

Sustainable Management Policy and Achievements

To operate for the next 50 years and develop sustainably as a benchmark enterprise in the Group, we have launched various transformation plans since 2016 and completed one after another (Please refer to ESG Video Zone - [Introduction to various improvements](#), [Smart Manufacturing](#) and [Low-Carbon Transition](#)). We have adopted four major strategies since 2021 in alignment with the government's net zero emission policy: adoption of AI production technology, improvement to production efficiency, replacement with energy-saving equipment, and elimination of bottlenecks to increase production capacity and storage and transportation space.

	▶ Circular economy	1. R&D to increase the percentage of recycled raw materials. 2. Increase the percentage of recycled water per year. 3. Recovery of heat energy from cracking furnace. 4. Recycling and reuse of PE bags. 5. Promotion of waste material reuse.			
	▶ Import system	<table border="0"> <tr> <td> 1. PSM system. 2. Sustainable development included in KPI evaluation. 3. ISO-50001 energy management system verification. 4. ISO 14064-1 Organizing greenhouse gas inventory. 5. ISO 14067 Carbon Footprint of Products and Services. 6. "GRS" Global Recycling System Certification. </td><td> 7. ISO 46001 water resources management system. 8. ISO 14046 water footprint verification. 9. ISO 14001 environmental management system certification. 10. ISO 45001 Occupational Health and Safety Management System Certification. </td><td> 11. IATF 16949 Quality Management System. 12. Clean Production Assessment System Certificate. 13. Green Building Label Certificate. 14. ISO 14021 Verification of Recycled Material Content. (PVC-U pipes, UPVC for electric conduit use) </td></tr> </table>	1. PSM system. 2. Sustainable development included in KPI evaluation. 3. ISO-50001 energy management system verification. 4. ISO 14064-1 Organizing greenhouse gas inventory. 5. ISO 14067 Carbon Footprint of Products and Services. 6. "GRS" Global Recycling System Certification.	7. ISO 46001 water resources management system. 8. ISO 14046 water footprint verification. 9. ISO 14001 environmental management system certification. 10. ISO 45001 Occupational Health and Safety Management System Certification.	11. IATF 16949 Quality Management System. 12. Clean Production Assessment System Certificate. 13. Green Building Label Certificate. 14. ISO 14021 Verification of Recycled Material Content. (PVC-U pipes, UPVC for electric conduit use)
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	▶ Establishment of a smart factory	1. Process Optimization: Distillation tower systems at TVCM, PVC drying systems at CGPC and CGPCP. 2. Safety Monitoring: Introduction of a central control "war room.", Development of dashboards and energy efficiency indicator management platform, Smart PSM management platform, Integrated production management system, Chlor-alkali manufacturing management system, Absorption tower process safety monitoring, Electrical panel AOI thermal imaging recognition, Intelligent monitoring system for critical rotating equipment, Smart forklift safety assistance system, Intelligent improvement of FIBC (big bag) packaging safety operations, Tank truck loading safety image recognition, Hazardous behavior recognition in tape machine draw-out wheel section, Wireless vibration spectrum analysis for refrigeration units, Smart monitoring and AI leak detection system for underground ethylene pipelines. 3. Image Recognition: Employee facial recognition attendance system, AI-based safety image system for tank truck loading and VCM pump area, Smart vehicle control and intelligent weighbridge, Product defect recognition system in processing plants, Pipe AOI image inspection system.			
	▶ Environmentally Friendly and Carbon Reduction Layout	1. CGPC : Replacement of wastewater equalization pumps and blowers, Replacement of DC motors, Energy efficiency improvement for wind turbines, Energy efficiency improvement for natural gas boilers, Completed verification of the "Process Hydrogen Recovery and Fuel Cell Cogeneration System Integration Project", reducing electricity carbon emission intensity by 85%. 2. TVCM: Replacement of the light fraction pump (P-6001A) with a high-efficiency pump, Replacement of OXY JOY air compressor motor (KM-6151). 3. CGPCP: Replacement of air compressor equipment, Replacement of hot water pumps (PU-1205A/B), Conversion of dryer hot water coils to steam coils.			
	▶ Establishment of renewable energy facilities and purchase of green electricity	1. Since 2019, CGPC has gradually installed solar photovoltaic systems. By the end of 2025, the total installed solar PV capacity reached 1.88 MW. 2. The USI Group: Developed external renewable energy projects. By the end of 2025, investments in solar power plants achieved a cumulative grid-connected capacity of 9MW, generating approximately 11.25 million kWh of green electricity annually. 3. 2025 Green Electricity Procurement: Purchased a total of 1.807 million kWh of green electricity and certificates.			

Sustainable Management Achievements

2021	2022	2023
- Ranked among top 6–20% in the 8th Corporate Governance Evaluation. - Received the Platinum Award of 14th TCSA for the report - Comprehensive Performance: Taiwan Corporate Sustainability Excellence Award Single Performance Award-Innovative Growth and Leader Award 1st TSAA Taiwan Sustainable Action Award - Silver Award. - Served as the leader of the Safety and Health Family in Miaoli County and made donations for anti-pandemic efforts. - Continuously improved energy conservation and carbon reduction at three entities: Adopted Intelligent in the process, improved the drainage systems, used high-efficiency motors, replaced old refrigerators, replaced old air compressors, improved the electric heating of pipe-expanding machines, replaced packaged air conditioners, replaced old street lights with LED ones, replaced old activated carbon fluidized bed reactors, etc. - Environmental Protection: Remediation of the drainage system, activated carbon fluidized bed. - Recognized by the Taipei City Government's Environmental Protection Bureau with an appreciation letter for "Excellence in Green Procurement." - VCM Recycling System. - Continued soil and groundwater environmental remediation efforts (enhancing technology and biological applications) and education. - Passed the review for the Action Plan for Accelerated Investment by Domestic Corporations by the Investment Commission, MOEA. - TVCN was awarded the certificate of cancellation of management for remediation technology at polluted sites from the Environmental Protection Administration, Executive Yuan, and Director Chien, Hua-Yii was awarded the Outstanding Project Manager Award by the Taiwan Soil and Groundwater Environmental Protection Association.	- Ranked among top 6–20% in the 9th Corporate Governance Evaluation. - Selected as a constituent stock of the "Corporate Governance 100 Index." - Received the Platinum Award in the 15th TCSA Report and the Overall Performance (Taiwan Top 100 Sustainable Exemplary Enterprises Award), as well as the Taiwan Sustainable Action Award (TSAA) in the 2nd edition, with a Silver Award in SDG 12 and a Bronze Award in SDG 6. - CGPC, TVCM and CGPC Polymer implemented the SO 14067 carbon footprint management system. - CGPC and TVCM included ISO 14064-1 greenhouse gas inventory - Scope 3 in the inventory; CGPC Polymer implemented ISO 14064-1. - We have adopted the Global Recycled Standard (GRS) to certify CGPC's eco-friendly TPE leather products. - CGPC implemented ISO 46001 water resources and ISO 14046 water footprint management system. - The supervisors at CGPC, TVCM, and CGPC Polymer included ESG in the KPI evaluation. - Establishment of renewable energy facilities and purchase of green electricity. - Newly established an automatic storage AI system. - CGPC has updated the IEM Alkali Liquid Evaporator Renewal and Replacement Project (B0000200), and our first application for greenhouse gas reduction quota under this project was approved by the Environmental Protection Administration, and we were granted a reduction quota of 4,335 metric tons of CO₂e. - Update 2 cracking furnaces (F-6201 and F-6202) in TVCM's Linyuan plant as part of the offset project (B0000210) and obtained approval from the Environmental Protection Agency for the first greenhouse gas reduction quota application, receiving a reduction quota of 3,129 metric tons CO₂e. - Three plants have been continuously improving energy efficiency and reducing carbon emissions through the following measures: Replacement of high-efficiency dissolved air flotation blowers, implementation of intelligent energy-saving measures in processes, energy-saving coating for cracking furnaces, heat recovery in quench towers. - Environmental Protection: Remediation of the drainage system, construction of a new activated carbon fluidized bed, installation of a LDS System, smart pipeline inspection project. - Continued soil and groundwater environmental remediation efforts (enhancing technology and biological applications) and education.	- Ranked among the top 6–20% in the 10th Corporate Governance Evaluation. - Received the Platinum Award in the 16th TCSA Report and the Overall Performance (Taiwan Top 100 Sustainable Exemplary Enterprises Award), as well as the Taiwan Sustainable Action Award (TSAA) in the 3rd edition, with a Silver Award in SDG 6, a Bronze Award in SDG 12, and a Bronze Award in SDG 8. - Continued soil and groundwater environmental remediation efforts (enhancing technology and biological applications) and education. - Three plants have been continuously improving energy efficiency and reducing carbon emissions and environmental protection through the following measures: By integrating Intelligent technologies, we have implemented several projects to enhance operational efficiency and safety. These Intelligent integration projects include: Phase 2 of the Dryer Process Optimization, and Establishment of AI Models for Lightweight Fractionation Tower. In addition, CGPC has installed a natural gas boiler, power monitoring of the major energy-consuming equipment at Linyuan factory, updated water purifiers, intelligent control of the 35 ton Steam Boiler Optimization and Improvement (with the addition of a frequency converter and an intelligent control system), condensate recovery, construction of a wastewater sedimentation tank, D Set of compressors, 800RT refrigerators, energy-saving improvements to the external circulation pump of the chilled water system, cooling towers, etc. - Establish a computerized maintenance management system (CMMS) and introduce process safety management. - Participated in the "2023 Industrial Development Bureau, MOEA" Manufacturing Climate Change Adaptation and TCFD Demonstration Project and gave information. - The Company is obtained the "Cleaner Production Assessment System Certificate" on June 2024. - Our supply chain was invited to participate in the CDP questionnaire: Climate Change and Water Security, which received B- and B, respectively. - Bureau of Indian Standards (BIS) certified factory audits.

Sustainable Management Achievements

2024	2025	2026
◆ Ranked among the top 6 - 20% in the 11th Corporate Governance Evaluation. ◆ Received the Platinum Award in the 17th TCSA Report and the Overall Performance (Taiwan Top 100 Sustainable Exemplary Enterprises Award), as well as the Taiwan Sustainable Action Award (TSAA) in the 4th edition, with a Bronze Award in SDG 8. ◆ Awarded the 2024 3rd session "Net-Zero Industrial Competitiveness" Excellence Award by the 21st Century Foundation. ◆ Continued soil and groundwater environmental remediation efforts (enhancing technology and biological applications) and education. ◆ Three plants have been continuously improving energy efficiency and reducing carbon emissions and environmental protection through the following measures: By integrating intelligent technologies, we have implemented several projects to enhance operational efficiency and safety. These intelligent integration projects include: Phase 2 of the Dryer Process Optimization, and Establishment of intelligent Models for Lightweight Fractionation Tower. In addition, CGPC has installed a natural gas boiler, power monitoring of the major energy-consuming equipment at Linyuan factory, updated water purifiers, intelligent control of a 35-ton steam boiler with the addition of a frequency converter and an intelligent control system, condensate recovery, construction of a wastewater sedimentation tank, D Set of compressors, 800RT refrigerators, energy-saving improvements to the external circulation pump of the chilled water system, cooling towers, and so on. ◆ Establish a computerized maintenance management system (CMMS) and introduce process safety management. ◆ Obtained the "Clean Production Assessment System Certificate" and the "Green Building Label Certificate." ◆ Our supply chain was invited to participate in the CDP questionnaire on Climate Change and Water Security, and received Management-Level Scores of B for both categories.	◆ Ranked in the top 6–20% in the 12th Corporate Governance Evaluation and named in the top 5% among TWSE-listed mid-cap companies. ◆ Awarded at the 18th TCSA: Report (Platinum Award) and Comprehensive Performance (Top 100 Sustainable Exemplary Enterprises in Taiwan), as well as the 5th TSAA Taiwan Sustainable Action Award – SDG 9 (Silver Award). ◆ CGPC was listed among Outstanding Enterprises in the Ministry of Labor's Occupational Safety and Health Administration "2025 Corporate Sustainability Report Disclosure of Occupational Health and Safety Performance Proactive Evaluation." ◆ Continue to make energy conservation and carbon reduction improvements in the three plants : Wind turbine energy efficiency improvement, Natural gas boiler energy efficiency improvement, Replacement of light fraction pump with high-efficiency pump, Replacement of air compressor equipment, Replacement of hot water pumps, Conversion of dryer hot water coils to steam coils. ◆ CGPC has renewed its PVC polymerization reactors by adopting new VCM (vinyl chloride monomer) recovery technology, which reduces emissions and enhances operational efficiency. ◆ Optimize processes through intelligent technologies and establish an AIoT-based smart factory. ◆ Continued soil and groundwater environmental remediation efforts (enhancing technology and biological applications) and education. ◆ Pass the ISO 14021 Verification of Recycled Material Content (PVC-U pipes、UPVC for electric conduit use). ◆ Passed the "Clean Production Certificate CP0158 Follow-up Audit." ◆ Successfully certified by the Ministry of the Interior under the Candidate Green Building Certificate system. ◆ Participated in the CDP questionnaire survey on Climate Change and Water Security, achieving a Dual "B" Management Level rating. ◆ Honored at the 3rd SGS Green Sustainability Achievement Presentation in 2025 with the "SGS Green Mark – Circular Economy Category" recognition. ◆ Awarded by the Ministry of Labor's Workforce Development Agency, Taoyuan-Hsinchu-Miaoli Branch, as an "Outstanding Talent Development Unit for 2024." ◆ TVCM Linyuan Plant was selected by the Industrial Development Administration, Ministry of Economic Affairs, as a Demonstration Site for the "Low-Carbon Guidance Program for Small and Medium-Sized Manufacturers," Showcasing Achievements in Transformation and Smart Upgrading. ◆ CGPC received the "Low-Carbon Partner Leadership Award" at the 2025 Walsin Lihwa ESG Supplier Exchange Conference and the "2024 Sustainability Supplier Award" from Everlight Chemical. ◆ TVCM was awarded the "2024 Outstanding Energy-Saving Manufacturer Trophy" by the Industrial Park Administration, Ministry of Economic Affairs.	◆ Continue to make energy conservation and carbon reduction improvements in the three plants: Replacement of chiller units, Energy efficiency improvement of extruder barrel electric heaters, Upgrade of cold and hot tanks in the feeding system, Installation of AI-based variable frequency control for cooling tower fans, Replacement of cooling tower circulation pumps. ◆ CGPC has renewed its PVC polymerization reactors by adopting new VCM (vinyl chloride monomer) recovery technology, which reduces emissions and enhances operational efficiency. ◆ Continuously introduce intelligent technologies to optimize processes and deepen the development of an AIoT smart factory. ◆ Continued soil and groundwater environmental remediation efforts (enhancing technology and biological applications) and education.