided in the Greenhouse gas replacement project Quota Application for further details.

4. Energy conservation and carbon reduction plan and performance (annual carbon reduction), equivalent to the annual carbon emissions absorbed by 6 Da'an Forest Parks.

5.2.9 Energy conservation and carbon reduction equipment improvement solutions (GRI 302-4、305-5)

We continue to promote the work of “energy conservation and carbon reduction” with practical actions in an honest and responsible attitude. In recent years, we have invested a lot of resources in adding new equipment and replacing old equipment with new ones, hoping to reduce the impact of the overall operating activities on the environment.

Program name	CGPC's Main Plant Energy Efficiency Improvement of Utility Boiler #2	TVCM's Linyuan Plant Replacement of the light fraction pump (P-6001A) with a high-efficiency pump	TVCM's Linyuan Plant Replacement of Air Compressor Motors
Condition before improvement	The original combustion efficiency of Boiler No. 2 was 94.2%.	The light fraction pump (P-6001A) is a rotating equipment within the plant, powered by a 150 HP motor. By replacing it with a high-efficiency pump, energy conservation and carbon reduction can be achieved.	1. The KM-6151 motor has been in use for a long time, resulting in poor efficiency. 2. When the cooling motor of KM-6151 malfunctions, it causes the main motor to overheat and trip. 3. The motor specifications and design do not comply with current explosion-proof regulatory requirements.
Program Description	1. Increase the operating pressure of the deaerator tank by approximately 0.01–0.02 kg/cm², raising the boiler feedwater temperature from 120°C to 136°C. This allows the boiler to operate at higher loads, thereby reducing furnace surface heat loss. 2. Lower the oxygen content in the chimney exhaust from 3.6% to 2.6%, avoiding excess air that would otherwise cause part of the natural gas combustion heat to be lost as exhaust heat. 3. Through fine-tuning of overall boiler operating conditions, the boiler efficiency is optimized to 95.2%, which reduces natural gas consumption.	1. Under the same flow rate and head conditions (meeting plant production requirements), a comparison of pump efficiency before and after improvement was conducted. 2. Based on pump design principles, the manufacturer enhanced efficiency by modifying the impeller type and utilizing simulation software, thereby achieving energy conservation.	1. The newly designed motor has higher efficiency. 2. The motor has been modified to adopt water-cooling, which prevents failures of the cooling fan motor from causing the main motor to overheat and shut down. 3. The design now complies with TS explosion-proof zone regulations.
Completion date	October 2025	January 2025	September 2025
Expected benefits after improvement	Annual natural gas savings: 449,846 m ³ /year, with carbon reduction of 852 tons CO ₂ e/year.	Annual electricity savings: 333,840 kWh/year, with carbon reduction of 156 tons CO ₂ e/year.	Annual electricity savings: 139,678 kWh/year, with carbon reduction of 65 tons CO ₂ e/year.
Photos			

Program name	CGPCP's Linyuan Plant Replacement of the dryer's hot water coils with steam coils	CGPCP's Linyuan Plant Air Compressor Replacement Project
Condition before improvement	The dryer originally used 15 sets of hot water coils to heat the feed cake and remove moisture, ensuring product quality compliance. Currently, the dryer's maximum operating capacity is 27.5 MT/HR.	To achieve system integration, the Linyuan Plant originally sourced its air supply from the VCM air compressor (Polymerization Section) and the Fusheng air compressor (Storage & Transportation Section). However, as VCM could no longer provide a continuous supply due to process stability requirements, two Herlich air compressors and one Fusheng air compressor were brought online to maintain stable operations.
Program Description	1. Capacity Expansion: Replaced the first 8 sets of dryer hot water coils with steam coils to accommodate market demand, increasing capacity from 27.5 MT/HR to 30 MT/HR. 2. Energy Efficiency: Lowered hot water demand enabled downsizing the hot water pump motor from 100 HP to 75 HP.	Since the Herlich air compressors (originally used for high-pressure powder conveying) and the Fusheng air compressor have been in service for over ten years, their power consumption, maintenance costs, spare parts expenses, and repair lead times have increased significantly. To address this, a replacement and upgrade project was executed, adopting a "one-for-three" replacement strategy to maximize operational efficiency and achieve energy savings and carbon reduction.
Completion date	January 2025	October 2025
Expected benefits after improvement	Annual steam savings of 6,012 metric tons, yielding a carbon reduction of 894 tCO ₂ e/year; annual electricity savings of 150,000 kWh, yielding a carbon reduction of 70 tCO ₂ e/year; resulting in a total carbon reduction of 964 tCO ₂ e/year.	Annual electricity savings of 736,692 kWh, yielding a carbon reduction of 343 tCO ₂ e/year.
Photos		

5.3 Water Resources Management (GRI 2-4、3-3、303：2018)

 Material issue : Water resources management Main target : SDG 6.4, Secondary target : SDG 6.3, 6.5,6.b, 12.2

 The Significance and Impact of CGPC Value water resources, reduce the consumption of water resources in the production process, and improve the reuse rate of water recycled to reduce the impact on the environment. Affected parties: employees, government agencies, community residents.	
 Develop Strategy Implement ISO 46001 and ISO 14046 to reduce and reduce water waste, improve and replace water-consuming equipment, Improve R2 water recycling rate and actively implement the plan to apply for water consumption reduction.	 Policy Commitment The R2 water recycling rate target was increased by 0.4 percentage points compared to the estimated value.
 Grievance Unit Public Utility Course	 SASB Indicator ◆ RT-CH-140a.1 ◆ RT-CH-140a.2 ◆ RT-CH-140a.3

Indicator items	Unit	2025 goal	2025 result	2026 goal	2027 goal	2030 goal
R2 water recycling rate	%	81.0	79.2 	78.6	82.1	82.3
Water intensity	ton/ton	3.74	4.19 	4.47	3.39	3.29

Note: 1. Starting in 2023, the R2 water reuse rate has been used for statistical reporting.
2. The 2024 target was updated due to a revision in the R2 water reuse rate calculation formula by the Water Resources Agency.
3. In 2025, due to production capacity adjustments and an increased number of process start-ups and shutdowns, the operating rate of water recycling equipment was affected. This led to a decline in the R2 recycling rate and consequently an increase in water intensity. Subsequent improvements will be pursued through equipment optimization and enhanced water resource management measures. For detailed explanations, please refer to “[Statistics of R2 Water Recycling Rate in the Past Three Years](#).”

 Exceeded Target  Achievement  Partially achieved  Not met

Continuously monitor and record daily, monthly, and annual water usage statistics. In management practices, continuously study feasible solutions, applying process improvements to conserve water and enhance water recycling and reuse rates. Improve pipelines, conduct regular leak-prevention inspections, track and review performance, and propose corrective measures.

The scope of water resource inventory disclosed in this report (Sections 5.3.1–5.3.3) covers the major operating sites, including CGPC Main Plant, TVCM Linyuan Plant, and CGPC Linyuan Plant. It already encompasses the company’s primary water usage sites, achieving a 100% coverage rate.

For the validity period of ISO 46001 and the water recycling rate certificate disclosed in this chapter, please refer to CH-2.3.1 [Stakeholder Communication Channels and Key Issues](#) or the [official website](#).



Centrifuge dryer wastewater recovery systems (HBF) for CGPC Main plant and CGPCP Linyuan plant

Due to abnormal climate conditions and global water scarcity, CGPC Toufen main factory and CGPCP's Linyuan factory have installed biological treatment systems and COD adsorption systems to recover and reuse process wastewater. After being treated by newly established centrifuge water recycling equipment, the chemical oxygen demand (COD) and suspended solids (SS) in the water are reduced. The treated water is then replenished into the cooling water tower to reduce the consumption of tap water and the amount of wastewater discharged, thereby contributing to environmental protection efforts. In 2023, Phase 2 of the HBF project was launched, targeting a daily recovery of 100 tons.

Condition before improvement	Before installing the system, the centrifuge wastewater and plant wastewater are treated by the sand filter system and then discharged to the sewage treatment plant.
Expected benefits after improvement	Total water savings in 2025: 325.9 million liters/year ♦ CGPC recycled water volume: 87.3 million liters/year ♦ CGPCP recycled water volume: 238.6 million liters/year
Program Description	♦ A biological treatment system and COD adsorption system were installed to treat the centrifuge dewatering mother liquor, which previously could not be recycled. With the newly added water recycling equipment for the centrifuge process, the chemical oxygen demand (COD) and suspended solids (SS) in the water are reduced. The treated water is then supplemented to the cooling tower, thereby lowering tap water consumption and wastewater discharge. ♦ The CGPC HBF system has been completed, designed to increase recycled water volume by 35 million liters. However, in 2025, due to market conditions, the operating rate is around 40%, and its recycling benefits cannot yet be fully realized.
Completion date	CGPC : The expansion was completed in April 2018 and expansion to be completed by the end of 2023. CGPCP : July 2018.



HBF system of CGPC's Main Plant



HBF system of CGPCP's Linyuan Plant

5.3.1 Water management (GRI 303-1 ~ 305-5)

In response to the risk of water shortage potentially caused by climate change, the water source used by CGPC (Main plant) is supplied by Yongheshan Reservoir and the water used by TVCM and CGPCP (Linyuan plant) is supplied by the Fengshan Reservoir, which is put into the process. In order to save water, the three companies have added processed water recycling systems and various water-conserving devices, promoted other related measures, and continued to pay attention to the internal and external water supply and demand status and reinforce the implementation of water risk management.

Risk management of water resources

To ensure stable operation and sustainable development, the risk of water shortage resulting from climate change was addressed in December 2020 through the approval of the “Risk Management Policies and Procedures” by the Audit Committee and the Board of Directors, aiming to establish a comprehensive risk management system. To effectively implement the company’s risk management mechanism, the Board of Directors, Audit Committee, General Manager, Audit Department, various risk management units, and subsidiaries collaborate in its promotion. Pay attention to the development of international and domestic risk management systems at all time, review and optimize the risk management methods to improve the effectiveness of the Company’s risk management implementation.

Distribution of water stress

The companies refer to the [water stress map](#) drawn up by the World Resources Institute (WRI), enabling us to understand the water stress felt by countries around the world. Each company is verified to be located in the low to high stress areas.

Item/Company	CGPC (Main plant)	TVCM (Linyuan plant)	CGPCP (Linyuan plant)
Water Stress Areas	Low-to-Medium Water Stress Areas	Low-to-Medium Water Stress Areas	Low-to-Medium Water Stress Areas
Water resource stress	10 ~ 20%	10 ~ 20%	10 ~ 20%

Note: The company defines areas with water resource pressure as those where water stress levels exceed 40%. This serves as an important basis for water management and risk response.



Assessment of water risks and implementation

CGPC Main Plant implemented the ISO 46001 Water Management System and ISO 14046 Water Footprint Inventory in 2022. Through these initiatives, the company is able to understand the potential impact of water risks on operations, while referencing the [Taiwan Climate Change Projection and Information Platform](#) and [Taiwan-wide disaster risk map](#) to estimate the effects of future changes in average rainfall on water resources. Based on water footprint verification, strategies are formulated from the perspectives of source management, water recycling, and wastewater treatment. The company’s operating sites (Miaoli Toufen and Kaohsiung Linyuan) are identified as low-to-medium water stress areas, not classified as high water stress regions, indicating no significant overall impact on water resource usage. In 2025, both CGPC Main Plant and CGPCP obtained water recycling rate verification statements. Their water recycling rate (R2) exceeded industry standards, achieving reductions in water consumption fees. This demonstrates that each plant has effectively implemented water recycling and conservation measures, with strong performance in water resource management.

Company	Impacts caused by extreme weather
CGPC Main plant	“Climate Impacts and Challenges” Since the second half of 2020, global climate anomalies have tightened water supply conditions in the Hsinchu and Miaoli regions. The Toufen Industrial Park Management Center has repeatedly initiated water-saving measures, achieving water-saving rates of 7% to 17%. To ensure operational resilience, the company has actively invested in water-saving improvements since that period. As of the end of July 2023, CGPC Main Plant achieved an average water-saving performance of over 15%. Meanwhile, TVCM’s Linyuan Plant and CGPCP’s Linyuan Plant also achieved water-saving rates of 11% and 20%, respectively.
TVCM Linyuan plant	
CGPCP Linyuan plant	
Identification of water risk (Frequency of occurrence)	The risks of operational sites are evaluated based on factors such as water usage, seasonal variations, droughts, floods, and declining groundwater levels.
Management actions	A. Conservation of process water: (1) Start water conservation measures to increase the conductivity of the water replenished to the cooling water tower. (2) Increase the concentration ratio of the cooling water tower and reduce the frequency of water replacement in the scrubber tower. (3) Discharge the cooling water and recycle it as the water used in the scrubber. B. Conservation of water used in daily life (1) Decompressed water supply. (2) Place water bottles and install water savers to squat toilets to achieve water conservation. (3) Continue to advocate water conservation to employees. (4) Improve on-site patrol inspections and send personnel to handle any water leaks immediately. C. Improve the recycling water treatment operation and the recycling rate and actively plan rainwater recycling. D. Purchased water and active the use of underground in the Main plant. E. Continue to maintain contact with government agencies to obtain water information. F. CGPC plans to continue to issue ISO 46001 and ISO 14046 certificates in 2023. G. Conduct monthly plant review meetings, exchange opinions with other plants from time to time, and keep track of climate and reservoir information. H. One new 500-ton PE storage tank (20 pieces) and 1,500-ton tap water storage tank.
Water conservation results	1. Install centrifuge dryer wastewater recovery systems (HBF) for CGPC Main plant and CGPCP Linyuan plant. 2. In 2025, recycled water accounted for the following proportions of total water withdrawal: CGPC 27.2%, TVCM 20.5%, and CGPCP 61.9%. The total recycled water volume amounted to 828.6 million liters. Note: CGPC’s recycled water includes HBF process recycled water system, steam condensate, and coal boiler sedimentation tank uses effluent water instead.

CGPC’s Construction Material Department – Rainwater recycling and re-use



Solution: Rainwater recycling and reuse Description:

CGPC has been established for 61 years. The building materials plant uses the plastic pipes produced by the Company to build a green environment which can be used by employees during their break and for environmental protection purposes. We strive to harness the power of our team and give our utmost efforts to contribute to environmental protection.

- ◆ **Rainwater Storage Tank Volume:**
(12-inch pipe X 2M X 6) about 3 tons + 1 ton buckets (2), which can store about 5 tons of rainwater.
- ◆ **Application situation:**
Rainwater in the rainwater recovery tank can be used for watering plants and flushing toilets.
- ◆ **Benefits:**
Green and keep the environment clean and it can also keep water bills low and add to conservation.

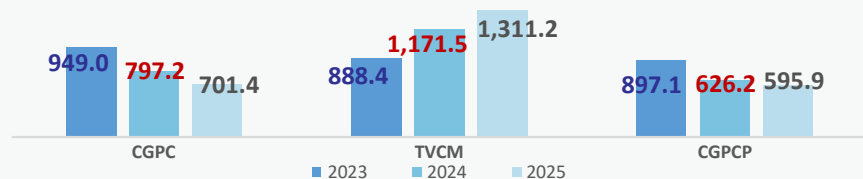
We spare no efforts in conducting internal and external coordination and communicating with government agencies and have implemented adding the use of HBF recycled water, increasing the concentration ratio of the cooling water tower and reduce the water replenishment and other water conservation measures. Because the water data is inconsistent with the actual water volume we should be receiving, which results in great challenges to our operations, we will continue to observe the process and take action at any time.

Water withdrawal by each plant in the last 3 years

(Unit: million liters)

Company	Source	2023	2024	2025
CGPC (Main plant)	Tap water	949.0	796.9	701.4
	Groundwater	-	0.3	-
	Total	949.0	797.2	701.4
TVCM (Linyuan plant)	Tap water	884.1	977.1	936.7
	Third-party water (Note2)	4.3	194.4	374.5
	Total	888.4	1,171.5	1,311.2
CGPCP (Linyuan plant)	Tap water	751.4	696.6	810.8
	Third-party water (Note2)	145.7	-70.4	-214.9
	Total	897.1	626.2	595.9
Three Plants	Total water withdrawal	2,734.5	2,594.9	2,608.5

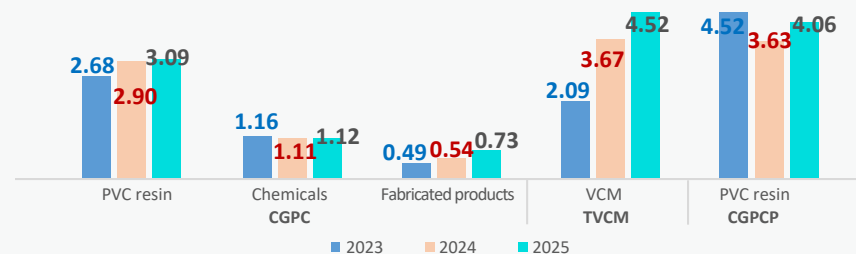
Note 1: HBF (process water recycling system) has been set up in CGPC main plant and CGPCP Linyuan plant, which diverts the recycled water into the cooling water tower for use, in order to reduce the consumption of tap water.
 Note 2: Third-party water includes: CGPCP provides tap water to TVCM to produce pure water, and TVCM also provides pure water for CGPCP to use.



Water consumption per product by each of the plant in the last 3 years

(Unit: M³ /ton)

Company	Product	2023	2024	2025
CGPC (Main plant)	PVC Resin	2.68	2.90	3.09
	Chemical	1.16	1.11	1.12
	Fabricated Products	0.49	0.54	0.73
TVCM (Linyuan plant)	VCM	2.09	3.67	4.52
CGPCP (Linyuan plant)	PVC Resin	4.52	3.63	4.06



R2 recycled water reuse rate over the past three years

Company	Recycling %	2023	2024	2025
CGPC (Main Plant)	Recycled water volume	467.1	286.5	190.7
	Total circulation water volume	87,139.3	60,667.3	46,157.8
	Circulated water volume (Note 3)	2,180.1	2,326.9	2,453.1
	R2 water reuse rate	73.6%	76.6%	79.0%
TVCN (Linyuan Plant)	Recycled water volume	216.5	281.3	269.1
	Total circulation water volume	95,802.0	95,802.0	95,802.0
	Circulated water volume (Note 3)	2,562.0	2,562.0	2,562.0
	R2 water reuse rate	75.8%	70.8%	68.3%
CGPCP (Linyuan Plant)	Recycled water volume	633.1	487.8	368.8
	Total circulation water volume	48,180.0	49,135.6	47,881.6
	Circulated water volume (Note 3)	4,380.0	5,215.6	4,081.6
	R2 water reuse rate	84.8%	90.1%	88.2%
Total recycled water volume of the three plants		1,316.7	1,055.6	828.6
Total circulation water volume of the three plants		231,121.3	205,604.9	189,841.4
Total circulated water volume of the three plants (Note 3)		9,122.1	10,104.5	9,096.7
R2 water reuse rate of the three plants		79.2%	81.1%	79.2%
R2 water reuse rate target of the three plants		79.0%	80.0%	81.0%

Note 1: Starting from 2023, the recycled water ratio has been recalculated using the R2 water reuse rate method, with a target annual increase of 1%.

Note 2: "Water recovery rate (excluding circulation within cooling water towers)," referred to as the R2 water reuse rate, is calculated in accordance with the "Regulations for Water Consumption Fee Collection." Formula (Total recycled water volume + total circulation water volume - circulation within cooling water towers + rainwater intake volume + condensate water intake volume) ÷ (Total water consumption + total recycled water volume + total circulation water volume - circulation within cooling water towers) × 100% = R2 water reuse rate.

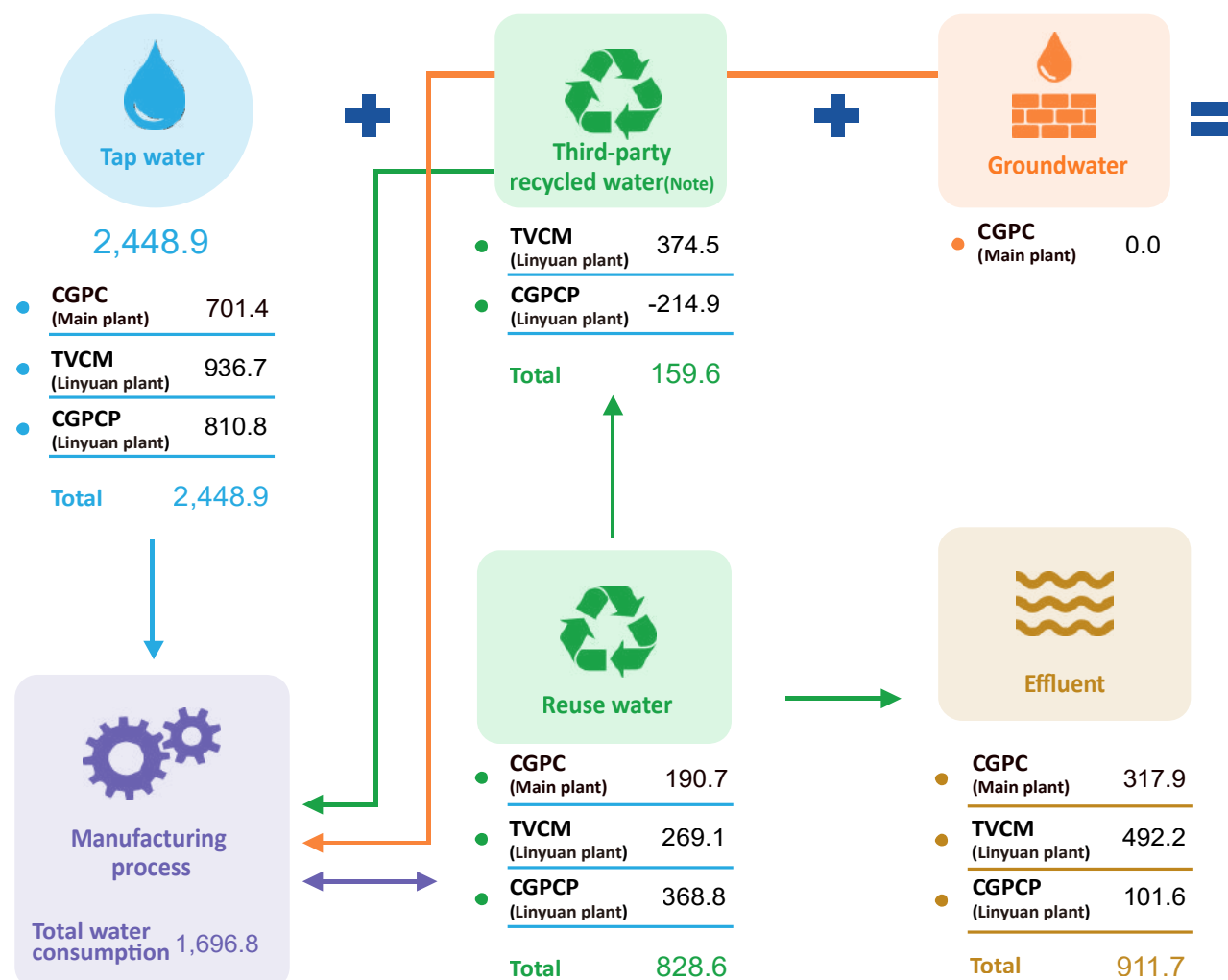
Note 3: Recycled water volume and circulation water volume are estimated figures. Circulation water volume = total circulation water volume - circulation within cooling water towers.

Note 4: In 2024, due to the revised R2 water reuse rate formula by the Water Resources Agency, CGPC and CGPCP added circulation water volume as a statistical item, resulting in the revision of circulation water volumes for 2022 - 2023 and an adjustment of the 2024 target.

Note 5: 2025 Water Resource Performance Explanation

Due to external environmental factors beyond the company's control, the industry experienced significant production fluctuations in recent periods. Each plant was affected by dynamic process adjustments and increased frequency of start-ups and shutdowns, resulting in the 2025 water recycling rate and water intensity indicators not meeting the expected targets. Nevertheless, even under the challenges of varying production loads, the company has actively implemented water resource circular management. The combined R2 water recycling rate across the three plants remained at a high level of 79.2%, demonstrating resilience in process water utilization and consistently achieving the fundamental goal of resource conservation.

Water Resource Statistics Table ▶ **2025 Water Balance Chart** (Unit: million liters)



Note: Water consumption = Water intake - Discharge

All plants adopt standards stricter than regulatory requirements for their treatment and discharge of wastewater. Outsourcing steam and CGPCP provides tap water to TVCM to produce pure water.

Company	Reservoir	Percentage of water intake to reservoir water outflow
CGPC (Main plant)	Yongheshan	1.15%
TVCM (Linyuan plant)	Fengshan Reservoir	1.28%
CGPCP (Linyuan plant)	Fengshan Reservoir	1.11%
Total water withdrawal (Unit: million liters)		2,608.5

Percentage of local reservoir water usage at the plant site

(Unit: million liters)

Company	Year	Water intake volumes	Reservoir outflow volume	Percentage
CGPC (Main plant)	2023	949.0	50,589	1.88%
	2024	796.9	60,950	1.31%
	2025	701.4	61,128	1.15%
TVCM (Linyuan plant)	2023	884.1	70,000	1.26%
	2024	977.1	73,000	1.34%
	2025	936.7	73,000	1.28%
CGPCP (Linyuan plant)	2023	751.4	70,000	1.07%
	2024	696.6	73,000	0.95%
	2025	810.8	73,000	1.11%

5.3.2 Wastewater quality testing (GRI 303-2)

The main water quality testing items include suspended solids, grease, chemical oxygen demand, etc., and are regularly tested and reported. In the last 3 years, they have all been lower than the effluent water standard or below the detection limit value.

(Unit: mg/L)

Company	Test items	2023 average value	2024 average value	2025 average value	Emissions Standard	Internal control value
CGPC (Main plant)	pH	7.7	7.5	7.4	6~9	7~8
	(SS) Suspended solids (mg/L)	12.9	11.8	13.5	30	<25
	(COD) Chemical oxygen demand (mg/L)	31.1	37.2	29.4	100	<80
TVCM (Linyuan plant)	pH	8.0	7.7	7.7	6~9	7~8
	(SS) Suspended solids (mg/L)	4.9	1.2	6.6	30	<25
	(COD) Chemical oxygen demand (mg/L)	19.7	10.4	23.9	100	<80
CGPCP (Linyuan plant)	pH	7.8	7.4	7.7	6~9	7~8
	(SS) Suspended solids (mg/L)	17.2	10.6	7.5	30	<25
	(COD) Chemical oxygen demand (mg/L)	64.1	49.1	54.9	100	<80

Source: Average of annual inspections (CGPC, four times/year; TVCM and CGPCP, twice/year)

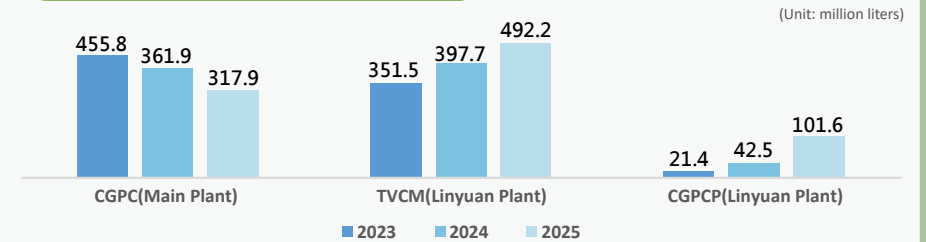
5.3.3 Wastewater discharge management (GRI 303-4)

CGPC's plants adopt standards stricter than regulatory requirements for their treatment and discharge of wastewater. The destinations of each plant's effluent are as follows:

Company	CGPC (Main plant)	TVCM (Linyuan plant)	CGPCP (Linyuan plant)
Effluents' Destination	Jhonggang River	Ocean discharge in Dalinpu (Note)	

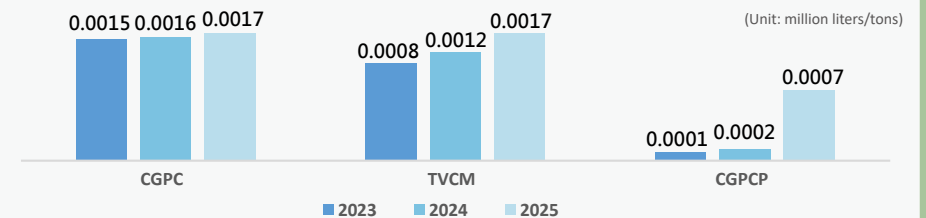
Note: The wastewater of each plant in Linyuan Industrial Park is treated and then discharged to the sewage treatment plant in Linyuan and then transported to the Kaohsiung Linhai Linyuan and Dafa Industrial Parks Combined Wastewater Treatment Plant of the Industrial Development Bureau, Ministry of Economic Affairs, before being discharged to the open sea of the industrial park and the water quality has to meet the discharge standards.

Wastewater discharged in the last 3 years



Note: CGPCP's 2022 data was affected by rounding.

Wastewater discharge intensity in the last 3 years



Explanation of Wastewater Discharge Volume and Intensity

1. For TVCM and CGPCP Linyuan Plants, the volume of effluent discharged is significantly lower than the amount of tap water used, indicating that part of the water has been reduced through recycling and reuse mechanisms.
2. Since process wastewater is almost entirely recycled as supplementary water for cooling towers, effluent discharge is reduced.
3. CGPC adjusted its total production statistics methodology, and accordingly revised the wastewater discharge intensity for 2023.
4. The increase in wastewater discharge at TVCM Linyuan Plant in 2024 was mainly due to the high conductivity of raw water in the Linyuan area. Under high-temperature conditions, conductivity exceeded the cooling tower standard, requiring continuous replenishment and discharge to lower conductivity, thereby increasing the volume discharged to the wastewater treatment plant.
5. The increase in wastewater discharge at CGPCP Linyuan Plant in 2024 occurred when the TVCM wastewater area reached saturation, leading to independent discharge to the wastewater treatment plant.
6. In 2025, the increase in wastewater discharge at TVCM and CGPCP was due to production limitations and more frequent start-ups, which raised process water replenishment needs and slightly increased wastewater discharge.
7. The increase in wastewater discharge intensity across all three plants in 2025 was for the same reason described in Note 6.

5.3.4 Soil and groundwater remediation technology

Global Green Technology Corporation (hereinafter referred to as GGTC) is one of the green energy and environmental businesses under the USI Group. It was established and registered in 2022 as a spin-off from the Environmental Technology Development Department of Taiwan VCM Corporation (hereinafter referred to as TVCM). GGTC is a wholly owned subsidiary of TVCM, which in turn is a subsidiary of CGPC. The company also holds licensed qualifications in “Engineering Technical Consulting” and “Class A Groundwater Drilling Industry.”

Core Technologies and Outstanding Achievements:

- ♦ Expertise in chlorinated contaminant remediation: Developed unique bioremediation technologies specifically for the treatment of hard-to-remove chlorinated contaminants.
- ♦ Successful Cases:
 - ◇ Industry leadership: In 2016 and 2017, successfully completed remediation of TVCM’s Kaohsiung plant and CGPC’s Main Plant, leading to official delisting by the competent authorities. In 2021, the company was awarded the nation’s first “Polluted Site Remediation Technology Deregistration Certificate” (for chlorinated sites) by the Ministry of Environment.
 - ◇ Local Recognition: In 2022 and 2025, the company respectively obtained the “Polluted Site Remediation Completion Technology Certificate” issued upon review and approval by the Kaohsiung City Environmental Protection Bureau and the Taoyuan City Environmental Protection Bureau.
 - ◇ Continuous progress: In 2023 and 2025, successfully completed groundwater remediation at Taoyuan Dayang Plastics Co., Luzhu Plant, and Changhua Jing-Er Metal Industrial Co., respectively, and obtained deregistration status.
- ♦ Enhancing Investigation and Remediation Technologies: By introducing high-resolution site contamination investigation techniques, the company has built precise conceptual models of subsurface pollution to optimize remediation planning. Advanced technologies such as groundwater circulation systems, dual-packer injection, and Direct Push (DP) methods have been adopted. Based on site-specific environmental conditions, more suitable system facilities are designed and implemented.
- ♦ Green and Sustainable Remediation Philosophy: Centered on environmental principles such as reducing energy consumption, lowering air emissions, minimizing water resource impacts, reducing materials and waste, and mitigating impacts on soil and ecosystems, while integrating considerations of human health and safety, social equity, cost-effectiveness, and economic impact to implement the Green and Sustainable Remediation (GSRR) promoted by the Ministry of Environment.
- ♦ Localized advantage: Self-Developed Remediation Materials and Technologies to reduce reliance on imports, using native microbial strains in place of foreign ones.
- ♦ Industry-academia collaboration: Collaborates with several universities, including National Sun Yat-sen University and National University of Kaohsiung, to conduct joint research and accumulate extensive practical experience.
- ♦ Recognized excellence: In 2023, honored by the Ministry of Environment as an “Outstanding Green and Sustainable Remediation Unit.”

GGTC will continue to refine its technologies and remain dedicated to environmental pollution improvement and prevention, aiming to achieve the goal of sustainable environmental development. For detailed information, please refer to [the attachment, CGPC’s ESG webpage](#), or [the official website of GGTC](#).

GGTC’s Licensed Qualifications



Engineering Technical Consulting Qualification



Class A Groundwater Drilling Industry Qualification

Services

- ♦ Site survey
- ♦ Remediation planning
- ♦ Detection and analysis
- ♦ Product application

Innovative technology

- ♦ Green remediation
- ♦ Strain development
- ♦ Biometrics
- ♦ Remedial chemicals

Remedial chemicals

- ♦ Biologics
- ♦ Nutrient matrix
- ♦ Compound Potassium Permanganate



6 CLEAN WATER AND SANITATION



15 LIFE ON LAND

CGPC’s soil and groundwater remediation technology restores the original land through biological remediation technology, which also reduces the harm to groundwater sources and pollutants that harm ecosystems and it is also linked to SDGs 6 Clean water and sanitation and SDGs 15 Protect terrestrial ecosystems.

5.4 Air Pollution Control (GRI 2-4 、 3-3)

Follow-up issue : Air pollution control Main target : SDG 11.6, Secondary target : SDG 3.9



The Significance and Impact of CGPC

Reduce the impact of greenhouse gas emissions and air pollutants on the environment.
Affected parties: employees, community residents, government agencies.



Develop Strategy

Switch to the use of low-polluting fuel (natural gas) to reduce sulfur oxides (SOx), nitrogen oxides (NOx) and volatile organic compounds (VOCs) emissions.



Policy Commitment

In addition to complying with environmental regulations and emission standards, the unit product emissions of sulfur oxides (SOx), nitrogen oxides (NOx) and organic volatile compounds (VOCs) are reduced year by year.



Grievance Unit

Environmental Protection Sector



SASB Indicator

SASB RT-CH-120a.1

Indicator items	Unit	2025 goal	2025 result	2026 goal	2027 goal	2030 goal
Reduce sulfur oxide emission intensity	ton/kt	0.003	0.000 	0.003	0.003	0.003
Reduce NOx emission intensity	ton/kt	0.264	0.284 	0.264	0.262	0.259
Reduce the emission intensity of volatile organic compounds	ton/kt	1.379	1.416 	1.379	1.368	1.351
Reduce the emission intensity of hazardous air pollutants	ton/kt	0.068	0.046 	0.068	0.068	0.067

Note: 1. Starting from 2025, the statistical basis for the indicator "Reduction of Hazardous Air Pollutant Emission Intensity" was adjusted from "reported detailed data" to "values approved by the Environmental Protection Bureau." A unified conversion basis (including unit and density conversion) was adopted, and the targets for 2025–2030 were simultaneously revised, all established according to this statistical basis.

2. Since the SOx reduction target was achieved ahead of schedule in 2023, future target years will be based on an annual emission level not exceeding 0.003 (tons/kt).

3. Reasons for Not Meeting NOx Targets: In recent years, Tai-Chlor's production volume has declined, while the total NOx emissions have remained relatively unchanged, resulting in an increase in unit emission intensity. The main reason is that reduced production has prevented the process from reaching optimal economic scale, thereby affecting energy efficiency. Additionally, changes in permits in 2025 required increased pipeline inspections, leading to frequent production adjustments and higher energy consumption, causing a divergence between emissions and production output. Response Measures: Continue implementing process optimization (such as energy-saving improvements in distillation towers and coating enhancements in cracking furnaces) to reduce energy consumption and gradually improve emission intensity.

4. Reasons for Not Meeting VOC Standards: The CGPC Linyuan Plant experienced an increase in VOC emissions in 2025 due to the introduction of coatings containing volatile organic compounds (VOCs). Additionally, as the service life of the VOC and HAP treatment equipment (spiral heat exchanger) increased, its treatment efficiency declined, affecting the pollutant removal rate. Countermeasures: Plans have been made to replace the spiral heat exchanger, with installation expected to be completed in April 2025. Once finished, this will improve VOC and HAP treatment efficiency. The plant will also continue to review relevant operations and pollution control measures to progressively reduce emissions.



Exceeded Target



Achievement



Partially achieved



Not met

Major air pollutants emitted by CGPC's factories from the manufacturing process include sulfur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOCs), and total suspended particulate matter (TSP). These are mainly generated from the boiler process. CGPC has installed a new [natural gas boiler](#) in 2023, gradually increasing the proportion of natural gas boilers and reduce the use of coal-fired boilers. Additionally the company has completed the installation of [Activated carbon adsorption and desorption equipment](#) and switched to using unloading arms for VCM loading and unloading operations. The unloading pipelines used during loading operations have adopted leak-proof joints and are maintained in a sealed state, thereby reducing the proportion of VOC emissions.

Currently, all plants of CGPC are making persistent efforts to reduce air pollutants by continuously replacing old equipment with new ones, increasing the use of natural gas, replacing valves with ISO 15848-compliant valves, and using enclosed gas collection treatment for equipment prone to disseminate.



Air pollution emissions in the last three years

(Unit: tons/year)

Company	Pollutants	2023	2024	2025
CGPC (Main plant)	Sulfur oxides (SOx)	0.883	0.000	0.000
	Nitrogen oxides (NOx)	27.014	16.949	14.849
	Volatile organic compounds (VOCs)	304.979	237.496	247.906
	Hazardous air pollutants (HAPs)	13.277	7.275	2.258
TVCM (Linyuan plant)	Sulfur oxides (SOx)	0.117	0.106	0.087
	Nitrogen oxides (NOx)	52.409	60.250	59.104
	Volatile organic compounds (VOCs)	35.465	16.416	8.499
	Hazardous air pollutants (HAPs)	17.218	6.559	3.988
CGPCP (Linyuan plant)	Volatile organic compounds (VOCs)	6.951	7.188	7.480
	Hazardous air pollutants (HAPs)	1.486	2.524	2.908
Total	Sulfur oxides (SOx)	1.000	0.106	0.087
	Nitrogen oxides (NOx)	79.423	77.199	73.953
	Volatile organic compounds (VOCs)	347.395	261.100	263.885
	Hazardous air pollutants (HAPs)	31.981	16.358	9.154

Note 1: CGPC completed the installation of pollution control equipment in 2022 and added a natural gas boiler in October 2023 to gradually reduce the use of coal-fired boilers. Toluene and xylene account for the majority of HAPs emissions at the plant. Therefore, starting in 2025, CGPC has begun reducing the use of raw materials containing toluene and xylene to lower HAPs emissions; Reason for the increase in VOCs in 2025 compared to 2024: The increase in VOC emissions in 2025 compared to 2024 was due to the increased use of alternatives containing toluene and xylene.

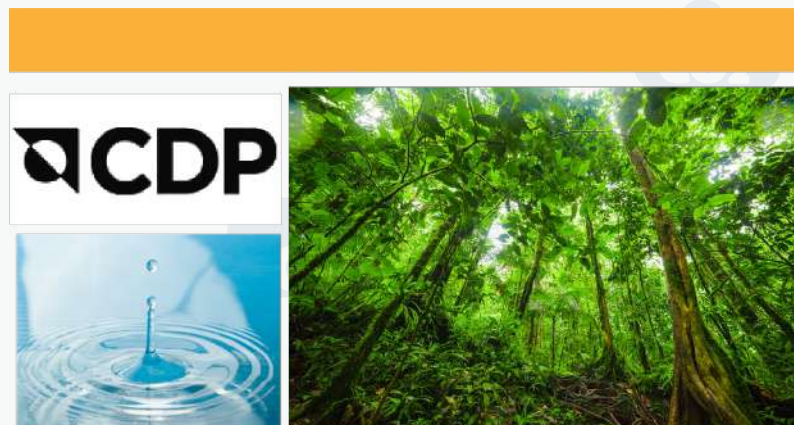
Note 2: In 2024, TVCM converted all EDC and light/heavy fraction storage tanks into pressure-type tanks and adopted closed gas collection systems to connect with control equipment. Dichloroethane is the main component of HAPs emissions at the plant. To further reduce emissions, equipment upgrades will be carried out on the tail gas incinerator (F-6801) and the stripping tower for wastewater (C-6251). A significant increase in NOx emissions was observed. To reduce NOx emissions, an AI energy-saving project (C-6202) will be implemented for the process facilities.

Note 3: CGPCP provides the following explanations for the increase in VOCs and HAPs emissions: the primary HAP emitted at CGPCP is VCM. Due to aging spiral heat exchangers with poor heat exchange efficiency, the VCM removal efficiency is suboptimal. This impacts HAPs emissions. For details on related response measures, please refer to [Chapter 5.4 Air Pollution Control, Note 4](#).

Note 4: Since 2025, HAPs emissions are reported and calculated according to the Ministry of Environment's "Air Pollution Control Fee Collection Regulations," which specify individual substance declaration requirements.

Note 5: Emission factors are determined using either the coefficient method (as stipulated by the Ministry of Environment) or the testing method (based on the average results of the three most recent reports issued by external testing agencies).

The [pollution control equipment](#) has been continuously operating for two months in the plant, using a Flame Ionization Detector (FID) for self-monitoring. The FID detects the average concentration of Volatile Organic Compounds (VOCs) emitted from 2 to 4 production lines. The average removal efficiency is over 93%, significantly reducing environmental emissions and pollution.



2025 CDP 倡議 · 榮獲雙 B 管理級別評級
CDP Initiative and Achieved Dual B Management-Level Ratings



5.5 Waste Management (GRI 3-3、306-1~3：2020)



Follow-up issue : Waste management

Main target : SDG 12.5, Secondary target : SDG 12.4, 6.3



The Significance and Impact of CGPC

Comply with environmental protection regulations, legally clean and transport, improve resource reuse rate, and pursue sustainable resource utilization. Affected objects: employees, community residents, government agencies.



Develop Strategy

Continue to promote waste classification and improve resource reuse rate.



Policy Commitment

Reduce waste per unit of output year by year.



Grievance Unit

Environmental Protection Sector



SASB Indicator

◆ RT-CH-150a.1

Indicator items	Unit	2025 goal	2025 result	2026 goal	2027 goal	2030 goal
Proper waste disposal rate	%	100%	100%	100%	100%	100%
Reduce waste generation per unit of output	ton/ton	0.0060	0.0059	0.0060	0.0050	0.0045
Reuse rate	%	80	93.6	80	85	90
Landfill rate	%	20	6.4	20	15	10

Reason for failure to achieve: Detailed remarks on the amount of waste generated in the past three years.



Exceeded Target



Achievement



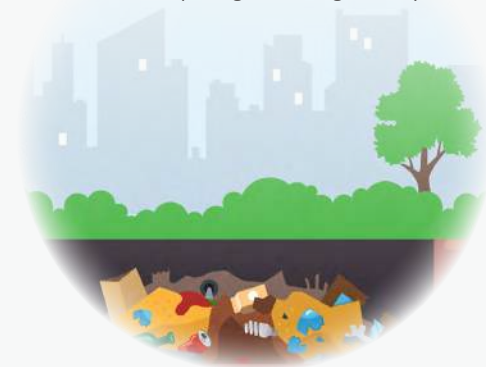
Partially achieved



Not met

The Company adheres to the philosophy of green environmental protection for pollution control work. In addition to the abovementioned water and air pollution control, it reduces waste pollution in various aspects to fulfill its operational responsibilities. CGPC's factories sell leftover materials, auction off unqualified products and recycle and remanufacture offcuts, so there is little waste from the process. The waste is classified into general industrial waste and hazardous industrial waste. The removal and disposal are handled by organizations with a qualified license, and comply with the Waste Disposal Act.

1. Each plant has designated waste personnel to manage, monitor, and inspect waste disposal vendors, and the designated personnel perform in-plant inspections (waste labeling, storage) from time to time and check whether or not the waste cleaning plan and reporting data are abnormal in order to ensure that the plant management complies with the laws and regulations.
2. Hazardous industrial waste shall be stored and labeled in accordance with the Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste and the disposal and treatment shall be tracked by using the Industrial Waste Reporting and Management System.



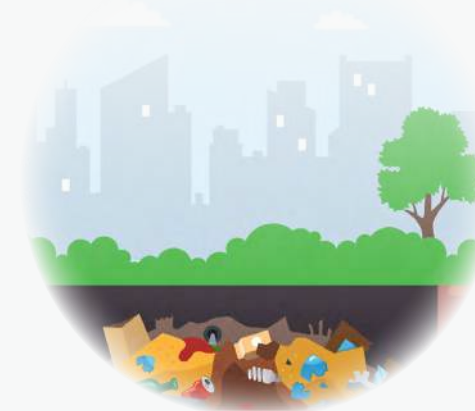
Amount of waste generated in the last three years

(Unit: ton)

	Company	Final disposal	2023	2024	2025
General industrial waste	CGPC (Main plant)	Recycled and reused	2,612.84	1,874.87	1,757.29
		Preparation for reuse	772.01	1,368.15	1,148.17
		Landfill	190.57	89.86	103.37
	Total general industrial waste of CGPC		3,575.42	3,332.88	3,008.83
	% of general industrial waste recycled by CGPC		94.7%	97.3%	96.6%
	TVCM (Linyuan plant)	Recycled and reused	409.98	900.41	324.68
		Landfill	635.19	649.54	70.79
	Total general industrial waste of TVCM		1,045.17	1,549.95	395.47
	% of general industrial waste recycled by TVCM		39.2%	58.1%	82.1%
	CGPCP (Linyuan plant)	Recycled and reused	42.68	66.04	66.56
		Landfill	62.66	17.26	46.14
	Total general industrial waste of CGPCP		105.34	83.30	112.70
	% of general industrial waste recycled by CGPCP		40.5%	79.3%	59.1%
Hazardous industrial waste	Total amount of general industrial waste		4,725.93	4,966.13	3,517.00
	% of total general industrial waste recycled		81.2%	84.8%	93.7%
	CGPC (Main plant)	Recycled and reused	114.08	124.09	134.72
		Preparation for reuse	24.00	28.50	2.00
		Landfill	21.82	4.56	-
	Total hazardous industrial waste of CGPC		159.90	157.15	136.72
	% of hazardous industrial waste recycled by CGPC		86.4%	97.1%	100.0%
	TVCM (Linyuan plant)	Landfill	38.05	13.45	12.82
	Total hazardous industrial waste of TVCM		38.05	13.45	12.82
	% of hazardous industrial waste recycled by TVCM		0.0%	0.0%	0.0%
	Total amount of hazardous industrial waste		197.95	170.60	149.54
	% of total hazardous industrial waste recycled		69.8%	89.4%	91.4%
	General + hazardous_total		4,923.88	5,136.73	3,666.54
	Percentage of general industrial waste (%)		96.0%	96.7%	95.9%
	Percentage of hazardous industrial waste (%)		4.0%	3.3%	4.1%

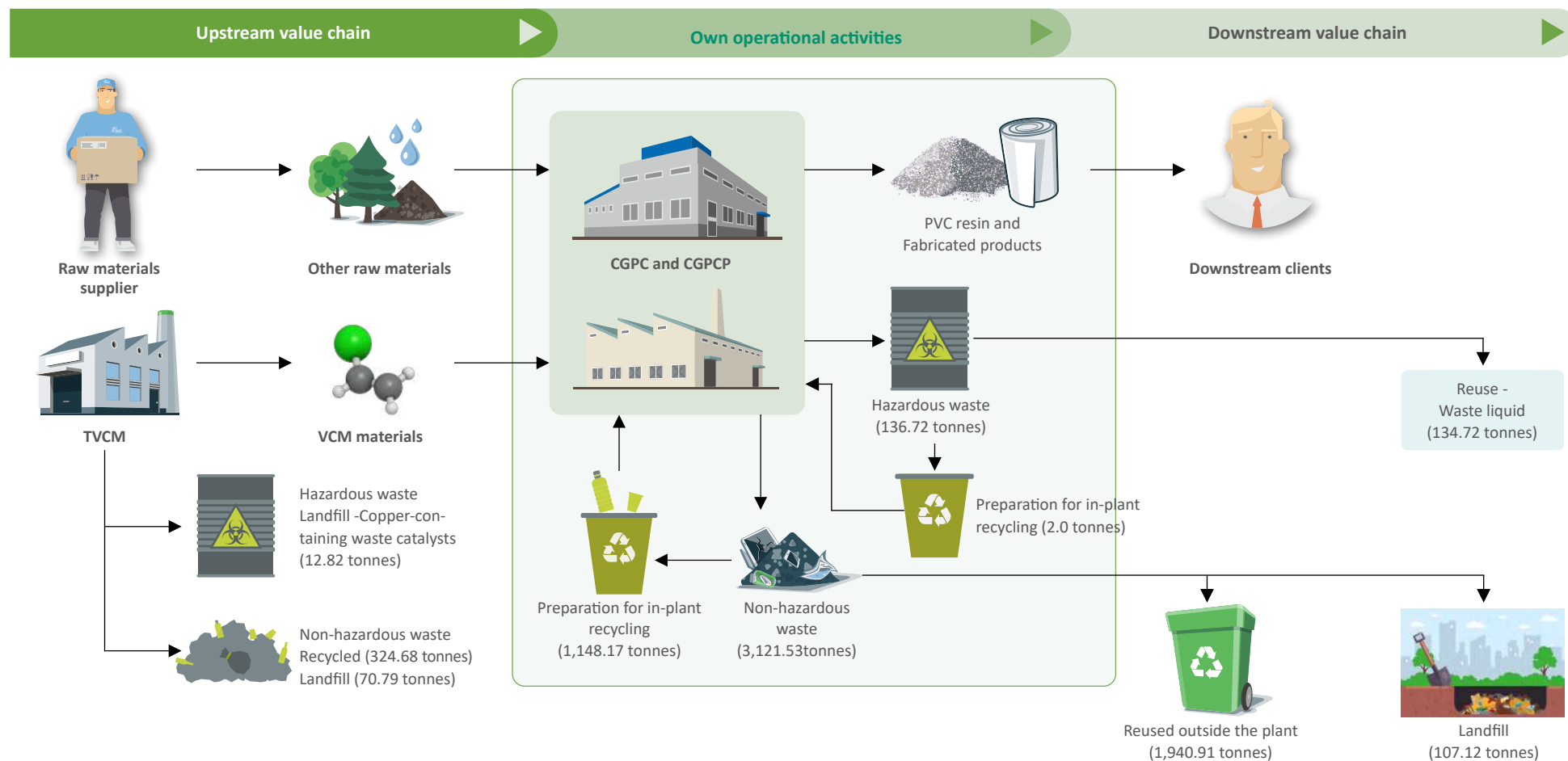
Note:

1. All recyclable resources from CGPC's plants are handled off-site by licensed vendors for recycling.
2. Our environmental safety and health units regularly inspects waste disposal vendors' management and disposal monitoring, and the general affairs units work with waste treatment organizations to formulate contracts. GPS real-time tracking systems are used to confirm the transportation routes and flows, and the delivery receipt is signed by all three parties, ensuring that the waste is transported and treated in accordance with regulations. In 2025, the disposal and treatment agencies did not have any breach of contract.
3. Due to previous omissions in data from the three plants, the 2023 figures have been updated.
4. In 2023, industrial waste increased. At CGPC, waste iron rose due to plant demolition; at CGPCP, landfill volume increased due to residual packaging material. For CGPCP, an agreement has been reached with the waste disposal vendor to implement off-site recycling and reuse in the future. In addition, CGPC's increase in hazardous waste was due to chemical waste liquid from the rubber plant.
5. In 2024, TVCM's industrial waste increased due to tank dismantling and maintenance-related equipment replacement, while CGPC was unable to significantly reduce waste volume due to fire-related demolition at the hard fabric plant.
6. Four Initiatives in 2025.



Life cycle management for waste

The hazardous waste generated by CGPC and TVCM in 2025 was 149.54 tonnes. Without proper management and effective treatment, random disposal can pollute the environment (air, soil, and water), further affecting the ecosystems and harming human health. Therefore, we have adopted the following management measures: 1. Review vendors' qualifications: they need to be qualified waste removal and treatment organizations. 2. Use the GPS real-time tracking system to confirm the transportation route and flow. 3. Conduct irregular vehicle inspections to ensure that hazardous waste is properly handled.



On September 29, 2022, an activated carbon fluidized bed control equipment was installed, primarily for the recovery of Methyl Ethyl Ketone (MEK) which was then entrusted to licensed contractors for recycling and treatment.