



China General Plastics Corporation

2023

ESG REPORT



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About this Report ► (GRI 2-1、2-2、2-3、2-4、2-5)

China General Plastics Corporation (hereinafter referred to as “CGPC”) has prepared the ESG report for the ninth time since 2014, to inform all our stakeholders of how we are committed to promoting sustainable development corporate. The contents of this report describe in detail our achievements and efforts in corporate governance, environmental protection, employee care, and social charity.

Report Writing Guidelines

Publishing Unit	In accordance with the Guidelines/Regulations
Global Reporting Initiative Global Reporting Initiative (GRI)	GRI Standards 2021 Version
Financial Stability Board (FSB) Financial Stability Board	Climate-related Financial Disclosures Recommended Framework Structure Task Force on Climate-related Financial disclosures, TCFD
Sustainability Accounting Standards Board (SASB) Sustainability Accounting Standards Board	Industry-specific standard for the Chemicals by the Sustainability Accounting Standards Board
Taiwan Stock Exchange	Sustainable Development Be
UN	UN Sustainable Development Goals Sustainable Development (SDGs)

Data period

The period of information disclosed in this report is from January 1, 2023 to December 31, 2023, and some of the information occurs before January 1, 2023 or in 2024.

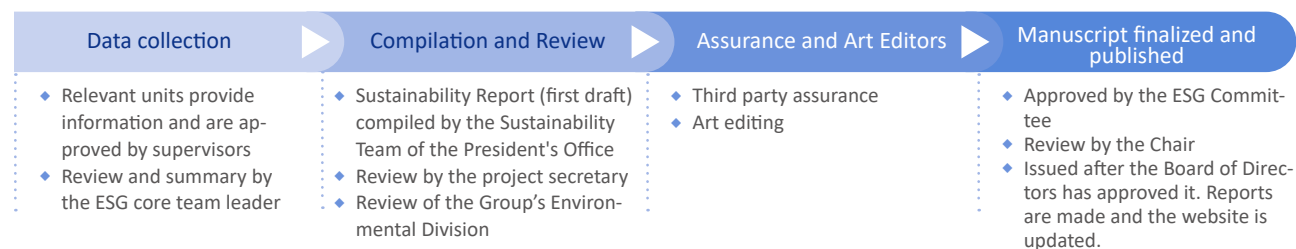
External Verification Organization of the Report

This report has been prepared by Deloitte in accordance with Standard on Assurance Engagement 3000 “Assurance Engagements Other than Audits or Reviews of Historical Financial Information” issued by the Accounting Research and Development Foundation of the Republic of China for independent limited assurance.

Editing and Reviewing Procedures

ESG task force: The ESG task force is formed by relevant departments, and the President's Office is responsible for the overall planning, data collection, communication and integration, as well as editing and revision. In the event of information re-editing, such instances will be clearly explained in the respective sections when disclosing the information. The consolidated information will be submitted to the ESG Committee for review and approval. The results will be disclosed to ensure that stakeholders are informed and understand the progress.

Report Review and Finalization Procedures



Report Scope and Important Explanation

- This report focuses primarily on CGPC and its subsidiaries in Taiwan, including: Taiwan VCM Corporation (TVCM), Global Green Technology Corporation (GGTC, subsidiary of TVCM, hereinafter collectively referred to as “TVCM Company”) and CGPC Polymer Corporation (CGPCP), explaining important information regarding Operating Performance, Environmental, Employees, and Social Welfare, 95% of CGPC's total consolidated operating income in 2023.
- GHG inventory: The scope of 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 GGTC Company. (3) It was Linyuan factory for CGPCP Company. The above are CGPC's subsidiaries in the consolidated financial statements, and their coverage rate is 100%.
- If there is any inconsistency in the scope, an explanation will be added to the relevant data.
- The financial information in this report is consistent with the data in the financial report audited by certified public accountants, and some statistical data are quoted from our annual reports or information disclosed by government agencies and on other relevant websites.
- The risk assessment boundary is primarily focused on the Company.

Note 1: This report mentions the “Vinyl Chain”, which consists of three companies: CGPC, TVCM, and CGPCP.

Note 2: The name of CGPC Toufen Plant was changed to CGPC Main plant in August 2023.

Release Date

The Company's reporting cycle is once a year. You are welcome to download it from the CGPC's official website <http://www.cgpc.com.tw/>, or you may scan the QR Code below, enter the ESG Sustainable Development section, click "Download Reports", and be linked to the "download page of the ESG Reports" of CGPC.

- ◆ Last issue: June 2023
- ◆ Current issue: August 2024
- ◆ Next issue: Scheduled for August 2025



Contact Us

If you have any suggestions or advice about this report or CGPC's sustainable development initiatives, please feel free to contact us, and subscribe to our company's [ESG e-newsletter](#).

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Region	Consolidated financial statements of subsidiaries	Company abbreviation	Number of employees as of December 31, 2023
Taiwan	CGPC	CGPC	645
Taiwan	Taiwan VCM Corporation	Taiwan VCM	176
Taiwan	CGPC Polymer	CGPCP	38
Taiwan	Global Green Technology Corporation	GGTC Company	0 (Note)
United States	CGPC Corporation in USA	CGA	14
China	CGPC (Zhongshan) Corporation	Zhongshan	0
British Virgin Islands	CGPC (BVI) HOLDING CO., LTD.	BVI	0

Note: GGTC was established in February 2022. During the initial period, colleagues from the Taiwan Chlorine Environmental Development Department were seconded to support the work. This working team will be officially transferred to GGTC from July 1, 2024.

- ◆ The website is expected to be updated on August 10, 2024. The relevant links in this report will be revised and updated to the 2023 ESG Report due to the revision and upgrade of the website.
- ◆ Google Chrome is recommended for reading this report.

Message from the Chairman and CEO ► (GRI 2-22)

Dear Stakeholders

During this challenging period, we are actively adjusting our strategies to cope with the rapidly changing environment. We continue to promote and practice the ESG (environmental, social, and governance) strategy with the core concept of “Creating sustainable values and a sustainable society”. In the past year, significant progress has been made in meeting the SDGs and the Company has further bolstered its commitment to social and environmental responsibility.

Participation in International Sustainability Initiatives

We continue to pay attention to the international sustainable development trends and review our own conditions. In 2023, USI and CGPC Company participated in the CDP questionnaire for the first time. By participating and answering the questionnaire, we can further our linkages with international issues. Furthermore, the concept of Double Materiality advocated by the European Union was introduced to conduct a comprehensive sustainability analysis. In addition, for the first time, the ESG Committee has been included in the performance evaluation of the Board of Directors to enhance governance effectiveness.

Establish carbon reduction goals and green power plans

A few years ago, we committed ourselves to the implementation of energy conservation and carbon reduction plans to achieve the goal of 27% carbon reduction by 2030. This year, we will extend this goal until 2050 to achieve carbon neutrality and support the goal of global net zero emissions. 7.2MW of solar energy has been connected to the grid, and it is expected to generate more than 9 million kWh of green electricity. It is planned to complete 15MW and 20MW of solar energy installations in 2025 and 2027, respectively. Strive to reduce the overall impact on the environment through technological innovation and improvement of energy efficiency.

Building a Culture of Diversity and Inclusion

Create a diverse, fair, and inclusive workplace. We actively promote diversity and inclusion through organizing employee walk activities, collaborating with National Taiwan University Experimental Forest for afforestation, and organizing on-site agricultural education at Lishan Base. In terms of occupational safety, APC, TTC, and CGPC were “[recognized as outstanding enterprises in the Occupational Health and Safety Indicators Initiative](#)” of the Occupational Safety and Health Administration, MOL. Through the USI Educational Foundation, we provide long-term support for disadvantaged groups, remote areas, and ecological care projects, laying a solid foundation for the stable development of society.

2023 ESG Results

Vinyl Chain focuses on the global trends of net zero carbon emissions and domestic carbon fee collection, and actively implements ESG sustainable management. Efforts were made for replacement of energy exhausting equipment, enhancing low-carbon energy proportion, solar power installations, introducing AI for optimization of manufacturing processes, and improving energy consumption and safety to implement industrial safety and environmental protection, continue to reduce costs, and fulfill social responsibilities to achieve the goal of corporate sustainability.



China General Plastics Corporation
Quintin Wu, Chairman

In terms of the environment: As of 2023, 2.12MW of solar energy equipment has been installed at the CGPC T Main plant, and the new natural gas boilers have replaced coal-fired boilers. It is planned to switch to natural gas before 2025.

Major improvement projects in Linyuan Plant: (1) the 35 ton Steam Boiler Optimization and Improvement project completed by TVCM (2) the optimization of the pure water steam heating system completed by CGPCP. To enhance safety and environmental protection awareness and optimize process efficiency, we continue to implement various management systems to ensure safe operations, reduce carbon emissions, sustainable use of water resources, as well as process safety management (PSM) and smart projects.

In terms of talent development, we have designed a comprehensive career development plan to enhance employees' expertise. Since 2019, we have been improving our working environment to provide our employees with a more comfortable workspace through ongoing improvement projects. In their spare time, employees have formed a team of volunteers to provide beach cleanup and community environmental maintenance services. They have also founded charity clubs to gather donations from employees to help the disadvantaged in society.

Finally, I believe that these efforts will have a positive impact on the future development of the Company. Through continuous innovation, cooperation, and strategic adjustment, we can coexist and co-prosper with the environment and achieve sustainable development. We are confident that with the concerted efforts of all employees, we will be able to overcome various challenges and achieve our common sustainable development goals.

► Management Team

Yi-Gui Wu
The Chairman and the CEO



Han-Fu Lin
CGPC's Vice-Chairman and the President TVCM's Chairman and the President CGPCP's President



Chi-Hung Hu
CGPC Implementation Vice-President



Chun-Chang Yeh
TVCM Implementation Vice-President



Wan-Ta Chen
CGPC's Main Plant Head of Plant



Pei-Hung Tsai
CGPC's Main Plant Vice Head of Plant



Su-Chien Li
TVCM's Linyuan Plant Head of Plant



Chao-Yuan Kuo
Executive Assistant and CGPCP Head of Linyuan Plant



Description of major changes in 2024:

- (1) CGPC Main plant - Vice Plant Manager, Pei-Hung Tsai, was promoted to Chief Plant Manager on January 1.
- (2) Ji-Hung Hu, EVP of CGPC, took over as the President of CGPC and CFPCP on April 1.
- (3) Executive Vice President Chun-Chang Yeh of TCM took over as President on April 1.
- (4) On February 15, CGPC Company hired Mr. Wei-Zhe Tsai as the Special Assistant to the President's Office.

Sustainable Management Policy and Achievements

► Sustainable Management Policy

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 (as detailed in the 2020 report). 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.



► Introduction system

1. PSM system.
2. Sustainable development included in KPI evaluation.
3. ISO-50001 energy management system verification.
4. ISO 14046-1 Greenhouse Gas Inventory Management System.
5. ISO 14067 carbon footprint verification.
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. Cleaner Production Assessment System Certificate.



► Establishment of an AI plant

1. Manufacturing process Optimization: TVCMe's distillation tower system and CGPC's PVC drying system.
2. Manufacturing process Safety Monitoring: Absorption tower process safety monitoring, electrical pane AOI thermal imaging recognition, critical rotating equipment intelligent monitoring system, AI stacker safety assistance system, intelligent improvement of space bag packaging safety operations, tank truck loading safety video recognition, dangerous behavior recognition for adhesive tape machine take-off wheels.
3. Image Recognition: Employee facial recognition attendance system, intelligent vehicle control and intelligent truck scales, product processing plant defect recognition system, pipe AOI image detection system.



► Carbon Reduction Layout

1. CGPC: Energy saving improvement of the cooling tower pump, installation of a new natural gas boiler, construction of a smart automatic warehouse system, improvement of water eliminator and thermal insulation, replacement of 800RT freezer, and update of the D sets of compressors in the coincidence course.
2. TVCM: Cracking furnace energy-saving coating, quench tower heat energy recovery, steam Boiler Optimization and Improvement, cooling water tower pump efficiency improvement, and fan frequency conversion control.
3. CGPCP: The thermal water vapor heating system is optimized.



► Environmentally Friendly

1. CGPC: Constructed a new activated carbon fluidized bed and a new 30-ton natural gas boiler.
2. TVCM: Replacement of VOC control valves, aerobic wastewater sludge reduction project, the 35 ton Steam Boiler Optimization and Improvement.



► Establishment of renewable energy facilities and purchase of green electricity

As of 2023, CGPC has constructed solar energy equipment with an installed capacity of 2.12MW.

Sustainable Management Achievements

2020	2021	2022
<ul style="list-style-type: none"> • Ranked among top 6–20% in the 7th Corporate Governance Evaluation. • Received the Platinum Award in the 13th TCSA Report and the Overall Performance "TOP 50 Taiwan Sustainable Performance Award." • Publicly announced and established the Safety and Health Family and made donations for anti-pandemic efforts. • Equipment Improvements: Conversion of heavy oil boilers to natural gas, upgrading of air pollution TVCM detection systems, construction of new shipping container platforms, introduction of AI intelligent production technology, construction of PVC resin silos, improvement of equipment enclosure grounding resistance (Note 1). • Striving for a clean and pleasant working environment: Floor repairs, maintenance and renovation of the premises, replacement of office desks and chairs, painting and refurbishment, replacement of office windows, improvement of dust collection in powder sprinklers, second-phase improvement of plant drainage, and more. • (CGPC) passed ISO 45001. • Recognized by the Taipei City Government's Environmental Protection Bureau with an appreciation letter for "Excellence in Green Procurement." 	<ul style="list-style-type: none"> • 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 AI 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. • TVCM 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. 	<ul style="list-style-type: none"> • 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 AI 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.

Note 1:

Grounding resistance: Grounding plays a crucial role in providing a safe path for fault currents, protecting personnel, buildings, and equipment from electrical hazards. It also helps in dissipating electrical shocks, static electricity, and providing a pathway for the safe discharge of EMI and RFI signals.

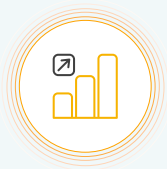
Sustainable Management Achievements

2023

- ◆ 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 AI technologies, we have implemented several projects to enhance operational efficiency and safety. These AI 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.

2024 ~ 2025

- ◆ Continue to make energy conservation and carbon reduction improvements in the three plants: Power monitoring of major energy-consuming equipment, update of water purifiers, installation of frequency converters and intelligent control systems for boilers, and condensate water recycling.
- ◆ CGPC VCM coincident slot update
- ◆ In collaboration with external consultants and industry-academia partnerships, incorporated AI-based intelligent technology and established an AIoT-enabled smart factory.
- ◆ VCM Recycling System
- ◆ Continued soil and groundwater environmental remediation efforts (enhancing technology and biological applications) and education.



The production capacity of **VCM** increased to **485,000** tons



The production capacity of **PVC** resin plant II increased to **450,000** tons



Focus on **environmental** issues and implementation of **energy conservation and carbon reduction** measures








Harmonious relationship with the community and focus on **occupational safety** and health



Maintenance of **shareholders' rights** and interests and **pursuit of R&D and innovation**

2023 Key Performance Achievements

Environmental

-  **Green Procurement Benchmark Enterprise**
In 2023, CGPC received the “2022 Green Procurement Outstanding Performance Award” from the Ministry of Environment. The Vinyl Chain had a total of **NT\$71.45** million [for green procurement](#) declarations in 2023.
-  Received the certificate of **cancellation of management** for remediation technology
Received the [certificate of cancellation of management](#) for remediation technology at polluted sites from the Ministry of Environment.
-  **1,314.1** (million liters) [recycled water consumption](#)
Approximate saving of 526 Olympic-sized swimming pools' worth of water. This achievement is a direct outcome of our commitment to reducing water waste, improving and replacing water-intensive equipment, and increasing used water recycling rates.
-  Establishment of **PSM** and **CMMS** systems
Phase 3 promotion focus: Manufacturing process hazard analysis, aging equipment management, the [establishment of the CMMS system was completed](#), and the equipment information and other items have been analyzed electronically.
-  Obtain **Cleaner Production Assessment System** Certificate
Implement various tasks of energy conservation and carbon reduction and waste management
-  **9,970** (tons/CO₂e) Annual Carbon reduction
[Energy conservation and carbon reduction plan and performance \(annual carbon reduction\)](#) · equivalent to the annual carbon emissions absorbed by 26 Da'an Forest Parks.

Social

-  **1.6%** Employment of people with disabilities
[The employment of persons](#) with disabilities accounts for 1.6% of the total, which is better than the 1% under the Labor Standards Act.
-  **1,018** (people) Participated in beach cleanup
A total of 1,018 persons participated in the [beach cleanup activity at the Long Fong Fishing Port](#). The activity began in 2017 up till now.
-  **820** (people) Participation in volunteer teams
Mobilized [volunteer teams](#) to engage in social charity activities, with a total of 820 participants
-  **25.2** (hours) from the Environmental Protection Administration, Executive Yuan
Built a comprehensive [education and training](#) system, with an average annual training hours of 25.2 hours per person
-  **109** (times) Visits by the charity club
In 2023, [the charity club](#) organized 7 visits to care for the disadvantaged groups, totaling 109 accumulated visits.
-  **4,343** (persons) Contractor safety education and training in 2023
Increased [contractor education](#) to prevent occupational accidents

Governance

-  Inclusion of **ESG** in KPI evaluation
Included ESG [in employee performance KPIs evaluation](#)
-  **6-20 %** Corporate Governance Evaluation
Ranked among the top 6–20% of the TWSE-listed companies in the 10th Corporate Governance Evaluation in 2023.
-  **98.6%** Customer satisfaction
Services and items and new products are well coordinated, which enhances [customer satisfaction](#).
-  **Taiwan Sustainability Action Awards**
 - (1) **Taiwan Sustainability Action Awards (TSAA):**
Project-1: Improving the performance and reducing sludge of aerobic system for high-chloride wastewater (Silver Award)
Project-2: Activated Carbon Fluidized Bed Technology for VOCs Adsorption and Control (Bronze Award)
Project-3: AIOT Intelligent Manufacturing (Bronze Award)
 - (2) **TCSA:**
Integrated Performance Award: Taiwan Top 100 Sustainable Enterprises Award
ESG Report: Traditional Manufacturing (Platinum Award)
-  Recognition from the **Occupational Safety and Health** Administration
 - (1) 2023 [Healthy Workforce Sustainability Leader Award](#).
 - (2) A performer among the top 10% in each industry in the 2023 Sustainability Report Disclosure Occupational Health and Safety Indicators Index.
-  **100%** supplier signed
All new suppliers signed the “[Supplier Social Responsibility Commitment](#)”



1.About CGPC

CGPC has VCM and PVC plants and secondary processing plants to full leverage the business advantages of vertical integration of upstream, mid-stream, and downstream businesses. We increase the market share and reputation of our various products through domestic and international marketing networks

▶ (GRI 2-1 、 2-2 、 2-7)

SDGs ▶



1.1 Company Introduction ▶ (GRI 2-2、2-7)

CGPC (founded in 1964)



The exterior of the administration building of the Main Plant of CGPC

CGPC (stock code: 1305) was founded in 1964 and is one of USI Group's affiliates. CGPC is a mid-stream and downstream plastic raw material and goods supplier in the petrochemical industry. Our production and sales services includes PVC resin (Note), chemicals, PVC pellets, as well as secondary processed tapes, fills, pipes, and profile extruded goods.

Company name	CGPC
Industry	Plastics manufacturing
Location of headquarters	12F, No. 37, Jihu Road, Neihu District, Taipei City
Location of plant	No. 571 Minzu Road, Toufen City, Miaoli County
Paid-in capital	NT\$5.81 billion
Main products	Raw material products: ♦ PVC resin: Annual production capacity of 230,000 tons per year ♦ Chemicals: Annual production capacity of 68,675 metric tons per year (calculation as per concentration of 100%) ♦ PVC secondary processed products (including 26,700 tons of building materials products, 57,660 tons of film, and 8,600,000 yards of leather, 6,350 tons of PVC compound. Total annual production capacity of 99,310 tons)
Number of employees	645 people

Note : The data in this table is as of December 31, 2023.

[CGPC company introduction](#) video.

Poly vinyl chloride (PVC)

TVCM (founded in 1970)



VCM spherical storage tanks at the Linyuan Plant of TVCM

In 1970, the Ministry of Economic Affairs launched an initiative to invite six private enterprises, including CGPC, to establish Taiwan VCM Corporation (TVCM) to manufacture vinyl chloride monomer (VCM) to supply the raw materials required by domestic PVC manufacturers. At present, CGPC holds 87.3% of the shares of TVCM.

Company name	Taiwan VCM Corporation
Industry	Petrochemical manufacturing
Location of headquarters	12F, No. 37, Jihu Road, Neihu District, Taipei City
Location of plant	No. 1, Gongye 1st Rd., Linyuan Industrial Park Kaohsiung City
Paid-in capital	NT\$2.97 billion
Main products	VCM: Annual production capacity of 485,000 tons
Number of employees	176 people

Note: The data in this table is as of December 31, 2023.

[TVCM company introduction](#) video.

CGPCP (founded in 2009)

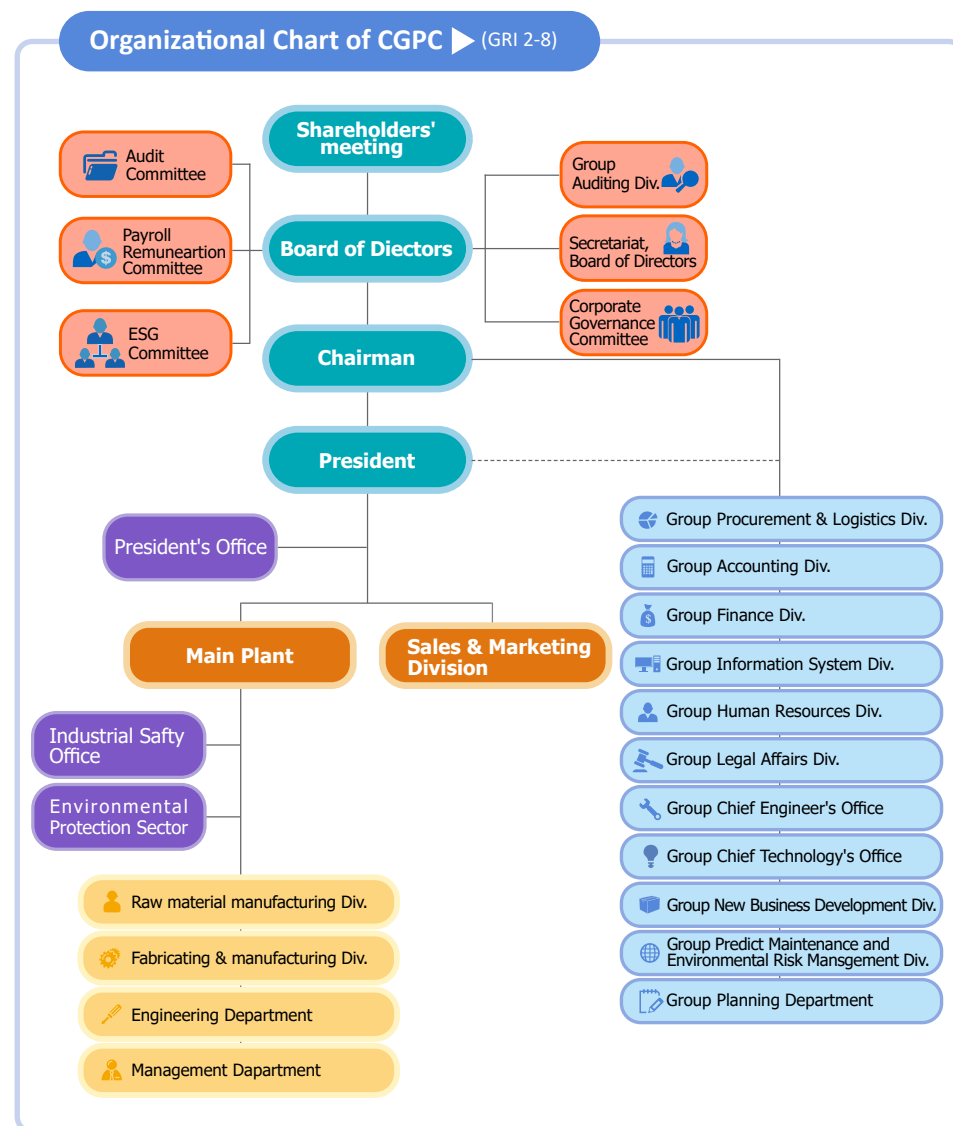


PVC powder tanks at the Linyuan Plant of CGPCP Polymer

In 2009, CGPC Polymer Corporation established a wholly-owned CGPC Polymer by the Linyuan Plant of TVCM. It mainly produces PVC resin to fully leverage the business advantages of the vertically integrated vinyl chain to reduce costs.

Company name	CGPC Polymer
Industry	Petrochemical manufacturing
Location of headquarters	12F, No. 37, Jihu Road, Neihu District, Taipei City
Location of plant	No.8, Shihua 2nd. Road, Lin Yuan District, Kaohsiung City
Paid-in capital	NT\$ 0.7 billion
Main products	PVC resin: Annual production capacity of 220,000 tons
Number of employees	38 people

Note: The data in this table is as of December 31, 2023.



1.2 Business Philosophy and Product Introduction (GRI 2-6)

Since the establishment in 1964, CGPC has adhered to the business philosophy of integrity, care, discipline, and innovation, and has striven to implement corporate governance, fulfill social responsibilities, and promote sustainable management

Business Philosophy

Integrity ▶ Honesty and Integrity

To be honest, tell the truth, and not exaggerate matters. Do not make promises to clients easily. Once making a promise, go all out to keep it.

Discipline ▶ Pro-activeness, Responsibility and a Disciplined Team

Comply with laws and regulations, do our share and be responsible at work, establish partnership and mutual trust, and work together to be responsible to clients and the Company.

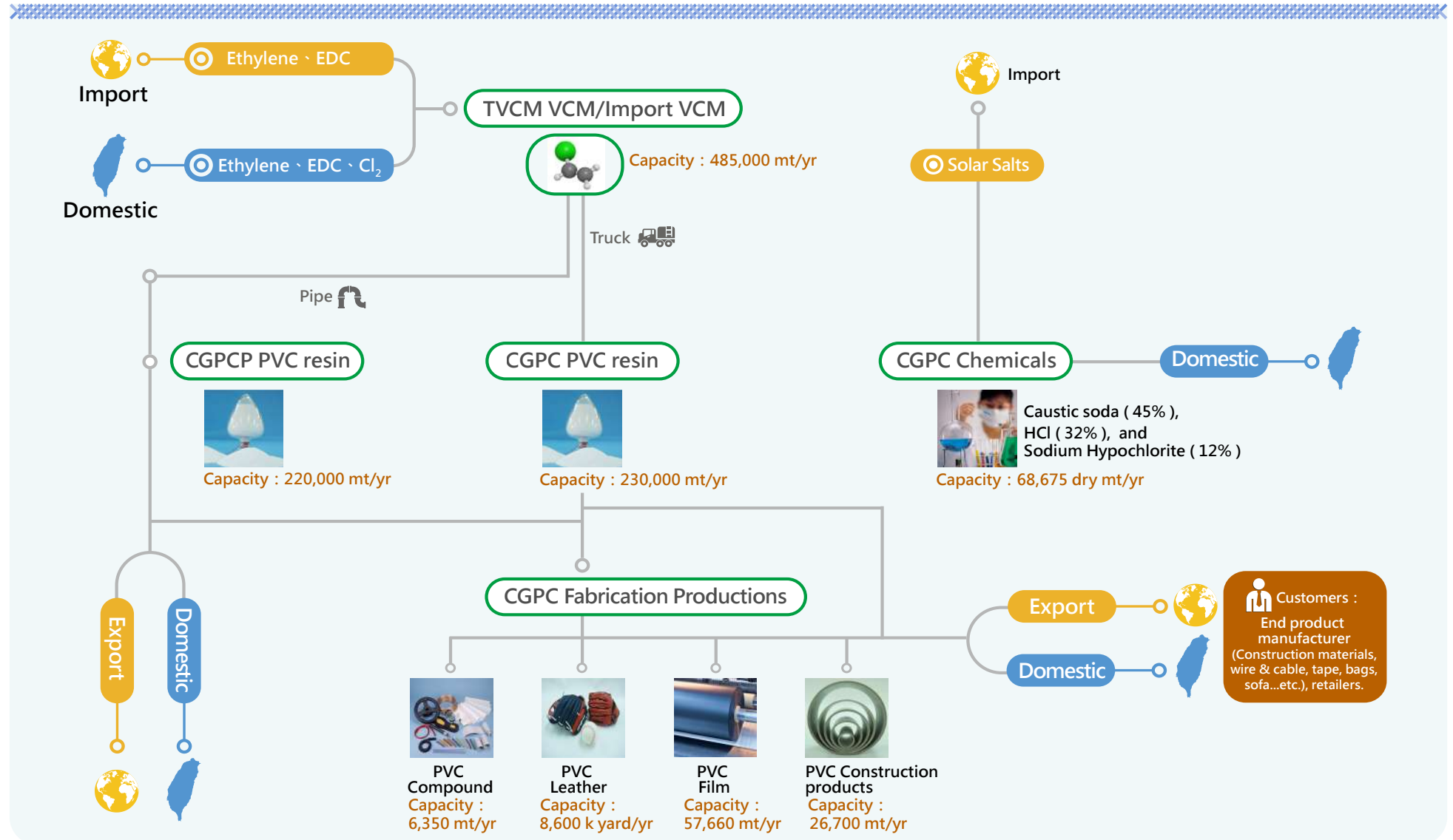
Care ▶ Tolerance, respect, care and harmony

Be more tolerant and respectful of colleagues, clients, companies, families, environment, and society for the purpose of humanistic care and establish harmonious relationships.

Innovation ▶ Seek innovation and change and pursue excellence

Regardless of raw materials, products, production, marketing, R&D, and management, we must continue to innovate and seek changes, to pursue high quality and great business performance.

► Vinyl-Chain Upstream and Downstream relationships (GRI 2-6)



► About PVC (GRI 2-6、2-9)

Contribution of PVC to the environment and society

Environmental impact



► Contribution to reducing resource consumption

- ◆ Reducing CO₂ emissions: PVC has lower energy consumption in its manufacturing and processing compared to other plastics, resulting in lower CO₂ emissions when incinerated.
- ◆ PVC composition includes 43% petroleum and the rest is derived from salt, reducing resource consumption compared to other plastics that are predominantly petroleum-based.
- ◆ By substituting wood in the production of flooring, wall materials and construction materials, PVC significantly contributes to the reduction of deforestation.
- ◆ PVC can be remade repeatedly and has a long useful life.

Social responsibility



► Contribution to society

- ◆ The PVC related industry, with numerous stakeholders involved (shareholders, employees, suppliers and domestic and international customers), the employment, production, investment, logistics, and the overall economy contributes greatly to societal development and economic activities.

Recycling and reuse



► Contribution of PVC recycling and re-use

- ◆ PVC recycling and reuse have substantial positive benefits in mitigating global warming, energy conservation, petroleum resource conservation, and forest resource protection.

Industrial development



► Contribution to industry - sodium hydroxide

- ◆ Sodium hydroxide, chlor-alkali plants' joint product (commonly known as caustic soda), is an important raw material for papermaking, chemical fiber, detergent, soap, etc.
- ◆ Bleaching powder is another important related product in the chlor-alkali industry, serving as a fundamental raw material in the downstream cleaning chemical industry.

Daily necessities

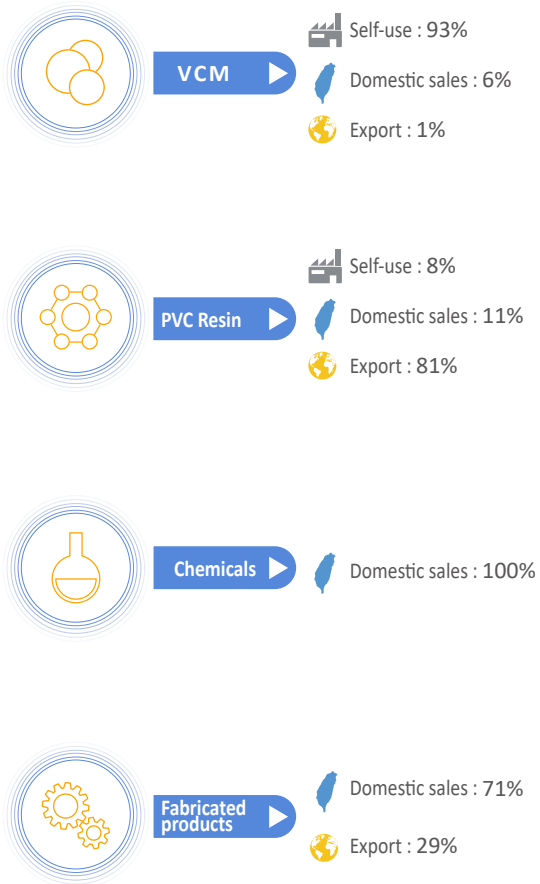


► Contribution to the convenience of daily life

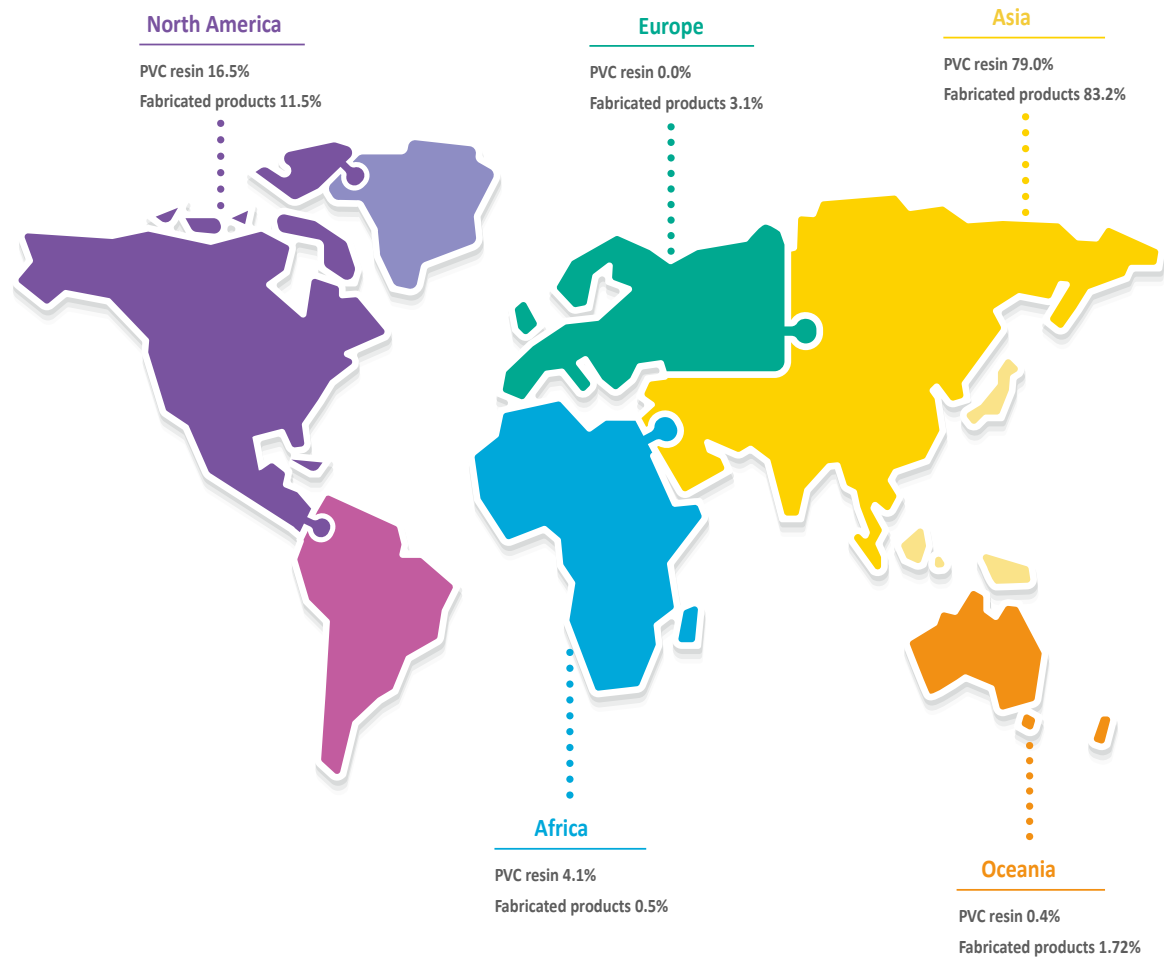
- ◆ PVC is used in infrastructure materials and various consumer products such as: shower curtains, table mats, car seat covers, sofa upholstery and footwear, providing consumers with convenience and the opportunity for re-use, thus minimizing unnecessary waste.
- PVC can be remade repeatedly and has a long useful life.
- ◆ PVC exhibits excellent chemical resistance, transparency and ease of processing, making it valuable in medical products such as blood bags, transfusion tubing and catheters. Its contribution to healthcare and safety is immeasurable, complying with stringent regulations and standards.

► Product sales (GRI 2-6)

Percentages of domestic sales and exports of products in 2023



Distribution map of exports in 2023





2.ESG Issues

Amidst the ever-changing business and technological environment, a company's competitiveness and sustainable values include an ability to adapt to social and environmental changes, effective management of important intangible assets, and creation of enterprise values as a foundation for sustainable development strategies. We develop a sustainable strategy blueprint and actively evaluate the governance, environmental, and social aspects, while implementing various improvement measures in the ESG aspects to facilitate the Company's sustainable development.

► (GRI 2-9 、 2-13 、 2-16 、 2-17 、 2-23 、 2-24)

2.1 Sustainable Development ► (GRI 2-23)

CGPC follows the sustainable vision of the USI Group, which is “Creating sustainable values and developing a sustainable society.” We strive to continuously create and consolidate sustainable value through our core capabilities, thus contributing to social sustainability.

► Information on awards received

Corporate Governance Evaluation



Ranked among top 6–20% of the TWSE-listed companies in the 10th Corporate Governance Evaluation.

Taiwan Corporate Sustainability Awards



2023 16th Taiwan Corporate Sustainability Awards
 1. ESG Report-Platinum Award
 2. Integrated Performance Award: Taiwan Top 100 Sustainable Enterprises Award

Taiwan Sustainability Action Awards



CGPC was rewarded at the 3rd “Taiwan Sustainability Action Awards”
 SDGs 6 Silver Award, SDGs 8 Bronze Award, SDGs 12 Bronze Award

2.1.1 Corporate sustainability vision and goals ► (GRI 2-23、2-16)

SDGs ►



Sustainability vision

CGPC follows the [sustainable vision](#) of the USI Group, which is “Creating sustainable values and developing a sustainable society.” We strive to continuously create and consolidate sustainable value through our core capabilities, thus contributing to social sustainability. The three core strategies of R&D and innovation, stable operation, and social inclusion are the Company’s ESG principles and our sustainable development policy.

Sustainable Management Policy

We review the consistency of the analysis results of major issues with the Company’s ESG principles every year, have established sustainable management policies and goals based on the sustainable development policy, and review and discuss the achievement of annual performance targets.

SDGs

We examined the connection between the Company’s sustainability vision and the UN SDGs and identified 6 SDGs and 15 sub-targets as a sustainable development strategy, while working with internal and external stakeholders and business partners in the value chain to achieve inclusion and shared prosperity through participation and collaboration.

Major issue

The ESG task force gathers various concerning issues, conducts analysis on the level of stakeholders’ concern and internal impact on the company, and selects 12 issues as major issues for the company and reported them to the ESG Committee.

2.1.2 ESG strategy ► (GRI 2-9、2-13、2-16、2-23、2-24)

To pursue sustainable development, the three core strategies of the Company's sustainability vision: R&D and innovation, stable operation, and social inclusion are the Company's ESG principles as our sustainable development policy. The ESG task force collects various issues of concern every year, analyzes material issues as per stakeholders' degree of concern and the level of the Company's internal impact, and has established the sustainable development policies and goals. The analysis results should be consistent with the Company's ESG principles. Meanwhile, the ESG task force examined the connection between the Company's sustainability vision and the 17 Sustainable Development Goals (SDGs) set by the United Nations Sustainable Development Group and focused on 6 SDGs and 15 sub-targets as a sustainable development strategy, while working with internal and external stakeholders and business partners in the value chain to achieve inclusion and shared prosperity through participation and collaboration.

2.1.3 Grievance mechanism ► (GRI 2-3)

Aspect	Environmental	Social	Governance
Material issue	<ul style="list-style-type: none"> ◆ Climate change and energy management ◆ Air Pollution Control ◆ Water Resources Managem ◆ Waste Management 	<ul style="list-style-type: none"> ◆ Talent Attraction and Retention ◆ Talent Development and Cultivation ◆ Occupational Safety and Health ◆ Transportation Safety Management 	<ul style="list-style-type: none"> ◆ Economic performance ◆ R & D and innovation ◆ Product Quality ◆ Intelligent Management
Grievance channels	<p>1. Internal grievances File a complaint to the Occupational Safety and Health committee and the environmental safety unit.</p> <p>2. External grievances File a complaint with the local competent authority (environmental, health and safety related units) through phone calls, visits or in writing. These complaints are received by the designated units within the CGPC's premises. The environmental and safety units then verify the contents of the complaints.</p>	<p>1. Union All union members can respond through the union if they have various suggestions for the Company or have questions about their own rights and interests.</p> <p>2. Labor-management meeting CGPC has established a labor-management meeting in accordance with the law, which is attended by representatives of the management and labor, facilitating the communication between labor and management with positive assistance.</p> <p>3. Employee grievance mailbox</p> <ul style="list-style-type: none"> ◆ File a complaint orally or in writing to company. ◆ File a complaint through the Occupational Safety and Health committee and the environmental safety unit. <p>4. External entities File a complaint through the e-mail, phone call, visits or in writing.</p>	<p>1. Report the grievances to the company's executive team Please refer to the respective chapters for detailed explanations. (7.1 GRI Standards Index).</p> <p>2. Audit Committee's mailbox The Regulations on the Handling of Reported Cases of Illegal and Unethical or Dishonest Conduct, specifying the reporting procedures and relevant confidentiality mechanisms, and reporting channels, including reporting in person, reporting by phone, and reporting by sending a letter, and a unit is designated for acceptance of such reports.</p>

2.1.4 Procedure of SDGs identification ► As a member of the global world, CGPC needs to start from our core values and connect them with the UN SDGs. We identified the relevance to the SDGs in three stages and set relevant goals and included them in our business plan.



2.1.5 Response to the UN SDGs

SDGs	Sub-target	Policies	Target and plan	2024 target	2025 target	2030 target	Corresponding chapter
3. Good Health and Well-Being 	3.9	Establish a SOP of safety management to take care of employees.	Achieve zero disaster and zero disabling, and Implementing ISO 45001 with the involvement of all employees.	1. Disabling injury frequency rate (F.R.): 0	1. Disabling injury frequency rate (F.R.): 0	1. Disabling injury frequency rate (F.R.): 0	6.4 Safe and Healthy Workplace
				2. Contracted suppliers' occupational accidents (times): 0	2. Contracted suppliers' occupational accidents (times): 0	2. Contracted suppliers' occupational accidents (times): 0	
4. Quality Education 	4.3 4.5	Fostering a safe, harmonious, and innovative environment that prioritizes learning and growth is crucial for CGPC's team to make progress. It is only through the continuous improvement of all employees' abilities that we can achieve advancement.	Increase training sessions	180 sessions	200 sessions	220 sessions	6.3 Talent Development and Cultivation
6. Clean Water and Sanitation 	6.3 6.4 6.5 6b	Analyze and improve water consumption, recycle water for reuse, and reduce environmental pollution.	Water recycling rate R2 per year Increase 1%	72.0%	73.0%	78.0%	5.3 Water Resources Management
8. Decent Work and Economic Growth 	8.2 8.3 8.5 8.7 8.8	Creating a happy workplace is a consistent commitment of CGPC.	Reduce employee turnover	≤ 2.9%	≤ 2.8%	≤ 2.7%	6.2 Talent Attraction and Retention

SDGs	Sub-target	Policies	Target and plan	2024 target	2025 target	2030 target	Corresponding chapter
12.Responsible Consumption and Production 	12.4 12.5	Improve product quality and reduce cost, develop high value-added new products, reduce waste, and increase the recycling rate.	Promote circular economy to reduce waste and increase recycling rate.	1. Decreasing of waste generation per unit of production (kilograms/tons) : 0.0060	1. Decreasing of waste generation per unit of production (kilograms/tons) : 0.0050	1. Decreasing of waste generation per unit of production (kilograms/tons) : 0.0045	5.5 Waste Management
				2. Recycling rate : 80%	2. Recycling rate : 85%	2. Recycling rate : 90%	
				3. Landfill rate : 20%	3. Landfill rate : 15%	3. Landfill rate : 10%	
			Actively implementing proposals for improvement and product quality improvement projects, as well as conducting research and development of highvalue-added new products, while promoting the use of eco-friendly materials.	1. Implemented proposals for improvement: 22 proposals	1. Implemented proposals for improvement: 232 proposals	1. Implemented proposals for improvement: 25 proposals	4.2 Product Quality
				2. Product Quality Improvement Project :11 projects	2. Product Quality Improvement Project :11 projects	2. Product Quality Improvement Project :12 projects	
				3. Promoted the use of eco-friendly materials in products, with the sales volume: 120,000 yards	3. Promoted the use of eco-friendly materials in products, with the sales volume: 160,000 yards	3. Promoted the use of eco-friendly materials in products, with the sales volume: 200,000 yards	3.5 Technology Research and Development
				4. Developed low-toxic and lowcost alternative raw materials: 10 projects	4. Developed low-toxic and lowcost alternative raw materials: 10 projects	4. Developed low-toxic and lowcost alternative raw materials: 15 projects	
				5. New product development: 10 projects	5. New product development: 10 projects	5. New product development: 15 projects	
13.Climate Action 	13.3	Implement energy conservation and carbon reduction initiatives, reduce the impact of corporate operations on the environment, to achieve the goal of environmental friendliness, low pollution, and low energy consumption.	Advocating energy efficiency and carbon reduction in line with government policies, and gradually adopting renewable energy sources or purchase green energy	1. Actively implementing energysaving and carbon reduction programs, utilizing low-carbon fuels and renewable energy sources (greenhouse gas emissions): 30.10 (ten thousand metric tons of CO ₂ e)	1. Actively implementing energysaving and carbon reduction programs, utilizing low-carbon fuels and renewable energy sources (greenhouse gas emissions): 33.74 (ten thousand metric tons of CO ₂ e)	1. Actively implementing energysaving and carbon reduction programs, utilizing low-carbon fuels and renewable energy sources (greenhouse gas emissions): 29.97 (ten thousand metric tons of CO ₂ e)	5.2 Climate Change and Energy Management
				2. Reducing the emission intensity of sulfur oxides(ton/kt): ≤ 0.002	2. Reducing the emission intensity of sulfur oxides(ton/kt): ≤ 0.002	2. Reducing the emission intensity of sulfur oxides(ton/kt): ≤ 0.002	
				3. Reducing the emission intensity of nitrogen oxides(ton/kt): ≤ 0.145	3. Reducing the emission intensity of nitrogen oxides(ton/kt): ≤ 0.145	3. Reducing the emission intensity of nitrogen oxides(ton/kt): ≤ 0.145	5.4 Air Pollution Control
				4. Reducing the emission intensity of VOCs (ton/kt): ≤ 1.005	4. Reducing the emission intensity of VOCs (ton/kt): ≤ 1.000	4. Reducing the emission intensity of VOCs (ton/kt): ≤ 0.980%	

2.2 Sustainable Management Policy ► (GRI 2-22 、 2-23 、 2-24)

CGPC, on the basis of sustainable development, business strategy, and corporate culture, incorporates the stakeholders' issues of concern into the factors for decision-making. With a focus on stakeholders' issues of concern, we continue to implement corporate sustainable development strategies in various aspects, including climate change and energy management, corporate governance, environmental protection, employee care, supply chain management, and social participation.

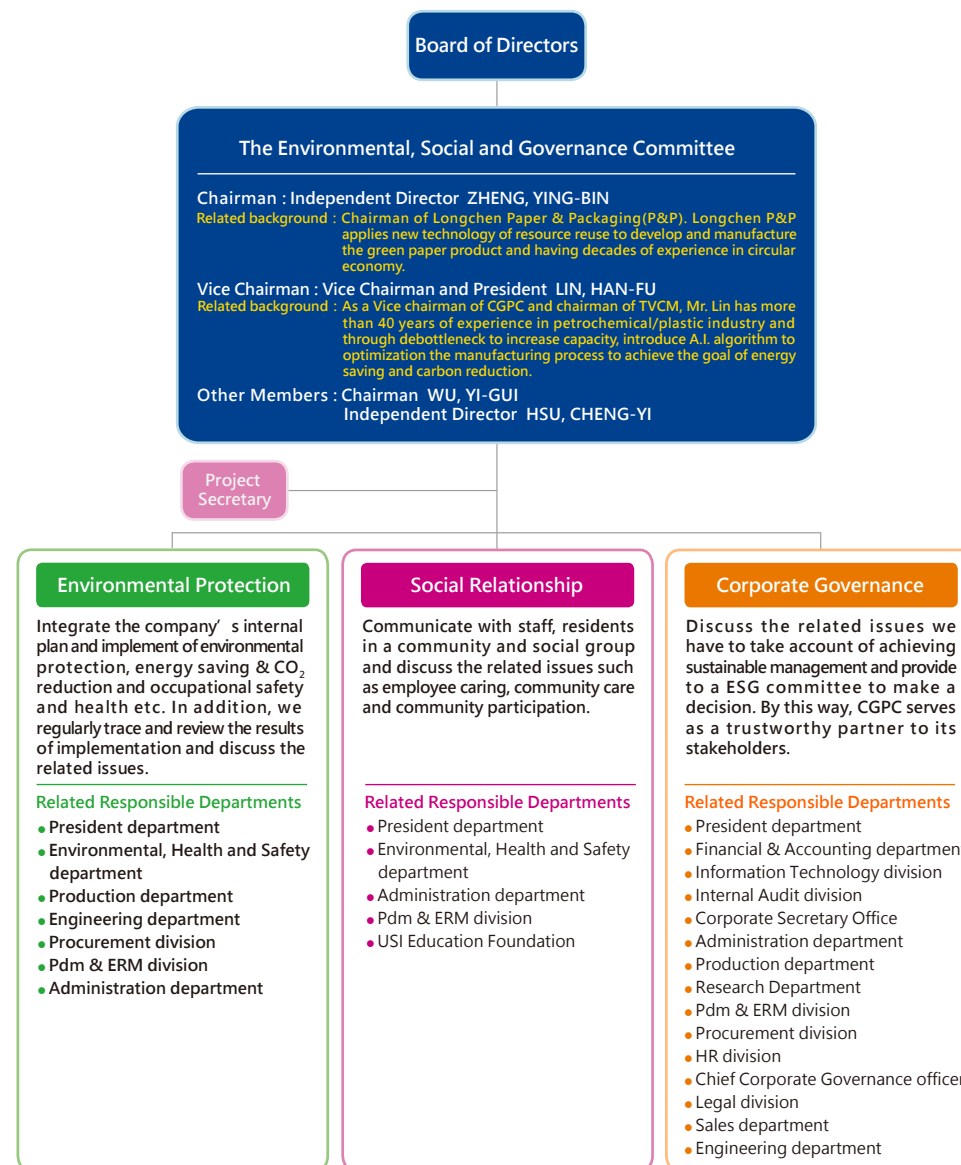
2.2.1 ESG Committee ► (GRI 2-10 、 2-11 、 2-12)

In 2015, CGPC formally established the ESG Committee, which was upgraded to a functional committee under the Board of Directors in 2017 as the highest guiding unit. Independent director Ying-Pin Cheng serves as the chair of the ESG Committee to regularly review ESG policies, strategies, goals, and action plans, while guiding the implementation and tracking the progress and performance improvement of each action plan. (See the minutes of [the committee meetings on the official website for details](#))

2.2.2 Organizational Structure of the ESG Committee

► (GRI 2-9 、 2-13 、 2-14 、 2-16)

The ESG Committee holds two meetings annually, during which each operating unit provides sustainability-related information, including identification results of stakeholder, issues of concern and responses, material issues, ESG plans and execution outcomes. The ESG Core Team consolidates the information and reports to the Sustainability Development Committee through the Project Secretary, who subsequently presents the report to the Board of Directors. The Board of Directors oversees and reviews the management and performance of governance, environmental, and social aspects and providing guidance and direction on critical issues and instruct strategies for their implementation. The organizational structure and responsibilities are as shown in the figure:



Note 1: The statistics in this table are as of December 31, 2023.

Note 2: Li, Liang-Xian, Independent Director resigned on October 12, 2023, and his vacancy on the ESG Committee was taken over by Independent Director Hsu, Cheng-Yi.

Note 3: On May 28, 2024, the shareholders' meeting approved the addition of an independent director: Ms. Chang, Zhen-Ming serves as a member of the Sustainable Development Committee.

2.3 Identification of Major Stakeholders ► (GRI 2-29)

Our company adheres to the AA1000 Stakeholder Engagement Standards (SES) for stakeholder engagement, which are identified every two years. We assess the governance, economic, environmental and social issues and the impact on stakeholders, considering factors such as responsibility, influence, dependency, diverse perspectives and tensions. We conduct surveys using an online questionnaire targeting key stakeholders such as department managers. The results are then systematically organized using a weighted average scoring system. Based on this assessment, the identified stakeholders are ranked as follows: 1. Employees, 2. Customers, 3. Government agencies, 4. Suppliers/contractors, 5. Investors.

► Major Analysis

Collects Stakeholders ►

9 Types of Stakeholders

There are 9 types of stakeholders including government agencies, suppliers/contractors, peers, and customers.

Investigation Method ►

Online Survey

- ◆ Participants: Promote ESG Supervisors 129 copies
- ◆ Answer: 126 copies
- ◆ Ratio: 98%

Analysis Results ►

Identify Major Stakeholders' rank

1. Employees
2. Customers
3. Government agencies
4. Suppliers/Contractors
5. Investors

► Major steps for stakeholder engagement

Procedure 1 ►

Identification of Stakeholders

Procedure 2 ►

Priority and evaluation




Procedure 3 ►



Develop a Joint Action Plan



2.3.1 Stakeholder communication management and issues of concern ► (GRI 2-29)

Stakeholders' identity information, issues of concern, communication channels, and response methods are submitted to the Board of Directors every year. (Please find the ESG webpage for each complaint unit: [Stakeholders' Contact Information](#))

Identification of Major Stakeholders	Significance of Stakeholders to the Company	Communication Channel/Frequency	Issue of Concern	Summary of CGPC's Response																												
<div>Employees</div> <div></div>	Employees are the foundation of our sustainable development. We pay attention to the employment criteria, remuneration and benefits, training and evaluations and equal opportunities for promotion, while providing a grievance mechanism.	1. Performance interview/every six months 2. Labor-management meeting/monthly 3. Union labor representative assembly/annual 4. Employee grievance mailbox processing/anytime 5. Bulletin board and email/anytime 6. Various work review meetings/weekly, monthly, and quarterly 7. CGPC Family Newsletter /every two months 8. Management Meeting/from time to time	1. Economic performance 2. Human rights and labor-management relations 3. Occupational safety and health 4. Talent development and cultivation	1. In accordance with the Consumer Price Index and individual performance, the salary adjustment for 2023 is approximately 3.03% on average for employees. 2. The labor union holds regular meetings to communicate with employee representatives and signs a human rights protection policy with the company. The employee participation rate in the union reaches 93%,and sign a human rights policy. 3. The Occupational Safety and Health Committee meeting is held quarterly and a total of 19 critical occupational safety issues were discussed in 2023. 4. Recognized as an excellent enterprise in training by the Taoyuan-Hsinchu-Miaoli Regional Branch, Workforce Development Agency, Ministry of Labor . We received a total of 249 subsidies in 2023. The total training hours were 67 hours and the subsidy received amounted to NT\$59,300. 5. Management meetings were held in Toufen, Linyuan Plant, and Taipei Plant on 2022/11/19, 2023/01/30, 2023/02/08 and 2023/02/24.																												
<div>Clients</div> <div></div>	Clients are CGPC's sources of revenue. We listen to their needs and collect market information and provide products and information in alignment with their needs in real time.	1. Sending samples/from time to time 2. Product exhibitions/from time to time 3. Visits, phone calls, emails, video conferences/anytime 4. Client satisfaction survey/annually 5. Client feedback and complaint response form/anytime 6. CGPC Family Newsletter /every two months	1. Client relationship management 2. Technology R&D 3. Product quality	1. Through the annual clients' satisfaction survey we gain insights into clients' opinions. In 2023, 98.7% of the clients who responded to the survey rated their satisfaction as "Satisfied" or above, surpassing the target of 90%. 2. New rubber products in 2023: PVC rubber and TPE environmentally friendly material. The sales accounted for 4.9% and 0.8% of the revenue of this product category, respectively. 3. In 2023, In 2023, a total of 37 quality improvement proposals were implemented, resulting in derived benefits amounting to NT\$245.6 million. The derived benefits increased compared to the previous year.																												
<div>Government agencies</div> <div></div>	Comply the relevant laws and regulations of government agencies, actively cooperate with the implementation of government policies and actively engage in two-way communication to gain its trust, support and collaboration opportunities.	1. Meet with regulatory authorities or correspondence with official documents / From time to time. 2. Dispatch of employees to participate in public hearings, coordination meetings or regular meetings / From time to time. 3. MOPS /release as required 4. CGPC Family Newsletter /Every two months	1. Climate change and energy management 2. Water resource management 3. Air pollution control	1. There were no environmental penalties in 2023, the improvements have been completed, and we did not violate regulations in terms of product services, client relationships, and/or labor and human rights. (Read CH3.4 Regulatory Compliance Descriptions) 2. (1) Implemented Management System: <table><tr><th>Item</th><th>CGPC</th><th>TVCM</th><th>CGPCP</th></tr><tr><td>ISO-50001 Energy management system verification</td><td>✓</td><td>✓</td><td>✓</td></tr><tr><td>ISO 14064-1 Greenhouse Gas Inventory</td><td>✓(added Scope 3)</td><td>✓(added Scope 3)</td><td>✓(added Scope 3)</td></tr><tr><td>ISO 14067 Product Carbon Footprint</td><td>✓</td><td>✓</td><td>✓</td></tr><tr><td>ISO 46001 Water resources management system</td><td>✓</td><td></td><td></td></tr><tr><td>ISO 14046 Water footprint</td><td>✓</td><td></td><td></td></tr><tr><td>ISO 14001 Environmental management system</td><td>✓</td><td>✓</td><td>✓</td></tr></table> (2) In 2022, we constructed the Activated Carbon Fluidized Bed , reduced the emissions of volatile organic compounds (VOCs), strengthened the circular economy through the re-use of waste liquids and decreased carbon emissions. (3) Formulated climate change risk management plans. 3. Built the High-performance Bio-treatment and Filtration system (HBF) , the total volume of water recycled in 2023 reached about 1,314.1 million liters per year.	Item	CGPC	TVCM	CGPCP	ISO-50001 Energy management system verification	✓	✓	✓	ISO 14064-1 Greenhouse Gas Inventory	✓(added Scope 3)	✓(added Scope 3)	✓(added Scope 3)	ISO 14067 Product Carbon Footprint	✓	✓	✓	ISO 46001 Water resources management system	✓			ISO 14046 Water footprint	✓			ISO 14001 Environmental management system	✓	✓	✓
Item	CGPC	TVCM	CGPCP																													
ISO-50001 Energy management system verification	✓	✓	✓																													
ISO 14064-1 Greenhouse Gas Inventory	✓(added Scope 3)	✓(added Scope 3)	✓(added Scope 3)																													
ISO 14067 Product Carbon Footprint	✓	✓	✓																													
ISO 46001 Water resources management system	✓																															
ISO 14046 Water footprint	✓																															
ISO 14001 Environmental management system	✓	✓	✓																													

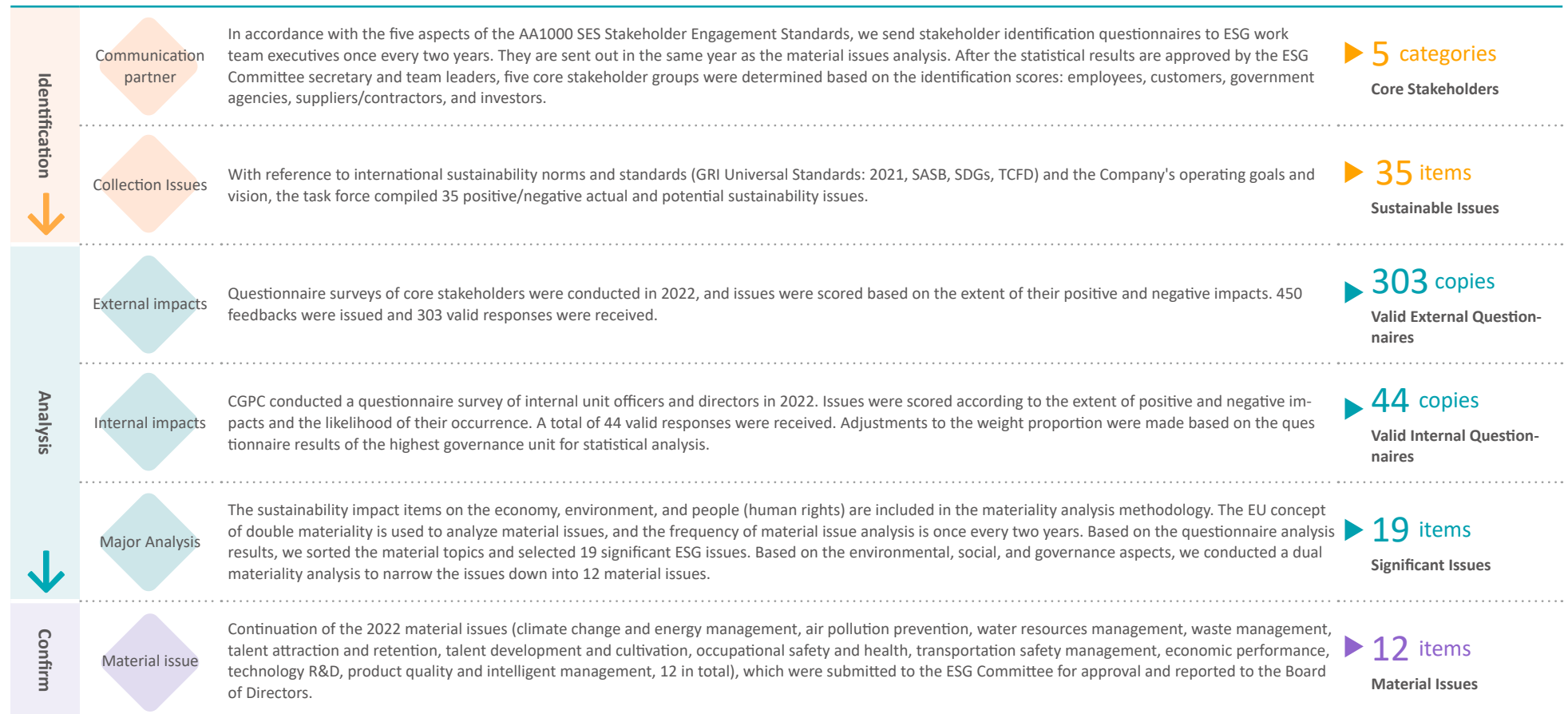
Identification of Major Stakeholders	Significance of Stakeholders to the Company	Communication Channel/Frequency	Issue of Concern	Summary of CGPC's Response
Suppliers/Contractors 	Suppliers/Contractors are CGPC's important partners in sustainable development, affecting our production, services, and operations. We learn about suppliers' concerns through communication channels to reduce business risks and costs.	<ol style="list-style-type: none"> 1. Review meeting/from time to time 2. Supplier evaluation and commitment/annually or add manufacture. 3. Contractor safety and health education and training/from time to time 4. Industry exchange seminars/at least once a year 5. Visits, phone calls, and emails/from time to time 6. CGPC Family Newsletter/every two months 	<ol style="list-style-type: none"> 1. Supply chain sustainable management 2. Occupational safety and health 	<ol style="list-style-type: none"> 1. (1) Engage in meetings with suppliers from time to time to meet our needs for quality and transaction conditions. (2) Conduct supplier evaluation once a year and inform them of the results. (3) Motivate suppliers to sign a social responsibility commitment. (4) Contact point: Mr. Chen, Material Planning Department at (02) 8751-6888 ext. 3771 2. In 2023, a total of 4,343 employees of CGPC's contractors visited the plants for safety education and training. In the same year, five CGPC accidents were investigated. Summary of improvement measures: The Company has enhanced education and training, and strives for all employees to comply with various operating regulations. TVCM's and CGPC Polymer's contractors did not have accidents occurring between 2019 and 2023. (Refer to CH6.4.1 Occupational Safety Management - Accident and Injury Description).
Investors 	CGPC should provide every investor with fair access to the Company's material information, to disclose the Company's market value and sustainable development trajectory.	<ol style="list-style-type: none"> 1. Shareholders' meeting/annually 2. MOPS/release as required 3. The Company's website "Investor Services"/Any time 4. Annual report/annually 5. Financial statements/quarterly 6. ESG report/annually 7. Investor conference/four times per year 8. CGPC Family Newsletter/every two months 9. The Company's website "USI Joint Stock Network"/Irregular 10. Setup of whistleblowing mailboxes 	<ol style="list-style-type: none"> 1. Economic performance 2. Client relationship management 3. Technology R&D 	<ol style="list-style-type: none"> 1. Annual shareholders' meetings and quarterly investor conferences held by the Company are held to report our operating results and future outlook to our shareholders and the public. 2. (1) Regularly disclose financial information on the MOPS of the Taiwan Stock Exchange and the Company's website. (2) Set up the investor section on the Company's website. (3) Formulated the Corporate Governance Best Practice Principles to prohibit employees from unethical conduct. (4) Established the Company's internal and external reporting channels and response systems to duly implement the Codes of Ethical Conduct and the Corporate Governance Best Practice Principles formulated by the Company and ensure whistleblowers and relevant people's legitimate rights and interests.

Note: CGPC Family Newsletter has been released once every two months (published after the middle of the second month) since March 2022.

2.4 Identification of Material Issues ► (GRI 2-23)

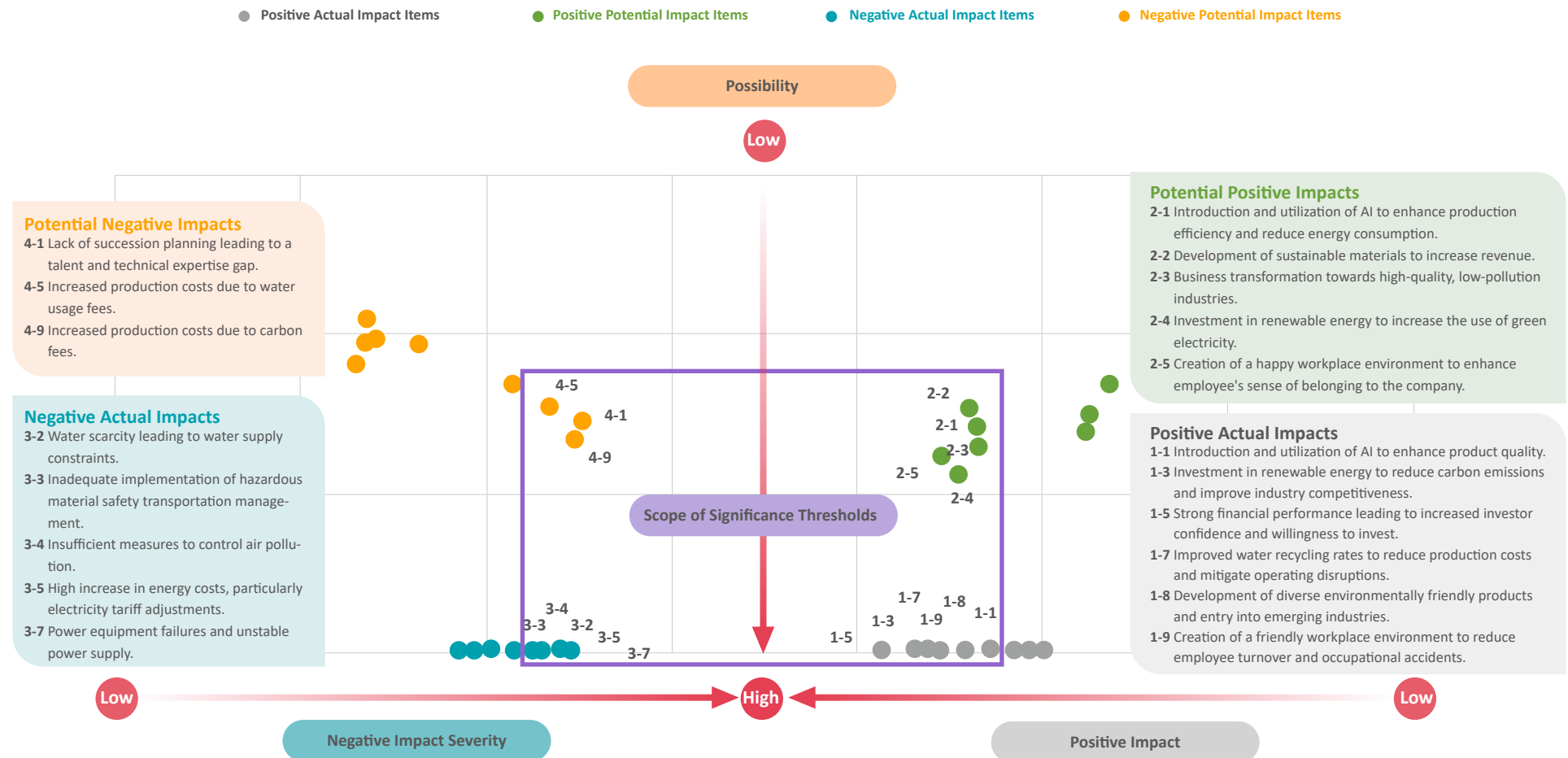
The Company followed the 2021 edition of the GRI Universal Standards to determine the three major steps of identification, analysis, and verification. A materiality analysis is performed every two years, and a dual materiality approach is incorporated. The sustainability topics analyzed were the “impact level to the company’s operations” and “the impact level on the economy, the environment, and people (including human rights)”. The identification process and results of material topics are discussed by the Group’s ESG experts, reported to the ESG Committee, and finally submitted to the Board of Directors for approval to ensure that the direction of sustainable operations and reported contents meet the concerns and expectations of internal and external stakeholders.

2.4.1 Process for determining material issues ► (GRI 3-1)



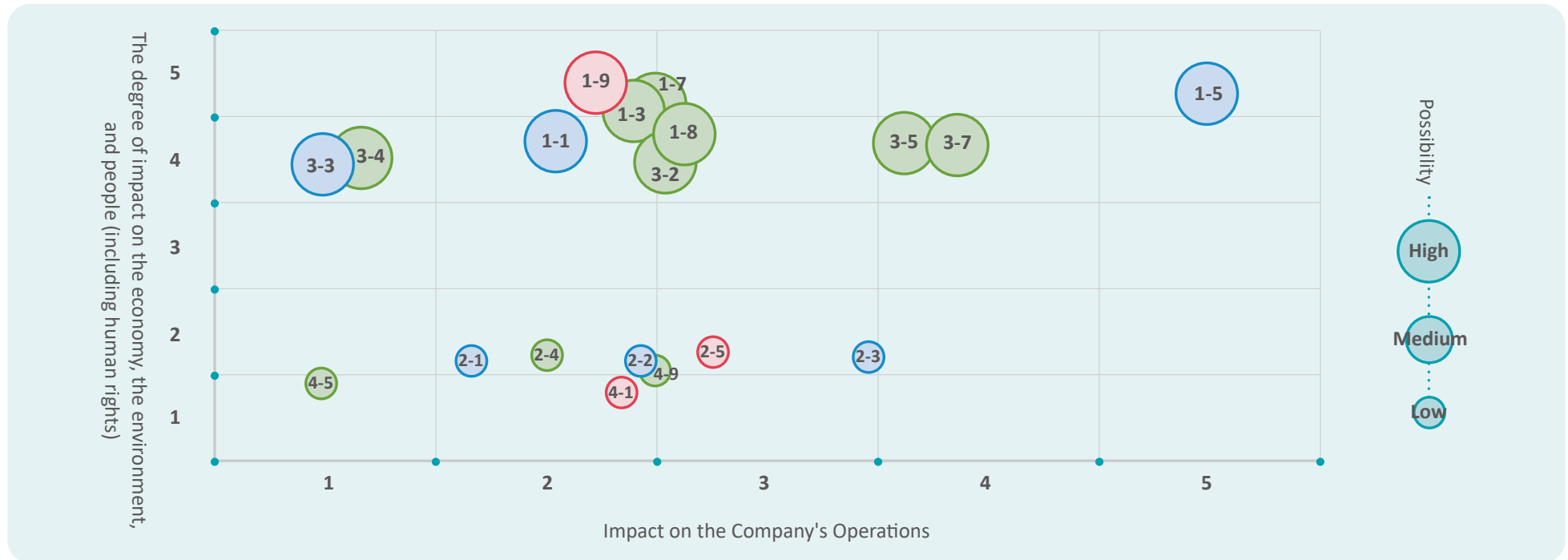
2.4.2 Major analysis (GRI 2-23, 2-25, 3-1, 3-2, 3-3)

To ensure the completeness of ESG issues, we made reference to the requirements of the GRI Universal Standards 2021 revision, SASB Chemical Industry Indicator Issues, SDGs, and domestic and international sustainability issue trends. There are 35 items gathered through several communication channels. A daily chart was created based on the “extent of impact” and “possibility of occurrence”, and the threshold of significance was set based on the ESG working group, the opinions of stakeholders, and internal and external experts, and 19 ESG issues were selected as “Significant Issues”.



► Selection of material topics

CGPC classified the 19 significant Issues in terms of environmental, social, and governance aspects, and conducted a dual materiality analysis based on “the impact level on the Company's operations” and “the impact level on the economy, the environment, and people (including human rights)”, and converged them into 12 significant issues. Raised these material issues to the Board of Directors for approval and the outcome was reported to the ESG Committee.



E Environmental Aspect

- 1-3 Investment in renewable energy to reduce carbon emissions and improve industry competitiveness.
- 2-4 Investment in renewable energy to increase the use of green electricity.
- 3-5 High increase in energy costs, particularly electricity tariff adjustments.
- 3-7 Power equipment failures and unstable power supply.
- 4-9 Increased production costs due to carbon fees.
- 1-7 Improved water recycling rates to reduce production costs and mitigate operating disruptions.
- 3-2 Water scarcity leading to water supply constraints.
- 4-5 Increased production costs due to water usage fees.
- 3-4 Insufficient measures to control air pollution.
- 1-8 Development of diverse environmentally friendly products and entry into emerging industries.

S Social Aspect

- 2-5 Creation of a happy workplace environment to enhance employee's sense of belonging to the company.
- 4-1 Lack of succession planning leading to a talent and technical expertise gap.
- 3-3 Inadequate implementation of hazardous material safety transportation management.
- 1-9 Creation of a friendly workplace environment to reduce employee turnover and occupational accidents.

G Governance Aspect

- 2-2 Development of sustainable materials to increase revenue.
- 2-3 Business transformation towards high-quality, low-pollution industries.
- 1-1 Introduction and utilization of AI to enhance product quality.
- 2-1 Introduction and utilization of AI to enhance production efficiency and reduce energy consumption.
- 1-5 Strong financial performance leading to increased investor confidence and willingness to invest.

► Positive and negative impacts of material issues

19 Significant Issues

► 12 Material Issues

Environmental E	1-3	(Positive Actual)	Investment in renewable energy to reduce carbon emissions and improve industry competitiveness.	►	Climate Change and Energy Management (GRI 302 Energy)
	2-4	(Positive potential)	Investment in renewable energy to increase the use of green electricity.		
	3-5	(Negative actual)	High increase in energy costs, particularly electricity tariff adjustments.		
	3-7	(Negative actual)	Power equipment failures and unstable power supply.		
	4-9	(Negative Potential)	Increased production costs due to carbon fees.		
	1-7	(Positive Actual)	Improved water recycling rates to reduce production costs and mitigate operating disruptions.	►	Water Resource Management (GRI 303 Water and Effluents)
	3-2	(Negative actual)	Water scarcity leading to water supply constraints.		
	4-5	(Negative Potential)	Increased production costs due to water usage fees.		
	3-4	(Negative actual)	Insufficient measures to control air pollution.	►	Air Pollution Control (GRI 305 Emissions)
	1-8	(Positive Actual)	Development of diverse environmentally friendly products and entry into emerging industries.	►	Waste Management (GRI 306 Waste)
Social S	2-5	(Positive potential)	Creation of a happy workplace environment to enhance employee's sense of belonging to the company.	►	Talent Attraction and Retention (GRI 401 Employment Relations) (GRI 405 Employee Diversity and Equal Opportunity)
	4-1	(Negative Potential)	Lack of succession planning leading to a talent and technical expertise gap.	►	Talent Development and Cultivation (GRI 404 Training and Education)
	3-3	(Negative actual)	Inadequate implementation of hazardous material safety transportation management.	►	Transport Safety Management (GRI 413 Local Communities)
	1-9	(Positive Actual)	Creation of a friendly workplace environment to reduce employee turnover and occupational accidents.	►	Occupational Safety and Health (GRI 403 Occupational Safety and Health)
Governance G	2-2	(Positive potential)	Development of sustainable materials to increase revenue.	►	Technology Research and Development
	2-3	(Positive potential)	Business transformation towards high-quality, low-pollution industries.		
	1-1	(Positive Actual)	Introduction and utilization of AI to enhance product quality.	►	Product Quality
	2-1	(Positive potential)	Introduction and utilization of AI to enhance production efficiency and reduce energy consumption.	►	Intelligent Management
	1-5	(Positive Actual)	Strong financial performance leading to increased investor confidence and willingness to invest.	►	Economic Performance (GRI 201 Economic Performance)

► Description of remedies and preventive measures against negative impacts of material issues

Material Issue	Considerate Aspects	Item	Significant Impact Items	Remedial and Preventive Measures for Material Issues' Negative Impact	Section
Climate Change and Energy Management	Negative Actual Impacts	3-2	Water scarcity leading to water supply constraints.	1. Groundwater Extraction 2. Water Recycling Enhancement 3. Concentration Ratio Improvement for Cooling Towers 4.Strengthened Inspections 5. Installation of Water Storage Equipment 6. Sourcing water from external suppliers such as tap water or purified water through water trucks 7. Production Capacity Reduction	5.2 Climate Change and Energy Management 5.3 Water Resources Management 5.4 Air Pollution Control
		3-4	Insufficient measures to control air pollution.	1. In 2022, an activated carbon fluidized bed was installed. 2. In 2023, a new natural gas boiler will be built and the drying machine prevention equipment, nitrogen impact recovery system, and VCM discharge hose will be updated to reduce emissions. 3. New emission control equipment will be added or low-pollution fuels will be used within the plant to reduce air pollutant emissions and minimize negative impacts on climate change.	
		3-5	High increase in energy costs, particularly electricity tariff adjustments.	1. Continuously replacing outdated equipment to improve energy efficiency. 2. Adjusting scheduling to shorten production preparation time and reduce energy waste during standby periods.	
		3-7	Power equipment failures and unstable power supply.	1. Conducting regular thermal imaging measurements to detect abnormalities early and arrange immediate improvements to reduce the probability of equipment breakdown. 2. Performing annual maintenance and inspections to monitor equipment operation. 3. Continuously replacing outdated equipment.	
	Potential Negative Impacts	4-9	Increased production costs due to carbon fees.	By implementing control measures, developing a carbon reduction roadmap and improving equipment, the company aims to reduce greenhouse gas emissions and minimize its impact on climate change. It also aligns with national regulations on greenhouse gas reduction and management by adopting energy-saving and carbon reduction measures.	
Water Resources Management	Potential Negative Impacts	4-5	Increased production costs due to water usage fees.	1. Water Recycling Enhancement 2. Concentration Ratio Improvement for Cooling Towers 3. Strengthen inspections and gradually add smart water meters to timely and promptly return water consumption-related data to improve water consumption management and leak tracking. 4. The cost of replacing old water equipment with new products has been increased to 150 (tons/hour) from 100 (tons/hour), and the conversion rate of pure water has been increased (the maximum production of pure water is increased and water consumption is saved).	5.3 Water Resources Management
Air pollution control	Negative Actual Impacts	3-4	Insufficient measures to control air pollution.	1. In 2022, an activated carbon fluidized bed was installed. 2. In 2023, a new natural gas boiler will be built and the drying machine prevention equipment, nitrogen impact recovery system, and VCM discharge hose will be updated to reduce emissions. 3. New emission control equipment will be added or low-pollution fuels will be used within the plant to reduce air pollutant emissions and minimize negative impacts on climate change.	5.2 Climate Change and Energy Management 5.4 Air Pollution Control
	Potential Negative Impacts	4-9	Increased production costs due to carbon fees.	By implementing control measures, developing a carbon reduction roadmap and improving equipment, the company aims to reduce greenhouse gas emissions and minimize its impact on climate change. It also aligns with national regulations on greenhouse gas reduction and management by adopting energy-saving and carbon reduction measures.	

Material issue	Considerate Aspects	Item	Significant Impact Items	Remedial and Preventive Measures for Material Issues' Negative Impact	Section
Transportation safety	Negative Actual Impacts	3-3	Inadequate implementation of hazardous material safety transportation management.	<p>1. To ensure transportation safety and implement hazardous materials transportation management, the following transportation safety management measures are being implemented:</p> <p>1-1. Formulate management standards for vehicle transportation, loading and unloading management, emergency equipment and detection systems.</p> <p>1-2. Transportation contractor reviews conducted 11 times with a review rate of 100%.</p> <p>1-3. Improvement of 64 items in transportation safety inspections and audits, with an improvement rate of 100%.</p> <p>1-4. Cathodic corrosion protection inspection, visual inspections and verification inspections of underground pipelines, with a 100% inspection rate.</p> <p>1-5. Conducted 21 sessions of transportation emergency response planning and training, with a total of 290 participants.</p> <p>2. Negative Remediation: in the event of an accident, immediate notification is made to the relevant departments and cooperation with the emergency response team is carried out for evacuation, isolation, leak containment and fire suppression. The handling procedures are in accordance with the "Prevention of Vinyl Chloride Transportation Hazards and Emergency Response Plan" and the "Tanker Accident Emergency Response Operating Procedures."</p> <p>3. Preventive measures: according to the "Plan for the Establishment of Toxic and Hazardous Chemicals Joint Prevention Organization," the following actions should be taken: familiarize oneself with the Hazard Prevention and Emergency Response Plan specific to your own facility and the emergency response plan of the joint prevention organization. Follow the emergency response notification process for incident handling and reporting. Conduct pre-employment training for personnel involved in emergency response to ensure they are adequately prepared. Participate in relevant training, drills, and group exercises related to emergency response. Conduct annual training and refresher courses for emergency response personnel.</p>	6.5 Transportation Safety Management
Financial performance	Negative Actual Impacts	3-7	Power equipment failures and unstable power supply.	<p>In alignment with the energy management department's carbon reduction goals within the group, a thorough review of various energy-saving and carbon reduction programs, as well as water resource management programs, is conducted internally. Additionally, the group has established a green energy team to develop an overall plan and periodically review the initiatives. At the CGPC Main plant, solar power generation has been installed (currently selling excess power to the grid), applications for Taiwan Power Company's demand bidding program have been made, planned adjustments to electricity usage during maintenance periods have been implemented (using the monthly selected 8-day model), and measures for energy conservation and backup power generation equipment have been planned. This ensures that there is alternative power available in the event of a power supply interruption. Moreover, management systems such as ISO 50001, ISO 14064-1, ISO 14067, ISO 46001, and ISO 14046 have been implemented. The company remains actively engaged and committed to public sector initiatives for electricity and water conservation planning and explores alternative water sources such as water trucks.</p>	3.2 Operational Performance 5.2 Climate Change and Energy Management 5.3 Water Resources Management 5.4 Air Pollution Control
	Potential Negative Impacts	4-5	Increased production costs due to water usage fees.		
		4-9	Increased production costs due to carbon fees.		

2.4.3 Changes in material issues ► (GRI 3-2)

The 2023 material issues will be identified once every two years, and the 2023 material issues will continue to be identified in 2022.

2.5 Description of material issues ► (GRI 3-3)

Note 1 : ● Direct Effect ; ◎ Indirect Effect

Aspect	Material issue	ESG principles	Significance and Impacts on the Company	Corresponding to GRI Guidelines Major Topics	Corresponding chapter	Value Chain Impacts (Stakeholder Impacts) Boundaries and Involvement Levels				
						Upstream		Corporate Governance	Downstream	
						Supplier Contractor	Government agencies	Employees	Clients	Investors
Environmental	Climate Change and Energy Management	Stable operations	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.	GRI 302: 2016 Energy GRI201-2 climate change the financial impact and other risks and opportunities	5.2 Climate change and energy management	●	●	●	●	●
	Air pollution control	Stable operations	Reduce the impact of business operations on the environment, to achieve low pollution and low energy consumption.	GRI 305: 2016 Emissions	5.4 Air Pollution Control	◎	●	●	◎	◎
	Water Resources Management	Stable operations	Continuously monitoring records of water usage, conducting analysis and improvements. By utilizing recycled water to reduce environmental pollution, maintain the health of employees and community residents, and achieve sustainable ecological balance.	GRI 303: Water and effluents 2018	5.3 Water Resources Management	◎	●	●	◎	●
	Waste Management	Stable operations	CGPC attaches great importance to manage of the emission and waste from manufacturing process. We proactively and autonomously manage and properly handle wastewater and waste. By implementing effective management practices, we aim to minimize our impact on the environment, employees, and the community residents.	GRI 306: 2020 Waste	5.5 Waste Management	◎	●	●	◎	●
Social	Talent development and cultivation	Social inclusion	Fostering a safe, harmonious, and innovative environment that prioritizes learning and growth is crucial for CGPC's team to make progress. It is only through the continuous improvement of all employees' abilities that we can achieve advancement.	GRI 404:2016 Training and Education	6.3 Talent Development and Cultivation	◎	◎	●	◎	◎
	Talent Attraction and Retention	Social inclusion	Employees play a crucial role and is the foundation of CGPC's sustainable operation. The company firmly believes that having satisfied employees is the key to continuously achieving higher performance. Therefore, creating a happy workplace environment for our employees is our commitment.	GRI 401:2016 Labor Relations GRI 405:2016 Diversity and Equal Opportunity	6.2 Talent Attraction and Retention	◎	◎	●	◎	◎
	Occupational safety and health	Social inclusion	Establish an operation safety management system to strengthen and educate relevant concepts and prevent occupational accidents, to maintain employees' and contractors' health and safety.	GRI 403:2018 Occupational Safety and Health	6.4 Safe and Healthy Workplace	●	●	●	●	●
	Transportation safety	Social inclusion	To ensure the transportation safety of raw materials and products, the strictest management system is adopted to ensure the safety of life and property and reduce pollution, which is our highest principle. Establish relevant management systems to achieve the goal of zero transportation accident. Minimize the impact on our employees, contractors, and customers.	Customize theme	6.5 Transportation Safety Management	◎	●	●	●	●
Governance	Economic performance	Stable operations	Economic performance is the fundamental for the sustainable development of the company. It allows shareholders to obtain reasonable returns on their investments and provides sufficient resources to care for employees. Furthermore, it fosters mutually beneficial relationships with partners, driving collective growth for the government, investors, society, and companies.	GRI 201:2016 Economic performance	3.2 Operational Performance	◎	●	●	◎	●
	Technology Research and Development	R&D and innovation	R&D and innovation are the foundation of the Company's sustainable development. Improve process technology and quality, reduce costs, understand market needs, develop new products with high added value, and enhance market competitiveness. Strengthen the trust of our customers and suppliers in our company.	Self-defined topic	3.5 Technology Research and Development	◎	◎	●	●	●
	Product quality	R&D and innovation	By utilizing an efficient quality system and a systematic management approach, we aim to stabilize product quality, decrease the defect rate, and enhance client satisfaction.	Self-defined topic	4.2 Product Quality	◎	◎	●	●	◎
	Intelligent Management	Stable operations	By implementing AI intelligent systems, optimizing process technology and management, and achieving energy savings and carbon reduction, we aim to enhance competitiveness and move towards sustainable operations. This approach enables product consistency and contributes to the economic, environmental and societal needs, meeting the requirements of various stakeholders.	Self-defined topic	3.6 Intelligent Management	●	●	●	●	●



3.Sustainable Development

Practicing sound corporate governance is the top priority of sustainability management. Therefore, we continue to develop and improve countermeasures for problems and actively improve the management system to create more fruitful results.

▶ (GRI 2-2、2-9 ~ 2-21、2-26、2-27、201-1、201-4、307-1、418-1、419-1)

SDGs ▶

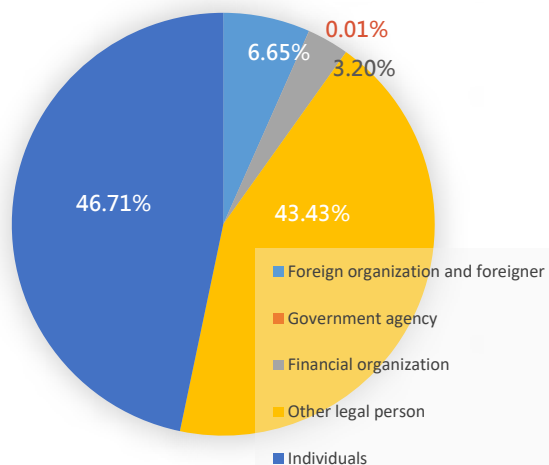


3.1 Corporate governance ► (GRI 2-16)

CGPC values the rights and interests of shareholders, and strictly abides by the relevant regulations on information disclosure, and provides information to shareholders on the Company's financial, business, insider shareholding and corporate governance conditions through the Market Observation Post System or the Company's website. We have established a corporate governance system in order to protect the rights and interests of shareholders and implement equal treatment of shareholders. A corporate governance system in which the shareholders have full rights to know, participate in and decide on material issues. (Please refer to [2023 Board of Directors' Resolutions](#)).



CGPC's composition of shareholders



As of the closing date of the shareholders' meeting on March 30, 2024

Government unit awards	Taiwan Corporate Sustainability Awards	Taiwan Sustainability Action Awards
<ul style="list-style-type: none"> Ranked 6% - 20% in the 10th Corporate Governance Evaluation Won recognition of the Occupational Safety and Health Administration, was awarded the "2023 Healthy Workforce Sustainability Pioneering Enterprise Award, 2023 Chemical Industry Enterprise Sustainability Report Disclosure of Occupational Health and Safety Indicators Proactive Rating of Outstanding Enterprises". 	<ul style="list-style-type: none"> Integrated Performance Award: Taiwan Top 100 Sustainable Enterprises Award ESG Report: Traditional Manufacturing - Platinum Award 	<ul style="list-style-type: none"> Silver: SDG 6 Improving the performance and reducing sludge of aerobic system for high-chloride wastewater Bronze: SDG 8 AIOT Intelligent Manufacturing Bronze: SDG 12: Activated carbon Fluidized Bed Technology for VOCs Adsorption and Control

3.1.1 Transparent information disclosure ► (GRI 2-9)

We adhere to the business philosophy of ethics, care, discipline, innovation and trustworthy corporate governance principles. Through [our website](#), [the Market Observation Post System](#), [annual report](#), [ESG report](#), [investor conference](#) and other diverse information channels, we disclose the information related to corporate governance, operations, financial statements, institutional investor conferences, the Group's current information, etc. to improve the communication with stakeholders and the speed, quality and credibility of information disclosure.

In 2023, the 4 sessions of institutional investor conferences, annual general meeting and the abovementioned diverse information disclosure channels helped us collect shareholders' opinions which are given to the management team as reference for decision-making. In addition, we value the rights and interests of foreign investors and the globalization of enterprises, and have followed corporate governance evaluation standards to improve the annual report, update information on the MOPS and the Company's website and disclose information in English. We actively establish good two-way communication channels with shareholders through various ways to realize the protection of shareholders' rights and interests.

3.1.2 Information on appointment of the Board and the status of operation ► (GRI 2-9~2-21)

The election of directors and independent directors adopts the nominated candidate approach. Shareholders who hold more than one percent of the total issued shares and the Board may propose a list of candidates of directors and independent directors, subject to the Board's approval of their qualifications, and proposed to the shareholders meeting. Shareholders shall make their election choices from the list of candidates. The Company's current Board is composed of 9 directors who were elected and assumed their roles in 2022, with extensive experience in various professional fields. Among them, 4 are independent directors, accounting for 44% of the Board of Directors. The term of office of the directors is 3 years and they may be re-elected. A total of 4 Board meetings were held in 2023, and the attendance rate of all directors in person reached 91.43% (100% including proxy attendance). Please refer to the Company's [website](#) or [annual report](#) °

Board Members

Term: May 30, 2022 to May 29, 2025

Members: Directors: Yi-Gui Wu (Chairperson), Han-Fu Lin (Vice Chairperson and President), Pei-Ji Wu, Han-Tai Liu, Hong-Duo Wu

Independent directors: Tsu-Te Li, Ying-Pin Cheng, Liang-Hsien Li (Note), Cheng-Yi Hsu

Gender: All male

Age:	50 and under	1 person
	50 - 59 years old	2 people
	60 - 69 years old	1 person
	70 and over	5 people

Note 1: Independent director Liang-Hsien Li resigned on October 12, 2023, and a by-election will be held at the 2024 Shareholders' Meeting.

Note 2: On May 28, 2024, one female director was added to achieve the goal of gender diversity, and Ms. Chen-Ming Chang was welcomed as an independent director of CGPC Company.

Board of Directors' Resolution Submission Process

Please refer to the table below for the process for submitting proposals for Board meetings, the units responsible for Board meetings, and the important resolutions of the Board of Directors in 2023.

Authority and Responsibility unit

Submitting a proposal

Functional committees

Convene conference within the scope of relevant responsibilities. Conduct resolution report, discuss, make resolutions, and prepare minutes of the conference regarding the resolutions' results.

Submission to the Board of Directors

Conduct resolution report, discuss, make resolutions, and prepare minutes of the conference regarding the resolutions' results.

2023 Board of Directors' Important Resolutions (GRI 2-16)

(Please refer to The Company's [website](#) or [annual report](#)) Furthermore, we set up the "Group Secretary of Board of Directors" as the administrative unit responsible for planning and organizing board meetings. Its role is to enhance the efficiency of board meetings and assist in the implementation of resolutions.

3.1.3 Board diversity and directors' recusal due to conflicts of interest (GRI 2-9、2-10、2-11、2-15)**► Specific management objectives of board diversity**

Diversity Policy for Board Members: The composition of the Board of Directors should consider diversity and the board of directors should have the following capabilities: judgment on operations, accounting and financial analysis, business management, crisis management, industry knowledge, perspectives on international markets, leadership, decision-making, laws and environmental protection. To attract outstanding external talent to join the company's Board of Directors, the number of independent director seats for this term has been increased from 3 to 4 and appointed on May 30, 2022. Mr. Cheng-Yi, Xu was appointed as a new independent director. He holds a Master's degree in Business Administration from a Swiss business school and currently serves as the Chairman of the TTFB Group. With his extensive business experience, Mr. Xu will contribute to enhancing the quality of board review and fulfilling the goal of implementing the board's diversity policy. The future diversity goal for the company's board members includes adding one director with expertise in sustainable development, who can assist the company in achieving its carbon reduction goals and implementing green energy policies. Additionally, it is planned to add one director with expertise in business risk management to enhance the company's sustainability competitiveness and further improve the functionality of the board. Implementation Status of Diversity Policy for Board Members: Please refer to The Company's [website](#) or [annual report](#).

► Conflict of interest and avoidance of directors

- To improve corporate governance, the Board of Directors has formulated comprehensive rules and regulations for avoiding conflicts of interest among directors to protect the rights and interests of investors. (See [Rules of Procedures for Board of Directors Meetings](#), [Code of Ethics and Conduct for Directors and Managers](#), [Ethical Corporate Management Best Practice Principles](#), [Business Integrity Procedures and Behavioral Guidelines](#)).
- Measures to avoid conflict of interest: When the Board of Directors discusses matters related to directors with conflicts of interest, the Chair reminds the relevant directors of the need to recuse themselves from the discussion. If the Chair has a conflict of interest and needs to recuse himself or herself, an independent director without any conflict of interest is to be appointed to act as the Acting Chair.
- The secretarial department of the Board of Directors shall record the reasons for recusal and the implementation status of recusal in the Board meeting minutes for motions having a conflict of interest with directors according to the Rules of Procedures for Board of Directors Meetings.
- The motions for recusal of conflicts of interest were executed in compliance with the laws and regulations in 2023. Please refer to the [Annual Report](#) - Board of Directors Operations. 5. For the content of response to conflicts of interest between Board members and stakeholders, please refer to FY2023 "Board of Directors Composition Information", "Top 10 Shareholders" in the 2023 [Annual Report](#), and "Related Party Transactions" in the 2023 Financial Report.

3.1.4 Status of performance evaluation of committees ► (GRI 2-18)

► 2023 Performance Evaluation of the Board of Directors, Individual Directors, and Functional Committees

Established evaluation methods for the performance of the Board, and regularly conducts self-evaluation of the whole Board, individual Board members, and functional committees every year, which is carried out by the Office of the Board Secretary. The results serve as a reference for the Company to review and improve.

- ◆ The 2023 internal self-assessment performance of the Board as a whole, individual directors, and functional committees is as follows:

Parties Evaluated	Overall Board of Directors	Individual Board Members	Functional Committees		
Aspect of assessment	<ul style="list-style-type: none"> ◆ Participation in the operation of the Company ◆ Improvement of the quality of the Board's decision making ◆ Composition and structure of the Board ◆ Election and continuing education of the directors ◆ Internal control 	<ul style="list-style-type: none"> ◆ Understand the objectives and missions of the Company ◆ Understanding of directors' job responsibilities ◆ Participation in the operation of the Company ◆ Internal relationship management and communication ◆ Specialization and continuous education of directors ◆ Internal control 	<ul style="list-style-type: none"> ◆ Participation in the operation of the Company ◆ Understanding of the Audit Committee's job responsibilities ◆ Improvement of the quality of the Audit Committee's decision making ◆ Makeup of the Audit Committee and election of members ◆ Internal control 	<ul style="list-style-type: none"> ◆ Participation in the operation of the Company ◆ Understanding of Salary and Remuneration Committee's job responsibilities ◆ Improvement of the quality of the Salary and Remuneration Committee's decision making ◆ Makeup of the Salary and Remuneration Committees and election of members 	<ul style="list-style-type: none"> ◆ Participation in the operation of the Company ◆ Understanding of the duties of the ESG Committee ◆ Improve the quality of the ESG Committee's decision-making ◆ Sustainable Development Committee composition and membership
Assessment results	Overall, the average score for all aspects of the Board of Directors was over 4.6 points, indicating a positive result.	The average score of all aspects of each director is above 4.8 and the evaluation results are good.	The average score of all aspects of the Audit Committee is 4.5 and the evaluation results are excellent.	The average score of all aspects of the Salary and Remuneration Committee is 5, and the evaluation results are excellent.	The average score for all aspects of the ESG Committee reached 4.94 points, indicating a positive overall result.

Note: The evaluation score is expressed in the range of 0 to 5, with a full score of 5. The period being evaluated is from January 1, 2023 to December 31, 2023.

The results of the performance evaluation of the overall Board of Directors, individual directors, and functional committees will be presented to the Board of Directors in the first quarter of 2024.

Recommendations and implementation matters:

In light of the increasing global focus on environmental, social, and governance (ESG) issues, the Company has actively implemented various measures in accordance with the corporate governance 3.0 sustainable development blueprint released by regulatory authorities. These initiatives have been presented to both the ESG Committee and the Board of Directors, providing detailed explanations to the directors. During meetings, the directors have frequently offered valuable insights and recommendations.

In addition to continuously enhancing corporate governance effectiveness, the Company has placed particular emphasis on implementing carbon reduction goals and developing green energy strategies. We are carefully planning and executing these initiatives to meet international standards and achieve our ambitious goals for sustainable development.

3.1.5 Enhancing directors' professional competence ► (GRI 2-17)

In order to reinforce the professional competence of directors (including independent directors), we regularly provide information on relevant continuing education courses to directors and assists directors with registration in the courses. A total of 6 hours of internal training was planned. On July 5, 2023, Professor Ju-Ching Ming of the Department of Political Science, National Taiwan University, gave a lecture on "CCP's Politics and Economy, International Situation, and Cross-Strait Relations" for 3 hours, and on October 13, 2023, PwC partner, Lin-Shun Hsu, CPA, gave a 3-hour refresher course on "How Directors Should Supervise the Company's Effectiveness in Corporate Risk Management and Crisis Management".

In 2023, all directors also participated in various external courses, and the total number of training hours was 54 hours. All directors met the hour number requirements specified by the Directions for the "Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEx-Listed Companies", and the content of the courses is detailed in our [website](#).

3.1.6 Chief Corporate Governance Officer ► (GRI 2-9 、 2-17)

In order to protect shareholders' rights and interests of and strengthen the professional competence of the board, the board resolution on May 9, 2019, approved the appointment of the director Yung-Chih Chen of legal affairs holding the concurrent position as the chief corporate governance officer in charge of corporate governance-related affairs.

Director Yung-Chih Chen has more than 7 years of experience as the head of legal department of a publicly-traded company. His main responsibilities are to handle matters related to board meetings and shareholders' meetings, preparing the minutes of the board meetings and shareholder meetings, assisting in the appointment of directors of the board and their continuing education, providing directors with information required for business implementations, helping directors comply with the laws and regulations, etc. (For details, please see the description on the [website](#)).

3.1.7 Functional committees ► (GRI 2-9)

We have established three functional committees under the Board of Directors, the Audit Committee, Salary and Remuneration Committee, and ESG Committee. For details, please visit the website of the respective committees.

Job Title	Name	<u>Audit Committee</u>	<u>Remuneration Committee</u>	<u>ESG Committee</u>
Chairman	Yi-Gui Wu	-	-	Committee Members
Director	Han-Fu Lin	-	-	Vice Committee Chairperson
Independent director	Tsu-Te Li	Convenor	Committee Members	-
Independent director	Ying-Pin Cheng	Committee Members	Convenor	Committee Chairperson
Independent director	Cheng-Yi Hsu	Committee Members	Committee Members	Committee Members



Note 1: The statistics in this table are as of December 31, 2023.


Note 2: Li, Liang-Xian Independent Director resigned on October 12, 2023, and his vacancies on the Audit Committee, Salary and Remuneration Committee, and Sustainable Development Committee were taken over by Independent Director Hsu, Cheng-Yi.

Note 3: Hu, Chi-Hung EVP of CGPC, took over as President of CGPC and served as the Vice Chairperson of the ESG Committee from April 1, 2024.

Note 4: On May 28, 2024, the shareholders' meeting approved the addition of an independent director: Ms. Chang, Zhen-Ming serves as a member of the Audit Committee and the ESG Committee.

3.1.8 Functions and operations of each functional committee ► (GRI 2-10、2-19~2-21)

Name of Committee	Responsibilities/Functions	Operation and Communication Status							
<div></div> <div>Audit Committee</div>	<ul style="list-style-type: none">◆ Formulation/revision of the internal control system and the supervision of its operation.◆ Formulation/revision of the procedures for handling material financial and business activities and the supervision of the operation.◆ Supervision of appointment and resignation of CPAs and their independence.◆ Appointment and dismissal of financial/accounting/internal audit officers.◆ Supervision of the appropriateness of financial reports.	<div><div><p>1. In order to fully exercise their duties and gain a better understanding of the company's financial reports and financial and business conditions, independent directors engage in separate communication with the auditors and internal audit manager at least once a year, without the presence of other directors or management personnel.</p><p>2. Communication between Independent Directors and Accountants/Internal Audit Manager:</p></div><div><table><tr><td><p>Date: November 2, 2023</p><p>The Audit Committee - 6th meeting of the 3rd Term</p></td><td><p>Attendees:</p><p>Independent Director Tsu-Te Li - Independent Director Ying-Pin Cheng - CPA Hsiu-Chun Huang - Audit Officer Kang-Nian Chiang.</p></td></tr><tr><td><p>Separate communication matters:</p><p>Accountants</p><p>1. Review implementation and conclusion of the 2023 Q3 consolidated financial statements.</p><p>2. 2023 annual financial report audit plan and key audit matters.</p><p>3. Introduction to IFRS S1 and S2 on Sustainability Disclosure.</p><p>4. Timeline for levying carbon fees and setting direction for carbon fees.</p></td><td><p>Internal audit supervisor</p><p>1. Implementation status of audit and the results.</p><p>2. Schedule of 2023 internal control self-evaluation.</p><p>3. 2024 audit plan.</p></td></tr><tr><td colspan="2"><p>Results of communication: No opinions</p></td></tr></table></div></div> <div><p>3. The project secretary of the Audit Committee will report on the operational status of risk management for the year.</p><p>◆ For detailed information, please refer to the official website - Audit Committee, Audit Committee's Organizational Regulations.</p></div>		<p>Date: November 2, 2023</p> <p>The Audit Committee - 6th meeting of the 3rd Term</p>	<p>Attendees:</p> <p>Independent Director Tsu-Te Li - Independent Director Ying-Pin Cheng - CPA Hsiu-Chun Huang - Audit Officer Kang-Nian Chiang.</p>	<p>Separate communication matters:</p> <p>Accountants</p> <p>1. Review implementation and conclusion of the 2023 Q3 consolidated financial statements.</p> <p>2. 2023 annual financial report audit plan and key audit matters.</p> <p>3. Introduction to IFRS S1 and S2 on Sustainability Disclosure.</p> <p>4. Timeline for levying carbon fees and setting direction for carbon fees.</p>	<p>Internal audit supervisor</p> <p>1. Implementation status of audit and the results.</p> <p>2. Schedule of 2023 internal control self-evaluation.</p> <p>3. 2024 audit plan.</p>	<p>Results of communication: No opinions</p>	
<p>Date: November 2, 2023</p> <p>The Audit Committee - 6th meeting of the 3rd Term</p>	<p>Attendees:</p> <p>Independent Director Tsu-Te Li - Independent Director Ying-Pin Cheng - CPA Hsiu-Chun Huang - Audit Officer Kang-Nian Chiang.</p>								
<p>Separate communication matters:</p> <p>Accountants</p> <p>1. Review implementation and conclusion of the 2023 Q3 consolidated financial statements.</p> <p>2. 2023 annual financial report audit plan and key audit matters.</p> <p>3. Introduction to IFRS S1 and S2 on Sustainability Disclosure.</p> <p>4. Timeline for levying carbon fees and setting direction for carbon fees.</p>	<p>Internal audit supervisor</p> <p>1. Implementation status of audit and the results.</p> <p>2. Schedule of 2023 internal control self-evaluation.</p> <p>3. 2024 audit plan.</p>								
<p>Results of communication: No opinions</p>									
<div></div> <div>Remuneration Committee</div>	<ul style="list-style-type: none">◆ Stipulate and regularly review the performance of the directors and managers, as well as the remuneration policies, systems, standards, and structure.◆ Regularly evaluate and stipulate director and manager remuneration.	<div><p>1. The current term of office is from June 2, 2022 to May 29, 2025, with a total of 3 members, consisting of all independent directors.</p><p>2. The committee convenes a minimum of 2 meetings per year and in 2023, a total of 3 meetings were held, with all committee members achieving a 100% attendance rate. Regarding the operation of this committee, please refer to the Company's website, Annual Report, or linked to the Market Observation Post System (MOPS) to research.</p><p>3. The committee conducts regular reviews of the (1) compensation policies, systems, standards and structures, and (2) performance evaluations of directors and executives. It considers various factors, including industry median compensation levels, individual time commitment, responsibilities, individual goal attainment, compensation of comparable positions, achievement of short-term and long-term business goals, and the financial position of the company. Based on these factors, the committee establishes and evaluates the compensation of directors and executives, subject to the approval by the Board of Directors. (GRI 2-20)</p><p>◆ Salary and Remuneration: Director compensation comprises remuneration, director fees, and business execution expenses. Executive compensation includes monthly salary, fixed bonuses, year-end bonuses, employee remuneration, annual special bonuses, retirement benefits, and welfare benefits as required by law. The remuneration for directors and employees is governed by the provisions of Article 25 of the company's bylaws. (GRI 2-19)</p><p>◆ Vinyl Chain's total compensation ratio in 2023: 15.43:1. Total compensation change ratio: 33.40%. (GRI 2-21)</p><p>◆ Performance evaluation: The aspect of assessment for directors' performance encompasses the understanding of company goals and missions, awareness of responsibilities, level of involvement in company operations, internal relationship management and communication, professionalism and continuous learning, and internal control, among others. The evaluation of managers' performance covers financial aspects (such as operating revenue, operating profit, and pre-tax net profit), customer aspects (customer satisfaction, service quality), product aspects (brand management, quality innovation), talent aspects (talent development, potential enhancement), safety aspects (zero pollution, zero emissions, zero occupational hazards, zero incidents, zero failure), project aspects (digital transformation, energy conservation and carbon reduction, circular economy, net-zero emissions), among which the weight of sustainability-related indicators is at least 5%. The president's performance indicators and sustainability-related items in 2023 include energy conservation and carbon reduction, process safety management, and new product development.</p><p>Note 1: Total Remuneration Ratio: Annual total remuneration of the highest-paid individual in the organization divided by the median annual total remuneration of all employees (excluding the highest-paid individual).</p><p>Note 2: Total Remuneration Change Ratio: Percentage increase in the annual total remuneration of the highest-paid individual in the organization divided by the percentage increase in the median annual total remuneration of all employees (excluding the highest-paid individual).</p><p>◆ For detailed information, please refer to the official website - Remuneration Committee, Remuneration Committee's Organizational Regulations, and Annual Report.</p></div>							

Name of Committee	Responsibilities/Functions	Operation and Communication Status
 ESG Committee	<ul style="list-style-type: none"> ◆ Formulate sustainable development policy. ◆ Supervise the implementation of strategic planning of sustainable development, annual plan and project plans, and evaluate the status of implementation. ◆ Review the sustainable report. ◆ Report the annual implementation results of sustainable development to the Board every year. 	<ol style="list-style-type: none"> 1. The third term of office is from June 2, 2022 to May 29, 2025 and the 4 committee members include Chairperson Yi-Gui Wu, Vice Chairperson Han-Fu Lin who concurrently serves as the president, independent directors Ying-Pin Cheng and Cheng-Yi Hsu. 2. The ESG Committee convened two Board meetings in 2023, and the attendance of all committee members in person reached 87.50% (100% for including attendance by proxy). 3. Report 2023 sustainable development progress and annual sustainability plan report to the Board of Directors. <ul style="list-style-type: none"> ◆ For detailed information, please refer to the CGPC's ESG Area (ESG Committee meeting minutes), ESG Committee's Organizational Regulations.

3.1.9 Implement ethical management (GRI 2-13、2-14、2-15)

Ethical operations is CGPC's corporate culture, we improve the behaviors and professional ethics of all employees to establish sound business operations and enterprise management, we explicitly prohibit unethical behavior, and the standard applies to directors and officers, employees or people who have substantial control over the Company. To promote management in ethical operations, the head of [Corporate Governance](#) provides regular reports (at least once a year) to the Board of Directors. (For detailed information, please refer to the [official website](#).)

Professional ethics and management

► Establish systems

CGPC has established the business philosophy of ethics, care, discipline and innovation, and formulated code of conduct for business activities, such as [the Ethical Management Best Practice Principles](#), [the Procedures for Ethical Management and Guidelines for Conduct](#), [the Directors and Managers Ethical Code of Conduct](#), and [the Code of Conduct for Employees Taking Part-Time Jobs](#). These standards apply to everyone who conduct business activities on behalf of the Company, including the employees, management, directors and members of subsidiaries. The contents include the prohibition of unethical behaviors and conducting bribery or receiving bribery, recusal from conflict of interests, the prohibition of leaking business opportunities, insider trading, improper charitable donations or sponsorships or illegal political contributions.

► Ethical management

CGPC has set up an "[Audit Committee mailbox](#)" on the Company's website, which handles whistleblowing cases related to the obligations of the Audit Committee. The board and the Audit Committee also have approved the "Measures Handling Reporting of Illegal and Unethical or Dishonest Behaviors." The whistleblowing measures stipulate the handling measures for the notification and the relevant confidentiality measures, and designate responsible units for handling the cases. We spare no efforts in confidentiality and protection of the whistleblowers, participating investigators and the case content. If the whistleblower is an employee, we guarantee that the person will not be mistreated.

CGPC abides by the Ethical Operations Management Best Practice Principles and all employees must abide by the Company's rules and policies. We use the ERP system to enable relevant employees and managers to obtain the necessary information immediately, which reflects the actual performance of the operation, and formulate relevant standards according to the Company's policies after risk assessment. The internal control self-evaluation can examine the compliance with laws and regulations, awareness of business ethics, and assessment of potential risks in order to achieve self-supervision. The internal whistleblowing measure files grievances through the Company's internal direct supervisor, head of human resources and head of audit supervisor. The prudent acceptance and handling process respects the parties involved and the confidentiality of the incident investigation. Suggestions or grievances filed from external stakeholders can also be handled by dedicated personnel through the mailbox on CGPC's official website. The "[Contact Us](#)" section, "[Audit Committee mailbox](#)" in the Investor Services, and the "[Employee Complaint Channel](#)" in the Human Resources section of the website did not receive whistleblowing or grievance cases in 2023.

Note: ERP (Enterprise Resource Planning).

Operation and Annual Implementation of Ethical Management

For the Company's directors, managers, and employees to understand the Group's integrity and ethical standards and to strictly abide by them, the Company's employment conditions explicitly stipulate that employees must abide by the Group's Ethical Corporate Management Policy. Upon election, all directors and senior managers will sign the Ethical Corporate Management Statement, which is kept for future reference.

► Promotion education

For employees to understand the Company's professional ethics, new employees must sign the Letter of Undertaking on their arrival on the day when they are on the job, in accordance with the Company's regulations. The Letter of Undertaking clearly states the Company's policy on ethical corporate management, and employees must also promise to abide by the Company's code of ethics. In addition to announcing the integrity-related regulations on the Company's website for colleagues to browse and abide by, the Company continuously invites well-known scholars, experts, or lawyers to conduct education, training, and promotion sessions for directors, officers, employees, and substantial controllers, so they can understand the Companies' resolve to implement ethical corporate management, the related policies, prevention programs, and the consequences of committing unethical conduct.

In order to improve employees' professional competence, an internal continuing education seminar on ethics was arranged in 2023, with a total of 861.5 hours and a total of 441 person-times in attendance. For details, please refer to the following:

Item	Ethics seminars	Hours	Per-son-time	Total hours
1	[Ethical Seminar] Stop and listen to the traps of information security	2	137	274
2	[Ethical Seminar] Legal Awareness in the Smart Era and Counter-measures	2	95	190
3	[Ethical Seminar] Promotion of Legal Awareness - Insider Trading and Gender Equality	2	67	134
4	[Ethical Seminar] Preventing Workplace Misconduct and Violations	2	125	250
5	[Ethical Seminar] Legal Liabilities of Breach of Trust and Case Study	3	1	3
6	[Ethical Seminar] Internet Copyright and Legal use of Software	2	47	94
7	[Ethical Seminar] Introduction to the Trade Secrets Act and Case Study	3	56	168
8	[Ethical Seminar] Copyright Protection and Fair Use	2	7	14
9	[Ethical Seminar] Crossing the USSIG Island	2	1	2
10	Code of Conduct Training	1	839	839
Total			1,375	1,968

Note: The statistics of the three companies, CGPC, TVCM, and Taiwan Highpolymer do not include the training of directors and the head of corporate governance.

► Education and training sessions and seminars on ethics



2023/06/07 [Ethical Seminar] Stop and Listen to the Traps of Information Security



2023/09/19 [Ethical Seminar] Legal Awareness in the Smart Era and Countermeasures

3.1.10 Intellectual property rights management plan

In order to enhance the Company's industrial status and maintain the existing technological achievements, we integrate intellectual property rights with operations objectives and R&D resources. It is expected that the establishment of the Company's intellectual property management system can improve the Company's competitive advantage in the industry and obtain higher benefits through high-value products and services (using the PDCA cycle to construct an intellectual property management system).






Report on the annual implementation status of intellectual property rights:

The "2023 Intellectual Property Management Implementation Status and 2024 R&D Plan" was submitted to the Board of Directors for approval on November 2, 2023. (For details, please see the description on the [website](#))

3.2 Operating performance ► (GRI 2-2、201-1、201-4、3-3)

In order to enable shareholders and investors to obtain more on-time and accurate information of CGPC when carrying out investment decisions, the information on the monthly revenue release, quarterly financial reports, annual general meetings and institutional investor conference, is made available in the "[Investor Services](#)" section of the Company's website or the [MOPS](#). Shareholders and investors can also contact the spokesperson or acting spokesperson by phone, or use the "[Contact Us](#)" on the Company's website and the USI Group's "[Contact Us](#)" on its website to submit any questions and suggestions, and all opinions will be handled by dedicated personnel.

Material issue: Economic performance

	The Significance and Impact of CGPC	It is the foundation of the Company's sustainable development, enabling shareholders to obtain reasonable return on investment and the Company to have sufficient resources to take care of employees. The Company also creates mutually beneficial and win-win relationships with clients, suppliers, and collaborating partners to facilitate the growth of both the society and the Company. Affected parties: government agencies, employees, investors, suppliers.
	Develop Strategy	Improve product value, provide customers with satisfactory service quality, and maintain stable profits and sustainable development of the enterprise.
	Policy Commitment	Implement corporate governance and environmental protection measures for energy conservation and carbon reduction to create a workplace of wellness.
	Grievance Unit	President's Office
	SASB Indicator	--

Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Reinforce differentiation of PVC resin products, upgrade equipment to improve quality and output and establish stable sales channels.	PVC resin production growth rate (%)	3.3	2.1 	3.7	4.0	8.0

Note 1: 2019 is the base year.

Note 2: Reasons for failure to achieve: In 2023, the global economy was overshadowed by factors such as the Russia-Ukraine war, inflation, interest rate concerns and hikes, and China's economic recovery was not as expected after the lockdown was lifted, the overall downstream demand was weak, leading to a slowdown in demand. In response to these challenges, CGPC proactively adjusted our operations in a rolling manner to minimize the negative impact (For detailed information, please refer to 3.2 section).



► Operational performance:

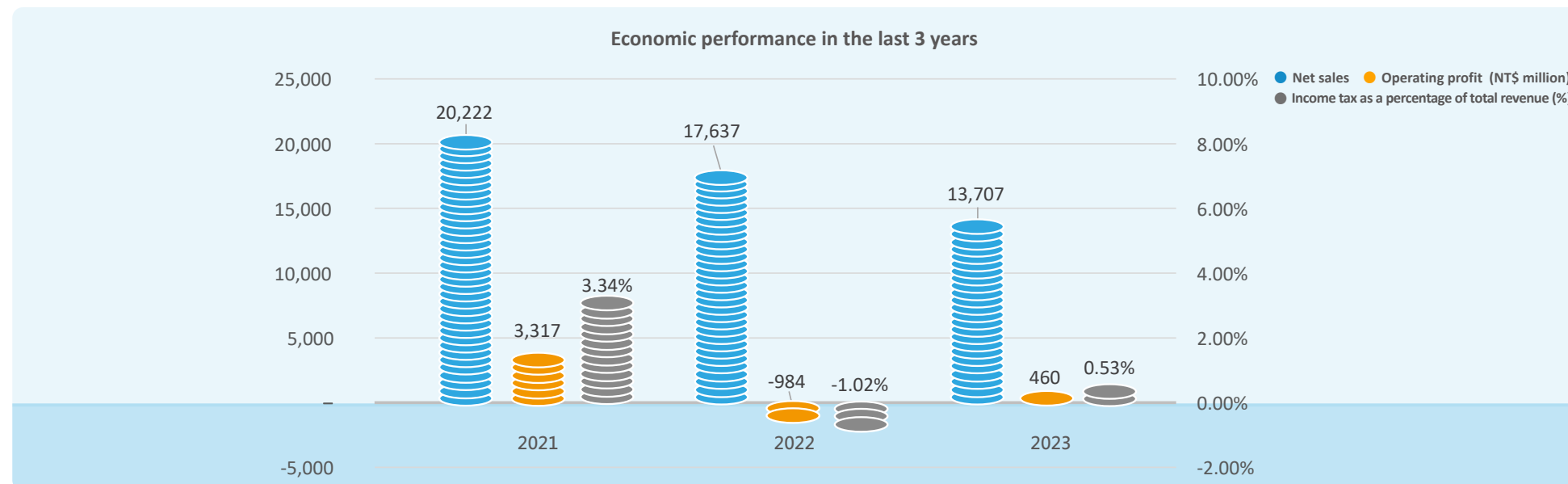
Focusing on the trends of global net-zero emissions and domestic carbon fee collection, CGPC actively implements ESG sustainable operations. Our efforts include: replacing energy-consuming equipment, increasing the proportion of low-carbon energy sources, building photovoltaic devices, and introducing AI to optimize processes, improve energy consumption and safety. In 2023, the Board of Directors approved spending NT\$4.5 billion to upgrade the compound tanks and surrounding equipment. This can increase production capacity, equipment safety, and reduce unit consumption and VOCs escape. The company's management team will exert a vertical integration to expand its niche, implement industrial safety and environmental protection, continue to reduce costs, and fulfill social responsibilities, so as to achieve the goal of total sales of 520,000 tons of various products in 2024 and the goal of corporate sustainability. For details, see Annual Report: 2023 Business Report.

(Unit: NT\$)			
Item	Amount (NTD million)	Budget Achievement rate	Compared to the same period last year (NTD million)
Consolidated Net sales	13,707	85%	-3,930
Consolidated net operating profit (loss)	460	54%	1,444
Consolidated profit (loss) after tax	394	60%	732
Consolidated net loss after tax attributable to the Company's owners	342	55%	712

► Sales volume of each product in 2023 (10,000 tons)

Product	Production volume (10,000 tons)	Sales volume (10,000 tons)	Budget Achievement Rate
VCM	42.60	3	125%
PVC resin	39.10	35.40	-4.0%
Chemicals(100% concentration meter)	6.90	5.50	-9.0%
Fabricated products			
Building materials products	2.00	1.90	-5.0%
Tape products	2.00	2.00	-20.0%
Rubber Products (10,000 yards)	513	534	-33.0%

3.2.1 Economic performance (net sales and operating profit)



Note 1: Adopted the International Financial Reporting Standards (IFRS) recognized by the Financial Supervisory Commission starting 2014.

Note 2: The relevant financial information can be found at the [MOPS](#).

Note 3: The operational performance is expressed based on the consolidated financial statements.

3.2.2 Profit distribution

1. Dividend policy stipulated in the Company's Articles of Incorporation: please refer to the explanation in [Article 33](#).

2. Proposal to distribute cash dividends at the Shareholders' Meeting:

For the distribution of 2023 profit, the Board proposed to distribute cash dividends of NT\$0.35 per share, which would be subject to the approval by the resolution of the annual general meeting held on May 28, 2024, before being carried out in accordance with the regulations. (For details, see the official website - [Material Information](#))

- ◆ As the Company is in a mature industry, the distribution of profits takes into account the needs of research, development, and business diversification, and the shareholder dividends shall not be less than 10% of the distributable profits for the current year, of which cash dividends shall not be less than 10% of all dividends. However, if the annual distributable profit per share is less than NT\$0.1, it shall not

3.2.3 The revenue and dividend distribution in the last 3 years are as follows (excluding subsidiaries)

(Unit: NT\$ million)

Item	2021	2022	2023
Operating revenue	20,222	17,637	13,707
Earnings after tax	2,469	-370	342
Earnings after tax per share (NT\$/Share)	4.25	-0.64	0.59
Dividends distribution (Including cash and stock dividends)	1,453	174	203
Cash dividends per share (NT\$/Share)	2.50	0.30	0.35
Stock dividends per share (NT\$/Share)	0	0	0
Total Dividends distribution (%)	59	-47	59
Price/Earnings Ratio	8.33	-43.80	41.75
Price/Dividends Ratio	14.16	93.43	70.37
Cash Dividends Yield(%)	7.06	1.07	1.42

Note: (1) Price-Earnings ratio = Average closing price per share / Earnings per share of the year
 (2) Price-Dividends ratio = Average closing price per share / Cash dividends per share of the year
 (3) Cash dividends yield = Cash dividend per share / Average closing price per share of the year

3.2.4 Description of direct economic value generated and distributed by the organization

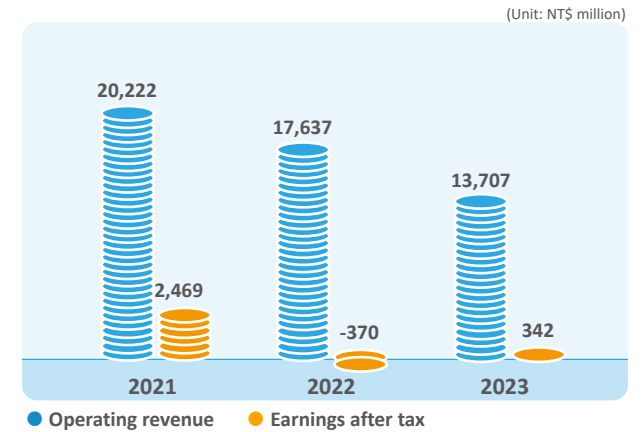
(Unit: NT\$ million)

Item	2021	2022	2023
Direct economic value generated			
Net sales revenue	20,222	17,637	13,707
Service revenue	3	3	3
Financial investment revenue	55	40	58
Asset sales revenue	20	8	17
Total	20,300	17,688	13,786
Economic value distributed			
Operating costs	15,570	17,028	12,091
Employee salary and benefits	1,392	1,113	1,130
Payments to funders	1,571	201	273
Payments to the government			
Income tax	676	(179)	73
Land value tax/House tax/Others	20	27	26
Community investment (including charitable giving)	6	10	2
Total	19,235	18,201	13,595
Economic value retained	1,065	(512)	190

Note 1: Adopted the International Financial Reporting Standards (IFRS) recognized by the Financial Supervisory Commission starting 2014.

Note 2: The relevant financial information can be found at the [MOPS](#).

▶ Operating revenue and after-tax profit in the last 3 years



3.2.5 2022 Government subsidies

(Unit: NT\$ thousand)

Abstract	Amount
Domestic Investment Interest Subsidies	6,949
Occupational safety and Health Administration, Ministry of Labor	140
Taoyuan-Hsinchu-Miaoli Branch of the Workforce Development Agency, Ministry of Labor	59
Bureau of Labor Insurance, Ministry of Labor	48
Total	7,196

3.3 Risk Management ▶ (GRI 2-9、2-11、2-12、418-1)

CGPC identifies relevant risks that may affect the Company's sustainable development from its daily operations, and formulates relevant management strategies and countermeasures to reduce the possible risks of operational disruption. At present, specific matters or significant risks are identified, evaluated, and screened by each implementation and responsible unit, and relevant plans for corresponding measures are prepared. The Audit Office conducts supervision and follow-up to achieve continuous improvement and PDCA cycle to reinforce risk management practices. The challenges and responses of various risks at this phase are described as follows:

3.3.1 Risk types and countermeasures ▶ (GRI 2-9、2-11、2-12)

In order to establish sound risk management within the company, our board of directors ensures effective evaluation and oversight of various existing or potential risks. In December 2020, the board approved the "[Risk Management Policies and Procedures](#)." The General Manager's Office provides an annual report to the board on the company's risk management operations, allowing the directors to have a comprehensive understanding of the risks faced by the company. This enables them to provide more specific recommendations regarding the company's operating strategies in a timely manner.

Description of risk management

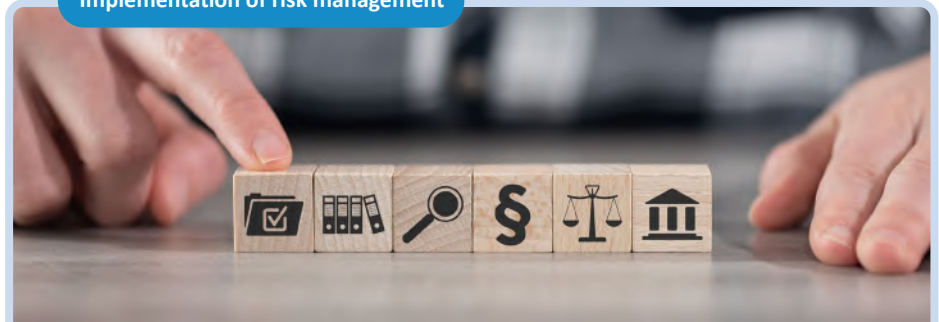


The ESG Committee conducts analysis based on the principle of materiality of the ESG Report to communicate with internal and external stakeholders, and reviews domestic and foreign research reports and literature and consolidates the evaluation data of various segments and subsidiaries to evaluate the materiality of ESG issues, formulate risk management policies for effective identification, measurement, monitoring and control, and take specific action plans to reduce the impact of related risks.

The Audit Committee and the board approved the Risk Management Policy and Procedures" in 2020. The main contents include risk management policies, risk management organization, risk management process, categories and practices, etc., to effectively control the risks arising from business activities. The status of the current year's risk management operations is reported to the Audit Committee and the board at least once a year.

Comply with the relevant laws and regulations of the competent authority, formulate the operating standards of each risk management unit, and carry out risk management and control of daily operations. Follow the development of international and domestic risk management systems at all time, review and improve risk management policies accordingly, and continuously adjust and improve the risk management methods in response to changes in the internal and external environment, so as to reinforce the effectiveness of the Company's risk management implementation, and protect the interests of the Company, employees, shareholders and stakeholders.

Implementation of risk management



We have always complied with the relevant laws and regulations of the competent authority in the formulation the operating standards of each risk management unit and the implementation of risk management and control of daily operations.

The main risks faced in 2023 include the continuation of the Covid-19 epidemic、2050 net zero emissions, the supplydemand imbalance and shipping variables caused by extreme global climate change, Russian-Ukraine war, inflation, interest rate hikes, the "Zero COVID" policy in mainland China, and unexpected incidents in Asian manufacturing have led to a global imbalance in supply and demand, the decline in prices in the Asian market for over eight months, the clauses for large power users, etc. The status of each risk management unit is summarized in the [Sustainable Development \(ESG\) Area - Risk Operations Scenario](#).

Review response measures which can be effectively and appropriately identified and measured by risk management procedures. Currently, all risks can be controlled with an acceptable scale.

(For details, please see the description on the [website](#)).

Risk management identification process

The risk identification process involves each responsible functional department assessing and identifying significant risks based on recent international economic developments, the latest ESG regulations, and risk and opportunity assessment management methods. This ongoing evaluation and rolling revision process ensures that risks are promptly assessed and appropriate adjustments are made. Finally, the results of the identification of significant risks from each department are compiled by the General Manager's Office and reported to the Board of Directors. The risk assessment boundary is mainly for the Company, while the scope of risk assessment includes subsidiaries that have been financially stated.

Environmental

Description of Risks	Response Measures
Climate Change and Environmental Risks	<ul style="list-style-type: none"> USI Group has set the 2030 carbon reduction goals of "27% reduction in carbon emissions in 2030 compared to 2017" and "carbon neutrality by 2050" as long-term corporate goals. As of the end of 2023, the cumulative grid-connected capacity of CGPC Main Plant has reached 2.1MW. The Group promotes the goal of "zero grams of leakage", safety and environmental audit plans, formulating plant visits for energy conservation and carbon reduction, and continuously monitoring changes in relevant policies and regulations, as well as publicizing energy conservation and carbon reduction policies, providing self-test information, and introducing the ISO 50001 energy management system, obtaining certificates, and regularly tracking the implementation progress. Passed management system certifications for greenhouse gases, product carbon footprints, water resources management, and organizational water footprint. We have verified our greenhouse gas emissions and uploaded them to the national greenhouse gas registration platform of the Ministry of Environment, Executive Yuan. In 2023, the Company joined the supply chain to participate in the two environmental themes of "Climate Change" and "Water Security" from the Carbon Disclosure Project (CDP) and received a B- and B respectively. In 2023, we established the Climate-related Financial Disclosure (TCFD) Adjustment Management Group at the CGPC Main Plant, which analyzes potential impacts and impacts of climate change, identifies possible risks and opportunities, conducts financial impact analysis, and plans response measures for climate change.

Social

Description of Risks	Response Measures
Human Resources Risk	<ul style="list-style-type: none"> Talent selection: Search for talents suitable for vacancies using the talent bank and social media website and establish industry-academia collaborations with well-known universities in Taiwan. Talent development: Establish training maps, development plans, new employee training, management function training, professional function training, common general education courses, language courses, and actively re-model and reengineer employee skills. An annual promotion reporting system has been established. Talent management: Streamline the management personnel reserve and reporting process and enhance execution efficiency. Strengthen talent identification and training planning, and concretely implement successor training. Prevention of talent loss risk: We continue to maintain good communication with the labor union and establish a competitive remuneration system. In addition to setting reasonable and competitive remuneration levels, we also pay employees based on local laws, industry practices, and the subsidiaries' overall operational performance.
Occupational Safety Risks	<ul style="list-style-type: none"> The Group holds the annual technical case study presentation meeting of the group's factories and the semi-annual meeting on the resource integration of the northern plant to encourage each plant to accumulate 1,000 safety days with an excellent performance trophy and public praise to reduce the occupational safety hazard factor. Resource integration meeting of CGPC Main Plant: Held on April 21, 2023 and October 18, 2023. The Group implements the annual safety and environmental protection audit plan, organizes annual safety and environmental protection training, and audits the compliance of industrial safety and health, environmental protection, and fire safety regulations in each plant. Strengthen the safety management of contractors and establish the "USI Group's Contractor Penalty Reference Standard for Violation of Important Industrial Safety Regulations". We promote the CCPS "Process Safety Beacon" e-newsletter at the beginning of each month and the process safety column of the Petrochemical Industry Magazine in the middle of each month, so as to continuously promote and instill process safety knowledge among the personnel of all plants. The training has been introduced into the USA with the golden rules of industrial safety (preserving life) for the petrochemical industry. The training is divided into the southern zone and the northern zone. The northern session is to be held on 8/17 at the CGPC Main Plant. In February 2023, we entrusted the international organization BSI to train 10 PSM internal auditors and strengthen the auditors' capabilities through cross-plant (Group friend plant) mutual audits to further improve the PSM process safety management system. In September 2023, the Company signed a letter of intent with Toufen City Health Center to promote the correct concept of oral health care, implement oral cancer prevention, and promote a healthy workplace culture. In 2023, Kaohsiung University of Science and Technology assisted in the development of the "Computerized Maintenance Management System (CMMS)" to calculate the Mean Time Between Failures (MTBF) and Mean Time To Repair (MTTR). This in turn increases equipment reliability and reduces occupational safety and health risks from equipment failures. In 2023, the Company made improvements to the noise caused by the high noise during the pulverizing process of PVC plastic pipes in the plant. The noise in the area was reduced from 95.3 dBA before the improvement to 81.1 dBA. In 2023, the AOI intelligent sensing safety system for forklifts was introduced. It has been installed on 6 forklifts, and the trial operation is in good condition. We will continue to expand to the whole plant in the future. In 2023, we invited the supply chain to respond to the "Self-Evaluation Scale for Corporate Sustainability Occupational Health and Safety Performance Table" of the Occupational Safety and Health Administration, MOL, to conduct a self-evaluation on the achievement status. Subsequently, the evaluation and analysis results were used as reference for improvements to the supply chain occupational health and safety weaknesses.

Governance

Description of Risks	Response Measures
Production, Marketing, and Operational Risks	<ul style="list-style-type: none"> ◆ We adopt a vertically integrated strategy from materials procurement, production, and sales, and regularly review raw material and finished product inventories. ◆ Production and sales scheduling: Flexible adjustment of production plans and response to market changes by reviewing inventory changes on a rolling basis, stabilizing product interest spreads, and preventing devaluation losses. ◆ To comply with the circular economy and the development of environmentally friendly products, we developed non-PVC plastics and other processed products, and obtained the international GRS certification to facilitate the promotion of environmentally friendly product areas.
Financial Risk	<ul style="list-style-type: none"> ◆ Interest rate fluctuation: Central banks around the world have raised interest rates to curb inflation. During the rising interest rates, short-, medium-, and long-term capital needs are adjusted accordingly. The loan limit is increased and the proportion of short-term, medium-term, and long-term loans is adjusted accordingly while monitoring the market trends and changes in order to reduce the risk arising from interest rate fluctuations. ◆ Exchange rate fluctuation: The US Federal Reserve hiked interest rates significantly to combat inflation, resulting in extreme volatility in the international foreign exchange market. In principle, the Company adopts a 100% hedging of the net position during foreign exchange operations. However, when the exchange rate market is clearly favorable to the company, the hedging ratio is appropriately adjusted within the risk scope. ◆ Property Insurance: we mitigate risks by obtaining various property insurance policies, effectively transferring the risk to insurance companies. For example: fire insurance, business interruption insurance, cargo transportation insurance. ◆ Endorsement guarantee: implemented in accordance with the "Procedures for Making Endorsements and Guarantees". ◆ Accounts receivable risk: actively care about customers' business conditions or analyze customers' financial reports. <ul style="list-style-type: none"> (1) Domestic customers: add substantial guarantees and qualified joint guarantors. (2) Export customers: increase the amount of credit insurance and increase the letters of credit insurance for certain countries.
Disaster Risk	<ul style="list-style-type: none"> ◆ Intensive drill: On August 24, 2023, 30 seed personnel were dispatched to the "Petrochemical Disaster Rescue Training Course (Actual Fire Training)" at the Training Center of the Fire Department of the Ministry of the Interior. In September of the same year, the security inspectors who passed the training were selected to carry out the structure and equipment maintenance, self-inspection, and safety management of public dangerous goods places. ◆ Continue to create and update the H-CARD for public dangerous goods to facilitate the provision of disaster relief information. ◆ In response to the explosion accident at the Pingtung Plant of Ming Yang International, a total of 3 organic peroxide (catalyst) locations in the plant were inventoried in September 2023. The storage and use are in compliance with the laws and regulations of the existing locations. ◆ In June 2023, we began to promote the establishment of a chemical cloud in the plant to facilitate the subsequent systematization of chemical information, providing the plant chemical type, quantity, location, layout, location plan, and necessary rescue information.
Technology and Information Security Risk	<ul style="list-style-type: none"> ◆ Audits and verifications: The Company has passed ISO 27001 certification for 9 consecutive years this year. Through external audits, social engineering drills, and information security education, training, and tests are conducted every six months to strengthen the information security awareness of employees. The Company also conducts information environment and information security health checks and the Group's Internal Audit Department conducts 2 information security audits every year. Continue to create and update the H-CARD for public dangerous goods to facilitate the provision of disaster relief information. ◆ Security management: Two sets of endpoint detection and response software with important heterogeneous information assets and a three-stage defense system (before, during, and after the event) are deployed to manage information security, and to perform the recycling, inventory, and scan of the Group's USB external storage devices and anti-virus health checks. ◆ Establish an information security responsible unit, responsible manager, and personnel to be responsible for planning, monitoring, and executing information security management operations and supervise them. ◆ Introduction of artificial intelligence (AI): Moving toward the goal of smart factories. Project: Manufacturing process (drying process) optimization, manufacturing process safety and supervision, electric plate AOI thermal image identification, fully automatic 3D storage system, pipe production line automatic detection and adjustment, safety identification for PVC resin packaging machines, intelligent sensing safety system for forklifts.
Others	<ul style="list-style-type: none"> ◆ R&D risk: Incorporate carbon emissions into product development, define circular economy, clean processes, green energy, and other aspects for product development, and meet regularly to review the competitiveness of product development. ◆ Legal risk - dispute resolution: In 2023, the Company provided legal advice and assistance for the air pollution incident at the Toufen Main Plant and the issue of idle land at the Zhongshan Plant. On the others, in terms of legal compliance risk, transaction risk, and legal compliance awareness and behavior, all have operated normally this year.

3.3.2 Cybersecurity risk management ► (GRI 2-9, 2-11, 2-12)

We adopt the 「[Risk Management Policies and Procedures](#)」 as the standards for the establishment and development, operation, review and continuous improvement of the overall information security management system. We also establish information policies and objectives according to our operating activities and risks to carry out information security management and effectively control risks.

1 Establish an information security promotion team with the following duties:

- ◆ Formulate information security risk management framework and information security policy.
- ◆ Conduct information security risk assessment and analysis.
- ◆ Information security maintenance and execution.
- ◆ Confirmation of the effectiveness of information security operations.

3 Protection of customers' confidential information

- ◆ Comply with laws and regulations to formulate relevant standards.
- ◆ Personal data de-identification and monitoring of abnormal traffic of network access.
- ◆ Reinforce firewall management and authorization control for data access.
- ◆ Carry out internal and external information security risk assessment and improvement through external audit.

4 Risk types and countermeasures – Risks and challenges

- ◆ Facing the increasingly severe information security attacks, strengthening information security protection without affecting the yield of the production line is a great challenge for information administrators.
- ◆ We have referred to industry practices and the advice of information security consultants, and applied the use of firewall equipment to separate the computers of information tasks and the computers of the industrial control operations system. The implementation shows immediate results in preventing damage causes information security incidents.

2 Develop management solutions

Regulations and standards:

- ◆ In terms of personal data protection, we follow the European Union's [General Data Protection Regulation (GDPR)].
- ◆ In terms of customer data protection, the Group's Information Technology Division has formulated the General Principles of Information Security Management Policy; the System Development and Maintenance Management Standards; the Key Points for Application System Program Online Operations Management; the Key Points of Database Management; the Information System Authorization and Equipment Protection Management and other standards to carry out the care of privacy information in the aspect of information security management.
- ◆ Formulate information security related policies, planning, governance, supervision and implementation in accordance with ISO 27001 to ensure the Group's information security protection capabilities and reinforce employees' information security awareness.

Information security awareness:

- ◆ Regularly hold education, training and promotion sessions
- ◆ A professional consulting company is commissioned to perform social engineering drills twice a year.
- ◆ Promote the Zero Trust network security protection model.

Defense tools:

- ◆ Prudent authorization control, masking and restricting personal data fields to be read.
- ◆ Reinforce measures such as firewall management, system vulnerability scanning, operating environment segmentation and de-identification processing.
- ◆ Establish network traffic monitoring and analyze potential threats to prevent illegal intrusions or improper disclosure of information.

Information security governance:

- ◆ Hold information security management review meetings for the information security management system (ISMS).
- ◆ Improve employees' information security awareness and reinforce information security education and training.
- ◆ Conduct information security risk assessment and analysis.
- ◆ Review information security infrastructure design.
- ◆ Continue to obtain ISO 27001 certification every year.

5 Implementation of risk management

Regulations and standards:

- ◆ Comply with the EU GDPR regulations to protect personal data.

Audit:

- ◆ Internal audits are conducted, twice a year.
- ◆ External audit is conducted once a year by a third-party organization.

Information security education and training:

- ◆ 4 hours of education and training are performed by information personnel every year.

Strengthen the control of external devices of industrial equipment:

- ◆ Restrict USB access to prevent data leakage and external information security hazard attacks from affecting production lines.

Social engineering drills:

- ◆ Implemented twice a year.

External storage media health check:

- ◆ Implement a comprehensive inspection of external storage media and reduce the risk of data loss and hidden information security hazards from external devices through regular anti-virus scanning, inspection, and inventory.

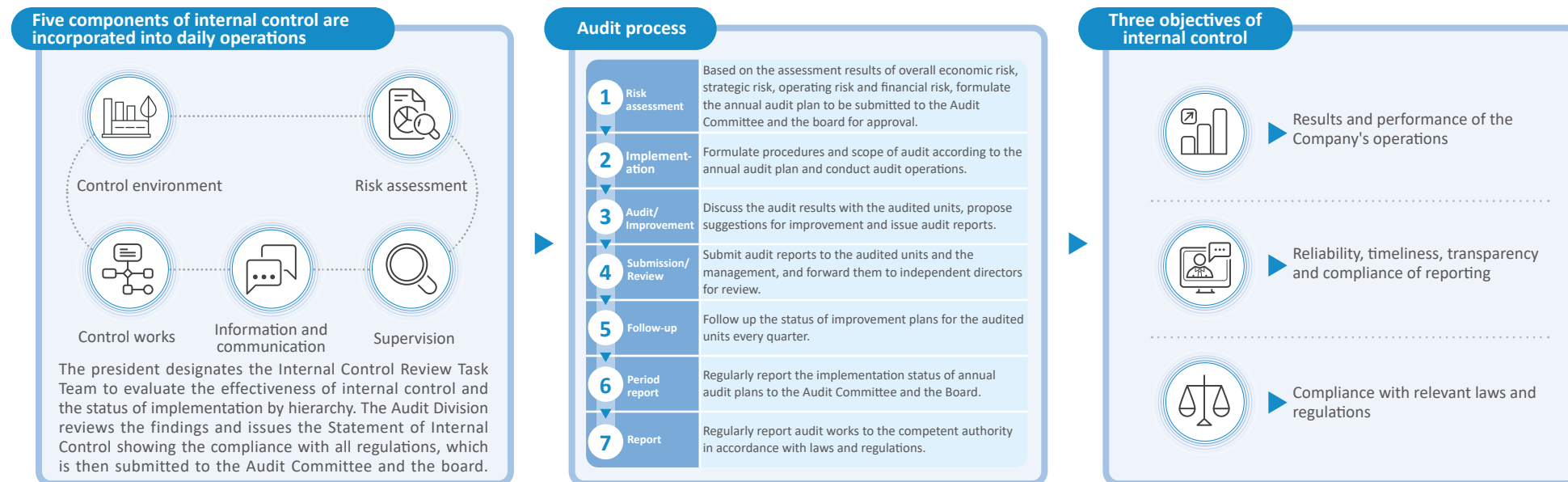
Vulnerability scanning and detection:

- ◆ Regularly perform vulnerability scanning and detection of the server's operating systems to identify potential risks for system correction or propose compensatory measures to improve system security. This is done once a year, and has been implemented continuously for 8 years.

3.3.3 Internal control (GRI 2-26)

Internal audit system

CGPC has set up an independent internal audit unit directly under the board to evaluate the design and implementation of internal control and formulate and implement annual audit plans. The audit supervisor has an international internal auditor certificate, and conducts audits based on the principles of independence, ethics, and integrity. The audit supervisor regularly attends meetings of the board and the Audit Committee, reports on major audit findings, and follow up subsequent improvements. The audit supervisor is also the dedicated person responsible for the [mailbox of the Audit Committee](#) and the grievance filing hotline to handle grievances.



Conduct risk assessment and formulate audit plans

In 2023, the internal audit unit completed the audit on schedule according to the audit plan approved by the Board and issued 48 audit reports and 4 follow-up reports. The recommended items have been improved, and the summary is as follows:

Name of Audit Process	Summary of Recommendations	Summary of Improvement Status
Production cycle and regulatory compliance matters	Random checks of the equipment operations and form records at the production site showed that some operation items were inconsistent with the process specified in the operation standard. The requirements of the standard did not meet the current operation requirements. It is recommended to re-evaluate and revise the standard according to the actual operation needs.	The production unit has re-evaluated and revised the operating standard according to the actual operation situation.
Industrial Safety and Health Operation	The personnel responsible for regular equipment inspection do not have the equipment operation license. As the inspection items may require actual operation, it is recommended to assign personnel with the equipment operation license to perform the regular equipment inspection.	We have adjusted the inspection personnel for the relevant equipment and arranged for personnel with the relevant equipment operation license to be responsible for the regular inspection of the equipment.
Industrial Safety and Health Operation	Some of the equipment in the Toufen Main Plant has been replaced with new equipment. It is suggested that the contractors and their personnel working in the plant should be educated and supervised to follow the safety operation regulations.	We have incorporated safe operation regulations into the key check items of occupational safety and health inspections and require contractors to promote them in the daily toolbox meeting.

3.4 Regulatory Compliance ► (GRI 2-27, 307-1, 419-1)

CGPC strictly requires employees, supervisors at all levels and members of the board to abide by laws and regulations, and act in accordance with the law as the operating principle. In terms of regulatory compliance, we follow changes in relevant domestic and foreign laws and regulations that affect the Company's operations, and hold training courses related to laws and regulations from time to time. We also actively participate in the dissemination of information on laws and regulations, ethical management and corporate social responsibility courses and seminars organized by the competent authority.

Considering the increasingly stringent regulatory standards and penalty criteria, the company continues to implement various improvement measures in order to further reduce the number of deficiencies and the amount of fines (Definition of significant fine amount: fines exceeding NT\$300,000 for a single incident). In 2023, CGPC, TVCM, and CGPCP did not have any major environmental protection penalties. For environmental protection measures, see [5.4 Air Pollution Control](#).

Environmental protection

CGPC is committed to the pursuing a safer work environment and complies with important government and international industrial safety, labor health and environmental protection regulations and promote the ISO 14001, ISO 45001 and other management systems to ensure that the Company's daily operations have minimal impact on the community. We also conduct active communication to understand employees and local residents and other key stakeholders and then propose solutions for improvement.



Occupational safety

CGPC has established an occupational safety and health management system in compliance with the law. It actively reviews the causes of accidents, reduces hazards and prevents their recurrence. In the event of an incident, immediate response measures are taken, and care for employees is provided. In 2023, CGPC, TVCM, and CGPCP did not experience any significant violations resulting in fines. Please refer to [6.4 Safe and Healthy Workplace](#)



Product, service and customer relationship

We spare no efforts in providing customers with satisfactory services, and hope to establish long-term partnerships with customers. In 2023, we did not receive complaints about violating customer privacy and losing customer information nor have there been any violations, fines or penalties related to products and services.

Please refer to [4.1 Customer service management](#)



Labor and human rights

We abide by relevant labor laws and regulations, protect the legal rights of employees and respect the principles of basic human rights recognized internationally. We also have formulated relevant standards and work policies to protect workers' basic labor rights. In 2022, we did not have violations of relevant labor laws and regulations. Please refer to [website](#) or [6.2.3 Human Rights and Protection](#)



3.5 Technology Research and Development ► (GRI 3-3)

Material issue: Technological research and development



The Significance and Impact of CGPC

R&D and innovation are the focus of our sustainable development. We improve the manufacturing process technology to have product quality and reduce costs. We develop value-added new products to contribute to the sustainable development of the society and the environment.
Affected parties: government agencies, employees, investors, supplier.



Develop Strategy

We follow the latest environmental protection regulations and global trends to develop products which incorporate the design elements of environmental protection, energy conservation and carbon reduction to improve products' added value and competitiveness.



Policy Commitment

Innovate products and improve manufacturing process to comply with the latest international regulations.



Grievance Unit

Processing Technology Section



SASB Indicator

RT-CH-410a.1

The R&D department embraces the spirit of "green environmental protection, circular regeneration, zero emissions, and sustainable materials" as a generational legacy. It introduces environmentally sustainable materials, implements carbon reduction and energysaving processes and continuously improves the use of recycling technologies. The department focuses on developing high-value-added products, while closely monitoring international market trends and providing customized services. It is committed to innovation and transformation, aligning with the international community to create a better quality of life for humanity.



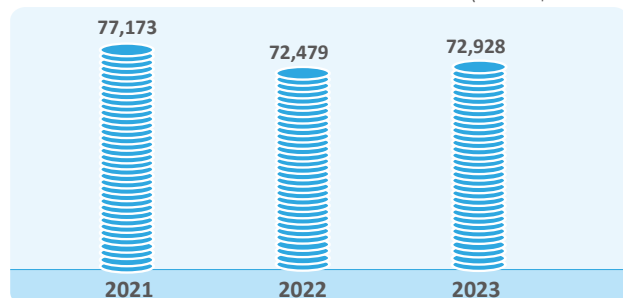
Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Promote product applications and development of eco-friendly technologies	Ten-thousand	12	4	12	16	20
Raw materials antagonists: Developed low-toxic and low-cost alternative raw materials:	Number of development projects	8	15	10	10	15
New Product development	Number of development projects	10	16	10	10	15

Note: Reason for the sales volume of environmental protection materials not meeting the target: Due to factors such as the Ukrainian-Russian War, the Israel-Hamas War, and inflation the global economy went into a significant recession and demands greatly declined. The Company has suspended its promotion and sales of eco-friendly materials due to the renewal of the Calender machine of eco-friendly materials of the PVC leather plant.



3.5.1 R&D expenditure in the last 3 years

(Unit: NT\$ thousand)



Note: The amount of R&D expenditure includes Taiwan and overseas subsidiaries.

Promotion projects

- ◆ Four new patent applications have been submitted:
 1. Recyclable Synthetic Leather Structure (M630391) : The patent for this structure was granted in August 2022.
 2. New Slow Temperature Rising Leather Structure (M631078) : The patent for this structure was granted in September 2022.
 3. Scratch and Stain Resistant Leather Structure (M636680) : The patent for this structure was granted in January 2023.
 4. Anti-Viral Coating Structure for Eyewear (M630340) : The patent for this structure was granted in January 2023.
 5. Antibacterial and anti-mildew layer structure(M645877) : The patent for this structure was granted in September 2023.
- ◆ Added a PVC pilot reactor to the 30L pilot plant, and completed in 2022. The applications are as follows:
 1. Research of PVC resin formula and manufacturing process improvement (such as conversion rate, formula, etc.).
 2. Evaluation of new raw materials and countermeasures (such as specific gravity and others).
 3. Discuss root causes of quality issues and make improvements (such as thermal stability improvement etc.), and develop new products with market competitiveness.
- ◆ Benefits:
 1. Evaluation of optimized raw materials and incorporate advanced testing capabilities for countermeasures to reduce the testing time.
 2. Optimize manufacturing process parameters and adjust advanced testing capabilities.
 3. Develop ultra-high polymerization powder, ultra-low polymerization powder, high B.D powder and high CPA powder to enhance market competitiveness.
- ◆ A total of 15 new products was developed in 2023, including : car floor mats and wiring harnesses Tape cloth products, automobile, motorcycle and bus seat rubber and other products, please refer to the [website](#) description.

Circular economy - Products developed with the latest curing technology (antibacterial function)

► Solution: Use natural marine biological shell powder to replace chemical antibacterial agents

► Description of promotion:

CGPC, in response to sustainable development and circular economy issues, has utilized technological methods and creative ideas through its research and development team. By leveraging the antibacterial properties of calcined marine bio-shell powder and innovative approaches, the company gradually replaces the use of chemical synthetic antibacterial agents with natural non-toxic marine bio-shell powder. This is applied in plastic-related products, creating a circular economy and contributing to environmental protection. We adopt the latest curing technology to add natural shell powder to resin to be applied to the surface of plastics, which can pass the mold resistance testing (ASTM G21) and antibacterial test (JIS Z-2801).

Note 1: PS1 - Mold resistance testing (ASTM G21) includes testing against *Aspergillus niger*, *Chaetomium globosum*, *Trichoderma viride*, *Penicillium funiculosum*, and *Aureobasidium pullulans*.

Note 2: PS2 - Antibacterial testing (JIS Z-2801) includes testing against *Staphylococcus aureus* and *Escherichia coli*.

We highly value the sustainable development of ESG. While pursuing sustainable operation and profit, our three core strategies of sustainable vision "R&D and innovation," "stable operation" and "social inclusion" are to co-create value with stakeholders to improve our competitive advantage of sustainable development.

► R&D and Innovation Goals:

Sustainable Development Goals: In the future, we will continue to plan and develop new green and eco-friendly antibacterial products, use nano and compound materials, etc. to develop products with diverse antibacterial effects. We will grasp market trends, understand customer needs, and improve our long-term competitive advantage.

► R&D and Innovation Benefits:

Our R&D team follows global trends, and is committed to meeting the Company's goals in circular economy, reduction of waste and environmental protection. The breakthrough technology research and development can improve morale, demonstrate the Company's contribution to environmental protection, enhance corporate image, make the business more competitive, and win the trust of customers.



Develop "Chroma cool" in response to climate change

► Solution: Chroma cool

► Description of promotion:

In extreme climates, the duration of hot weather can be longer than the number of cold days, we have developed a new type of "Chroma cool," which can be used for motorcycle seat cushions and outdoor sports equipment. The products are available in various colors. Compared with traditional leather, they can reduce the temperature by 10 to 20 degrees, which is a great benefit for motorcyclists and sports enthusiasts.

► Implementation Status:

We have been actively marketing and pursuing a strong market presence, resulting in a cumulative sales volume of 110,265 yards from 2021 to 2023.

► Benefits:

It is estimated that market demand will continue to rise in the future. In response to market changes, the future goal is to continue to improve other functions and enhance market competitiveness.

► Obtained the patent for new invention no. [M631078](#) in 2022.



3.5.2 New products to be developed



- ◆ GRS certification
- ◆ Development of virus-resistant door panels
- ◆ Development of Antiviral hard fabric
- ◆ TPO automotive console/floor mat
- ◆ Recycled TPE rubber in finished products
- ◆ POE fish-electricity symbiotic water pond fabric
- ◆ Wire harness tapes for European and Indian markets
- ◆ Easy-cut edge banding tape for door panels
- ◆ High softening temperature automotive floor mats
- ◆ Japan's Tape fabric for marking lines
- ◆ Research and analysis of PVC pink color difference
- ◆ Development of soft leather with a slippery feel for marine use
- ◆ Development of 3rd-generation soil-resistant rubber
- ◆ High softening temperature automotive floor mats
- ◆ Development of TPU earphone cover fabric
- ◆ TPE car seat rubber
- ◆ Development of Bio-shell powder antibacterial and anti-mold leather
- ◆ Low-VOC PVC/TPE leather
- ◆ Utilize the 30L PVC superimposed experimental tank to analyze the countermeasures of each auxiliary material.
- ◆ Development of TPU earphone cover fabric
- ◆ Development of benzene-free/solvent-free PVC paste cloth
- ◆ Development of benzene-free/solvent-free TPE paste cloth
- ◆ PVC/TPE rubber solvent-free surface treatment
- ◆ Development of synthetic casting soft leather for furniture
- ◆ Development of high hydrolysis resistance TPU materials and related products
- ◆ Development of TPO anti-static transparent film

3.5.3 Overview of technology and research and development



► Newly-developed technologies or products

1. Technologies successfully developed

- (1-1) PVC resin Moisture AI Monitoring
- (1-2) Production technology of PVC hard foam pipes
- (1-3) Production technology and formula of PVC hard foam door panel
- (1-4) GRS certification

2. Newly-developed products

- (2-1) Japan's Tape fabric for marking lines
- (2-2) Wire harness tapes for European and Indian markets
- (2-3) Easy-cut edge banding tape for door panels
- (2-4) High softening temperature automotive floor mats
- (2-5) Soft leather with a slippery feel for marine use
- (2-6) Virus-resistant door panels
- (2-7) Antiviral hard fabric
- (2-8) TPO automotive console/floor mat

Recycled Tires



TPE Leather (Furniture)



- (2-9) Recycled TPE rubber in finished products
- (2-10) POE fish-electricity symbiotic water pond fabric
- (2-11) CG-A Casting
- (2-12) CG-AQC truck seat & rubber interior
- (2-13) Seoul - Car seats & soft leather upholstery
- (2-14) Ju Tai - Sanyang Motorcycle Seat Rubber
- (2-15) Pengda - Nissan Car Seats & Upholstery
- (2-16) Development of soft leather for furniture by Meng Zhe

► Sales of newly-developed products

In response to climate change and various functional market demands, we have improved the added value of products and market share. We have also developed non-PVC leather that comply with environmental regulations, meet the needs of domestic and foreign manufacturers that adopt the green concept, and expand to new markets that demand value-added products.

Product category	Product item	2023 Sales target (tonnes/thousand yards)	2023 Sales quantity (tonnes/thousand yards)	2023 Sales revenue (NT\$ thousand)	Achieved or not Achieved	The proportion of each new product to the revenue of the product category (%)
Leather	PVC leather	200.0	203.3	33,545	Yes	4.9 %
	TPE eco-friendly leather	120.0	41.0	5,757	No	0.8 %
Total sales of 2023 new products		320.0	244.3	39,302		

Note 1: New products are defined as those within 2 years of the successful development.

Note 2: Reasons for TPE non-achievement: due to factors such as China's lockdown measures, the Russia-Ukraine war and inflation, the global economy experienced a downturn, leading to a significant decrease in demand.



► R&D plans in recent years

2023 R&D plans	R&D expenses needed to be committed again (NT\$ thousand)
Decathlon TPO fully recycled shoe rubber	500
Liqi GRS certified TPU foam	500
Hung Li PP flame-retardant rigid adhesive tapes	300
Silica gel coating/film lamination products	300
TPO car foot mats, scratch-resistant tape	800
Translucent leather/cloth products	600
CGA TPO wallpaper	800
CGA TPO ventilation hose cover	500
Low-VOC PVC/TPE leather	15,000
Development of TPU earphone cover fabric	500
Development of benzene-free/solvent-free PVC paste cloth	500
Development of benzene-free/solvent-free TPE paste cloth	300
PVC/TPE rubber solvent-free surface treatment	1,000
Development of high hydrolysis resistance TPU materials and related products	300
TPO anti-static transparent film	500
Development of 3rd-generation soil-resistant rubber	200
Development of synthetic casting soft leather for furniture	1,000
PVC wire harness tape fabric (Philippines)	500
PVC High Temperature Resistant Colored Wire Harness Tape	500
Flame-retardant decorative fabric	500
Low-odor automotive tape	500
Utilize the 30L PVC superimposed experimental tank to analyze the countermeasures of each auxiliary material.	300
30L test tank new formula	300
Total	26,200



► Green products

Green products

Media mentioning the significant environmental impact of PVC materials (the negative impact of plasticizers on the environmental hormones and heavy metals). In fact, the advancement of technological research and development and the selection of new varieties of plasticizers and stabilizers have been eliminating the impact of environmental hormones and heavy metals. The use of non-PVC materials (TPE/TPU) by the processing industry has gradually developed green products that can be used in daily life.

PVC products meeting new regulatory requirements

The products sold by CGPC comply with the EU Restriction of Hazardous Substances Directive (RoHS for short) and the requirements of the Substances of Very High Concern (SVHC) listed in the EU REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), the EU Toy Safety Directive EN-71-3, the Proposition 65 of California, USA, California's The Safer Consumer Products Regulations, etc. We have the strategic planning for the new green R&D mindset (non-toxicity) that meets regulatory requirements and successfully incorporated the abovementioned standards into our operations to develop new products that can reduce environmental impact.

Non-PVC products

We have researched and tested non-PVC synthetic leather and cloth products, and successfully developed and continued to promote PVC materials alternatives that meet the requirements of environmental protection regulations and have relevant physical properties to meet market needs. CGPC actively develops differentiated products inhouse, and offers high-performance POE, TPE, TPU and other plastics to produce more eco-friendly non-PVC leather fabrics to meet the needs of domestic and foreign manufacturers that adopt the green concept, and expand to new markets that demand value-added products. The varieties and applications of successfully sold products have gradually expanded. The product examples are as follows:

- ◆ Eco-friendly waterproof materials (no phthalate, no heavy metals, for breeding and water storage purposes)
- ◆ Eco-friendly exhaust pipe (heat-resistant, conductive)
- ◆ Eco-friendly furniture (used in sofas, seats, bicycle seat cushions)
- ◆ Eco-friendly shoe materials (applied to functional sneakers)
- ◆ Eco-friendly bags (applied to various slip-resistant functional parts)

3.6 Intelligent Management ► (GRI 3-3)

The Company's top priority is to build a smart factory and move towards intelligent manufacturing. In order to accelerate digital transformation, the Chlor-Alkali Business Group has established an AI team to develop various plans and execution schedules. Through machine learning, we aim to cultivate skilled professionals and face the increasingly fierce industry competition!



The Significance and Impact of CGPC

Improve equipment efficiency, and reduce the impact of production on the environment as much as possible in order to achieve the eco-friendly goals of low pollution and low energy consumption. Affected parties: employees, community residents, government agencies, customers, suppliers/contractors, investors.



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

Enhancing Operational Safety, Reducing Accidents, Minimizing Resource Consumption, Building an Intelligent Factory.



Grievance Unit

Technology Research and Development Lecture



SASB Indicator

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Promotion policy

Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Inclusion of AI in the processes	Number of projects	3	3	3	4	5
AIOT Intelligence Manufacturing	Number of projects	3	3	3	3	3



Exceeded Target



Achievement



Partially achieved



Not met

► Various projects towards the promotion of smart factories

Establishment of an AI factory

1. Process optimization & safety monitoring

- ◆ Distillation Column Systems of TVCM
- ◆ Each PVC drying system of CGPC (Utilizes AI models to provide optimal program settings (SP) and implementing AI-based intelligent control optimization which allow us to rapidly achieve the best energy consumption conditions).
- ◆ Absorption tower process safety monitoring



2. AOI image recognition

- ◆ Electrical Panel AOI with Thermal Imaging
- ◆ AI-Assisted Safety System for Stackers
- ◆ Image Recognition for Tanker Truck Loading Operations
- ◆ Fabricated plant product defect identification system
- ◆ Pipe AOI Image Detection System



3. Intelligence factory

- ◆ Situation Room at Main Plant
- ◆ CGPC Automatic Warehousing System
- ◆ Energy Efficiency Performance Management Platform



Sustainable Management through Industry-Academia Collaboration

- ◆ Providing AI Education Scholarships
- ◆ Establishing AI Team in Chlor-Alkali Business Group
- ◆ Sharing Practical Experiences in Industry-Academia Collaboration
(Please refer to [the section on High Quality Intelligent-based Transition](#))

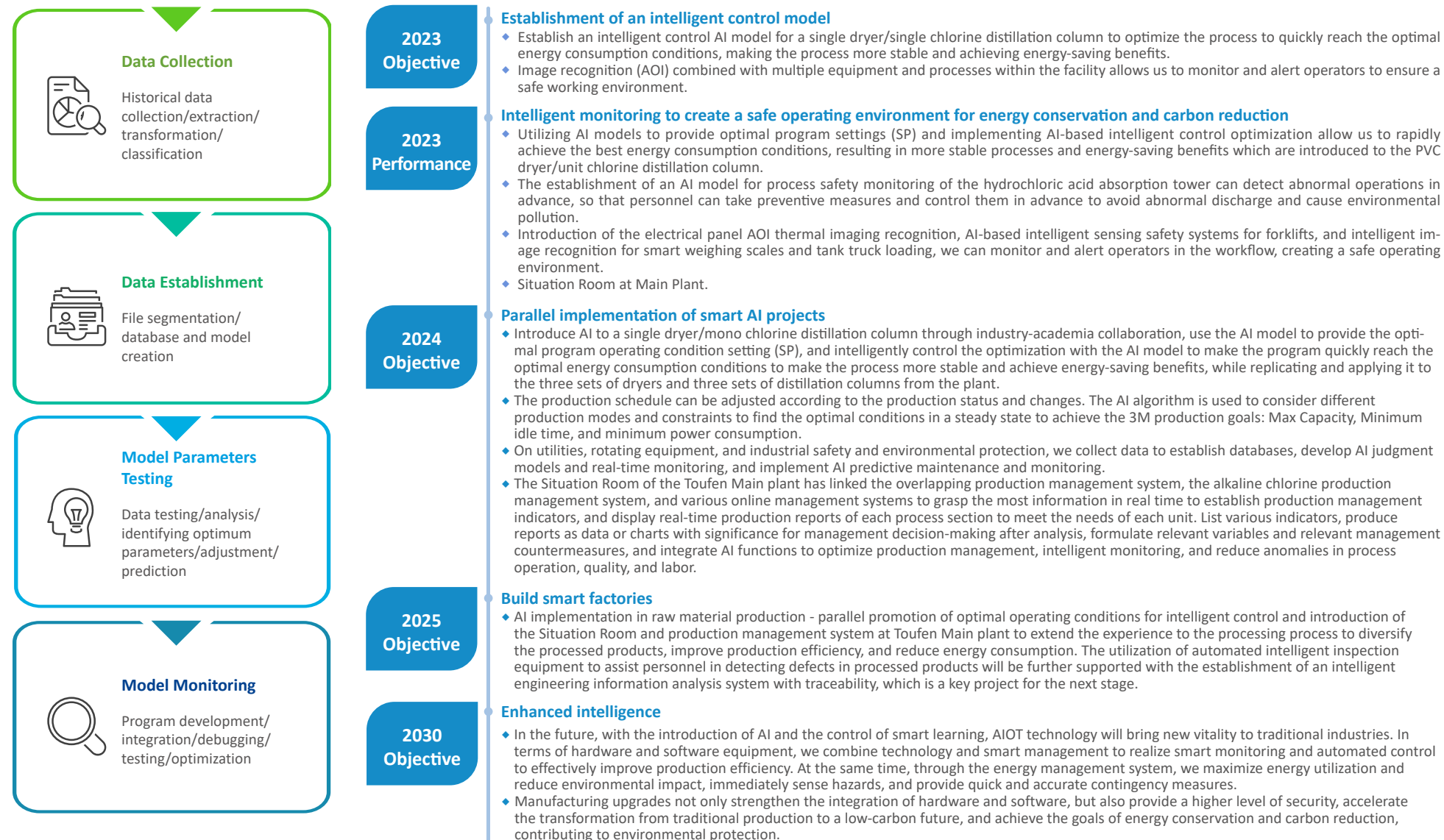


ESG Benefits

- ◆ Energy Conservation, Carbon Reduction, Environmental Protection
- ◆ Stable Quality, Economic Prosperity
- ◆ Reducing the Probability of occupational Accidents



► Introduce AI workflow into manufacturing process

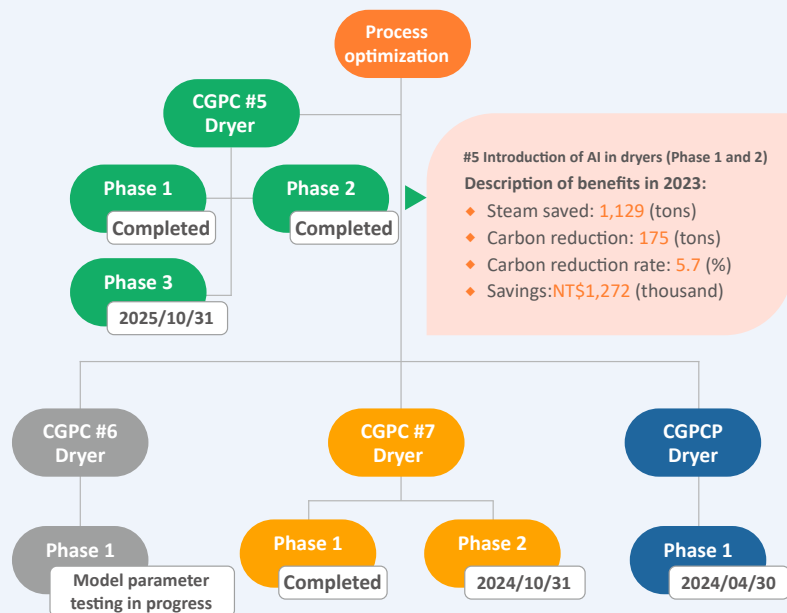




Chung Yuan Christian University Industry-Academia Cooperation

Process optimization - dryer planning progress and benefit description

Phase 1: Best operating conditions
Phase 2: AI intelligent control
Phase 3: Product moisture control design



Project Benefits

- ♦ AI intelligent control: Overall improvement of the mean deviation (SP set value) by 31.19%.
- ♦ Process operation consistency: Improve the instability of slip feeding conditions and the inconsistency of artificial control.
- ♦ In 2023, the #5 dryer can save steam consumption by 5.7%.
- ♦ Reduces steam consumption by 17.7% at maximum capacity.

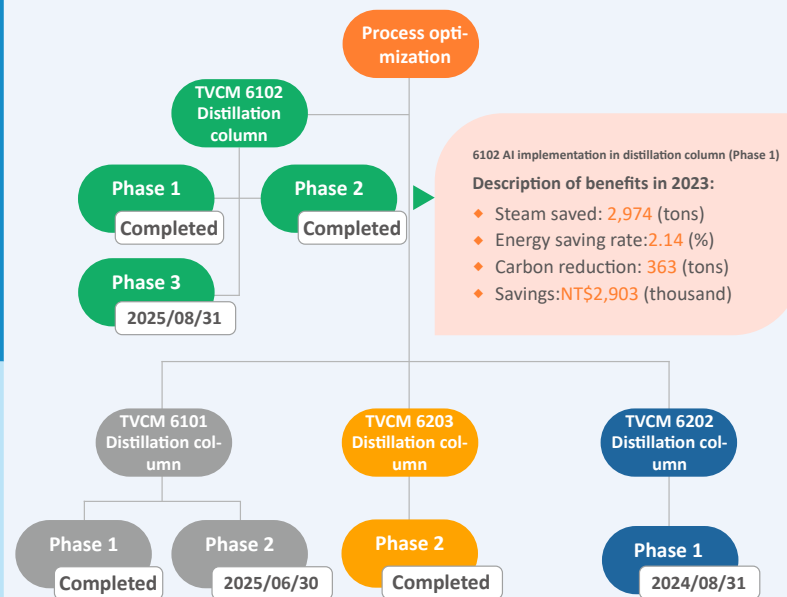
Note: 1. The average unit price of steam is NT\$1,000/ton 2. The average carbon emission coefficient of steam: 0.130 tons CO₂e/ton, 3. The carbon fee is estimated at NT\$300 per ton.



Chung Yuan Christian University Industry-Academia Cooperation

Process optimization - the planning progress and benefit description of the distillation column

Phase 1: Best operating conditions
Phase 2: Control optimization
Phase 3: AI smart process monitoring and process maintenance



Project Benefits

- ♦ Process operation consistency: Improve the inconsistency of manual operation control of the distillation column.
- ♦ AI intelligent control: AI-based steam calculation and automatic control of backflow make process control more stable.
- ♦ In 2023, the unit steam consumption of the 6102 distillation column was reduced by 2.14%.

Note: 1. The average unit price of steam is NT\$1,000/ton 2. The average carbon emission coefficient of steam: 0.130 tons CO₂e/ton, 3. The carbon fee is estimated at NT\$300 per ton.



4.Partnership

CGPC uses product and sales opportunities, quality meetings and communication and service platforms to understand customer needs and complaints in timely manner, to maintain the Company's product reputation and ensure the effective operation of the quality management system. Suppliers are required to improve quality and meet the goals of environmental protection, work safety and human rights.

▶ (GRI 102-9 、 102-13)

4.1 Customer service management

For the implementation of management of production and manufacturing process, we offer education and training to help all employees understand quality standards, customer needs, raise questions when noticing issues and follow standard operating procedures. Establish a system of machine and process engineers and carry out improvement projects. Implement management by wandering around and process quality audit, and carry out correction and follow-up in a timely manner to prevent the recurrence of exceptions. The data in Section 4.1 is provided by CGPC (not including the subsidiaries, TVCM, and CGPCP).

4.1.1 Complete customer service



The customer objection handling process is as follows :



- ◆ **Principle for handling Customer objections cases:** For domestic orders, the dispute period starts from the date of customer's product acceptance and lasts for six months. For export and re-export orders, the dispute period starts from the container packing date and lasts one year.
- ◆ **Timeframe for handling Customer objections cases:** The general timeframe for handling regular cases is 20 working days. Urgent customer complaint cases have a limit of 5 working days. However, special or contentious cases may take up to 3 months for resolution.

Principles for accepting customer objections



Domestic orders

Starting from the date of customer's product acceptance



Export and re-export orders

From the date on which goods are loaded into containers

Deadline for handling customer objections



Regular cases

(Business days)



Expedited

(Business days)

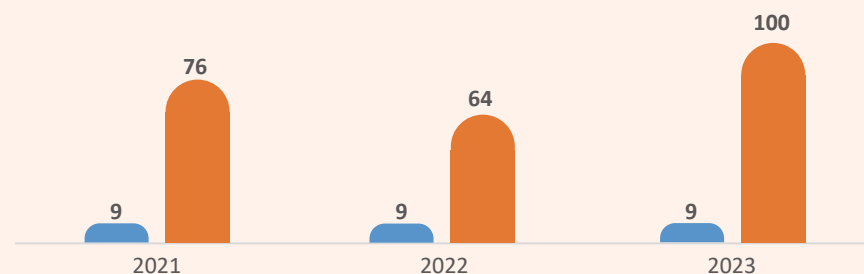


Special or controversial cases

- ◆ **Description of the main improvement measures for customer meetings in 2023:** For raw products, complaints stem from damage caused during transportation, while for processed products, surface defects (coarse grains, foreign objects, stains, marks, air spots, etc), poor inking, and other factors have been improved and prevented through strengthening process control, packaging materials and container loading methods & adding inspection equipment for online detection, optimization and adjustment of process conditions, and in-service education/job coaching for employees.

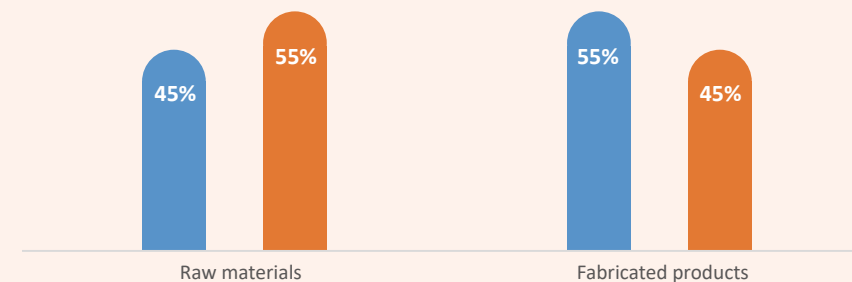
► The customer complaint cases over the past 3 years, categorized by raw material products and fabricated products, are summarized in the chart below:

● Raw materials ● Fabricated products



► The main reasons for customer complaints in 2022 are illustrated in the following chart:

● Manufacturing ● non-manufacturing



4.1.2 Customer satisfaction

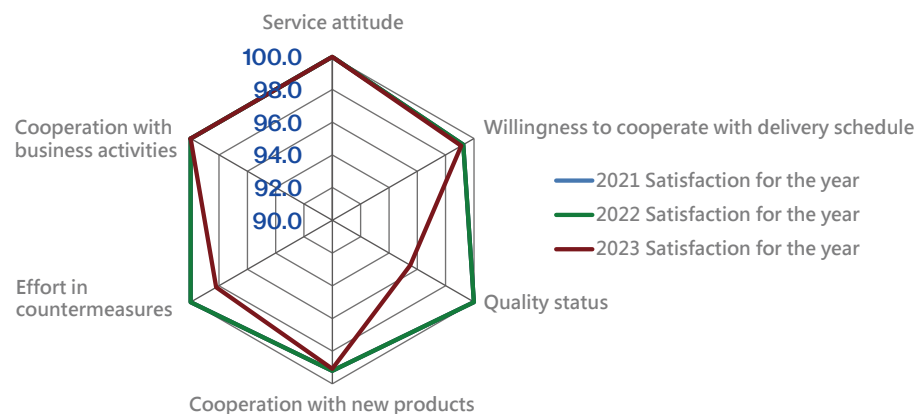


In order to understand the customers' evaluation of various indicators and to strengthen the various services provided to customers, we have formulated the Customer Satisfaction Evaluation Measures. After analyzing the survey data, we formulate improvement measures to improve customer satisfaction.

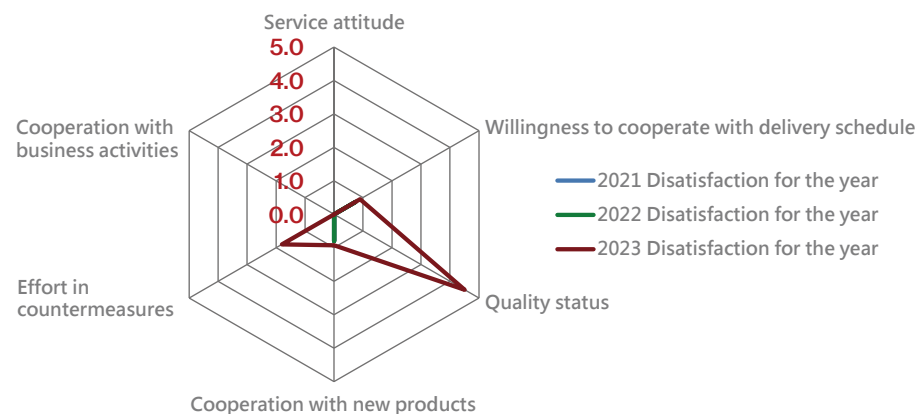
Every year, we select customers who account for more than 80% of our total revenue or 80% of each of our operating regions' revenue, including a recommendation list (potential or newly developed customers) from the business unit, as survey participants, and conduct satisfaction survey through the Customer Satisfaction Survey sent by mail, fax or email. The evaluation items include "Service attitude," "Delivery schedule," "Quality status," "New products," "Countermeasure efforts," "Business cooperation" suggestions to our Company.

In 2023, the number of responses to surveys in which customers considered "Satisfied" or above accounted for 98.6% of the total number of survey responses, slightly lower than 2022 (99.7%). We will continue to make improvements. The 2023 results have met our control target (90%). For the results of each evaluation item, please refer to the radar chart.

Customer satisfaction radar chart



Customer dissatisfaction radar chart



"Customer Dissatisfaction Survey", the slightly increased items are: "compliance with delivery time", "quality status", "compliance with new products", and "countermeasure effort" (a total of 4 items). According to the analysis of the statistical results of customer complaints, the main reason is: There were 36 cases of processed products in 2023 compared to last year. Our company has actively identified the problems customers are concerned about, and these have been discussed in the investigation report and management review and review meetings. Major issues on the "quality status" and "countermeasure effort" have been incorporated into the project for improvement.

To maintain product quality, the Company has introduced (1) AI intelligent control: Finding the best program operation and making ongoing optimizations to optimize the process and stabilize product quality. (2) Online quality inspection: AOI automatic detection and automatic adjustment. (3) The CMMS system electronically manages and analyzes equipment information to implement maintenance management. (4) Each plant proposes a plan for equipment replacement.

In addition to the above improvement measures, in order to achieve sustainable development, we will continue to organize personnel education, training, and improvement proposal activities, hoping to help the improvement of "quality and delivery" to meet customer needs.

4.1.3 Protection of customers' confidential information

The protection of customers and confidential information has always been part of our mission. The protection of sensitive information is related to our long-term growth and sustainable competitiveness. Therefore, we have referred to the General Data Protection Regulation (GDPR) for the process, storage and privacy of handling personal data to protect customer data.

Regarding the use of data, we reinforce the authority control and separate the test and the actual operating environment, and mask and restrict the personal data fields of each to be read in order to achieve the protection of personal data. We continue to reinforce the restriction on the use of USB or portable storage devices and abnormal data access. · Starting from 2021, we have implemented the Endpoint Security Protection System to prevent data loss due to human negligence. Furthermore, the group implemented Multi-Factor Authentication (MFA) for our email system as an additional layer of identity verification, enhancing the security level by requiring a second form of authentication, in addition to the traditional username and password.

► 2023 information security implementation results

In order to improve employees' awareness of information security, we regularly organize information security education and training sessions and disseminate new information security knowledge, and commission professional information security consulting companies to perform social engineering drills twice a year to protect data security.

Item	CGPC		TVCM		CGPCP	
	Sessions	Total number of people	Sessions	Total number of people	Sessions	Total number of people
Social engineering drills	2	526	2	192	2	38
Information security education and training	2 sessions for employees of the Information Technology Division					
Information security notification	9 times to all employees					

► Protection of customers' confidential information

In terms of customer data protection, the Group's Information Technology Division has formulated the General Principles of Information Security Management Policy; the System Development and Maintenance Management Standards; the Key Points for Application System Program Online Operations Management; the Key Points of Database Management; the Information System Authorization and Equipment Protection Management and other standards to carry out the care of privacy information in the aspect of information security management. To ensure the proper protection and de-identification of personal data, we employ various measures for privacy control. These measures include firewall management, permission controls, vulnerability scanning of server operating systems, and testing and operating in segregated environments. These actions are taken to achieve the secure preservation of personal data. Specifically establish the rules that employees need to abide by in their daily operating procedures accordance to these management systems. Establish secure trading platforms such as the customer order inquiry network and incorporate the use of encrypted security certificate to prevent the occurrence of fraud incidents caused by tampered emails due to interception. Strict authorization control strategy and process for customer data, further reducing the risk of leakage of customers' confidential information.



Establish standards

- ◆ We prioritize the protection of customer data, and formulate various specifications in accordance with the relevant laws and regulations.



Reinforce firewall management and authorization control

- ◆ De-identification of personal information.
- ◆ Establish firewall and network traffic monitoring, and analyze potential threats to prevent illegal intrusions.



Third-party inspection and improvement



- ◆ Passed BSI ISO 27001 information security review for 9 consecutive years.
- ◆ Assess internal and external information security risks and make improvements.

4.2 Product Quality ► (GRI 3-3)

CGPC is considered a midstream and downstream plastic raw materials and products suppliers in the petrochemical industry. The products include Vinyl Chloride Monomer (VCM), polyvinyl chloride (PVC), chemicals (hydrochloric acid, liquid caustic, bleaching water) in the primary manufacturing process, and PVC film, PVC leather, pipes, door panels, anti-corrosion sheets, etc. in the secondary manufacturing process. The data in Section 4.2 is provided by CGPC (not including the subsidiaries, TVCM and CGPCP).

Material issue: Product quality

 The Significance and Impact of CGPC	Maintain stable production quality to earn customer recognition and create higher corporate value for CGPC. Affected parties: customers, employees, investors.
 Develop Strategy	1. Establish projects for improvement. 2. Implement full participation and enhance product value. 3. Meet customer needs and comply with the regulatory requirements.
 Policy Commitment	Provide customers with good product quality and services. We encourage quality improvement proposals and product quality improvement projects as the driving force for improvement and growth, hoping to meet customer needs.
 Grievance Unit	Office of the Head of Main Plant
 SASB Indicator	--

Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Promote quality improvement proposals	Number of proposals	20	37 	22	23	25
Product quality improvement projects	Number of proposals	11	12 	11	11	12

Descriptions:

- To improve the quality of disclosure and effectively track the implementation of important ESG projects, starting from 2023, the target for quality improvement proposals has been revised and established.
- Refer to the detailed description [CH4.2.3 Quality management cycle](#).



Exceeded Target



Achievement



Partially achieved



Not met

4.2.1 Product quality policy



Continuously improve product quality



Continue to improve service quality



Provides customers with satisfactory operational quality

The quality of the pipe products manufactured by CGPC has always been well received. They all meet the CNS standard and have earned the honor of the national-level CNS mark. The Company's chemicals, such as 45% sodium hydroxide solution and 32% hydrochloric acid, have obtained the food additive permit from the Ministry of Health and Welfare of the Executive Yuan, as well as the food industry health and safety management system verification (once every 3 years) from the China Grain Products Research & Development Institute. The flow and traceability of the products sold can comply with government laws and regulations and are declared on relevant websites, showing the Company's dedication to food safety.



CGPC's office building in Toufen Main plant

4.2.2 CGPC's quality management system and product verification

We keep our promise to customers and are committed to the maintenance and efficient operation of the quality management system. Based on the development strategy and market conditions, we have established business policies, quality policies, quality goals, product realization, production management, customer services and other plans to serve as the basis for each department to implement the quality management process and the framework for achieving continuous improvement.

The monthly managerial officers' meetings review the results, and the management review meetings also report the implementation results.

► Quality management system

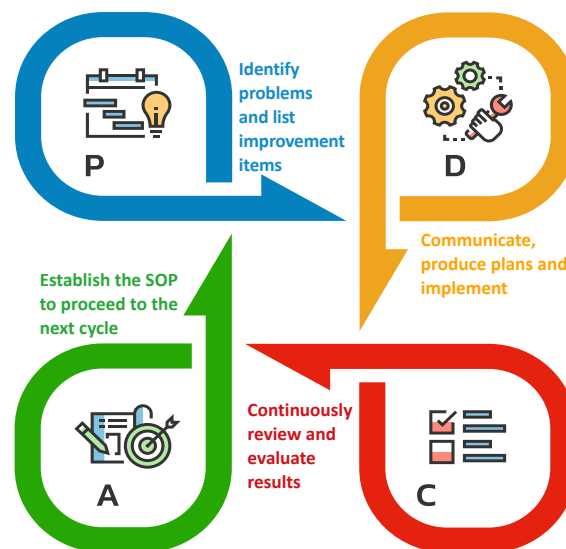


4.2.3 Quality management cycle

CGPC has established standardized operations for quality control, from incoming materials, manufacturing process, finished products and inspection. They all comply with the ISO 9001 quality management requirements, and the automotive PVC leather also meet the requirements of the IATF 16949 management system.

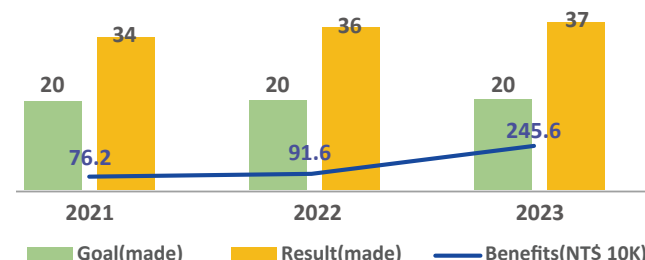
Both maintenance or improvement activities must follow the PDCA cycle and we need to find stability during the cycle for growth. If there are discrepancies from the operating standards, we revise the activities to make them comply with the standards. The application of PDCA helps us in review the handling of issues, while making continuous quality improvements in processing requirements, uses, etc. Based on various regulatory requirements (such as REACH, RoHS, control of types of plasticizers, etc.), develop and manufacture products meeting customer needs, and create product contributions and value.

► PDCA management cycle



► Improve proposal activities

In 2023, a total of 37 quality improvement proposals were submitted, and the derived benefits reached NT\$2.456 million. In 2023, the actual number of cases and benefits were both higher than those in 2022, and the actual number of quality cases was still higher than the set target value. CGPC sets the target every year, with incentives to encourage employees to actively participate in submitting proposals.



Description:

- Implementation of employee suggestions for improvement: All employees of the Toufen Main Plant are encouraged to be creative and propose items that are beneficial to production, quality, occupational safety and health, energy resources, and so on, and through the improvement of the reward system, select the number of items relevant to improving product quality.
- Product quality improvement project: for the director of the fourth plant (raw materials/building materials/adhesives/rubber) of the Toufen Main Plant to implement CER items and core problem improvement (short-/medium/long-term) projects for the quality improvement of this plant. Striving for excellence to maintain corporate sustainability.

Product quality problems and defects arising from the production and sales process are included in the annual improvement items such as raw materials used, production equipment, manufacturing process, product packaging methods, testing equipment and other issues after discussion. We carry out retirement, replacement, addition, revision and other methods to improve the reported problems and deficiencies, so that the stability of quality can be maintained to meet customer needs. The number of quality improvement cases in 2023 has reached the set target according to the plan.


Note : [Introduction to measuring equipment](#) · [Various certificates](#) (<- please click on the link).

4.3 Supply chain management

CGPC (including CGPC and two subsidiaries TVCM and CGPCP, hereinafter referred to as CGPC Company) requires suppliers to provide high-quality raw materials and high-efficiency services, and is also committed to developing communication channels with partnering suppliers to improve interactions, hoping to jointly achieve the goals of environmental protection, industrial safety and human rights.

Material issue: Supply Chain Management

	The Significance and Impact of CGPC	As a leading domestic company, CGPC is committed to sustainable development. In this process, our operational strategies must consider the impacts and implications on both society and the environment. The Company also creates mutually beneficial and win-win relationships with suppliers, and thus collaborates with partners to facilitate the growth of both the society and Company. Affected parties: suppliers customers, employees, investors.
	Develop Strategy	Enhance procurement performance, establish strong partnerships and foster a culture of safety awareness, creating a collaborative work environment and sharing the corporate social responsibility.
	Policy Commitment	<ol style="list-style-type: none"> 1. Improve the safety environment for workers and strive to protect the environment. 2. Fulfill social responsibility and improve competitiveness. 3. Enhance partnership and share sustainable business opportunities. 4. Establish a supplier management mechanism to improve risk control and management capabilities.
	Grievance Unit	Group's Material Planning Department
	SASB Indicator	--

 Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Promote the signing of "Supplier Social Responsibility Commitment"	Achievement rate (%)	100	100 	100	100	100
On-site audit visit	company / year	4	4 	8	12	12
Encourage suppliers to jointly participate in social activities	times / year	1	1 	1	1	1



Exceeded Target



Achievement



Partially achieved



Not met

4.3.1 Supply chain sustainable development strategy and goals:

As a leading domestic company, CGPC is committed to sustainable development. In this process, our operational strategies must consider the impacts and implications on both society and the environment. Therefore, we actively collaborate with our supplier partners to promote sustainable development within the supply chain. We strive to ensure that the supply chain maintains a safe working environment, fosters respectful labor relations, operates in accordance with the ethical standards and is committed to environmental protection. To achieve this, we have formulated a "Supplier Social Responsibility Commitment" and work together with our suppliers to meet the environmental, occupational safety and human rights goals. We also consider the level of supplier compliance as one of the key assessment items in our procurement decisions. In 2023, we successfully achieved a 100% adoption rate of the Supplier Social Responsibility Commitment, further enhancing the sustainability of our supply chain.

During our supplier visits and audits, we conduct searches on the Environmental Protection Administration, local Environmental Protection Department and public information websites to identify any cases of non-compliance with the local environmental regulations. Based on the search results, we assess the associated risks, and provide follow-up tracking and guidance as necessary.



► Goal

Short-term: 2023-2024

- ◆ All supplier signing of the “Supplier Social Responsibility Commitment” in 2023.
- ◆ 2023-Future Goals: Collaborate with research and development on three annual projects, subject to market conditions:
 1. Development of recycled plastics,
 2. Biodegradable,
 3. Low-carbon and recyclable raw materials.
- ◆ In 2023, the “Supplier Code of Conduct and Quality Requirements Self-Evaluation Form” was proposed to investigate the risks of negative environmental and social impacts.

Medium term: 2025-2026

- ◆ On-site audits will be conducted on 12 suppliers annually, and the development of incorporating sustainability self-assessment forms for field audits will be undertaken.
- ◆ Encourage suppliers to jointly participate in social activities at least once/year.

Long-term: 2027-2030

- ◆ Based on the results of factory audits, establish a communication platform with suppliers. For the deficiencies, we assign the relevant professionals to provide suggestions and assist in planning.

► Supplier management development track



Foundation

- ◆ Establish a procurement unit, and consolidate the information that each subsidiary of the Group needs to purchase, purchase in bulks to achieve the goal of reducing costs.



System

- ◆ Compliance with regulations
- ◆ Establish procurement guidelines



Now

- ◆ Establish supplier sustainability management culture
- ◆ Increase risk assessment
- ◆ Incorporate sustainability indicators into supplier evaluation
- ◆ Promote signing of supplier/contract letter of commitment to social responsibility and on-site audit
- ◆ Promote green procurement
- ◆ Disclose sustainable supply management results and future plans
- ◆ Introduce the Supplier Sustainability Self-Assessment Form, Code of Conduct, and Quality Requirements Self-Assessment Form



Future Plan

- ◆ Increase the number of supplier factory audits and reinforce work injury investigations
- ◆ Suppliers jointly participate in social activities

► Implementation status of supply chain ESG risk management

Risk assessment and prevention

In addition to the supply chain security requirements, the special conditions for chemical suppliers are identified as follows:

- ◆ Chemical process leakage and pollution risks.
- ◆ The risks of occupational safety and environmental pollution in workplaces with high dust, high temperature, high noise, or high humidity.
- ◆ Risk of working at heights.
- ◆ Industrial safety risks such as cutting or welding (S)
- ◆ VOC (volatile organic compounds) escape risk.
- ◆ Labor-intensive industries.
- ◆ Supply chain and engineering disruption/delayed delivery and completion risk.
- ◆ Raw material and process quality risk.

Preventive approach

- ◆ Implement supplier sustainable self-assessment questionnaire for initial risk identification information.
- ◆ Establish long-term collaborative relationships with suppliers, develop new suppliers, and coordinate long-term material preparation systems.
- ◆ Establish an internal safety stock system and reference point for requisition according to the delivery schedule to prevent the risk of materials outage.
- ◆ Procurement personnel undergo education and training on supply chain sustainability.
- ◆ Environmental safety and health education and training for contractors.

Response to impact

- ◆ Adjust the supply proportion of suppliers and take alternative suppliers or have them complement one another.
- ◆ In terms of the engineering part, the environmental safety and health unit immediately starts an investigation on personnel safety, equipment damage and environmental impact, summarizes the results and submits such to the relevant units to take response measures, as well as understand the status.

Future plan

- ◆ Chemical suppliers are listed as key points, and aspects such as the procurement amount, tender amount for construction and the importance are included in the factory audit of the abovementioned SDGs, and establish risk assessment measures according to the results.
- ◆ Place it under restriction, and provide consultation according to the risk assessment measures and the risk levels after assessment.

► Supply chain ESG risk management

Risk items and attributes	Suppliers (Chemicals)	Construction contractors
	Environmental (E), Social (S), Governance (G)	
Potential risk	a. Chemical manufacturing process (E) b. High-dust, high-temperature, high-noise or high-humidity workplace (E) c. VOC (volatile organic compounds) escape risk (E) d. Labor-intensive industries (S) e. Supply chain disruption/delay risk (G) f. Quality risk (G)	a. High-dust, high-temperature, high-noise or high-humidity workplace (E) b. Risk of working at heights. (E, S) c. Labor-intensive (S) d. Industrial safety risks such as cutting or welding (S) e. Construction disruption/delay risk (G) f. Construction quality risk (G)
Number of audits and homevisits	4 companies (Audit)	To be conducted together with the contractors' project construction assessment
Audit details	Environmental aspect (E) : Whether or not the manufacturing and storage of environmentally controlled substances are conducted in accordance with the laws and regulations. Governance (G): Quality, production and order management, customer complaints and satisfaction follow-up, employee education and training, and external processing management.	
Number of qualified households	4 companies (100% qualified rate)	

4.3.2 Supplier and contractor management

1. Suppliers and contractors grow together

In addition to implementing the existing evaluation system for suppliers and contractors, CGPC plans to start a trial implementation of on-site evaluation system for raw materials suppliers in the future according to the abovementioned sustainable development strategies, and assign procurement, manufacturing, environmental safety and health and personnel units to conduct the on-site audit of services and raw materials provided. The document and deficiencies are recorded and discussed, so that we can review them with the suppliers regularly and give suggestions for improvement.

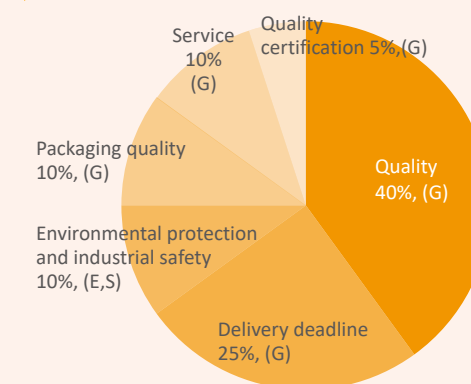
► Raw materials supplier

- ◆ Items certified by the ISO and complying with the European Union directives (RoHS) as part of the supplier evaluation.
- ◆ In 2023, all suppliers signed the Supplier Social Responsibility Letter of Commitment for a 100% achievement rate, and we continue to request new suppliers to sign the letter of commitment.
- ◆ Major suppliers of vinyl chloride and plasticizers have obtained the relevant certifications of ISO 14001 and ISO 45001, meeting the requirements of CGPC for major suppliers in terms of environmental management and occupational safety and health management.

► Construction contractors

- ◆ Requires contractors to sign the Supplier Social Responsibility Commitment.
- ◆ Must comply with the requirements of the ISO 45001:2018 occupational safety and health management system.

► Evaluation items for qualified raw material suppliers



Aspects-Proportion: Environmental (E)-5%, Social (S)-5%, Governance (G)-5%

2. Supplier management and evaluation

In response to changes in production operations and environmental protection policies, CGPC regularly evaluates the inclusion of new suppliers based on items such as service, quality certification, packaging quality, environmental protection, industrial safety, and delivery deadlines to ensure that every raw material and service obtained are of sufficient quantity, high quality, low price, while meeting the requirements of environmental protection, as well as industrial safety and policies and regulations.

Supplier management



Develop suppliers

Vendors' sample testing and qualification review



Qualification certification

Documentation of qualified suppliers "Group's Supplier Application Form/Qualified Vendor Application Form"



Continuous evaluation

Annual supplier evaluation process "Supplier Evaluation Form"

Description of qualified suppliers

The qualification certification of suppliers of raw materials / contract manufacturing products by one or a combination of the following methods:

- ◆ Those who have obtained domestic and foreign quality certification, such as CNS, U/L, JIS, ISO and other qualification certificates.
- ◆ Recognized by the industry as a Company that offers good quality and has large-capacity equipment.
- ◆ Publicly listed company.
- ◆ Well-known foreign company.
- ◆ Direct agents or distributors with technical service capabilities.
- ◆ Direct agents or distributors that have been confirmed to meet the requirements.
- ◆ The quality of the raw materials has been confirmed suitable by the R&D department.
- ◆ Agree to cooperate with the Company's environmental protection requirements.
- ◆ Cooperate with the Company to implement IATF-16949 global automotive industry quality management system certification.
- ◆ Those who have a good supply quality or delivery records in the past.
- ◆ The brand designated by the technology provider.

► Evaluation results of CGPC's qualified raw material suppliers and qualified material suppliers in the last 3 years

By company	Raw materials and supplies	Item	2021	2022	2023
CGPC	Raw materials	Number of companies evaluated	166	158	132
		Qualified rate	100%	100%	100%
	materials	Number of companies evaluated	20	27	49
		Qualified rate	100%	96%	100%
	Descriptions		—	(1 unqualified) Due to poor material quality and lack of positive handling attitude, suggestions for improvement were made until the improvement and confirmation were completed.	—
CGPCP	Raw materials	Number of companies evaluated	12	12	12
		Qualified rate	100%	100%	100%
	materials	Number of companies evaluated	11	9	19
		Qualified rate	100%	100%	100%
TVCM	Raw materials	Number of companies evaluated	16	14	17
		Qualified rate	100%	100%	100%

◆ Evaluated once a year with a score of 75 or above is considered qualified.

◆ Because TVCM does not have packaging materials or supplies, it is not included as part of the supplier evaluation.

In addition to using the abovementioned annual supplier evaluation to ensure that the vendors picked by the Company meet the requirements and the eco-friendly sustainable management concept, for suppliers that fail the evaluation or have low scores, we offer improvement suggestions based on the evaluation status, reduce frequency of transactions, suspend or stop transactions and other measures.

3. Selection and evaluation of contractors

The procurement unit mails the Construction Contractor Survey Form to selected contractors and asks them to fill out the form, apply company seal stamps on the form then send it back. Survey forms with incomplete submission of supporting documents will not be evaluated and such contractors will not be allowed to undertake the Company's projects.

Project construction evaluation items



Develop contractors

Select new contractors: Mail "Construction Contractor Evaluation Form" to contractors.



Qualification certification

Documentation of qualified suppliers: "Table of Contents of Construction contractors' investigation categories"



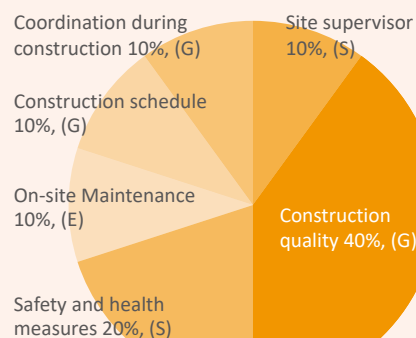
Continuous update

Irregularly Update of Contractors' File Information: Changes in items such as equipment, abilities and expertise.



Evaluation process

Project construction evaluation process: "Suppliers' assessment form"



Aspects-Proportion:
Environmental (E)-10%,
Social (S)-30%,
Governance (G)-60%

► Evaluation results of CGPC's project contractors (qualifying score of 70 and above) in the last 3 years

By company	Item	2021	2022	2023
CGPC	Number of companies evaluated	81	31	47
	Qualified rate	100%	100%	100%
CGPCP	Number of companies evaluated	8	4	8
	Qualified rate	100%	100%	100%
TVCM	Number of companies evaluated	23	12	24
	Qualified rate	100%	100%	100%

◆ If the score is less than or equal to 69 points, it is considered unqualified. If the rating is C (69-60 points) or D (50-59 points), the request for quotation will be stopped for 6 months or 1 year, respectively. Those with a rating of E (below 49 points) will be disqualified from bidding and there will be no transactions in the future.

◆ In the process of construction evaluation, the supervisory unit and the environmental safety and health unit record the deficiencies in the construction process, and the contract offering unit will summarize and discuss with the project contractors, informing them of the scoring results and the deficiencies, and asking them to improve.

4.3.3 Support local procurement

CGPC prioritizes supporting the local suppliers in Taiwan. This is due to that it is easier to communicate with local vendors to know their status. Purchasing from foreign vendors is considered only when the materials cannot be supplied locally.

In 2023, the raw materials Vinyl Chloride Monomer (VCM) of CGPC and CGPCP are supplied by TVCM, and the purchase amount accounted for approximately 74.87% and 25.2%, respectively, of the total local source. The source of the raw materials ethylene and dichloroethane of TVCM is downstream products of the oil industry. Due to the limited supply in Taiwan and cost considerations, it must be imported to maintain the stability of the supply chain.

The project contracting policy also mainly focuses on local contractors in Taiwan. In principle, except for the main equipment that is purchased from abroad due to the lack of domestic manufacturers, other ancillary projects that have no special requirements will be designed and contracted by the Company in-house, and then contracted out to other domestic downstream construction firms.

2023 procurement proportion of CGPC's domestic and foreign vendors

By company	Taiwan	Not Taiwan
CGPC	94.22%	5.78%
TVCM	32.67%	67.33%
CGPCP	97.61%	2.39%
Average	74.83%	25.16%

Proportion of Transaction Amounts between CGPC and Suppliers of Different Natures in 2023

By company	Raw materials suppliers	Materials/Equipment Suppliers	Construction contractors
CGPC	85.02%	5.87%	9.11%
TVCM	89.19%	7.54%	3.27%
CGPCP	96.99%	2.79%	0.22%

Note: The transaction amount of information software, hardware and administrative suppliers is extremely low and is not included in the calculation.

2023 Self-Assessment of Government-Approved Green Products Purchases

(Unit: in NT\$10 thousand)

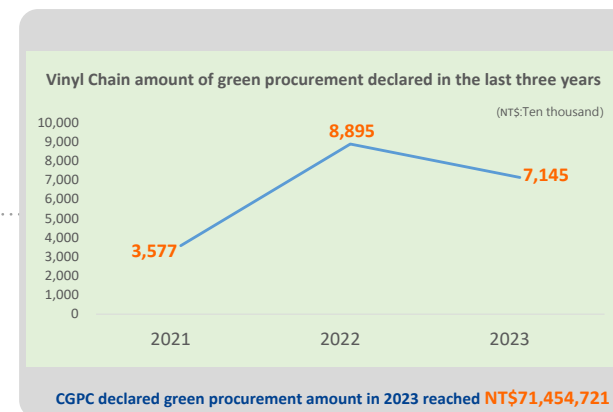
Year/Company	2021	2022	2023
CGPC	3,257	7,731	4,852
TVCM	320	1,163	1,391
CGPCP	-	-	902
Total	3,577	8,894	7,145

Green procurement program

CGPC began to actively implement the green procurement program in 2019, and has planned to cooperate with the Taipei City Government to carry out an online green procurement declaration project, mainly purchasing green machinery and equipment. The amount of government-approved green products purchased was NT\$71.45 million in 2023, a decrease of NT\$17.49 million compared to last year as shown in the table below. We will continue to purchase green products in the future.



On May 15, 2024, the Company was awarded a certificate of appreciation for the "2023 Green Procurement Program by Private Enterprises and Organizations" by Director Hsu, Shih-Hsun of the Department of Environmental Protection to the recipient CGPC representative (represented by Manager Chen, Chih-Kuo of the CGPC President's Office).



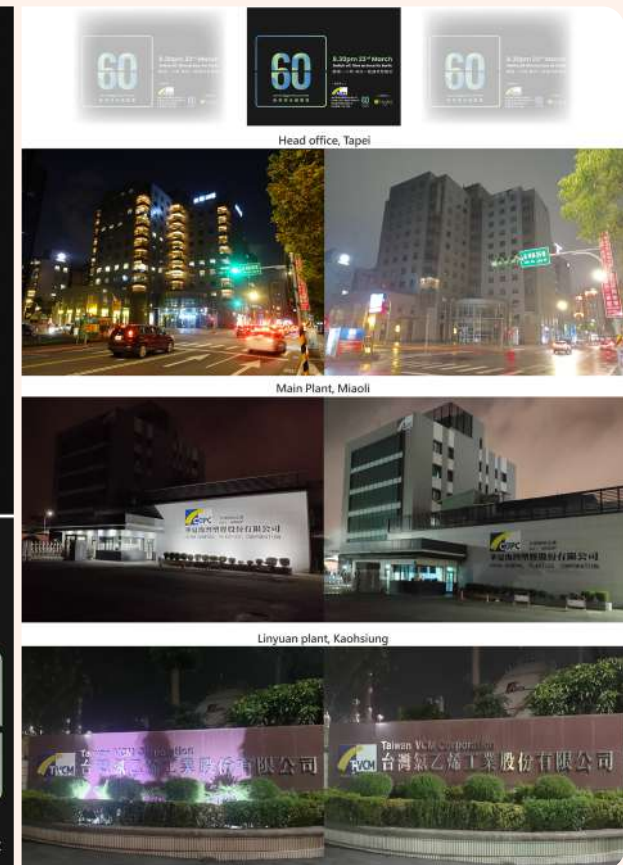
CGPC declared green procurement amount in 2023 reached NT\$71,454,721

Note: The data of self-assessment is from before 2022 for TVCM and CGPCP, and began to be applied for green procurement operations in 2023.

4.4 Participation in External Organizations ▶ (GRI 2-28)

▶ Main Participating External Organizations

Company	Name of cooperatives and associations	Membership	Positions held
CGPC	Chinese Management Association	√	—
	Taiwan Synthetic Resins Manufacturers Association	√	Executive supervisor
	Taiwan Plastics Industry Association	√	—
	Taiwan Acid and Alkali Industry Association	√	Executive director
	Taiwan Responsible Care Association	√	Supervisor
	Society of Plastics Engineers - Taiwan	√	—
	Miaoli County Labor Relations Association	√	—
	Miaoli County Industrial Association	√	—
TVCN	Miaoli County Toufen Industrial Park Manufacturers Association	√	Directors
	Taiwan Responsible Care Association	√	Directors
	Petrochemical Industry Association of Taiwan	√	Directors
	Kaohsiung City Industry Association	√	—
	Industrial Safety and Health Association	√	Directors



CGPC, TVCM, and CGPCP jointly participated in the Earth Hour movement. From 8:30PM to 9:30PM on March 25, 2023 and March 23, 2024, the exterior wall decorative lighting or non-essential lighting equipment in the Taipei Office (Tai-An Building), CGPC Main plant and TVCM and CGPCP Linyuan plants were turned off for an hour.



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

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.

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 its personnel’s safety and health, as well as 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.

► The verification certificates or product-related certificates obtained by the Company in 2023 (please see the link to the official website [Environment/Product Certification Section](#)).



► Cleaner production

In terms of corporate sustainability, in recent years, CGPC has been committed to transforming our plant areas, spending about NT\$6 billion to reduce the energy consumption and environmental impact of manufactured products, improve environmental friendliness, and introduce smart production technologies to achieve our low-carbon goal of enhancing a safe working environment. In 2023, through the guidance of the Foundation Of Taiwan Industry Service, we conducted various assessments, improved our production processes, implemented various energy conservation and carbon reduction efforts, and implemented waste management. In June 2024, our company finally received recognition and obtained the [Cleaner Production Assessment System Certificate](#).

5.1.1 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 10.94% 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.

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.

◆ 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. 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 2023, 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.

Regarding the disposal of hazardous waste, in 2023, CGPC generated a total of 173.97 tons of hazardous waste. The proportion of waste that was recycled and reused was approximately 65.59% (as shown in the table below). Furthermore, CGPC conducts regular visits to the waste disposal contractors to ensure proper handling of the waste.



► Hazardous Substances Disposal and Management Regulations



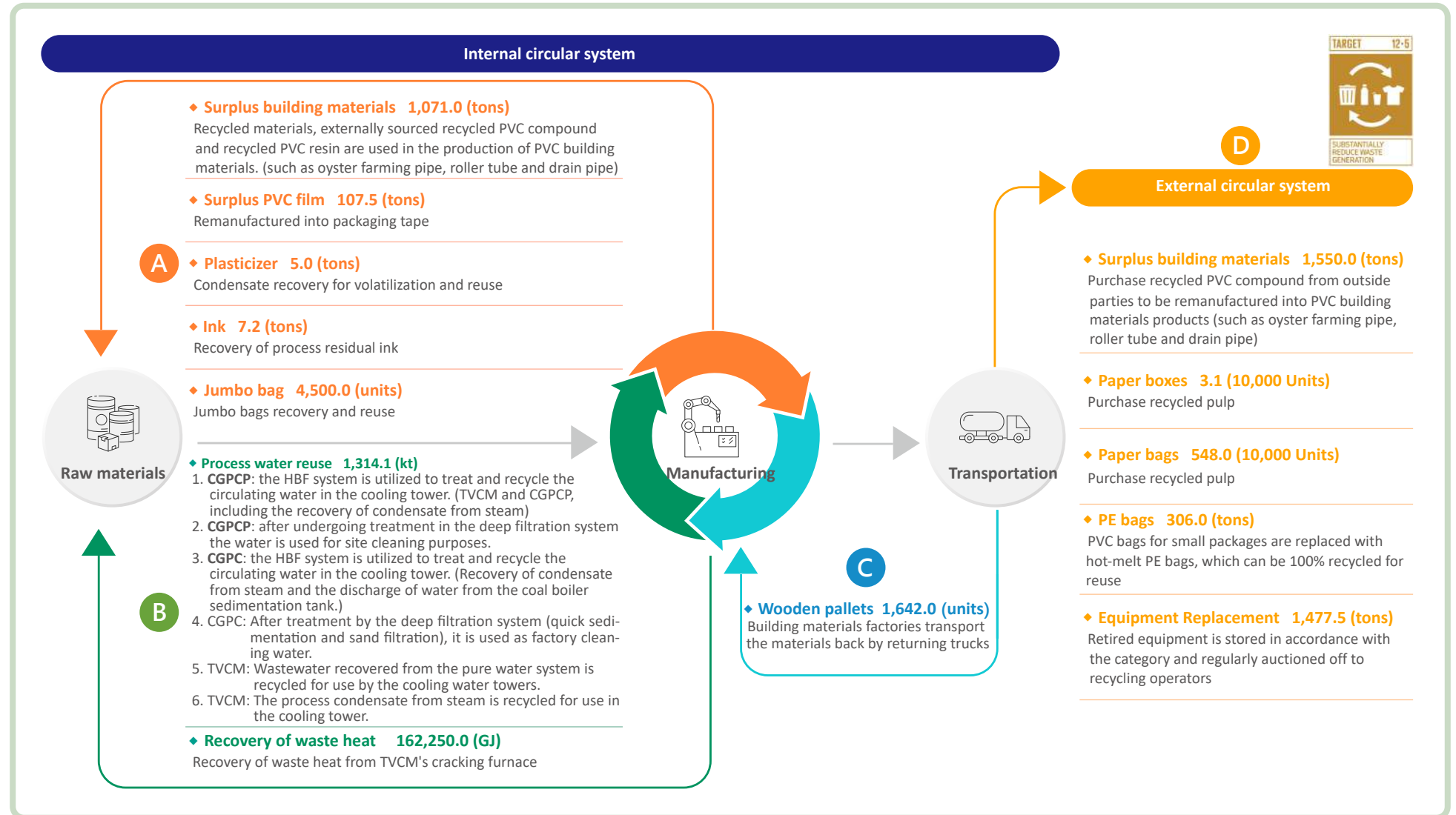
► 2023 Hazardous Substances Treatment Methods and Quantity Statistics

Final Disposal Method/Company	CGPC	TVCN
Landfill	21.81	38.05
Recycled and reused	114.08	--
Preparation for reuse	24.00	--
Description: In 2023, the total quantity of hazardous waste was 197.95 tonnes. The reuse rate accounts for 70% of the total quantity while the landfilling accounts for 30% of the total quantity.		

(Unit: ton)

5.1.3 Description of recycling

CGPC values the efficiency of resources use and have adopted the circular model of recovery and re-use of raw materials and supplies, manufacturing process and distribution. In 20223, the internal and external results of circular economy practices are shown as follows:



Implement GRS and acquire verification

The GRS adds the use of recycled materials in products and the reduction of environmental impact during production process based on the principles of tracking and tracing verified finished products and at the same time includes relevant requirements for environmental and social responsibilities, providing better monitoring and control measures for industry supply chains. The verification of GRS requires that the upstream.

► Content of standards

- ◆ To obtain GRS verification, a product must contain at least 20% of its raw materials consisting of recycled materials and be 100% free of contamination.
- ◆ Recycled materials should also clearly indicate pre-consumer waste or post-consumer waste, and the proportion of both pre-consumer and post-consumer waste in the recycled fiber materials.
- ◆ In addition to the regulations on raw materials, corporate social responsibility, pollution prevention and treatment in the production process, and chemical restrictions are all strengthened.
- ◆ To obtain the GRS verification mark (hang tag), the raw materials of the product must contain at least 50% recycled content.

► Benefits

CGPC fully grasps the international trends and understands the customer needs, and provides certificates of recycled contents to become an excellent partner trusted by customers. We fulfill our social responsibilities and prioritize pollution prevention and treatment in the production process and the requirements of chemical restrictions. We put circular economy into practice to find more green business opportunities, which is a symbol of an excellent enterprise to enhance the corporate image.

► GRS verification

In response to the net-zero carbon emission trend, brand owners have proposed policies to use recycled materials in their products. Our company started GRS (Global Recycling Standard) certification in March 2022, passed the review, and obtained the GRS certificate on December 29, 2022 and December 29, 2023, respectively.

Currently, the certification covers TPU and TPO recycled material products (with priority given to brand requirements). In the following years, other product categories can be added during the verification process. This certification will be beneficial for our business units in pursuing recycled economic products.

2023 circular economy implementation results for building materials products

Rigid tube production: **2,621** (tonnes), accounting for 14.3% of the tube production.








- ◆ 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.
- ◆ 2023 recovery and reuse volume of pipes: 2,621 tonnes, the recovery and reuse rate accounts for 14.3% of the 2023 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.

Material issue: Climate change and energy management

	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

 Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Actively implementing energysaving and carbon reduction programs, utilizing low-carbon fuels and renewable energy sources	Reduction of GHG emissions (10,000 tons of CO ₂ e)	36.80	31.96 	30.10	33.74	29.97

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

2. The greenhouse gas emissions in 2023 are third-party verified data.

3. Since Vinyl Chain achieved its goal ahead of schedule, the 2025 goal will be raised after a review and in accordance with production changes and carbon reduction plans.



Exceeded Target



Achievement



Partially achieved



Not met

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

Climate change is a global challenge that requires collective action. In order to align with international standards and address the needs of sustainable development, the ROC government announced on February 15, 2023 the amendment of the “Greenhouse Gas Reduction and Management Act” to the “Climate Change Response Act”.

In the face of the impact of climate change, carbon reduction has become a global goal. In early 2022, USI Group set the 2030 carbon reduction goal of “27% reduction in carbon emissions in 2030 compared to 2017”, and in 2023, it set “carbon neutrality by 2050” as the long-term goal of the Company.

Striving to achieve its vision of corporate sustainability, USI Group actively implements corresponding countermeasures and management mechanisms. The Group continues to implement ISO 14064-1 greenhouse gas inventory and verification at its domestic production factories and plans and implements carbon reduction plans. It also develops external renewable energy projects. As of the end of 2023, the cumulative grid-connected capacity of solar energy projects has reached 7.2MW.

CGPC has planned a carbon reduction path in accordance with the Group's carbon reduction target by 2030. In 2023, greenhouse gas emissions have decreased by 22.2% from the baseline year (2017), and we will be more proactive in implementing energy-saving and carbon reduction plans in the future. The medium-term carbon reduction strategy will be towards low-carbon energy transformation, energy efficiency improvement, intelligent monitoring, and the installation and use of renewable energy. The long-term carbon reduction strategy will continue to focus on low-carbon fuels, carbon capture, and reuse technology, and carbon negative technology to implement carbon reduction strategies. It is a goal to achieve carbon neutrality and promote sustainable development.

Vinyl Chain Carbon Reduction Pathway Planning

(Unit: tons CO₂e)

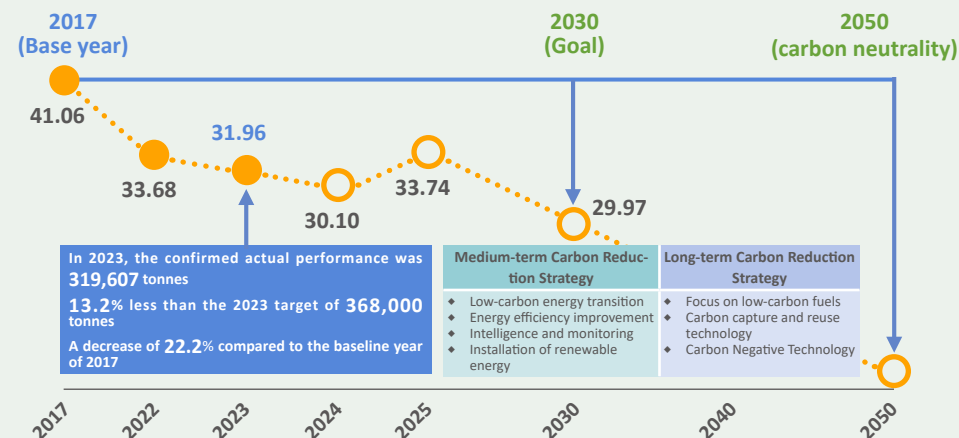
By company	2017 Base year Scope 1, 2	2021 Performance Scope 1, 2	2022 Performance Scope 1, 2	2023 Performance Scope 1, 2	2030 Objective Scope 1, 2
CGPC	150,575	137,852	118,783	104,899	109,920
TVCM	210,713	199,173	179,079	176,682	153,821
CGPCP	49,292	48,595	38,978	38,026	35,984
Total	410,580	385,620	336,840	319,607	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.
- The 2022 greenhouse gas emission volume of TVCM and CGPCP was originally self-inventoried, but the data is revised according to the third-party verification declaration for the current year.
- The greenhouse gas emissions data of the three companies in 2023 are third-party verified data.

Vinyl Chain Carbon Reduction Pathway Map

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



Note 1: Between 2013 and 2022, the greenhouse gas emissions from the group's Taiwan facilities reached their peak in 2017. Therefore, the emission reduction targets are set based on 2017 as the base year.

Note 2: Vinyl Chain's carbon reduction pathway falls into Scope 1 and Scope 2. Since the target was achieved earlier in 2023, the 2025 goal will be raised after a review and in accordance with production changes and carbon reduction plans.

	2023	2024
Target Emissions	36.8	30.1
Actual Emissions	31.96	
Achievement rate	115%	

Note: Achievement rate = 2023 target emissions/2023 actual emissions

Implementation and results



Promote establishment of the ISO-50001 energy management system

- As of 2022, the USI Group has successfully verified 9 plants.
- CGPC and CGPCP have obtained the ISO 50001 verification in 2019. TVCM has obtained the ISO 50001 verification in April 2021. (certificate in effect)



Actively carry out energy conservation and carbon reduction actions

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



Awarded the 「Performance of Excellence」 trophy by the Ministry of Economic Affairs

- Awarded the "Performance of Excellence" trophy for the promotion of the energy conservation service team from 2016 to 2018.



Taiwan Highpolymer recognized by the Water Resources Agency for its water conservation efforts

- 2022.03.22 CGPCP recognized by the Water Resources Agency for its [water conservation efforts](#)

► The Group's cross-plant technical exchange seminar in 2023

On Wednesday, October 25, 2023, a "Group Plant Technical Exchange Meeting" was held at the TVCM Linyuan plant. Continuing from last year, with the core themes of "Occupational Safety and Environmental Protection", "Equipment Maintenance", "Energy Conservation and Carbon Reduction", each of the 12 plants in Taiwan proposed 1 or more technical cases. These cases underwent a written review and ultimately, 7 plants cases were selected as finalists. The final selection was made through voting and scoring by senior executives of the group and representatives from the presenting factories to determine the top three outstanding technical cases of the year. In accordance with the Group's Safety Incentive Measures - Cumulative Safety Days by each plant, trophies will be awarded and a group photo taken during the meeting as an encouragement.

Han-Fu Lin, Chairperson, commented at the event. He mentioned that this year's cases include improving the working environment of employees, deepening the implementation of energy conservation and carbon reduction, and professional exploration of the equipment pre-insurance, and other achievements. The performance of each plant is worthy of recognition, and it is still necessary for everyone to work together in the future to enable the Group to be able to continue to improve in various fields.



► Information on Award-Winning Technical Case Studies in 2023:

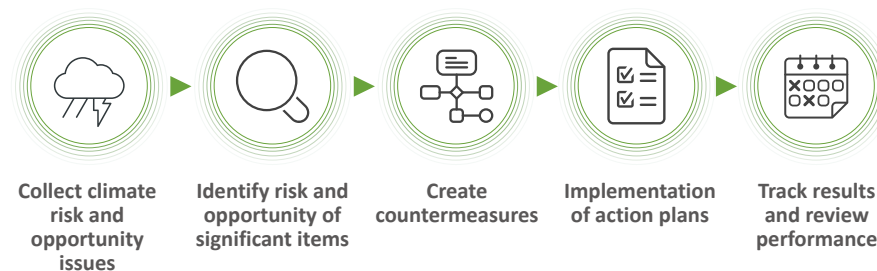
Item	CGPC (Main plant)	TVCM (Linyuan plant)
Award Descriptions	Awarded the Group's Technical Exchange Case Studies (Excellent)	Awarded the Group's Technical Exchange Case Studies (First Place) Reaching 1,000 safety days - Outstanding Performance Award
Project name	Activated carbon Fluidized Bed Technology for VOCs Adsorption and Control	TVCM Steam Boiler Optimization and Improvement
Presenter	Section Chief Yi-Hsien Huang	Section Chief Chieh-Lin Chuang

► TVCMs Linyuan plant has been awarded first place in the Technical Case Study Presentation for three consecutive years!

5.2.2 Climate change management framework

At CGPC, the ESG Committee under the Board of Directors is the highest committee for climate management. It is chaired by an independent director and the Committee reviews the Company's climate change strategy and goals, manages climate change risks and opportunities, and reviews the yearly implementation status, and reports to the Board of Directors. CGPC uses the framework provided by the Task Force on Climate-related Financial Disclosures (TCFD) to identify climate-related risks and opportunities. It assesses risks and opportunities across different departments, assesses the financial impact, and establishes response plans. It restarts the full assessment every three years and reviews and updates it every year.

► Climate risk and opportunity identification assessment procedures



► TCFD Structure



1 Governance

- ◆ **ESG Committee:** The climate change management is organized at the highest level, with an independent director serving as the Chair. Annually, they oversee the planning and progress reporting related to climate change initiatives and provide reports to the Board of Directors.
- ◆ **The Executive Management Meeting:** Chaired by the Chairperson, discusses and plans major energy-saving and carbon reduction policies on an irregular basis.
- ◆ **The Group's Environmental Division Quarterly Review Meeting:** Serves as the highest level of energy management in the USI Group. It takes place every quarter and involves reporting on the planning, progress, and making resolutions to the Chairperson.
- ◆ **The Green Energy Task Force:** Serves as the responsible unit for promoting green energy initiatives within the USI Group. Reports to the Chairperson on the progress and future plans of green energy development on a monthly basis.

2 Strategy

- ◆ **Scenario analysis:** Assess the physical risks faced under different climate scenarios.
- ◆ **Identify risks and opportunities:** Assess the significant risks and opportunities based on the degree of connection and possibility of occurrence of the risk items, and the operational execution and development of the opportunity item.
- ◆ **Assessment of potential financial impacts:** Assess the potential financial impacts of the identified significant risks and opportunities.

3 Risk management

- ◆ **Implementation of TCFD:** Adopted the TCFD structure to identify risks and opportunities associated with climate change. This involves effective communication with relevant units and final confirmation by senior executives.
- ◆ **Results identification and reporting:** Integrated into the annual company's risk management evaluation. The Project Secretary of the ESG Committee reports on the control measures and management operations situations to the ESG Committee and the Board of Directors on a yearly basis.

4 Indicators and objectives

- ◆ **The Group's energy management objectives:** Set energy management goals under the Group's carbon reduction goals with 2017 as the baseline year, set the goal of 27% carbon reduction by 2030, and carbon neutrality by 2050.
- ◆ **Climate adaptation strategies:** The medium-term carbon reduction strategy is set towards low-carbon energy transformation, energy efficiency improvement, intelligent monitoring, and the installation and use of renewable energy. The long-term carbon reduction strategy continues to focus on low-carbon fuels, carbon capture and reuse technology, and carbon negative technology to implement carbon reduction strategies.
- ◆ **Disclosure of GHG emissions:** The emission data of Scope 1 to 3 emissions are disclosed in the Sustainability Report every year, and the reasons for the increase or decrease are reviewed regularly.

Climate-related risk items are divided into 3 intervals according to the time period of occurrence of impacts: short-term (<3 years), medium-term (3-7 years), long-term (>7 years). The impact of climate-related opportunity items on the Company's development and technical feasibility is divided into 5 levels, corresponding to the following table:

Type	Item	Time frame of occurrence
Physical Risks	Floods and Inundation	Intermediate-term (3 to 7 years)
	Drought	Intermediate-term (3 to 7 years)
Transition Risks	Carbon Fee	Short-term (< 3 years)
	Renewable Energy Regulations - Risk of Clause for Large Power Users	Short-term (< 3 years)
	Low-carbon technology transition	Short-term (< 3 years)
	Rising raw material prices	Short-term (< 3 years)

Type	Item	Development	Technical feasibility
Opportunities	Efficient production	With development potential, as part of the Company's policy	Under expansion
	Recycling and Reuse - Circular Economy	With development potential, as part of the Company's policy	Under expansion
	Reduce water usage and waste	With development potential, as part of the Company's policy	Matured
	Use low-carbon energy	With development potential, as part of the Company's policy	Matured
	R&D and innovation for developing new products and services - R&D of low-carbon energy-saving products	With development potential, as part of the Company's policy	Under expansion
	Better Use of Public Sector Incentives	With development potential, as part of the Company's policy	Under expansion

5.2.3 Identify climate risk and opportunity

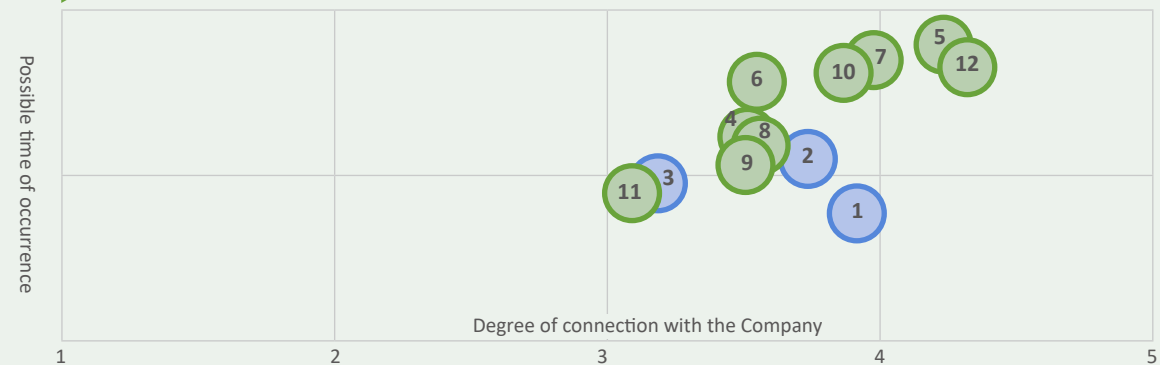
To cope with the intensification of global climate change, we continue to adopt the TCFD framework to deepen the risk items that we may face in extreme climates and to grasp new business opportunities. With reference to the Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP) and the National Science and Technology Center, and based on the RCP 8.5 scenario, we estimate the temperature rise, rainfall, flooding, and drought between 2016 and 2035. List three physical risk topics, and based on the group's strategy, industry characteristics, country's Intended Nationally Determined Contributions (INDC), and TCFD indicators, 9 transition risks and 12 opportunity topics are listed, with a total of 24 potential risk and opportunity topics. In 2023, the ESG Committee and senior unit executives conducted a questionnaire survey to assess the relevance of various risks to the Company's operations, the timing of possible impacts, and the developmental and enforceability of various opportunities. A total of 21 questionnaires were collected. After the statistical analysis of the team, 12 material climate issues (2 physical risk items, 4 transition risk items, and 6 opportunity items) were identified. We assess the potential financial impacts and formulate countermeasures and management mechanisms of 12 major risks and opportunities. The goal is to grasp the possible impacts of climate change on all aspects, reduce the operational impact that may be caused by extreme weather, and establish a resilient climate change culture.

Note: The Taiwan Green Productivity Foundation was commissioned by CGPC Main plant to provide guidance for the implementation of TCFD scenario analysis. For details, see the [2023 CGPC Toufen Main factory's TCFD Report](#).

Category	Item	Risk Topic
Physical Risks	1	Floods and Inundation
	2	Drought
	3	High temperature
Transition Risks	4	Government regulation or supervision
	5	Carbon Tax/Fees
	6	Product Efficiency Regulations and Standards
	7	Renewable Energy Regulations
	8	Changes in customer preferences
	9	Credit risk
	10	Low-carbon technology transition
	11	Uncertainty of market information
	12	Changes in raw material prices

Category	Item	Risk Topic
Opportunity Topics	1	Adopt more efficient transportation methods
	2	Use more efficient production and distribution processes
	3	Recovery and reuse
	4	Shift to more efficient buildings
	5	Reduce water usage and waste
	6	Use low-carbon energy
	7	Use of new technology
	8	Participate in carbon trading market
	9	Develop and/or increase low-carbon products and services
	10	R&D and innovation in developing new products and services
	11	Enter new markets
	12	Better Use of Public Sector Incentives

Risk Item



Opportunity Item



► The Group promotes internal carbon pricing

In February 2023, Taiwan announced the implementation of the “Climate Change Response Act”, adding a carbon fee collection mechanism. The Ministry of Environment will formulate relevant sub-laws for detailed content such as charging methods and specific rates. On the tax subjects, it is planned to collect from the large entities first then the smaller entities later in different stages. The fee rate will be reviewed periodically and gradually raised. To cope with government policies in advance, and to effectively cope with climate change and reduce carbon risks, USI Group will introduce an internal carbon pricing system in 2024. The price will refer to the domestic carbon tariff pricing basis, and it is planned to integrate this system into corporate decision-making and investment. During the assessment process, the impact of carbon emissions on business operations is assessed to accelerate the implementation of carbon reduction measures. At the same time, the Group will organize two education and training courses for employees of related units to understand the concept and application of internal carbon pricing, and assist each plant in implementing it as soon as possible. A carbon-related general education course is also planned and held to be widely attended by employees of the Group. Raising carbon awareness to achieve corporate sustainability goals.

5.2.4 Potential financial impacts of risks and opportunities, and response measures

Climate Change Topics	Topic Category	Description of Risks and Opportunities	Potential Financial Impact	Vinyl Chain Strategy and Countermeasures
Floods and Inundation	Physical Risk/Chronic	<ul style="list-style-type: none"> According to the data from the Water Resources Administration, if 500 mm of rain falls within 24 hours, it is estimated that 0 to 1 meters of flooding will occur in the near future (2016-2035) and will last for 1 day. The above heavy rainfall/flooding leads to the shutdown of the plant due to flooding, which will reduce the turnover. 	<p>Increasing operating costs</p> <ul style="list-style-type: none"> NT\$12.11 million was invested for the reconstruction of old rainwater gutters at CGPC Main plant. The cost of related flood control and drainage measures for Linyuan plant was about NT\$5 million. 	<ul style="list-style-type: none"> Reconstruction of old stormwater ditches at Toufen Main plant : Add two external discharge outlets and remove sludge. The second phase of stormwater renovation is reviewed in conjunction with the project of replacing the overlapped troughs with new ones before proceeding with planning. Relevant flood control measures in the TVCM plant : A stormwater interception pond was set up to ensure that the rainwater ditch would take 30 minutes to naturally overflow to the outside of the factory during heavy rainfall. During the period, rainwater was collected in the stormwater interception pond for storage and pumped to the wastewater treatment plant. <p>Note: The Taiwan Green Productivity Foundation introduced the TCFD scenario analysis in 2023 for the CGPC Main plant, and the “flooding” items were assessed to be minor risks and long-term risks.</p>
Drought	Physical Risk/Chronic	<ul style="list-style-type: none"> Taking 1986-2005 as the base period, the recent climate conditions (2016-2035) have shown that the maximum number of consecutive days without rainfall is 50-58 per year, and water shortage or drought may occur. In response to abnormal weather conditions, resulting in water restrictions or water shortages in the plant area, production line production will be reduced or work will be suspended altogether in severe cases. 	<p>Increased capital expenditures and increased costs of revenue</p> <ul style="list-style-type: none"> The cost of the centrifuge dryer process water recovery (HBF) project was about NT\$92.83 million, and the water saving volume in 2023 reached 597.4 million liters/year. The total investment for the construction of a new reservoir was approximately NT\$21 million. 	<ul style="list-style-type: none"> Continue to pay attention to internal and external water conditions. Implement water-saving measures such as “increasing the consumption of HBF recycled water” and “increasing the concentration ratio of the cooling water tower and reducing the amount of supplementary water”. Continue to implement water use improvement plans to enhance the water recovery rate (R2). In 2023, a filter tank and a pre-treatment device were added to the HBF system, which is expected to increase the water recycling volume by 35 million liters per year. CGPC Building Material plant promotes rainwater recycling and reuse. In 2021, a new 500-ton PE storage tank (20 pieces) was built. In 2022, a new 1,500-ton tap water storage tank was built.

Climate Change Topics	Topic Category	Description of Risks and Opportunities	Potential Financial Impact	Vinyl Chain Strategy and Countermeasures
Carbon Fee	Transition Risk/Policies and Laws	In December 2023, the Ministry of Environment released the “Draft Regulations on Carbon Fees and Charges”. It is expected that a carbon fee will be levied by 2025 for large carbon emission companies with annual emissions exceeding 25,000 tonnes.	<p>High initial investment costs, low carbon emissions in the long term, and reduced operating costs.</p> <p>Assuming that the carbon fee is calculated based on the price of NT\$300 per ton of CO₂e and the exemption from the credit of 25,000 tonnes of CO₂e:</p> <ul style="list-style-type: none"> The estimated carbon expenditure of CGPC and TVCM is NT\$62.25 million in 2024, accounting for about 0.5% of the combined revenue in 2023. Vinyl Chain implemented a number of carbon reduction projects in 2023, achieving a carbon reduction of 9,970 tonnes and a carbon reduction benefit of NT\$2.991 million. 	<ul style="list-style-type: none"> CGPC uses internal carbon pricing as the shadow price to incorporate carbon costs into investment considerations to enhance the chances of implementing carbon reduction projects. Actively implement carbon reduction projects, such as equipment replacement, process improvement, heat energy recovery, and other projects. Introduce AI into the plant and the distillation column into the AI model to find the optimal operating conditions and reduce the steam consumption per product. CGPC and TVCM have obtained credits from the greenhouse gas offset project, with a total of 7,464 tonnes of CO₂e and a carbon reduction benefit of NT\$2,239,200 (NT\$300 per ton). The plant will evaluate and propose voluntary reduction plans for preferential tariff rates and reduction of carbon fees from reduction credits after the relevant sub-laws are announced.
Renewable Energy Regulations - Risk Clause for Large Power Users	Transition Risk/Policies and Laws	The Ministry of Economic Affairs “Regulations for the Management of Setting up Renewable Energy Power Generation Equipment of Power Users above a Certain Contract Capacity” came into effect in 2021, requiring large power consumers with a contracted capacity greater than 5,000 kW to install renewable energy equipment with 10% of the contracted capacity before 2025.	<p>Increasing capital expenditure</p> <p>Installed a solar power installation with a capacity of 2.12MW on the roof.</p> <p>A total of NT\$102.4 million has been invested, and the Company plans to meet the regulatory requirements for setting renewable energy by large power users in 2024 ahead of schedule.</p>	<ul style="list-style-type: none"> A 2.12 MW solar power installation has been installed on the rooftop of the CGPC Main plant.
Low-carbon technology transition	Transition Risk/Energy, Technology	The development of low-carbon technologies such as energy transition, efficiency improvement, and fuel substitution for carbon reduction leads to increased technology investment costs for enterprises.	<p>Increased capital expenditures and decreased cost of revenue</p> <ul style="list-style-type: none"> In 2023, Vinyl Chain invested about NT\$195,084,000 in energy saving and carbon reduction projects, reducing 9,970 tonnes of CO₂e. In 2023, the amount of self-assessed purchases of government-approved green products was NT\$71.45 million. Vinyl Chain's 2023 water collector replacement and optimization of the hot water vapor heating system project was an investment of about NT\$7.24 million. 	<ul style="list-style-type: none"> All three factories of Vinyl Chain have passed the ISO 50001 Energy Management System certification. Continue to implement energy-saving and carbon reduction equipment improvement plans, such as replacing old equipment with new ones, heat energy recovery, introducing AI energy-saving projects, and pyrolysis furnace energy-saving coating projects. In 2019, we began to implement the green procurement plan. Through online project declaration, the green products that we mainly purchased were energy-saving equipment. Performance of investment in energy-saving equipment (pumps, motors, IE3 high-efficiency induction motors, inverters, gas boiler burners, LED bulbs, cooling tower circulation pumps, fans, or fans with inverters). The project of replacing the old water collectors and the optimization of hot pure water vapor heating system projects of the three factories of Vinyl Chain can save about 14,213 tonnes of steam and 2,386 tonnes of CO₂e annually. Due to the increase in Taipower's electricity price in April 2024, it is estimated that the electricity bill for the 3 core production factories will increase by NT\$82.34 million per year. We will actively invest in low-carbon technology transitions to reduce the impact of electricity price increases.

Climate Change Topics	Topic Category	Description of Risks and Opportunities	Potential Financial Impact	Vinyl Chain Strategy and Countermeasures
Rising raw material prices	Transition Risk/Market	Under the consideration of future carbon taxation, the cost of carbon emissions will be added to raw materials, and the price will increase.	Increased cost of operating revenue Due to factors such as inflation and uncertainties about the future economy, the global price of ethylene has declined. To strengthen the vertical integration of the industrial chain and flexibly adjust production and sales plans, CGPC built an ethylene storage tank, and TVCM added a storage tank at the Intercontinental Wharf. This can provide a buffer during drastic market changes. The total construction cost is about NT\$3.5 billion.	<ul style="list-style-type: none"> ◆ Promote circular economy: Recycle and reuse raw materials. For example, the quantity of pipes recycled and reused by the building materials plant in 2023 was 2,621 tonnes, and the recycling and reuse rate accounted for 14.3% of the pipe production in 2023. ◆ The Company adopts a vertically integrated strategy for the procurement of materials, production, and sales, and regularly reviews the inventory of raw materials and finished products. Inventory changes are reviewed on a rolling basis in response to market changes. The projects are: <ul style="list-style-type: none"> ◆ TVCM has built storage tanks for ethylene, vinyl chloride, and ethylene dichloride at the Intercontinental Wharfs. ◆ A new ethylene storage tank was built at the CGPC Main plant. ◆ Ensure flexible scheduling of production and sales of key raw materials.
Efficient production	Opportunity/resource efficiency	Improve overall production efficiency and reduce energy consumption with production tools such as AI smart production, industrial motors, and automatic packaging.	Increased capital expenditures and reduced operating costs Take the #5 dryer optimization project for example, about NT\$4.15 million has been invested. The AI model provides the optimal program operating condition setting (SP) for intelligent control, saving about 1,100 tonnes of steam and annual expenses of NT\$1.13 million, and annual carbon reduction up to 175 tonnes of CO ₂ e.	Introduce AI to create intelligent management (see Chapter 3.6) <ul style="list-style-type: none"> ◆ Introduce AI into the process, find the best process operating condition settings through models, and perform intelligent control to optimize energy efficiency. ◆ Combined with image identification (AOI), it is used for the thermal image identification of power panels and sensing safety system of forklifts to improve the safety of the working environment. ◆ For example, the implementation of intelligent control on a 35-ton boiler saved 460,504 kWh of electricity, 1,400,000 M³ of natural gas, 3,138.5 tonnes of CO₂e, and NT\$15.45 million in expenses.
Recycling and Reuse - Circular Economy	Opportunity/resource efficiency	Based on the three principles of circular economy (3R): Reduce, reuse, and recycle. Reduce waste disposal Cost, or raw material consumption	Increasing operating costs <ul style="list-style-type: none"> ◆ In 2023, about NT\$800,000 was invested in the GRS global recycling system certification project. In 2023, about NT\$500,000 was invested in the TPE rubber project for the final product Recycle. ◆ In 2023, about NT\$800,000 was invested in the TPO fish-electricity symbiotic water pond fabric project. 	<ul style="list-style-type: none"> ◆ Since 2021, the CGPC 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 the production of new products for sale. In 2023, the recycling rate reached 14.3%. ◆ The TPE eco-friendly leather products of CGPC use 30-60% of recycled plastics, and have obtained GRS global recycling system certification. ◆ CGPC's PVC bags for small packages are replaced with hot-melt PE bags, which can be 100% recycled for reuse.
Reduce water usage and waste	Opportunity/resource efficiency	Water is an irreplaceable resource in the manufacturing processes. To reduce plant water leakage and increase the proportion of water recycling and reuse, we can save operating costs and improve plant resilience.	Increased capital expenditures and reduced operating costs Centrifugal Drying High-performance Bio-treatment and Filtration system (HBF) project The input cost was about NT\$92.83 million.	<ul style="list-style-type: none"> ◆ CGPC Building Materials plant has installed a rainwater recycling and reuse device that can store about 5 tonnes of rainwater for watering flowers and for use in the toilets to save water consumption. ◆ Centrifugal dryer process water recovery (HBF) was installed at CGPC Main plant and CGPC Linyuan plant. The biological treatment system and COD adsorption system enhance the cooling water recovery rate, saving water up to 597.4 million liters per year in 2023. ◆ In 2023, a filter tank and a pre-treatment device were added to the HBF system, which is expected to increase the water recycling volume by 35 million liters per year. ◆ At the TVCM Linyuan plant, the process steam condensate is recycled and reused in the cooling water tower.

Climate Change Topics	Topic Category	Description of Risks and Opportunities	Potential Financial Impact	Vinyl Chain Strategy and Countermeasures
Use low-carbon energy	Opportunity/resilience, energy source	Promote coal-to-gas conversion, increase the proportion of renewable energy use, reduce carbon costs, lower product carbon footprints, and enhance corporate image and brand value.	Increased capital expenditures and reduced carbon fees Energy saving improvement project for chlorine natural gas boilers of CGPC and TVCM, with an investment cost of about NT\$63 million.	<ul style="list-style-type: none"> The installation of a 30-ton natural gas boiler at the CGPC Main plant was completed in October 2023, which can save natural gas by 1,235,889 NM³/year and reduce carbon by 2,345 tonnes CO₂e/year. Since 2021, we have promoted the conversion of coal-fired boilers to natural gas boilers. It is planned to switch to natural gas before 2025, and the estimated carbon reduction is about 16,000 tonnes CO₂e. TVCM Linyuan plant - The 35 ton Steam Boiler Optimization and Improvement was completed in July 2023. After optimization, the boiler can save 1,400,000 NM³ of natural gas/year. Switching to inverter control for windmills can save 460,504 kWh of electricity and 3,139 tonnes of CO₂e/year in total.
R&D and innovation in developing new products and services - Research and development of low-carbon energy-saving products	Opportunities/Products and Services	Develop circular economy, low-carbon, and energy-saving products. Invest in technology from the perspective of the complete life cycle of products and services to develop low-carbon products.	Increase in research and development expenses, increase in operating costs <ul style="list-style-type: none"> In 2023, we have obtained the GRS Global Recycling System certification project which will enhance the Company's corporate image, obtain brand certification, and increase market competitiveness. An investment of about NT\$800,000 was made. NT\$500,000 was invested in the bio-shell powder antibacterial and anti-mold rubber project in 2023. 	Continue to develop circular recycled products: <ul style="list-style-type: none"> We adopt post-consumer TPO or industrial waste TPU materials and utilize a compression molding process along with post-consumer recycled PET bottles to produce polyester non-woven fabric (base fabric) for environmentally friendly synthetic leather. The percentage of recycled plastics reaches 30-60%, and with GRS global recycling system certification. Oyster shell powder is made from waste oyster shells and calcined at high temperature. It is a natural material and has been used in artificial leather to replace synthetic antibacterial agents. It can minimize environmental impact and pollution. It has been tested and certified to have antibacterial and anti-mold properties effect.
Better Use of Public Sector Incentives	Opportunity/Market	Use the government incentive mechanism to reduce input costs, adopt new technologies, and enhance competitiveness.	Higher capital expenditures and higher revenues <ul style="list-style-type: none"> CGPC Main plant was selected by the Taiwan Green Productivity Foundation to become a TCFD demonstration manufacturer. The CGPC Main plant was selected by the Taiwan Industrial Development Foundation as the guidance vendor. The Company applied for a green factory label (cleaner production + green building certification) with an investment of NT\$1.5 million. Application items for low interest rates: <ul style="list-style-type: none"> CGPC's application plan: Deeply-rooted Taiwanese enterprises - automatic warehousing - Taiwanese business participants returning to invest in Taiwan - VCM storage tanks. TVCM: The SME - Intercontinental Phase II project received government support for a low-interest project of about NT\$18.56 million in 2023. In 2023, government subsidies totaled NT\$1.394 million. 	<ul style="list-style-type: none"> During the 2023 TCFD event, CGPC arranged five consultation sessions to estimate the future scenarios of three climate disasters - "flooding, drought, and high temperature" between 2016 and 2035 based on the RCP 8.5 scenario. For transition risk, the IEA is referred to. The scenario is set as "the future global temperature will rise by 1.5°C" to facilitate medium and long-term strategy planning, allowing the Company to better grasp risks and opportunities, and share TCFD implementation experience with various industries in 2024. In 2023, CGPC applied for a green factory label and we have arranged five consultation sessions. The document was submitted for review in December, and we expect to arrange a cleaner production assessment for on-site inspection and evaluation in April 2024. On green building, improvements are made to the air conditioning system. Obtain government subsidies and low-interest loans to effectively reduce costs and prepare sufficient funds for operating needs. Government subsidies in 2023 (unit: NTD Ten thousand) <ul style="list-style-type: none"> Domestic investment interest subsidy of NT\$102 Occupational Safety and Health Administration, Ministry of Labor NT\$20.6 Water Resources Agency, Ministry of Economic Affairs NT\$10 Bureau of Labor Insurance, Ministry of Labor NT\$4.9 Taoyuan-Hsinchu-Miaoli Branch of the Workforce Development Agency, Ministry of Labor NT\$1.8 Environmental Protection Administration, Executive Yuan NT\$0.1

Note: The above scope includes the three Vinyl Chain factories (CGPC Main plant, TVCM Linyuan plant, and CGPCP Linyuan plant).

5.2.5 Development of innovative products in response to climate change

GRS Certified Products



Antiviral Products



◆ Testing Method: ISO 22196: The antibacterial efficacy should exceed 2.0 according to the JIS Z2801 standard to be considered effective against bacteria.

Test Microorganism	Antibacterial Value (R)	Antibacterial Effect
Escherichia coli	3.0	99.9%
Staphylococcus aureus	2.8	99.9%

◆ Testing Method: ISO 21702: The antiviral activity should exceed 2.0 according to the SIAA specification to be considered effective against viruses.

Sample Name	Antiviral Activity Value	Antibacterial Effect
PVC leather (H3N2)	3.9	99.99%
TPO leather (H3N2)	3.3	99.99%
UVDoor Panel (H3N2)	3.5	99.99%
Veneer Door Panel(Feline calicivirus)	3.8	99.99%

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

CGPC's factories primarily use purchased electricity, natural gas, and fuel coal. The scope of energy use inventory in 2023 includes CGPC Main plant and TVCM and CGPCP plants in Linyuan, with a coverage rate of 100%.

► Energy management

In compliance with the government's net-zero carbon emission goals, energy-saving measures are being implemented: Voluntary reductions and the implementation of various energy-saving initiatives within the facilities, surpassing regulatory requirements.

◆ 2023 Energy Conservation Performance (Target: 1%)



Description:

1. The data comes from the Energy Administration's annual energy conservation inspection system reporting form.
2. Achievement rate description: CGPC and CGPCP plant II have achieved the electricity saving rate target. CGPCP mainly proposes steam saving solutions, but the improvement measures are concentrated on H2. Therefore, the annual electricity saving rate is slightly lower than the target. It is expected that energy-saving in 2024 will increase by more than 1%.

► Banks' green finance ESG indicators

In response to the government's promotion of green sustainability, CGPC, as an enterprise of excellence, has actively cooperated with banks in bundling the ESG loan line of credit, and obtained the approval of 3-year energy conservation and carbon reduction indicators, and the indicators are as follows:

1. Energy consumption per unit product of CGPC's PVC resin.
2. Greenhouse gas emission intensity per unit product of CGPC's PVC resin.
3. CGPC increased the growth rate of recycled water.
4. CGPC unit water consumption.
5. The total amount of waste generated by CGPC.
6. Water consumption of TVCM Linyuan plant.

► Promotion of renewable energy

1. CGPC starts it from the construction of solar photovoltaic equipment on the plant roof, and gradually expanded the use of green electricity in each plant area. In 2019, the rooftop of CGPC Main plant rented out 1437.9 kWp of solar power equipment in the plant. CGPC purchased the solar photovoltaic equipment back in May 2022. In 2023, the 1.73 million kWh of solar power generated was sold entirely to Taipower.
2. CGPC will continue to expand the capacity of solar energy equipment and completed the installation of 679.82kWp solar energy in the plant before the end of 2023.
3. TVCM Linyuan plant does not have a suitable roof space to put solar energy equipment. It plans to purchase 1.64 million kWh of green electricity and certificates by the end of 2025.

► CDP Questionnaire

Our supply chain was invited to participate in the CDP questionnaire: Climate Change and Water Security in 2023, which received B- and B, respectively.

► Application items for obtaining bank ESG financing lines and low interest rates

1. CGPC and TVCM continue to implement ESG development, signing sustainability-linked loans with Chang Hwa Bank, Fubon Bank, and other banks.
2. Application items for the low interest rate program of CGPC and TVCM:
 - ◆ CGPC's application plan: Deeply-rooted Taiwanese enterprises - automatic warehousing; Taiwanese business participants returning to invest in Taiwan - VCM storage tanks.
 - ◆ TVCM: Small and Medium Enterprises - Intercontinental Phase II Project
3. The low-interest rate projects supported by the government in 2023 were approximately NT\$18.56 million.

Energy usage in the last 3 years

(Unit: GJ)

By company	Energy type	2021	2022	2023
CGPC (Main plant)	Purchased electricity	642,323	605,925	546,155
	Fuel coal	423,571	70,108	32,229
	Natural gas	242,222	517,934	516,187
	Diesel fuel	4,848	4,299	4,384
	Gasoline	106	114	183
	Total energy consumption	1,313,070	1,198,380	1,099,138
TVCM (Linyuan plant)	Purchased electricity	346,369	339,825	344,205
	Purchased steam	268,180	86,934	119,687
	Natural gas	1,902,346	2,005,950	1,991,576
	Diesel fuel	89	257	312
	Gasoline	67	69	129
	Total energy consumption	2,517,051	2,433,035	2,455,909
CGPCP (Linyuan plant)	Purchased electricity	138,547	129,593	135,440
	Purchased steam	340,650	294,365	298,127
	Diesel fuel	65	150	265
	Gasoline	22	19	21
	Total energy consumption	479,284	424,127	433,853

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.

Note 2: In line with the inventory method of GHG emissions, TVCM and CGPCP have revised the distribution method for purchased electricity and the statistical method for purchased steam since 2021.

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

(Unit: GJ/ton)



Description of product energy consumption of each unit:

- ◆ CGPC revised the unit consumption of PVC resin in 2021, which was due to the change of electricity statistics (consistent with energy reporting).
- ◆ CGPC revised the chemical unit consumption for 2021-2022 due to a change in the method of calculating production (consistent with the annual report).
- ◆ TVCM's revision of the VCM unit consumption for 2021-2022 is based on the revision of the distribution method of purchased electricity and deduction of the volume of steam sold.
- ◆ CGPCP has revised the PVC resin unit consumption per unit of 2021-2022 to revise the method for allocating purchased electricity.
- ◆ In 2023, CGPC chemical unit's increase in unit product energy consumption was mainly due to electrolytic cell shutdown and production volume reduction.
- ◆ In 2023, the energy consumption per unit of product processed by CGPC increased, mainly due to the demolition and renovation of the adhesive tape machine.

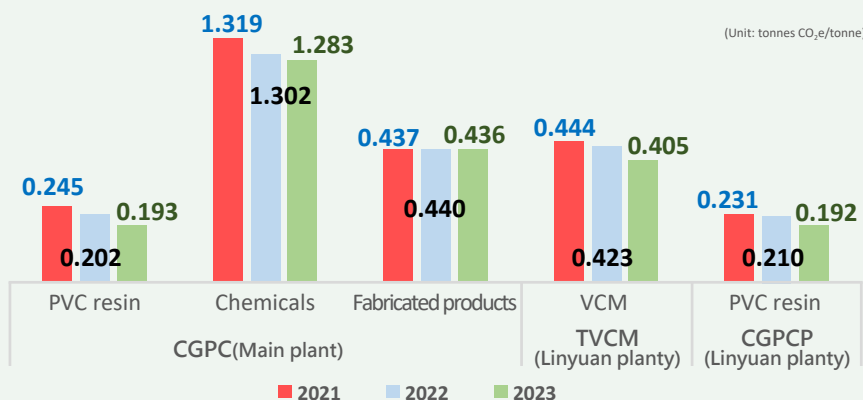
5.2.7 Greenhouse gas management ► (GRI 305-1、305-2、305-3、305-4、305-5)

GHG inventory is carried out every year to effectively manage the emissions of each plant of CGPC. Starting from 2023, 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.

Greenhouse gas emissions intensity by product the last 3 years

(Unit: tonnes CO₂e/tonne)

By company	By product	2021	2022	2023	goal	Achievement
CGPC (Main plant)	PVC resin	0.245	0.202	0.193	0.248	✓
	Chemicals	1.319	1.302	1.283	1.366	✓
	Fabricated products	0.437	0.440	0.436	0.455	✓
TVCM (Linyuan plant)	VCM	0.444	0.423	0.405	0.446	✓
CGPCP (Linyuan plant)	PVC resin	0.231	0.210	0.192	0.234	✓

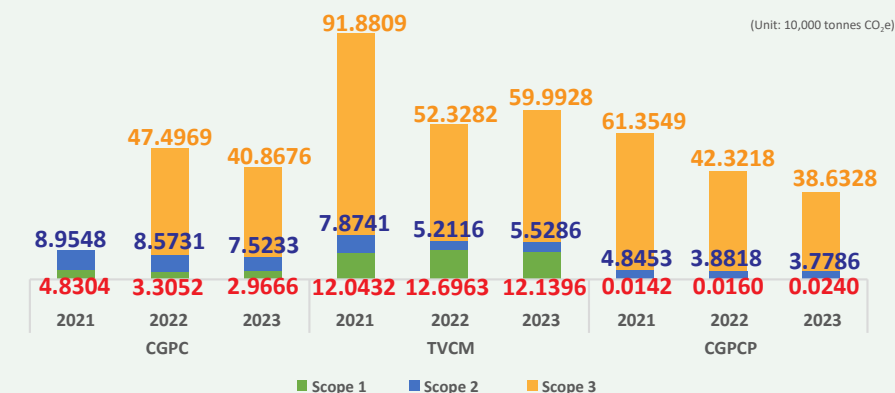


- Notes: 1. Calculation formula = Total GHG emissions by product (CO₂e tonnes)/Total production by product (tonnes)
2. CGPC revised the processed products for 2021-2022 due to a change in the method of output statistics.
3. TVCM revised the VCM products in 2022 because the inventory data was obtained after the reporting.
4. CGPCP revised the PVC resin products in 2022 because the inventory data was obtained after the reporting.
5. The 2022 target was based on the average of the emission intensity by product between 2019~2021, and it is expected that after the review in 2025, the target will be revised.
6. The 2023 greenhouse gas emissions data of CGPC, TVCM, and CGPCP are all third-party verified data.

Greenhouse gas emissions of each plant in the last 3 years

(Unit: 10,000 tonnes CO₂e)

By company	Scope	2021	2022	2023
CGPC	Scope 1	4.8304	3.3052	2.9666
	Scope 2	8.9548	8.5731	7.5233
	Scope 3	-	47.4969	40.8676
TVCM	Scope 1	12.0432	12.6963	12.1396
	Scope 2	7.8741	5.2116	5.5286
	Scope 3	91.8809	52.3282	59.9928
CGPCP	Scope 1	0.0142	0.0160	0.0240
	Scope 2	4.8453	3.8818	3.7786
	Scope 3	61.3549	42.3218	38.6328



- Note: 1. Scope of inventory in 2023: (1) **CGPC** includes: CGPC Main plant, Taipei Office, and overseas subsidiaries. (2) **TVCM** Company includes: TVCM's Linyuan plant, Taipei office, and **GGTC** Company. (3) It was Linyuan plant for **CGPCP** Company. The above scope includes CGPC's subsidiaries in the consolidated financial statements, and the coverage rate is 100%. GHG inventory includes: CO₂, CH₄, N₂O, and HFCs.
2. Scope 3 coverage was added to TVCM and CGPCP starting from 2021, and Scope 3 coverage was added to CGPC from 2022.
3. The calculation adopts the operational control method, and the emission coefficient adopts the coefficient announced by the Ministry of Environment. (The carbon emission coefficient of electricity provided by the Energy Administration)
4. TVCM and CGPCP revised its greenhouse gas emissions in 2022 because the inventory data was obtained after the reporting.
5. For other information, see: Remarks on Carbon Reduction Pathway Planning.
6. Subsidiaries in the consolidated financial statements of CGPC - Categories covered in Scope 3:
• GHG emissions from upstream and downstream transportation and cargo distribution, GHG emissions from employee commuting, and GHG emissions from business travel and GHG emissions from the organization's procurement of raw materials, extraction, manufacturing, and processing, and GHG emissions from the disposal of solid and liquid wastes.

5.2.8 Energy conservation and carbon education solutions and performance

By company	Energy conservation and carbon reduction solutions	2023 performance	
		Amount of energy conservation (GJ)	Amount of carbon reduction (CO ₂ e tonnes)
CGPC (Main plant)	Replacement of Supercharged D set of compressors, replacement of 800RT refrigerators, and improvement of energy savings and improvement of the external circulation pump of the chilled water system, and improvement of Supercharged compressed air pressure for energy saving. Improvements in thermal insulation, replacement of old air compressors with new models, and improvement of energy-saving screw sleeve electric heaters in the extrusion machine.	58,347	3,679
TVCM (Linyuan plant)	<ul style="list-style-type: none"> Replacement of the cooling tower circulation pump (P-6010A) Replacement of Cooling Tower Circulating Water Motor (PM-6010C) Add variable frequency control to the cooling tower fan B-6001A Plant-wide Cooler Improvement Project (Phase 2) Intelligent control of 35-ton boiler 	66,670	4,226
CGPCP (Linyuan plant)	<ul style="list-style-type: none"> Replacement of Obsolete RF-2401A Chiller Equipment Replace old water dispensers in the plant with new ones Optimization of hot pure water vapor heating system 	28,850	2,065
Total		153,867	9,970

2024 Carbon Reduction Plan and Targets (CO ₂ e tonnes)		
	Major Energy Conservation and Carbon Reduction Solutions	Target Carbon Reduction Amount
CGPC (Main plant)	<ul style="list-style-type: none"> Powder conveying system improvement and motor replacement Replacing old refrigerators with new ones, windmills for energy-saving improvements Replace old air compressors with new ones and improve energy-saving screw sleeve electric heaters of extruder machines. 	405
TVCM (Linyuan plant)	<ul style="list-style-type: none"> Replacement of the cooling tower circulation pump (P-6010C) Replacement of Cooling Tower Circulating Water Motor (PM-6010A) Replace the instrument air with a low-horsepower air compressor. VCM Tower (C-6203) Implemented AI Energy Saving Project 	1,032
CGPCP (Linyuan plant)	<ul style="list-style-type: none"> CO-0001AB Air Compressor Replacement 	148

Note: 1. The data comes from the Energy Administration's annual energy conservation inspection system reporting form

2. Calculation benchmark:

(1) Refer to the unit calorific value conversion coefficient for energy products announced by the Energy Administration (for energy statistics only), which is: electricity 860 kcal/kWh, fuel coal 5,600 kcal/kg, natural gas 9,000 kcal/m³, and gasoline 7,800 kcal/L and diesel 8,400 kcal/L, of which 1cal is 4.187 J.

(2) The 2023 CO₂ emission coefficient from fuel coal at the CGPC Main plant is calculated based on 1.9457 kg CO₂ e/kg.

(3) The CO₂ emission coefficient for the natural gas used in the CGPC Main plant in 2023 is calculated as 1.897 kg CO₂ e/m³.

(4) The CO₂ emission coefficient for the natural gas used in the TVCM's Linyuan plant in 2023 is calculated as 2.079 kg CO₂e/m³.

(5) The calorific value conversion factors of the purchased steam used by TVCM and CGPCP's Linyuan plants in 2023 were 669,000 kcal/ton and 665,534 kcal/ton, respectively, and the CO₂ emission factors were calculated at 182.4 kg CO₂e/ton and 213.5 kgCO₂e/ton, respectively.

(6) 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. In 2023, the investment amounts of various energy conservation and carbon reduction programs, and the energy conservation and carbon reduction are as shown in the [Table](#).

► Greenhouse gas replacement project quota obtained

Since 2018, CGPC has implemented two greenhouse gas offset projects. These projects, namely the "Updated replacement project of the IEM Alkali Evaporator Tank" by CGPC and the "Cracking Furnace Replacement Project for Furnaces F-6201 and F-6202" by TVCM, have undergone third-party verification and registered for approval. On February 23, 2022, and May 3, 2022, respectively, both projects were approved in the first round of quota applications by the Ministry of Environment, obtaining a total reduction quota of 7,464 tonnes of CO₂e. These measures were taken to reduce future carbon regulatory risks.

Please refer to the official letter of the Ministry of Environment, Executive Yuan: [Updated the IEM Alkali Evaporation Tank Offset Project](#) and Replacing [two pyrolysis furnaces \(F-6201 and F-6202\)](#).

5.2.9 Energy conservation and carbon reduction equipment improvement solutions ► (GRI 302-4, 303-3, 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 Main plant Update of compressor set coincides with Course D	CGPC Main plant Addition of a 30-ton steam boiler to the Public Affairs Section	CGPC Main plant/TVCM Linyuan plant/CGPCP Linyuan plant Steam Drainer Improvement Project
Condition before improvement	<ol style="list-style-type: none"> Originally, the reclosing and blowing recycling compressor required three sets of compressors (C, old D, and E) with a total of 960kW. All three of them did not have backup units. When one of the pieces of equipment is damaged, it will prolong the recycling and compression time. The motors of the first stage and second stage of the old D set of recycling compressors were 120kW and 200kW, respectively. 	<p>The natural gas consumption per unit of steam of the original #7 natural gas boiler was 66.5 NM³/ton, due to the old boiler equipment, the combustion efficiency was still at 88-89%, and it did not meet the current laws and regulations for energy conservation and carbon reduction.</p>	<ol style="list-style-type: none"> Most steam eliminators are clogged, resulting in the accumulation of condensed water back in the main pipe, and the condensed water is carried into the heat exchanger resulting in poor heat energy conversion performance. Due to serious steam leakage from some of the coolers, the outlet temperature could not be kept below the saturation temperature of atmospheric steam.
Program Description	<ol style="list-style-type: none"> Among the three sets of compressors, the old D set is relatively inefficient. To improve the overall recycling efficiency, the D set of recycling compressors were completely updated. The motors of the first and second stages were improved to 132kW and 170kW, respectively. After the new D sets of compressors are replaced, dual-purpose and one standby operation can be adopted to reduce the number of compressor combinations by 2 sets (C + new D sets or new D sets + E sets) and still maintain the process operating load. Therefore, it is possible to increase the overall compression efficiency, thereby reducing electricity consumption. 	<p>By installing a #2 natural gas 30-ton steam boiler in place of the #7 boiler as the main boiler operation, and converting the existing #7 boiler as a standby, the actual unit steam and natural gas consumption of the new #2 boiler can be reduced to 59.1 NM³/ton, and the combustion efficiency can be increased by up to 93.5%, reducing the overall natural gas consumption of the steam boiler and achieving the results of energy saving and carbon reduction.</p>	<ol style="list-style-type: none"> On the basis of the venturi design principle, the ARISTI steam trap is designed so that the steam can effectively reduce the pressure inside the main body. The pressure difference generated by the fluid in the steam trap causes the condensed water to drain through the nozzles designed according to the flow rate. It is adsorbed and released (producing a spray effect). Conduct a comprehensive leak inspection and assessment of all water eliminators in each plant of the three companies, and compare ARISTI and other brands according to the ISO 7841 test specification, the method for determining steam leakage of "active drain water valves" was by comparison of leakage of the steam traps of different brands, and then replace the steam traps with abnormality.
Completion date	August 2023	October 2023	October 2023 for CGPC/February 2023 for TVCM/July 2023 for CGPCP
Expected benefits after improvement	<p>After upgrading, the compressors could save electricity by 737,537 kWh/year and reduce carbon by 365 tonnes CO₂e/year.</p>	<p>The new boilers can save natural gas by 1,235,889 NM³/year, which is equivalent to a reduction of 46,572 GJ/year of thermal energy and 2,345 tonnes of CO₂e/year.</p>	<p>CGPC: 1,326 tonnes/year of steam saved and 164 tonnes CO₂e/year of carbon reduction. TVCM: 3,327 tonnes/year of steam saved and 462 tonnes CO₂e/year of carbon reduction. CGPCP: 1,300 tonnes/year of steam saved and 238 tonnes CO₂e/year of carbon reduction. Total: 5,953 tonnes/year of steam saved and 864 tonnes CO₂e/year of carbon reduction.</p>
Photos			

Program Name	TVCM Linyuan plant <u>The 35 ton Steam Boiler Optimization and Improvement</u>	TVCM Linyuan plant <u>Improvement of the pumping efficiency of the cooling tower and installation of variable frequency control for the fan</u>	CGPCP Linyuan plant <u>Optimization of hot pure water vapor heating system</u>
Condition before improvement	In the face of carbon costs and improvement of air quality, etc., in response to the related impacts, we carried out boiler equipment transformation in 2014 in response to environmental protection policies. The fuel was transformed from heavy oil to using natural gas. However, the boilers still failed to improve efficiency.	<ol style="list-style-type: none"> 1. The motor of the cooling tower's cooling fan is controlled at a fixed frequency. It runs at full speed regardless of seasonal changes and the surrounding temperature, which consumes both energy and money, and increases unnecessary carbon emissions. 2. The pumping efficiency of the three cooling water pumps used in parallel is not good. Since they are used in parallel, P-6010A and P-6010B will be improved first, and then P-6010C will be improved in 2024. 	<ol style="list-style-type: none"> 1. Due to the batch reaction of CGPCP, the original design and production of hot water are of batch production. 2. Batch production of hot water causes the steam to sway greatly during use, and stays in the tube to consume energy when not in use.
Program Description	<p>The 35 ton boiler adopts an intelligent control combustion system. The microcomputer intelligent control, program compensation, and exhaust gas analyzer analysis are fed back to the control system to adjust the operating conditions. In addition, motor inverters were retrofitted, air valves were replaced with servo motors, and natural gas control components were replaced with sliding rod control valves for equipment upgrading.</p> <p>The intelligent control combustion system is equipped with an exhaust gas analyzer, which uses a microcomputer burner to control the air-fuel ratio of the boiler, calculates the optimal efficiency of natural gas and O₂, and is equipped with an exhaust gas analysis system to continuously monitor and analyze the exhaust gas content and feed the feedback to the intelligent control system to achieve the best combustion efficiency. It reduces natural gas consumption and precisely controls the air-fuel ratio of the boiler. Even if the demand for process steam increases, low-volume operation can still be done without compromising efficiency.</p>	<ol style="list-style-type: none"> 1. The cooling fan motor (B-6001A) is equipped with an inverter. In winter, the heat energy generated by the manufacturing process is reduced, the ambient temperature is lower, and the heat dissipation demand of the cooling tower decreases. Therefore, one cooling fan motor is changed to inverter control to reduce power consumption and carbon emissions. 2. Improved the performance of the P-6010A and P-6010B cooling pumps. Recalculated the hydraulics and piping design for the cooling pumps and updated the equipment to achieve the effect of energy saving and reduce a lot of electricity consumption. 	<ol style="list-style-type: none"> 1. Change the batch production of hot water to continuous operation. 2. New pipelines are planned to be prepared at the bottom of the pure water tank. By adding a new pump and a flow meter, the appropriate operating volume can be adjusted to deliver the water to the hot water system.
Completion date	July 2023	July 2023	June 2023
Expected benefits after improvement	After optimizing the boiler, 1,400,000 NM ³ /year of natural gas can be saved. Switching to the inverter-controlled windmill can save 460,504 kWh of electricity per year, and the total carbon reduction is 3,139 tonnes of CO ₂ e/year.	After the implementation of the above energy saving improvement plan for cooling towers, a total of 1,443,675 kWh of electricity and 715 tonnes of CO ₂ e/year of carbon were saved.	After the optimization of the hot water heating system, 8,260 tonnes of steam can be saved per year and 1,522 tonnes of CO ₂ e/year can be reduced.
Photos			

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

Continuous monitoring and compilation of daily, monthly and annual water consumption records. In terms of management, we will continue to study feasible solutions and use manufacturing processes to improve water conservation and enhance water recycling and reuse rates. Improve pipelines, conduct regular leak-prevention inspections, follow up and review the progress, and propose improvement plans. The scope of 2022 inventory includes CGPC's Main plant, and TVCM and CGPCP's plants in Linyuan, with a coverage rate of 100%. Our supply Chain is invited to participate in the CDP - Water Security Questionnaire 2023, receive a B management grade.

Material issue: Water resource management



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, increase the water reuse ratio R2, and actively implement the plan to apply for water consumption reduction.



Policy Commitment

Starting from 2023, the annual water reuse ratio R2 will be increased by 1% (total of the three factories).



Grievance Unit

Public Utility Course



SASB Indicator

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✓ Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Increase the water reuse ratio R2 by 1% every year.	R2 ratio (%)	71.0	71.9 	72.0	73.0	78.0

Note: Starting in 2023, statistics are calculated based on the water reuse rate R2 of water consumption fees.



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

Abnormal climate can lead to lack of water resources in the world. [Taiwan is listed as the 18th country at risk of water scarcity in the world.](#) · CGPC's main plant and CGPCP's Linyuan plant have planned to establish the recovery and reuse of recycled water.



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.
Benefits after improvement	In 2023, the second phase of the HBF project was launched, and the daily recycling consumption is expected to increase by another 100 tonnes. The water saving in 2023 was as follows: Water Reclaimed Volume of CGPC: 139.5 million liters/year, Water Recycled Volume of CGPCP: 457.9 million liters/year Total: 597.4 million liters/year
Program Description	A biological treatment system and a COD adsorption system are set up to treat the separated original liquid that cannot undergo the complete recycling process and after the liquid is treated by the newly installed centrifuge to reduce the chemical oxygen demand (COD) and suspended solids (SS), it is resupplied to the cooling water tower to reduce the amount of tap water used and wastewater discharged. In 2023, a filter tank and a pre-treatment device were added to the HBF system, which is expected to increase the reused water consumption by 35 million liters.
Completion date	CGPC: The expansion was completed in April 2018 and by the end of 2023. CGPCP: In July 2018.

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

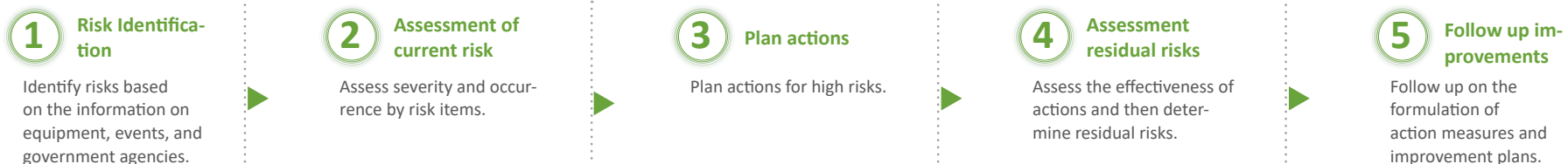
To ensure stable operation and sustainable development, the risk of water shortage resulting from climate change was addressed in December 2020 through the approval of the “[Risk Management Policies and Procedures](#)” by the Audit Committee and the Board of Directors, aiming to establish a comprehensive 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)
Regions with water stress.	Low to moderate water stress zone	Low to moderate water stress zone	Low to moderate water stress zone
Water stress	10 ~ 20%	10 ~ 20%	10 ~ 20%

Identification of water risk



► Assessment of water risks and implementation

CGPC Main plant plans to introduce ISO 46001 water resources management system and ISO 14046 water footprint in 2022 to understand the potential impact of water risks on operations (inventory of the 2021 information), and refer to the [Taiwan Climate Change Projection and Information Platform](#) and [Taiwan-wide disaster risk map](#) to estimate the impact of future changes in average rainfall on water resources. Water footprint, recycling of water resources, and wastewater treatment are used to formulate response strategies. Identified that the Company's operating locations (Main plant in Miaoli is in a low to moderate stress area, and Linyuan plant in Kaohsiung is in a moderate to high stress area) are not in high water stress areas and there is no significant impact on water use.

By company	Water stress Assessment Result	Impacts caused by extreme weather
CGPC Main plant	Low to moderate water stress zone	In the second half of 2020, the rainfall continued to be lower than expected. The water supply situation in Hsinchu and Miaoli areas was particularly dire. The Toufen Industrial Park Management Center has required a weekly water saving of 7% starting from January 7, 2023, 11% starting from February 19, 2023, and 17% starting from May 12, 2021, and the weekly water intake reported and the water meter data needed to be checked to verify whether the water conservation standards have been met. Statistics show that as of the end of July 2023, the average water conservation performance of the Main plant has reached more than 15%, that of TVCM Linyuan plant has reached 11%, and that of CGPCP has reached 20%. No material impact in 2023.
TVCM Linyuan plant	Low to moderate water stress zone	
CGPCP Linyuan plant	Low to moderate water stress zone	
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 2023, water reuse accounted for the total water withdrawn: 49.2% from CGPC, 24.4% from TVCM, and 70.3% from CGPCP. The total water reuse was 1,314.1 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 building materials factory – Rainwater recycling and re-use



Solution: Rainwater recycling and reuse

Description:

CGPC has been established for 59 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.

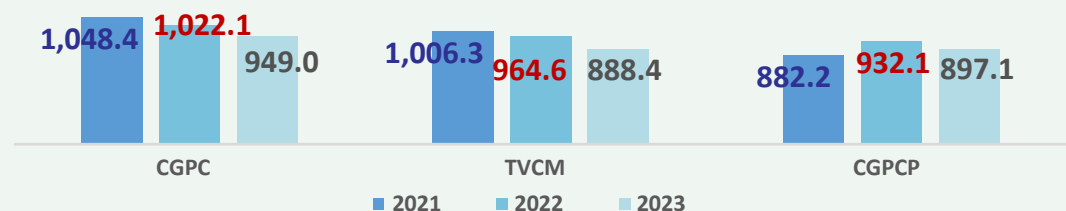
We spare no efforts in conducting internal and external coordination and communicating with government agencies and have implemented adding the use of HBF recycled water, increasing the concentration ratio of the cooling water tower and reduce the water replenishment and other water conservation measures. 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

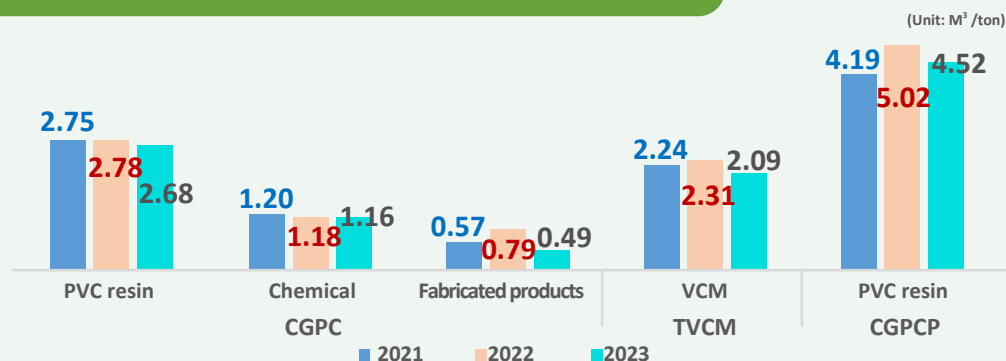
(Unit: million liters)

By company	Source	2021	2022	2023
CGPC (Main plant)	Tap water	1,022.9	1,021.5	949.0
	Groundwater	25.5	0.6	-
	Total	1,048.4	1,022.1	949.0
TVCM (Linyuan plant)	Tap water	968.4	1,079.2	884.1
	Party from third-party (Note 2)	37.9	(114.6)	4.3
	Total	1,006.3	964.6	888.4
CGPCP (Linyuan plant)	Tap water	701.8	680.5	751.4
	Party from third-party (Note 2)	180.5	251.6	145.7
	Total	882.3	932.1	897.1
三廠	Total water withdrawal	2,937.0	2,918.8	2,734.5

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 past three years



Water reuse rate in the past three years (R2) Statistics

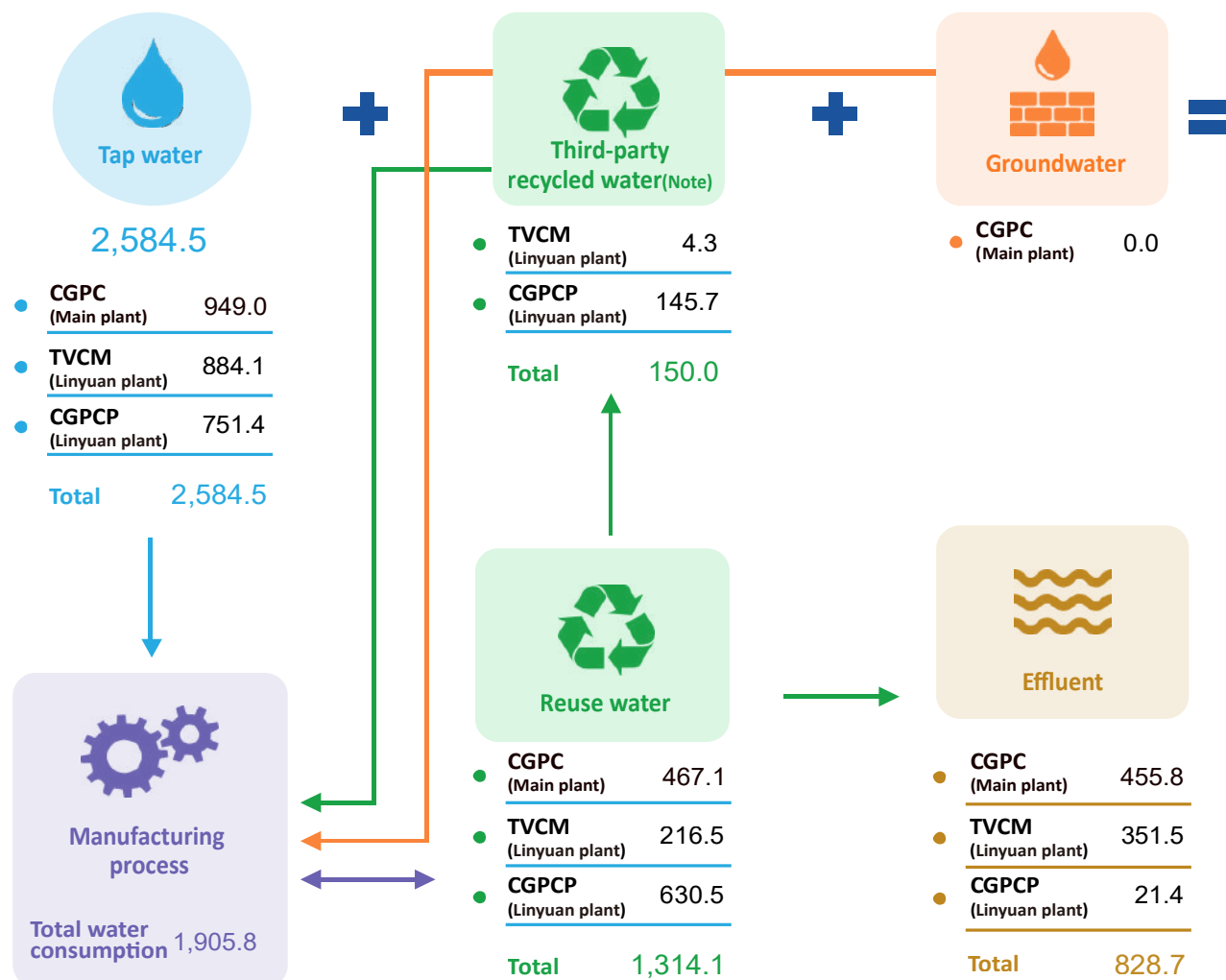
(Unit: million liters)

By company	Reclaimed %	2021	2022	2023
CGPC (Main plant)	Reuse water consumption	552.6	520.8	467.1
	Recycling water volume	94,225.8	94,556.8	84,959.2
TVCM (Linyuan plant)	Reuse water consumption	218.2	236.3	216.5
	Recycling water volume	95,802.0	95,802.0	95,802.0
CGPCP (Linyuan plant)	Reuse water consumption	627.6	594.8	630.5
	Recycling water volume	46,428.0	46,428.0	46,603.7
Total Reclaimed water of the three factories		1,398.5	1,351.9	1,314.1
Reclaimed water ratio of the three factories		70.7%	70.7%	71.9%
R2 reclaimed target of the three factories		-	-	71.0%

Note

- Starting in 2023, the water recycling ratio is calculated using the R2 method, and the water recycling ratio is increased by 1% every year.
- Calculated based on the water consumption rate R2 for water reuse.
- The volumes of reuse water and recycled water are estimated statistics.

► **Water Resource Statistics Table** ► **2023 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	1.88%
TVCM (Linyuan plant)	Fengshan Reservoir	0.55%
CGPCP (Linyuan plant)	Fengshan Reservoir	0.47%
Total water withdrawal (Unit: million liters)		2,734.5

Percentage of local reservoir water usage at the plant site (Unit: million liters)

By company	Year	Water intake volumes	Reservoir outflow volume	Percentage
CGPC (Main plant)	2021	1,022.9	40,517	2.52%
	2022	1,021.5	52,454	1.95%
	2023	949.0	50,589	1.88%
TVCM (Linyuan plant)	2021	968.4	160,600	0.60%
	2022	1,079.2	160,600	0.67%
	2023	884.1	160,600	0.55%
CGPCP (Linyuan plant)	2021	701.8	160,600	0.44%
	2022	680.5	160,600	0.42%
	2023	751.4	160,600	0.47%

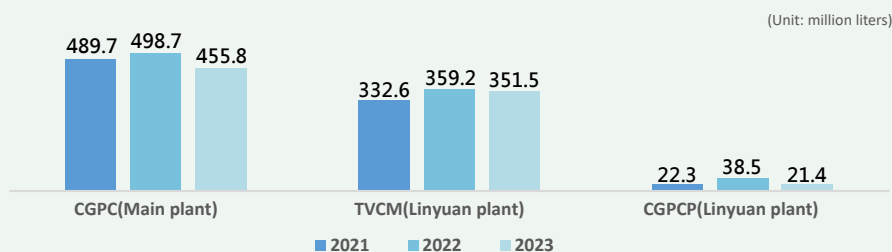
5.3.2 Wastewater discharge management ► (GRI 303-4)

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:

By 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



Wastewater discharge intensity in the last 3 years



Description:

- The amount of effluents of TVCM and CGPCP's Linyuan factories is far less than the consumption of tap water.
- Since the process wastewater is almost completely recovered to be used as water replenishment of the cooling water tower, the volume of discharged water is greatly reduced.

5.3.3 Wastewater quality testing ► (GRI 303-2)

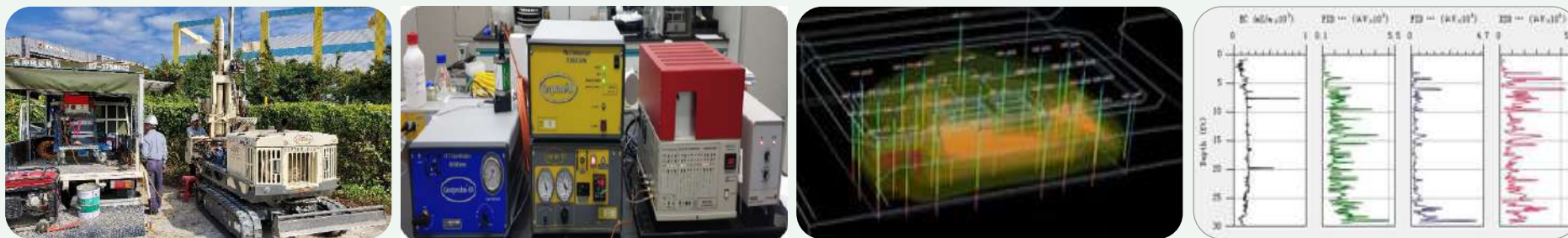
The main water quality testing items include suspended solids, grease, chemical oxygen demand, etc., and are regularly tested and reported. In the last 3 years, they have all been lower than the effluent water standard or below the detection limit value.

(Unit: mg/L)

By company	Test items	2021 average value	2022 average value	2023 average value	Emissions Standard	Internal control value
CGPC (Main plant)	pH	7.6	7.7	7.7	6~9	7~8
	(SS) Suspended solids (mg/L)	13.5	14.4	12.9	30	<25
	(COD) Chemical oxygen demand (mg/L)	32.0	32.5	31.1	100	<80
TVCM (Linyuan plant)	pH	7.9	7.8	8.0	6~9	7~8
	(SS) Suspended solids (mg/L)	17.3	15.0	4.9	25	<25
	(COD) Chemical oxygen demand (mg/L)	42.0	33.5	19.7	90	<90
CGPCP (Linyuan plant)	pH	7.4	7.8	7.8	6~9	7~8
	(SS) Suspended solids (mg/L)	1.2	1.1	17.2	25	<25
	(COD) Chemical oxygen demand (mg/L)	6.7	12.7	64.1	90	<90

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

5.3.4 Soil and groundwater remediation technology



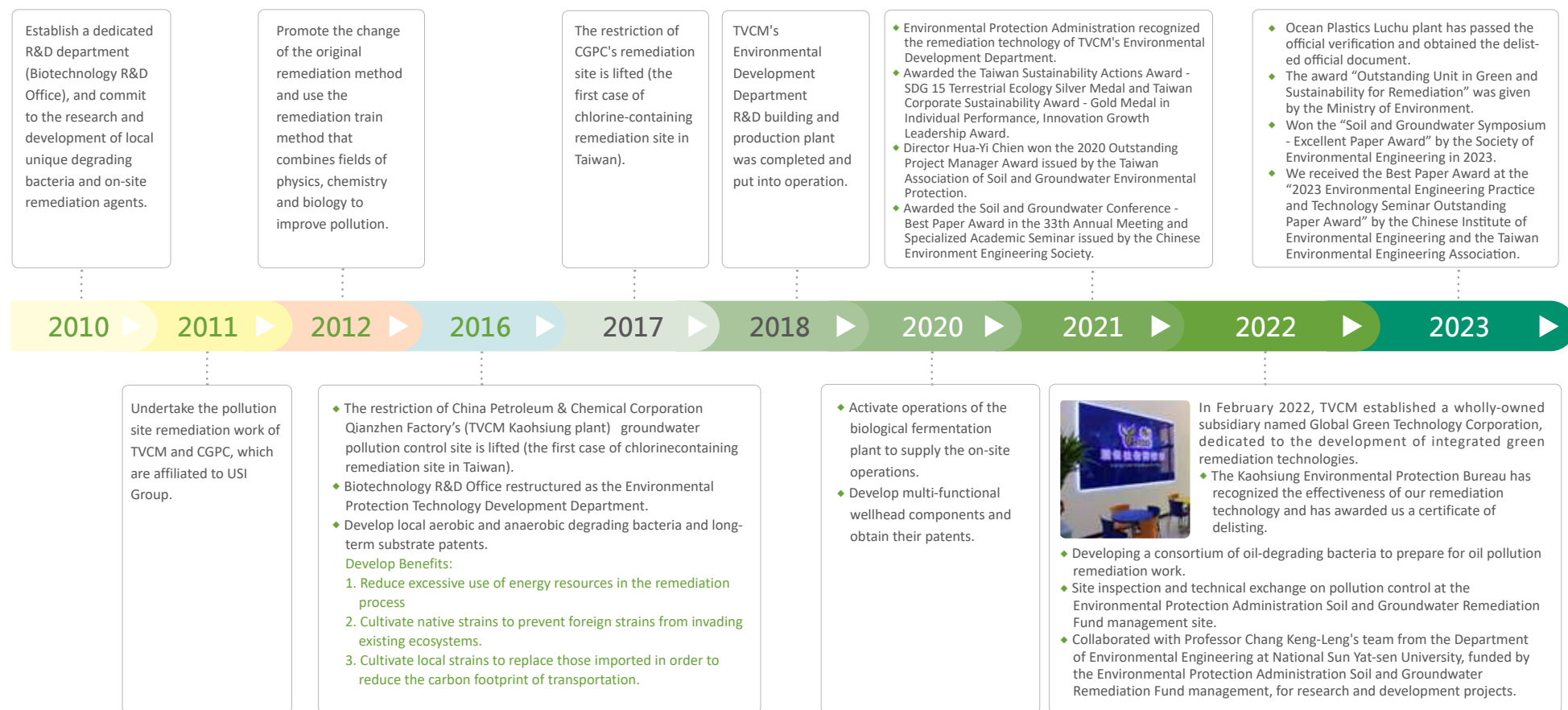
Development background

Global Green Technology Corporation (hereinafter referred to as “GGTC Company”) is one of the green energy and environmental protection business groups in USI Group's affiliated enterprises, a spin-off of the Environmental Protection Technology Development Department. It is a 100% invested company of TVCM (a subsidiary of CGPC).

The team was originally formed because our own industry was affected by the soil and groundwater pollution and had entrusted an external environmental protection company to make improvements for many years without success. As we realized that the remediation work was arduous, especially the chlorine-containing pollutants that are difficult to handle and pose a risk to human health are difficult to be solved by traditional physical techniques or single chemical treatment methods. Therefore, we have invested in research and development work force and related precision equipment committed to the development of local biological remediation technology, hoping to solve the problem of soil and water pollution by chlorinated organic compounds through scientific engineering methods. At the same time, we sought for academia-industry collaborations (such as, National Sun Yat-sen University, Kaohsiung University, National Chung Cheng University, Kaohsiung University of Science and Technology, Fu-Yin University of Science and Technology, etc.) to research related issues, accumulate experience in the application of results, and provide more pollution remediation solutions. In April 2016 and February 2017, the remediation of TVCM's Kaohsiung plant (Sinopec's Qianzhen plant) and CGPC Main plant were completed, respectively, and obtained a delisting letter from the competent authority. In 2021, the Company was awarded the first certificate (the first case for delisting as a chlorine-containing site) nationwide by the Ministry of Environment for the “Contaminated Site Remediation Technology Delisted Certificate” and the “Contaminated Site Remediation Technology Certification” issued by the Environmental Protection Bureau of the Kaohsiung City Government in 2022 as the first two cases in the history of remediation of large chlorine-containing factories in Taiwan.

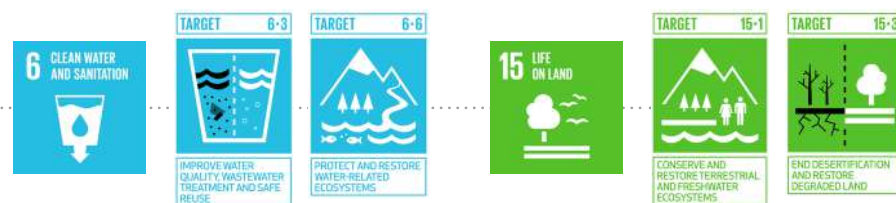
Since the establishment of GGTC Company in 2022, in addition to pollutant analysis and testing, biological agents and materials research and development, we have further refined our survey technology. We have introduced high-resolution on-site pollution survey technology to construct a conceptual model of underground pollution to provide more accurate remediation planning and execution. In 2023, the team once again completed the groundwater treatment of the Luchu plant of Taoyuan Ocean Plastics Co., Ltd, and obtained the delisting performance. In recent years, we have proactively expanded into areas such as corporate social responsibility and sustainable operations (ESG), environmental protection and industry-academia collaboration, and land reuse for contaminated sites. The pollution-degrading microorganism recovery technology developed by our own, through technology integration and cross-fields collaborations, is regarded as a powerful tool for green remediation development. Our team produces remediation materials and technologies domestically, reducing the need for imports. We prioritize the use of indigenous bacteria over international samples. Our approach focuses on five core elements: “reducing energy consumption”, “lowering atmospheric emissions”, “minimizing water resource impacts”, “reducing materials and waste”, and “mitigating soil and ecosystem impacts”. On the social front, we prioritize “human health and safety” and “social justice” as our core elements. In terms of the economy, we strive for “cost-effectiveness” and “economic impact”, aligning with the principles of Green and Sustainable Remediation (GSR) promoted by the Environmental Protection Administration. In 2023, we have won recognition from the Ministry of Environment with the “Green and Sustainable Remediation Outstanding Unit” award. In the future, with the ability and experience of the R&D team, we will continue to develop new technologies, and be committed to the improvement and prevention of environmental pollution to achieve sustainable development of the environment.

► Promotion of development (2010~2023)



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.

Remediation requires years of actual performance before it can be affirmed by government agencies.



Remediation requires years of actual performance before it can be affirmed by government agencies

► Remediation performance – CDPC plant in Qianzhen District



◆ Lifted the status as a restricted site in 2016

In October 2006, the factory was announced as a groundwater pollution control site by the Environmental Protection Bureau Kaohsiung City Government as the concentration of chlorine-containing organic compounds in groundwater exceeded the control standard, and the controlled area was about 16.8 hectares. Since October 2009, the TVCM Remediation Team has been implementing the groundwater pollution control plan at the site. The plan lasted for approximately six years and was delisted in April 2016, making it the first controlled site with chlorinated organic compound pollution to be delisted in Taiwan. The successful experience made it a good example for promoting improvement of sites with dense non-aqueous phase liquid (DNAPL).

► Remediation performance – CGPC Main plant



◆ Lifted the status as a restricted site in 2017

Listed as an underground pollution remediation site by the Environmental Protection Agency of the County Government of Miaoli in 2011, and the main pollutant was only vinyl chloride. In 2013, an environmental consulting company was commissioned to carry out the improvement plan, which was not completed. In 2015, the TVCM team took over and implemented an extended remediation plan. After over a year of remediation, long-term monitoring has been able to maintain compliance with regulatory standards. The pollution improvement work at the site was completed ahead of schedule by the end of 2016. In February and March, 2017, the Company obtained official letters from the Ministry of Environment and the Environment Protection Bureau, Miaoli County Government, respectively, announcing the lifting of restrictions on the remediation and controlled site, becoming the first chlorine-containing organic pollution site to be lifted from the controlled list in Taiwan.

► Remediation Performance- Ocean Plastics Taoyuan plant



◆ Lifted the status as a restricted site in 2023

Ocean Plastic listed as an underground pollution remediation site by the Environmental Protection Agency of the Taoyuan City Government in 2011, and the main pollutant was vinyl chloride. In 2017, the environmental development department of TVCM/ GGTC Company team was commissioned to implement the extension of the remediation plan. After about 5 years of remediation, verification was conducted by the Taoyuan City Government Environmental Protection Bureau on the improvement outcomes of the soil and underground water pollution in March 2023, and that the detected concentration was lower than the groundwater pollution (category 2) control standard. In April, the Taoyuan City Government issued to the Company the official document on the delisting of the groundwater pollution control site.

◆ Obtained the second delist certificate in 2022.

The Environmental Protection Bureau of the Kaohsiung City Government recognized the remediation technology of the TVCM - Environmental Development Department (a subsidiary of CGPC) - Sinopec Qianzhen plant.



◆ Obtained the first delist certificate in 2021

The Ministry of Environment recognized the remediation technology of TVCM's Environmental Development Department (a subsidiary of CGPC) - CGPC Main plant.



2020~2021 development key points



Construction of a bio-fermentation plant

The automatic production control of fermentation technology can cultivate and obtain inoculum stable in quality and large and quantity in a short period of time for practical application. The original laboratory can only produce a capacity of only 20 liters per week, it can now be scaled up to 1,000 liters or more for on-site remediation.



Develop multi-functional wellhead components

The device can be switch to multiple functions according to different remediation methods, and can be combined with air pressure for injection, which increases the distance of drug transmission and overcomes the existing technical shortcomings. It can save about 5 times the operating time and has been awarded a utility patent in 2020.

Developed oil-degrading microbial strains in 2022



After laboratory acclimation of soil at oil-contaminated sites, microbial strains with degradation capabilities were screened. Through fermentation and cultivation, genes for the degradation of toluene and naphthalene were detected, and the strains demonstrated the ability to degrade benzene, toluene, and diesel, making them suitable for on-site remediation purposes.

Slow-release biospheres were newly developed in 2023

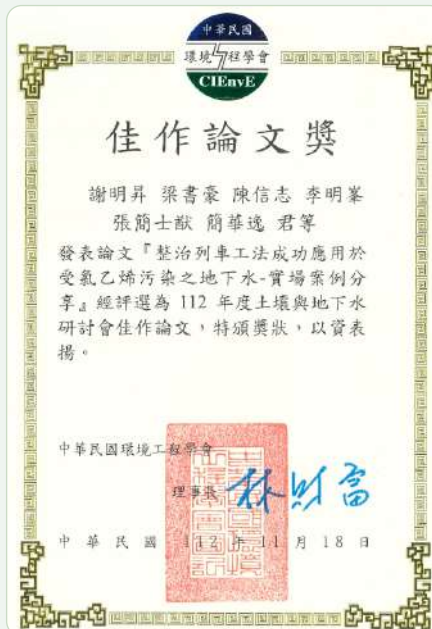


Geodes are naturally decomposable materials. They are used to coat specific functional bacteria or biological matrices and slowly release them in the groundwater environment to continuously decompose pollutants and provide a nutrient source for biological growth for a long time. It is very suitable for groundwater flow variation for the remediation and use of high-risk sites.

- ◆ GGTC sponsored the annual conference of the Chinese Institute of Environmental Engineering in 2022



- ◆ Won the “Best Paper Award and the Outstanding Paper Award” in 2023



- ◆ In 2023, the outstanding achievements of TVCM and GGTC Company in the remediation of groundwater were selected as “Outstanding Units for Green and Sustainable Remediation”



The Environmental Management Administration of the Ministry of Environment launched the “2023 Selection of Outstanding Units for Green and Sustainable Remediation” for the first time in Taiwan to encourage outstanding enterprises to adopt green sustainable remediation technologies. TVCM and GGTC Company jointly participated in the event (Note 1) and were awarded trophies and publicly commended as outstanding units through the recognition of the Ministry of the Environment and various experts and scholars.

By using the remediation train sequence technique and reviewing improvement strategies on a rolling basis, we have also adopted “green, energy-saving, low-carbon emission, and environment friendly” sustainable construction methods during the site improvement of the Toufen plant of TVCM. After years of hard work, the “Energy Storage and Green Power Planning” was selected as an “Outstanding Unit in Green and Sustainability Remediation” for its achievements in standing out of the crowd with quantitative indicators such as environmental, economic, and social indicators for the progress and effectiveness of improvements.

Note 1: The case of Toufen site processing commissioned by TVCM (a subsidiary of CGPC).



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

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. [Activated carbon adsorption and desorption equipment](#) was installed and the discharge arm was used for VCM loading and unloading in 2022. The discharge pipeline of the loading operation has been sealed with leak-proof joints to reduce the proportion of VOCs emissions. Currently, all factories 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.



✓ Material issue: Air pollution control and prevention



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

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✓ Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Continue to replace equipment and use low-polluting fuels	Reduce sulfur oxide emission intensity (ton/kt)	0.004	0.003	0.003	0.003	0.003
	Reduce NOx emission intensity (ton/kt)	0.227	0.174	0.226	0.225	0.220
	Reduce the emission intensity of volatile organic compounds (ton/kt)	1.414	1.142	1.408	1.403	1.375

1. Updated target based on production volume (chemicals in dry tons): Sox: Based on the fact that the actual performance in 2022 was the lowest on record for the 2023 target, the actual performance in 2023 has become the target for 2024-2030. Target adjustment for NOx and VOCs: Taking 2022 as the base year, reduce them by 0.4% per year.
2. Please refer to the description of air pollutant emissions.



Air pollution emissions in the last three years

(Unit: tons/year)

By company	Pollutants	2021	2022	2023	2023 Percentage of pollutants in performance indicators of each plant
CGPC (Main plant)	Sulfur oxides (SOx)	4.500	1.400	0.882	88%
	Nitrogen oxides (NOx)	29.800	24.500	27.013	34%
	Volatile organic compounds (VOCs)	606.951	404.400	304.979	84%
TVCM (Linyuan plant)	Sulfur oxides (SOx)	0.130	0.118	0.117	12%
	Nitrogen oxides (NOx)	55.337	55.821	53.199	66%
	Volatile organic compounds (VOCs)	38.047	33.454	52.660	14%
CGPCP (Linyuan plant)	Volatile organic compounds (VOCs)	6.032	5.116	6.951	2%
	Total suspended particulate (TSP)	5.163	2.466	1.660	-

- Notes: 1. In 2021, due to the increase in production, the number of days in which the boiler is in operation also increased, resulting in an increase in NOx and VOCs emissions.
 2. Since 2020, CGPCP's TSP has reduced due to that clean water was added to the venturi scrubber to wash the particulates away, so the TSP emissions have been reduced.
 3. The construction of pollution prevention equipment at CGPC Main plant was completed in 2022, and a natural gas boiler was added in October 2023 to gradually reduce the use of coal-fired boilers.
 4. Due to the high emission intensity found by the flue test results of TVCM in 2023, the recent improvement of the storage tank (T6030 fixed tank instead of a pressure tank) is expected to reduce VOCs by 3-4 metric tonnes/year.
 5. In the third quarter of 2023, in response to regulatory updates, CGPCP needs to calculate the VCM emissions of individual species and the cost plus the increase in VOC emissions due to increased production capacity. The stripping tower and venturi scrubbers will be re-reviewed and improved later.

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

SDGs



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.

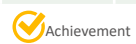
- Each plant has designated waste personnel to manage, monitor, and inspect waste disposal vendors, and the designated personnel perform in-plant inspections (waste labeling, storage) from time to time and check whether or not the waste cleaning plan and reporting data are abnormal in order to ensure that the plant management complies with the laws and regulations.
- 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.

Material issue: Waste management

	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

Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Promote circular economy to reduce waste and increase reuse rate	Decreasing unit production waste generation (tons/tons)	0.0060	0.0053	0.0060	0.0050	0.0045
	Recycling rate %	80.0	77.9	80.0	85.0	90.0
	Landfill rate %	20.0	22.1	20.0	15.0	10.0

Detailed remarks on the amount of waste generated in the last three years.



Amount of waste generated in the last three years

(Unit: ton)

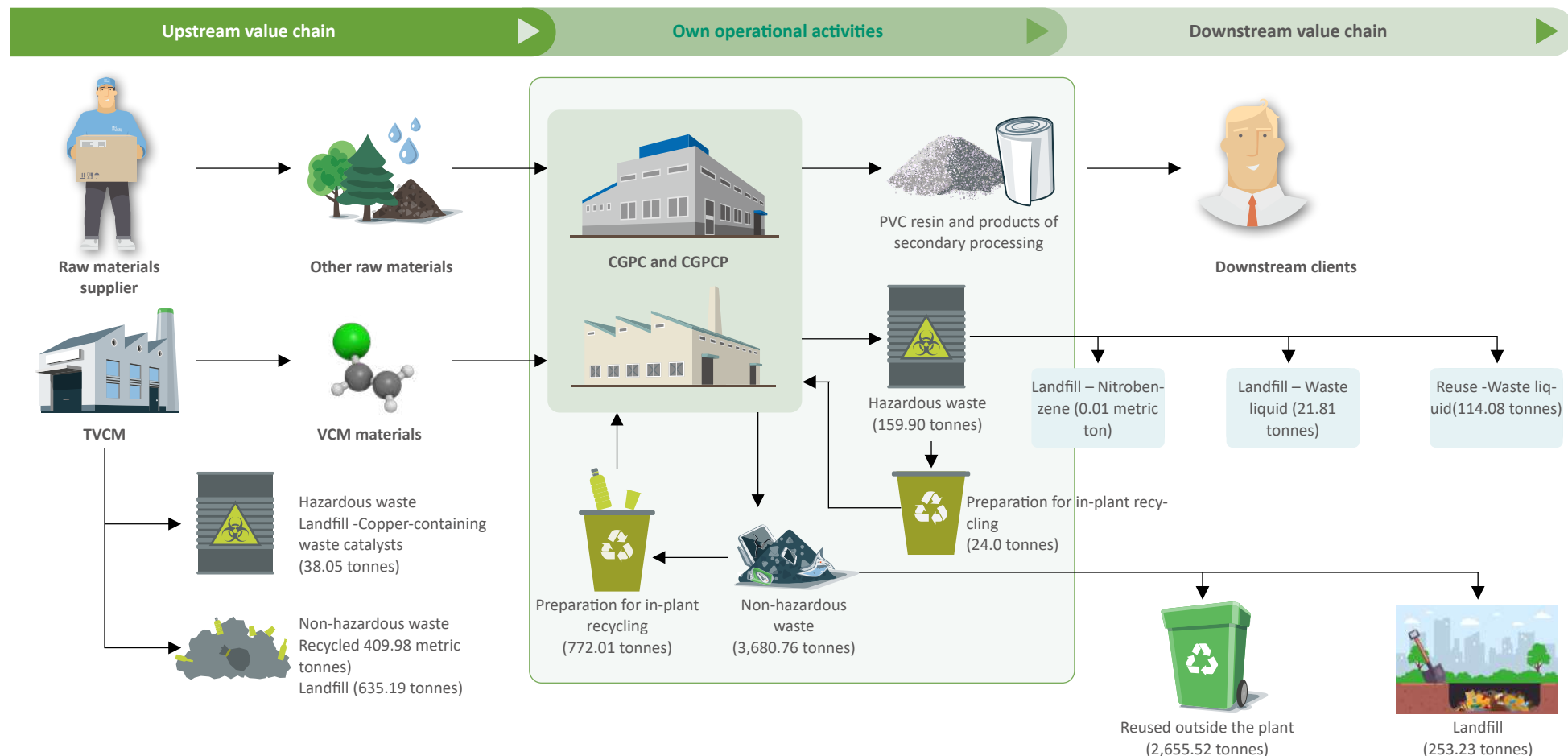
	By company	Final disposal	2021	2022	2023
General industrial waste	CGPC (Main plant)	Recycled and reused	2,423.37	1,521.67	2,612.84
		Preparation for reuse	617.69	402.03	772.01
		Landfill	91.23	95.14	190.57
	Total general industrial waste of CGPC		3,132.29	2,018.84	3,575.42
	% of general industrial waste recycled by CGPC		97.1%	95.3%	94.7%
	TVCM (Linyuan plant)	Recycled and reused	445.12	569.96	409.98
		Landfill	367.24	556.56	635.19
		Total general industrial waste of TVCM		812.36	1,216.52
	% of general industrial waste recycled by TVCM		54.8%	50.6%	39.2%
	CGPCP (Linyuan plant)	Recycled and reused	39.52	28.16	42.68
		Landfill	58.30	54.47	62.66
		Total general industrial waste of CGPCP		97.82	82.63
	% of general industrial waste recycled by CGPCP		40.4%	34.1%	40.5%
	Total amount of general industrial waste		4,042.47	3,227.99	4,725.93
% of total general industrial waste recycled		87.2%	78.1%	81.2%	
Hazardous industrial waste	CGPC (Main plant)	Recycled and reused	3.35	1.62	114.08
		Preparation for reuse	-	-	24.00
		Landfill	0.01	6.70	21.82
	Total hazardous industrial waste		3.36	8.32	159.90
	% of hazardous industrial waste recycled by CGPC		99.7%	19.5%	86.4%
	TVCM (Linyuan plant)	Landfill	38.30	38.23	38.05
		Total hazardous industrial waste of TVCM		38.30	38.23
	% of hazardous industrial waste recycled by TVCM		0.0%	0.0%	0.0%
	Total amount of hazardous industrial waste		41.66	46.55	197.95
	% of total hazardous industrial waste recycled		8.0%	3.5%	69.8%
General + hazardous_total			4,084.13	3,274.54	4,923.88
General industrial waste as a percentage			99.0%	98.6%	96.0%
Percentage of hazardous industrial waste (%)			1.0%	1.4%	4.0%

- Note: 1. All recyclable resources from CGPC's factories are given to legal vendors for recycling off-site.
2. Our environmental safety and health units regularly inspect 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 2023, the disposal and treatment agencies did not have any breach of contract.
3. In 2023, the reason for the increase in the amount of industrial waste of CGPC was that the amount of scrap iron increased as a result of the demolition of the plant in the Fabric I Section.
4. The increase in hazardous waste at CGPC in 2023 was attributed to the chemical waste from the rubber production plant.
5. The increase in the amount of industrial waste in landfills in 2023 was mainly due to the increase in waste from packaging bags. After communicating with the clearance contractor, recycling outside the plant in future can reduce the amount of waste being sent to landfills.
6. Due to some omissions in the previous statistics of the three factories, the data for 2021-2022 was updated.

► Life cycle management for waste

The hazardous waste generated by CGPC and TVCM in 2023 was 197.95 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.



On September 29, 2022, an activated carbon fluidized bed control equipment was installed, primarily for the recovery of Methyl Ethyl Ketone (MEK), accounting for approximately 84% of the total waste liquid volume.

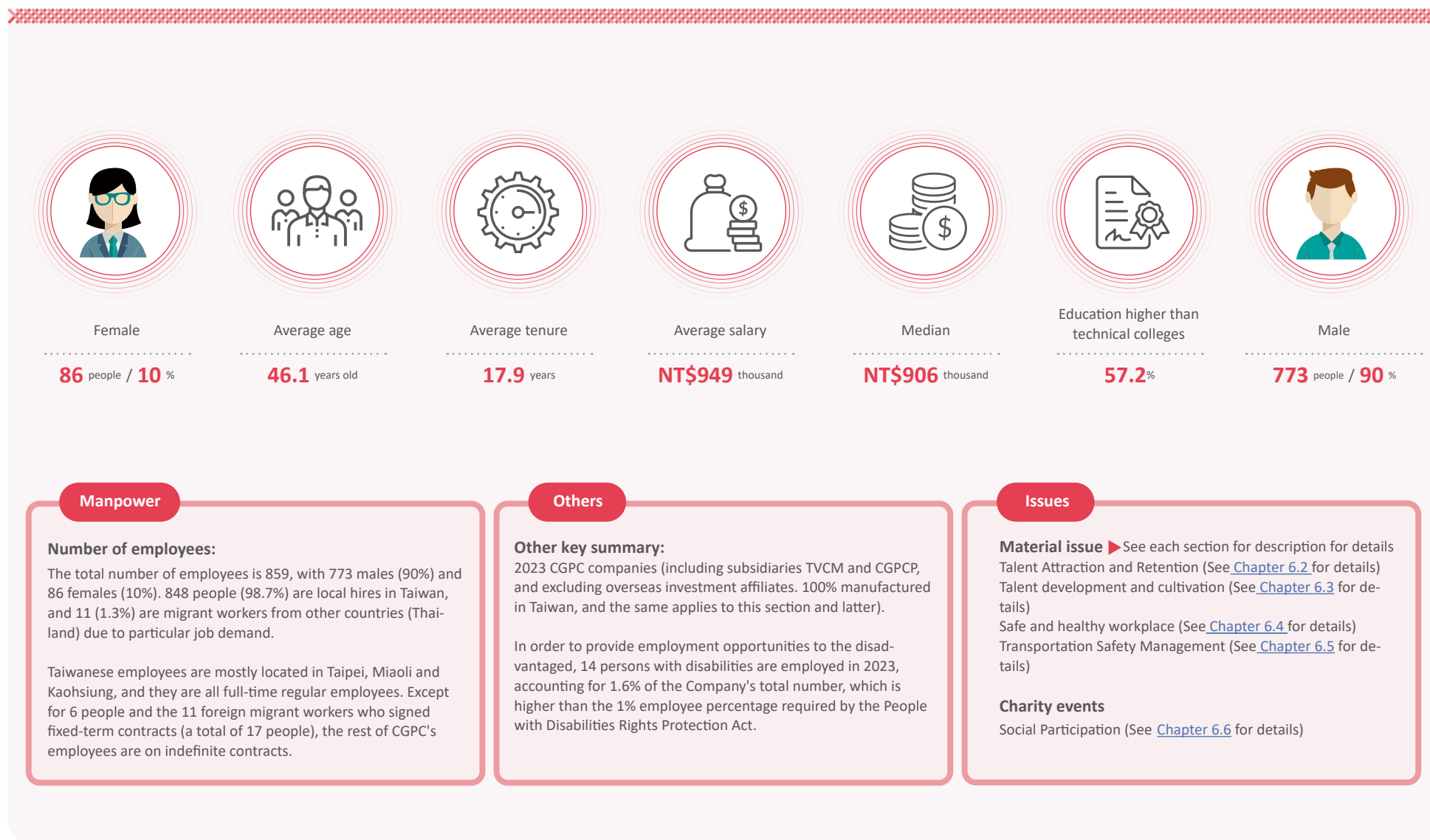
The [pollution control equipment](#) has been continuously operating for two months in the plant, using a Flame Ionization Detector (FID) for self-monitoring. The FID detects the average concentration of Volatile Organic Compounds (VOCs) emitted from 2 to 4 production lines. The average removal efficiency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



6. Social inclusion

Creating a happy workplace for our employees is our long-standing commitment. In order to fulfill the corporate social responsibility of "Love the homeland, and care for the society", we have consolidated internal and external resources to invest in social welfare activities.

► (GRI 2-1、2-2、2-7、2-8、2-13、201-3、401-1~401-3、403-1~403-10、404-1~404-3、405-1、405-2)

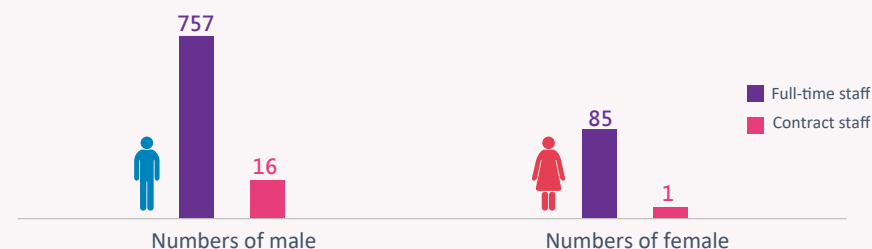


6.1 Manpower Structure ► (GRI 2-1、2-7、405-1)

► 2023 Statistics by position, job location, age, education background and gender

Category	Groups	Male		Female		Group subtotals and percentages	
		Number of people	Percentage of group	Number of people	Percentage of group	Number of people	Percentage of all employees
Job Title	Tier-one supervisors	29	3.8%	0	0%	29	3.4%
	Tier-two supervisors	121	15.7%	5	5.8%	126	14.7%
	General employees	623	80.6%	81	84.2%	704	82.0%
Location	Taiwan	773	100.0%	86	100.0%	859	100.0%
Employment Type	No fixed term or perpetual contract						
	Full-time staff	757	97.9%	85	98.8%	842	98.0%
	Fixed term or temporary contract						
	Contract staff	16	2.1%	1	1.2%	17	2.0%
Total number of employees: Full-time staff + Contract staff							859

2023 Employment type statistics table

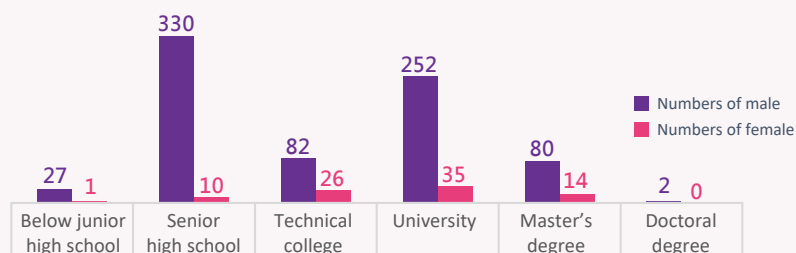


Note 1: Due to the nature of the petrochemical industry, the proportion of male employees is higher than that of female employees.

Note 2: The employee data is compiled by the Personnel Section of each plant as of December 31, 2023.

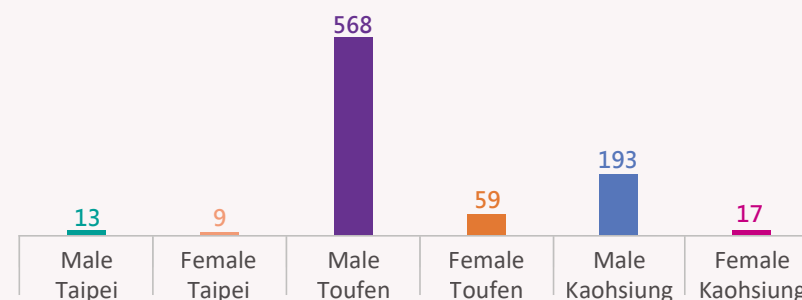
Note 3: We employed 14 persons with disabilities, accounting for 1.6% of the Company's total number, which is higher than the 1% employee percentage required by the "People with Disabilities Rights Protection Act".

2023 Percentage of education background by gender



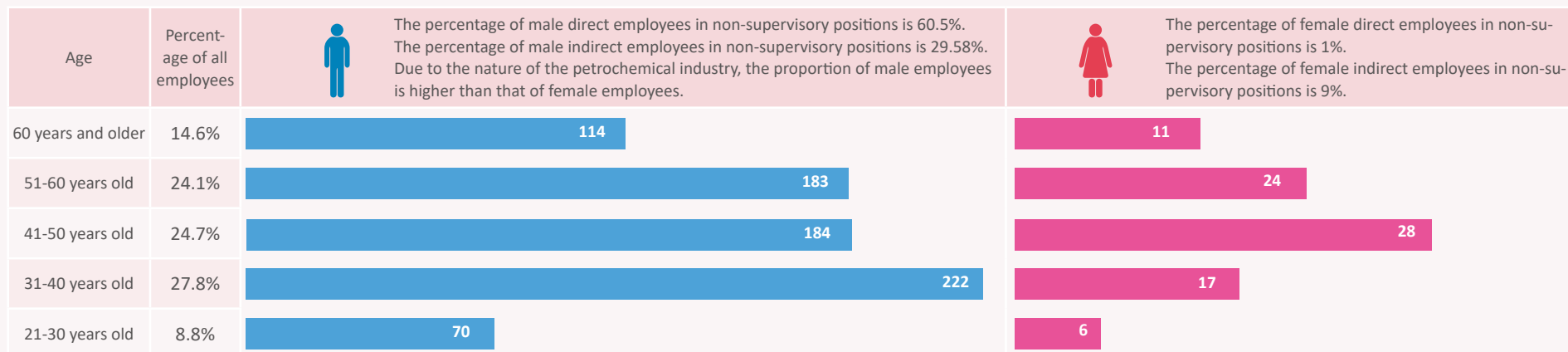
In response to technological advances and in order to improve efficiency, we have continued to replace old equipment in the factories with new ones, and personnel with relevant academic qualifications and operational skills are required. In 2023, we recruit new employees to make up for those who retire, and most of our new hires have either bachelor's or master's degree. 57.2% of our employees have a college degree or above. We have formed academia-industry collaboration with schools to nurture professionals in order transfer industry knowledge.

2023 Work region statistics table



Employees are located in Taipei, Toufen and Kaohsiung. The reason for the high number of male employees: Job sites in the plants have mostly labor-intensive work.

2023 Statistics of employee age by age



By position



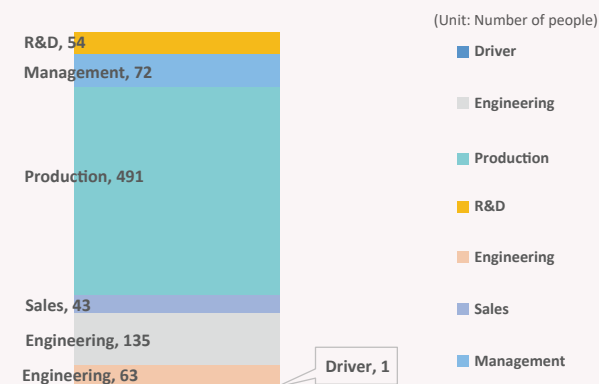
Tier-one supervisors 29 people
Tier-two supervisors 121 people
Employees at level 8 and above: 31 people
Employees at level 7 and below: 592 people



Tier-one supervisors 0 people
Tier-two supervisors 5 people
Employees at level 8 and above: 5 people
Employees at level 7 and below: 76 people

Note: The proportion of female supervisors in management positions at CGPC is 5.52%.

2023 statistics by position



6.2 Talent Attraction and Retention ► (GRI -3-3 、 401-1)

Attract and stabilize flows of talents for the Company. Based on the capability and experience required for the positions, we regularly review the policy and reasonableness of salary and remuneration. We also strengthen employees' recognition and practices of core values, so that all employees can elaborate on their talents and have growth, and the internal integration practices create a win-win situation.

<div> Material issue: Talent attraction and retention </div>						
<div> The Significance and Impact of CGPC </div>	<div> Employees are the foundation of CGPC's sustainable development, so creating a happy workplace for employees is our long-term commitment. Affected objects: employees, community residents. </div>					
<div> Develop Strategy </div>	<div> Value employees' rights and interests, promotion channels, and salary and benefits in line with the market. </div>					
<div> Policy Commitment </div>	<div> Reduce employee turnover. </div>					
<div> Grievance Unit </div>	<div> Personnel Section </div>					
<div> SASB Indicator </div>	<div> -- </div>					
<div> Promotion policy </div>	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Raise the starting salary of new hires, re-plan the ranks and promotion channels, and reduce the turnover rate	Turnover rate in %	≤2.90	2.79	≤2.90	≤2.80	≤2.70

Note: Excluding retired and resigned employees, as well as employees on fixed term or temporary contracts.

Exceeded Target
 Achievement
 Partially achieved
 Not met



6.2.1 Recruitment and Turnover ► Talent recruitment

We prioritize internal recruitment and rotation within the Group when we need to fill vacancies or expand based on business needs, organizational planning or personnel resignation. When we conduct external recruitment, we search talents through human resources websites and the government's employment services center. For vacancies in Toufen or Kaohsiung, we prioritize local hiring to give back to the communities. The labor conditions set by CGPC and employees comply with the local laws and regulations, including minimum wages, working hours, overtime pay, labor insurance, health insurance severance pay/retirement payment etc., and we provide group insurance plans and a variety of employee benefits.

- ◆ CGPC employed a total of 46 new hires in 2023, accounting for 5.36% of the total number of employees, and the distribution by gender and age is shown as follows:

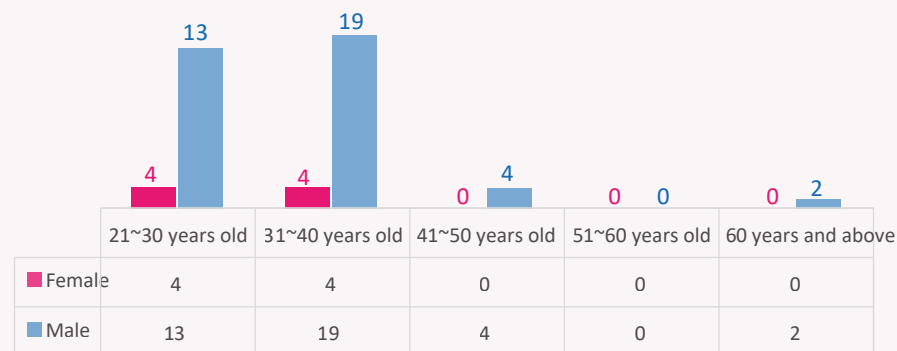
3-year comparison of new employees

Region	Age/Gender	2021		2022		2023	
		Male	Female	Male	Female	Male	Female
Taiwan	21-30 years old	17	0	18	3	13	4
	31-40 years old	22	3	16	4	19	4
	41-50 years old	2	0	7	0	4	0
	51-60 years old	8	1	0	0	0	0
	60 years and older	1	0	3	0	2	0
	Subtotal of new employees	50	4	44	7	38	8
	Total number of employees	908		896		859	
	Percentage	5.79%		5.69%		5.36%	

Note 1: Due to the nature of the petrochemical industry, the proportion of male employees is higher than that of female employees.

Note 2: The employee data is compiled by the Personnel Section of each plant as of December 31, 2023.

2023 New hires statistics table



► Talent turnover

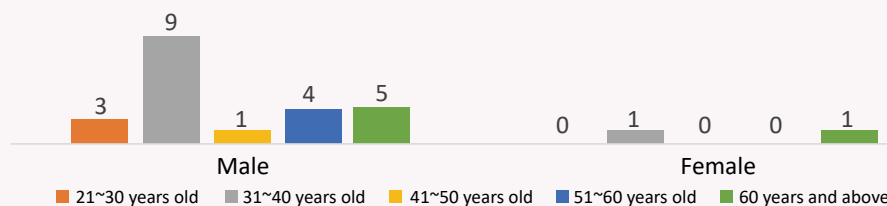
In 2023, a total of 24 people left (excluding retirement or contract expiration), who were all male, and the turnover rate (Number of people who left/Number of people at the end of the reporting year) was 2.79%. In order to reduce the brain drain rate, the personnel units have set a turnover rate target of less than 2.9% (excluding transfer or retirement) to retain talents for the Company.

Brain drain from 2021 to 2023

Item	2021	2022	2023
Outgoing employee (excluding transfer or retirement)	20	19	24
Total number of employees	908	896	859
Percentage of outgoing employees to total number of employees	2.2%	2.12%	2.79%

Note: The number of resigned employees (including retirees, deaths, or contract expirations) in the years 2021, 2022, and 2023 were 68, 63, and 66, respectively. In 2023, the resigned employees accounted for 8.04% of the total workforce, which is an increase of 0.45% compared to 2022.

2023 distribution of age and gender of employees who left



6.2.2 Salary and benefits ► (GRI 201-3、401-2、401-3、405-2)

► Salary system

The salary system reviews employees' education background, specialization or technical and tenure experience, and does not have discrepancy due to gender, religion, race, political party affiliation, etc. In addition to the base salary, employees are entitled to performance bonuses, allowances for position, transportation, shift rotation and others, full-attendance bonuses, overtime pay, fixed bonus and year-end bonus.

Due to the nature of the petrochemical industry, the salary for women and men in the Company may be slightly different for some employees. To maintain the stability of human resources and retain outstanding talents, we have annual salary adjustments based on the price index and personal performance. We participate in the salary survey for petrochemical industry peer every year and evaluate the salary level of the market, and make appropriate adjustments and plans for employee salaries (the average salary increase of employees in 2023 is about 3.03%). We give special raises to outstanding talents who have excellent performance in order to keep our salary offers competitive in the market.

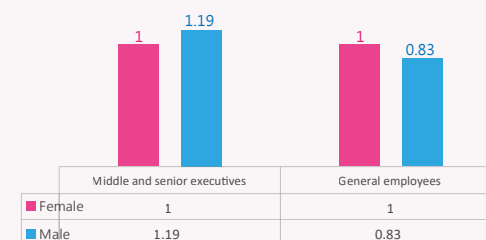
Preparation and reporting

- Publicly listed companies pursuant to Subparagraph 4, Paragraph 1, Article 4 of the Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies shall disclose the following:

Item	Contents	2021	2022	2023	Difference compared with 2022
1	Number of full-time employees in non-managerial positions	679	661	641	-20
2	"Average salary" of full-time employees who are not in managerial positions (annual salary in NT\$ thousand)	1,190	942	949	7
3	"Median salary" of full-time employees who are not in managerial positions (annual salary in NT\$ thousand)	1,165	904	906	2

Note: This table does not include subsidiaries, only the average salary of full-time employees of CGPC who are not in supervisory positions.

2023 Salary comparison between male and female employees



Note 1: This table does not include subsidiaries. Salary is calculated based on the annual taxable income.

Note 2: Starting from 2022, middle and senior executives are classified as employees with job grades of 8 or above, while general employees are classified as employees with job grades of 7 or below, including workers.

Note 3: Due to the nature of the petrochemical industry, there is a slight difference in remuneration between male and female employees in the company.

► Standardization of employee ► Remuneration employee welfare

The Company's Articles of Incorporation has stipulated that "If the Company is profitable in the fiscal year, no less than 1% of the profit shall be offered as remuneration for employees", and all employees are entitled to the Company's operating results. In addition, the Company issues performance bonuses to employees every month, and the payment standard is based on the performance of the month's sales, gross profit, accounts receivable, productivity, yield, and unit energy consumption. We highly value employee welfare, and have introduced the following measures:

Bonus and vacation	Year-end bonus, performance bonus, full attendance bonus, allowances for meal and transportation, maternity subsidies, annual festival bonus. Vacation and leave are granted according to the Labor Standards Act.
Insurance and pension	Labor insurance, health insurance, employee/family group insurance, labor retirement fund, pension under the old system.
Promote health and activities	Regular health inspections, qualified nurses, fitness equipment and shower rooms in each plant, the employee dormitory area of Main plant has basketball court, table tennis room, social halls, game rooms, and more. Employee travel, birthday party, recognition of senior employees, recognition of model workers, etc.
Education and training	On-the-job education and training, executive training, management associate continuing education, specialization training, hierarchical training, mathematics platform learning, etc.
Others	Trade union, employee welfare committees (including: weddings and funerals, birthday gifts, children's education subsidies), employee restaurant, parking spaces, breastfeeding rooms, employee dormitories, and collaboration with childcare cultural and educational institutions to provide childcare and parenting services.

Note: This table is a key description of full-time employee welfare.

► Employees applied for parental leave in 2023

Employees can apply for parental leave any time before the child is 3 years old, and the leave can be for a maximum of 2 years.

Item		Male	Female	Total
Annual Status	Number of people who are entitled to parental leave in the current year	63	4	67
	Actual number of people who used parental leave without pay in the current year	1	2	3
Reinstated Status	A) Number of people who should be reinstated after the parental leave of absence without pay and were reinstated in the current year	1	2	3
	B) Number of people who should be reinstated after the parental leave of absence without pay	1	2	3
	Reinstatement = A/B	100%	100%	100%
Retention Status	C) Number of people still employed 12 months after reinstatement in the previous year	0	0	0
	D) Actual number of people reinstated in the previous year	0	0	0
	Retention rate = C/D	-	-	-

Note: 1. Reinstatement rate: (Total number of employees who are actually reinstated after parental leave/Total number of employees who should be reinstated after parental leave)*100%
 2. Retention rate: (Total number of employees who are still employed by the Company 12 months after reinstatement from parental leave/ total number of employees reinstated after taking parental leave within the last reporting period)*100%

► Maternity allowance

In response to the government's active promotion of fertility incentive measures to fulfill the corporate social responsibility, the Group has formulated employee fertility subsidies, which took effect on December 16, 2018. Employees or their spouses would receive a subsidy of NT\$10,000 per child. If the husband and wife both work for the Group, he/she can apply for the subsidy separately.

The average age of CGPC's employees is 46.1 years old, so the number of birth is relatively low. In 2023, a total of 22 people applied for the childcare subsidies, receiving a total of NT\$220,000.

2023 number of applicants for maternity allowances



► Pension system

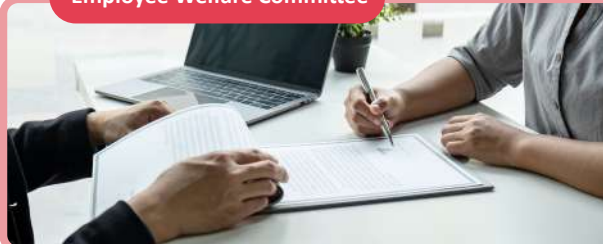
We allocate monthly an amount of employees' monthly salaries and wages to employees' personal pension account in the Bureau of Labor Insurance. To ensure that employees can retire without worries, the Company has established the Pension Committee to supervise the pension plan. As of the end of 2023, the balance of the retirement fund (Please refer to the Annual [Financial Statements](#)).

Item	Labor pension	
	Old system	New system
Legal basis	Labor Standards Act	Labor Pension Act (Implemented on July 1, 2005)
Eligibility	Those who are eligible under the Labor Standards Act.	
Retirement allocation as a percentage of salary	The "Labor Pension Fund Supervisory Committee" is established to allocate 10% of employees' monthly wages to the labor retirement pension fund.	Employer: 6% of employees' monthly salary Employee: 0 to 6% of the monthly salary (can be fully deducted from the personal comprehensive income of the current year)
Income and expenditure custody unit	Bank of Taiwan	Bureau of Labor Insurance
Requisition criteria and methods	The employer pays the pension when an employee retires from the unit under which he/she serves and meets the criteria for collecting pension as stipulated by the Labor Standards Act.	An employee may apply to the Bureau of Labor Insurance for the accumulated amount in the personal account once turning 60 years old.
Employee participation in retirement planning	100%	100%

Note: 1. Under the old pension system, the shortfall in the allocation of pensions after the annual actuarial calculation is made up before the end of March of the following year, and then submitted to the Supervisory Committee of Business Entities' Labor Retirement Reserve Funds for review.
 2. The Labor Pension Act (the new system) came into effect on July 1, 2005. Those who were still working at the Company at the time could choose to adopt the new or old system or not decide right away before July 15, 2005. Those who decided not to make a selection right away will continue with the old system later. Those who chose to adopt the new system shall allocate the pension to the labor retirement new system from July 1, 2005. Those who chose to adopt the old system (including those who did not select either one right away) could re-select the new system within 5 years (before June 30, 2010). New hires who started to work for or were re-hired by the Company after July 1, 2005 were eligible for the new system.
 3. Employees who chose to adopt the pension system under the Labor Pension Act (new system) cannot switch back to the old pension system under the Labor Standards Act.



Employee Welfare Committee



- ◆ CGPC and its subsidiaries TVCM and CGPCP each has an Employee Welfare Committee, and each company allocates 0.05% to 0.15% of the revenue every month as the funding for welfare programs.
- ◆ **Payments by Employee Welfare Committee**
In addition to gifts and vouchers for members, there are allowances for employee trips, children education, marriage, maternity, medical assistance, funeral, injury and others.

Employee satisfaction



We prepared an employee opinion survey report in 2023. It was hoped that through a comprehensive survey, we could understand employees' views on the Company's management operations, identify key indicators of talent retention, and identify items that could be improved. The content covers employee satisfaction and employee engagement survey, with satisfaction from supervisors, remuneration, colleagues, work, development, corporate culture, and sustainability. The overall satisfaction score is 4.62. In the future, our company, CGPC, will continue to listen to employee feedback and implement improvement measures based on the report findings.

Company	CGPC	CGPCP	TVCM
Participants	All employees		
Title	The assessment includes 8 major dimensions and 28 sub-dimensions, aspects, supervisors, salary, co-workers, development, corporate culture, sustainability, and organizational commitment.		
Number of Participants in the Survey	220 people	18 people	79 people
Recovery rate	95%	100%	100%
Overall satisfaction (Note)	4.64	4.88	4.51
Survey results	<ul style="list-style-type: none"> ◆ Highest overall satisfaction score in "Sustainability", "Colleagues", and "Job" ◆ Lowest overall score in "Remuneration", "Development", and "Supervisor" 		
Enhance Improvement solutions:	<p>In response to the 2023 items rated lower in the satisfaction survey, "Salary", "Development" and "Supervisors", we will carry out the following improvement measures in 2024:</p> <ol style="list-style-type: none"> 1. Cultivate key talents and establish the succession team. 2. Review supervisor's job allowances: We refer to the salary level of benchmark companies in the same industry, and take into account factors such as authority of position, scope of responsibilities, organizational functions and others to make internal salary adjustments to improve the internal fairness and external competitiveness of remuneration. 3. Management skill training: Courses such as "cross-team collaboration", "key talent identification", "planning and design of talent cultivation for subordinates" and "communication and interpersonal relationship" are provided. 		

Note: Minimum 1 point, maximum 6 points.

Work environment improvement

CGPC (since 1964) has more than 50 years of history. The old factories has left traces of aging, exuding an essence of simplicity. After renovation and planning, we have built a healthy and safe workplace, so that employees can feel the Company's care for them. (For details, please refer to [e-Newsletter](#))

► 2023 Work environment improvement for employee

- ◆ Improvement plan: Raw Material Storage and Transportation Division - Powder Warehouse Floor Paving EPOXY Construction Project



- ◆ Improvement plan: Wear-resistant coating for floors in the equipment work areas of Leather Division 1 and Division 2 + new restrooms



- ◆ Improvement plan: Construction of toilets in Soft Cloth Division; inspection of the air-conditioning hoods of #35, #39, and #43 Calendar.



◆ Condition before improvement

The workplace before the improvement was older, darker, and hotter.

◆ Improvement solutions

- ◆ Construction of toilets in Soft Cloth Division.
- ◆ Soft Cloth Division #35, 39, 43 Air Conditioner hood inspection.
- ◆ Floor coating in the work areas of Leather Division 1 and Leather Division 2 + new rest rooms, VIP rooms, and color matching rooms.
- ◆ EPOXY paving at the powder warehouse.

◆ Completion date

December 2023

◆ Estimated costs

The cost of this project is about NT\$10 million.

◆ Influence

Promote employees' physical and mental health and team cohesion.

◆ Goal

- 2023 Targets:** Improve the working environment of tape and rubber factories (achieved)
- 2024 Targets:**
 - ◆ The smoke exhaust system of the rigid cloth class was modified for power ventilation, and the metal sheet on the north roof was renewed.
 - ◆ Construction of a shelter for the waste (storage area) by General Affairs Section.
- 2025 objectives (intermediate term):** Complete improvement to the space from the 1st to the 6th floor in the office building.
- 2030 objectives (long-term):** Improve the office space of each job site year by year according to the needs.

◆ Benefits after improvement

1. The improvement to the office environment enhances employee cohesion and work efficiency.
2. The elegant and bright office environment enhances the corporate image.

► 2023 Vinyl Chain activities

◆ Chinese New Year group greeting ceremony



◆ Family day



◆ Commendation of senior employees



◆ Birthday party



◆ TVCM and CGPCP's Linyuan plant presented healthcare products to female employees on International Women's Day



◆ Commendation of model workers



◆ Mid-Autumn Festival party



◆ Organizing the Thai Migrant Workers' Songkran Festival

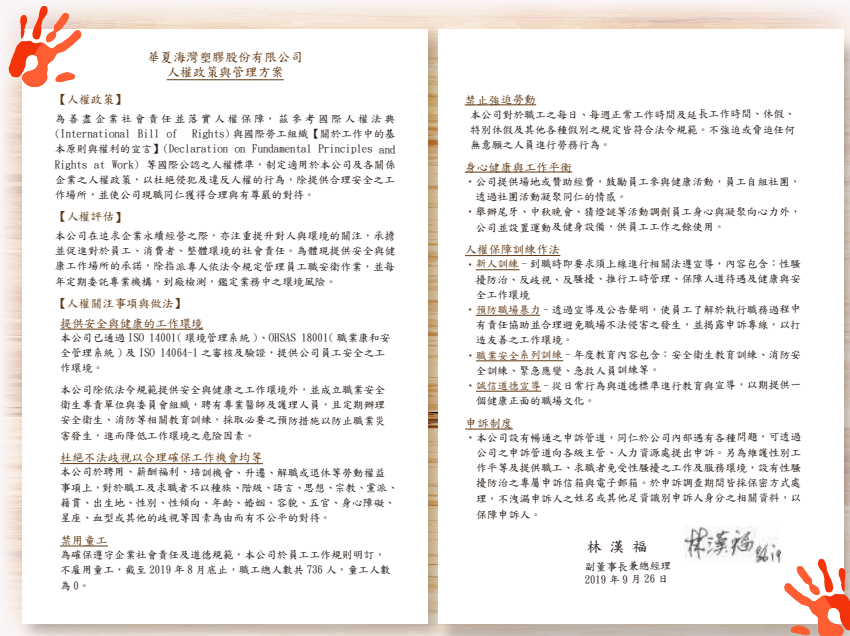


6.2.3 Human rights and protection ► (GRI 404-2)

► Human Rights Policy

In fulfilling our corporate social responsibility and ensuring human rights, we have formulated human rights policies applicable to our company and USI Group's related entities, referring to international recognized human rights standards such as the International Bill of Rights and the International Labor Organization's "Declaration on Fundamental Principles and Rights at Work". These policies aim to eliminate violations and infringements of human rights in the workplace and ensure fair and dignified treatment of our employees.

- ◆ In 2023, CGPC organized training courses on **human rights protection**. For details, please see the description on the [website](#).

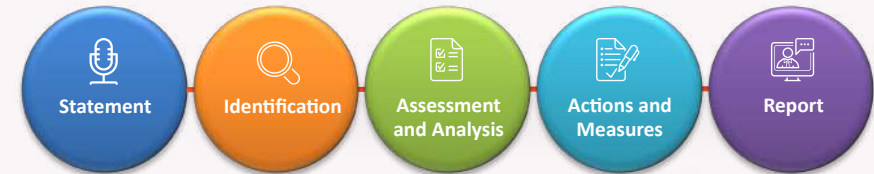


► Identification and assessment of human rights risks

Human Rights Risk Identification is conducted annually, and compliance checks and third-party assessments are carried out on identified human rights concerns. Based on the risk assessment results and findings from internal and external reviews, mitigation and corrective measures are taken, and continuous improvement is pursued to achieve the objective of risk management.

► Process for Human Rights Due Diligence Investigation

CGPC and its subsidiaries, TVCM and CGPCP, have established steps and processes for human rights management at various stages as the foundation for upholding and protecting human rights. These include the following steps:



As human rights issues involve different business departments and units, the Human Resources Division conducts human rights due diligence and risk management operations targeting different parties affected and human rights issues.

Phase	Procedure	Methods
1. Commitment	Statement	Make a public commitment to support and adhere to international standards and local laws by formulating a human rights policy.
	Identification	Identify significant human rights issues and affected stakeholders based on the nature and operations of the organization.
2. Management	Assessment and Analysis	Regularly assess human rights impacts for all employees and service processes to understand the level of risk exposure.
	Actions and Measures	<ul style="list-style-type: none"> ◆ Develop different action plans based on the assessed level of human rights risks. ◆ Monitor the implementation and performance of action plans and communicate effectively to ensure the effectiveness of human rights management. ◆ Provide compensation measures from systemic improvements to material and psychological support in case of human rights violations.
3. Response Measures	Report	Facilitate internal discussions and reporting on human rights management practices and achievements on the company's website.

► Human Rights Management Performance

There were no significant legal violations this year. The company will continue to provide human rights-related education and training. For detailed information on the content of human rights training, please refer to the [Company's website](#). After conducting risk identification according to the Company's human rights policy and implementation guidelines, a total of 14 human rights issues were included this year, of which a total of 8 human rights management items are major issues of concern (Please click [the link](#) to read more). The implemented mitigation measures and impact compensation measures are as follows:

► Mitigation and Compensation Measures for Human Rights Management

Issues	Mitigation Measures	Compensation Measures
Occupational safety management	<ol style="list-style-type: none"> 1. To protect the health and safety of employees and prevent occupational disasters, the Company regularly monitors the workplace (e.g., implementation of operating environment monitoring and certification) to ensure workplace safety. 2. Regularly conduct quality inspections for drinking water, carbon dioxide, lighting, and firefighting equipment in the workplace. 3. Regularly provide in-service employees labor safety and health education and training to improve their hazard identification awareness. 4. Regularly enhance occupational safety awareness through internal promotional materials. 5. The Company and its subsidiaries Taiwan VCM Corporation and CGPC Polymer have introduced the ISO 45001, an international occupational safety and health management system, and have successfully passed the third-party certification of BSI. 6. In addition to complying with legal regulations to provide a safe and healthy work environment, we have established a dedicated occupational safety and health unit and committee. We employ professional physicians and nurses and regularly conduct safety, health, and fire-related education and training. Necessary preventive measures are taken to prevent occupational hazards and reduce workplace risks. 	<p>♦ In response to the actual impacts that have occurred, relevant occupational accident reporting and handling procedures have been followed, and employees have been provided with care and compensation in accordance with the law.</p> <ol style="list-style-type: none"> 1. Initiate occupational accident reporting and handling procedures. 2. Take the initiative to provide care and relevant insurance information to help employees understand how to apply for relevant compensation. 3. Adjust work arrangements as necessary based on the employees' physical and mental recovery status.
Excessive working hours	<ol style="list-style-type: none"> 1. Overtime is obtained with the consent of employees, and they are given the option to receive overtime pay or compensatory time off after working overtime. 2. The system daily asks employees to indicate whether the reason for staying beyond regular working hours is due to personal or official matters. 3. The Human Resources Department regularly reviews the overtime situation in each company and tracks the reasons for its occurrence. 	<ol style="list-style-type: none"> 1. Overtime pay is provided to employees in accordance with the law if they have worked overtime. 2. Understand the workload and reasons for overtime among colleagues and actively improve processes and optimize operations to enhance work efficiency. 3. Understand the workload and reasons for overtime among colleagues and actively improve processes and optimize operations to enhance work efficiency.
Sexual Harassment	<ol style="list-style-type: none"> 1. Comply with laws and regulations related to gender equality and formulate the standard "Sexual Harassment Prevention Measures, Complaint, and Disciplinary Procedures" to provide employees, dispatched workers, and job seekers with a work and service environment free of sexual harassment, and take appropriate prevention, correction, and punishment, and handling measures to protect the rights, interests and privacy of the parties concerned. 2. Continue to conduct online courses on sexual harassment prevention and organize relevant physical courses from time to time to enhance the concept of gender equality among supervisors and employees and promote the Company's determination to maintain a healthy workplace free of intrusiveness. 3. We have established grievance channels through which grievances can be made in words or in writing (such as the employee grievance form, hotline for sexual harassment complaints, and dedicated mail-boxes), so that employees or the concerned parties can report and express their opinions immediately. 4. Complaints of sexual harassment shall be handled in a non-disclosure manner, reasonably ensuring the privacy of both parties concerned, and a Complaint Handling Committee will be formed to handle all cases. 	<p>♦ Immediately take effective corrective and remedial measures in accordance with the Act of Gender Equality in Employment.</p> <ol style="list-style-type: none"> 1. Initiate the investigation procedure and convene the Sexual Harassment Complaint Handling Committee to investigate the relevant personnel in the sexual harassment incident. 2. Adopting appropriate segregation measures to prevent recurrence of the complainant's sexual harassment. 3. The perpetrator is to be accompanied by his supervisor, makes a visit to the complainant's contractor company to apologize in person and promise that he would not repeat the inappropriate behavior, and to gain the understanding of the complainant and his company. 4. If the sexual harassment is verified to be true, the perpetrator will be penalized with a demerit according to the employee work rules. 5. Education and promotion: All employees are required to complete the group employee code of conduct test (including sexual harassment prevention) - 1 hour. 6. Make announcements at relevant workplaces and publicly announce and promote the Company's zero-tolerance policy on sexual harassment.

Union

CGPC and subsidiaries TVCM and CGPCP have established separate unions with the purpose of improving productivity, employees' competency and welfare, communication of the government's laws and regulations and the protection of legal rights and interests of members through mutual assistance. Members at CGPC are mostly employees working in Toufen, excluding fixed-term foreign workers and contract workers, and members of TVCM and CGPCP are mostly in Kaohsiung. The 2023 statistics of members of each company is shown in the table. Employees who have not joined the labor union can report work or rights-related issues to the Company through labor representatives at the employer-employee meetings. Since CGPC has always maintained good communication with employees through the labor union and the meetings, the two parties have not made any special group agreement.

The trade union regularly convenes its director and supervisor meetings, representative meeting, team leader working meeting, etc. The relevant supervisors of the Company all attend the meetings and communicate face-to-face with the employee representatives, so as to build consensus between the two parties and enhance employer-employee cooperation. Representatives appointed by the labor union participate in the operation of the Supervisory Committee of Business Entities' Labor Retirement Reserve Funds, Employee Welfare Committee and Occupational Safety and Health Committee, and hold regular meetings to protect employees' safety and relevant rights. The labor union has established mutual assistance measures for members so they can be eligible to medical assistance, injury, funeral subsidies, loans for disasters and other benefits.

2023 Distribution of members of the union and Employee Welfare Committee by the company and work region:

Company	Total number of people	Number of members in the union	Number of members in the Welfare Committee
CGPC	645	608	628
TVCM	176	157	176
CGPCP	38	34	38
Total	859	799	842
Percentage	-	93%	98%

Note 1: Members of unions and the Employee Welfare Committee do not include foreign employees and contract personnel.

Note 2: Employees in Taipei office did not join the labor union due to that the number of retirees increased year by year, and they had no desire to join the union again, so the Taipei labor union was dissolved by the resolution of the meeting.

Note 3: The managerial officers at TVCM and CGPCP are considered representatives of the management, so they do not join the labor union.

◆ **Not a member of the Welfare Committee:**

(1) For CGPC, 17 contract personnel in Toufen

◆ **Not a member of a labor union:**

(1) For CGPC, 2 employees in Toufen, 18 in Taipei, and 17 contract personnel, for a total of 37 people.

(2) For TVCM, 4 employees in Taipei, 15 employees in Linyuan plant, for a total of 19 people.

(3) For CGPCP, there are 4 people.

Employee assistance program

CGPC is a member of USI Group's affiliates, and is entitled to the services of the Employee Assistant Program Service Center (EAPC) of USI Group. The EAPC is committed to improving employees' quality of life, health and happiness, and has continued to promote employee assistance programs, organize various networking activities, and provide counseling, so that employees can receive comprehensive care and help in psychological adjustment, career development, health promotion and quality of life.

The company has established an Employee Counseling Policy to provide counseling, necessary training, and support for employees with poor performance or competency gaps, aiming to improve their skills and enhance job performance. Additionally, a job rotation mechanism has been established to ensure that employees are assigned to positions that align with their capabilities and characteristics.

The company has also implemented an Employee Talent Development, Training, On-the-Job Learning, and Job Rotation Policy to enhance employees' work capabilities and quality, unleash their potential, cultivate outstanding talents, and plan a comprehensive career system and promotion system. This policy assists employees in career planning and advancement.

Grievance channels

◆ **Union**

All union members can respond through the union if they have various suggestions for the Company or have questions about their own rights and interests. In the monthly committee member meetings, the directors respond issues to the Company's representatives, and the committee makes the proposal into meeting minutes and follow up the issues to protect members' rights and interests.

◆ **Labor-management meetings**

CGPC holds employer-employee meetings in accordance with the law, which is attended by the management and labor representatives. The meetings are held every 3 months. The management representative can explain the current status of the Company's operation, and the labor representatives reflect the voice of the employees, which is of positive help for the communication between the employer and employees.

◆ **Employee grievance mailbox**

In order to protect the rights and interests of employees and resolve labor problems, CGPC has set up grievance filing measures. If employees are unfairly or unreasonably treated or have their rights and interests harmed at work, they can report the incidents to their supervisors, or to the employer-employee meetings or union representatives, or directly file grievances orally or in writing with the Company and the mailbox on the website to seek more explanation or help. After receiving the complaints, the Company will assign relevant personnel to conduct investigation, depending on the severity, and contact the parties involved to provide explanations. Grievance cases must be resolved within 3 months in order to build a fair and reasonable work environment and a healthy promote employer-employee relationship.

◆ **Employee complaint channel**

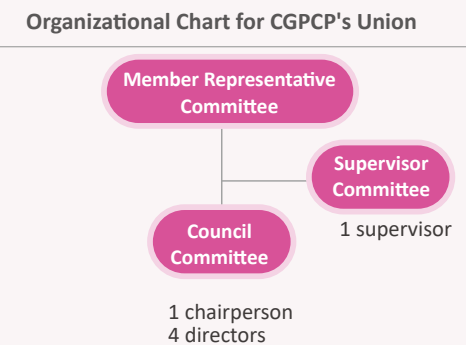
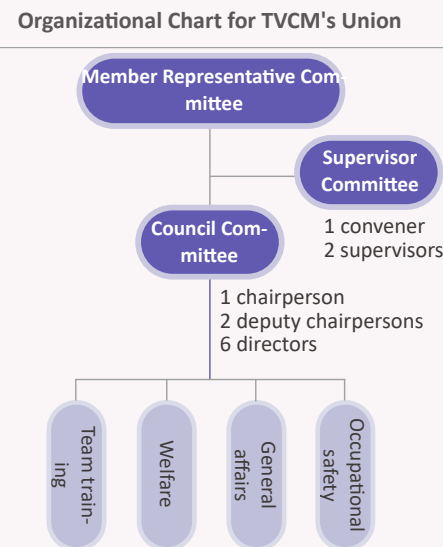
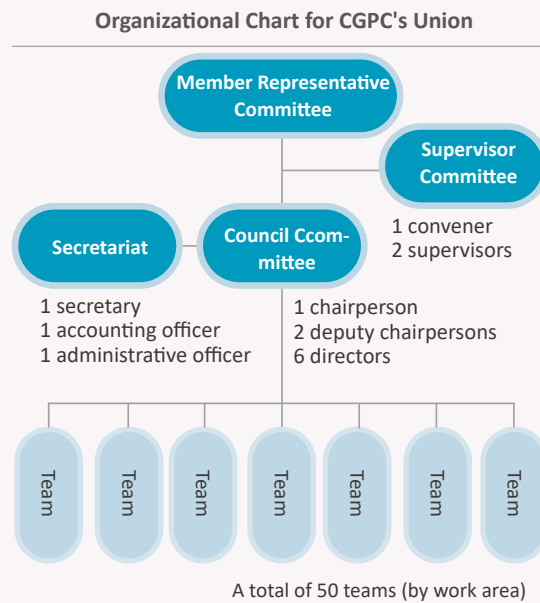
CGPC - Feng-Kai Hsiao fkhsiao@cgpc.com.tw

TVCM, CGPCP - Hsien-Wen Lu hunterlu@tvcm.com.tw

Audit Committee's email

CGPC has set up an "Audit Committee's email" in June 2016 to accept reporting cases related to the obligations and powers of the Audit Committee. On November 9, 2017, the board of directors and the Audit Committee approved the "Measures Handling Reporting of Illegal and Unethical or Dishonest Behaviors", which specify the reporting procedures and relevant confidentiality practices. The grievance channels include reporting in person or by phone and correspondence, and dedicated units are assigned to handle such cases. For the whistleblowers, participating investigators and the case content, we spare no efforts in confidentiality and protection to prevent them from unfair treatments or retaliation. If the whistleblower is an employee, we guarantee that the person will not be mistreated. No grievances were received in 2023.






Organization chart of the labor union of CGPC, TVCM, and CGPCP



6.3 Talent Development and Cultivation ► (GRI 3-3、404-1、404-2、404-3)

CGPC provides a safe, harmonious and innovative environment emphasizing on learning and growth environment. The Company's education and training courses are in line with the external environment, business policies, segment performance goals and employees' career development needs to build a comprehensive education and training system needed to nurture all-round talents. In addition to in-house materials, there are excellent training courses made by other businesses at home and abroad to improve employees' capacity and overall competitiveness.

Material issue: Talent development and cultivation

	The Significance and Impact of CGPC	We want to provide a safe, harmonious and innovative environment emphasizing on learning and growth environment. Only with the continuous improvement of the capabilities of all employees can we take a step forward. Affected objects: employees, community residents.
	Develop Strategy	The Company's education and training courses are in line with the external environment, business policies, segment performance goals and employees' career development needs to build a comprehensive education and training system needed to nurture all-round talents.
	Policy Commitment	Increase the number of training sessions.
	Grievance Unit	Personnel Section
	SASB Indicator	--

 Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Improvement training	Sessions	130	291 	180	200	220



Exceeded Target



Achievement



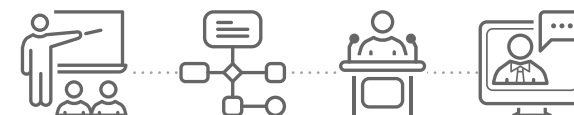
Partially achieved



Not met



- ◆ The training framework is mainly composed of four major aspects, "On-the-job training", "Functional training", "Self-directed learning and growth", and "Digital learning". The training courses for employees' career development are comprehensively and systematically planned, and then extended to individuals' lifelong learning.
- ◆ Online e-learning courses also enable employees to effectively carry out learning activities anytime, anywhere, simultaneously improving employees' career development and overall work performance.
- ◆ Please refer to [the Talent Cultivation and Development](#) webpage °



6.3.1 Diversity on-the-job training program

To systematize, document, and digitize on-the-job training in alignment with the organization, and to integrate with the knowledge platform to store and pass on the professional knowledge for each position, the aEnrich digital training platform was introduced in 2022 to integrate four major systems: Competency integration, development mapping, learning management, and mobile performance support. We also introduced the Commonwealth Learning Center (CWLC) for online and action learning.

2022 statistics by specialization (management, quality control, technology, safety and environment protection), internal or external training, and gender:

Year	2023	
Course categorization	Male	Female
Average training hours for management	3.9	1.2
Average training hours for quality control	0.6	0.1
Average training hours for technology	6.6	0.7
Average training hours for safety and environment protection	11.3	0.9
Total person-time	5,828	872
Total hours	19,290.5	2,457
Average training hours per person	25.2	
Total number of employees	859	

Training statistics for career development in the last three years

Year	Total number of people	Training hours
2021	4,581	17,887.0
2022	6,279	23,264.5
2023	6,700	21,666.5

Core training category



6.3.2 Training performance

In 2023, the total training hours of CGPC employees reached 21,666.5 hours, and the average training hours per employee was 25.2 hours. For employees who have willingness to learn and development potential, we provide subsidies for on-the-job continuing education in domestic universities, supplemented by the experience of job rotation, to cultivate corporate talents. CGPC's training units often invite professional lecturers to conduct classes in the Company so that employees can learn new professional knowledge and management skills.

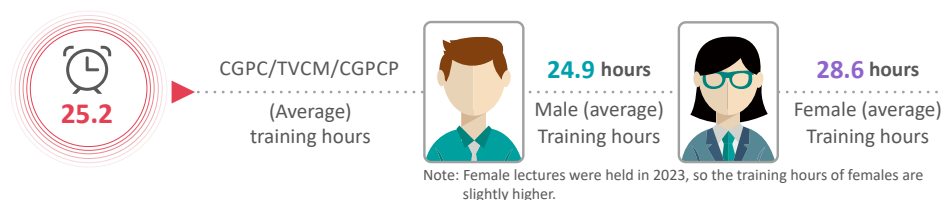
2023 average training hours by position

Gender	Male		Female	
Job Title	Person-time	Training hours	Person-time	Training hours
Driver	4	4.5	0	0.0
Technical	333	1,022.5	123	312.5
Engineering	1,092	3,642.5	50	253.0
R&D	455	1,600.5	151	444.0
Sales	187	463.5	131	281.5
Production	3,097	10,347.5	142	373.0
management	660	2,128.5	275	797.0
Total	5,828	19,209.5	872	2,457.0

Note: 1. The statistics of the number of supervisors include the managerial officers and employees who are appointed as managers (inclusive) and above. 2. The statistics table includes the training hours for retired, transferred and resigned employees for the year.

2023 training result

Category	"Skills credentials" Certification	Safety and Health "Completion Certificate"
Person-time	59	36



Talent development plan

In accordance with the guidelines for the reserve of key personnel and the annual performance evaluation results, potential key talents are identified and corresponding development plans are arranged to cultivate managerial talents for the organization. The development plan includes guidance from workplace mentors to understand one's strengths and weaknesses, as well as strengthening managerial and professional skills through curriculum arrangements, job rotations, and project assignments. The managerial skills are divided into five major functions: leadership, planning, organization, personnel management, and control. Different managerial skills are established for different levels of supervisors, and through competency-based development plans, the managerial capabilities of supervisors are strengthened. Before being promoted to a supervisor position, employees must complete the relevant managerial skills courses at each level to be eligible for promotion. Other than providing digital courses for all levels of management function on the internal learning platform for self-improvement for supervisors, in 2023, physical courses were also provided for some key points, such as "Job Education and Subordinate Cultivation", "Process Improvement and Innovation", "Management by Objectives and Performance Evaluation", "Emotion Management and Stress Relief", "Time Management", "Road to Successful Management", "Successful Presentation Skills" and other courses.

2023 number of employees and average training hours							Average training hours the most recent 3 years	
Gender	Male		Female		Total male and female		Year	Average training hours (hour)
Job type	Average training hours (hour)	Number of people	Average training hours (hour)	Number of people	Average training hours (hour)	Number of people		
Supervisors	29.1	150	39.8	5	29.4	155	2021	22.6
Direct labor	16.7	434	11.6	8	16.6	442	2022	26.0
Indirect labor	40.3	789	29.7	73	37.4	262	2023	25.2
Average hours/number of employees	24.9	773	28.6	86	25.2	859	3-year average	24.6

Description: Female lectures were held in 2023, so the training hours of females are slightly higher.



July 26, 2023: Successful Presentation Skills



August 15, 2023: Job Education and Subordinate Cultivation



September 14-15, 2023: Road to Successful Management

CGPC Awarded as an excellent training enterprise by the Taoyuan-Hsinchu-Miaoli Branch of the Workforce Development Agency, Ministry of Labor

In order to incorporate the government's resources into the on-the-job training for employees to continue improving the quality of manpower, we have begun to participate in the Enterprise Human Resources Improvement Program promoted by the Workforce Development Agency, the Ministry of Labor since 2010. In 2012, due to our eligibility to the Industry Impacted by the ECFA, we have applied to the Recharge and Take-Off Program since then, and introduced the TTQS (Talent Quality-Management), to ensure the reliability and correctness of the training process, regular TTQS assessments are conducted to continuously improve the quality of training and enhance the operational efficiency of the human resources training system. In 2023, CGPC received a total of 249 subsidies from the Workforce Development Agency of the Ministry of Labor, with a total training duration of 67 hours.

華夏海灣塑膠股份有限公司

以教育訓練提升員工專業 並帶動企業轉型發展



Source of the report:

The Enterprise Human Resources Improvement Program and the Recharge and Take-Off Program promoted by the Taoyuan-Hsinchu-Miaoli Branch of the Workforce Development Agency, Ministry of Labor.

The National Association of Small & Medium Enterprises.

CGPC was invited to share successful case studies in the "Industry Innovation Lecture" Recharge and Takeoff Program

In 2022, the National Association of Small and Medium Enterprises of the Republic of China was entrusted by the Taoyuan-Hsinchu-Miaoli Regional Branch of the Ministry of Labor's Workforce Development Agency to organize the Industry Innovation Lecture series. Our company was invited to share successful case studies during the program. The aim was to provide insights into sustainable development and the latest trends in human resource management under the context of sustainable development. Through this sharing, we aimed to assist more enterprises in understanding the importance of sustainable development and human resources engaging in advanced exchanges with other companies to improve their overall organizational capacity.



6.3.3 Performance evaluation

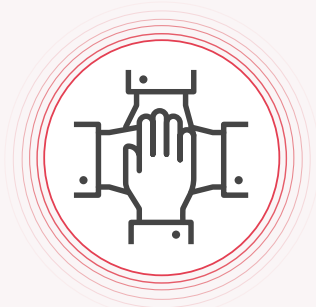
We conduct employee performance appraisal in January every year, hoping that it can help employees' personal development, as well as the Company's human resources and skills management. The personnel to be evaluated do not include foreign workers and fixed-contract personnel. In 2023, as high as 97.2% of CGPC employees accepted performance appraisal.

Legal basis:

Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies

Amended in accordance with Article 9 of the Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies, the employee performance appraisal system should be integrated with the sustainability policy, and a clear and effective reward and penalty system should be established.

Management by object



Performance appraisal

The management meeting in November 2021 requested to include ESG in the KPI

In order to ensure that all units can implement the ESG plan, it will be officially incorporated into part of the KPI items starting 2022.

Managers who are heads of sections or above work with personnel who prepare the sustainability report to include the ESG as part of the 2022 KPI. The net zero, recycling and re-use and other items related to their current functions are part of the evaluation items. 100% execution rate of ESG projects incorporated into KPIs by supervisors in 2023.

The 2023 male-female ratio of employee performance appraisal is as follows:

Gender	Male			Female		
	Total number of people	Actual number of people assessed	Ratio	Total number of people	Actual number of people assessed	Ratio
Supervisors	150	149	99.3%	5	5	100.0%
Direct labor	434	418	96.3%	8	7	87.5%
Indirect labor	189	189	100.0%	73	73	100.0%
Remarks	1. Period of evaluation data: 2023/01/01-2023/12/31, and the number of employees is as of 2023/12/31. 2. A total of 859 people, 840 people were evaluated, and 19 did not participate in the evaluation, and the description is as follows: (1) Toufen: 18 (Chairman 1, and 17 contract personnel) (2) TVCM: 0 (3) CGPCP: 0					

Model worker award in 2023



Main plant








Linyuan plant

6.4 Safe and Healthy Workplace ▶ (GRI 2-8、3-3、403:2018)

We understand that employees, suppliers and contractors are the most important assets in the sustainable development of the Company. Therefore, the processes of research and development, manufacturing, testing and sales of the Company's products need to comply with occupational safety and health regulations and other relevant requirements, and a good safety and health protection framework must be provided to prevent accidents, continuously improve safety and health and ensure compliance with regulations, so that there are no unsafe behaviors and environment and equipment condition causing occupational disasters, further fulfilling the responsibility of protecting employees' safety and health.

Material issue : Occupational safety and health

 The Significance and Impact of CGPC	Enable employees and contractors abide by the requirements of safety and health regulations and standards, build a zero-disaster work environment, and ensure a comprehensive system for workers' safety and health and achieve sustainable development. Affected objects: employees, community residents, government agencies, suppliers/contractors, investors.
 Develop Strategy	The occupational safety and health policy of full participation is carried out in accordance with the ISO 45001 occupational safety and health management system for performance measurement and continuous improvement.
 Policy Commitment	Zero disaster and zero disabling injury incident.
 Grievance Unit	Occupational Safety Office, Environmental and Safety Courses
 SASB Indicator	RT-CH-320a.1、RT-CH-320a.2、RT-CH-540a.1、RT-CH-540a.2。

Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Reinforce on-site patrol inspection and improve potential hazards	Frequency of disabling injuries (F.R.)	0	2.86 	0	0	0
Reinforce the prevention of scrolling and pinching injuries and safety management of stackers	Severity of disabling injuries (S.R.)	0	72 	0	0	0

Reasons for failure to achieve: Relevant units have proposed countermeasures to strengthen job safety analysis to prevent potential hazards from occurring.

Details: Occupational Safety and Disaster Management, 2023 Accident and Injury Statistics, Occupational Safety - Explanation of Care.



▶ USIG Zero Occupational Incident Letter of Commitment



- ◆ CGPC's management objective for occupational disaster is zero occupational incident. Frequency and severity of disability injuries are key indicators for assessing employees' health and safety.
- ◆ We have formulated the Safe Work Hours Incentive Measures to motivate employees to maintain work safety.
- ◆ We have formulated the Operating Guidelines for Occupational Safety and Health Hazard Risk Identification, Opportunity Evaluation and Control Management, which uses hierarchical management and control to minimize risks.

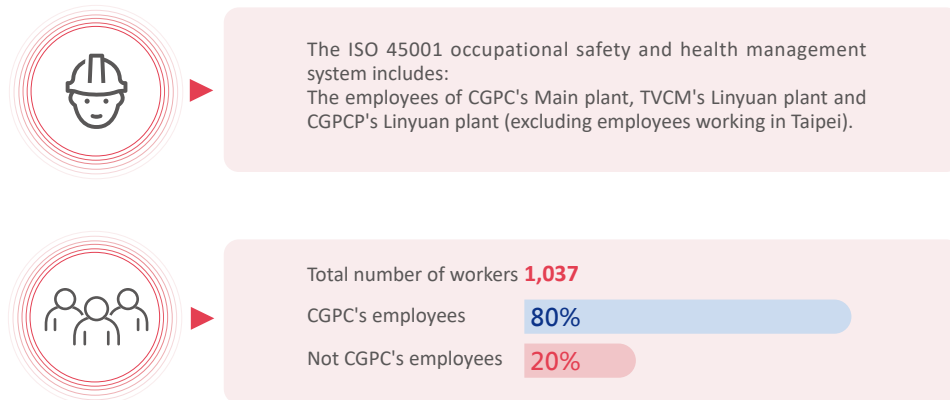
CGPC organizes training courses on human rights protection every year, please see the [website](#) for details.

6.4.1 Occupational safety management ► (GRI 403-1、403-2、403-4、403-7、403-8、403-9)

We have established the ISO 45001 occupational safety and health management system, CGPC, TVCM, and CGPCP have passed the ISO 45001 occupational safety and health management system verification in 2020 and 2019, respectively. (The certificate is still valid)

► Occupational safety and health organization and operation (GRI 2-8)

Each plant of CGPC separately participates in the Toufen, Zhunan, Linyuan Industrial Parks Safety and Health Promotion Association; the Toufen and Zhunan Industrial Park Manufacturers' Association; regional joint defense organizations; the Taiwan Responsible Care Association (TRCA); and the vinyl chloride and chlorine operation joint defense organizations to observe and learn from one another in occupational safety, health and environmental protection, etc. and improve the safety and health of operators, and regularly hold fire drills and environmental safety and health education and training sessions every year to foster employees' capabilities responding to emergencies and implementing self-directed safety management. In 2023, we joined the project organized by the Occupational Safety and Health Administration to promote safe and healthy working environment in traditional plastics-related industries to improve the working environment for workers. Through continuous improvement, we provide a safer, more comfortable, and healthier working environment for workers to develop steadily. CGPC was also invited to participate in the meeting to share its successful experience in improvement of working environment results, operation and management, and promotion of overall improvement and upgrading.



A total of 1,037 employees (Company's employees, 830 people, and contractors have about 207 people) reviewed by external agencies, and their jobs include sales, production, design, development, procurement, administration, engineering, contracting, etc., covering 100% of the Company's business areas.

► Identification of occupational safety

We have formulated the "Operating Guidelines for Occupational Safety and Health Hazard Risk Identification, Opportunity Evaluation and Control Management", which ensure that personnel (including high risk workers, middle-aged workers and foreign workers), venues and facilities that may be affected by the organizational operations or indirectly controlled by the organization follow the Guidelines. The main implementation procedures are as follows:

- 1 Hazard identification**
Each unit conducts an inventory of activities in the managed areas to identify hazards and record them in the "Checklist".
- 2 Confirmation of Checklist**
Occupational safety and health management representatives confirm the completeness, correctness and reasonableness of the "Checklist".
- 3 Risk assessment**
Each unit PVC leather in an assessment form for the identified hazards.
- 4 Confirmation of assessment forms**
Occupational safety and health management representatives confirm the completeness, correctness and reasonableness of the "Assessment Form".
- 5 Filing assessment forms**
The approved Assessment Forms are then filed by environmental safety units for future reference.
- 6 Risk hazard control**
Implement hazard control, and compile the "Control List" to manage risks.
- 7 Risk control**
Report and review during the annual management review meetings.

► Healthy workforce sustainability leader

In 2023, the Occupational Safety and Health Administration selected 10% of outstanding companies with excellent performance, and CGPC was selected as an outstanding company in the “Outstanding Enterprise in Voluntary Evaluation of Occupational Health and Safety Indicators in Corporate Sustainability Reporting” and participated in the selection of “Leading Enterprise in Sustainable Healthy Workforce” organized by the Administration of Occupational Safety and Health, Ministry of Labor for the first time, and was selected as the “2023 Sustainability Leading Enterprise” at the top of the list (chemical industry), and the “Best Practice Sharing” was published to attend the event.



Deputy Director-General of the Occupational Safety and Health Administration, Ministry of Labor, Chin-Lung Chu, and the award recipients of 2023 Sustainable Pioneering Enterprise Representative posing for a group photo.



On November 26, 2023, CGPC Chi-Hung Hu was invited to share a case study.

Occupational safety and disaster management

We have set our occupational disaster management objective as “Zero incident. Zero disaster”. In order to prevent occupational disasters, protect the safety and health of workers, and achieve the objectives and standard of safety and health management, we have established the Safety and Health Work Rules, and require all employees to abide by them. CGPC aims to improve the workers’ work environment (worker platform and renewed the noisy environment) in 2023 to reduce the hazard factors such as slipping and hearing loss and prevent their recurrence. Reduce the estimated costs of occupational injuries and illnesses and the estimated impact on the company’s profitability, according to payment of personal injury assessment of OSHA safety, and based on the assessment of personal injuries caused by slips and falls (lacerations, burns, scalds, fractures) and work environment (hearing loss) of the estimated cost impact on profitability, through which [estimation tools](#) to understand the impact of occupational injuries and illnesses on the company’s bottom line. (In 2023, there were no work injury compensation costs for CGPC, and Vinyl Chain’s occupational safety are lower than the industrial accident rate in FR, SR, and FSI.)

Accident Statistics of Vinyl Chain in the Past Three Years

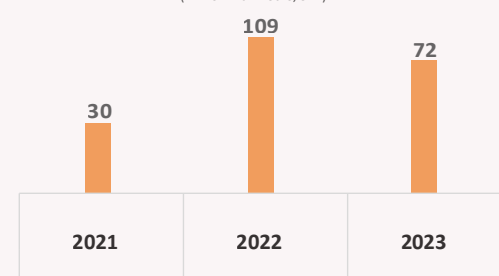
Unit	Item	Year	2021	2022	2023	Plastic and Synthetic Rubber Raw Materials Manufacturing
Million man hours	F.R. (LTIFR)		2.16	1.67	2.86	1.04
	S.R.		30	109	72	299
	F.S.I		0.25	0.42	0.45	0.55
frequency	LTIR		0.43	0.33	0.57	-
Number of Occupational Accidents			4	3	5	-
Occupational Accident Rate			0.46%	0.35%	0.60%	-
Total Hours Worked by Employees			1,851,972.0	1,789,628.0	1,744,378.0	-

Note:

- (1) Frequency of disabling injuries (FR, LTIFR) = Number of injuries x 10⁶ / Total working hours
- (2) Severity of disabling injuries (SR) = Number of days lost due to accidents x 10⁶ / Total working hours
- (3) Frequency severity index (FSI) = √ [(FR x SR)/1000].
- (4) Male-female ratio: Male 100%: Female 0%.
- (5) Data source: Monthly report of occupational hazard statistics
- (6) LTIR: Lost Working Time Rate Due to Occupational Injury = Number of injuries x 200,000/Total working hours.
- (7) Please see 6.4.1 [Injuries caused by accidents](#) description.
- (8) Number of occupational accidents in 2023: 5 employees of CGPC, 0 employees of TVCM, and 0 employees of CGPCP.
- (9) Calculation method of occupational accident rate: Number of occupational accidents/total number of employees.
- (10) The statistics include the CGPC Main plant, the TVCM’s Linyuan plant, and the CGPCP Linyuan plant.
- (11) Indicators for the same industry are based on the aggregate injury index of each industry for the past three years as announced by the Occupational Safety and Health Administration.
- (12) Vinyl Chain’s occupational safety are lower than the industrial accident rate in FR, SR, and FSI.

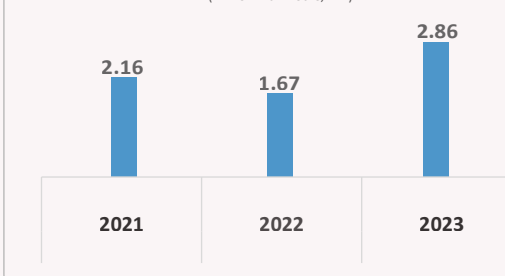
Comparison of severity of disabling injuries (S.R.)

(Million man hours, S.R.)



Comparison of frequency of disabling injuries (F.R.)

(Million man hours, F.R.)



► 2023 Injuries caused by accidents

In 2023, there were no accidents occurred in TCVM and CGPCP. There were five industrial safety accidents at CGPC in 2023. The types of injuries included three slip and fall, one crush injury, and one fell. After the accident, CGPC Main plant actively reviews the causes of accidents, reduces the hazard factors, prevents recurrence, and immediately proposes countermeasures and cares for employees. The improvement measures are described as follows:

2023 accident injuries (CGPC)		
By company	Disaster Type	Improvement Measures
CGPC Main plant	Slip and fall	Eliminate hazard factors for the places and equipment that are prone to slipping and falling in the operation environment: 1. Engineering improvement: Improvement of the personnel working platform. 2. Administrative management: Safety publicity, revision of operational procedure documents, improvement of the effectiveness of personal protective equipment, and re-evaluation of risk and hazard identification within the unit. 3. Others: Implementation of sorting and rectification, supervision and management by supervisors, irregular safety observation, and concern for and care of injured employees.
	Crushing injury	Carry out the overall and parallel implementation of equipment improvement and eliminate hazard factors: 1. Engineering improvements: The operator's working platform is renewed, and support brackets are installed where the equipment covers are removed. 2. Administrative management: Safety publicity, revision of operational procedure documents, and re-evaluation of risk and hazard identification within the unit. 3. Others: Supervision and management by supervisors, irregular safety observation, and concern for and care of injured employees.
	Falling incident	Eliminate hazard factors by changing personnel loading and unloading operations to machine loading and unloading: 1. Engineering improvements: (Pallet truck) Use iron pallets with remaining waste on the trailer, and then return the pallet after unloading by the manufacturer. (Grab crane) Since the residual waste (rubber) materials are gathered in the open space, the manufacturer clamps the remaining waste (rubber) materials into the grab crane, and assigns a commander to monitor the surrounding conditions during the operation. 2. Others: Machines are used to replace manual operations to reduce the hazards of personnel contact, concern and care of injured employees.

Statistics of safety patrol inspections and improvement cases for the most recent 3 years

Company	CGPC (Main plant)			TCVM (Linyuan plant)			CGPCP (Linyuan plant)		
Year	2021	2022	2023	2021	2022	2023	2021	2022	2023
Safety patrol inspections	1,028	1,808	820	556	1,265	2,160	298	376	520
Total cases of deficiencies	1,328	1,426	978	251	441	580	298	23	149
Number of cases improved	1,328	1,426	929	251	441	580	298	23	149
Number of cases improving	0	0	49	0	0	0	0	0	0
Improvement rate	100%	100%	95%	100%	100%	100	100%	100%	100%

Note: 1. The number of patrol inspections includes the number of safety and health patrol inspections carried out by the site supervisor and the number of environmental safety and health inspections carried out by the safety and environmental protection units and industrial safety officers in the past 3 years.
2. The incomplete cases go to the next year, and we follow up the cases until the improvement rate reaches 100%.
3. Source: Environmental safety and health management platform.

2023 Absence statistics table

Company/Gender	Male	Female
CGPC (Main plant)	0.50%	0.24%
TCVM (Linyuan plant)	2.47%	5.58%
CGPCP (Linyuan plant)	7.10%	0.63%

Note: 1. Absence rate = Total days absent / Working days x 100%.
2. Total days absent: The total number of absence days in 2023 is calculated based on the actual sick leave, public holiday and injury leave.
3. The number of working days: Actual number of working days in 2023.

Fire injury statistics in the past three years

The Company strengthen personnel's capability to respond to emergencies, determine correct handling procedures, and familiarize the use of safety protection equipment to ensure personnel and environmental safety and normal plant operation, further reducing the potential loss from accidents to a minimum, we continuously strengthen fire prevention management, implement fire drills, fire equipment inspection, and manage flammable substances in the plant to enhance employees' awareness of fire prevention. In August 2023, the Company dispatched personnel to participate in the fire and chemical disaster rescue training course of the Fire Department Training Center, National Fire Agency.

Year	Number of fire cases	Number of people injured by fire	Number of deaths in fires	Proportion
2021	0	0	0	0%
2022	0	0	0	0%
2023	0	0	0	0%

Note: The scope includes CGPC Main plant, and TVCM Linyuan plant and CGPCP Linyuan plant, and the coverage rate is 100%.

Statistics of safety performance indicators are as follows:

Safety performance indicators	CGPC (Main plant)	TVCM (Linyuan plant)	CGPCP (Linyuan plant)
Frequency of disabling injuries (FR, LTIFR)	3.88	0	0
Severity of disabling injuries (SR)	97	0	0
Frequency severity index (FSI)	0.61	0	0
Occupational safety violation ticket	0	0	0
Emergency response drills	31	13	5
Education and training sessions	106	78	28
Safety patrol inspections	820	2,160	520
Completion rate of occupational safety management by objectives	100%	100%	100%
Violation improvement rate	95%	100%	100%

Note: 1. Occupational safety fines. Please see [3.4 Regulatory compliance](#)

2. The incomplete violation improvements go to the next year, and we follow up the cases until the improvement rate reaches 100%.

Safety and health education, training, and promotion for the past three years

Year	CGPC (Main plant)		TVCM (Linyuan plant)		CGPCP (Linyuan plant)	
	Total number of people	Training hours	Total number of people	Training hours	Total number of people	Training hours
2021	2,289	8,053.0	1,016	3,865.5	173	865.0
2022	2,644	9,062.5	996	4,900.0	184	996.0
2023	2,089	7,520.5	1,099	4,404.5	211	1,264.5

Note: The scope includes CGPC Main plant, and TVCM Linyuan plant and CGPCP Linyuan plant, and the coverage rate is 100%.

Statistical table of safety and health education, training, and promotion in 2023

Course name	CGPC (Main plant)		TVCM (Linyuan plant)		CGPCP (Linyuan plant)	
	Total number of people	Training Total hours	Total number of people	Training Total hours	Total number of people	Training Total hours
Process safety management	291	891.0	106	504.0	36	219.0
Work safety training/promotion	280	2,575.5	31	236.0	37	264.0
Environmental protection training	263	1,052.0	161	681.0	19	222.5
On-the-job safety and health education and training(Including on-the-job and return training for operation supervisors)	3	12.0	120	796.0	49	293.0
Emergency response drills	693	1,207.0	442	1,690.0	25	100.0
Self-defense fire formation training	258	1,032.0	52	265.0	24	139.0
Firefighting training/promotion	290	583.0	182	189.5	18	18.0
Workplace health promotion seminars	11	168.0	5	43.0	3	9.0
First aid and vocational nursing education	2,089	7,520.5	1,099	4,404.5	211	1,264.5
Total						

Note: 1. First aid and vocational nurses are required to take a 3-hour training course over 3 years.

2. Data source: Annual training schedule.

6.4.2 Occupational health management ► (GRI403-3、403-4、403-6、403-8、403-10)

CGPC conducts annual [operational environment monitoring and chemical classification management](#) (Please refer to [5.1.1 Hazardous substances and waste disposal and management](#)). We commission large hospitals to conduct health examination every year to protect the health of employees, and report the results to the competent authority for future reference. The 2023 examination rate was 100% (covering employees in the headquarters in Taipei, CGPC Plant, TVCM Linyuan plant and CGPC Linyuan plant). The jobs that require specialized health examination include works involving noise, lead, dust, vinyl chloride, dimethylformamide, chromic acid and its salts, cadmium and its components, n-hexane and ionizing radiation.

Operations of occupational health and safety

- (1) We adopt a hierarchical health management, and all conditions are divided into either Level 1 or Level 2 after examination by doctors. Level 1 refers to the specialized health exam or the follow-up results being determined as normal by doctors. Level 2 refers to the specialized health exam or the follow-up results being determined as abnormal but not related to the work environment by doctors. There were no cases of occupational diseases in 2023. For those who are found to show abnormalities during the specialized health examination, return visits are arranged for them and physicians of occupational medicine will give them personal health guidance.
- (2) The 2023 results of specialized health examinations are shown as follows, and the examination rate was 100%.
- (3) To take care of the health of employees, additional cancer screening tests are provided every year for all employees: alpha-fetoglobulin (alpha-AFP), carcinoembryonic antigen (colorectal cancer) CEA, prostate cancer (men), ovarian cancer (women), pancreatic cancer, and other 4 types of cancer. The examination expenses are entirely borne by the Company, and we provide comprehensive health care that exceeds the legal spirit.
- (4) In 2023, a total of 51 employees received health care services through the implementation of health care programs. Occupational medical specialists were commissioned to visit the company on a monthly basis to provide health services to employees, aiming to enhance their physical and mental well-being.
- (5) For the 2023 workplace health lectures, courses on the incidence of the top ten cancers, four types of cancer screening, women's cancers, and common women's diseases will be held to promote or prevent them.
- (6) In addition to labor insurance and national health insurance, CGPC purchases group accident insurance and group life insurance for each employee (the family members can also purchase additional insurance) to provide comprehensive protection for the employees and their family members. (See [CH 6.2.2 Employee benefits](#))
- (7) To effectively protect the safety and health of employees, the health check data of workers will be systematically managed according to important indicators such as work type and work environment. The trend will be grasped for the most recent three years and analyzed to track employees with abnormal results from the health checkups fulfilling the implementation of health care.
- (8) The company regularly conducts personal illness/workplace health risk assessments for middle-aged and elderly workers through hazard identification, risk assessment, and control measures in response to the hazards that may arise in middle-aged and elderly workers. The middle-aged and elderly work capability assessment is under implementation in 2023, and an estimated 336 candidates (men: 300 persons, women: 36 persons) were evaluated. Apart from ensuring the safety and health of elderly and middle-aged workers, we can also improve the work environment and reduce high-risk tasks, promote the participation and reemployment of the elderly, and enhance the productivity and work fitness of the elderly.
- (9) Creation of a Friendly Workplace Environment: CGPC and TVCM provide female employees with a friendly work environment and protect their work rights. We have formulated “measures for maternal health protection in the workplace” and the “promotion of breastfeeding (collecting) milk”. By setting up nursing rooms and offering physical and mental health assessment during pregnancy to create an employment environment for female employees to work without burden, we can protect the physical and mental health of female employees. Moreover, in 2023, we organized a course on sexual harassment prevention to prevent illegal abuse in the workplace, with a total of 88 colleagues participating.
- (10) TVCM promote labor health services, conduct health risk assessment and management, and take measures related to health promotion, as well as workplace selection, assignment and reinstatement of work. These measures improve physical and mental health of employees and create a healthy workplace. We arrange occupational specialists to come to the Company every 3 months to conduct health consultation to help employees know their health status, and implement four main programs. Every employee receives one health examination per year, and the items checked and frequency are better than the regulatory requirements. In 2023, all 164 employees of TVCM received their health examination. Among them, 51 received specialized checks for vinyl chloride, and appropriate health management measures are adopted for the results. In 2023, 12 people were placed in Level 2 for their specialized work, and all have completed the health interview, for a completion rate of 100%.
- (11) To make the workplace healthier, TVCM holds health seminars from time to time. The four health promotion seminars to be held in 2023 are as follows: 1. Build a healthy life - stay away from chronic diseases 2. Courses for plantar health 3. On-site health checkup and analysis 4. CPR+AED trainings.
- (12) CGPC and TVCM have collaborated with the Occupational Safety and Health Administration to implement testing the fit of respirators for the respiratory protection program. Workers who work in hazardous environments are required to take proper respiratory protection measures based on the characteristics of the harmful substances in the air in the work environment. We have established and promoted a respiratory protection program, and all on-site operators have qualified the tests, ensuring their respiratory protection during operations.
- (13) In 2023, CGPC organized a health promotion activity - weight loss. The event lasted for four months. Effective weight loss can improve the related diseases, and a weight loss bonus was provided to employees to encourage employees to participate in the activity. We are committed to physical and mental health activities. In 2023, our budget targets and implementation rate were 100%, and we organize health activities to engage our colleagues to improve their health and quality of life.
- (14) With the aim of safeguarding employee health, TVCM has installed three AEDs and encouraged employees to participate in CPR operation training courses in September 2023. The total number of participants was 82 persons.
- (15) TVCM's participation in the “Badge of Accredited Healthy Workplace” organized by the Health Promotion Administration, Ministry of Health and Welfare, and passed the review. It was awarded the [“Badge of Accredited Healthy Workplace”](#).

► 2023 Health caring implementation status

◆ Health care operation process:

Previous Year's Health Check Report→According to the overall analysis of the report, abnormal findings were classified into three levels→(1) Level A to B: Plant care and support, (2) Level C: Arrangement of plant medical care. When providing plant care and support, if it is found that an employee's health condition requires more specialized diagnosis, they are referred to the plant medical care.

- ◆ Health checkup of 51 persons in 2023 (total number of people receiving health checkup in 2022 was 837 people), and the health checkup is as follows:

Number under care	Implementation Status
51	<ul style="list-style-type: none"> ◆ The employees are assessed by occupational physicians and occupational health nurses together. They are arranged to meet in a conference room, where the occupational physician provides one-on-one health care and guidance based on the nature of their work. ◆ After the health care session, employees gain a better understanding of their own physical condition and make efforts to improve any health abnormalities.

2023 Status on specialized health checkup

(Unit: people)

Company	CGPC (Main plant)		TVCM (Linyuan plant)		CGPCP (Linyuan plant)	
	Expected	Examination rate	Expected	Examination rate	Expected	Examination rate
Noise	201	100%	--	100%	--	100%
Lead	21		--		--	
Dust	307		--		--	
Vinyl chloride	94		51		31	
Dimethylformamide	46		--		--	
Chromic acid and its salts	12		--		--	
Cadmium and its compounds	10		--		--	
n-hexane	1		--		--	
Ionizing radiation	2		--		--	

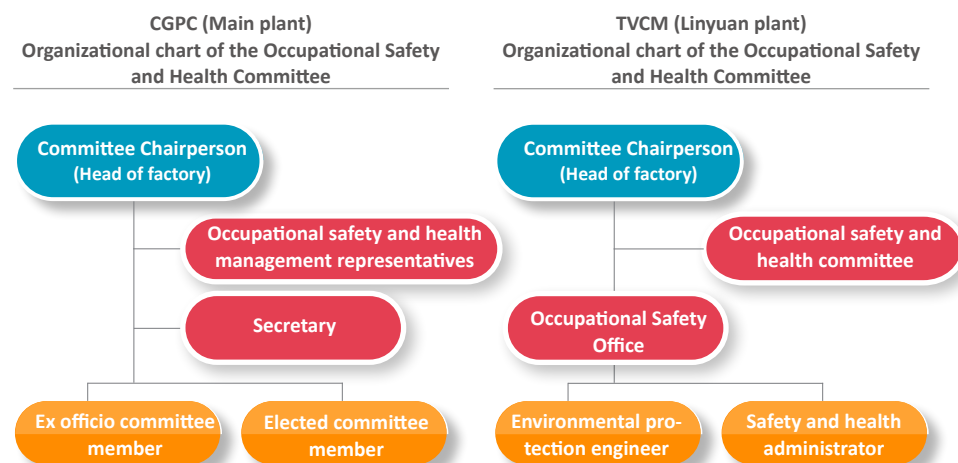
Source: CGPC's 2023 specialized health examination report.
Note: There were no abnormal findings in the special health examinations.

Health promotion seminar, Protect employees' health



6.4.3 Occupational safety and health organizations ► (GRI 403-1、403-4)

We have established the Occupational Safety and Health Committee in accordance with the occupational safety and health management measures (CGPCP has less than 100 employees, and there is no need to establish such committee). Labor representatives are appointed by unions, and the proportion of committee members is higher than the one-third standard set by the laws and regulations. The committee meets once a quarter on a regular basis, with labor representatives speaking out for all employees and discussing issues related to environmental protection, safety and health, etc. with the management.



Proportion of 2023 occupational safety and health committee members

By company	Committee member type	Number of people	Percentage
CGPC (Main plant)	Elected committee member (labor representative)	9	39%
	Ex officio committee member (employer's representative)	14	61%
	Total	23	100%
TVCM (Linyuan plant)	Elected committee member (labor representative)	9	35%
	Ex officio committee member (employer's representative)	17	65%
	Total	26	100%

Note: The elected members are labor representatives who are workers performing works at the workplace controlled by the organization.

6.4.4. Contractor safety management ► (GRI 403-1、403-5、403-8)

We have established the Contractor Environmental Safety and Health Management Guidelines, which includes arranging education and training before work, holding communication and coordination meetings, and giving hazard notifications. Before work starts, it must pass safety inspection, and a work safety permit must be signed. Safety supervision during the work must be enforced. We also cooperate with the Occupational Safety and Health Administration to invite contractors to join the Safety and Health Family initiative, so as to improve the overall self-directed safety and health management standard of contractors.

Passed the ISO 45001 2018 Occupational safety and health management system verification



CGPC
Passed in
2020



TVCM
Passed in
2019



CGPCP
Passed in
2019

► Implementation of contractor management (GRI 2-8)

Implementation of contractor management

Every year, contractors must be informed of hazards before entering the plant for work. Before the Lunar New Year holidays, a joint operation coordination meeting and education and training promoting safety of contracting works must be held. In 2023, a total of 4,343 person-time attended the safety education and training for contractors before they enter the plant for work.

2023 number of sessions and participants of the contractor work safety and health field visit and promotion education and training at each plant

By company	Number of sessions	Participating person-time
CGPC (Main plant)	361	1,655
TVCM (Linyuan plant)	104	2,013
CGPCP (Linyuan plant)	195	675
Total	660	4,343

Accident statistics of contractors in the past three years

Item/year	2021	2022	2023
F.R.(LTIFR)	4.96	0.00	0.00
S.R.	1,488.00	0.00	0.00
F.S.I	2.71	0.00	0.00
LTIR	0.99	0.00	0.00
Number of Occupational Accidents among Contractors	1	0	0
Total Hours Worked by Contractors	201,584.0	372,246.0	842,264.0

Note:

- Frequency of disabling injuries (FR, LTIFR) = Number of injuries x 10⁶/Total working hours
- Severity of disabling injuries (SR) = Number of days lost due to accidents x 10⁶/Total working hours
- Frequency severity index (FSI) = $\sqrt{[(FR \times SR)/1000]}$
- LTIR: Lost Working Time Rate Due to Occupational Injury = Number of injuries x 200,000/Total working hours
- The statistics include the contractors of CGPC Main plant, TVCM Linyuan plant, and CGPCP Linyuan plant.
- From 2021 to 2023, there were no contractor accidents in TVCM and CGPCP for three consecutive years.
- From 2022 to 2023, the Company had no contractor accidents for two consecutive years.
- In 2023, due to the demolition of the Film and Sheet plant and the construction of new equipment (new natural gas boiler, hydrochloric acid furnace, VOC control equipment, etc.), the worker-hours of contractors increased from the previous two years.

Outline of discussion topics of the Occupational Safety and Health Committee in 2023

01. Revised work safety permit
02. Helmet promotion plan
03. Principles for management of environmental safety and health incidents
04. Operating environment monitoring, assessment, review, and planning meeting
05. Hearing protection and health promotion education and training
06. 2023 health promotion-weight loss activities
07. Commissioned the Training Center of the Fire Department of the Ministry of the Interior to organize the petrochemical disaster rescue training course
08. Forward driving warning sound for electric forklifts
09. When the Company's organizational tasks, responsibilities, personnel changes (including new hires) changes, the head of each unit should identify the unit/personnel license needs, and submit a "Safety and Environmental Protection License Registration Form" to be set up in the Permit Management section according to the registration form submitted by each unit.
10. Employees hired by contractors should be equipped with labor insurance for discussion.
11. Revision of the Fire Services Act
12. Chemical system interface operation and user instructions
13. Advocate of the explosion at Launch Technologies Co., Ltd. Pingtung Factory
14. Contingencies related to solar power generation facilities
15. On-site counseling by the Occupational Safety and Health Technical Center and consultants hired by the Occupational Safety and Health Administration
16. USI Group's Zero-Tolerance Industrial Safety Policy
17. Green factory visits
18. Signing ceremony for a Betel Nut-Free Workplace in 2023
19. Article 19-1 of the Fire Protection Act stipulates that in the event of a fire, explosion, dangerous public goods, or the escape of flammable high-pressure gas, the management rights holder shall immediately complete the notification according to the Central Competent Authority's regulations and regulations for the target, method, and content of the announcement.

6.4.5 Emergency response ► (GRI 403-7 、 403-5)

We have established the Emergency Response Plan Guidelines, and regularly organize emergency response drills according to the hazard characteristics of each process (such as the number of emergency drills to be run and the number of people in each plant in 2023). The main purpose is to strengthen personnel's capability to respond to emergencies, determine correct handling procedures, familiarize the use of safety protection equipment, and provide timely action guidelines in the event of a disaster to ensure personnel and environmental safety and normal plant operation, further reducing the potential loss from accidents to a minimum.

Emergency Drill Statistics for the Year 2023

By company	Number of sessions	Participating person-time
CGPC (Main plant)	31	530
TVCM (Linyuan plant)	13	442
CGPCP (Linyuan plant)	5	42
Total	49	1,014



Name, person-time, hours of training courses

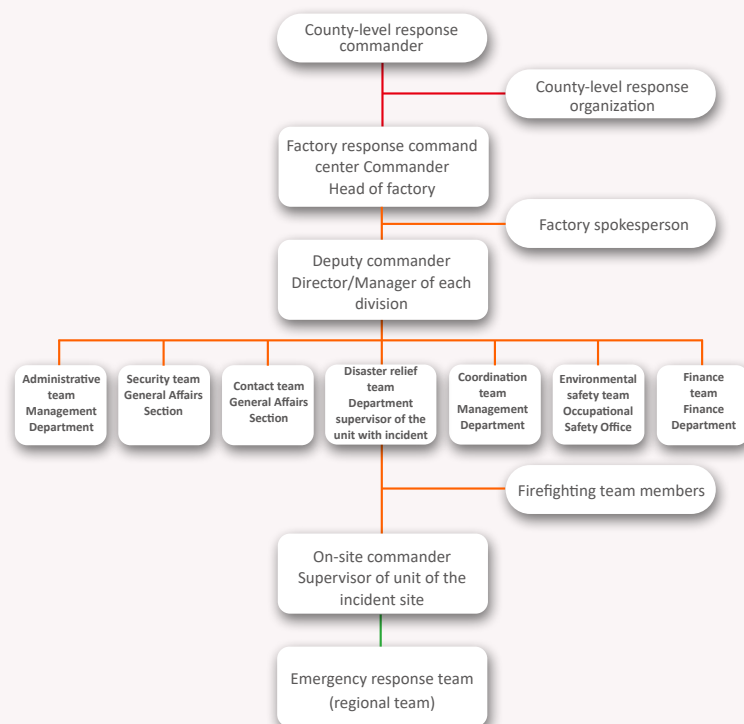
Course name	Person-time/hours	Gender	Supervisors	Not supervisors	Total
Self-defense fire team training, emergency response drills, process safety, safety and health education and training, operation safety, fire prevention promotion, etc.	Person-time	Male	481	2,224	2,705
		Female	13	117	130
	Total person-time		494	2,341	2,835
	Hours	Male	2,017.0	8,893.5	10,910.5
		Female	46.0	430.0	476.0
	Total hours		2,063.0	9,323.5	11,386.5



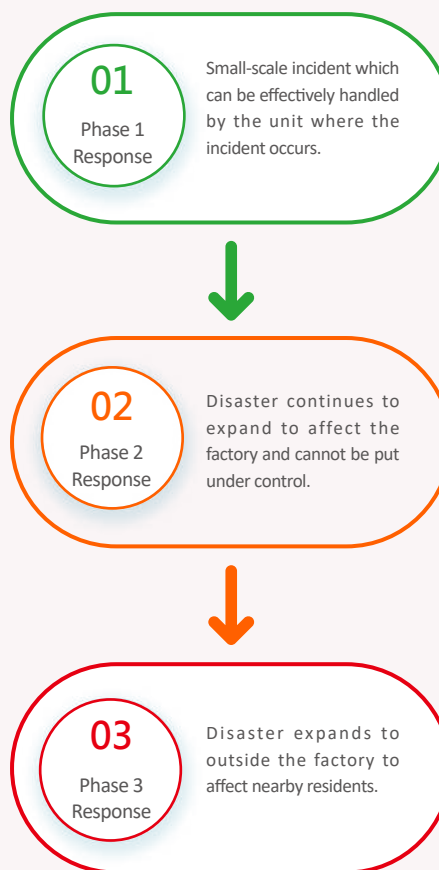
Emergency response process and implementation of the emergency response procedures at various phases

1. Emergency Response Organizational Structure

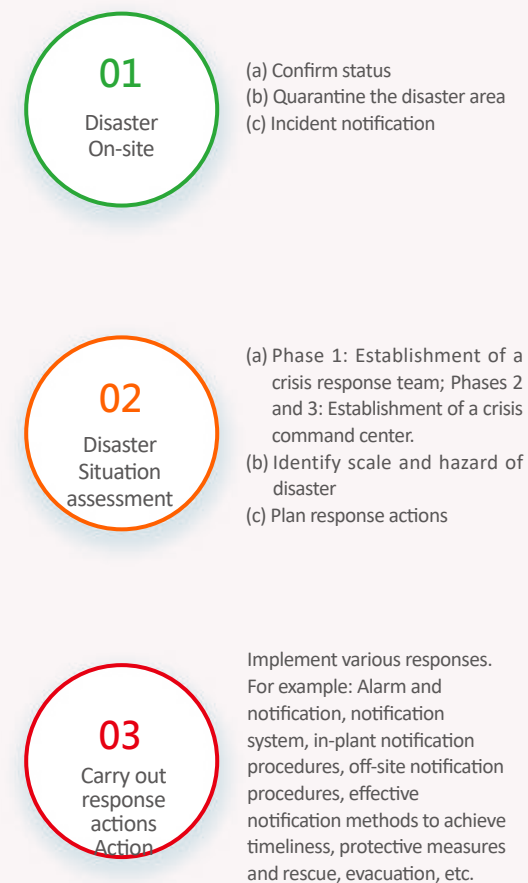
- Contingency framework for the Phase 1 (can be effectively handled by the unit where the incident occurs)
- Contingency framework for the Phase 2 (disaster continues to expand to affect the factory and cannot be put under control)
- Contingency framework for the Phase 3 (disaster expands to outside the factory to affect nearby residents)



2. Emergency Response Process



3. Procedures for actual implementation of emergency response



Status of emergency response training and drills at each plant

CGPC: Strengthen personnel's capability to respond to emergencies, determine correct handling procedures, and familiarize the use of safety protection equipment to ensure personnel and environmental safety and normal factory operation, further reducing the potential loss from accidents to a minimum. The Company sent personnel to participate in the fire and chemical disaster rescue training course of the Fire Department Training Center in August.



CGPC emergency drills (indoor classes and rehearsal)



CGPC emergency drills (dress drills)



CGPC emergency drills (outdoor drills)

TVMC: Each shift holds emergency response drills every half a year according to the hazard characteristics of each process. The main purpose is to strengthen personnel's capability to respond to emergencies, determine correct handling procedures, familiarize the use of safety protection equipment, and provide timely action guidelines in the event of a disaster to ensure personnel and environmental safety and normal factory operation, further reducing the potential loss from accidents to a minimum.



TVMC emergency drills



CGPCP: CGPCP holds emergency response drills twice a year in accordance with the Enforcement Rules of Fire Services Act, and emergency response drill once a year in accordance with the Regulations Governing Toxic Chemical Substances Risk Prevention and Response Plans, and the two can be held at the same time.



CGPCP emergency drills

Awards and recognitions

CGPC was presented with (1) "Outstanding Enterprise in Voluntary Evaluation of Occupational Health and Safety Indicators in Corporate Sustainability Reporting" and (2) "2023 Sustainable Pioneering Enterprise Award" from the Occupational Safety and Health Administration, Ministry of Labor, and was invited to attend the ceremony on November 16, 2023. The award ceremony was held at the "Promoting Workplace Sustainable Health and Safety Achievements Conference" and the "Best Practice Sharing" was presented.

In 2023, the Occupational Health and Safety Administration initiated to evaluate 633 corporate sustainability reports and selected 10% of the outstanding companies. The selected industries include electronics, finance, building materials and construction, chemical industry (widely included in the plastics, textile, and rubber industries), the food industry, and 62 companies in other industries. CGPC was selected as an outstanding company in the "Outstanding Enterprise in Voluntary Evaluation of Occupational Health and Safety Indicators in Corporate Sustainability Reporting" and participated in the selection of "Leading Enterprise in Sustainable Healthy Workforce" organized by the Administration of Occupational Safety and Health, Ministry of Labor for the first time, and was selected as the "2023 Sustainability Leading Enterprise" at the top of the list (chemical industry), and the "Best Practice Sharing" was published to attend the event.

Established in 1964, CGPC is about to enter its 60th anniversary. As its old factory leaves traces of its old age, it still maintains its down-to-earth atmosphere. In order to continue to pass on this down-to-earth spirit and support the government's promotion of OHS, CGPC complies with the GRI 403, SASB, SDGs and other standards, deepening ESG thinking in various sustainable development strategies to promote "environmentally friendly, green economy, circular innovation, smart production, inclusive workplace, sustainable development" as the sustainable development goals. We will continue to care for our employees, gradually improve the working environment, and expand our positive influence in society to build a sustainable pilot company.

109
companies of
the supply chain
participated

Top 10 %

Benchmark
industry



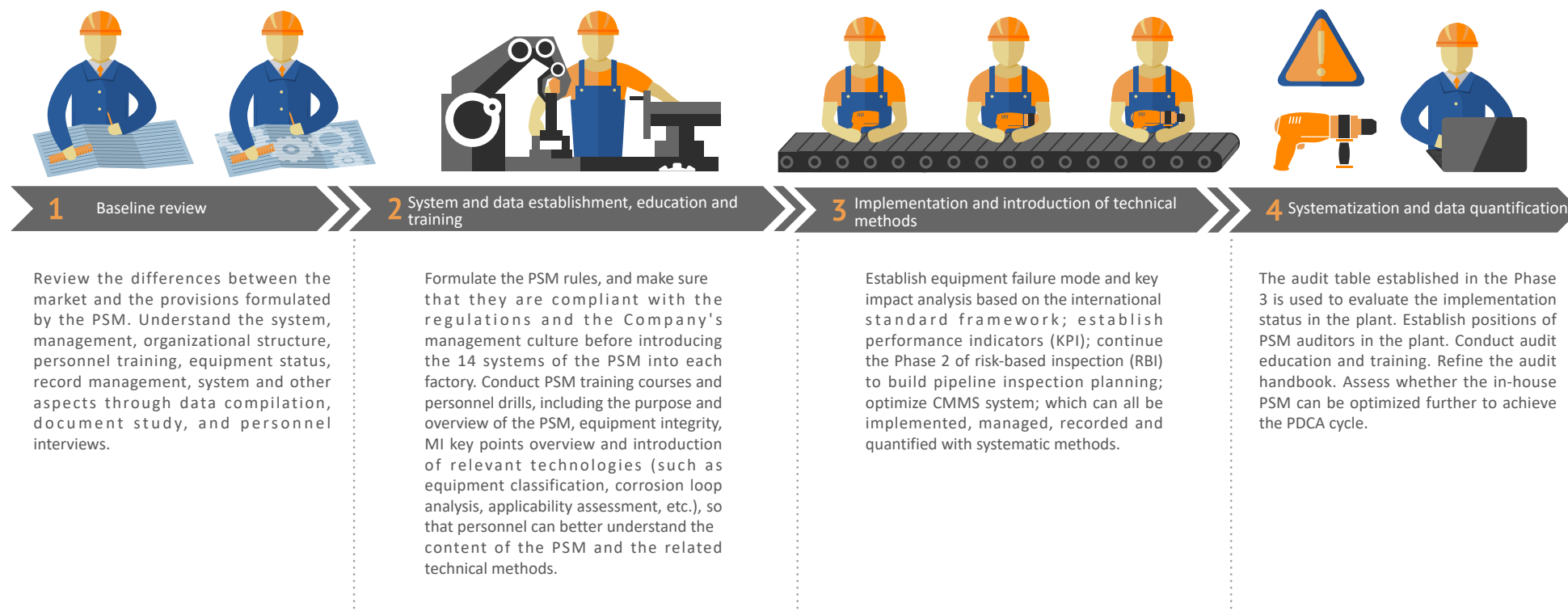
6.4.6 Process safety management ► (GRI 2-8、403-4、403-5、403-7)

CGPC's hazardous work locations include the plant in Tufen and the PVC resin processing area in CGPC's Linyuan plant, which are considered Type C hazardous workplace. TVCM's Linyuan plant has Type A and C hazardous workplaces spread out in the manufacturing area, filling area, storage tank area, etc. We apply to the competent authority for permit in accordance with the Hazardous Work Place Review and Inspection Regulations to obtain approval documents. Due to that our factories are close to the urban area, we have implemented the process safety management (PSM) to reduce the risk of failure of various protective measures and prevent disasters which may affect in-house employees or even residents nearby.

Implement process safety information and assessment, labor participation, hot work permit, change management, incident investigation, compliance audit and other major items to understand the best state of equipment and personnel in the plant in process operation and reduce the occurrence of various types of risks, and prevent false alarm events from becoming disasters.

► Promote process safety management (PSM)

Vinyl Chain three plants implemented the PSM, and Chairman Han-Fu Lin of TVCM led all employees to participate and implement the project. Hired external consulting teams which adopted the industry-academia collaboration to help us implement the PSM project, including system establishment, technological methods, etc., which was divided into four phases.



Management objectives

Promote process safety management, which has 14 items, employee participation; process safety information; process hazard analysis; operating procedures; education and training; contracting management; pre-startup safety inspection; mechanical integrity; hot work permit; change management; incident investigation; emergency planning and contingency; compliance audits; and trade secrets to ensure equipment integrity and personnel familiarity with equipment (including protective equipment).

Promoted the establishment of CMMS in 2023

The implementation of CMMS was completed in 2023, consisting of a total of 12 modules, including: 1.Equipment Management Module, 2.Maintenance Work Order Module, 3.Personnel Management Module, 4.Coding Maintenance Module, 5.Maintenance Scheduling Module, 6.Inspection Management Module, 7.Shutdown Management Module, 8.Spare Parts Management Module, 9.Procurement Management Module, 10.Reporting Module, 11.FMECA Module, 12.KPI Module: The aim of this technical implementation is to optimize equipment management and maintenance, thereby reducing losses and preventing incidents caused by equipment abnormalities

Improvement plan items

The contents of the implementation include the optimization of procedural documents such as Incident investigation, hot work permits, contractor management, protection of trade secrets, and emergency response. It also involves the development of individual training plans for employees, implementation of pre-startup safety checks, adherence to change management procedures, LOPA analysis, equipment classification (SCE), continuous improvement of equipment PM/PDM plans, establishment of RBI analysis and corrosion loops, and tracking and management of aging equipment. Detailed information regarding these activities is provided in the planned worksheet.

2023 Process safety performance indicators are shown as follows:

Item	Code	Content of indicators	2021	2022	2023
Process safety and emergency response	RT-CH-540a.1	Process safety incident counts (PSIC)	1	0	1
		Process safety incident counts (PSTIR)	10%	0	8%
		Process safety incident severity rate (PSISR)	29%	0	0
	RT-CH-540a.2	Number of transportation incidents	0	0	0

Note:

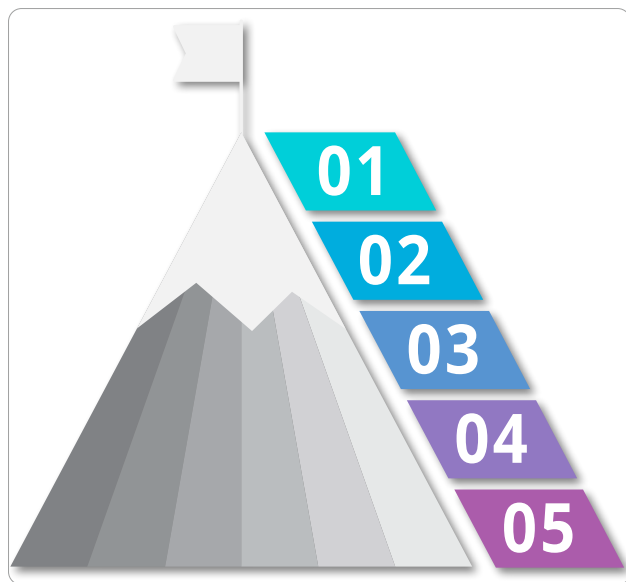
(1) Statistics of the process safety incidents (PSIC) meeting the following four criteria:

- Related to manufacturing process;
 - Chemical spills which exceed the minimum reporting requirements, resulting in death or injury to employees or contractors or hospitalization of a third person (not employees or contractors), official declaration of community evacuation or shelter-in-place, the direct loss of the Company caused by a fire or explosion exceeds US\$25,000, any of which needs to be reported.
 - The incident occurs in a production, distribution, storage, public or pilot plant.
 - Serious spills in which the amount of leakage exceeds the allowable limit in any one hour.
- (2) Process safety total incident rate (PSTIR) (= Process safety incident cases x 200,000/Total employee work hours (employees, contractors))
- (3) Process safety incident severity rate (PSISR) (= Total severity score for all process safety incidents x 200,000/Total employee work hours (employees, contractors))
- (4) Cause of the accident: The electrolytic cell was damaged by fire, and no one was injured. Improvement measures:
- Replace the existing card backplane to avoid poor backplane contact.
 - Add a hard-wired loop to the emergency button to connect the process trip points.
 - Add a silicon rectifier single-point power-off independent system to avoid power-off control due to card failure.

Plan work:

Plan work:	Descriptions
Procedural documents	Optimization of incident investigation, hot work permits, contractor management, trade secrets, and emergency response procedures documents.
Education and training	Based on job responsibilities, individual training plans for employees are established.
Pre-startup Safety Review	Prior to the commissioning or operation of new equipment or process units within the facility, a pre-startup safety review is conducted to ensure compliance with safety protocols.
Process Change Management	When there are changes or modifications to process technology, operating procedures, process equipment, hazardous areas, facilities affecting the process, or the use of legally required hazardous machinery or equipment within the facility, change management procedures are strictly followed.
Process safety assessment	2023 Personnel and Environment A conduct LOPA analysis, 2024 Personnel and Environment B conduct LOPA analysis. ◆ Personnel, environment A, and B all need to conduct LOPA analysis.
Follow-up audit	According to the annual audit plan, internal audits are conducted within the facility, and any identified deficiencies are tracked and reviewed for further investigation.
Equipment management	1. Take inventory of equipment and classify them, and verify in-house SCE equipment. ◆ (Safety Critical Elements · SCE).
	2. Establish a corrosion handbook, screen out the key equipment/pipelines, and establish a corresponding inspection plan.
	3. Propose recommendations for system improvement based on the in-house maintenance management system and maintenance records.
	4. Audit and tracking management of aging equipment items.
Explosion-proof Electrical Management	In accordance with the regulations on explosion-proof electrical in our country, the establishment and review of existing explosion-proof electrical are carried out.
Performance Indicator Procedure Development	Based on process safety management objectives, procedures and standards for implementing various performance indicators are established.

► A good basis leads to a good system



1. ISO 55000~55002 Asset Management

Asset management practice and implementation

2. EN 13306 Maintenance terminology

Maintenance terminology

3. ISO 14224 Petroleum, petrochemical and natural gas industries -- Collection and exchange of reliability and maintenance data for equipment

Petroleum, petrochemical and natural gas industries –
Collection and exchange of reliability and maintenance data
for equipment

4. EN 15341 Maintenance Key Performance Indicators

Maintenance and reliability indicators

5. EN 16646 Maintenance within Asset Management

Maintain physical asset management

► Promotion objectives and achievement results

Establish a management system that complies with the PSM and regulations, reduce the probability of equipment abnormalities, train personnel to take response measures, prevent disasters or obtain immediate control in the early phase to prevent expansion of incident, and ensure the safety and health of personnel inside and outside the plant to achieve sustainable business operations.

2023 Objectives	Carry out auditing of the 14 items of the PSM, and learn clearly what needs to be optimized during the current PSM implementation. Incorporate the use of CMMS system, and manage it electronically. Analyze equipment information and carry out maintenance management. Systematically implement equipment failure analysis to estimate its remaining service life.
2023 Performance	Phase 3 (24 months, completion date: December 31, 2023): Key implementation items: process hazard analysis, aging equipment management, review of explosion-proof hazardous areas, continuous optimization of procedures. Internal audits and cross-plant audits, PSM Data is continuously collated and collected, and PSM performance indicators are established. After completing the establishment of the CMMS system, equipment information is analyzed and managed electronically.
2024 Objectives	<ul style="list-style-type: none"> ♦ Optimization of the PSM Audit Form Based on the Regulations for Periodic Process Safety Assessment, OSHA 1910.119, CCPS Risk Based Process Safety Management (RBPS), API 581, and the recommendations of the Park Service members, etc, to optimize the Group's PSM audit form. ♦ PSM Group Cross-Plant Audit Starting from 2022, USI Group, the BSI accreditation body, and PSM academic experts jointly organize PSM auditor training. PSM auditor training is held regularly every year. ♦ Development of PSM Information Platform Digitalize the 14-item PSM operational process to connect the correlations among the items and quantify the PSM-related KPIs to effectively grasp the implementation status of each PSM item in the plant. Main functions: (1) Collect/review/update the 14 information management items of PSM to keep track of the current situation. (2) Documentation of PSM Implementation. (3) The electronic form sign-off process is adopted for items such as compliance audit, contractor management optimization, accident investigation, change management, and aging equipment management and tracking to improve efficiency.
2025 Objectives (Intermediate-term)	Introduce PSM-related technologies and methods, optimize the systematic management of CMMS and the PSM education and training platform.
2030 Objectives (Long-term)	Each PSM work item complies with the Recognized And Generally Accepted Good Engineering Practices (RAGAGEP) to have a common language with international standards. Complete the following tasks: (1) Implement the PSM work as the company's work culture and language, and achieve feasibility (2) Based on the quantified results of the PSM KPIs, we enhance the key points of implementation and find the factory's own best management practices. (3) Refine PSM technology and keep up with international practices for a shared language. (4) CMMS systematically manages equipment, establishes the Group's reliability data, and keeps track of equipment status. (5) For PSM auditing work, regularly schedule audits and inspect the areas that need to be optimized and improved in the plant to achieve the PDCA cycle.

Key promotion items

1 Senior executives' commitment and support



For the implementation of the PSM, Chairman Han-Fu Lin of TVCM presides over meetings to regularly review the progress.

2 Regularly hold education and training sessions



In order to enable employees to understand the importance of PSM, review and establish labor participation programs so that they can fulfill their respective responsibilities in line with the principles of labor participation in the 14 items of the PSM. Arrange joint participation of employers and employees in the planning, development, implementation and improvement of safety programs in the Company, further achieving process safety management. In 2023, CGPCP organized [PSM Auditor Training](#), taking a leading position in the industry.



3 Periodically review/revise process-related operating procedures

Process safety events have high-risk hazards in nature. Therefore, operation phases in addition to normal operations, such as emergency operations, should be considered, and corrective measures should be identified in advance for all deviations. Prepare operating procedures in writing can help us further understand the process, and Improve process safety for more efficient operations, thereby reducing downtime and improving quality.

4 Contractor management






In order to prevent contractors from having catastrophic leakage that leads to catastrophic incidents during the contract period, a series of management process and follow-up, such as contractor assessment, contractor agreement organization meeting, factory entry management, toolbox meeting, process overview of hazard notification, etc., should be carried out from the beginning.

5 Participation in external activities

Regularly participate in PSM-related seminars and presentations held by government agencies/academia/third-party organizations, so as to learn about the best PSM practices from international factories and industry peers, and refine our in-house process safety management.

6.5 Transportation Safety Management ► (GRI 3-3)





✓ Material issue: Transportation safety management

 The Significance and Impact of CGPC	Transportation safety management complies with domestic laws and regulations. Prevent traffic accidents caused by man-made errors or equipment problems and environmental pollution harming the health of the public and causing life and property losses. Affected objects: employees, community residents, government agencies, customers, investors.
 Develop Strategy	<ol style="list-style-type: none"> 1. Formulate management standards for vehicle transportation, loading and unloading management, emergency equipment and detection systems. 2. Annual qualification review of transportation contractors and drivers. 3. Regular promotion, drills, spot checks and audits. 4. Ensure the operation of pipeline safety management system (PSMS), establish pipeline integrity management plan and implement pipeline risk management.
 Policy Commitment	Ensure that all transportation complies with regulations, improve personnel training and safety testing, and achieve the goal of zero disasters and zero accidents.
 Grievance Unit	Storage and Transportation Division
 SASB Indicator	--

We maintain the attitude of "Speed. Safety. Responsibility", and make sure that our transportation safety and environmental protection management comply with domestic laws and regulations. In order to ensure the safety of transportation and reduce road accidents, we have established standard operating procedures for transportation of goods, tanker trucks, and loading/unloading, and prepared defensive drills and emergency response plan for risk control of transportation safety management. We are committed to transportation safety and the prevention of traffic accidents caused by manmade errors or equipment problems and environmental pollution harming the health of the public and causing life and property losses.



✓ Promotion policy	Unit	2023 goal	2023 result	2024 goal	2025 goal	2030 goal
Annual review rate of transportation contractors and tanker trucks	%	100%	100% ✓	100%	100%	100%
Improvement rate of deficiencies found by transportation safety inspection and audit	%	100%	100% ✓	100%	100%	100%
Inspection rate of pipeline adopting cathodic corrosion	%	100%	100% ✓	100%	100%	100%
Zero transportation disaster and accidents	Times/Year	0	0 ✓	0	0	0

 Exceeded Target
  Achievement
  Partially achieved
  Not met

We carefully employ good drivers and effectively use various management measures to improve traffic safety and reduce the occurrence of accidents. Creating a safe traffic environment to achieve "Safety first. Customer first. Value employees and contractors. Zero disaster". Our intermediate to long-term objectives are to help transportation contractors implement management measures and also make zero incident as their goals.

Description of CGPC's transportation (including subsidiaries TVCM and CGPCP)

1. CGPC's Main plant / CGPCP's Linyuan plant :

All of CGPC's main raw materials are transported to the factory by the suppliers. The products produced and a small part of the raw materials imported from abroad are transported by qualified contractors. CGPCP's Vinyl Chloride Monomer (VCM) is directly transported from TVCM's spherical storage tanks, and TVCM is responsible for operating the pipelines and managing maintenance works.

2. TVCM's Linyuan plant :

Ethylene (22%) is transported by pipelines, and ethylene dichloride (EDC) and chlorine gas are transported by tanker trucks (78%), and the transportation of chlorine gas tanker trucks is managed by the seller. Part of Vinyl Chloride Monomer (VCM) and industrial hydrochloric acid are transported by tanker trucks (55%), the transportation of hydrochloric acid tanker trucks is managed by buyers. The rest of Vinyl Chloride Monomer (VCM) is transported from TVCM's spherical storage tanks to CGPCP through above-ground pipelines (45%).

申訴機制

1. Internal grievances:

File environmental safety and health-related grievances with meetings of the Occupational Safety and Health Committee and occupational safety and warehousing and transportation units.

2. External grievances:

The occupational safety (environmental safety) and warehousing and transportation units verify the content of complaints with the unit being questioned after the complaints are received through the website, telephone, correspondence or transportation safety meetings, and the records are kept in the information reception/communication records or presented in the transportation safety meetings. If the complaints are confirmed, proper replies are provided or recorded in the meeting minutes for further actions.

► Transportation safety risk management and control process

1

Establish transportation safety standards, prepare qualified inspection documents and follow relevant control regulations and measures.

2

Set transportation safety goals and action plans (sees description of major issues).

3

Joined the joint defense organization and served as the core enterprise of the inauguration meeting of the Safety and Health Family initiative, helping small and medium-sized enterprises improve the work environment.

4

Regularly evaluate whether the contractor's vehicles are inspected in accordance with regulations, and hold safety meetings.

5

Formulate and promote corresponding risk control countermeasures (emergency response plan).

Transportation Safety Management and Evaluation

1. Vehicles and equipment:

- 1-1 Formulate specific rules for handling accidents of Vinyl Chloride Monomer (VCM) road tanker transport, specifications for the use of fronts and tanks, and control standards for leakage control at the loading and unloading ports of tanker trucks.
- 1-2 Management rules for Vinyl Chloride Monomer (VCM) emergency response equipment and detection system.
- 1-3 Regularly check the repair and maintenance records of the transportation contractors.

2. Drivers:

- 2-1 In addition to the basic licenses, new and old drivers are required to have more than 4 hours of road driving probation or training. They need to have experience in transporting high-pressure tank trucks, pass fifteen times of evaluation of on-site operations with a grade of at least an A before being allowed to enter the factory to conduct operation.
- 2-2 Regularly disseminate case studies to the drivers, and conduct irregular inspection of tank trucks and regular audit of drivers.

3. Handling of goods:

- 3-1 Commission qualified contractors to perform transportation tasks.
- 3-2 Raw materials and products are transported by pipelines and tank trucks, and the related operations are carried out according to the operating standards.

4. Road transportation:

- 4-1 Apply for permit for road transportation of dangerous goods (Vinyl Chloride Monomer (VCM) according to law.
- 4-2 Monitor by using external GPS and DVR, retain the records, prepare monthly reports and follow up the progress of improvement.

5. Safety audit:

- 5-1 Review the qualifications of transportation contractors every year, establish communication channels with transportation contractors, raise the qualifications requirements of new drivers to transport VCM, or conduct regular sampling inspections before and after tanker trucks loading and unloading to improve the reliability of loading and unloading ports. The 2023 review rate for transportation contractors and tanker trucks is 100%. Inspection and audit found 64 cases of deficiencies in transportation safety, and a total of 64 cases have been improved for an improvement rate of 100%.
- 5-2 Regularly promotion and drills and update emergency response plans. (Minimize the impact when accidents occur). In 2023, there were 0 transportation disasters and accidents.

Transportation contractors are reviewed once a year.

Review qualifications of transportation contractors:

- ◆ A transportation company registered with the government.
- ◆ Has trained and qualified safety and health management specialists.
- ◆ Evaluate its capacity, efficiency and cooperation, and work quality every half a year, and propose improvement plans based on transportation issues reported by customers through transportation meetings.
- ◆ Regular inspection of contractors' transportation vehicles according to regulations.
- ◆ The transportation contractors shall hold a safety meeting every quarter to ensure that the products can be safely transported to the destination and minimize the environmental impact of transportation.

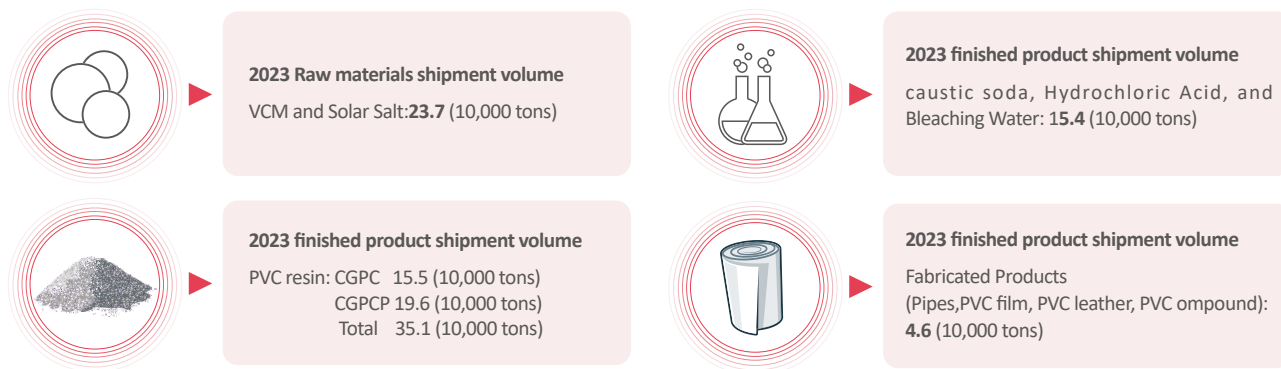
Annual qualification review items of transportation

- ◆ A transportation company registered with the government.
- ◆ Roster of work personnel accessing the factory.
- ◆ Contractors' letter of commitment to work safety and health.
- ◆ Designated labor safety and health personnel certificate.
- ◆ Labor insurance card or occupational disaster insurance card of each personnel accessing the factory.
- ◆ Employer's liability insurance for more than NT\$ 4 million for each personnel accessing the factory.
- ◆ Information of personal data for contracted work.
- ◆ Minutes of the environmental safety and health coordination meeting.
- ◆ Hazard notification records.
- ◆ Test form of hazard notification for accessing the factory.
- ◆ Re-contract affidavit.
- ◆ Driver license.
- ◆ Job safety analysis.
- ◆ Certificate of criminal records (no more than three times of drunk driving).

Number of inspections of transportation contractors of CGPC's raw materials and finished goods in the past 3 years.

By company	Descriptions	Item	2021	2022	2023
CGPC	Product transportation	Number of inspections	3	3	3
		Qualified rate	100%	100%	100%
TVCM	Transportation of raw materials	Number of inspections	7	7	7
		Qualified rate	100%	100%	100%
CGPCP	Product transportation	Number of inspections	1	1	1
		Qualified rate	100%	100%	100%
Total		Number of inspections	11	11	11
		Qualified rate	100%	100%	100%

6.5.1 Transportation safety management of raw materials and finished products

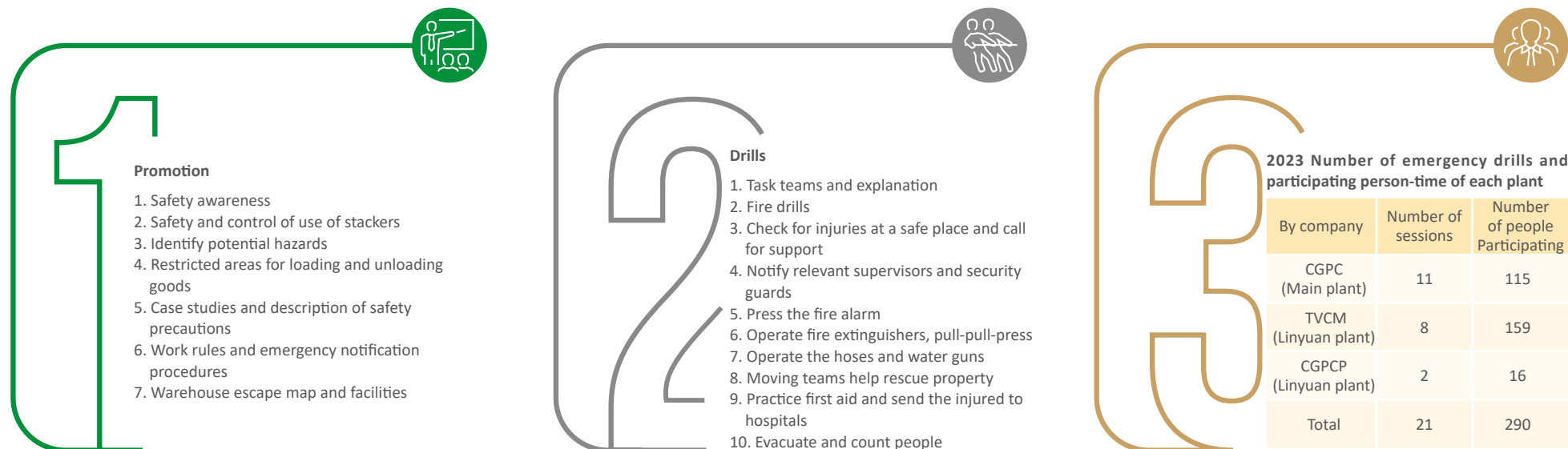


2023 Improvement rate of deficiencies found by transportation safety inspection and audit

By company	Total cases of deficiencies	Number of cases improved	Improvement rate
CGPC (Main plant)	20	20	100%
TVCM (Linyuan plant)	38	38	100%
CGPCP (Linyuan plant)	6	6	100%
Total	64	64	100%

Inspection and audit found 64 cases of deficiencies in transportation safety, and a total of 64 cases have been improved for an improvement rate of 100%.

6.5.2 Emergency response planning and training



► Emergency drills and promotion



Publicity and explanation



Operate fire protection equipment



Protective clothing for firefighting facilities operation



Contractor training



Forklift safety drills



Close the raw material gate valve

► Meeting of the Storage and Transportation Units and Transportation Contractors - Environmental, Health, and Safety Agreement Organizational Meeting

CGPC has established an agreement organization to reduce operational conflicts between the storage and transportation units and the transport contractors. Regular meetings are scheduled with the contractors for the purpose of conducting "Environmental, Health, and Safety Agreement Organizational Meetings".

The contractors are required to comply with environmental, health, and safety regulations during their operations. Feedback from the contractors is discussed, and continuous communication and discussion are emphasized to achieve the goal of safe transportation.



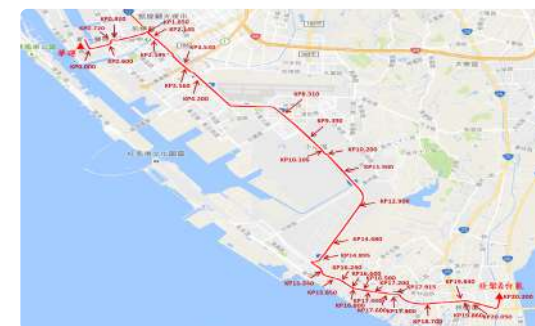
6.5.3 Pipeline maintenance plan

We have formulated the Maintenance Plan for Existing Industrial Pipelines, which cover safety management systems, information management systems and integrity management plan for pipelines, patrol inspection plans, repair, maintenance and inspection, operations and management of control room in order to improve the transportation safety of underground pipelines, effectively manage underground pipeline facilities outside the factory and establish proper management procedures to prevent potential disasters from occurring due to pipeline corrosion inside and outside the factory and improper digging of external units, and adopt proper measures to reduce environmental pollution and prevent losses of human life and properties.

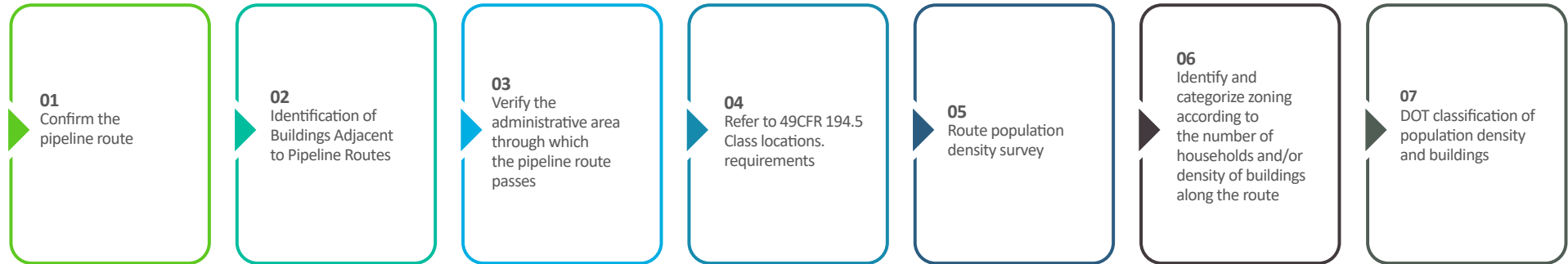
In order to identify and assess the hazards and potential risks of off-site underground pipelines and implement necessary control methods, we have established risk management measures of pipeline integrity management (PIM) based on international standards, which can eliminate or reduce the risk of unacceptable hazards and ensure the safety of underground pipelines. We have carried out a comprehensive inspection and risk analysis of the safety of the underground pipelines, and formulated relevant mitigation measures for the parts with higher risks.

The long-distance external underground pipelines at the TVCM Linyuan Plant China General Terminal & Distribution Corporation → TVCM Linyuan Plant to transport raw ethylene.

Pipeline risk quantitative level/Population density chart



► Identification steps of TVCM's pipelines



- Evaluate the high consequence areas (HCA) along the pipelines divided into 15 sections according to 7 steps. The whole section has 19.94 kilometers in the high consequence area, and only a section of 0.36 kilometers is not a high consequence area.

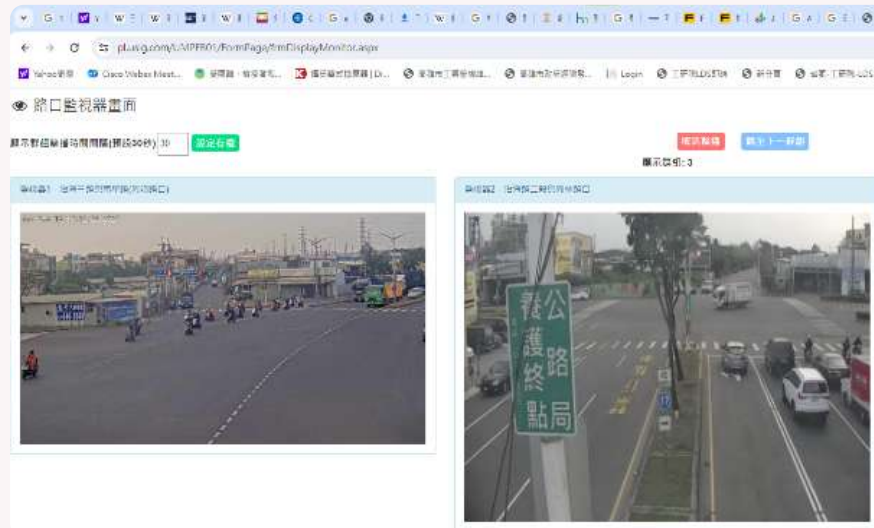
► Pipeline maintenance and management flow chart



Risk assessment and countermeasures

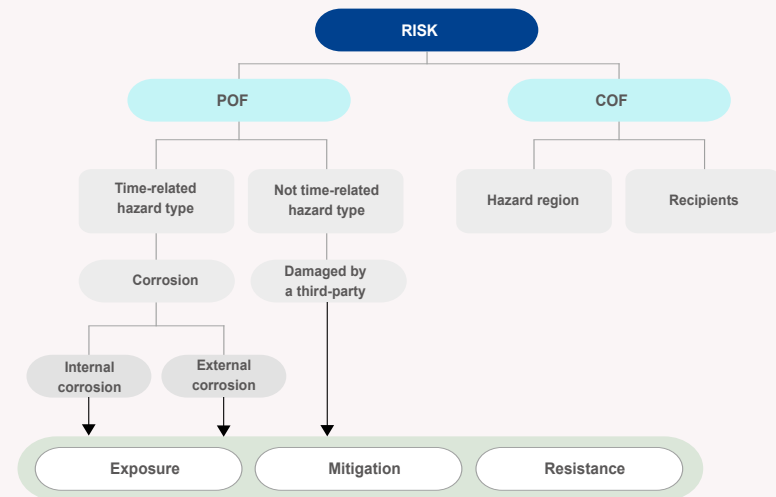
The results of the risk assessment show that the two pipelines currently in use in the factory are at high risk because they pass through areas with high population density, indicating a greater potential impact on the environment and population caused by pipeline leakage. We identified high consequence areas and hazards, and then completed the risk assessment of underground pipelines. The results were submitted to a third party for review and verification of risk assessment report in 2017. In the same year, the government also promoted the construction of the Kaohsiung Intercontinental Container Center, and USI Group has planned and constructed storage tanks. Smart equipment has been installed for safety to lay the foundation for future operation and development.

Presentation of Real-time Road Images of Pipeline Routes



TVCM's Linyuan plant adopts the boundary connection technique on the route of the underground pipelines to transmit the CCTV images to the USIG on control room, achieving monitoring of the environmental change and road condition of the route.

Risk assessment framework for TVCM pipelines



Conduct leakage discharge simulation testing with the existing real-time monitoring system



Performance of risk assessment for pipelines

Conduct overall risk assessment and judgment of risk levels based on four main risk indicators, pipeline design, corrosion, improper operation and destruction by a third party, coupled with leakage impact factors.

Performance of risk assessment for pipelines

Implementation effect of pipeline risk assessment: Commission DNV to review the existing risk assessment methods and results and develop a new version of risk assessment model based on the results of ILI implementation.

In the maintenance and operation review briefing held on December 3, 2020, the Economic Development Bureau of the City Government of Kaohsiung proposed to reinforce the leak detection system (LDS) in accordance with Article 10 of the Measures for Management and Maintenance of Existing Industrial Pipelines in Kaohsiung City. The implementation included the existing monitoring system and simulation test of leak discharge. (The emission simulation testing for the year 2023 was successfully completed on October 17)

Underground pipeline detection target achievement rate

Detection target	result	Achievement rate
Cathodic protection testing	Four times a year	100%
Visual patrol inspection	Once per day	100%
Testing and patrol inspection conducted by engineers	Six times a year	100%

6.6 Social participation

CGPC follows the USI Group's sustainability vision and goals, and builds relationships of inclusion, respect and harmony between people, the environment and the society focusing on human-centered social welfare.

CGPC commits itself to social welfare with its core competency in plastics manufacturing, and environmental protection, community building and welfare, and education and activities are the three main points of its social welfare efforts.

We continue to consolidate internal and external resources to promote local environmental protection activities to reduce the ecosystem damage caused by marine plastic waste; community building by cleaning environment in the neighborhood of local factories and maintaining street lighting equipment, etc.; and support of education platforms and nearby schools' digital education resources as education welfare to achieve the Group's vision and goals of "Sustainability value to create a sustainable society".



► 2023 Social welfare Key Descriptions



Environmental protection

Beach clean-up, wetland adoption

- ◆ Conduct beach cleaning activities at Longfeng Fishing Port on September 16, 2023, mobilizing a total of 204 participants. The cleanup efforts resulted in the removal of 310.5 kilograms of waste. Since 2017, a total of 1,018 individuals have participated in these events, and a cumulative total of 3,213.4 kilograms of waste have been cleared.
- ◆ The adoption of wetland by Dong-Hsing Bridge earned the Company a certificate of appreciation issued by the County Government of Miaoli. The Company donated NT\$100,000 in 2023, and has adopted the wetland for 10 consecutive years, from 2014 to 2023, donating a total of NT\$1,000,000.



Education and activities

Event Descriptions

- ◆ In 2023, the USI Education Foundation spent a total of NT\$10.41 million in various sponsorships, including scholarships and grants, university service clubs, the Alliance Cultural Foundation and Junyi School of Innovation in Taitung and other educational welfare activities.
- ◆ Started sponsoring Toufen Junior High School to implement the Junyi Academy education platform in 2017, and donated 30 units of iPad in 2021 as part of the education resources package.

Note:

The USI Education Foundation aims to engage in education based on social welfare, and has implemented the following programs:

1. Sponsoring education in remote areas.
2. Setting up scholarships.
3. Holding speeches, seminars or other social education public welfare activities.
4. Sponsoring schools or educational groups at all levels to help them participate in literature, sports, music, dance, art, drama and other activities.
5. Industry-academia collaboration.
6. Other related public welfare education programs in line with the purpose of the establishment of the Foundation.



Community building and welfare

Volunteer team Street Cleanup

- ◆ From 2010 to 2023, there have been a cumulative total of approximately 820 participants.

Adoption of street lights and parks

- ◆ A total of NT\$1.4 million has been donated to the adoption of 14 consecutive years. A total of 2,800 street lights have been adopted, and the park adoption maintenance has accumulated a total of 796 person-times.

Charity Club community care activities

- ◆ In 2023, there were 7 visits conducted, making a cumulative total of 109 visits for 13 years.

USI Cup tennis championship, slow pitch softball friendship tournament

- ◆ The tennis championship tournament is held once a year. The 21st tournament was held in 2023, and the tournament has drawn participation of a total of about 4,400 person-times over the years.
- ◆ Starting 2020, the USI Group slowpitch softball friendship tournament would be held every year. The purpose is to develop team work and improve employees' cohesion.

Donation of Police Residential Devices

- ◆ Donated 100 residential fire alarms to the Kaohsiung City Government Fire Department.

Thousand people donation campaign in Neihs Technology Park

- ◆ In February and August of 2023, the Company organized the 8th and 9th Neihs Technology Park Thousand People Blood Drive (USI Group was the co-organizer): 90 people; donated a total of 127 bags of blood (250cc/bag).

“Give Blood, Spread Love” Blood Donation Event

- ◆ In November 2023, Linyuan Industrial Park held its first “Give Blood, Spread Love” blood donation drive. The Company encourages employees to participate in blood donation. The number of people who have donated: 22 persons. The actual volume of blood donated: 58 bags (23,500cc).








6.6.1 Environmental protection

Beach clean-up

Through beach cleanup activities, CGPC raises employees' awareness of environmental protection and pays attention to the ecological crisis caused by marine debris. They also reflect on the possibility of reducing marine debris in all aspects of life and contribute to the environment. In response to World Cleanup Day this year, CGPC and TTC Toufen plant jointly organized the “Earth Today, Start Net Zero from the Beach” environmental protection activity on September 16, 2023 to keep the sea environment clean. This year was the 6th beach cleanup organized by CGPC. This time, Vice Chairperson and President Han-Fu Lin of CGPC hosted the beach cleanup in support of the Love the Sea Initiative. 204 employees actively participated in this activity and 310.5 kilograms of waste was cleared.



The statistics of 2023 beach cleaning activities are as follows:

Category	 PET bottle	 Glass bottle	 Tin can	 Bamboo and Wood	 Fishing net Fishing gear	 Other waste	 Styrofoam	Total
Weight (kg)	26.5	17.5	24.0	55.0	31.5	139.5	16.5	310.5

Dong-Hsing Bridge on Jhonggang River

Wetland park by Dong-Hsing Bridge on Jhonggang River: We have made annual donations of NT\$100,000 for adoption and maintenance since 2014. The wetland park is located about 1.5 kilometers downstream of Dong-Hsing Bridge. It is hoped that the wetland system can effectively purify the water quality of Jhonggang River. The wetland provides an ecosystem for living creatures and birds to rest, and also serves as a leisure place for local residents, achieving the purposes of water purification, ecological regulation, recreation, education, landscaping, etc.



6.6.2 Community building and welfare

Street lights in Toufen

For the safety of local residents in Toufen, CGPC has adopted the street lights of Minzu Road and Ziqiang Road for 14 consecutive years from 2010 to 2023, donating NT\$100,000 a year to Toufen Township Office to care for 200 street lights. Accumulating an amount of NT\$1.4 million and 2,800 street lights.



Yongzhen Temple Park in Toufen



Park space in Toufen Industrial Park

There is a small park by the Toufen Industrial Park Service Center, which serves a leisure place for employees in the area. Park adoption has lasted 14 years, from 2010 to 2023. Cleaning four times a month, for a total of about 796 person-time.

A company's operations must take into consideration of caring for employees and the local environment and promoting the community development to provide a better environment. CGPC has adopted Yongzhen Temple Park, park space in Toufen Industrial Park and street lights in Toufen, provided services of volunteering teams and assisted in care for employees' health, Safety and Health Family, pandemic control management, sponsorship in the dodgeball team of Shin-Shing Elementary School, blood drive, improvement of workplace, etc. through donation or scheduled maintenance.



Won 3rd place in the north region for landscaping of adopted public facilities awarded by the industry park administration in 2014

Volunteer team services

In order to raise the community's awareness of the environment and maintain the community environment, CGPC established a volunteer team in 2010 to encourage employees to participate in community maintenance and cleaning services in their spare time. The volunteer team has about 60 members and regularly organizes activities. The team usually has 10 to 15 people attending each activity. From 2010 to 2023, about 820 person-time has been mobilized to participate in beach cleaning, community environment cleaning, park maintenance, street cleaning, etc.



Promote sports culture and care for employees' health

The 21st USI Cup tennis championship in 2023



2023 USI Corporation (5 factories in southern region) slowpitch softball friendship tournament

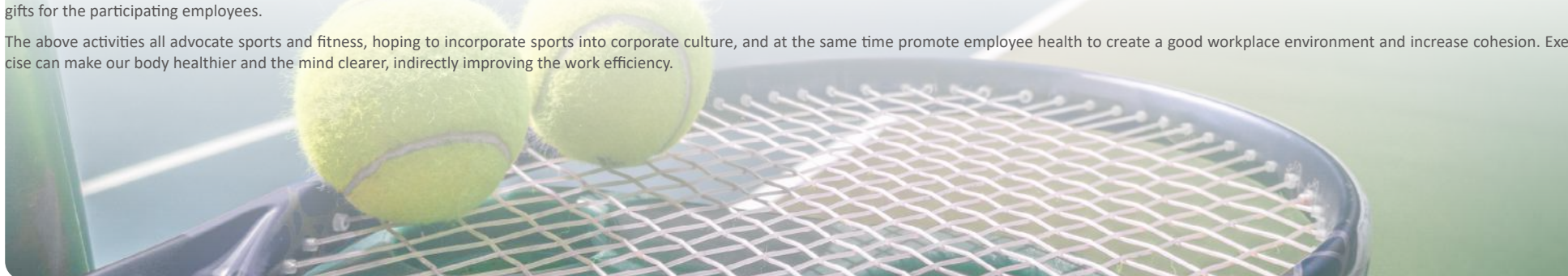


Employees are the cornerstone of a company. For employees' health and development, we adopted the "Let's get moving" slogan to advocate for exercises and the changes they bring to the society and encourage the young workers to learn not to give up and relieve their work pressure and cultivate the Company's culture of fitness. Currently, employees have formed badminton, billiard, yoga and aerobic dance teams, and the Group office in Taipei also provided the employees in Taipei with fitness equipment, so they can exercise either before or after work at their convenience.

For years, employees at Linyun plant of TVCM, USI Corporation, Asia Polymer Corporation, and Taita Chemical Company have participated in the "USI Cup tennis championship" organized by Linyuan Tennis Association. The tournament is in its 21st year in 2023. A total of 200 people are in this year's competition, and a total of 4,400 people have participated in the tournament over the years.

Since 2020, TVCM, CGPCP, TTC, USI, APC have jointly organized the USI Group Slowpitch Softball Friendship Tournament. This year, a total of 70 employees from the companies participated in the tournament, and a total of 370 person-time have participated in the tournament since its inception. TVCM and CGPCP formed a team to start friendly matches with other peer factories. All teams gave their best, and there were constant cheers and laughter during the matches. After the tournament, teams encouraged one another, fully displaying the spirit of teamwork. To make the event more meaningful, snacks from the Children Are Us Foundation were ordered as gifts for the participating employees.

The above activities all advocate sports and fitness, hoping to incorporate sports into corporate culture, and at the same time promote employee health to create a good workplace environment and increase cohesion. Exercise can make our body healthier and the mind clearer, indirectly improving the work efficiency.



Community welfare

CGPC (including its subsidiaries TVCM and CGPCP, excluding overseas affiliates) adheres to the principles of giving back to the community, caring for community development, and participating in local activities. The Company provides sponsorships and equipment to neighborhoods around the factories, community development associations, cultural associations, schools, and government agencies (graduation ceremonies, school anniversaries, etc.), local festivals (Double Ninth Festival, Mid-Autumn Festival, Ghost Festival, etc.) and scholarships and grants for disadvantaged students.

Sponsored the table tennis team of Datong High School



Sponsoring Hakka opera activities



Sponsored the Mid-Autumn Festival Evening Party in Tianliao Village



Co-organize the community care activity in Dongzhuang



Donation of police residential devices

We donated 100 residential fire alarms to the Kaohsiung City Government Fire Department, hoping to raise awareness and help the public's attention to fire prevention at home. Fire alarms are a powerful weapon in disaster prevention, as they can be used to warn and remind people in the early stage of a fire to reduce casualties.

TVCM and CGPCP were awarded a certificate of appreciation from the Kaohsiung City Government Fire Department



Community building and welfare

Charity Club community care activities

CGPC's Charity Club was established in Toufen Main plant in 1972. It gathered donations from employees, and its club members sent the donations to those in need. In 1995, the head office established the Taipei branch of the CGPC Charity Club. There are now 72 members. In 2023, the Club organized 7 visits of community care, and a total of 109 visits have been organized from 2010 to 2023. Adhere to the philosophy of "Spread love and care for society", and CGPC takes the initiative to do good for society to fulfill corporate citizenship.

Support disadvantaged children

Children are the future pillars of the nation. The welfare program helps disadvantaged and impoverished children or children with broken families have a healthy environment for growth and opportunities for education and a happy learning life, and improves their living condition. The Charity Club has collaborated with the Taiwan Fund for Children and Families to adopt two domestic children in poverty for a long time, and frequently donates to St Francis Girls' Home, St Francis Nursing Home, World Vision Taiwan, Miaoli County Family Support Center, children's homes, and other institutions.

Children's Homes



St Francis Xavier's Teenage Girls' Home, St Francis Xavier's Children's Home



◆ Concord Charity Foundation Winter Warmth Campaign

Concord Charity Foundation, established in the year 2001, has been actively engaged in various charitable activities such as providing lunch subsidies for students, delivering meals to elderly individuals living alone, offering winter assistance to low-income households, and distributing essential supplies or financial aid to underprivileged and emergency cases. These dedicated philanthropic efforts have been widely recognized and appreciated.

Every year on the eve of the Lunar New Year, Concord Charity Foundation organizes a Winter Warmth Sending activity to care for the disadvantaged families. For the 20th year in a row, the Foundation will use a common public welfare platform every year to gather many caring enterprises and the public to care for the disadvantaged families together. CGPC Caring Club has been involved in this event for a long time, hoping to send warmth to the disadvantaged at the end of the year in the cold winter.

Winter Warmth

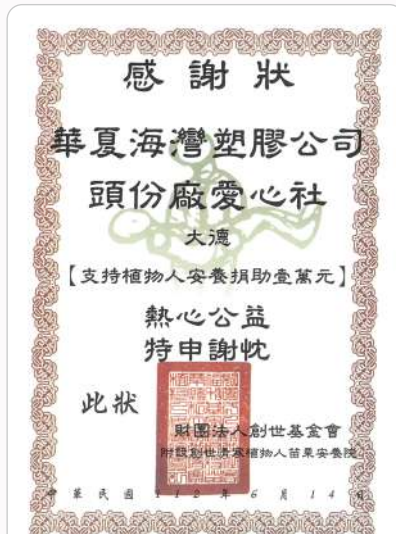


◆ Genesis Social Welfare Foundation

CGPC Charity Club has been actively supporting the Genesis Social Welfare Foundation through long-term donations, even during the pandemic period. The Genesis Social Welfare Foundation is dedicated to providing the best “care” for individuals in a vegetative state. They believe that these individuals, despite their lack of consciousness, should not be denied their basic human rights.

The Love Society sincerely invites all colleagues to join hands and contribute with kindness by donating funds for this worthy cause.

Genesis Social Welfare Foundation



Hwa Yen Development Center



New Miaoli Children's Home



2023 Taipei Science Cup Love Earth Charity Run

The Taipei Neihu Science Park Development Association, a registered nonprofit organization, held the "3rd Taipei Science Cup Love Earth Charity Run" on April 16th. The event attracted 9,000 participants who started their run at the Dazhi Meiti Riverside Park. The event fulfilled its corporate social responsibility by combining health, outdoor activities, family bonding, environmental protection, and charity. It not only promoted the physical and mental well-being of employees in the Neihu Science Park but also donated the event proceeds to disadvantaged groups in society.

USI Group actively sponsored this charity run and encouraged employees to participate with their families. A total of 55 colleagues enthusiastically took part, injecting more energy into the event and demonstrating their passion for philanthropy and alignment with the company's culture.



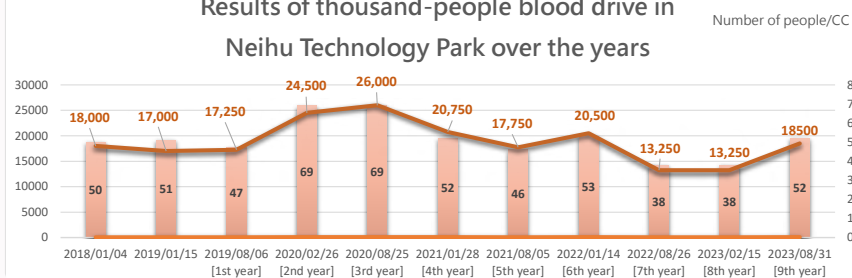
"Thousand people donation" campaign in Neihu Technology Park

In order to fulfill corporate social responsibility, USI Group has collaborated with the Neihu Technology Park Development Association to organize the Neihu Technology Park Thousand People Blood Drive (USI Group was the co-organizer). The statistics of participation in each year is shown as follows:

Item	Description/Date	August 31, 2023 [Ninth term]
Actual Number of Blood Donors	Number of people this time	52
	Cumulative number of people	565
Actual number of blood donation bags (250cc/bag)	Bag Quantity	74
	Cumulative Bag Quantity	827
Blood donation count in cc	Number of cc this time	18,500
	Cumulative cc count	206,750



Results of thousand-people blood drive in Neihu Technology Park over the years



"Give Blood, Spread Love" Blood Donation Event

In November 2023, the Linyuan Industrial Park Service Center held its first blood donation drive, "Give Blood, Spread Love". About 58 people (approximately 23,500 cc) donated blood, pouring love.

Date	Blood donation	250 (CC)	500 (CC)	Total
2023 / 11 / 27	Number of people	22	36	58
	Quantity (CC)	5,500	18,000	23,500



6.6.3 USI Education foundation

The USI Education Foundation was established on December 30, 2011, funded by the joint donation of USI Corporation and Asia Polymer Corporation. The Foundation officially started operation in 2012. It promotes educational charitable affairs, with focus on the education for the vulnerable and the rural and the care for environmental protection. The foundation advances its goals by establishing scholarships and grants, donating to charities, and sponsoring educational and charitable activities to enhance the energy and efficiency of service.

In order to expand the scale of public welfare, CGPC and TVCM joined the sponsorship efforts in 2017, and Taita also participated in the sponsorship program in 2018 to show its support, enabling the USI Education Foundation to commit more resources in education in remote areas, sustainability and other public welfare to give back to the society.

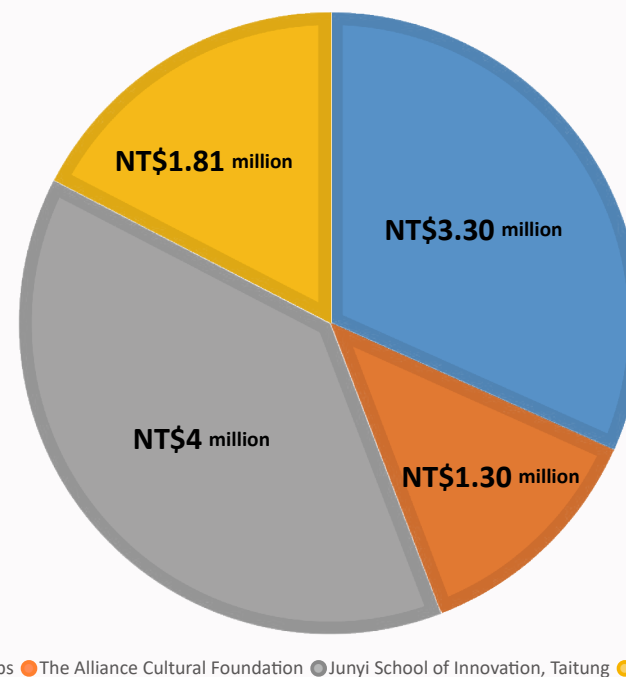
Major Sponsorships in 2023

In 2023, USI Education Foundation spent a total of NT\$10.41 million on various charitable sponsorships, including NT\$3.3 million for scholarships, NT\$1.3 million for the Alliance Cultural Foundation, NT\$4 million for Taitung Junyi International Experimental High School. The expenditure on other public welfare sponsorship was NT\$1.81 million.

Scholarships	Donations to Public Welfare Groups	Sponsoring education and public welfare activities
Merit Scholarship	The Alliance Cultural Foundation	Toufen Junior High School's music project
Artificial Intelligence Scholarship	Taitung Junyi International Experimental High School	Beach cleanup activity at the Long Fong Fishing Port
	Teach for Taiwan Foundation	Public welfare activities on medical care and education
	BOYO Social Welfare Foundation	Pandemic prevention equipment for medical and teaching fields



Sponsorships offered by the USI Education Foundation in 2023



Merit Scholarship

For students who show outstanding academic performance in chemical engineering, materials, chemistry and applied chemistry, and other related fields in the specified 15 domestic public and private universities, the Company provides scholarships to encourage students studying for bachelor's or master's degrees to grow into industry talents. This year is the 12th year of the scholarship. A total of NT\$20 million has been awarded to over 300 students.

In 2023, a total of NT\$3 million was awarded to a total of 30 students from 17 departments of 11 public and private universities, including 9 doctoral students, 10 master's students, and 11 university students, of whom 23 were disadvantaged students. On December 8, 2023, a scholarship award ceremony and commendation luncheon were held to recognize the award-winning students at Taipei Marriott Hotel. The Group's supervisors were also invited to participate in the event to interact with the students, and encourage students to continue learning to exert a positive influence on society and give back to society. Lastly, Chairperson Stanley Yen of the Alliance Cultural Foundation, shared his life experience and wisdom, and encouraged the award-winning students to "learn to live, learn life, and learn to do things" and to be "ordinary but not mediocre" and have the power to enrich their lives.

Artificial Intelligence Scholarship

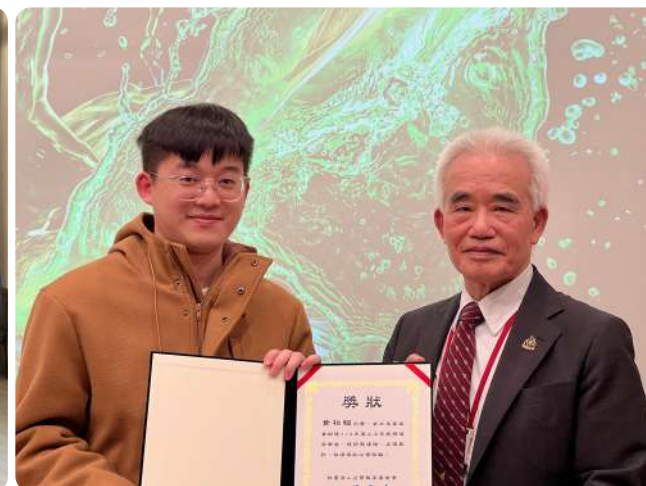
To encourage domestic outstanding research students in participating in various artificial intelligence (AI) application research and development with the purpose to close the gap between industry and academic, and to cultivate chemical industry talents with AI professional background, the Foundation has established this program to reward outstanding graduate students master's and doctoral candidates with research topics focusing on AI applications for smart production systems, process control, and saving energy and costs. The program started on a trial basis in 2022 for a period of five years. The award-winning students received a scholarship of NT\$50,000 per semester. After regular review, the recipient will be granted a scholarship for a maximum of four consecutive semesters. A total of 4 students have received the award.



R&D Chief Dr. Han-Tai Liu shares his career plans and encourages the award-winning students



2023 Scholarship Award Ceremony and Commending Luncheon



2023 AI Scholarship Award Ceremony

Taitung Junyi School of Innovation

One of the missions of Junyi School is to become a base for experimental education in remote townships. The experimental education curriculum is designed based on global education trends and the particularity of the local environment of Huatung. The elementary school begins with the Rudolf Steiner education philosophy as the starting point, allowing children to learn the perception of art and aesthetics, as well as the ability to live in harmony with nature, through a large number of hands-on activities. The middle school emphasizes interdisciplinary courses, developing students' innovative thinking, and solving methods through "life exploration", "arts and humanities", "creative clusters (including international hospitality, contemporary art, green energy architecture)", and other experimental courses to cultivate students with innovative thinking and problem-solving abilities.

For the school to serve more students in remote townships, we link resources to the school, organize various summer residential camps, and share with the Junyi Wonderland Center for Teaching and Learning to exert a greater influence. Besides allowing the children of Huatung to engage in different ways of learning, it also allows tertiary institution volunteers, instructors, and students from all over Taiwan to learn in a two-way manner, thereby establishing a connection with Taitung City through their life experiences. There were five camps in 2023, including the "Huatung Choir Camp", "Fruit Art Creation Camp", "Huatung English and Arts Camp", "A Cappella Youth Camp", and "VAFex Vocal Art Camp". There were about 800 volunteers and instructors.



Summer Camp - 2023 Huatung Choir Camp



Junyi Holiday After-school Learning and Life Course - Visit to Coconut Coast Homestay



Junyi Junior High School - Agriculture Section

The Alliance Cultural Foundation

The Alliance Cultural Foundation and the Junyi School of Innovation in Taitung are the long-term recipients of the Foundation's sponsorships aiming to bring more resources to rural education and the sustainable development in Huatung areas. After experiencing the challenge of COVID-19, in 2023, public welfare platforms not only resumed holding various projects, but also actively moved towards the revised "Huatung Sustainability Blueprint" based on the past experiences.

The "Huatung Sustainability Blueprint" consists of the Alliance Cultural Foundation, Junyi School of Innovation, and Jiangxian'er Art Park, which are closely linked to fully integrate talents and resources to maximize performance. The Alliance Cultural Foundation has always supported the inheritance of indigenous cultures, encourages youth to return to their hometowns, cultivates local talents, and provides resources to cultivate the expertise of the people. Its mission is to build an "ecosystem of co-prosperity with mountains and seas, slow living, and a harmonious life". The teaching profession enables students to go international while combining local advantages and sharing the concepts and practices of Junyi experimental education to build an "education ecosystem of innovative teaching" and structurally establish innovative models for rural education as its direction of effort. The Alliance Cultural Foundation also actively prepares for the "Paul Chiang Art Center", which is expected to open next fall. The goal is to become a local and international art landmark, attracting international tourists who are interested in art and nature to see the uniqueness and diversity of Taitung.



Paul Chiang Art Promotion "2023 Paul Chiang Solo Exhibition"

Toufen Junior High School's Music Project

The Foundation collaborated with the Harvest365 Foundation of Chiayi City and Toufen Junior High School to establish the music education project at the school in September 2021.

The Harmony choir, composed of grade 7 and grade 8 students, was taught by the professional choir teachers nurtured by Harvest365 and the music teacher of Toufen Junior High School.

The team consisted of nearly 30 students. In addition to the routine club time, they also used after-school time for exercises.

We hope to accompany the students through the art of singing and perform on stage at the annual Harvest365 Music Festival to stimulate motivation to learn and build self-confidence.



Harmony Choir of Toufen Junior High School

BOYO Social Welfare Foundation

The BOYO Social Welfare Foundation was established in 2002 to provide free “Remedial Teaching” homework guidance for elementary and junior high school children from economically disadvantaged families. We also provide “caring guidance” to provide every disadvantaged child with an appropriate parenting environment and train them with the basic skills so as to enhance their social competitiveness and give them the opportunity to lift themselves out of poverty in the future. Since its establishment 20 years ago, Boyo has continued to commit lots of manpower and resources to course design, supplementary learning materials, and the training of parents in communities. There are 17 tutoring locations, and they have served more than 2,000 students.

Teach for Taiwan Foundation

Teach for Taiwan (TFT) was established in 2013. It is a non-profit organization dedicated to solving the difficulty of educational inequality, hoping to create equal opportunities for every child. By training outstanding young people to teach in elementary schools in remote areas for at least two years, the difficulties faced by schools in remote townships due to difficulty in recruiting and frequent teacher turnover have been resolved. TFT has sent 355 young people to travel to rural areas. They have gone to schools in Taitung, Tainan, Pingtung, Yunlin, Hualien, and Nantou, helping more than 6,700 disadvantaged school children.

Public Welfare Activities on Medical Care and Education

In the past two years, due to the impact of the pandemic, it was very difficult for colleges and universities to organize camp activities. After the pandemic eased, club activities began to resume. With the aim to encourage medical universities to organize camps and teams to go deep into remote townships with scarce medical resources and promote public welfare services such as medical care and health education, the Foundation sponsored six camps teams to perform free medical consultations and part of the health education services in remote townships. The 6th Battalion had more than 300 members and served more than 2,400 people.

School	Clubs	Location	Number of people participating	Number of people served
Taipei Medical University	TMU Fenglin Team	Kinmen	34	170
	Green Cross Medical Service Team	Yunchang Township, Sihui, Yunlin City	116	217
	114 Medical Service Team	Townships in Beigan, Nangan, Dongyin, and Juguang	35	311
	Health and Social Care Literature and Art Service Team of Xinqing Recreational Club	Jinfeng Township, Taitung City	41	225
	Mountain Community Medical Service Mission	Renai Township, Nantou	70	1,000+
China Medical University, Taiwan	Medical Service Team	Fengbin Township, Hualien	26	500+

TMU Fenglin Team - Senior High School Medical Biology Camp



Taipei Medical University Green Cross Medical Service Team - Medical practitioners measure blood pressure



Pandemic Prevention Equipment for Medical and Teaching Fields

To strengthen epidemic prevention and public health in the fields of medical education and learning and to protect doctors, nursing staff, medical interns, and the public from being exposed to high risk of infection, the Foundation donated the “UVC deep-ultraviolet light” that can effectively control the amount of bacteria in the air. “Central Air Conditioning Sterilizer” was provided to Taipei Medical University and installed in the clinic, the waiting area, and the women's toilet in the 1F orthopedic outpatient area of the First Medical Building, Taipei Medical University Hospital. The UVC sterilizer is installed in the air conditioning duct. It does not shine at the human body, but directly disinfects the air. Through the continuous circulation of air in the air conditioning duct, it efficiently kills bacteria in the air, so it can effectively improve the safety of medical and teaching environments.



7 Appendix

7.1 GRI Standards Index

Use Statement	China General Plastics Corporation. (hereinafter referred to as "CGPC") has prepared this report in accordance with the GRI Guidelines. The reporting period of this report is for the year 2023 (from Sunday, January 1, 2023, to December 31, 2022). Some data may include information and performance from before Sunday, January 1, 2023, as well as content relating to the year 2024.
GRI 1 used	GRI 1: 2021 General
Relevant GRI Industry Guidelines	Not Applicable

GRI Standard	GRI 2: General disclosures for 2021			
Disclosure items	Section	Page number	Descriptions omitted	Remarks
1. Organization and Reporting Practices				
2-1 Detailed Information about the Organization	About this Report, 1. About CGPC	04, 12		
2-2 Entities Included in the Sustainability Report	About this Report, 1.1 Company Introduction	04, 13		
2-3 Report period, Frequency and Contact Person	About this Report, 2.1.3 Grievance mechanism	04, 20		
2-4 Information re-editing	About this Report	04		CH5.2: Vinyl Chain carbon reduction path planning, energy usage in the past three years, unit product energy consumption in the past three years, greenhouse gas emission intensity by product, and greenhouse gas emissions by each plant in the past three years.
	5.2 Climate Change and Energy Management	77		CH5.3: Statistics on the water intake of each plant in the past three years, the ratio of water reuse (R2) in the past three years, the volume of wastewater discharge in the past three years, and the intensity of wastewater discharge in the past three years.
	5.3 Water Resources Management	93		CH5.4: The material issues and targets for 2023-2030 have been updated since the production of chemicals is measured in dry tonnes.
	5.4 Air Pollution Control	104		CH5.5: Due to some omissions in the previous statistics, the data for 2021-2022 was updated.
	5.5 Waste Management	106		
2-5 External guarantee / assurance	About the Report , 7.5 Third party assurance	04, 180		
2. Event and Workers				
2-6 Activities, Value Chain and Other Business Relationships	1.2 Business Philosophy and Product Introduction	14		
2-7 Employees	1.1 Company Introduction, 6.1 Workforce Structure	13, 110~111		
2-8 Non-Employee Workers	6.4 Safe and Healthy Workplace	128~143		

GRI Standard	GRI 2: General disclosures for 2021			
Disclosure items	Section	Page number	Descriptions omitted	Remarks
3. Governance				
2-9 Governance structure and composition	2.1.2 ESG strategy	20		
	2.2.2 Organizational Structure of the ESG Committee	23		
	3.1.1 Transparent information disclosure	35		
	3.1.2 Information on appointment of the Board and the status of operation	35		
	3.1.3 Status of implementation of Board diversity	36		
	3.1.6 Head of corporate governance	38		
	3.1.7 Functional committees	38		
2-10 Nomination and Selection of the Highest Governance Unit	2.2.1 ESG Committee	23		
	3.1.2 Information on appointment of the Board and the status of operation	35		
	3.1.3 Status of implementation of Board diversity	36		
	3.1.8 Functions and operations of each functional committee	39~40		
2-11 Chairman of the Highest Governance Unit	2.2.1 ESG Committee	23		
	3.1.3 Status of implementation of Board diversity	36		
2-12 The Role of the Highest Governance Unit in Supervising Impact Management	2.2.1 ESG Committee 3.1.2 Information on appointment of the Board and the status of operation	23 35		
2-13 Person in Charge of Impact Management	2.1.2 ESG strategy	20		
	2.2.2 Organizational Structure of the ESG Committee	23		
	3.1.2 Information on appointment of the Board and the status of operation	35		
	3.1.9 Implement ethical management	40~41		
2-14 The Role of the Highest Governance Unit in Sustainability Report	2.2.2 Organizational Structure of the ESG Committee	23		
	3.1.2 Information on appointment of the Board and the status of operation	35		
	3.1.9 Implement ethical management	40~41		
2-15 Benefit Conflicts	3.1.2 Information on appointment of the Board and the status of operation	35		
	3.1.3 Status of implementation of Board diversity	36		
	3.1.9 Implement ethical management	40~41		
2-16 Key Major Issues Communication	2.1.1 Corporate sustainability vision and goals	19		
	2.1.2 ESG strategy	20		
	2.2.2 Organizational Structure of the ESG Committee	23		
	3.1 Corporate governance	35~41		
	3.1.2 Information on appointment of the Board and the status of operation	35		

GRI Standard	GRI 2: General disclosures for 2021			
Disclosure items	Section	Page number	Descriptions omitted	Remarks
3. Governance				
2-17 Collective Intelligence of the Highest Governance Unit	3.1.2 Information on appointment of the Board and the status of operation 3.1.5 Improve directors' professional competence 3.1.6 Head of corporate governance	35 38 38		
2-18 Performance assessment of the Highest Governance Unit	3.1.2 Information on appointment of the Board and the status of operation 3.1.4 Status of performance evaluation of committees	35 37		
2-19 Remuneration Policy	3.1.2 Information on appointment of the Board and the status of operation 3.1.8 Functions and operations of each functional committee	35 39~40		
2-20 Remuneration Determination Process	3.1.2 Information on appointment of the Board and the status of operation 3.1.8 Functions and operations of each functional committee	35 39~40		
2-21 Annual Total Remuneration Ratio	3.1.2 Information on appointment of the Board and the status of operation 3.1.8 Functions and operations of each functional committee	35 39~40		
4. Strategy, Policies, and Practices				
2-22 Statement of Sustainable Development Strategy	Message from Management, 2.2 Sustainable Development Policy	06~07, 23		
2-23 Policy Commitment	2.1 Sustainable Development, 2.1.1 Corporate sustainability vision and goals 2.1.2 Sustainable strategy, 2.2 Sustainable Development Policy 2.4 Identification of Material Issues , 2.4.2 Materiality analysis	19~22, 19 20, 23 27~32, 28		
2-24 Inclusion of Policy Commitment	2.1.2 Sustainable strategy, 2.2 Sustainable Development Policy	20, 23		
2-25 Procedure for remedying negative impacts	2.4.2 Materiality analysis	28		
2-26 Mechanism for Seeking Advice and Raising Concerns	3.3.3 Internal control	49		
2-27 Regulatory Compliance	3.4 Regulatory Compliance	50		
2-28 Membership qualification of cooperatives and associations	4.4 Participation in External Organizations	71		
5. Stakeholder Engagement				
2-29 Stakeholder Engagement Policy	2.3 Identification of Major Stakeholders 2.3.1 Stakeholder communication management and issues of concern	24 25~26		
2-30 Group agreement	6.2.3 Human rights and protection	119~120	Not Applicable	Due to ongoing communication between CGPC and its employees through the labor union and labor-management meetings, no specific collective bargaining agreement has been established between the two parties.

Topic-specific standards and SDGs disclosure:

GRI Standard		Disclosure items			Section	Page number	Remarks
3-1		Process for determining material topics			2.4.1 Process for determining material issues	27	
3-2		List of material topics			2.4.3 Changes in material issues	32	
Material issue	SDGs Sub-target	Disclosure of subject-specific guidelines			Section	Page number	Remarks
Category: Environment							
		GRI 3:2021	3-3	Management of material topics	5.2 Climate Change and Energy Management	77~92	
Climate Change and Energy Management	7.a, 3.1, 13.3	GRI 302: 2016 Energy	302-1	Energy consumption within the organization	5.2.6 Energy management	87~88	
			302-2	External energy consumption of the organization	Information not available/incomplete	--	Difficulties in obtaining external data
			302-3	Energy intensity	5.2.6 Energy management	87~88	
			302-4	Reduction of energy consumption	5.2.8 Energy conservation and carbon education solutions and performance	90	
			302-5	Reducing the energy demand of products and services	Not Applicable	--	Downstream products are non-energy-consuming products.
		GRI 3:2021	3-3	Management of material topics	5.3 Water Resources Management	93~103	
Water Resources Management	3.9, 6.3, 12.4	GRI 303: 2018 Water and effluents	303-1	Interactions with water as a shared resource	5.3.1 Water management	93~97	
			303-2	Management of water discharge-related impacts	5.3.3 Waste water quality testing	98	
			303-3	Water withdrawal	5.3.1 Water management	93~97	
			303-4	Water discharge	5.3.2 Wastewater discharge management	98	
			303-5	Water consumption	5.3.1 Water management	93~97	
		GRI 3:2021	3-3	Management of material topics	5.4 Air Pollution Control	104	
Air pollution control	3.9, 11.6	GRI 305: 2016 Emissions	305-1	Direct (Scope 1) greenhouse gas emissions	5.2.7 Greenhouse gas management	89	
			305-2	Indirect (Scope 2) greenhouse gas emissions from energy	5.2.7 Greenhouse gas management	89	
			305-3	Other Indirect (Scope 3) greenhouse gas emissions from	5.2.7 Greenhouse gas management	89	
			305-4	Greenhouse Gas Emission Intensity	5.2.7 Greenhouse gas management	89	
			305-5	Reduction of GHG emissions	5.2.8 Energy conservation and carbon education solutions and performance 5.2.9 Energy conservation and carbon reduction equipment improvement solutions	90 91	
			305-6	Emissions of ozone-depleting substances (ODS)	Not Applicable	--	Non-production, imports and exports of ODS
			305-7	Emissions of nitrogen oxides (NOx), sulfur oxides (SOx), and other significant gas emissions.	5.4 Air Pollution Control	104	Item words' revision

GRI Standard		Disclosure items			Section	Page number	Remarks
3-1		Process for determining material topics			2.4.1 Process for determining material issues	27	
3-2		List of material topics			2.4.3 Changes in material issues	32	
Material issue	SDGs Sub-target	Disclosure of subject-specific guidelines			Section	Page number	Remarks
Category: Environment							
Waste Management	3.9, 1.6, 12.4, 2.5	GRI 3:2021	3-3	Management of material topics	5.5 Waste Management	106~107	
		GRI 306: 2020 Waste	306-1	Waste generation and significant waste-related impact	5.5 Waste Management	106~107	
			306-2	Management of significant waste-related impact	5.5 Waste Management	106~107	
			306-3	Waste generated	5.5 Waste Management	106~107	
			306-4	Disposal and Transfer of Waste	5.5 Waste Management	106~107	
			306-5	Direct Disposal of Waste	5.5 Waste Management	106~107	
Category: Society							
Talent Attraction and Retention	8.5, 8.8, 10.3, 10.4	GRI 3:2021	3-3	Management of material topics	6.2 Talent Attraction and Retention	112~122	
		GRI 401:2016 Labor Relations	401-1	New hires and outgoing employees	6.2.1 Appointment and resignation	113	
			401-2	Benefits provided to full-time employees (excluding temporary or part-time employees)	6.2.2 Salary and benefits	114~116	
			401-3	Parental leave	6.2.2 Salary and benefits	114~116	
		GRI 405: 2016 Diversity and Equal Opportunity	405-1	Percentage of corporate governance organization members and various types of employees by gender, age group, minority group, and other indicators of diversity	6.1 Manpower Structure	110~111	
			405-2	Ratio of basic salaries and remuneration to women and men by employee category and key operating locations	6.1 Manpower Structure 6.2.2 Salary and benefits	110~111 114~116	
Talent development and cultivation	4.3, 4.5	GRI 3:2021	3-3	Management of material topics	6.3 Talent Development and Cultivation	123~127	
		GRI 404:2016 Training and Education	404-1	Average hours of training per year per employee	6.3 Talent Development and Cultivation	123~127	
			404-2	Programs improving employees' capabilities and transition assistance	6.2.3 Human rights and protection 6.3 Talent Development and Cultivation	119~120 123~127	
			404-3	Percentage of employees receiving regular performance and career development reviews	6.3 Talent Development and Cultivation	123~127	
Occupational safety and health	8.8	GRI 3:2021	3-3	Management of material topics	6.4 Safe and Healthy Workplace	128~143	
		GRI 403:2018 Occupational Safety and Health	403-1	Occupational safety and health management system	6.4.1 Occupational safety management	129~132	
			403-2	Hazard identification, risk assessment and incident investigation	6.4.1 Occupational safety management	129~132	
			403-3	Occupational healthcare services	6.4.2 Occupational health management	133~134	
			403-4	Worker participation, consultation, and communication on occupational health and safety	6.4.1 Occupational safety management 6.4.3 Occupational safety and health organizations 6.4.4. Contractor safety management	129~132 135 135~136	

GRI Standard		Disclosure items			Section	Page number	Remarks
3-1		Process for determining material topics			2.4.1 Process for determining material issues	27	
3-2		List of material topics			2.4.3 Changes in material issues	32	
Material issue	SDGs Sub-target	Disclosure of subject-specific guidelines			Section	Page number	Remarks
Category: Society							
Occupational safety and health	8.8	GRI 3:2021	3-3	Management of material topics	6.4 Safe and Healthy Workplace	128~143	
		GRI 403: 2018 Occupational safety and health	403-5	Worker training on occupational health and safety	6.4.4. Contractor safety management 6.4.5 Emergency response	135~136 136~139	
			403-6	Promotion of worker health	6.4.2 Occupational health management	133~134	
			403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	6.4.6 Process safety management	140~143	
			403-8	Workers covered by an occupational health and safety management system	6.4.1 Occupational safety management	129~132	
			403-9	Work-related injuries	6.4.1 Occupational safety management	129~132	
			403-10	Work-related illness	6.4.1 Occupational safety management	129~132	
Transportation safety	11.5	GRI 3:2021	3-3	Management of material topics	6.5 Transportation Safety Management	144~151	
		Customize theme		Customize theme	6.5 Transportation Safety Management	144~151	
Category: Economy							
Financial performance	8.2, 8.8	GRI 3:2021	3-3	Management of material topics	3.2 Operational Performance	42~44	
		GRI 201:2016 Financial performance	201-1	Direct economic value generated and distributed by the organization	3.2.4 Description of direct economic value generated and distributed by the organization	44	
			201-2	Financial impacts and their risks and opportunities caused by climate change	5.2.4 Potential financial impact of risks and opportunities	82~85	
			201-3	Defined benefit plans, obligations, and other retirement plans	6.2.2 Salary and benefits	114~116	
			201-4	Financial assistance received from the government	3.2.5 2023 Government subsidies	44	
Technology Research and Development	8.3	GRI 3:2021	3-3	Management of material topics	3.5 Technology Research and Development	51~54	
		Customize theme		Customize theme	3.5 Technology Research and Development	51~54	
Intelligent Management	4.4, 8.2	GRI 3:2021	3-3	Management of material topics	3.6 Intelligent Management	55~57	
		Customize theme		Customize theme	3.6 Intelligent Management	55~57	
Product quality	12.a	GRI 3:2021	3-3	Management of material topics	4.2 Product Quality	63~64	
		Customize theme		Customize theme	4.2 Product Quality	63~64	

7.2 SASB Chemical Industry Index

Refer to the Sustainability Accounting Standards – Chemicals issued by the Sustainability Accounting Standards Board (SASB)

Item	Code	Content of indicators	Unit	2021	2022	2023	Corresponding chapter	Page number
Greenhouse gas	RT-CH-110a.1	Scope 1 GHG emissions (tonne CO ₂ e) Scope 1 GHG emissions are regulated by emissions restriction regulations at a percentage (%).	(1) Million tonnes CO ₂ e (2) %	(1) 0.1689 (2) 99.92%	(1) 0.1601 (2) 99.86%	(1) 0.1512 (2) 99.79%	5.2.7 Greenhouse gas management	89
	RT-CH-110a.2	Management strategies or plans for Scope 1 GHG emissions, including emission reduction targets, performance analysis, etc.	n/a	In response to the government's net zero emission policy, CGPC conducts inventory and monitoring of greenhouse gas emissions and holds technical exchange meetings with other affiliates of the Group, so that plants can communicate technologies used and issues faced to achieve sharing and improve the performance of energy conservation and carbon reduction (as shown in the table below).			5.2 Climate Change and Energy Management	77~92
Air quality	RT-CH-120a.1	Emissions of the following air pollutants:					5.4 Air Pollution Control	104~105
		(1) Nitrogen oxides	tonne	85	80	80		
		(2) Sulfur oxides	tonne	5	1	1		
		(3) Volatile organic compounds	tonne	651	442	365		
		(4) Hazardous air pollutants (HAPs)	tonne	0	0	0		
Energy management	RT-CH-130a.1	(1) Total energy consumed (GJ)	GJ	4,309,405	4,055,542	3,988,900	5.2.6 Energy management	87~88
		(2) Percentage of energy consumption from grid (%)	%	26%	27%	26%		
		(3) Percentage of renewable energy use (%)	%	-	-	-		
		(4) Energy generated in-house (GJ)	GJ	-	4,415	6,238		
Water management	RT-CH-140a.1	(1) Total water withdrawal	Million liters	2,937.0	2,918.9	2,734.5	5.3 Water Resources Management	93~103
		(2) Total water consumption	Million liters	2,092.4	2,022.5	1,905.8		
		(3) Operating locations located in areas with "High" or "Very high" deficiency in water and the percentage compared with (1) and (2).	%	CPGC, TVCM and CGPCP are not located in areas with "High" or "Very high" deficiency in water.				
	RT-CH-140a.2	Number of cases of violations of water quality-related discharge permits, standards and regulations.	Number	No violations of relevant regulations.				
	RT-CH-140a.3	Describe water management risks and strategies, as well as risk mitigation practices.	--	Continuous monitoring and compilation of daily, monthly and annual water consumption records. In terms of management, we will continue to study feasible solutions and use manufacturing processes to improve water conservation and enhance water recycling and reuse rates. Improve pipelines, conduct regular leak-prevention inspections, follow up and review the progress, and propose improvement plans.				

Item	Code	Content of indicators	Unit	2021	2022	2023	Corresponding chapter	Page number
Hazardous waste management	RT-CH-150a.1	The total amount of hazardous waste generated by the Company and the percentage of amount recycled.	(1) tonnes (2) recycling %	(1) 41.66 (2) 8%	(1) 46.54 (2) 3%	(1) 197.95 (2) 69.8%	5.5 Waste Management	106~107
Community relations	RT-CH-210a.1	The processes involved in discussion of managing risks and opportunities related to community interests.	n/a	CGPC has established good communication channels with local residents for a long time, promoting the hiring of local talents, increasing scholarships provided to local schools, maintaining the cleanliness of neighboring communities, and caring for local residents' health.			6.6 Social Participation	151~167
Occupational health and safety	RT-CH-320a.1	(1) Total Recordable Incident Rate (TRIR) formula: (Number of Recordable Incidents × 200,000) / Total Work Hours	%	0.43	0.33	0.57	5.1 Environmental Management Policy 6.4 Safe and Healthy Workplace	73~76 128~143
		(2) Mortality rate, a. Regular employees, b. Contract employees	%	0	0	0		
	RT-CH-320a.2	For employees and non-employees (to reduce long-term/chronic exposure), health risk assessment, and description of monitoring.	n/a	Establish the ISO 45001 occupational safety and health system, formulate occupational safety hazards identification risks and opportunities and control management operating guidelines and implement occupational health promotion activities. Arrange health examination according to the condition of work environment and track the status regularly.				
Product design contributing to the efficiency improvement in the use phase	RT-CH-410a.1	Product revenue that can improve resource efficiency during the use phase.	NT\$ thousand	There were seven new products developed in the past 2 years and the total sales of new products in 2021 was NT\$113,858 thousand.	There were 12 new products developed in the past 2 years and the total sales of new products in 2022 was NT\$99,420 thousand.	There were 15 new products developed in the past 2 years and the total sales of new products in 2023 was NT\$39,302 thousand.	3.5 Technology Research and Development	51~54
Chemical safety and environmental management	RT-CH-410b.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.	%	58.46%	60.05%	58.28%	5.1 Environmental Management Policy	73~76
		The percentage (%) of relevant products that have undergone hazard analysis.	%	100%				
	RT-CH-410b.2	Strategies for the development of chemicals of high concern and alternative products that reduce human and environmental impact.	n/a	Hydrochloric acid, liquid caustic soda and bleaching products produced by CGPC are not chemicals of high concern.				
Genetically modified organism	RT-CH-410c.1	RT-CH-410c.1	%	No GMO products are produced.			--	

Item	Code	Content of indicators	Unit	2021	2022	2023	Corresponding chapter	Page number
Legal and monitoring management	RT-CH-530a.1	The Company's position on government regulation and policy planning on environmental and social issues.	n/a	Check environmental protection/social laws and regulations every month, comply with important government and international environmental protection regulations and promote the ISO 14001 and other management systems to ensure that the Company's daily operations have minimal impact on the community. Conduct active communication to understand employees and local residents and other key stakeholders and then propose solutions for improvement.			5.1 Environmental Management Policy 6.4 Safe and Healthy Workplace	73~76 128~143
Process safety and emergency response	RT-CH-540a.1	Process safety incident counts (PSIC)	Number	1	0	1	6.4 Safe and Healthy Workplace	128~143
		Process safety total incident rate (PSTIR) (= Process safety incident cases x 200,000 million man-hour / Total employee work hours)	%	10	0	8		
		Process safety incident severity rate (PSISR) (= Total severity score for all process safety incidents x 200,000 million man-hour / Total employee work hours)	%	29	0	0		
	RT-CH-540a.2	Number of transportation incidents	Number	0	0	0		















7.3 Sustainability Disclosure Indicators–Plastic Industry

Number	Content of indicators	Type of indicators	2023 disclosure status				Unit	Corresponding chapter and page number
1	Total energy consumption, percentage of purchased electricity, utilization rate (renewable energy/total energy), and total self-generated and self-use energy	Quantify	(1) Total energy consumption(GJ)	(2) Percentage of purchased electricity(%)	(3) Utilization rate (renewable energy/total energy)(%)	(4) Total self-generated and self-use energy (GJ)	(1) GJ (2) % (3) % (4) GJ	5.2.6 Energy management P. 87
			3,988,900	25.72%	0	0		
2	Total water withdrawn and total water consumption.	Quantify	Total water withdrawn		Total water consumption		Thousand M³	5.3 Water Resources Management P. 93~103
			2,734.5		1,905.8			
3	Total general and hazardous waste generated, and percentage recycled.	Quantify	Total hazardous waste generated (tonnes)		Percentage recycled (%)		(1) tonnes (2) %	5.5 Waste Management P. 106~107
			197.95		69.8%			
4	Number of employees in and rate of occupational accidents.	Quantify	Ratio calculation method: Number of occupational accidents/total number of employees				Person (%)	6.4 Safe and Healthy Workplace P. 128~143
			Item		Descriptions			
			Number of employees in occupational accidents		5			
5	Production by product category.	Quantify	Occupational Accident Rate		0.60%		tonnes	None
			By company		Production (tonnes)			
			CGPC		297,254			
			TVCM		434,148			
			CGPCP		198,565			

7.4 Implementation Status of Climate-related Information

Number	Item	Implementation Status
1	Clarification of the supervision and governance of climate-related risks and opportunities by the Board of Directors and management.	At CGPC, the ESG Committee under the Board of Directors is the highest committee for climate management. It is chaired by an independent director and the Committee reviews the Company's climate change strategy and goals, manages climate change risks and opportunities, and reviews the yearly implementation status, and reports to the Board of Directors. CGPC uses the framework provided by the Task Force on Climate-related Financial Disclosures (TCFD) to identify climate-related risks and opportunities. It assesses risks and opportunities across different departments, assesses the financial impact, and establishes response plans. It restarts the full assessment every three years and reviews and updates it every year.
2	Explanation of how identified climate risks and opportunities affect the company's business, strategy, and finances (short-term, intermediate-term, long-term).	<p>Climate change is a global challenge that requires collective action. In order to align with international standards and address the needs of sustainable development, the ROC government announced on February 15, 2023 the amendment of the "Greenhouse Gas Reduction and Management Act" to the "Climate Change Response Act". In the face of the impact of climate change, carbon reduction has become a global goal. In early 2022, USI Group set the 2030 carbon reduction goal of "27% reduction in carbon emissions in 2030 compared to 2017", and in 2023, it set "carbon neutrality by 2050" as the long-term goal of the Company.</p> <p>Striving to achieve its vision of corporate sustainability, USI Group actively implements corresponding countermeasures and management mechanisms. The Group continues to implement ISO 14064-1 greenhouse gas inventory and verification at its domestic production factories and plans and implements carbon reduction plans. It also develops external renewable energy projects. As of the end of 2023, the cumulative grid-connected capacity of solar energy projects has reached 7.2MW.</p> <p>CGPC has planned a carbon reduction path in accordance with the Group's carbon reduction target by 2030. In 2023, greenhouse gas emissions decreased by 22.2% from the baseline year (2017), and we will be more proactive in implementing energy-saving and carbon reduction plans in the future. The medium-term carbon reduction strategy will be towards low-carbon energy transformation, energy efficiency improvement, intelligent monitoring, and the installation and use of renewable energy. The long-term carbon reduction strategy will continue to focus on low-carbon fuels, carbon capture, and reuse technology, and carbon negative technology to implement carbon reduction strategies. It is a goal to achieve carbon neutrality and promote sustainable development. Climate-related risk items are divided into 3 intervals according to the time period of occurrence of impacts: short-term (<3 years), medium-term (3-7 years), long-term (>7 years). See 5.2.2 Climate Change Management Framework</p>
3	Explanation of the financial impact of extreme weather events and transition actions.	Potential financial impacts of risks and opportunities and response measures: Please refer to 5.2.3 Identification of climate risks and opportunities , 5.2.4 Potential financial impacts of risks and opportunities and response measures
4	Explanation of how the identification, assessment, and management processes of climate risks are integrated into the overall risk management system.	<p>In 2023, the ESG Committee and senior unit executives conducted a questionnaire survey to assess the relevance of various risks to the Company's operations, the timing of possible impacts, and the developmental and enforceability of various opportunities. A total of 21 questionnaires were collected. After the statistical analysis of the team, 12 material climate issues (2 physical risk items, 4 transition risk items, and 6 opportunity items) were identified.</p> <p>We assess the potential financial impacts and formulate countermeasures and management mechanisms of 12 major risks and opportunities. The goal is to grasp the possible impacts of climate change on all aspects, reduce the operational impact that may be caused by extreme weather, and establish a resilient climate change culture.</p> <p>See 5.2.2 Climate Change Management Framework, 5.2.3 Identification of climate risks and opportunities</p>
5	If resilience to climate change risks is assessed through scenario analysis, the scenario, parameters, assumptions, analysis factors, and key financial impacts used should be explained.	<p>With reference to the Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP) and the National Science & Technology Center for Disaster Reduction, and based on the scenario of RCP 8.5, estimate the temperature rise, rainfall, flooding, and drought between 2016 and 2035.</p> <p>See also: Vinyl Chain TCFD playbook, 2023 TCFD Report of CGPC Main plant</p>
6	If there are transformation plans to manage climate-related risks, the content of the plan and the indicators and targets used to identify and manage physical risks and transition risks should be explained.	See also: 5.2.2 Climate Change Management Framework , 5.2.3 Identification of climate risks and opportunities , 5.2.4 Potential financial impacts of risks and opportunities and response measures

Number	Item	Implementation Status																								
7	If internal carbon pricing is used as a planning tool, the basis for price determination should be explained.	USI Group will introduce an internal carbon pricing system in 2024. The price will refer to the domestic carbon tariff pricing basis, and it is planned to integrate this system into corporate decision-making and investment. During the assessment process, the impact of carbon emissions on business operations is assessed to accelerate the implementation of carbon reduction measures.																								
8	If climate-related goals are set, the following information should be provided: the activities covered by the goals, scope of greenhouse gas emissions, planning timeframe, and annual progress towards achieving the goals. If carbon offsets or Renewable Energy Certificates (RECs) are used to achieve the goals, the source and quantity of carbon offsets or the quantity of RECs should be explained.	<div>In early 2022, USI Group set the carbon reduction goal of “27% reduction in carbon emissions in 2030 compared to 2017”. In 2023, we further set “carbon neutrality by 2050” as our long-term corporate goal.</div> <div><div>◆ Carbon Reduction Achievements of Vinyl Chain</div><div>Unit: 10,000 tonnes CO₂e</div><table><tr><th colspan="3">2023</th><th>2024</th></tr><tr><td>Target Emissions</td><td>Actual Emissions</td><td>Achievement rate</td><td>Target Emissions</td></tr><tr><td>36.8</td><td>31.94</td><td>115%</td><td>30.1</td></tr></table><div>Note: Achievement rate = target emissions/actual emissions</div><div>Description:<div>1. Scope of inventory starting in 2023 for Vinyl Chain: (1) CGPC includes: CGPC Main plant, Taipei Office, and overseas subsidiaries. (2) TVCM Company includes: TVCM Linyuan plant, Taipei office, and GGTC Company. (3) CGPCP is CGPCP Linyuan plant. The above consolidated financial statements are CGPC subsidiaries, with a coverage rate of 100%. The greenhouse gas inventory includes: CO₂, CH₄, N₂O, and HFCs.</div><div>2. 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.</div><div>3. Please refer to: Vinyl Chain carbon reduction path planning, 5.2.6 Energy management, Renewable energy promotion, Greenhouse gas offset project credit acquisition, 5.2.8 Energy conservation and carbon reduction solutions and performance</div></div></div>	2023			2024	Target Emissions	Actual Emissions	Achievement rate	Target Emissions	36.8	31.94	115%	30.1												
2023			2024																							
Target Emissions	Actual Emissions	Achievement rate	Target Emissions																							
36.8	31.94	115%	30.1																							
9	Greenhouse gas inventory and verification status.	<div>Please refer to Chapter 5.2 of this report for greenhouse gas inventory data.</div> <table><tr><th colspan="2">By company</th><th>CGPC</th><th>TVCM</th><th>CGPCP</th></tr><tr><td rowspan="2">Inventory</td><td>Scope of inventory</td><td>CGPC Main plant + Taipei office + Overseas Subsidiaries</td><td>TVCM Linyuan plant + Taipei office + GGTC Company</td><td>CGPCP Linyuan plant</td></tr><tr><td>Data period</td><td>2023</td><td>2023</td><td>2023</td></tr><tr><td>Assurance</td><td>Assurance Unit</td><td>SGS</td><td>SGS (Linyuan plant + Taipei office) Commodity Inspection Center (GGTC)</td><td>AFNOR ASIA</td></tr><tr><td colspan="2">Certificates</td><td> ► CGPC</td><td> ► TVCM  ► GGTC</td><td> ► CGPCP</td></tr></table>	By company		CGPC	TVCM	CGPCP	Inventory	Scope of inventory	CGPC Main plant + Taipei office + Overseas Subsidiaries	TVCM Linyuan plant + Taipei office + GGTC Company	CGPCP Linyuan plant	Data period	2023	2023	2023	Assurance	Assurance Unit	SGS	SGS (Linyuan plant + Taipei office) Commodity Inspection Center (GGTC)	AFNOR ASIA	Certificates		 ► CGPC	 ► TVCM  ► GGTC	 ► CGPCP
By company		CGPC	TVCM	CGPCP																						
Inventory	Scope of inventory	CGPC Main plant + Taipei office + Overseas Subsidiaries	TVCM Linyuan plant + Taipei office + GGTC Company	CGPCP Linyuan plant																						
	Data period	2023	2023	2023																						
Assurance	Assurance Unit	SGS	SGS (Linyuan plant + Taipei office) Commodity Inspection Center (GGTC)	AFNOR ASIA																						
Certificates		 ► CGPC	 ► TVCM  ► GGTC	 ► CGPCP																						

7.5 Third party assurance report ► (GRI 2-5)

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INDEPENDENT AUDITORS' LIMITED ASSURANCE REPORT

China General Plastics Corporation

We have undertaken a limited assurance engagement on the selected performance indicators in the Sustainability Report ("the Report") of China General Plastics Corporation, ("the Company") for the year ended December 31, 2023.

Subject Matter Information and Applicable Criteria

See Appendix for the Company's selected performance indicators ("the Subject Matter Information") and applicable criteria.

Responsibilities of Management

The management of the Company is responsible for the preparation of the Subject Matter Information in accordance with Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies, Universal Standards, Sector Standards and Topic Standards published by the Global Reporting Initiative (GRI), and the criteria specifically designed by the Company, and for such internal control as management determines is necessary to enable the preparation of the Subject Matter Information that are free from material misstatement resulted from fraud or error.

Auditors' Responsibilities

Our responsibility is to plan and conduct our limited assurance engagement in accordance with Standard on Assurance Engagement 3000 "Assurance Engagements Other than Audits or Reviews of Historical Financial Information" issued by the Accounting Research and Development Foundation of the Republic of China to issue a limited assurance report on whether the Subject Matter Information (see Appendix) is free from material misstatement. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and, therefore, a lower assurance level is obtained than a reasonable assurance.

We based on our professional judgment in the planning and conducting of our work to obtain evidence supporting the limited assurance. Because of the inherent limitations of any internal control, there is an unavoidable risk that even some material misstatements may remain undetected. The procedures we performed include, but not limited to:

- Inquiring of management and the personnel responsible for the Subject Matter Information to obtain an understanding of the policies, procedures, internal control, and information system relevant to the Subject Matter Information to identify areas where a material misstatement of the subject matter information is likely to arise.
- Selecting sample items from the Subject Matter Information and performing procedures such as inspection, re-calculation, and observation to obtain evidence supporting limited assurance.

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Inherent Limitations

The Subject Matter Information involved non-financial information, which was subject to more inherent limitations than financial information. The information may involve significant judgment, assumptions and interpretations by the management, and the different stakeholders may have different interpretations of such information.

Independence and Quality Control

We have complied with the independence and other ethical requirements of the Norm of Professional Ethics for Certified Public Accountant in the Republic of China, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

The firm applies Standard on Quality Management 1 "Quality Management for Public Accounting Firms" issued by the Accounting Research and Development Foundation of the Republic of China, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Subject Matter Information is not prepared, in all material respects, in accordance with the applicable criteria.

Other Matters

We shall not be responsible for conducting any further assurance work for any change of the Subject Matter Information or the applicable criteria after the issuance date of this report.

The engagement partner on the limited assurance report is Tsai, Yu Ling.

Deloitte & Touche
Taipei, Taiwan
Republic of China

August 1, 2024

Notice to Readers

For the convenience of readers, the independent auditors' limited assurance report and the accompanying summary of subject matter information have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' limited assurance report and summary of subject matter information shall prevail.

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APPENDIX

SUMMARY OF SUBJECT MATTER INFORMATION

#	Subject Matter Information	Corresponding Section	Applicable Criteria	Industry-specific Disclosures of the Sustainability Metrics Describe in the Rules Governing the Preparation and Filing of Sustainability Reports - Plastics Industry
1.	CGPC (Main plant), TVCM (Linyuan plant) and CGPCP (Linyuan plant): In 2023, the total energy consumption was 3,988,900 GJ, percentage of purchased electricity was 25.72%, the utilization rate (renewable energy/total energy) was 0%, and total self-generated and self-use energy was 0 GJ.	7.3 Sustainability Disclosure Indicators - Plastics Industry	Total energy consumption, percentage of purchased electricity, utilization rate (renewable energy/total energy), and total self-generated and self-use energy	Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies Article 4, Paragraph 3, Appendix 1-5, No. 1
2.	CGPC (Main plant), TVCM (Linyuan plant) and CGPCP (Linyuan plant): In 2023, total water withdrawn was 2,734.5 thousand M ³ , and total water consumption was 1,905.8 thousand M ³ .	7.3 Sustainability Disclosure Indicators - Plastics Industry	Total water withdrawn and total water consumption	Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies Article 4, Paragraph 3, Appendix 1-5, No. 2
3.	CGPC (Main plant), TVCM (Linyuan plant) and CGPCP (Linyuan plant): In 2023, total general waste generated was 4,725.93 tonnes, and percentage recycled was 81.2%. Total hazardous waste generated was 197.95 tonnes, and percentage recycled was 69.8%.	5.5 Waste Management 7.3 Sustainability Disclosure Indicators - Plastics Industry	Total general and hazardous waste generated, and percentage recycled	Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies Article 4, Paragraph 3, Appendix 1-5, No. 3
4.	CGPC (Main plant), TVCM (Linyuan plant) and CGPCP (Linyuan plant): In 2023, number of employees in occupational accidents was 5 persons, and rate of occupational accidents was 0.60%.	7.3 Sustainability Disclosure Indicators - Plastics Industry	Number of employees in and rate of occupational accidents	Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies Article 4, Paragraph 3, Appendix 1-5, No. 4
5.	CGPC (Main plant), TVCM (Linyuan plant) and CGPCP (Linyuan plant): In 2023, the reclaimed water ratio (R2) was 71.9%.	5.3 Water Resources Management	Reclaimed water ratio (R2) = (Total recycling water + Total reuse water + Rainwater intake + Condensed water intake - Internal recycling water from cooling tower) ÷ (Total intake water + Total recycling water + Total reused water - Internal recycling water from cooling tower) × 100%	Not applicable



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