

*Enviromental,  
Social & Governance*

2021

ESG Report



China General Plastics Corporation

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# About this Report (GRI 102-51-102-54)

China General Plastics Corporation (“CGPC”) has been issuing the ESG report for 8 consecutive years since 2014, to inform all our stakeholders of how we are committed to promoting corporate sustainable development. 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

The structure and content of this report is developed as per the Core Option under the GRI Standards issued by the Global Reporting Initiative (GRI). The information disclosure in this report is also aligned with the Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies and the United Nations Sustainable Development Goals (SDGs). A complete table of the GRI Standards is also attached as a reference for the contents of each chapter.

## 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.

## Internal audit and finalization



## Data period

The period of information disclosed in this report is from January 1, 2021 to December 31, 2021, and some of the information occurs before January 1, 2021 or in 2022.

## External assurance for this report

This report was verified by the British Standards Institution (BSI), an independent third party, in June 2022 to be aligned with the Core Option under the GRI Standards and the AA1000AS v3 Assurance Standard (2020).

## Scope of this report

CGPC is adopted as the main body in this report. If important information on operational performance, environment, employees, and social charity belonging to subsidiaries, TVCM ("Taiwan VCM") and CGPC Polymer Corporation ("CGPC Polymer"), is included in this report, it will be indicated in this report. In addition, the environmental information does not include that on the Taipei Office. The overseas subsidiary, CGPC ZhongShan, was being dissolved as per a resolution adopted by the Board of Directors in October 2011. In addition, the important information on the environment and employees of the subsidiary, CGPC America Corporation, is independently managed by itself; thus, it is not disclosed for now. 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.

## Release frequency

The Company's reporting cycle is once a year. You are welcome to download such reports from the ESG section on the CGPC's official website at <https://www.cgpc.com.tw/ESG/tw/index.aspx>, or you may scan the QR Code below to the download page of the 「[ESG Reports](#)」 of CGPC.

Last issue: June 2021

Current issue: June 2022

Next issue: Scheduled for June 2023

## Contact Us

If you have any suggestions or advice about this report or CGPC's sustainable development initiatives, please feel free to contact us.

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ESG email: [csr-cgpc@cgpc.com.tw](mailto:csr-cgpc@cgpc.com.tw)

- ◆ ESG email is expected to be changed to [esg-cgpc@cgpc.com.tw](mailto:esg-cgpc@cgpc.com.tw) on August 1, 2022.
- ◆ The website is expected to be updated on August 10, 2022. The relevant links in this report will be updated due to the revision and upgrade of the website. Therefore, the 2021 ESG Report will be updated in the ESG section.
- ◆ Google Chrome is recommended for reading this report.



# Message from the Management (GRI 102-14)

## Dear Stakeholders,

In 2021, the COVID-19 pandemic will continue to affect human beings' daily lives, and the impact of climate change will be intensified. The winter storm in Texas in February, Hurricane Ida in the U.S. in August, and the implementation of energy control over both consumption and intensity in China in October directly affects enterprises' operations. The Glasgow Climate Pact at the UN Climate Change Conference (COP26) indicates a global consensus on reducing the consumption of coals. The Taiwan government has put forth a net-zero carbon emission target by 2050. The environmental, social, and governance (ESG) performance has become an indicator of corporate resilience in response to a rapidly changing environment. Centering on the concept of "creating sustainable values and building a sustainable society", we set a target to reduce carbon emissions by 27% by 2030 with 2017 as the benchmark in March 2022 to respond to the government's goals and demonstrate our determination.

## Strengthened ESG governance and operation

The TWSE- or TPEX- listed companies under the Group have established and operating a Corporate Social Responsibility Committee under the Board of Directors for several years. An independent director as the chair of the committee, is responsible for convening meetings and supervising the semi-annual implementation results of our ESG initiatives twice a year. To increase the scope of ESG management, we changed its name to the ESG Committee in March 2022 to move toward a sustainable enterprise through in-depth participation in ESG affairs by directors.

## Increased investment in renewable energy

With close attention to international net-zero development and domestic energy transition policies, we established a green power team under the Group in March 2020, to formulate and implement green power strategies. In 2021, we completed the investment in a 5MW solar power plant, which is expected to generate 6 million kWh of green power. We continue to review the risks and opportunities of climate change through the TCFD (Note 1) framework and take corresponding strategies and actions to carry out projects to replace old facilities in the plants and improve production efficiency. To strengthen the quality of carbon emission data in 2022, 100% of the Taiwan plants of the Group's TWSE- or TPEX-listed companies will complete the ISO 14064-1 inspection and verification.

## Innovative research and development (R&D) and safe production

We are committed to developing products that facilitates the convenience in daily life with low environmental load, including eco-friendly water-based thermal insulation coatings, PVC (Note 2) cooling fills, low VOCs (Note 3) EPS (Note 4), and SiC (Note 5) for applications.

Meanwhile, we strive to achieve the five goals of safety and environmental protection (zero pollution, zero emission, zero occupational injury, zero accident, and zero failure),

while implementing a process safety management (PSM) system and working to reduce the probability of accidents through system optimization, data quantitative analysis, and plants' cross-audits.

Over the past year, our business developed steadily, and we won the domestic ESG awards. We will continue to pay attention to the net zero policy, communicate closely with our stakeholders, and set ESG goals and plans to achieve common good in society. Finally, I would like to thank all our employees. Only with your full cooperation can we achieve stable operation. There will only be more challenges ahead in the future. We must get prepared as early as possible to keep a stable pace and move forward.

## ESG development

**Carbon reduction** is a major international issue at this stage. Net zero carbon emissions and circular economy are crucial international development trends. The Company has developed a plan and identified ESG issues as per the corporate governance 3.0-sustainable development blueprint and government regulations and actively invested in environmental protection. We have planned to build a 10% mandatory renewable energy capacity, install new natural gas boilers to replace coal-fired boilers and activated carbon fluidized bed reactors to prevent and control VOC emissions, while implementing an ISO 46001 water resource efficiency management system and the Global Recycled Standard (GRS).



Chairman of CGPC

Note 1: Task Force on Climate-related Financial Disclosures is referred to as TCFD.  
 Note 2: Polyvinyl chloride is referred to as PVC.  
 Note 3: Volatile organic compounds are referred to as VOCs.  
 Note 4: Expandable polystyrene is referred to as EPS.  
 Note 5: SiC means Silicon carbide.

We strive to pass certification, implement the ISO 50001 energy management system in alignment with the concept of circular economy, adopt various energy conservation and carbon reduction projects, reduce carbon emissions and sustainable use of water resources, and continue to implement improvement, replacement, and smart manufacturing management system initiatives for automation and energy efficiency. The Toufen Plant of CGPC will launch an automatic storage system in the second half of the year to strengthen the overall operational efficiency and adopt a PSM system to ensure safe operations, while actively developing high value-added and differentiated new products. CGPC Polymer has implemented the ISO 14064-1 greenhouse gas (CGPC and TVCM plan to include the Scope 3 emissions) and the ISO 14067 carbon footprint management system.

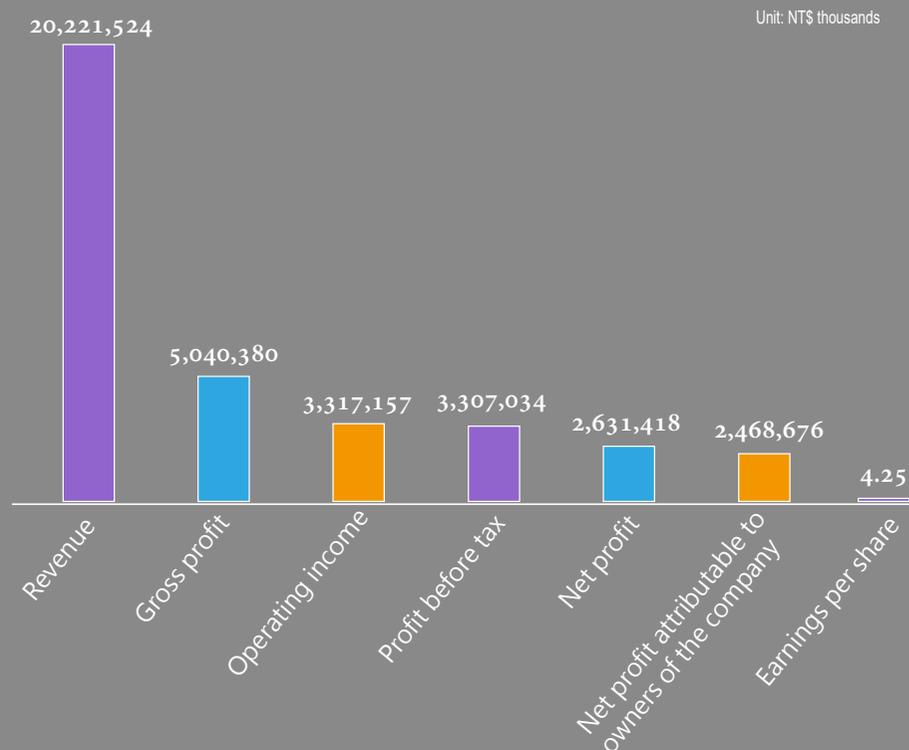
In terms of manpower training, we have a complete career development system in place, continue to improve the quality of employee training, and make the most of the training system, to enhance employees' professional knowledge and skills. It is our long-standing commitment to create a happy workplace for our employees. We have successively completed work environment improvement projects every year since 2019, to provide employees with a more comfortable office environment. In addition to improving their work efficiency, they have a stronger sense of belonging to the Company. In their spare time, they form volunteer teams to clean up the beach (suspended once in 2021 due to the COVID-19 pandemic, but there were still 12 enthusiastic employees cleaning up a total of 35 kilograms of waste on the beach) and engage in community environmental maintenance services and have the established a charity club to gather together their colleagues' donations and provide them to those in need. The Group established the USI Education Foundation to assist with the development of education in remote and rural areas through donations and co-organization of educational charity activities.

In 2021, the escalation of the pandemic prompted various countries to adopt lockdown measures, which brought economic activities to a standstill. The winter storm in Texas, Hurricane Ida, Asian manufacturers' intensive annual maintenance and repair sessions, the energy control over both consumption and intensity implemented in China, as well as the shortage of slots or containers and port congestion have driven the demand for PVC. With the urgent orders in India and the soaring freight, the prices of PVC has reached a record high, which has also driven the price of VCM to soar. The overall PVC inventories are at a low level. The management team will strive for the maximum profit through an overall plan for the Vinyl industry chain. The net income for 2021 amounted to NT\$2,631,418,000, reaching a record high. Our team makes good use of the vertical integration mechanism and active and effective management to increase VCM/PVC production capacity, implement improvement measures for occupational safety and environmental protection, and fulfill our corporate social responsibility, while creating and expanding our niches to maximize operational performance to achieve or even exceed our annual budget target.

The high PVC demand in emerging markets and the reduction of calcium carbide PVC production capacity due to environmental protection issues in China will all be conducive to the development of the PVC/VCM market. The supply of raw materials is estimated to be better than that in 2021 with some room for profit; the PVC prices, which had fallen since the fourth quarter last year has bottomed out in the South Asian market in early February this year. The outlook for the global market in the first half of this year is estimated to be positive. We still need to pay close attention to the post-pandemic impact on the global economy as well as issues of oil prices and the supply chain of raw materials caused by the Russo-Ukrainian War. The Company will continue to observe the situation prudently and take countermeasures accordingly.



## 2021 Consolidated Financial Statements of CGPC



# 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

- ◆ R&D to increase the percentage of recycled raw materials
- ◆ Increase in the amount of water recycled by CGPC
- ◆ Recovery of heat energy from cracking furnace

### Implementation of various systems

- ◆ PSM system
- ◆ Sustainable development included in KPI evaluation
- ◆ ISO 14067 carbon footprint management system
- ◆ GRS certification
- ◆ ISO 46001 water resources management system
- ◆ ISO 14046 water footprint management system
- ◆ AI automatic warehousing system established by CGPC



### Establishment of an AI factory

- ◆ Inclusion of AI in the processes: TVCM's distillation system, heavy and light distillation columns, and CGPC PVC drying system
- ◆ Energy conservation and carbon reduction:
  - CGPC:** Cooling tower pump energy efficiency improvement, installation of new activated carbon fluidized bed reactors, installation of 30 tons of natural gas boilers, and replacement of old PVC tanks.
  - TVCM:** Energy-efficient coatings for cracking furnaces and replacement of VOC control valves.
- ◆ Sludge reduction: Installation of a sludge sedimentation tank at CGPC's Pei-Ta wastewater tank and replacement of high-efficiency flotation air blower at TVCM's wastewater area.



### Establishment of renewable energy facilities and purchase of green electricity

- ◆ CGPC's plan to buy back Thunder Graphic Corp.'s solar power system
- ◆ USI Optronics Corporation's plant and Busan warehouse self-built solar power generation system



## Sustainable Management Achievements



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**

## 2020

- ◆ Ranked among top 6–20% in the 7th Corporate Governance Evaluation.
- ◆ Won the Platinum Award for Sustainability Report and Corporate Comprehensive Performance Award Top. 50 at the 13th TCSA.
- ◆ Publicly announced and established the Safety and Health Family and made donations for anti-pandemic efforts.
- ◆ Equipment improvement: Replaced heavy oil boilers with natural gas ones; (TVCM) updated the air pollution detection VOC system, established new shipping container platform, adopted AI production technology, established Silo PVC resin tank, and improved the earthing resistance of the equipment outer case (Note 1).
- ◆ Enhance the cleanliness of the work environment: Repaired the ground, renovated the maintenance yard, replaced office chairs, painted the walls, replaced office windows, improved the dust collection of dusters, and remediated ditches at plants (phase 2).
- ◆ (CGPC) passed ISO 45001.
- ◆ Received the Certificate of Appreciation for Exceptional Green Procurement Performance from the Department of Environmental Protection, Taipei City Government.

Note 1: Earthing resistance: In addition to protecting personnel, plant and equipment, it provides a safe path for fault current consumption, electric shock, electrostatic discharge, EMI, and RFI signals and interference.

## 2022

- ◆ CGPC and CGPC Polymer implemented the ISO 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](#).
- ◆ HCGPC 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.
- ◆ Established renewable energy and purchased 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 CO<sub>2</sub>e.
- ◆ TVCM updated the Two Cracking Furnaces (F-6201 and F-6202) Offset Project (B0000210), and its first application for greenhouse gas reduction quota under this project was approved by the Environmental Protection Administration, and it was granted a reduction quota of 3,129 metric tons of CO<sub>2</sub>e.
- ◆ Continuously improved energy conservation and carbon reduction at three entities: Adopted high-efficiency flotation air blowers, renovated drainage systems, adopted AI in processes, adopted AI for heavy distillation columns, installed new activated carbon fluidized bed reactors, adopted an AI license plate recognition system, recovered heat energy from cracking furnaces, installed flotation air blowers in the wastewater area, installed an LDS system, and implemented a smart underground pipeline locating project.
- ◆ Continued to conduct soil and groundwater remediation (improved technology and biological applications) and education.



## 2021

- ◆ Ranked among top 6–20% in the 8th Corporate Governance Evaluation.
- ◆ Won the Platinum Award for Sustainability Report, Comprehensive Performance - Taiwan Enterprise Sustainability Excellence Award, and Single Performance Award-Innovative Growth and Leader Award at the 14th TCSA, as well as the Silver Award of the 1st Taiwan Sustainability Action Awards (TSAA).
- ◆ 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.
- ◆ Received the Certificate of Appreciation for Exceptional Green Procurement Performance from the Department of Environmental Protection, Taipei City Government.
- ◆ Continued to conduct soil and groundwater remediation (improved 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.



## 2023

- ◆ CGPC installed new natural gas boilers.
- ◆ Continued to conduct soil and groundwater remediation (improved technology and biological applications) and education.
- ◆ Continuously improved energy conservation and carbon reduction at three entities: Adopted AI in the second phase of the dryer process, established a sedimentation tank at the wastewater pond, and built an AI model for light distillation columns.
- ◆ Implemented PSM (CGPC completed the second phase) and TVCM implemented PSM platform and KPI planning.
- ◆ Established a computerized maintenance management system (CMMS).



## 2024-2025

- ◆ Continuously improved energy conservation and carbon reduction at three entities: Updated CGPC's PVC tanks.
- ◆ Continued to conduct soil and groundwater remediation (improved technology and biological applications) and education.

# 2021 Key Performance Achievements



## Environmental

### Green Procurement Benchmark Enterprise

The accumulative amount of green procurement filed was NT\$ 3,257 in 2021, and Ming-Lone Liou, Commissioner of the Department of Environmental Protection, issued a certificate of appreciation.

### 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 Environmental Protection Administration, Executive Yuan

### Recycled water volume 849.3 million liters

Reduced water waste, improved and replaced water-consuming equipment, and increased water recycling and reuse rate

### Implemented the PSM system and planned KPI

CGPC's Toufen Plant completed the second phase of PSM and TVCM's Linyuan Plant built the PSM platform and incorporated it into its KPI planning

### Carbon reduction of 2,741 ton/CO<sub>2</sub>e

Energy conservation and carbon reduction plan and performance (annual carbon reduction), equivalent to the annual carbon emissions absorbed by seven Daan Forest Parks.

## Governance



**Consolidated operating income NT\$3,317 million** 2021 Consolidated operating income hit record high

**Consolidated Earnings after tax amounted to NT\$2,469 million** 2021 Consolidated Earnings after tax hit record high

**Client satisfaction 99.5 %** Stabilize quality, reduce defect rate, and improve client satisfaction

**Suppliers signed Reached 100 %** All new suppliers signed the Supplier Social Responsibility Commitment

**Corporate Governance Evaluation 6~20 %** Ranked among top 6~20% of the TWSE-listed companies in the 8th Corporate Governance Evaluation in 2021.

**TCSA** TCSA: (1) Platinum Award for Sustainability Report; (2) Comprehensive Performance - Taiwan Enterprise Sustainability Excellence Award; (3) Single Performance Award-Innovative Growth and Leader Award (Gold Award) TSAA: Silver Award of the 1st Taiwan Sustainability Action Awards.

**Included ESG in the KPI evaluation** Included ESG in employee performance KPIs evaluation



## Social



**Appointed as the core enterprise of the Safety and Health Family** The Company was appointed as the core enterprise of the Safety and Health Family, helping 20 small- and medium-sized enterprises

**A total of 612 persons participated in beach cleanup** A total of 612 persons participated in the 5th beach cleanup activity at the Long Fong Fishing Port

**Employment of people with disabilities 2.09 %** The employment of persons with disabilities accounts for 2.09% of the total, which is better than the 1% under the Labor Standards Act.

**Average training hours 22.6 hours** Built a comprehensive education and training system, with an average annual training hours of 22.6 hours per person

**Participation in volunteer teams 700 persons** Mobilized volunteer teams to engage in social charity activities, with a total of 700 participants

**97 visits by the charity club** In 2021, the charity club visited the disadvantaged groups, totaling 97 visits

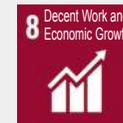
**Offered contractor safety education and training to 5,141 persons** Increased contractor education to prevent occupational accidents

# 1 About CGPC

(GRI 102-1–102-8, 102-12, and 102-45)



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.



# 1.1 Company Profile (GRI 102-1, 102-3~102-8, and 102-45)

## CGPC (founded in 1964)



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 head-quarters	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: <ul style="list-style-type: none"> <li>PVC resin: Annual production capacity of 230,000 tons per year</li> <li>PVC pellets: Annual production capacity of 12,700 tons per year</li> <li>Chemicals: Annual production capacity of 68,675 metric tons per year (calculation as per concentration of 100%)</li> <li>PVC secondary processed products (including 26,640 tons of building materials products, 72,600 tons of tape, and 8,600,000 yards of fills)</li> <li>Total annual production capacity of 107,900 tons</li> </ul>
Number of employees	688 people

Note: The data in this table is as of December 31, 2021.  
Poly vinyl chloride) is referred to as PVC.

## Taiwan VCM (founded in 1970 )



In 1970, the Ministry of Economic Affairs launched an initiative to invite six private enterprises, including CGPC, to establish 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	TVCM
Industry	etrochemical manufacturing
Location of head-quarters	2F, 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	181 people

Note: The data in this table is as of December 31, 2021.

CGPC's company profile on video Please watch it online.



## CGPC Polymer (founded in 2009)

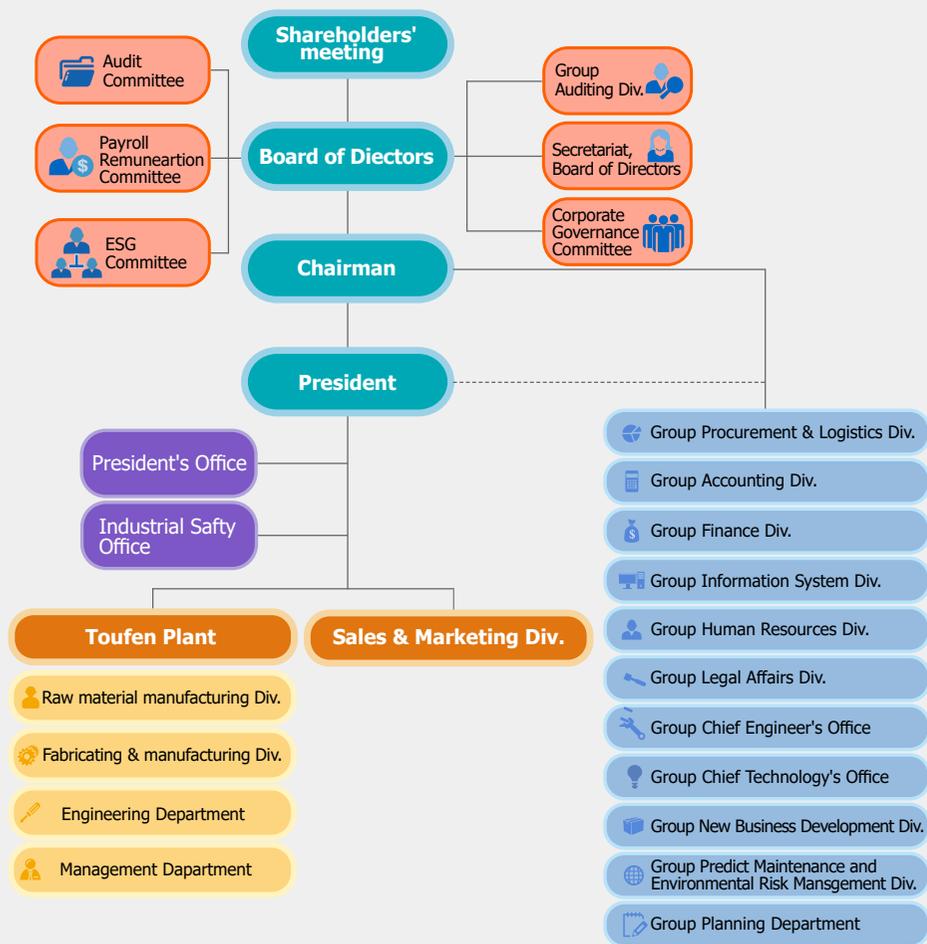


In 2009, CGPC established a wholly-owned CGPC Polymer by the Linyuan Plant of TVCM. It mainly produces PVC resin to fully leverage the business advantages of the vertically integrated vinyl chain to reduce costs.

Company name	CGPC Polymer
Industry	Petrochemical manufacturing
Location of head-quarters	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\$800 million
Main products	PVC resin: Annual production capacity of 220,000 tons
Number of employees	39 people

Note: The data in this table is as of December 31, 2021.  
Vinyl chain (VCM-PVC products)

## Organizational Chart of CGPC



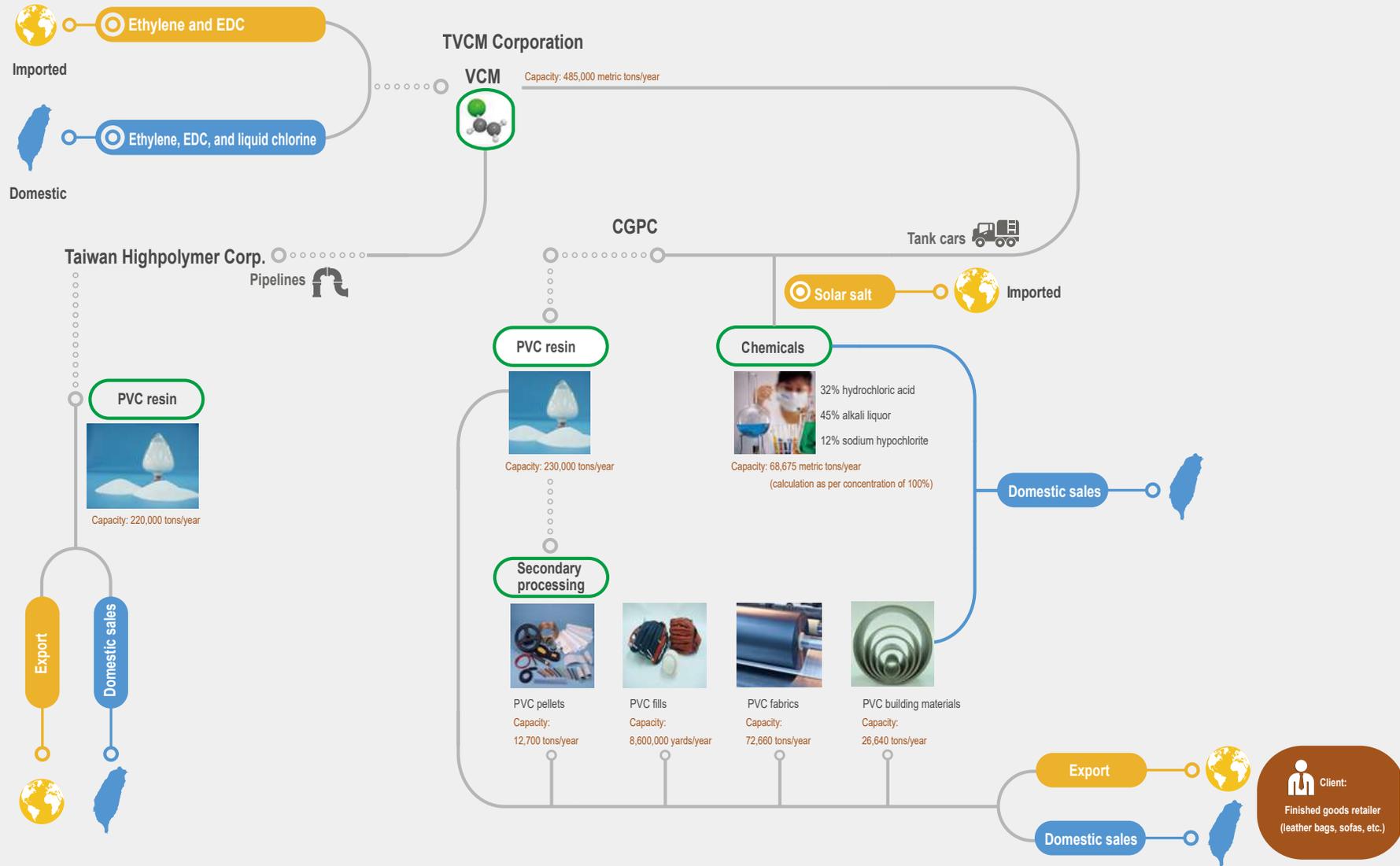
# 1.2 Business Philosophy and Product Introduction (GRI 102-16)

## Business Philosophy

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

Integrity	Discipline
<p><b>Honesty and Integrity</b></p> <p>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.</p> 	<p><b>Proactiveness, Responsibility, and a Disciplined Team</b></p> <p>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.</p> 
Care	Innovation
<p><b>Tolerance, respect, care, and harmony</b></p> <p>Be more tolerant and respectful of colleagues, clients, companies, families, environment, and society for the purpose of humanistic care and establish harmonious relationships.</p> 	<p><b>Seek innovation and change and pursue excellence</b></p> <p>Regardless of raw materials, products, production, marketing, R&amp;D, and management, we must continue to innovate and seek changes, to pursue high quality and great business performance.</p> 

## Upstream and downstream relationship of the vinyl chain



## PVC:

### Contribution of PVC to the environment and society

#### Environmental impact



##### Contribution to reducing resource consumption

1. Reducing CO<sub>2</sub> emissions: When the PVC is burned and discarded during the manufacturing process, the CO<sub>2</sub> emissions produced are lower than those from the burning of other plastics due to the carbon structure, and it consumes less energy in both manufacturing and processing.
2. Forty-three percent of PVC is petroleum and the rest of it is salt, while other plastics are mostly made from petroleum. Thus, it reduces the consumption of the resources owned.
3. PVC is used to make floors, wall materials, building materials, etc. to replace wood. It makes a great contribution to the efforts against deforestation.
4. PVC can be remade repeatedly and has a long useful life.

#### Social responsibility



##### Contribution to society

The employment, production, investment, and logistics of most employees in the PVC-related industries make a profound and great contribution to the overall society.

#### Recycling and reuse



##### Contribution of PVC recycling and reuse

The recycling and reuse of PVC has a positive effect on global warming, energy conservation, conservation of oil resources, and forest resource protection.

#### Industrial development



##### Contribution to industry - Caustic Soda

Caustic Soda, chlor-alkali plants' by-product (commonly known as caustic soda), is an important raw material for papermaking, chemical fiber, detergent, soap, etc.

#### Daily necessities



##### Contribution to the convenience of daily life

PVC can be used in infrastructure, tablecloths, table mats, car seat cushion leather, sofa leather, leather shoes, etc., to provide consumers with great convenience, save unnecessary waste, and it is reusable.

##### Contribution to medical applications

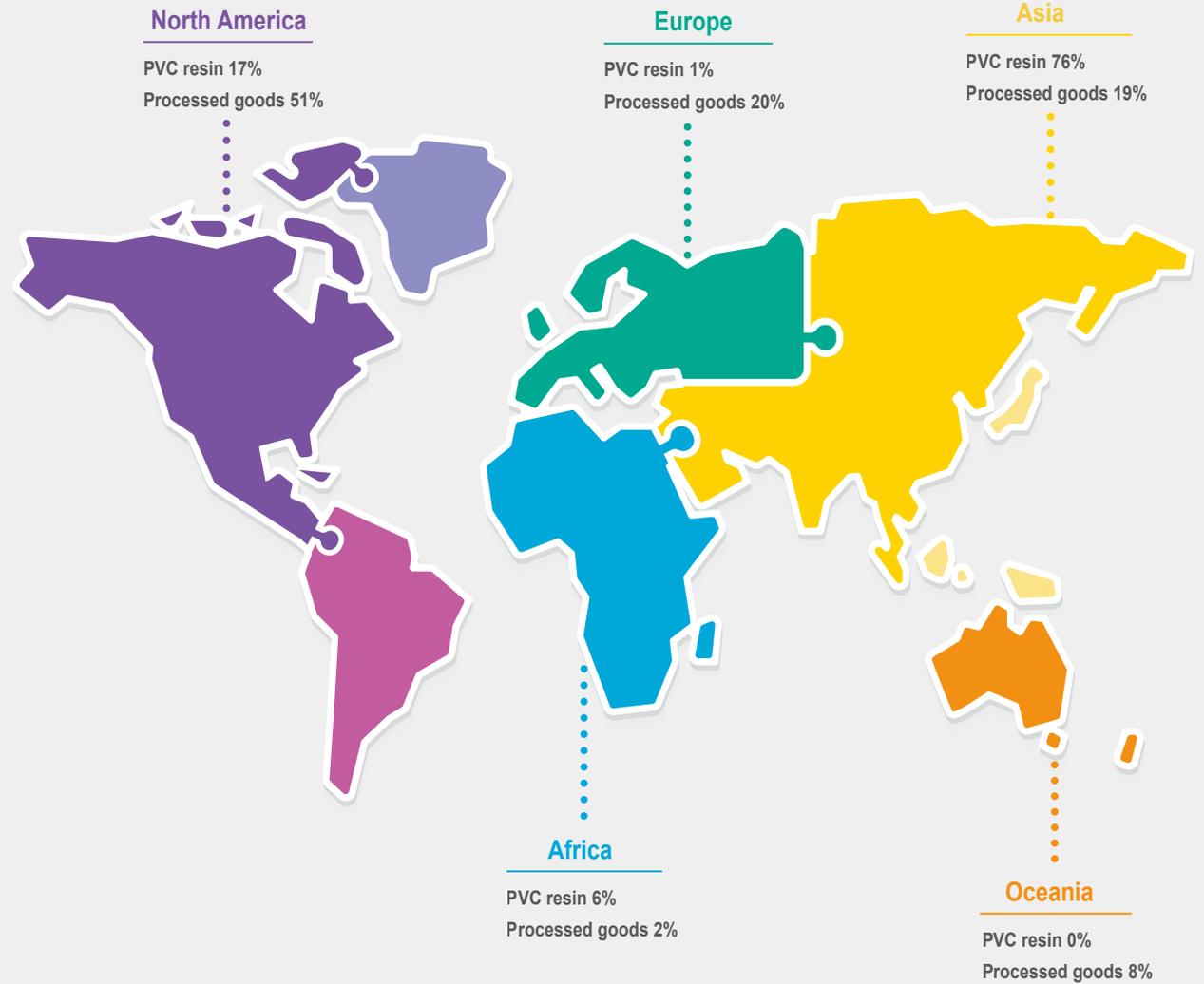
PVC has excellent chemical resistance, is transparent, and easy to process, and is a product that is highly associated with human life, including blood bags, blood transfusion tubes, and catheters, and its safety has been strictly reviewed in accordance with laws and regulations and standards. It makes substantial contributions to life.

## Product sales:

### Percentages of domestic sales and exports of products in 2021



### Distribution map of exports in 2021



# 2 ESG Issues (GRI 102-40, 102-42-102-44, 102-46, 102-47, 102-49, 103-1-103-2)



With the ever-changing business environment and technology, an enterprise'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.

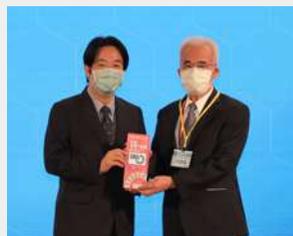
## 2.1 Sustainable Development

In alignment with the USI Group's sustainable vision of "creating sustainable values and developing a sustainable society", we aim to continuously create a sustainable value with our core capabilities, thereby contributing to social sustainability.

### Information on awards received



- ◆ Ranked among **6-20%** in the 8th Corporate Governance Evaluation in 2021
- ◆ Ranked among **11-20%** of non-financial electronic companies with a market value of more than NT\$10 billion



CGPC won the 2021 (1st) Taiwan Sustainability Action Awards (TSA)-SDG 15: Life on Land - silver



Won 2021 14th Taiwan Corporate Sustainability Awards (TCSA):

1. Comprehensive Performance: Taiwan Corporate Sustainability Excellence Award
2. Corporate Sustainability Report Award (Platinum)
3. Sustainable Performance: Growth Through Innovation Leadership Award

### 2.1.1 Corporate sustainability vision and goals



**Sustainability vision**

In alignment with the USI Group's sustainable vision of "creating sustainable values and developing a sustainable society", we aim to continuously create a sustainable value with our core capabilities, thereby contributing to social sustainability. The three core strategies of R&D and innovation, stable operation, and social inclusion are the Company's ESG principles as our sustainable development policy.

**Sustainable Management Policy**

We review the consistency of the analysis results of material 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.

**Material issue**

The ESG task force collected various issues of concern, analyzed issues as per the degree of stakeholders' concern and the level of the Company's internal impact, selected 11 material issues for the Company, and reported them to the ESG Committee, while disclosing complete indicators in accordance with the SASB Chemicals Industry Standard.

Note: Refer to [7.3 SASB Index Table for the SASB standard disclosure index](#).

**SDGs**

We examined the connection between the Company's sustainability vision and the UN SDGs and identified six 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.

## 2.1.2 ESG strategy (GRI 102-16, 102-44, and 103-1–103-2)

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 six 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.

It reports to the ESG Committee twice a year: the results of identified stakeholders, issues of concern, responses, as well as implementation plans and results of material issues. Specific description of material issues in 2021 (see [2.6 Description of Material Issues](#)).

## 2.1.3 Changes in material issues

No change.

## 2.1.4 Grievance mechanism (GRI 103-2)

Aspect	Environmental	Social	Governance
Material issue	<a href="#">Climate Change and Energy Management</a> <a href="#">Air pollution control</a> <a href="#">Water Resources Management</a> <a href="#">Waste Management</a>	<a href="#">Talent Attraction and Retention</a> <a href="#">Talent development and cultivation</a> <a href="#">Occupational safety and health</a> <a href="#">Transportation Safety Management</a>	<a href="#">Financial performance</a> <a href="#">Technology Research and Development</a> <a href="#">Product quality</a>
Grievance channels	<p><b>1. Grievance by internal parties</b> File complaints about environmental safety and health to the Occupational Safety and Health Committee and the environmental safety unit.</p> <p><b>2. Grievance by external parties</b> External entities file environmental or safety complaints by phone, interview, or in writing. After a unit in the CGPC's plant accepted a complaint, the environment safety unit will verify the content of the complaint.</p>	<p><b>Union</b> When union members have any suggestions about the Company or have questions about their own rights, they can respond through the union.</p> <p><b>Labor-management meeting</b> 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.</p> <p><b>Employee complaint mailbox</b> (1) Verbal or written complaints filed directly to the Company. (2) Relevant complaints filed to the Occupational Safety and Health Committee and the environmental safety unit.</p> <p><b>External entities</b> Complaints related to environmental safety and health filed through the <a href="#">email on the website</a>, by phone, through interview, or in writing.</p>	<p><b>Audit Committee's email</b> 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>

## 2.1.5 SDGs identification procedure

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.



## 2.1.6 Response to the UN SDGs

SDGs	Sub-target	Policy	Target and plan	2021 target	2025 target	2030 target	Corresponding chapter
3 Good health and well-being 	3.9	Establish a safety management mechanism, to take care of employees. Achieve zero disaster and zero disabling injury accident, and adopt ISO 45001 with all employees' participation.	Achieve zero disaster and zero disabling injury accident, and adopt ISO 45001 with all employees' participation.	1. Disabling injury frequency rate (F.R.): 0 2. Contracted suppliers' occupational accidents (times): 0	1. Disabling injury frequency rate (F.R.): 0 2. Contracted suppliers' occupational accidents (times): 0	1. Disabling injury frequency rate (F.R.): 0 2. Contracted suppliers' occupational accidents (times): 0	<a href="#">6.4 Safe and Healthy Workplace</a>
4 Quality education 	4.3 4.5	To provide a safe, harmonious, and innovative environment with an emphasis on learning and growth. Only when all employees' abilities continue to improve can CGPC make progress.	Increase training sessions	80 sessions	130 sessions	140 sessions	<a href="#">6.3 Talent Cultivation and Development</a>
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.	Increase the percentage of recycled water per year	25%	43%	50%	<a href="#">5.3 Water Resources Management</a>

SDGs	Sub-target	Policy	Target and plan	2021 target	2025 target	2030 target	Corresponding chapter
8 Decent work and economic growth 	8.2 8.3 8.5 8.7 8.8	Creating a happy workplace is the Company's consistent commitment.	Reduce employee turnover	3.0%	2.8%	2.5%	<a href="#">6.2 Talent Attraction and Retention</a>
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 of resources.	Reduce waste per unit of output year by year	1. Waste generated per unit of output amount (kg/ton): 0.007 2. Recycling rate: 90% 3. Landfill rate: 10%	1. Waste generated per unit of output amount (kg/ton): 0.005 2. Recycling rate: 92% 3. Landfill rate: 8%	1. Waste generated per unit of output amount (kg/ton): 0.0045 2. Recycling rate: 95% 3. Landfill rate: 5%	<a href="#">5.5 Waste Management</a>
			Actively implement proposals for improvement and product quality improvement projects, research and develop high value-added new products, and promote eco-friendly materials	1. Implemented proposals for improvement: 340 proposals. 2. Implemented product quality improvement projects: 11 projects. 3. Promoted the use of eco-friendly materials in products, with the sales volume: 160,000 yards. 4. Developed low-toxic and low-cost alternative raw materials: 7 projects.	1. Implemented proposals for improvement: 400 proposals. 2. Implemented product quality improvement projects: 11 projects. 3. Promoted the use of eco-friendly materials in products, with the sales volume: 160,000 yards. 4. Developed low-toxic and low-cost alternative raw materials: 8 projects.	1. Implemented proposals for improvement: 450 proposals. 2. Implemented product quality improvement projects: 12 projects. 3. Promoted the use of eco-friendly materials in products, with the sales volume: 200,000 yards. 4. Developed low-toxic and low-cost alternative raw materials: 12 projects	<a href="#">4.2 Product Quality</a>  <a href="#">3.3 Technology Research and Development</a>
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.	Implement energy conservation and carbon reduction initiatives, respond to government policies, and gradually establish renewable energy facilities or purchase green energy	1. Save energy by 1.2%. 2. Reduce sulfur oxide emission intensity (ton/kt): $\leq 1\%$ 3. Reduce nitrogen oxide emission intensity (ton/kt): $\leq 1\%$ 4. Reduce the emission intensity of volatile organic compounds (ton/kt): $\leq 1\%$	1. Save a cumulative amount of energy by 6%. 2. Reduce sulfur oxide emission intensity (ton/kt): $\leq 3\%$ 3. Reduce nitrogen oxide emission intensity (ton/kt): $\leq 3\%$ 4. Reduce the emission intensity of volatile organic compounds (ton/kt): $\leq 3\%$	1. Long-term: Continue to improve energy efficiency. 2. Reduce sulfur oxide emission intensity (ton/kt): $\leq 8\%$ 3. Reduce nitrogen oxide emission intensity (ton/kt): $\leq 8\%$ 4. Reduce the emission intensity of volatile organic compounds (ton/kt): $\leq 8\%$	<a href="#">5.2 Climate Change and Energy Management</a> <a href="#">5.4 Air Pollution Control</a>

## 2.2 Sustainable Management Policy

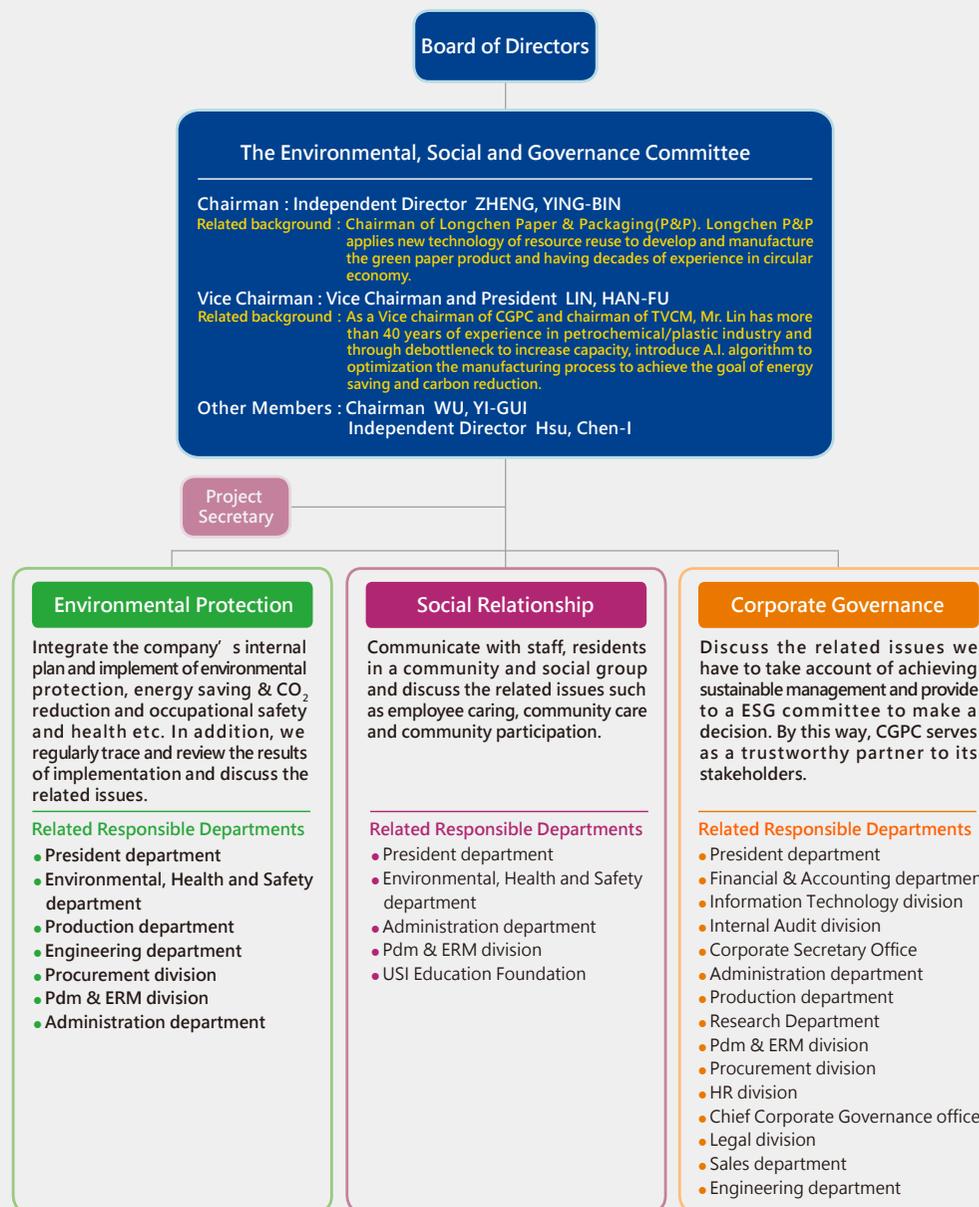
CGPC, on the basis of sustainable development, business strategy, and corporate culture, incorporates the stakeholders' issues of concern into the factors for decision-making. With a focus on stakeholders' issues of concern, we continue to implement corporate sustainable development strategies in various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

### 2.2.1 ESG Committee

CGPC formally established the ESG Committee in 2015 and was upgraded to a functional committee under the Board of Directors as the highest guiding unit in 2017. Independent director Cheng, Ying-Pin 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

The ESG Committee hold a meeting twice a year to report on ESG implementation plans, goals, and results to the Board of Directors, which monitors and reviews the management and performance of the governance, environmental, and social aspects and provides strategies and guidance for critical issues. The organizational structure and responsibilities are as shown in the figure:



## 2.3 Identification of Major Stakeholders (GRI 102-40 and 102-42)



### 2.3.1 Stakeholder communication management and issues of concern (GRI102-43 and 44)

Stakeholders' identity information, issues of concern, communication channels, and response methods are submitted to the Board of Directors every year.

Stakeholders	Significance of stakeholders to the Company	Communication channel/frequency	Issue of concern	Summary of CGPC's response
<p>Employees</p>	<p>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.</p>	<ol style="list-style-type: none"> <li>1. Performance interview/every six months</li> <li>2. Labor-management meeting/quarterly</li> <li>3. Union labor representative assembly/annual</li> <li>4. Employee grievance mailbox processing/anytime</li> <li>5. Bulletin board and email/anytime</li> <li>6. Various work review meetings/weekly, monthly, and quarterly</li> <li>7. <a href="#">CGPC Family Newsletter</a>/monthly</li> </ol>	<ol style="list-style-type: none"> <li>1. Economic performance</li> <li>2. Human rights and labor-management relations</li> <li>3. Occupational safety and health</li> <li>4. Talent development and cultivation</li> </ol>	<ol style="list-style-type: none"> <li>1. Salary is adjusted based on the price index and individual performance (employees' average salary increase in 2021 was about 3%).</li> <li>2. The union holds meetings to communicate face-to-face with employee representatives regularly; 93.1% of employees participated in the union and signed a human rights protection policy.</li> <li>3. The Occupational Safety and Health Committee meeting is held quarterly, and a total of 23 critical occupational safety issues were discussed in 2021.</li> <li>4. Named an excellent enterprise in training by the Taoyuan-Hsinchu-Miaoli Regional Branch, Workforce Development Agency, Ministry of Labor. In 2021, a total of 140 people were subsidized by the Workforce Development Agency, Ministry of Labor. The total training hours were 43 hours, and the subsidy received amounted to NT\$20,700.</li> </ol>
<p>Clients</p>	<p>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.</p>	<ol style="list-style-type: none"> <li>1. Sending of samples for confirmation/from time to time</li> <li>2. Participation in exhibitions to display products/from time to time</li> <li>3. Visits, phone calls, emails, video conferences/anytime</li> <li>4. Client satisfaction survey/annually</li> <li>5. Client feedback and complaint response form/anytime</li> <li>6. <a href="#">CGPC Family Newsletter</a>/monthly</li> </ol>	<ol style="list-style-type: none"> <li>1. Client relationship management</li> <li>2. Technology R&amp;D</li> <li>3. Product quality</li> </ol>	<ol style="list-style-type: none"> <li>1. We learn about <a href="#">clients' opinions</a> through the annual client satisfaction survey. In 2021, the number of clients responding to the survey who were "Satisfied" or above accounted for 99.5% of the total number of clients who responded to the survey (target was 90%).</li> <li>2. In 2021, the sales of foam door panels (building materials) and new PVC leather accounted for 12.5% and 3.7% of the total annual sales, respectively.</li> <li>3. In 2021, there were 435 <a href="#">quality improvement proposals</a>, and the resulting benefits reached NT\$14.29 million, and the amount of the resulting benefits increased compared to the previous year.</li> </ol>

Stakeholders	Significance of stakeholders to the Company	Communication channel/frequency	Issue of concern	Summary of CGPC's response
 <p>Investors</p>	<p>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.</p>	<ol style="list-style-type: none"> <li><a href="#">Shareholders' meeting</a>/annually</li> <li><a href="#">Market Observation Post System (MOPS)</a>/release as required</li> <li><a href="#">Company website</a>/anytime</li> <li><a href="#">Annual report</a>/annually</li> <li><a href="#">Financial statements</a>/quarterly</li> <li><a href="#">ESG report</a>/annually</li> <li><a href="#">Investor conference</a>/four times per year</li> <li><a href="#">CGPC Family Newsletter</a>/monthly</li> <li><a href="#">Setup of whistleblowing mailboxes</a></li> </ol>	<ol style="list-style-type: none"> <li>Economic performance</li> <li>Client relationship management</li> <li>Technology R&amp;D</li> </ol>	<ol style="list-style-type: none"> <li>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.</li> <li>(1) Regularly disclose financial information on the <a href="#">MOPS of the Taiwan Stock Exchange and the Company's website</a>. (2) Set up the <a href="#">Investor section on the Company's website</a>. (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.</li> </ol>
 <p>Suppliers/Contractors</p>	<p>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.</p>	<ol style="list-style-type: none"> <li>Review meeting/from time to time</li> <li>Supplier evaluation and commitment/annually</li> <li>Contractor safety and health education and training/from time to time</li> <li>Industry exchange seminars/at least once a year</li> <li>Visits, phone calls, and emails/from time to time</li> <li><a href="#">CGPC Family Newsletter</a>/monthly</li> </ol>	<ol style="list-style-type: none"> <li>Supply chain sustainable management</li> <li>Occupational safety and health</li> </ol>	<ol style="list-style-type: none"> <li>(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</li> <li>In 2021, a total of 5,141 contractors' personnel received safety education and training. In response to the accident investigation results in 2021 (three accidents for CGPC and two for contractors), CGPC will strengthen education and training, comply with various operating regulations, and require employees to make various improvements. TVCM's and CGPC Polymer's contractors did not have accidents occurring between 2019 and 2021.</li> </ol>
 <p>Government agency</p>	<p>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.</p>	<ol style="list-style-type: none"> <li>Visits to competent authorities or communication through official documents/from time to time</li> <li>Dispatch of employees to participate in public hearings, coordination meetings, or regular meetings/from time to time</li> <li><a href="#">MOPS</a>/release as required</li> <li><a href="#">CGPC Family Newsletter</a>/monthly</li> </ol>	<ol style="list-style-type: none"> <li>Climate change and energy management</li> <li>Water resource management</li> <li>Air pollution control</li> </ol>	<ol style="list-style-type: none"> <li>There were two environmental penalties in 2021, and the improvements have been completed, and we did not violate regulations in terms of product services, client relationships, and labor and human rights.</li> <li>(1) Three plants passed the ISO-50001 energy management system verification. (2) Management systems expected to be implemented in 2022: CGPC: ISO 46001 water resources, ISO 14046 water footprint, and ISO 14067 carbon footprint for some products. CGPC and TVCM: ISO 14064-1 greenhouse gas inventory (Scope 3 included). CGPC Polymer: ISO 14064-1 greenhouse gas inventory and ISO 14067 carbon footprint. (3) Built a new activated carbon fluidized bed to reduce VOCs and reduce greenhouse gas emissions. (4) Formulated climate change risk management plans.</li> <li>Built a water recycling system (HBF), and the total volume of water recycled in 2021 reached about 8.493 million liters per year.</li> </ol>

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



## 2.3.2 Contact points for stakeholders

### Employees

**CGPC - Hsiao, Feng-Kai, Section Chief**  
(037) 623-391 ext. 5341  
fkhsiao@cgpc.com.tw

**TVCM and CGPC Polymer - Lu, Hsien-Wen, Section Chief**  
(07) 704-0988 ext. 1145  
hunterlu@tvcm.com.tw

### Investors

**Spokesperson**  
**Hu, Chi-Hung, Vice President**  
(02) 2650-3708

**Acting spokesperson**  
**Liu, Chuan-Yuan, Special Assistant at the President's Office**  
(02) 2650-3716

**Stock service contact point**  
**Hung, Hsiu-Jung - Section Chief at Stock Services**  
**Wu, Ju-Chun - Section Chief at Stock Services**  
(02) 2650-3773

### Clients

**PVC resin, alkali-chlorine, bleach, and pellets:**  
**Huang, Hsin-Huang, Assistant Manager**  
(037) 623-391 ext. 5530  
sinhuanghuang@cgpc.com.tw

**PVC building materials:** **Chang, Hsiu-Te, Section Chief**  
(037) 623-391 ext. 5202  
stchang@cgpc.com.tw

**PVC soft and hard plastic sheet:** **Wu, Chien-Hsing, Manager**  
(037) 623-391 ext. 5387  
jhwu@cgpc.com.tw

**PVC leather:** **Hsiao, Fu-Chun, Section Chief**  
(037) 623-391 ext. 5537  
shiaujach@cgpc.com.tw

**Eco-friendly products:** **Li, Yu-Chi, Section Chief**  
(037) 623-391 ext. 5526  
yuchlee@cgpc.com.tw

### Government agencies

**Wu, Chia-Ling, Section Chief at Accounting Department**  
(02) 8751-6888 ext. 2007  
clwu@usig.com

**Wu, Tai-Jung, Section Chief at Accounting Department**  
(02) 8751-6888 ext. 2003  
carriewu@usig.com

### Suppliers/Contractors

**Mr. Chen, Huan-Chien**  
(02) 8751-6888 ext. 3771  
troychen@usig.com

### Community residents

**CGPC - Chen, Shao-Cheng, Section Chief**  
(037) 623-391 ext. 5241  
scchen@cgpc.com.tw

**TVCM and CGPC Polymer - Lu, Hsien-Wen, Section Chief**  
(07) 704-0988 ext. 1145  
hunterlu@tvcm.com.tw



## 2.4 Identification of Material Issues (GRI 102-43 and 102-47)

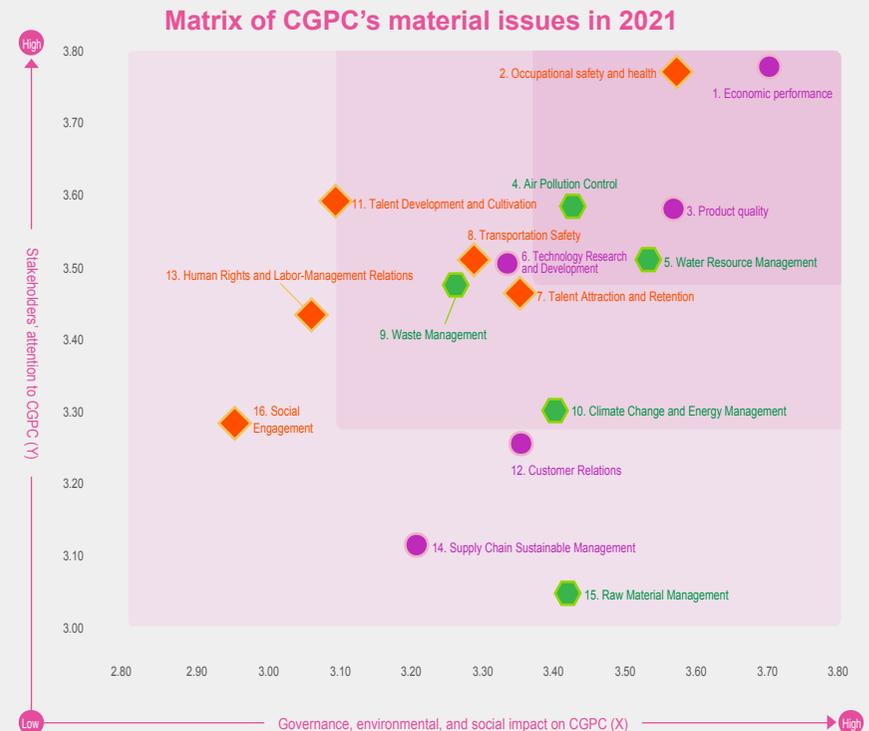
We established a systematic operating process as per the GRI Standards, identified material issues and formulated strategies and goals and improvement plans to improve the Company's operational efficiency as the basis for sustainable development and continuous improvement, while building a consensus in corporate governance, environmental protection, and social inclusion.

### 2.4.1 Steps for identification of material issues



### 2.4.2 Identification of material issues and a matrix

- (1) To make it easier for stakeholders to read and fill in effectively, the ESG task force re-examined the content of the questionnaire and added new issues. The original 24 issues were integrated into 16 issues, and the questionnaire was designed to be answered online and analyzed in the system.
- (2) Analyzed the degree of stakeholders' concern about each issue and the degree of internal impact of each issue on the Company and drew a matrix of CGPC's material issues in 2021 (as shown in the figure).  
2021 material issue identification questionnaire:
  - ◆ For the internal questionnaire (including directors), a total of 59 copies were sent and 51 were responded to, with a response rate of 86%.
  - ◆ For the external questionnaire, a total of 323 copies were sent and 244 were responded to, with a response rate of 76%.
- (3) The ESG Task Force under the ESG Committee took into account factors, such as great concern, great impact, and corporate sustainability and identified 11 material issues and submitted them to the ESG Committee for review. The 2021 ESG Report contains a total of 11 material issues.
- (4) Material issues were discussed by each team and the management approaches and goals for 2021 were set to achieve the Company's sustainable development.



## 2.5 Boundaries of Material Issues and Value Chain (GRI 103-1 and 102-46)

The ESG task force under the ESG Committee examines the impact of material issues on CGPC and the upstream and downstream of our value chain one by one.

### Material topics in 2021 and CGPC's value chain

Involvement: ● means direct impact; ◎ means indirect impact

Aspect	Material topics /boundaries	Upstream industry	The organization					Downstream industry	Importance to operations		
		Suppliers or contractors	CGPC Headquarters	CGPC Toufen Plant	Subsidiary	TVCM	Others	Clients	Government agency	Investors	Community residents
 Governance	Financial performance	●	●	●	●	●	●		●	●	◎
 Social	Occupational safety and health	●	●	●	●	●		●	●		◎
 Governance	Product quality	●	●	●	●	●	●	●			
 Environmental	Air pollution control	◎	●	●	●	●		◎	●		●
 Environmental	Water Resources Management	◎	●	●	●	●		◎	●		●
 Governance	Technology Research and Development	●	●	●	●	●	●	●			
 Social	Talent Attraction and Retention	◎	●	●	●	●		◎			◎
 Social	Transportation safety	◎	●	●	●	●		●	●		●
 Environmental	Waste Management	◎	●	●	●	●		◎	●		●
 Environmental	Climate Change and Energy Management	◎	●	●	●	●	●	●			◎
 Social	Talent development and cultivation	◎	●	●	●	●		◎			◎

## 2.6 Description of Material Issues (GRI 101-1.4 and 103-1-103-2)

Aspect	Material issue	ESG principles	Significance to the Company	Corresponding GRI Standards	Corresponding chapter
Governance	Financial performance	Stable operations	It is the foundation of the Company's sustainable development. The economic performance allows shareholders to obtain reasonable return on investment and enables the Company to have sufficient resources to take care of employees. The Company also creates mutually beneficial and win-win relationships with partners, to facilitate the growth of both society and the Company.	GRI 201 : 2016 Financial performance	<a href="#">3.2 Operational Performance</a>
	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.	Self-defined topic	<a href="#">3.3 Technology Research and Development</a>
	Product quality	R&D and innovation	Use an efficient quality system and a systematic management system to stabilize quality, reduce the defect rate, and improve client satisfaction.	Self-defined topic	<a href="#">4.2 Product Quality</a>
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, the Company has continued to promote and implement energy conservation and carbon reduction initiatives and develop green products with practical actions.	GRI 302: 2016 Energy	<a href="#">5.2 Climate Change and Energy Management</a>
	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	<a href="#">5.4 Air Pollution Control</a>
	Water Resources Management	Stable operations	Continue to monitor the records of water withdrawal and water consumption and analyze and improve them, use reclaimed water, reduce environmental pollution, and maintain the ecological balance.	GRI 303 : 2018 Water and Effluents	<a href="#">5.3 Water Resources Management</a>
	Waste Management	Stable operations	Discharge and waste from the process are what the Company attaches great importance to, and we voluntarily and actively manage and properly handle sewage and waste.	GRI 306 : 2020 Waste	<a href="#">5.5 Waste Management</a>
Social	Talent development and cultivation	Social inclusion	Provide a safe, harmonious, and innovative environment with an emphasis on learning and growth. Only when all employees' ability continues to improve will CGPC's team make progress.	GRI 404 : 2016 Training and Education	<a href="#">6.3 Talent Cultivation and Development</a>
	Talent Attraction and Retention	Social inclusion	Employees are CGPC's foundation for sustainable development. The Company firmly believes that only when employees are satisfied can we continue to hit new highs. Therefore, we are committed to creating a happy workplace for our employees.	GRI 401 : 2016 Employment GRI 405 : 2016 Diversity and Equal Opportunity	<a href="#">6.2 Talent Attraction and Retention</a>
	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	<a href="#">6.4 Safe and Healthy Workplace</a>
	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.	GRI 413 : 2016 Local Communities	<a href="#">6.5 Transportation Safety Management</a>

Note: Please refer to 7.2 Index of Material Issues in Appendices for the detailed description of SDGs.

# 3 Sustainable Development (GRI 102-7, 102-11, 102-15, 102-18, 102-45, 201-1, 201-2, 201-4, 307-1)



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.



## 3.1 Corporate governance (GRI 102-18)

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.

The Company was ranked by (8th year) the Taiwan Stock Exchange as in the top **6% to 20%** of listed companies for corporate governance evaluation and top **11% to 20%** of non-financial electronics companies with a market value of more than NT\$10 billion. In 2021, the Company received the Silver Award of the Taiwan Institute for Sustainable Energy - "TSAA Taiwan Sustainability Actions Award (1st year)". TCSA Taiwan Corporate Sustainability Award (14th year): 1. Comprehensive performance: Taiwan Sustainability Actions Award for Performance of Excellence; 2. Sustainability report: Traditional manufacturing - Platinum Award; 3. Sustainability individual performance: Innovation Growth Leadership Award.

### 3.1.1 Transparent information disclosure

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](#), [institutional 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 2021, 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

The Company's board is composed of 9 directors with extensive experience in various professional fields, and among them, 3 are independent directors, accounting for 33% of the board of directors. The term of office of the directors is 3 years and they may be re-elected.

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, to the shareholder meeting. Shareholders shall make their election choices from the list of candidates.

A total of 5 board meetings were held in 2021, and the attendance rate of all directors (independent directors) in person reached 97.78% (100% including proxy attendance). (Please refer to our [website](#))



### Board members

Current term: June 21, 2019 to June 20, 2022

#### Members:

Director: Yi-Gui Wu (Chairman)

Han-Fu Lin (Vice Chairman and President)

Ko-Shun Wang, Han-Tai Liu, Chen-Tu Liu, Hung-To Wu

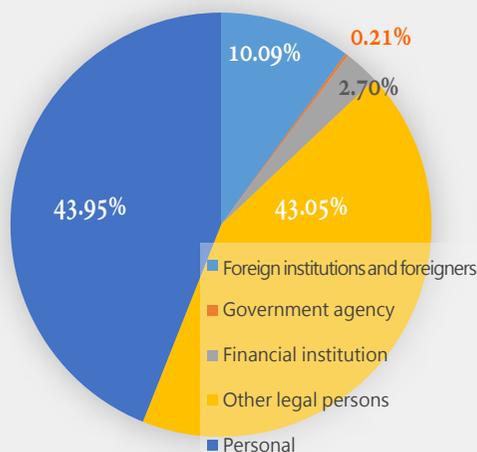
Independent directors: Tsu-Te Li, Ying-Pin Cheng, Liang-Hsien Li

Gender: All male

#### Age:

50 and under	1
50 to 59	2
60 to 69	1
70 and over	5

### CGPC's composition of shareholders



### 3.1.3 Status of implementation of board diversity

According to Article 20 of the Company's Corporate Governance Best Practice Principles, the composition of the board of directors should consider diversity. The current members all possess the knowledge, skills and qualities required to perform their duties, and have expertise in accounting and finance, international market, law and environmental protection, etc. .

#### Recusal of directors from conflict of interests

The board has formulated complete systems and measures in terms of procedures for preventing directors' conflict of interests. (Please refer to our [website](#)). In order to help our directors, managers and employees understand, promote and follow the Group's ethics and code of conduct standards, we require employees to abide by the ethical management policy as a condition of employment. Directors and senior executives need to sign the Statement of Ethical Management Policy when they are first appointed; in 2021, the signing rate is 100%. (Please refer to our [website](#)).

#### Implementation of diversity of board members

In order to achieve the ideal goal of corporate governance, 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. We are in the traditional plastics industry. Due to factors such as work environment and labor-intensity, the composition of employees and managers has always been the same as most other industry peers. Most of them are male, and it is even rarer for women to hold managerial positions. In recent years, the rising awareness of equal rights has led to the increasing trend of young women working in the chemical industry. In addition, the board diversity has become an important part of corporate governance improvement. We have begun to pay attention to corporate sustainability management in recent years, and hopes to recruit professionals in the field of environmental protection, green energy, laws and others into the board, especially female members to further increase their proportion of the board. (Please refer to our [website](#)).

### 3.1.4 Status of performance evaluation of committees

#### 2021 performance evaluation of the board, Audit Committee and Salary and Remuneration Committee

We have established evaluation methods for the performance of the board, and regularly conduct self-evaluation of the board as a whole, individual board members, the Audit Committee and the Salary and Remuneration Committee 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.

Parties evaluated	Board as a whole	Individual board members	Audit Committee	Salary and Remuneration Committee
Aspect of assessment	<ul style="list-style-type: none"> <li>◆ Participation in the operation of the Company</li> <li>◆ Improvement of the quality of the board' decision making</li> <li>◆ Composition and structure of the board</li> <li>◆ Election and continuing education of the directors</li> <li>◆ Internal control</li> </ul>	<ul style="list-style-type: none"> <li>◆ Understand the objectives and missions of the Company</li> <li>◆ Understanding of directors' job responsibilities</li> <li>◆ Participation in the operation of the Company</li> <li>◆ Internal relationship management and communication</li> <li>◆ Specialization and continuous education of directors</li> <li>◆ Internal control</li> </ul>	<ul style="list-style-type: none"> <li>◆ Participation in the operation of the Company</li> <li>◆ Understanding of Audit Committee's job responsibilities</li> <li>◆ Improvement of the quality of the Audit Committee' decision making</li> <li>◆ Makeup of the Audit Committees and election of members</li> <li>◆ Internal control</li> </ul>	<ul style="list-style-type: none"> <li>◆ Participation in the operation of the Company</li> <li>◆ Understanding of Salary and Remuneration Committee's job responsibilities</li> <li>◆ Improvement of the quality of the Salary and Remuneration Committee' decision making</li> <li>◆ Makeup of the Salary and Remuneration Committees and election of members</li> </ul>
Assessment results	The average score of all aspects of the board as a whole is above 4.6, and the evaluation results are good.	The average score of all aspects of each director is above 4.9, and the evaluation results are good.	The average score of all aspects of the Audit Committee is 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.

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 2021.01.01 to 2021.12.31.

### 3.1.5 Improve directors' professional competence

In order to reinforce the professional competence of directors, we regularly provide information on relevant continuing education courses to directors and assists directors to register for the courses. We arranged a total of 6 hours of internal continuing education courses, which included the Value of Information Security in the Post-Pandemic Era and the US-China Trade Conflict, with Director Ching-Hao Mao of the Cybersecurity Technology Institute of the Institute for Information Industry giving the 3-hour lecture, on September 1, 2021, and the Insider Trading Case Study, with Prosecutor Chih-Hung Chiu of the Taiwan High Prosecutors Office giving the 3-hour speech, on October 7, 2021. In 2021, all directors and independent directors also participated in various external courses, and the total number of training hours was 63 hours. The 9 directors (including independent 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 Head of corporate governance

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 head of corporate governance in charge of corporate governance-related affairs. Director Yung-Chih Chen has more than 6 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 shareholder 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 laws and regulations, etc. (For details, please see the description on [the website](#))

**Highlights of 2021 task execution**



1. Assist the directors to perform their duties, provide the required information, arrange for the directors to attend continuing education courses and apply for liability insurance.
2. Handle the procedures for board meetings and shareholder meetings and verify the regulatory compliance of resolutions.
3. Maintain investor relations.

**Number of hours of continuing education in 2021 for corporate governance supervisor**



Head of corporate governance, Yung-Chih Chen, has received **30** hours of continuing education (please see [the website](#) for details).

### 3.1.7 Functional committees

We have established the Audit Committee, Salary and Remuneration Committee and Sustainable Development Committees under the board of directors. For details, please visit the website of the respective committees.

Job title	Name	The Audit Committee	Remuneration Committee	ESG Committee
Chairman	Yi-Gui Wu			V
Director	Han-Fu Lin			V
Independent director	Tsu-Te Li	V (Convener)	V	
Independent director	Ying-Pin Cheng	V	V (Convener)	V (Committee chairperson)
Independent director	Liang-Hsien Li	V	V	V



### Recommendations and implementations

The directors did not offer specific suggestions. However, in view of the increasing emphasis on environmental, social and governance (ESG)-related issues around the world, we have implemented various measures in accordance with the Corporate Governance 3.0 - Sustainable Development Blueprint issued by the competent authority. In addition to the continuous improvement of corporate governance performance, we have rigorously planned and implemented carbon reduction goals and the development of green electricity strategies, hoping to meet international standards and achieve the long-term goals of corporate sustainable development.

### 3.1.8 Functions and operations of each functional committee

Name of committee	Responsibilities/Functions	Operation and communication status								
 <p><a href="#">The Audit Committee</a></p>	<ul style="list-style-type: none"> <li>◆ Formulation/revision of the internal control system and the supervision of its operation.</li> <li>◆ Formulation/revision of the procedures for handling material financial and business activities and the supervision of the operation.</li> <li>◆ Supervision of appointment and resignation of CPAs and their independence.</li> <li>◆ Appointment and dismissal of financial/accounting/internal audit officers.</li> <li>◆ Supervision of the appropriateness of financial reports.</li> </ul>	<ol style="list-style-type: none"> <li>1. The current term of office is from 2019.6.21 to 2022.6.20, with a total of 3 members, consisting of all independent directors.</li> <li>2. The Audit Committee meets at least once a quarter and the meeting may be held at any time as needed. The 2nd batch of the Audit Committee has held 13 meetings as of 2021.11.03. (5 meetings in 2021), and the attendance of committee members (independent directors) in person was 100%.</li> <li>3. Communication between the Audit Committee members and the internal audit supervisor and accountants: <table border="1"> <thead> <tr> <th>Accountants</th> <th>Internal audit supervisor</th> </tr> </thead> <tbody> <tr> <td>1. Review the implementation and conclusion of the Q3 2021 consolidated financial report.</td> <td>1. Implementation status of audit and the results.</td> </tr> <tr> <td>2. 2021 annual financial report audit plan and key audit matters.</td> <td>2. Schedule of 2021 internal control self-evaluation.</td> </tr> <tr> <td></td> <td>3. 2022 Audit plan.</td> </tr> </tbody> </table> </li> </ol> <p>Results of communication: No opinions.</p> <ol style="list-style-type: none"> <li>4. The performance evaluation of the Audit Committee was completed in 2022.01 (the period of evaluation is 2021). The evaluation results are all good in all aspects. The results have been reported to the board for review and improvement in March 2022, with realizing the awareness of the Audit Committee's job responsibilities being the top priority. For details, please visit our official website and go to <a href="#">the Audit Committee section</a>.</li> </ol>	Accountants	Internal audit supervisor	1. Review the implementation and conclusion of the Q3 2021 consolidated financial report.	1. Implementation status of audit and the results.	2. 2021 annual financial report audit plan and key audit matters.	2. Schedule of 2021 internal control self-evaluation.		3. 2022 Audit plan.
Accountants	Internal audit supervisor									
1. Review the implementation and conclusion of the Q3 2021 consolidated financial report.	1. Implementation status of audit and the results.									
2. 2021 annual financial report audit plan and key audit matters.	2. Schedule of 2021 internal control self-evaluation.									
	3. 2022 Audit plan.									
 <p><a href="#">Salary and Remuneration Committee</a></p>	<ul style="list-style-type: none"> <li>◆ Stipulate and regularly review the performance of the directors and managers; as well as the remuneration policies, systems, standards and structure.</li> <li>◆ Regularly evaluate and stipulate director and manager remuneration.</li> </ul>	<ol style="list-style-type: none"> <li>1. The current term of office is from 2019.6.26 to 2022.6.20, with a total of 3 members, consisting of all independent directors.</li> <li>2. The Salary and Remuneration Committee conducts at least 2 meetings a year. In 2021, there were 3 meetings, and the attendance of committee members (independent directors) in person was 100%.</li> <li>3. In January 2022, we have completed the 2021 performance evaluation of the Salary and Remuneration Committee. All aspects of the evaluation showed good results which have been reported to the board in Q1 2022 as a reference for future improvement. For details, please visit our official website and go to the <a href="#">Salary and Remuneration Committee section</a>.</li> </ol>								
 <p><a href="#">Sustainable Development Committee</a></p>	<ul style="list-style-type: none"> <li>◆ Formulate sustainable development policy.</li> <li>◆ Supervise the implementation of strategic planning of sustainable development, annual plan and project plans, and evaluate the status of implementation.</li> <li>◆ Review the sustainable report.</li> <li>◆ Report the annual implementation results of sustainable development to the board every year.</li> </ul>	<ol style="list-style-type: none"> <li>1. The current term of office is from 2019.6.26 to 2022.6.20, and the 4 committee members include the chairman, the vice chairman who concurrently serves as the president, independent directors Ying-Pin Cheng and Liang-Hsien Li.</li> <li>2. The Corporate Social Responsibility Committee holds meetings at least twice a year. In 2021, there were 2 meetings, and the attendance of committee members in person was 100%.</li> <li>3. 2020 sustainable development progress and annual sustainability plan report. For details, please visit CGPC's <a href="#">ESG section</a> on the website.</li> </ol>								

Note: The board has approved on 2022.03.09 the amendment of the organizational charter of the Sustainable Development Committee and the Sustainable Development Best Practice Principles in response to the announcement made by the Taiwan Stock Exchange on 2021.12.07. The original Corporate Social Responsibility Committee Organizational Charter, Corporate Social Responsibility Best Practice Principles and the Corporate Social Responsibility Report have been renamed as the Sustainable Development Committee Organizational Charter, Sustainable Development Best Practice Principles and Sustainability Report.

### 3.1.9 Implement ethical management

In order to make all employees aware of the corporate culture of CGPC's ethical management, and improve the behaviors and professional ethics of all employees to establish sound business operation 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. In order to improve the ethical management practices, we have designated the corporate governance team for the formulation and supervision of the ethical management policy and preventive measures, and the head of [corporate governance](#) regularly (at least once a year) reports to the board. (For details, please see the description on [the 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 2021.

Note: ERP (Enterprise Resource Planning).

#### Operation and annual implementation of ethical management

In order to help our directors, managers and employees understand, promote and follow the Group's ethics and code of conduct standards, we require employees to abide by the ethical management policy as a condition of employment. Directors and senior executives need to sign the Statement of Ethical Management Policy when they are first appointed; in 2021, the signing rate is 100%. CGPC did not find any fraud or violation cases in 2021.

##### Promotion education

CGPC announces the standards related to ethics on the company website, and continuously invites well-known scholars, experts or lawyers to conduct education and 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 2021, with a total of 666 hours and a total of 256 person-times in attendance. For details, please refer to the following:

Item	Ethics seminars	Hours	Person-time	Total hours
1	Insider trading practical case study and related legal responsibilities	3	4	12
2	Copyright protection and fair use	2	2	4
3	Internet copyright and legal use of software	2	100	200
4	Introduction to the Trade Secrets Act and case study	3	136	408
5	Legal liabilities of breach of trust and case study	3	3	9
6	Discussion on labor laws and regulations conducted by human resources personnel	3	11	33
<b>Grand Total</b>			<b>256</b>	<b>666</b>

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.

## 3.2 Operating performance (GRI 102-7, 102-15, 102-45, 201-1, 201-4)

### Material issue: Economic performance

**Education and training sessions and seminars on ethics**



Internet copyright and how to legally use software: 2021/8/19

Introduction to the Trade Secrets Act and case study: 2021/10/20

#### 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:

On November 3, 2020, we obtained the board's approval of the Intellectual Property Rights Management Plan and Annual Implementation Status Report. The 2021 intellectual property rights management plan implementation status and 2022 R&D plan have also been approved by the board. (For details, please see the description on [the website](#))



**Meaning to 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.



**Strategic Policy**

Improve product value, provide customers with satisfactory service quality, and maintain stable profits and sustainable development of the enterprise.



**Commitment**

Implement corporate governance and environmental protection measures for energy conservation and carbon reduction to create a workplace of wellness.

Promotion policy	Unit	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Reinforce product differentiation of PVC resin products, upgrade equipment to improve quality and output and establish stable sales channels	PVC resin production growth rate %	2.7	10.8 	3.0	4.0	8.0

Note: 2019 is the base year.

 Exceeded goal  Achieved  Partially achieved  Not achieved

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.

CGPC's 2021 earnings per share is NT\$4.25.

### Operational performance:

- ◆ The annual output of PVC resin is 222,000 tonnes, and the detoxification amount is 209,000 tonnes, which show an increase over last year. As for chemical products, due to the recovery of the prices of caustic soda and hydrochloric acid and the electronics industry, the sales volume increased by 3% compared with last year.
- ◆ As for processed goods, the sales volume of building materials declined by 3% due to the government's policy on curbing real estate price.
- ◆ For tape products, the shrinking end-consumer market, decline in orders from downstream customers and the tariff barriers have resulted in 4% decline in sales volume compared with last year.
- ◆ PVC leather products grew 25% due to the recovery of the US auto market.

### Affiliates:

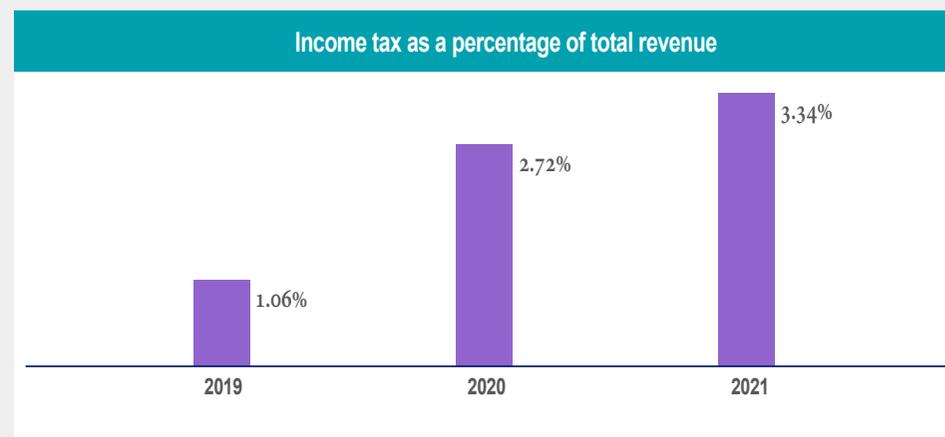
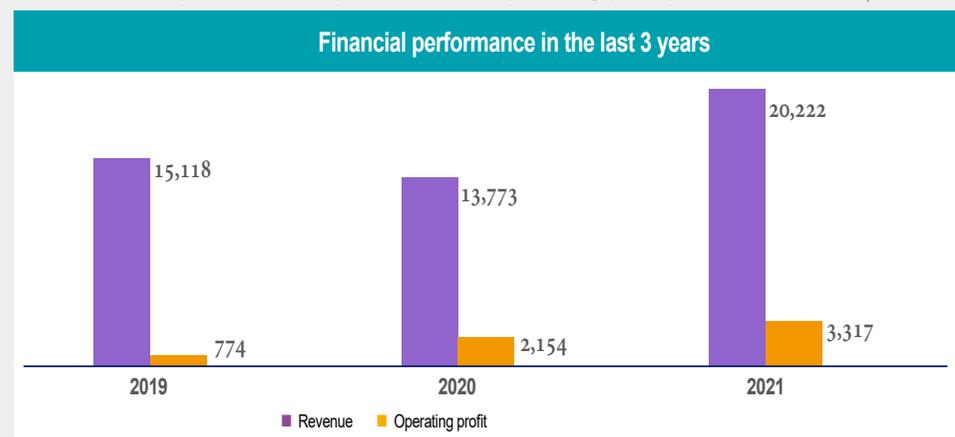
- ◆ TVCM's VCM output was 448,000 tonnes, an increase of 57,000 tonnes compared with last year, and the achievement rate was 101%. The sales volume was 457,000 tonnes, an increase of 54,000 tonnes compared with last year, and the achievement rate was 101%.
- ◆ Taiwan Highpolymer's PVC output was 210,000 tonnes, an increase of 25,000 tonnes compared with last year, and the achievement rate was 98%. The sales volume was 192,000 tonnes, an increase of 5,000 tonnes compared with last year, and the achievement rate was 89%.

Looking forward to 2022, the added production capacity of PVC may be lower than the demand growth. The high PVC demand in emerging markets and the reduction of calcium carbide PVC production capacity due to environmental protection issues in China will all be conducive to the development of the PVC/VCM market. The supply of raw materials is estimated to be better than that in 2021 with some room for profit; the PVC prices, which had fallen since the fourth quarter last year has bottomed out in the South Asian market in early February this year. The outlook for the global market in the first half of this year is estimated to be positive. We still need to pay close attention to the post-pandemic impact on the global economy as well as issues of oil prices and the supply chain of raw materials caused by the Russo-Ukrainian War. The Company will continue to observe the situation prudently and take countermeasures accordingly.

Our team will apply the planning of the vinyl industry value chain to secure the best profitability and make good use of vertical integration practice and effective management to implement improvement measures for occupational safety and environmental protection, and fulfill our corporate social responsibility, while creating and expanding our niches to maximize operational performance to achieve or even exceed our annual budget target.

### 3.2.1 Financial performance (Revenue and operating profit)

(Unit: NT\$ million)



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 MQPS](#).

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

### 3.2.2 Profit distribution

#### 1. Dividend policy as stipulated in the Articles of Incorporation:

- ◆ If the Company is profitable in the fiscal year, no more than 1% of the profit shall be offered as remuneration for directors, and no less than 1% of the profit shall be allocated as remuneration for employees. However, if the Company still has accumulated losses, an amount shall be reserved in advance to make up for the losses.
- ◆ The abovementioned employee remuneration can be distributed in the form of stocks or cash, and the recipients shall include the employees of subsidiaries who meet certain criteria. These criteria are determined by the board of directors. If the final annual accounts show profit after tax, the Company should first make up for the losses of previous years. The balance, after allocating 10% as the legal reserve, is the distributable profit for the year, which, together with the accumulated undistributed profit and the balance of special reserve recognized or reversed in accordance with laws or competent authority's regulations, become the accumulated distributable profit. After the board formulates the profit distribution proposal submitted to the shareholder meeting for resolution according to the regulatory procedures, and the shareholder meeting may choose to retain all or part of the profit based on the business condition.
- ◆ As the Company is in an mature industry, the distribution of profits takes into account the needs of research and 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 be distributed.

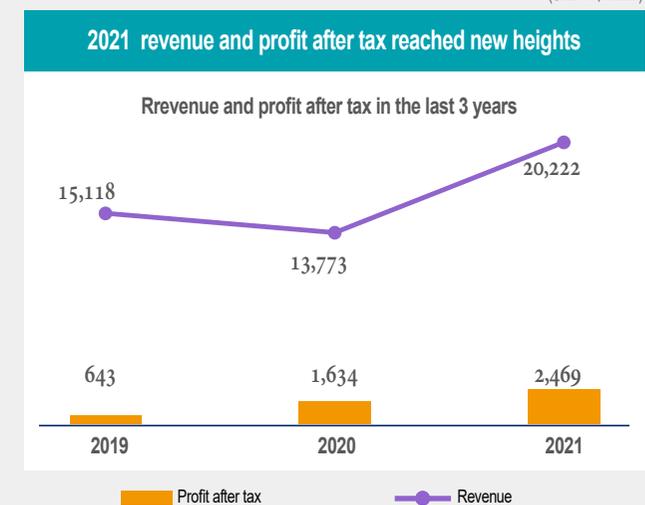
#### 2. Proposal to distribute cash dividend at the Shareholders' Meeting

For the distribution of 2021 profit, the board proposed to distribute cash dividends of NT\$2.5 per share, which would be subject to the approval by the resolution of the annual general meeting held on May 30, 2022, before being carried out in accordance with regulations. (See [Material Information](#) on the official website).

### 3.2.3 The revenue and dividend distribution in the last 3 years are as follows (Net profit attributable to owners of the company)

(Unit: NT\$ million)

Year	Revenue	Profit after tax	Earnings per share (NT\$/Share)	Dividends distribution (Including cash and stock dividends)	per share Cash dividends (NT\$/Share)	per share Stock dividends (NT\$/Share)	Total dividend payout ratio	Price/Earnings Ratio	Price/Dividends Ratio	Cash Dividends Yield
2019	15,118	643	1.22	527	0.5	0.5	82%	17.95	43.80	2.28%
2020	13,733	1,634	2.95	1,273	1.8	0.5	78%	6.65	10.89	9.18%
2021	20,222	2,469	4.25	1,453	2.5	0	59%	8.33	14.16	7.06%



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  
 (4) Figures of 2020 price-dividends ratio and cash dividends yield were typos, and were updated this time.

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

(Unit: NT\$ million)

Item	2019	2020	2021
<b><u>Direct economic value generated</u></b>			
Net sales revenue	15,118	13,733	20,222
Service revenue	25	3	3
Financial investment revenue	29	24	55
Asset sales revenue	3	4	20
	<b>15,175</b>	<b>13,764</b>	<b>20,300</b>
<b><u>Economic value distributed</u></b>			
Operating costs	13,075	10,271	15,570
Employee salary and benefits	1,205	1,295	1,392
Payments to funders	579	1,396	1,571
Payments to the government			
Income tax	179	394	696
Land value tax/House tax/Others	160	374	676
Community investment (including charitable giving)	19	20	20
	6	5	6
	<b>15,044</b>	<b>13,361</b>	<b>19,235</b>
<b><u>Economic value retained</u></b>	<b>131</b>	<b>403</b>	<b>1,065</b>

### 3.2.5 2021 Government subsidies

(Unit: NT\$ thousand)

Company	Summary	Amount
CGPC (Toufen)	Taoyuan-Hsinchu-Miaoli Branch of the Workforce Development Agency, Ministry of Labor	21
CGPC (Toufen)	Bureau of Energy of the Ministry of Economic Affairs	705
CGPC (Taipei)	Bureau of Foreign Trade, Ministry of Economic Affairs	167
TVCM (Linyuan)	Occupational safety and Health Administration, Ministry of Labor	105
TVCM (Linyuan)	Bureau of Labor Insurance, Ministry of Labor	3
CGPCP (Linyuan)	None	0
<b>Total</b>		<b>1,001</b>

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](#).

# 3.3 Technology Research and Development

## Material issue: Technological research and development

 <b>Meaning to CGPC</b>	 <b>Strategic Policy</b>	 <b>Commitment</b>
<p>R&amp;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.</p>	<p>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.</p>	<p>Innovate products and improve manufacturing process to comply with the latest international regulations.</p>

Promotion policy	Unit	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Promote product applications and development of eco-friendly technologies	Ten-thousand	16	10 	12	16	20
Raw materials countermeasures: Developed low-toxic and low-cost alternative raw materials	Number of development projects	7	17 	7	8	12

Note: The reason why the sales volume of eco-friendly materials did not meet the standard: The outbreak of the novel coronavirus pandemic (COVID-19) has affected the global economy and both air and sea transportation. The Company is also facing a major challenge in the promotion and sales of new products. Our employees have worked hard to achieve 62.5% of the promotion target.

 Exceeded goal 
  Achieved 
  Partially achieved 
  Not achieved

CGPC adheres to the principles of "Environmental protection. Energy conservation. Love the Earth." and refines the manufacturing technology to improve the efficiency of energy conversion and incorporate the use of AI smart inspection to develop value-added new products. The Company also pays attention to global market trends and values customer needs, and provides customization service. We are committed to exploring innovation and developing products that are low-toxicity and low-pollution.

### 3.3.1 R&D expenditure in the last 3 years

(Unit: NT\$ thousand)

Year	R&D expenditure in the last 3 years
2019	59,967
2020	68,776
2021	77,173

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

### 2021 Promotion projects

#### I. Description and status of implementation:

Installed new PVC pilot plant (30L pilot reactor), the applications in 2022 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 CPVC according to market application needs.

#### II. 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.

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

**I. Solution:** Use natural marine biological shell powder to replace chemical antibacterial agents

### II. Description of promotion:

In response to the issues of sustainable development and circular economy, CGPC applies innovative methods in using natural non-toxic marine biological shell powder to replace chemical antibacterial agents to be used in plastic-related products to fulfill the concept of circular economy.

Abandoned marine biological shells are regarded as waste before they are further developed. Our R&D team uses technological methods and creative ingenuity, and makes good use of the antibacterial properties of calcined marine biological shell powder to gradually replace the use of chemically synthesized antibacterial agents, further contributing to environmental protection efforts.

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 antibacterial test (JIS Z-2801).

Note: PS1-antibacterial test JIS Z-2801-Staphylococcus aureus, 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 integration" are to co-create value with stakeholders to improve our competitive advantage.

### III. Develop innovative goals:

Sustainability 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 the our long-term competitive advantage.

### IV. 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.

## 3.3.2 New products to be developed

### New products to be developed



- ◆ UV resistant PVC decorative panel sealing tape
- ◆ Low temperature-resistant outdoor PVC door frame tape
- ◆ Development of 3rd-generation soil-resistant PVC leather
- ◆ Development of PVC automotive water-based scratch-resistant soft leather
- ◆ Multi-plate transfer printing film soft leather
- ◆ PVC leather for electric leather
- ◆ Soil-resistant treatment of PVC transparent tape
- ◆ Development of waterproof wire
- ◆ Improvement of whiteness of PVC resin
- ◆ Low film and quick-gelatinizing PVC resin
- ◆ Flattened 100% non-cracking pipe valve PVC leather granules
- ◆ PVC inkjet printing advertising cloth
- ◆ Non-p floor tile protective layer
- ◆ PVC low shrinkage masking tape
- ◆ TPE shoe series (R-grade) products
- ◆ Development of high hydrolysis resistance TPU materials and related products
- ◆ Low-VOC PVC leather
- ◆ PVC/TPE leather solvent-free surface-treated PVC leather
- ◆ TPE car seat PVC leather
- ◆ Recycled TPE leather in finished products
- ◆ Development of benzene-free/solvent-free TPE paste cloth
- ◆ AI control of moisture content of PVC resin
- ◆ 30L PVC reactor experiment

### Develop "cooling PVC leather" in response to climate change



- ◆ **Project name:** IPP cooling PVC leather
- ◆ **Description:** In extreme climates, the duration of hot weather can be longer than the number of cold days, we have developed a new type of "cooling PVC leather", which can be used for motorcycle seat cushions and outdoor sports equipment. The products are available in various colors. Compared with traditional PVC leather, they can reduce the temperature by 10 to 20 degrees, which is a great benefit for motorcyclists and sports enthusiasts.
- ◆ **Implementation status:** Our sales personnel have actively market the newly-developed products, and the 2021 sales reached **5,094** yards.
- ◆ **Benefits:** It is expected that the market demand will continue to rise in the future. In response to market changes, the future goal is to continue improving other functions and market competitiveness.

### 3.3.3 Overview of technology and research and development

#### 1. Newly-developed technologies or products

**(1) Technologies successfully developed**

(1-1) Independent feeding of cold and hot pure water in the reaction tank (1-2) Waterproof line of submersible pump (1-3) AI control of water content of PVC resin (Phase 1) (1-4) Deoxidation of PVC resin with pure water	(1-5) Production technology and formula of PVC hard foam door panel (1-6) Surface treatment technology of TPE wear-resistant PVC leather (1-7) Structural composition technology of TPE fire-resistant PVC leather (1-8) Production technology of PVC cooling skin
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**(2) Newly-developed products**

(2-1) CCGN insulated core wire (2-2) Waterproof line plastic pellets of submersible pump (2-3) PVC building materials products (foamed door panels) (2-4) Vinyl chloride-acrylate copolymer resin tape (2-5) 5G base low-temperature PVC tape (2-6) Low-gloss flat tape (2-7) PU casting PVC soil-resistant PVC leather (2-8) Vacuum embossed soil-resistant leather	(2-9) PVC motorcycle seat cushion slow warming leather (2-10) Export seat cushion leather for agricultural machinery (2-11) Soft leather for seats on large trucks (2-12) Seats and interior trim leather for sea vessels (2-13) Water-based scratch-resistant soft leather for vehicles (2-14) Third-generation cat scratch-proof PVC soft leather for furniture (2-15) TPE leather for baby car safety seats (2-16) TPE high density foam PVC leather for treadmills (2-17) TPE leather for American furniture/sea vessels
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Note: New products are defined as those within 2 years of the successful development.

#### 2. 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 products 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	2021 Sales target (tonnes/ thousand yards)	2021 Sales quantity (tonnes/ thousand yards)	2021 Sales revenue (NT\$ thousand)	Achieved?	The proportion of each new product to the revenue of the product category (%)
Raw material products	CCGN insulated core wire	400	418	17,030	Yes	7.2%
Tape products	5G base low-temperature PVC tape	0	33	2,658	Yes	0.2%
	Low-gloss flat tape	20	34	2,182	Yes	0.2%
Building materials products	Foam door panel	150	157	12,874	Yes	12.5%
	Foam tube	320	338	19,004	Yes	1.9%
PVC leather products	PVC leather	280	313	43,892	Yes	3.7%
	TPE eco-friendly leather	160	97	16,218	No	1.2%
<b>Total sales of 2021 new products</b>				<b>113,858</b>		<b>0.9%</b>

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

Note 2: The reason for TPE no meeting the goal: Due to the proliferation of the novel coronavirus pandemic (COVID-19), which affects the global economy.

### 3. R&D plans in recent years

(Unit: NT\$ thousand)

2022 R&D plans	R&D expenses needed to be committed again
Waterproof line of submersible pump	50
Flattened 100% non-cracking pipe valve PVC leather granules	200
Low temperature-resistant outdoor PVC door frame tape	200
Non-p floor tile protective layer	200
PVC low shrinkage masking tape	200
UV resistant PVC decorative panel sealing tape	200
Development of 3rd-generation soil-resistant PVC leather	200
Development of PVC automotive water-based scratch-resistant soft leather	250
TPE shoe series (R-grade) products	300
Development of high hydrolysis resistance TPU materials and related products	300
PVC inkjet printing advertising cloth	500
Multi-plate transfer printing film soft leather	500
Soil-resistant treatment of PVC transparent tape	500
Seats and interior trim leather for electric buses	500
PVC/TPE leather solvent-free surface-treated PVC leather	500
TPE car seat PVC leather	500
Recycled TPE leather in finished products	500
Development of benzene-free/solvent-free TPE paste cloth	500
Low film and quick-gelatinizing PVC resin	500
AI control of water content of PVC resin	1,760
30L PVC reactor experiment	2,000
Improvement of whiteness stability of PVC resin	13,230
*Low-VOC PVC/TPE leather	15,000
<b>Grand Total</b>	<b>38,590</b>

### 4. Green products

#### 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 in-house, 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 (Note), 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)

Note: Phthalate (plasticizer)



## 3.4 Risk management (GRI 102-11, 102-15, 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:

### 3.4.1 Risk types and countermeasures

#### Description of risk management

The Sustainability Committee conducts analysis based on the principle of materiality of the Sustainability 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.

In order to strengthen corporate governance, reduce possible risks in operation, and ensure the Company's stable operation and sustainable development, the Audit Committee and the board approved the Risk Management Policy and Procedures" in December 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 2021 include the COVID-19 pandemic, the supply-demand imbalance and shipping variables caused by extreme global climate change, the clauses for large power users, the dual control of energy consumption in China and 2050 net zero emissions, etc. The status of each risk management unit is summarized in the [Sustainability Development \(ESG\) Area - Risk Operation 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](#)).

Environmental	
Description of risks	Response measures
Improper discharge of sewage and hazardous gases	<ul style="list-style-type: none"> <li>Establish environmental management systems: Establish an ISO 14001 environmental management system, and conduct regular internal and external audits to ensure compliance with environmental regulations.</li> <li>Passed ISO 50001 energy management system verification, and regularly conducts review of equipment energy consumption and replacement of energy-conserving equipment every year.</li> <li>Carry out regular inspections, propose improvement countermeasures and add pollution prevention and control equipment.                             <ul style="list-style-type: none"> <li>*Replace VCM tanker truck unloading equipment to reduce VOC emissions. (Completed in Q2 2022)</li> <li>*Process: Refinement and optimization of reaction tank opening procedures to reduce VOC emission. (In progress)</li> <li>*Regularly plan and test pipelines and equipment components, and respond to maintenance in a timely manner to reduce pollution caused by equipment damage and failure. (In progress)</li> <li>*Pollution control equipment: Regular flue cleaning and add chimney pollution treatment equipment to reduce odor. (In progress)</li> </ul> </li> <li>Continue to follow the trends of relevant laws and regulations, and actively promote energy conservation and carbon reduction.</li> </ul>

Governance	
Description of risks	Response measures
Storage operation and safety maintenance	<ul style="list-style-type: none"> <li>Tanker trucks need to have qualifying certificates and comply with relevant regulations and measures.</li> <li>The transportation of controlled chemicals must have the participation of corresponding joint defense organizations.</li> <li>Regularly evaluate contractors' vehicles in accordance with regulations, and hold safety meetings.</li> <li>Formulate corresponding risk control countermeasures.</li> </ul>
Infectious diseases affecting employees' health and work	<ul style="list-style-type: none"> <li>Develop guidelines for infectious disease response procedures.</li> <li>Establish a pandemic control response team to implement preventive measures.</li> <li>Formulate work standards for relevant technology and management.</li> </ul>
Experience succession of high-level officers	<ul style="list-style-type: none"> <li>Position transfer and nurturing substitute system.</li> <li>Form functional organizations of projects/task teams.</li> <li>Enable personnel of different positions to exchange professional and technical information with one another.</li> </ul>
Cybersecurity	<ul style="list-style-type: none"> <li>Protection of customers' confidential information</li> <li>Risk types and countermeasures – Risks and challenges (detailed in <a href="#">3.4.2 Cybersecurity risk management</a>)</li> </ul>

Social	
Description of risks	Response measures
Raw materials risk	<ul style="list-style-type: none"> <li>Establish safety stock and review it regularly.</li> <li>Vertical integration for effective management.</li> <li>Coordinate operations and formulate the purchasing strategy.</li> <li>Flexibly coordinate production and sales.</li> </ul>
Disaster/accident caused production and operational disruption	<ul style="list-style-type: none"> <li>Regularly hold education and training sessions on environmental safety and health and fire protection.</li> <li>Regular maintenance of machinery and equipment, PDA patrol inspection and infrared thermal image detection.</li> <li>property insurance and business interruption insurance, cargo transportation insurance, and public liability insurance.</li> <li>To ensure the safety of on-site employees, we reinforce promotion and education and training to reduce the risk factors.</li> </ul>
Financial risk	<ul style="list-style-type: none"> <li>Interest rate changes: Prepare short, intermediate and long-term funds and undertake IRS.</li> <li>Exchange rate changes: Avoid risks through forward foreign exchange contracts. The novel coronavirus pandemic has cause volatility in the international foreign exchange market, and foreign exchange factors have become significant. We maintain 100% hedging with the Company's net position to cope with the risk of exchange rate fluctuations.</li> <li>Property insurance: Fire insurance, business interruption insurance, cargo transportation insurance, etc.</li> <li>Endorsement guarantee: Implemented in accordance with the Procedures for Making Endorsements and Guarantees.</li> <li>Accounts receivable risk: Actively care about customers' business condition or analyze customers' financial reports.                             <ul style="list-style-type: none"> <li>Domestic customers: Add substantial guarantees and qualified joint guarantors.</li> <li>Export customers: Increase the amount of credit insurance and increase the letters of credit insurance for certain countries.</li> </ul> </li> </ul>
Others	<ul style="list-style-type: none"> <li>Adjust business strategy in response to COVID-19: Continue to diversify in the PVC market to avoid the impact of a single market on overall sales.</li> <li>Countermeasures for production capacity impact and operational disruption: Make emergency external purchase and adjust overlapping production lines, arrange equipment maintenance in advance, and strictly control the acceptance and delivery of business orders, and at the same time, ask the Financial Division to discuss with insurance firms on damages causes by operational disruption and work stoppage.</li> </ul>

### 3.4.2 Cybersecurity risk management

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.

#### 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.



#### 3. Protection of customers' confidential information

- (1) Comply with laws and regulations to formulate relevant standards.
- (2) Personal data de-identification and monitoring of abnormal traffic of network access.
- (3) Reinforce firewall management and authorization control for data access.
- (4) 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 operation system. The implementation shows immediate results in preventing damage causes information security incidents.

#### 5. Implementation of risk management

**Regulatory standards:** Comply with the EU GDPR regulations to protect personal data.

##### Audit:

- (1) Internal audits are conducted, twice a year.
- (2) External audit is conducted once a year by a third-party organization.

**Information security education:** 4 hours of education and training are performed by information personnel every year.

Installation of industrial control equipment: Separate computers for business use to prevent information security attacks from affecting production lines.

Social engineering exercises: Twice a year.

Equipment control: USB and portable storage devices.

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 6 years.

### 3.4.3 Internal control

#### 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 2021, the internal audit unit completed the audit on schedule according to the audit plan approved by the board, and issued 53 audit reports and 6 follow-up reports. The recommended items have been improved, and the summary is as follows:

#### Five components of internal control are incorporated into daily operations



The president designates the Internal Control Review Task Team to evaluate the effectiveness of internal control and the status of implementation by hierarchy. The Audit Division reviews the findings and issues the Statement of Internal Control showing the compliance with all regulations, which is then submitted to the Audit Committee and the board.

#### Audit process

01 Risk assessment	Based on the assessment results of overall economic risk, strategic risk, operational risk and financial risk, formulate the annual audit plan to be submitted to the Audit Committee and the board for approval.
02 Implementation	Formulate procedures and scope of audit according to the annual audit plan, and conduct audit operations.
03 Audit/Improvement	Discuss the audit results with the audited units, propose suggestions for improvement and issue audit reports.
04 Submission/Review	Submit audit reports to the audited units and the management, and forward them to independent directors for review.
05 Follow-up	Follow up the status of improvement plans for the audited units every quarter.
06 Period report	Regularly report the implementation status of annual audit plans to the Audit Committee and the Board.
07 Report	Regularly report audit works to the competent authority in accordance with laws and regulations.

#### Three objectives of internal control

01	Results and performance of the Company's operations
02	Reliability, timeliness, transparency and compliance of reporting
03	Compliance with relevant laws and regulations

Name of audit process	Summary of recommendations	Summary of improvement status
Production cycle and regulatory compliance matters	If the operating conditions of the production process are changed, the standards and the operating handbooks should also be revised, so that the production unit can carry out production operations in compliance with the consistent standards.	Relevant standard and operating handbooks have been revised so that the production operations can stay consistent.
Development cycle	Quality control characteristics shall be indicated in the "Control Plan" of each new product development phase according to the standard, and relevant management measures shall be implemented.	Items affecting the characteristics of product quality have been included in the "Control Plan" and relevant management measures have been implemented.
Industrial safety and health work	The responsibilities for fire protection of public areas and idle areas and period inspection and maintenance of safety facilities of factory spaces leased to outside parties should be clarified.	We have clarified with the lessee regarding the relevant responsibilities and regularly spot inspection and maintenance works.

## 3.5 Regulatory compliance (GRI 307-1)

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.

### 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.

### 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 2021, 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.

### 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 formulate relevant standards and work policies to protect workers' basic labor rights. In 2021, we did not violations of relevant labor laws and regulations.

### Occupational safety

We actively reviews the root cause of incidents, reduce the hazard factors to prevent recurrence, and immediately propose countermeasures and care for employees. (News report in 2022: Employees of the contractor (Sheng-An Company) were involved industry safety incidents. Please refer to [6.4 Occupational safety and health](#))

### Penalties related to environmental protection

By company	Penalties	Fine (in NT\$10,000)	Violations	Improvement measures
TVCM	Violation of Air Pollution Control Act Paragraph 1 of Article 23	22.5	EDC storage tank connecting pipeline gutters leaks VOC, and the escaping substance is not properly collected and processed.	After the repair, the re-test value is below the control value.
TVCM	Violation of the Toxic and Concerned Chemical Substances Control Act Paragraph 1 of Article 41	100	The toxic chemical incident was not reported within 30 minutes.	Reinforce promotion, education and training and revise procedures.

# 4 Partnership (GRI 102-9, 102-13)



CGPC uses product and sales opportunities, quality meetings and communication and service platform to understand customer needs and complaints in timely manner, so as 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.

## 4.1 Customer service management (GRI 307-1)

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 Taiwan Highpolymer).

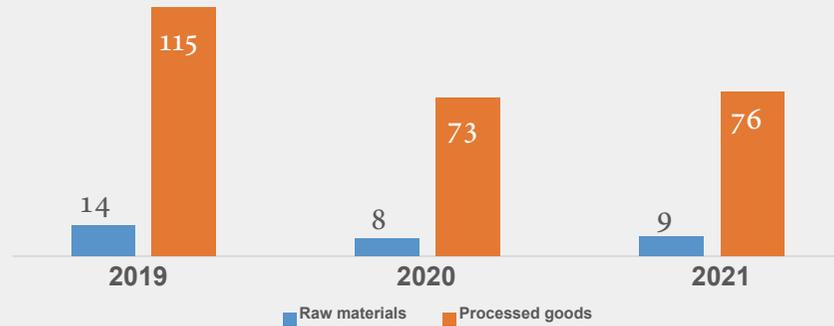
 <p><b>Consultation</b></p> <p>Reply to customer questions and provide relevant information for reference.</p>	 <p><b>Provide sample cards/samples</b></p> <p>Provide sample cards/samples according to the sample card number, requirements and standards specified by customers.</p>	 <p><b>Introduce new products</b></p> <p>Actively provide new products' samples and information to customers, and accept inquiries and provide relevant reference documents.</p>	 <p><b>Product development testing</b></p> <p>Cooperate with customers in development of non-standard products.</p>	 <p><b>Quotation and receive orders</b></p> <p>Complete formal quotation according to the relevant operation process. After customers formally place their orders, review and confirm the orders according to the relevant operating rules.</p>	 <p><b>Shipping</b></p> <p>Provide necessary delivery estimates, inquiries, tracking, and arrangement of shipments to ensure that they meet delivery deadline required by customers.</p>	 <p><b>Handling customer complaints or objections</b></p> <p>When customers think that the products or services provided by the Company do not meet their needs, they may file a written or oral complaint, and the sales representatives will analyze the complaints and notify relevant departments for immediate and necessary responses.</p>
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### 4.1.1 Complete customer service

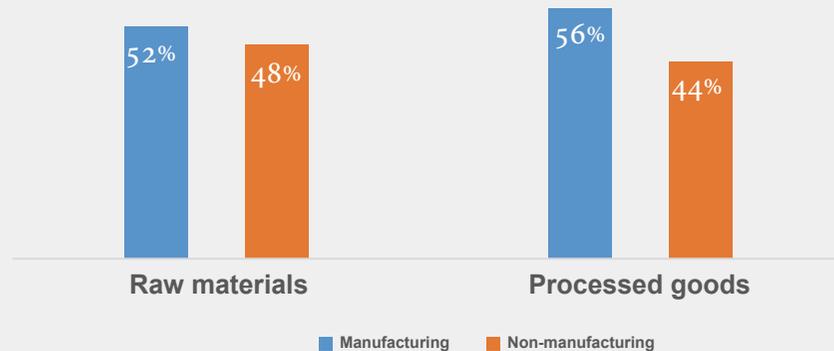
 <p><b>Customers</b></p> <p>Customer objections</p>	 <p><b>Sales</b></p> <p>Verify problems</p>	 <p><b>Quality assurance</b></p> <p>Receive reporting of defect samples</p>	 <p><b>Responsible department's quality control unit</b></p> <p>1. Product traceability quality inspection</p>	 <p><b>Responsible department's quality control unit</b></p> <p>3. Develop Improvement measures and the Prevent of recurrence</p>	 <p><b>Quality assurance</b></p> <p>Confirm improvement Track performance</p>
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<p><b>Principles for accepting customer objections</b></p> <p><b>6 months</b> Domestic orders</p> <p>From the date on which customers receive products</p>	<p><b>Export and re-export orders</b></p> <p>From the date on which goods are loaded into containers</p>	<p><b>Deadline for handling customer objections</b></p> <p><b>20 days</b> Regular cases (Business days)</p>	<p><b>5 days</b> Expedited (Business days)</p>	<p><b>3 months</b> Special or controversial cases</p>
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CGPC's products are divided into raw materials and processed goods. The statistics of customer complaints in the last 3 years are as follows:



Main reasons for the classification of customer complaints in 2021 are as follows:



Reasons for the increase in customer complaints and improvement measures: Complaints about raw materials products have resulted from damage caused during transportation; complaints of processed products are mainly about surface defects (traces, air spots, stains, etc.) and poor coiling (loose coils, curling marks, etc.) and other factors. We have strengthened packaging materials container loading, added online inspection equipment, adjusted the manufacturing conditions and changed personnel education as preventive measures.

## 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.

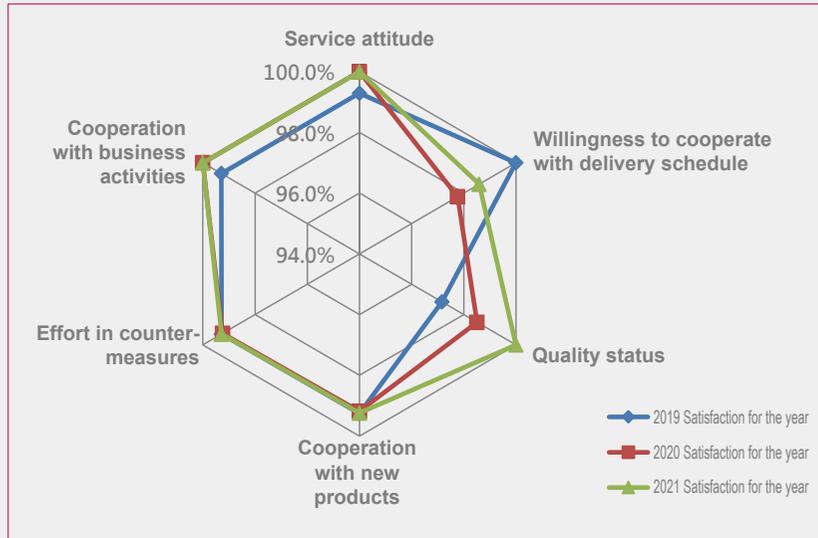
Every year, we select customers who account for more than 80% of our total revenue or 80% of each of our operating regions' revenue, including a recommendation list (potential or newly develop customers) from business unit, as survey participants, and conduct satisfaction survey through the Customer 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 and others.

In 2021, the number of responses to surveys in which customers considered "Satisfied" or above accounted for 99.5% of the total number of survey responses, slightly higher than in 2020, and we will continue to make improvements. The 2021 results have meet our control target (90%). For the results of each evaluation item, please refer to the radar chart.

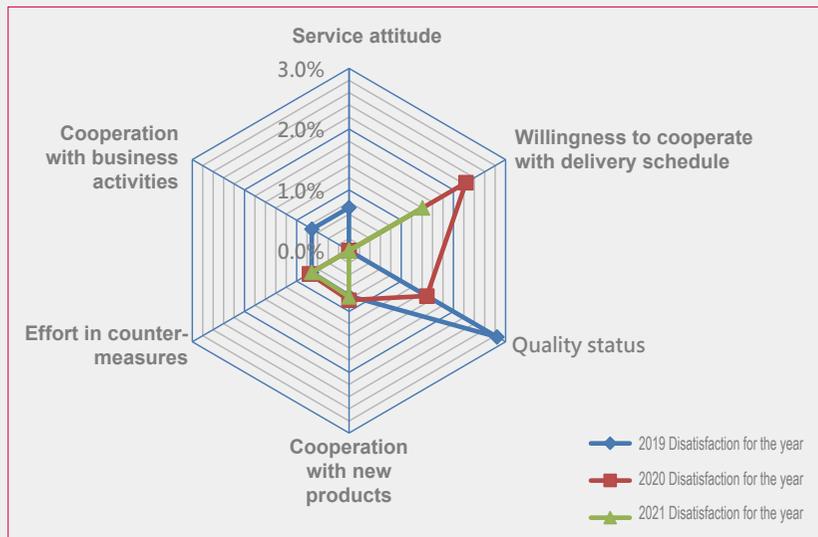
Based on the comprehensive customer complaint case statistics and customer satisfaction survey, customers have shown dissatisfaction with "Delivery schedule", "Quality status", "New products" and "Countermeasure efforts". Except for the "Delivery schedule", the proportion of other items have been reduced compared with that of 2020. The related departments (or units) have reviewed and reported on the items in the management review meetings, and created improvement projects for material issues. We actively find issues of concerns for customers and resolve them. For quality improvement issues, we organize projects to continuously update equipment and improve personnel education and training to maintain stable quality of production and services to meet customer needs. The results of the 2021 customer satisfaction survey show that we have earned customers' recognition and improved the satisfaction.

As for the "Delivery schedule" in the 2021 survey, customers have reported improvement, but the external factor, COVID-19, has persistently affected the supply chain services of global ports and containers. As countries speed up their vaccination, and people's lives have gradually returned to normal, the strong rebound after the pandemic affects the complexity of the item, such as port congestion, shortage of containers, insufficient supply of ships. The influx of customers' orders in a short time also increase the demand for products. As a supplier, we need to update equipment and raise the production efficiency, and continue to hire new people to increase the production capacity, hoping to further improve the issue of "Delivery schedule" to meet customers' expectation and needs.

### Customer **satisfaction** radar chart



### Customer **dissatisfaction** radar chart



### 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. Starting 2020, we reinforce the restriction on the use of USB or portable storage devices and abnormal data access to prevent data loss due to human negligence. There have been no cases of customer privacy harm or breaches in 2021.

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	2021 information security implementation results					
	CGPC		TVCM		CGPCP	
	Sessions	Total number of people	Sessions	Total number of people	Sessions	Total number of people
Social engineering drills	2	540	2	202	2	40
Continuing education courses for directors and supervisors	1	4	1	3	-	-
Information security education and training	3 sessions for employees of the Information Technology Division					
Information security notification	9 times to all employees					



## 4.2 Product Quality

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 and other standards. Protect and control various data and reinforce firewall management, authorization control, vulnerability scanning of server operating systems and separation of testing environment and actual operating environment to de-identify personal data.

### Protection of customers' confidential information



#### Establish standards

- ◆ We prioritize the protection of customer data, and formulate various specifications in accordance with 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 7 consecutive years.
- ◆ Assess internal and external information security risks and make improvements.

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.

CGPC is considered a midstream and downstream plastic raw materials and products suppliers in the petrochemical industry. The products include vinyl chloride (VCM), polyvinyl chloride (PVC), chemicals (hydrochloric acid, caustic soda, bleaching water) in the primary manufacturing process, PVC film, sheet, leather and construction products, 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

 Meaning to CGPC	 Strategic Policy	 Commitment
Maintain stable production quality to earn customer recognition and create higher corporate value for CGPC.	<ol style="list-style-type: none"> <li>1. Establish projects for improvement.</li> <li>2. Implement full participation and enhance product value.</li> <li>3. Meet customer needs and comply with regulatory requirements.</li> </ol>	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.

Promotion policy	Unit	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Promote quality improvement proposals	Number of proposals	370	435 	380	400	450
Product quality improvement projects	Number of projects	11	11 	11	11	12

 Exceeded goal
  Achieved
  Partially achieved
  Not achieved

### 4.2.1 Product quality policy



Continuously improve product quality



Continue to improve service quality



Provide customers with satisfactory quality of operations

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.

### 4.2.2 CGPC's quality management system and product verification



Passed VSCC materials flame retardant performance requirements



ISO 9001 verification Quality management system



IATF 16949 verification Quality management system



Improve customer satisfaction and trust in products

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.



CGPC's office building in Toufen factory



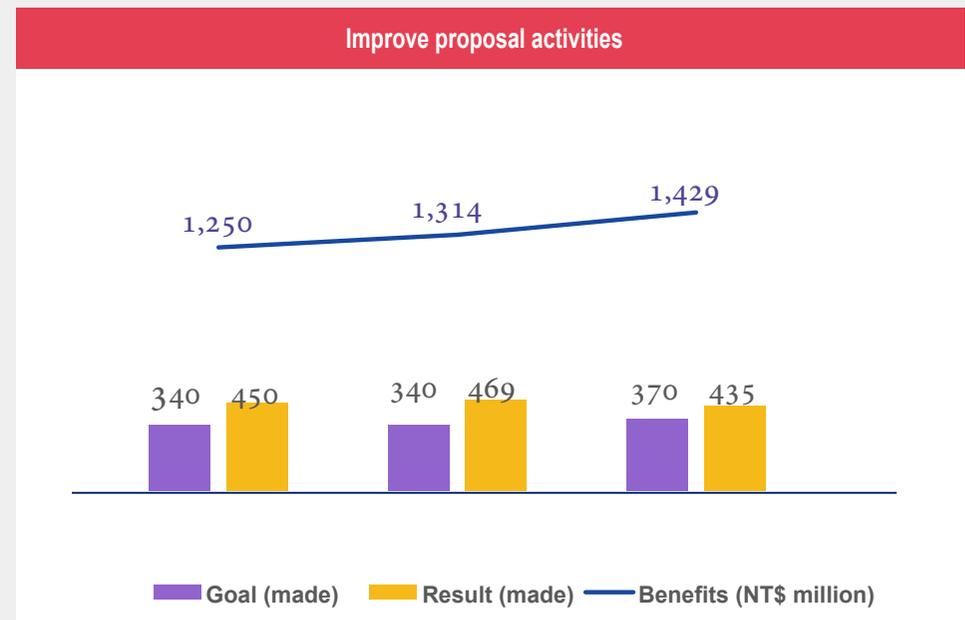
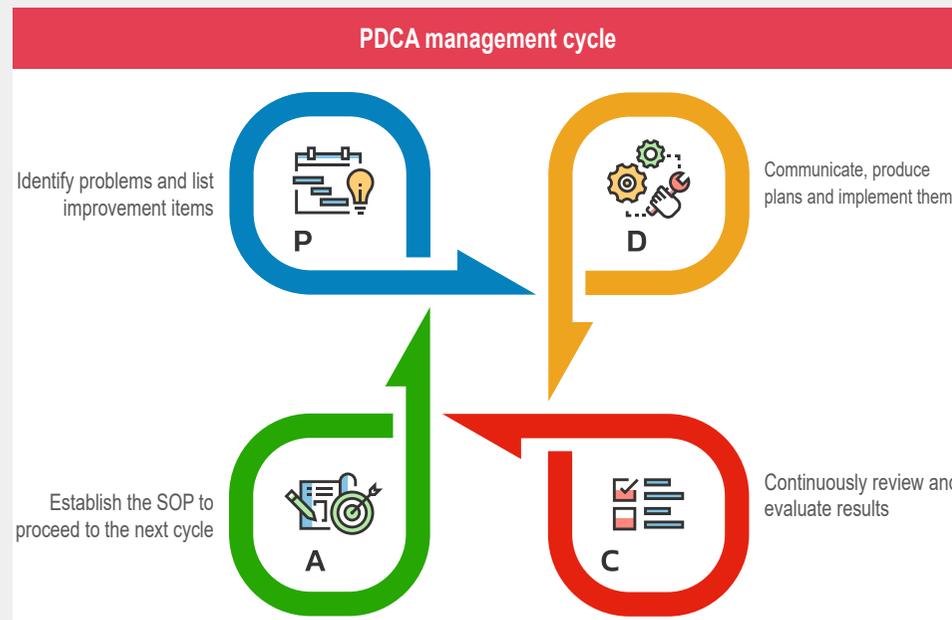
PVC resin is put inside single-material PE packaging bags

### 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 products 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, handling of issues, continuous quality improvements such as 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.

There were 435 improvement proposals in 2021, and the benefits reached NT\$14.29 million. Although the number of improvement proposals in 2021 slightly reduced, it exceeded the set target and the amount increases steadily year by year. CGPC sets the target every year, with incentives to encourage employees to actively participate in submitting proposals.



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 stability of quality can be maintained to meet customer needs. The number of quality improvement cases in 2021 has reached the set target according to the plan.  
 Note: [Introduction of measuring equipment](#) and [various certificates](#) (-> please click on the link).

## 4.3 Supply chain management

(GRI 102-9)

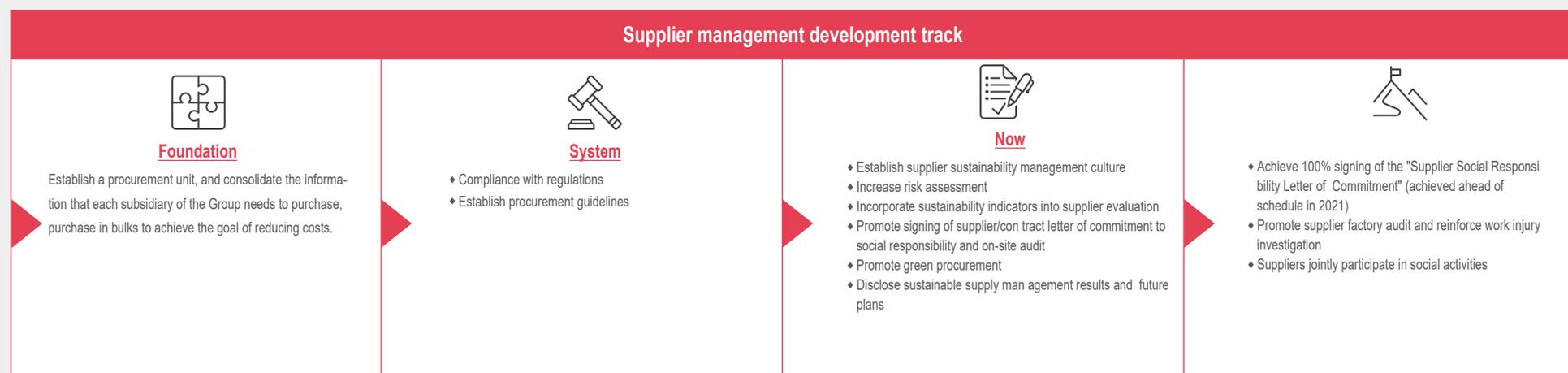
CGPC (including CGC and two subsidiaries TVCM and Taiwan Highpolymer, hereinafter referred to as CGPC Company) requires suppliers to provide high-quality raw materials and high-efficiency services, and is also committed to developing communication channels with partnering suppliers to improve interactions,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

### 4.3.1 Supply chain sustainable development

#### Supply chain sustainable development strategy and goals

As one of the domestic benchmark companies, CGPC works together with suppliers to jointly undertake corporate social responsibility and formulate a letter of commitment for supplier CSR, the implementation status and future planning:

Policy	Goal		
<ul style="list-style-type: none"> <li>◆ Improve the safety environment for workers and strive to protect the environment</li> <li>◆ Fulfill social responsibility and improve competitiveness</li> <li>◆ Enhance partnership and share sustainable business opportunities</li> </ul>	<ul style="list-style-type: none"> <li>◆ <b>Short-term: Promotion achievement rate of suppliers/contractor's social responsibility letter of commitment.</b></li> </ul>		
<p><b>Strategy</b></p> <ul style="list-style-type: none"> <li>◆ Improve procurement performance and build partnerships</li> <li>◆ Establish safety awareness and improve work environment</li> <li>◆ Shared corporate social responsibility</li> </ul>	<ul style="list-style-type: none"> <li>- 2021 goal: All "Supplier Social Responsibility Letter of Commitment" are signed, and revise the SOP. 2021 achievement rate: 100%</li> <li>- 2022 goals: Develop recycled plastics and biodegradable, low-carbon and recyclable raw materials, 3 new items per year.</li> </ul>	<ul style="list-style-type: none"> <li>◆ <b>Intermediate term: 2022 to 2025</b></li> </ul> <ol style="list-style-type: none"> <li>1. All "Supplier Social Responsibility Commitment" Target promotion achievement rate: 100%</li> <li>2. Factory audit of 4 suppliers every year.</li> <li>3. Encourage suppliers to jointly participate in social activities at least once/ year</li> </ol>	<ul style="list-style-type: none"> <li>◆ <b>Long-term: 2026 to 2030</b></li> </ul> <p>Based on the results of factory audit, establish a communication platform with suppliers. For the deficiencies, we assign relevant professionals to provide suggestions and assist in planning.</p>



## Supply chain ESG risk management

Risk assessment and prevention	Response to impact	Future plan
<ul style="list-style-type: none"> <li>◆ We inspect safety requirements of the supply chain and the special conditions (such as chemical process risks, workplaces, VOC emissions, handling of environmentally restricted substances etc.) of chemical suppliers.</li> <li>◆ Establish long-term collaborative relationship with suppliers, develop other new suppliers, and coordinate long-term material preparation systems.</li> <li>◆ Establish an internal safety stock system and reference point for requisition according to the delivery schedule to prevent the risk of materials outage.</li> <li>◆ Procurement personnel undergo education and training on supply chain sustainability.</li> <li>◆ Environmental safety and health education and training for contractors.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Adjust the supply proportion of suppliers, and take alternative suppliers or have them complement one another.</li> <li>◆ 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 submit them to relevant units to take response measures and understand the status.</li> </ul>	<ul style="list-style-type: none"> <li>◆ 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.</li> <li>◆ Place it under restriction and provide consultation according to the risk assessment measures and the risk levels after assessment.</li> </ul>

## Implementation status of supply chain ESG risk management

Risk items and attributes	Suppliers (Chemicals)	Construction contractors
	Environmental (E), Social (S) and Corporate 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 home visits	2 companies (trial audit)	To be conducted together with the contractors' project construction assessment
Audit details	Environmental aspect (E): Whether the manufacturing and storage of environmentally controlled substances are conducted in accordance with 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	2 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, we plan 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 2021, all suppliers sign the Supplier Social Responsibility Letter of Commitment for a 100% achievement rate, and continue request new suppliers to sign the letter of commitment.

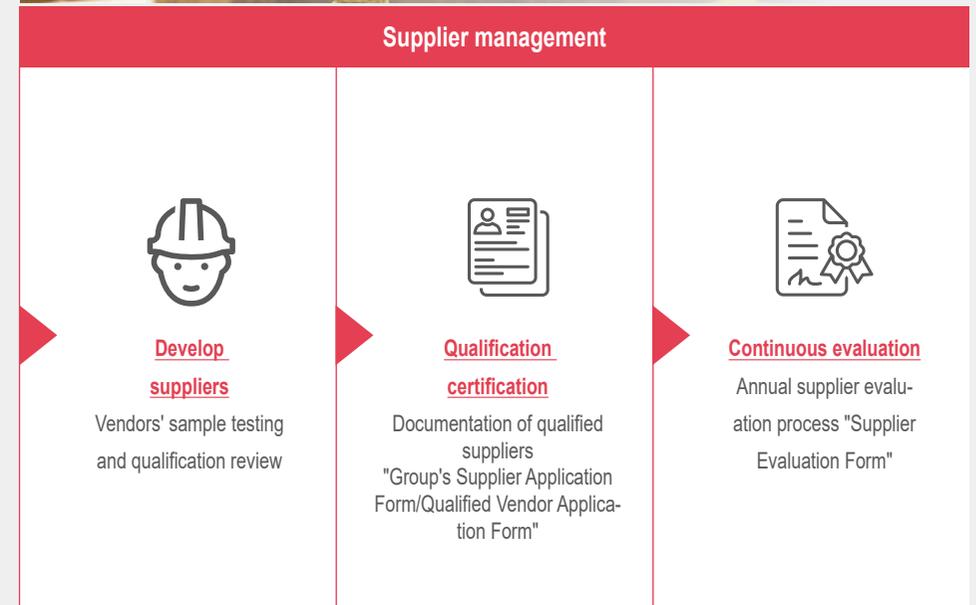
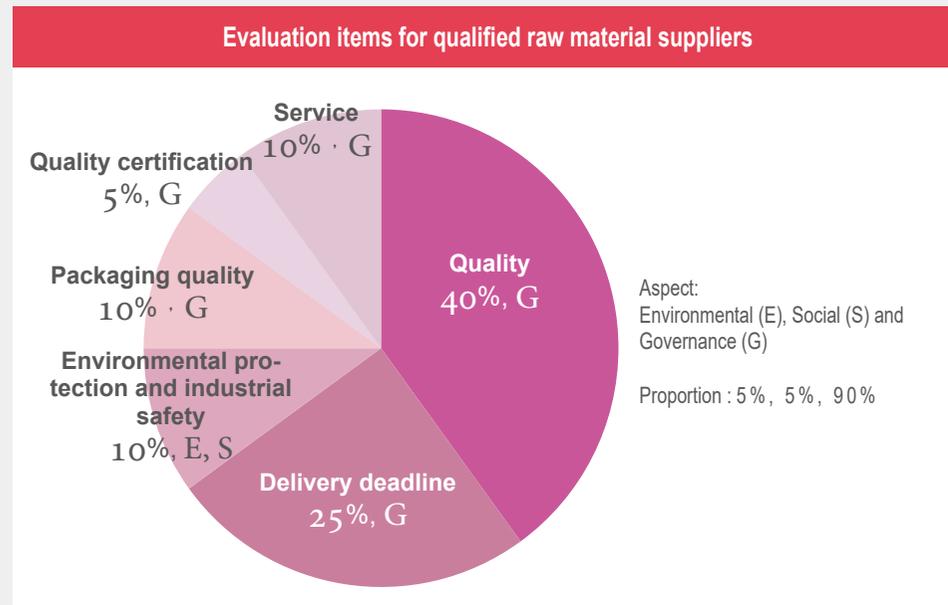


#### Construction contractors

- In 2021, contractors are also required to sign the Supplier Social Responsibility Commitment.
- Must comply with the requirements of the ISO 45001:2018 occupational safety and health management system.

### 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 item of the raw materials and services obtained are of sufficient quantity, high quality, low price, and meet the requirements of environmental protection, industrial safety and policies and regulations.



### 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.
- ◆ Exclusive supplier of raw materials and supplies.

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

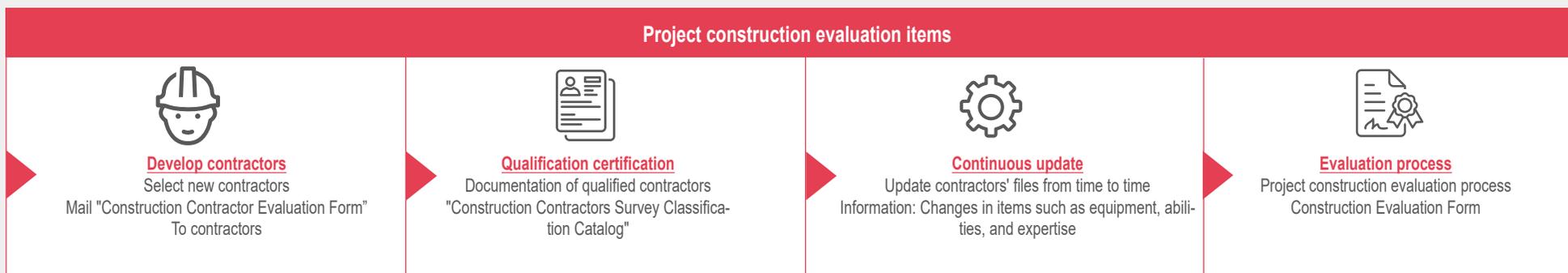
By company	Raw materials and supplies	Item	2019	2020	2021
CGPC	Raw materials	Number of companies evaluated	101	107	166
		Qualified rate	100%	100%	100%
	Supplies	Number of companies evaluated	50	39	20
		Qualified rate	100%	100%	100%
CGPCP	Raw materials	Number of companies evaluated	9	6	12
		Qualified rate	100%	100%	100%
	Supplies	Number of companies evaluated	12	14	11
		Qualified rate	100%	100%	100%
TVCM	Raw materials	Number of companies evaluated	13	6	16
		Qualified rate	100%	100%	100%

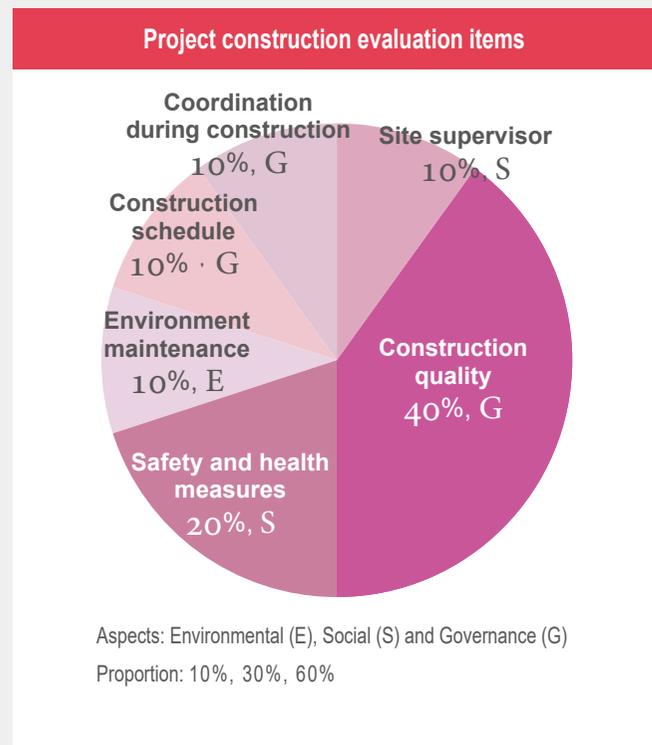
\*Evaluated once a year, and a score of 75 is considered qualified.  
\*Because TVCM does not have packaging materials or supplies, so it is not included as part of the supplier evaluation.

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 and send it back. Survey forms with incomplete submission of supporting documents will not be evaluated, and company will not be allowed to undertake the Company's projects.





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

By company	Item	2019	2020	2021
CGPC	Number of companies evaluated	100	94	81
	Qualified rate	98%	98%	100%
	Descriptions	(2 unqualified) a. Poor construction quality, and the rights as a contractor were suspended for half a year. b. Construction delay, resulting in permanent suspension of rights.	(1 unqualified) Poor construction quality, and the rights as a contractor were suspended for half a year as a warning.	-
CGPCP	Number of companies evaluated	7	6	8
	Qualified rate	100%	100%	100%
	Descriptions	-	-	-
TVCM	Number of companies evaluated	32	10	23
	Qualified rate	100%	100%	100%
	Descriptions	-	-	-

\*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, inform them of the scoring results and the deficiencies, and ask 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 2021, the bulk raw materials vinyl chloride of CGPC and Taiwan Highpolymer are supplied by TVCM, and the purchase amount account for approximately 96.65% and 98.73%, respectively, of the total local source. The source of the bulk 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.

### 2021 procurement proportion of CGPC's domestic and foreign vendors

By company	Taiwan	Not in Taiwan
CGPC	96.65%	3.35%
TVCM	34.77%	65.23%
CGPCP	98.73%	1.27%
<b>Total</b>	<b>76.72%</b>	<b>23.28%</b>

CGPC's suppliers are mainly suppliers of raw materials, supplies and equipment and construction contractors.

By company	Raw materials suppliers	Materials and equipment suppliers	Construction contractors
CGPC	93.18%	4.34%	2.48%
TVCM	90.70%	2.91%	6.39%
CGPCP	98.01%	1.80%	0.19%

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

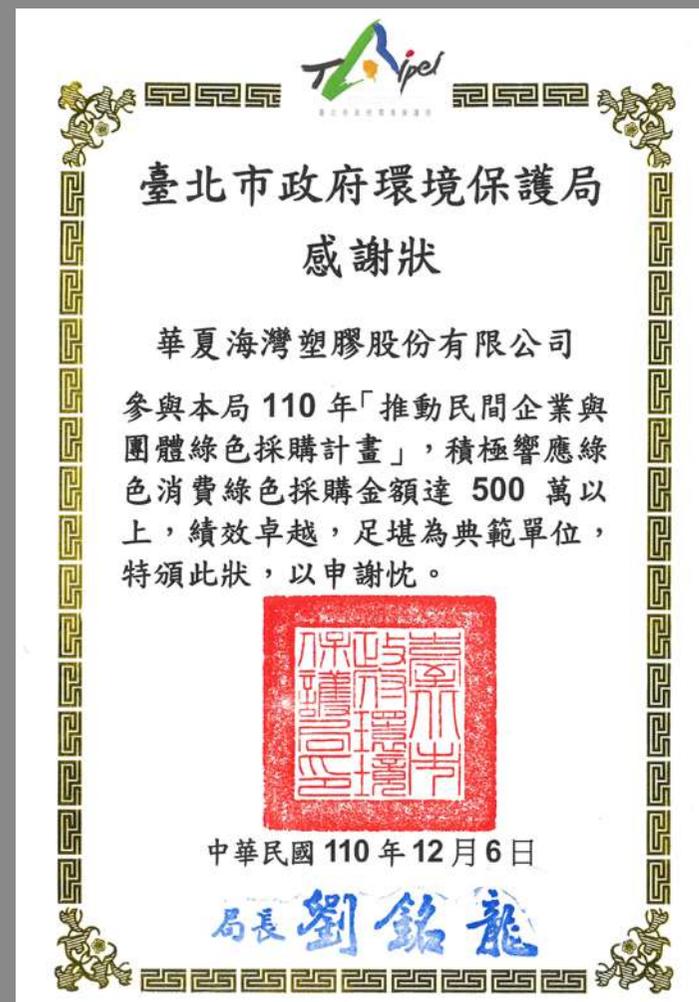
### Green procurement program

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 and others. In 2021, the self-evaluation found purchase of government-approved green products amounted to NT\$35.77 million, an increase of NT\$7.86 million compared with last year. We will continue to plan more purchases of green products in the future.

By company	CGPC	TVCM
Amount (NTD)	32.57 million	3.2 million



Awarded a certificate of appreciation by the Department of Environmental Protection at the Green Procurement Performance Commendation Conference



## 4.4 Participation in External Organizations (GRI 102-13)

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



Other descriptions:

1. Mr. Han-Fu Lin of the Plastics Industry Development Center was originally the chairman of the Center (3 years per term), and has assumed the position of executive supervisor in March 2020.
2. CGPC appointed as the core enterprise of the Safety and Health Family.
3. In 2022, CGPC, TVCM and Taiwan Highpolymer jointly participated in the Earth Hour movement to reduce environmental impact. From 8:30 to 9:30 on March 26, 2022, the exterior wall decorative lighting or non-essential lighting equipment in Taipei Office (Tai-An Building), CGPC's Toufen factory and TVCM and CGPC's Linyuan factories were turned off.

# 5 Environmental management



The deterioration of the environment and ecosystems, shortage of energy and natural resources, intensified climate change and stricter government regulations have all created pressure and challenges to enterprises. These external pressures can be an impact and an opportunity. There, we continue to promote the work of "energy conservation and carbon reduction" with practical actions in an honest and responsible attitude. We set the environmental protection goals of power, energy and water conservation and carbon reduction and try our best to reduce the impact of business operations on the environment, further achieving the eco-friendly goals of low pollution and low energy consumption.

## 5.1 Environmental management policy

CGPC (including subsidiaries TVCM and Taiwan Highpolymer, and excluding overseas invested affiliates, and the same applies to the rest of the chapter) considers the protection of personnel safety and health and the environment and ecosystem as the goals of environmental management. We have always complied with laws and regulations related to environmental protection and safety and health, and continued and implemented improvement work such as diversion and recycling of surplus materials, pollution prevention, energy/resources conservation and recycling, industrial waste reduction, and community engagement. 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.

◆Hazardous substance management

1. All raw materials and products used by CGPC have passed the inspection of Restriction of Hazardous Substances (RoHS) to prevent the impact of 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.

◆SASB chemical safety and environmental management

The performance indicators of CGPC's chemical safety and environmental management are calculated based on hydrochloric acid, liquid 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 5.61% and TVCM is 99.85%.
2. The percentage (%) of relevant products that have undergone hazard analysis is 100%. Besides, as hydrochloric acid, liquid caustic soda, and bleaching water are not chemicals of high concern, they have less significant impact on humans and the environment.

The verification certificates or product-related certificates obtained by the Company in 2021 (please see the link to the official website's Environment/Product Certification section).

### Environmental policy

#### Compliance with regulations and other requirements



#### Pollution control and resource conservation

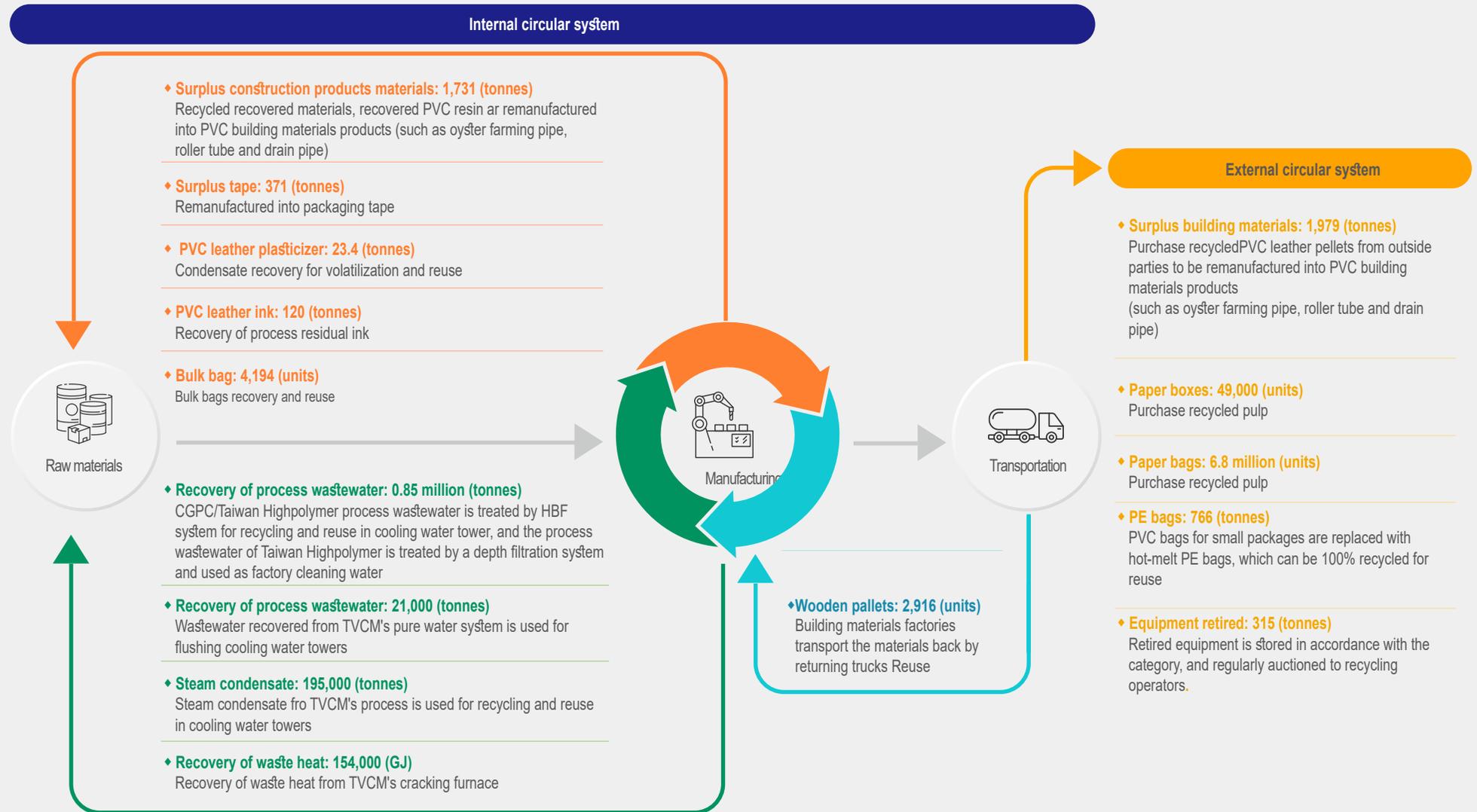


#### Communication training and continuous improvement



## Circular economy

CGPC values the efficiency of resources use and have adopted the circular model of recovery and reuse of raw materials and supplies, manufacturing process and distribution. In 2021, the internal and external results of circular economy practices are shown as follows:



## Implement GRS verification in 2022

The Global Recycle Standard (GRS) was originally created by the Control Union (CU) in 2008, and the ownership was passed to the Textile Exchange on January 1, 2011. 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 supply chain must have GRS certification to be effective to ensure the integrity of the verified product.

### Content of standards

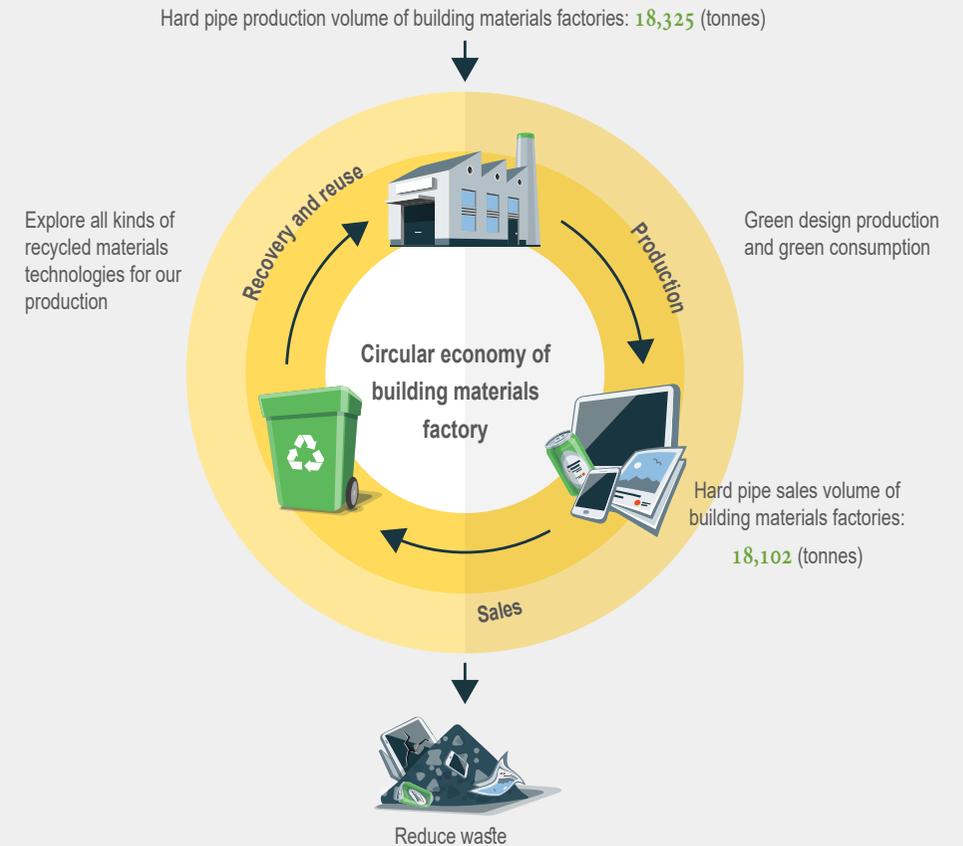
1. To obtain GRS verification, a product must contain at least 20% of its raw materials consisting of recycled materials and be 100% free of contamination.
2. Recycled materials should also clearly indicate pre-consumer waste or post-consumer waste, and the proportion of both pre-consumer and post-consumer waste in the recycled fiber materials.
3. 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.
4. 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.



## CGPC – 2021 circular economy implementation results for building materials products



Since 2021, the building materials factory has begun to collect all kinds of recycled materials and recovered PVC resin in the factory, and purchase recycled PVC leather pellets to be put into production of new products for sale, striving for environmental protection.

2021 recovery and reuse volume: 3,717 tonnes, the recovery and reuse rate accounts for 20.3% of the 2021 product volume of piping materials.

## 5.2 Climate change and energy management (GRI 201-2, 302-4, 302-5)

### Material issue: Climate change and energy management

 <b>Meaning to CGPC</b>	 <b>Strategic Policy</b>	 <b>Commitment</b>
<p>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.</p>	<p>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.</p>	<p>Since 2015, the annual electricity conservation target is 1%.</p>

Promotion policy	Unit	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Continue to renovate and replace equipment and improve the efficiency of equipment.	Power conservation achievement rate in %	1% or more	<span style="color: orange;">1.20%</span> 	1% or more	1% or more	1% or more

 Exceeded goal 
  Achieved 
  Partially achieved 
  Not achieved

#### 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 PVCresin.
3. CGPC increased the growth rate of recycled water.



Facing the challenges of global climate change and the government's promotion of net-zero carbon emission policies, we have continued to make efforts to reduce greenhouse gas emissions for sustainable development. Through industry-academia collaboration, we incorporate AI big data technology into our process to improve efficiency and build smart factories.

We have actively implemented various management systems (ISO 50001, ISO 14064-1, ISO 14067, ISO 46001, ISO 14046, PSM, GRS), and referred to international technological development to propose various improvement plans, such as renewable energy, waste water, rainwater and sewer water recycling, energy conservation and carbon reduction solutions, smart energy management systems, etc., and followed the carbon reduction targets set by the Group to appropriately set annual carbon reduction targets and review renovation plans.

## 5.2.1 Response to climate change is an opportunity for enterprises' sustainable operations

In response to the Glasgow Climate Pact signed by the 26th session of the Conference of the Parties (COP 26) to the UNFCCC and our government announcing the revision of the Greenhouse Gas Reduction and Management Act to the Climate Change Legislation, USI Group has re-evaluated its own carbon emission structure and carried out carbon reduction target planning. The carbon reduction target in 2030 is to reduce carbon emissions by 27% compared with 2017, and the Group has actively promoted the corresponding response strategies and management measures, and required the domestic production factories to plan and implement relevant action plans to be incorporated into the Group's renewable energy planning. As of 2021, nearly 5MW solar power has been developed. CGPC has followed the Group's carbon reduction goals and is expected to complete the 2030 emission reduction plan by the end of 2022 and re-adjust its own target for emissions reduction.

For the purpose of adaptation to the impact of climate change, CGPC has applied the Task Force on Climate-related Financial Disclosures from the Financial Stability Board in 2019 to identify risks and opportunities, as well as potential financial impact, and the identified results were used to set response plans.

### Plan and implement climate change and energy management (GRI 302-3)

In accordance with the national energy development policy and the science-based target (SBT) scenario of limiting global temperature rise to 2°C, USI Group set a new phase of the Group's energy management target in 2019, a management target of energy conservation at 7.2% for 6 years from 2020 to 2025. The Group has continuously followed international trends and national policy to conduct dynamic review. Each company of the Group is asked to comply with the requirement of annual average of 1.2%, and factories are responsible for planning relevant action plans. In order to effectively manage energy performance and continuous improvement, we have promoted the establishment of ISO 50001 energy management system in our factory area. As of 2021, 9 factories of USI Group have passed the verification. In 2022, it is expected that another factory will implement the system, and the Group will continue to carry out energy conservation and carbon reduction actions to further reduce environmental impact.

### Planning objectives

Cumulative 7.2% from 2020 to 2025

2022.03.22  
Taiwan Highpolymer recognized by the Water Resources Agency for its water conservation efforts

Science-based target for reduction  
Set the scenario of limiting global warming to 2°C  
2026 to 2030  
Continue to assess new technologies and improve energy efficiency.

### Implementation and results

- 1. Promote establishment of the ISO-50001 energy management system**
  - ◆ As of 2021, USI Group has 9 factories passing the verification, and it is expected that another 1 will complete the establishment in 2022.
  - ◆ CGPC and Taiwan Highpolymer have obtained the ISO 50001 verification in 2019. TVCM has obtained the ISO 50001 verification in April 2021.
- 2. Actively carry out energy conservation and carbon reduction actions**
  - ◆ Continue to participate in the Earth Hour movement to reduce environmental impact.
- 3. 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.

### The Group's cross-factory technical exchange seminar in 2021

In 2021, the technical exchange seminar in the Group's factory area was postponed to December due to the pandemic. It was in the format of case proposal competition, with "Occupational safety and environment protection", "Equipment preventive maintenance" and "Energy conservation and carbon reduction" being the core topics. After the reporting of technology examples and document review, a total of 7 proposals were submitted for voting. The executives and factories voted for the top three excellent examples, and the chairman of the Group presented certificate of excellence and reward money. The selection and reward served as a good learning process to improve the Group's technology standard. USI Group has held the annual factories technical exchange seminars and several northern Taiwan and Kaohsiung factories resources consolidation meetings to share technical knowledge and discuss problems to achieve resources sharing and improve the effect of energy conservation and carbon reduction.

The Group's cross-factory technical exchange seminar

## 2021 performance in power and energy conservation and carbon reduction

By company	Power conservation (Target: 1%)	Energy conservation (Target: 1.2%)	Carbon reduction (Target: 1.5%)
<b>CGPC (Toufen factory)</b>	1.00%	0.49%	0.65%
<b>TVCM (Linyuan factory)</b>	1.65%	0.82%	0.80%
<b>CGPCP (Linyuan factory)</b>	1.49%	0.37%	0.47%

Description:

- The data comes from the Bureau of Energy's annual energy conservation inspection system reporting form
- Description of achievement rate:
  - Power conservation: The power conservation rates of CGPC, TVCM and Taiwan Highpolymer have all met the targets.
  - Energy conservation/carbon reduction: CGPC mainly conserves power with equipment improvement or replaces old equipment, and energy conservation comes second. TVCM has completed improvement of equipment. There are not as many improvements in the near future, so the improvement of energy conservation and carbon reduction is limited. The equipment in USI factory is relatively new, and has little room for further improvement.
- The scope of inventory includes CGPC's Toufen factory, and TVCM and Taiwan Highpolymer's factories in Linyuan, with a coverage rate of 100%.
- The cumulative energy conservation target from 2020 to 2025 is 7.2%. We will continue to assess new technologies and improve energy efficiency.
- CGPC has followed the Group's carbon reduction goals and is expected to complete the 2030 emission reduction plan by the end of 2022 and re-adjust its own target for emissions reduction.



## 5.2.2 Formulated climate change risk management plans (GRI 201-2)

In order to fulfill CGPC's commitment to corporate social responsibility and continuously manage the risks related to climate change and the related strategies and measures, the Group set energy management goals in 2016, hoping to keep everything within a controllable range with its best efforts. For the purpose of adaptation to the impact of climate change, CGPC has applied the Task Force on Climate-related Financial Disclosures from the Financial Stability Board in 2019 to identify risks and opportunities. In principle, comprehensive evaluation is done every 5 years, and update is reviewed every year. The latest climate risk assessment was conducted in 2019, as well as potential financial impact, and the identified results were used to set response plans. CGPC's assessment process is as follows:

### Climate risk and opportunity identification assessment procedures



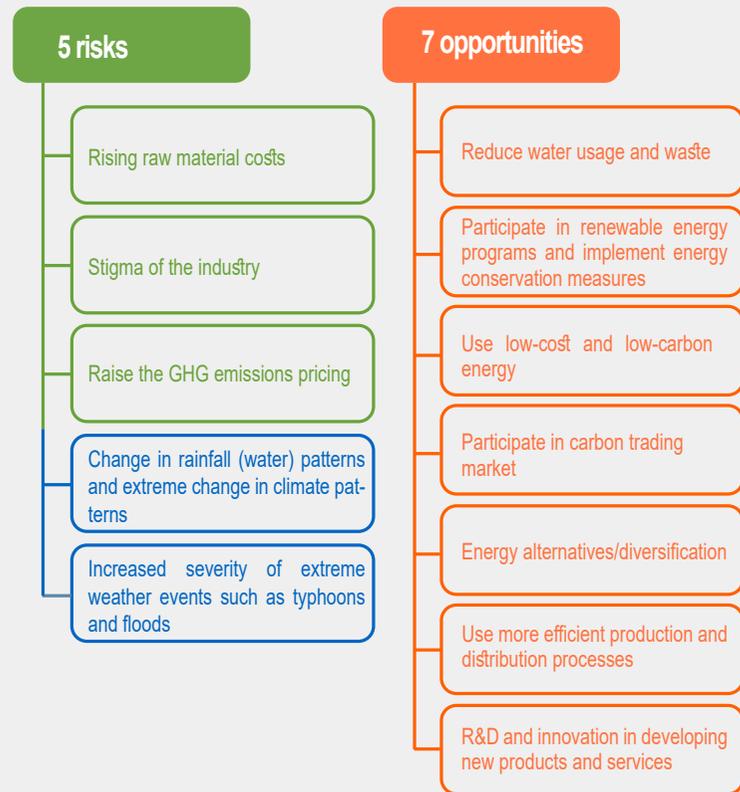
### Disclosure of climate change framework

In response to the drastic changes in climate, the Group has actively mitigated the greenhouse gases generated by its operations, continued to promote energy conservation and carbon reduction improvements, responded to government policies, installed renewable energy sources, spared no efforts in the controllable scope and assessed the potential financial impact, further using the identified results to formulate response plans.



### 5.2.3 Identify climate risk and opportunity

Facing the increasing impact on operations by climate change, CGPC prudently assesses possible risks and grasps potential new business opportunities. In recent years, we have actively implemented energy conservation and carbon reduction improvement solutions to enhance production efficiency, renovation and replacement of old equipment with newer high-performance energy conservation equipment. We adopt the TCFD approach to identify the transition and physical risks in the operation process, and found 5 main risk items and 7 main opportunity items. In 2020, we categorized them based on the time of occurrence, and will review the response measures every year to build a resilient climate change culture.



Climate risk-opportunity matrix



## 5.2.4 Potential financial impact of risks and opportunities

type	Climate-related risks	Potential financial impact	Response measures	type	Climate-related opportunities	Potential financial impact	Response measures
Transition	Raw materials cost rising	Increasing operating costs Decreasing revenue	<ol style="list-style-type: none"> <li>1. Establish safety stock and review it regularly.</li> <li>2. Ensure a stable supply of raw materials.</li> <li>3. Grasp market changes as part of the purchasing strategy.</li> <li>4. Flexibly coordinate production and sales.</li> </ol>	Re-sources efficiency	Reduce water usage and waste	Decreasing operating costs Increasing asset value	<ol style="list-style-type: none"> <li>1. Centrifuge dryer waste water recovery system (HBF) for recovered water, steam condensate, and coal boiler sedimentation tank uses effluent instead.</li> <li>2. Uses and benefits: The recycled water is reused in the cooling water tower, so as to reduce the dependency on using tap water and the discharge of waste water.</li> <li>3. The total volume of recovered water in CGPC and Taiwan Highpolymer is 849.3 million liters per year.</li> </ol>
	Stigma of the industry	Increasing operating costs Increasing capital expenditure Decreasing revenue	<ol style="list-style-type: none"> <li>1. Strategic planning based on green research and development thinking (non-toxic) to develop non-PVC materials, for TPE, TPU, TPO and other green products.</li> <li>2. Replace VCM tanker truck unloading materials equipment to reduce VOC emissions. (Expected to be completed in Q3 2022)</li> <li>3. Carry out regular inspections, propose improvement countermeasures and add pollution prevention equipment: For process, refine and optimize the opening procedures of the reaction tank to reduce VOC emission. (In progress)</li> </ol>		Use more efficient production and distribution processes	Decreasing operating costs Increasing asset value Increasing revenue	<ol style="list-style-type: none"> <li>1. Equipment automation and energy conservation improvement</li> <li>2. Replacement of old equipment with new ones</li> <li>3. Use energy-conserving lights</li> <li>4. Promote smart manufacturing management system</li> <li>5. Set up automatic warehouses and improve transportation routes</li> </ol>
	Raise the GHG emissions pricing	Increasing operating costs Decreasing revenue	<ol style="list-style-type: none"> <li>1. Monitor GHG emissions through annual inventory inspections.</li> <li>2. Continue to pay attention to the trends in the revision of national climate change-related laws and regulations, and actively participate in public hearings on new (revised) research and development.</li> </ol>	Energy source	Use low-carbon energy	Decreasing operating costs	<ol style="list-style-type: none"> <li>1. Three plants have all passed the ISO-50001 energy management system verification.</li> <li>2. CGPC's Toufen factory has built a solar photovoltaic power generation system, and designated a project team to evaluate the construction of renewable energy power generation equipment and purchase of green electricity.</li> </ol>
Physical	Change in rainfall (water) patterns and extreme change in climate patterns	Increasing operating costs Increasing capital expenditure Decreasing asset value Decreasing revenue	Reconstruction of old rainwater ditch in Toufen factory: Added 2 external discharge outlets and sludge removal. The Phase of water ditch reconstruction plan is in progress.	Product and service	R&D and innovation in developing new products and services	Decreasing operating costs Increasing revenue	<ol style="list-style-type: none"> <li>1. Smart machine testing and control equipment, optimize the PVC resin drying machine process to improve product quality and ensure energy conservation.</li> <li>2. Customers to develop recycling of TPU shoe products and remanufacture them into shoe leather.</li> <li>3. Research and develop new varieties of non-toxic plasticizers and stabilizers to make PVC products.</li> </ol>
				Resilience	Participate in renewable energy programs and adopt energy conservation measures	Decreasing operating costs Increasing asset value	<ol style="list-style-type: none"> <li>1. Rent out the roof of CGPC's factory. Vendors install a parallel solar photovoltaic power generation system. The 2021 wholesale to Taiwan Power Company amounted to 1,785,555 kWh.</li> <li>2. Starting from 2021, the Company has planned to install a solar photovoltaic power generation system generating about 570kWp, and the shortfall is to be made up by the Group's planning.</li> <li>3. In 2021, the three factories saved a total of 28,528 GJ in energy and reduced 2,741 tonnes of CO<sub>2</sub>e, about the carbon absorption volume of 7 Daan Forest Parks.</li> </ol>
	Energy alternatives/diversification	Decreasing operating costs Increasing asset value					

## 5.2.5 Group's development of innovative products in response to climate change

### ViviOn Cyclic Block Copolymer (CBC)

The new cyclic block copolymers (CBC) are a type of medical-grade plastics with high penetration rate of deep ultraviolet light UVC, which is used to make reusable food containers and tableware, making ultraviolet light sterilization effective, prolonging product life, reducing environmental impact and improving quality of life. Adding a small amount of CBC to PE/PP can increase the stiffness and rigidity of PE/PP films, and applying it to film thinning can reduce the amount of overall packaging used.



### Water-based thermal insulation coating

In 2019, we collaborated with industry peers to develop multi-color water-based thermal insulation coatings, which can effectively block thermal energy conduction when applied to chemical storage tanks. In summer, the cooling time spraying water on storage tanks can be reduced by 80%, which not only achieves water saving, but also maintains the quality and stability of chemical in the storage tank.



### USii ziploc bags

According to the statistics of the Food and Agriculture Organization of the United Nations, the percentage of vegetables and fruits that are discarded or wasted in the life cycle is as high as 45%. USI Group has developed fresh-keeping technology for vegetables and fruits to absorb plant aging hormones and prolong the fresh-keeping period of vegetables and fruits, further reducing the proportion of food waste. The reusable PE bag materials can also indirectly reduce waste of resources.



### USii ziploc bags – Food grade

When the cut surface of meat is exposed to oxygen, the oxidation speeds up, which causes the meat quality to deteriorate. Therefore, blocking out oxygen is the key to meat preservation. USI Group has developed a type of food ziploc bags that performs 500 times better than the commercially available oxygen blocking technology, which completely isolates oxygen, delays the deterioration and oxidation of meat, and improves the quality of meat preservation. The bags can be reused to extend the shelf life of meat.



## 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 2021 includes CGPC's Toufen factory and TVCM and Taiwan Highpolymer's factories in Linyuan, with a coverage rate of 100%.

### Energy usage in the last 3 years

(Unit: GJ)

By company	Energy type	2019	2020	2021
CGPC (Toufen factory)	Purchased electricity	636,671	616,691	642,323
	Fuel oil (Note 1)	147,868	439	-
	Diesel fuel	5,325	5,034	4,797
	Coal	476,527	437,383	437,694
	Natural gas (Note 1)	10,786	188,076	242,357
	<b>Total energy consumption</b>	<b>1,277,177</b>	<b>1,247,623</b>	<b>1,327,171</b>
TVCM (Linyuan factory)	Purchased electricity	379,391	335,913	377,611
	Purchased steam	370,278	250,475	214,674
	Natural gas	1,709,301	1,558,206	1,892,061
	Diesel fuel	130	149	187
	<b>Total energy consumption</b>	<b>2,459,100</b>	<b>2,144,743</b>	<b>2,484,533</b>
CGPCP (Linyuan factory)	Purchased electricity	134,865	97,955	107,540
	Purchased steam	309,383	283,193	328,651
	Diesel fuel	310	72	65
	<b>Total energy consumption</b>	<b>444,558</b>	<b>381,220</b>	<b>436,256</b>

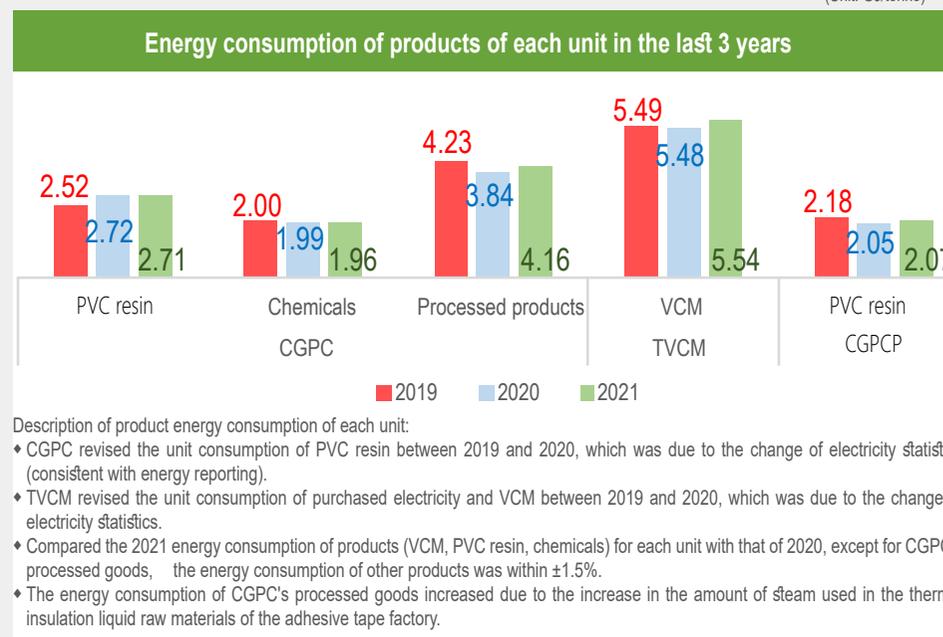
Note 1: CGPC's Toufen factory started replacing fuel oil with natural gas in 2019, and complete the implementation in 2020.

Note 2: The increase in purchased electricity, steam and natural gas was due to the increase in production capacity in 2021.

### Promotion of renewable energy

- CGPC starts it from the construction of solar photovoltaic equipment on the factory roof, and gradually expanded the use of green electricity in each factory area. In 2019, CGPC's Toufen factory built roof-mounted 1,438 kW solar energy equipment on its factory roof, and the actual power generation in 2021 reached 1.78 million kWh.
- CGPC will continue to expand the capacity of solar energy equipment, and is expected to add about 600kW of solar energy in the factory by 2025.
- TVCM's Linyuan factory 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.

(Unit: GJ/tonne)



## 5.2.7 Energy conservation and carbon education solutions and performance

By company	Energy conservation and carbon reduction solutions	2021 performance	
		Amount of energy conservation (GJ)	Amount of carbon reduction (CO <sub>2</sub> e tonnes)
CGPC (Toufen factory)	<ul style="list-style-type: none"> <li>Replace old refrigerators and air compressors with new ones, improve electro-mechanical heating of pipe outlet punch machine, upgrade motors to have IE3 high-efficiency motors installed, replace old window air conditioners with new ones, street lights replaced with LED lamps.</li> <li>Implemented reduction of electricity consumption in response to Taiwan Power Company's demand response bidding program in February, May, and July 2021.</li> <li>Applied to Taiwan Power Company for the planned reduction in electricity consumption in September 2021.</li> </ul>	6,487	904
TVCM (Linyuan factory)	<ul style="list-style-type: none"> <li>Replace the Roots-type blower with an airfoil blower, replace the existing motor of the cooling water tower with a high-efficiency motor, replace the cooling tower circulating fan (B-6002A/B/C) blades, and apply energy-conserving coating on the cracking furnace (F-6202).</li> <li>Applied to Taiwan Power Company for the planned reduction in electricity consumption in May 2021.</li> <li>Implemented reduction of electricity consumption in response to Taiwan Power Company's demand response bidding program in September and October 2021.</li> </ul>	20,419	1,611
CGPCP (Linyuan factory)	<ul style="list-style-type: none"> <li>Improve the process by changing the use of two refrigerators to one, which reduces the circulating use of cooling water pump.</li> <li>Applied to Taiwan Power Company for the planned reduction in electricity consumption in May 2021.</li> </ul>	1,622	226
<b>Total</b>		<b>28,528</b>	<b>2,741</b>

### Description:

- The data comes from the Bureau of Energy's annual energy conservation inspection system reporting form
- Calculation benchmark:
  - The unit calorific value conversion factor refers to the unit calorific value table for energy products announced by the Bureau of Energy (for energy statistics only), in which the electricity is 860 kcal/kWh, fuel oil is 9,600 kcal/L and diesel 8,400 is kcal/L, of which 1cal is 4.187 J.
  - The calorific value conversion factor of the fuel coal used by CGPC's Toufen factory in 2021 is 5,800 kcal/kg, and the CO<sub>2</sub> emission factor is calculated at 1.9654 kgCO<sub>2</sub>e/kg.
  - The calorific value conversion factor of the natural gas used by CGPC's Toufen factory in 2021 is 9,005 kcal/m<sup>3</sup>, and the CO<sub>2</sub> emission factor is calculated at 1.906 kgCO<sub>2</sub>e/m<sup>3</sup>.
  - The calorific value conversion factor of the natural gas used by TVCM's Linyuan factory in 2021 is 9,000 kcal/m<sup>3</sup>, and the CO<sub>2</sub> emission factor is calculated at 2.114 kgCO<sub>2</sub>e/m<sup>3</sup>.
  - The calorific value conversion factors of the purchased steam used by TVCM and Taiwan Highpolymer's Linyuan factories in 2021 were 669,000 kcal/tonne and 665,534 kcal/tonne, respectively, and the CO<sub>2</sub> emission factors were calculated at 295.7kgCO<sub>2</sub>e/tonne and 223.1kgCO<sub>2</sub>e/tonne, respectively.
  - 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.
- The carbon reduction benefits of the following offset projects are not included in the statistics
  - CGPC has updated the IEM liquid alkali evaporation tank offset project, which was registered on September 11, 2019 through the reduction quota. The accounting period is from 2019/9/11 to 2029/9/10, a total of 10 years, and the estimated reduction quota obtained is 31,480 metric tons of CO<sub>2</sub>e.
  - TVCM's offset project of replacing two cracking furnaces (F-6201, F-6202) has passed the quota reduction registration on January 15, 2020. The accounting period is about 4.7 years, from 2020/1/15 to 2024/9/20. The estimated achievable reduction is 15,228 metric tons of CO<sub>2</sub>e.



## 5.2.8 Greenhouse gas management (GRI 305-1, 305-2, 305-4, 305-5)

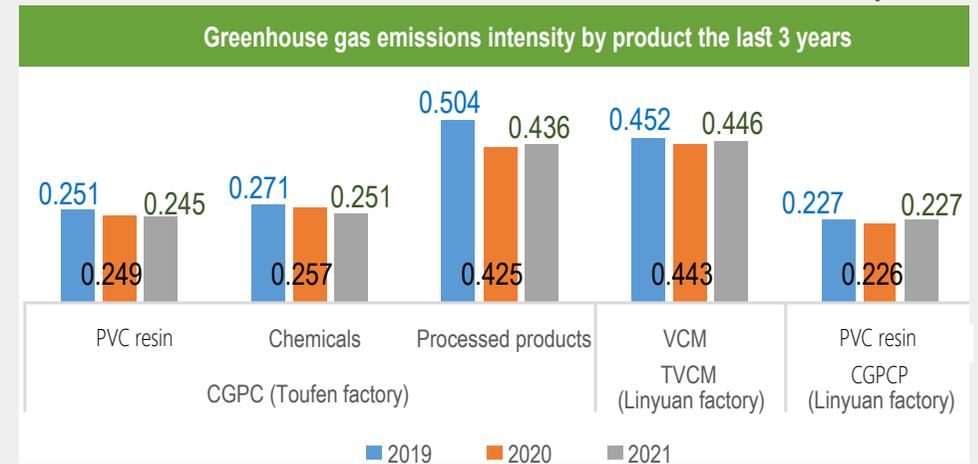
GHG inventory is carried out every year to effectively manage the emissions of each factory of CGPC. Among them, CGPC's Toufen Plant and TVCM's Linyuan factory are the first batch of stationary sources that should be checked and registered for greenhouse gas emissions under the Greenhouse Gas Reduction and Management Act, so the inventory of GHG is carried out in accordance with the Management Measures for GHG Inventory Registration, and the data is regularly verified by an independent third-party verification agency.

### Greenhouse gas emissions intensity by product

(Unit: tonnes CO<sub>2</sub>e/tonne)

By company	By product	2019	2020	2021	goal	Achievement
CGPC (Toufen factory)	PVC resin	0.251	0.249	0.245	0.256	Achievement
	Chemicals	0.271	0.257	0.251	0.282	Achievement
	Processed products	0.504	0.425	0.436	0.510	Achievement
TVCM (Linyuan factory)	VCM	0.452	0.443	0.446	0.464	Achievement
CGPCP (Linyuan factory)	PVC resin	0.227	0.226	0.227	0.228	Achievement

(Unit: tonnes CO<sub>2</sub>e/tonne)



Note:

1. Calculation formula = Total GHG emissions by product (tonnes CO<sub>2</sub>e) / Total output by product (tonnes)
2. CGPC revised the PVC resin between 2019 and 2020, which was due to the change of electricity statistics (consistent with energy reporting).
3. TVCM revised the VCM products in 2020 because the inventory data was obtained after the reporting.
4. Taiwan Highpolymer revised the PVC resin in 2020 due to the revision of the CO<sub>2</sub> emission coefficient of the purchased steam (Taiwan Styrene Monomer Corp).
5. The 2019 (base year) target was based on the average of the emission intensity by product between 2017 and 2019, and it is expected that after the review in 2022, the target will be revised.

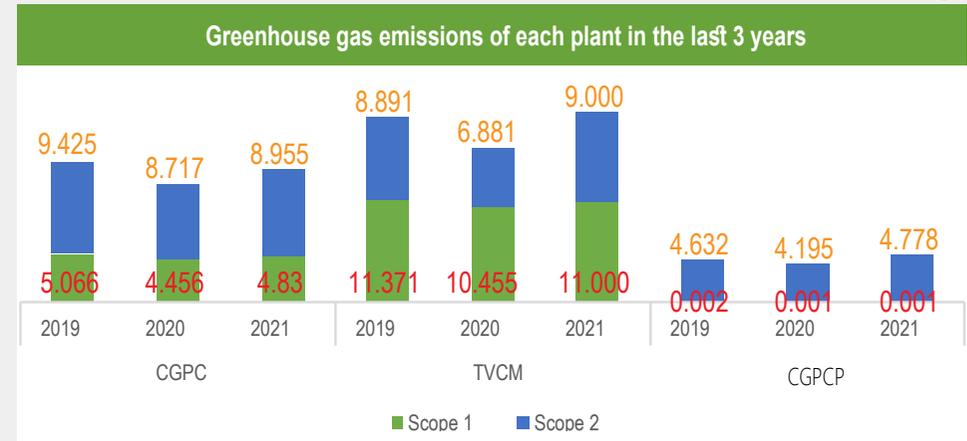


### Greenhouse gas emissions of each plant in the last 3 years

(Unit: 10,000 tonnes CO<sub>2</sub>e)

By company	Scope	2019	2020	2021
CGPC (Toufen factory)	Scope 1	5.066	4.456	4.830
	Scope 2	9.425	8.717	8.955
	<b>Total</b>	<b>14.491</b>	<b>13.174</b>	<b>13.785</b>
TVCM (Linyuan factory)	Scope 1	11.371	10.455	11.000
	Scope 2	8.891	6.881	9.000
	<b>Total</b>	<b>20.261</b>	<b>17.336</b>	<b>20.000</b>
CGPCP (Linyuan factory)	Scope 1	0.002	0.001	0.001
	Scope 2	4.632	4.195	4.778
	<b>Total</b>	<b>4.635</b>	<b>4.196</b>	<b>4.779</b>

(Unit: 10,000 tonnes CO<sub>2</sub>e)



**Note:**

- Scope 1: The main emission sources include natural gas, fuel coal and diesel. Scope 2: Include purchased electricity and purchased steam. Scope 3: Not yet been included in the calculation.
- The greenhouse gas emissions of CGPC Company (Toufen factory) and TVCM (Linyuan factory) are verified by a third party.
- The calculation adopts the operational control method, the GWP value adopts the IPCC 2007 version, and the emission coefficient adopts the coefficient announced by the Environmental Protection Administration. (The carbon emission coefficient of electricity provided by the Bureau of Energy)
- Set the base year for the inventory: 2017 for CGPC (Toufen factory) and 2008 for TVCM (Linyuan factory).
- TVCM revised its greenhouse gas emissions in 2020 because the inventory data was obtained after the reporting.
- Taiwan Highpolymer revised the GHG emission in 2020 due to the revision of the CO<sub>2</sub> emission coefficient of the purchased steam (Taiwan Styrene Monomer Corp).



## 5.2.9 Headquarters office promoted the low-carbon office building initiative.



### 01 Promote vision

In response to the challenge of global warming, the head office building of USI Group incorporated the use of an energy monitoring in 2019 to promote energy conservation and carbon reduction of the building by scientific and data-based method.



### 02 Strategy

Analyze and diagnose number through the energy online monitoring system, understand energy conservation opportunities, and actively implement energy conservation and carbon reduction in buildings and offices through four aspects, equipment, operation and management improvements and advocacy of the concept.

### 03 Promotion process



◆ **Planning in 2019**  
System monitoring and analysis  
Install temperature control switches

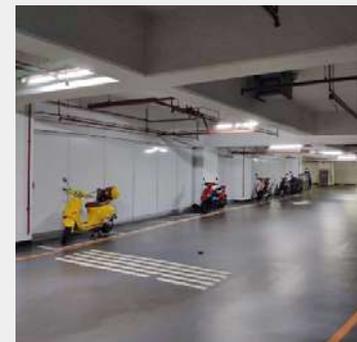
◆ **Implementation in 2021**  
Hope to change employees' mindset of energy use through a series of measures, so that they can consciously develop a good habit of energy conservation and carbon reduction.  
Use all LED lighting in the office area.

◆ **Results**  
Continue to manage temperature control of air-conditioning and adjust the start and stop time of air-conditioning compressors. The electricity consumption of the Group's buildings and offices is 7.43% lower than 2020, showing excellent performance of energy conservation.

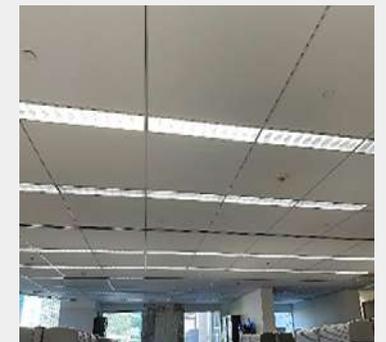


### 04 Promotion results

In 2021, the EUI (Energy Usage Intensity) of the building's office area is 136 (kWh/m<sup>2</sup>·yr), which is 8% lower than that in 2020, and the 5% energy conservation target set for 2020 to 2024 has been achieved ahead of schedule.



Real scene of motion sensor LED lights in south lane on B1



Real scene of LED lights in the office

### 5.2.10 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.

Solution	Update chiller circulation pump system of the 800RT refrigerator in CGPC's Toufen factory
Condition before improvement	Before the improvement, the chilled water system originally used a return valve to control the system pressure, and used 3 main unit ice water pumps to deliver 100hp each (2 in-use and 1 backup), 3 booster pumps for 40hp each (2 in-use and 1 backup), and 1 300-zone booster pump for 10hp, 1 set of 20hp pressurizing pump in the granule zone, a total of 310hp, to the operation of the process.
Description	After the improvement, the internal/external independent circulation systems (internal circulation: 1 in-use and 2 backups, each 75hp; external circulation: 2 in-use and 2 backups, each 100hp, and frequency conversion is used as a voltage stabilization control system) can make the refrigerator run smoothly, and reduce pipeline pressure loss and energy consumption of refrigeration system.
Completion date	September 2020
Expected benefits after improvement	Unit amount of electricity saved: <b>617,364 kWh/year.</b>
Photos	

Solution	Apply energy-conserving coating on the cracking furnace (F-6202) in TVCM's Linyuan factory	CGPC's Toufen factory – Alkali chlorine H-822A/B refrigerator energy conservation improvement
Condition before improvement	Before the improvement, the refractory bricks inside the cracking furnace (F-6202) had not coating.	Before the improvement, a traditional 120hp dry freezer and R-22 refrigerant were used. Because the heat transfer area of the dry freezer's evaporator only reached 80% utilization rate, the total heat transfer efficiency was low, which increased the energy consumption.
Description	The refractory bricks in the bottom and wall inside the cracking furnace (F-6202) are sprayed with high-temperature reflective ceramic coating to increase the heat energy absorption of the furnace tube and reduce the heat loss of the furnace wall, further improving the cracking furnace's thermal efficiency.	After the improvement, two units of 60hp centrifugal chiller with frequency control were used, which meet the requirements of Level 1 refrigeration emergency efficiency. R-134a eco-friendly refrigerant is also used. The COP value is better than the original dry refrigerator, and the power conservation efficiency of the main unit can be improved by at least 30%.
Completion date	June 2021	October 2021
Expected benefits after improvement	After the coating is applied, the cracking furnace (F-6202) can save <b>393,600</b> m <sup>3</sup> /year of natural gas, equivalent to <b>14,832</b> GJ/year of recovered heat energy.	Unit amount of electricity saved: <b>244,426</b> kWh/year. R-134a eco-friendly refrigerant is also used to reduce the risk of damaging the ozone layer and global warming.
Photos	 <p>Appearance</p> <p>Interior furnace wall</p> <p>Interior furnace bottom</p>	

Solution	Update 2 cracking furnaces (F-6201 and F-6202) in TVCM's Linyuan factory as part of the offset project (B0000210)	Offset project (B0000200) of updating IEM liquid soda evaporation tanks in CGPC's Toufen factory
Condition before improvement	Our F-6201 and F-6202 cracking furnaces were originally designed and manufactured abroad. as they get older, the aging refractory materials, the deterioration of furnace tube materials, and the poor efficiency of burners lead to poor overall energy efficiency.	The liquid alkali evaporation tank equipment is old and has poor evaporation efficiency, resulting in increased production costs.
Description	The two cracking furnaces (F-6201 and F-6202) in our factory have been replaced, including the upgrade of the grade of refractory materials, the change of burner design and energy conservation, the change of furnace body structure and furnace tube support design, and the improvement of furnace tube materials. The higher-efficiency furnaces reduce the energy consumption, so as to achieve the benefits of energy conservation and carbon reduction.	The original double-effect shell-and-tube evaporator is changed to a triple-effect plate evaporator and the steam pipeline is updated to effectively utilize the heat energy of the system, optimize the use of steam, reduce the input heat source required for the process, improve the efficiency of internal circulation, and reduce IEM total steam consumption of the process, which will efficiently use energy and reduce production costs.
Completion date	Phase 1: F-6202 was completed in October 2016. Phase 2: F-6201 was completed in September 2017.	April 2022
Expected benefits after improvement	<p>The promotion of energy conservation and carbon reduction in this project has high carbon reduction benefits and is in line with the methodology. The project proposed to update the two cracking furnaces (F-6201, F-6202), and apply for the greenhouse gas offset project. On November 14, 2019, the project obtained verification. On January 15, 2020, the Environmental Protection Administration of the Executive Yuan approved the registration review of the GHG offset project, and it is estimated that 15,228 metric tons of CO<sub>2</sub>e can be obtained during the accounting period.</p> <p>The calculation period of the reduction benefit is from January 15, 2020 to September 20, 2024, a total of 4.7 years.</p> <p>In the offset project (B0000210, period between January 15, 2020 and December 31, 2020) for updating the two cracking furnaces, (F-6201, F-6202), the 1st application for GHG reduction quota was approved by the Environmental Protection Administration on May 3, 2022 to pass the reduction quota of 3,129 metric tons of CO<sub>2</sub>e.</p>	<p>The promotion of energy conservation and carbon reduction in this project has high carbon reduction benefits and is in line with the methodology. The project proposed to update the IEM liquid alkali evaporation tank, and apply for the greenhouse gas offset project. On May 23, 2019, the project obtained verification. On September 11, 2019, the Environmental Protection Administration of the Executive Yuan approved the registration review of the GHG offset project, and it is estimated that 31,480 metric tons of CO<sub>2</sub>e can be obtained during the accounting period (10 years).</p> <p>The first application for the reduction quota (from 2019.09.11 to 2020.12.31) was reviewed and approved by the Environmental Protection Administration of the Executive Yuan on April 7, 2022, giving a reduction quota of 4,335 metric tons of CO<sub>2</sub>e.</p>
Photos		

## 5.3 Water Resources Management (GRI 303:2018)

### Material issue: Water resources management

 <b>Meaning to CGPC</b>	 <b>Strategic Policy</b>	 <b>Commitment</b>
<p>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.</p>	<p>Implement ISO 46001 and ISO 14046 to reduce water waste, improve and replace water-consuming equipment, and increase water recycling and reuse rate.</p>	<p>Starting 2021, the year-over-year growth of recycled water used is <b>5.2%</b>.</p>

Promotion policy	Unit	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Increase the percentage of recycled water per year	Percentage of recycled water	38.5	<b>50.8</b> 	39.7	43.4	50.3

Note: The 2018 recycled water percentage is the base year.

 Exceeded goal 
  Achieved 
  Partially achieved 
  Not achieved



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 2021 inventory includes CGPC's Toufen factory, and TVCM and Taiwan Highpolymer's factories in Linyuan, with a coverage rate of 100%.

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 Toufen factory and Taiwan Highpolymer's factory in Linyuan have planned to establish the recovery and reuse of recycled water. By setting up a biological treatment system and COD adsorption system, wastewater from the process is recovered for reuse, and treated by the newly established centrifuge recycling equipment to reduce the chemical oxygen demand (COD) and suspended solids (SS) in water, before being re-supplied to the cooling water tower to reduce the amount of tap water used and wastewater discharge, contributing to the environmental protection efforts.

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

In response to the risk of water shortage potentially caused by climate change, the water source used by CGPC (Toufen factory) is supplied by Yongheshan Reservoir, and the water used by TVCM and Taiwan Highpolymer (Linyuan factory) is supplied by Fengshan Reservoir, which is put into the process. In order to save water, the three companies have added process 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.

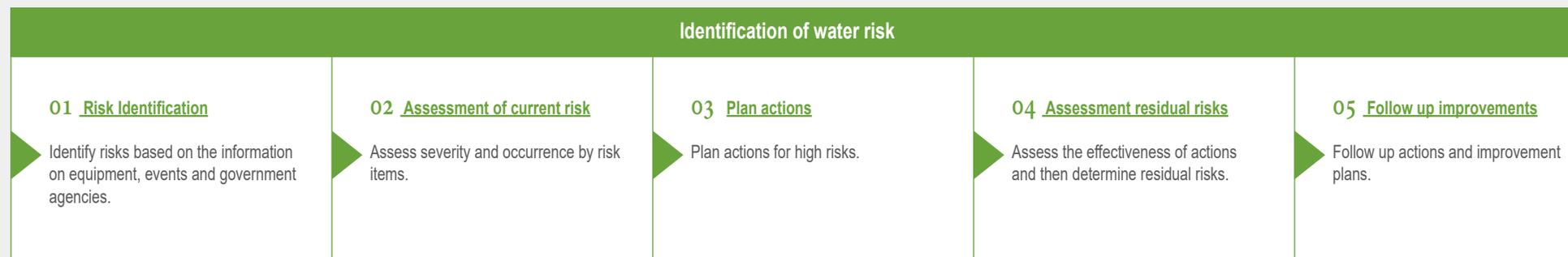
#### Risk management of water resources

In order to ensure the stable operation and sustainable development of the Company and to cope with the risk of water shortage caused by climate change, the Audit Committee and the board have passed the [Risk Management Policy and Procedures](#) in December 2020 to establish an overall risk management system. The board of directors, the Audit Committee, the president, the Audit Department, various risk management units and subsidiaries have jointly promoted the implementation of the Company's risk management measures. 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 by country around the world. Each company is verified to be located in the low to high stress areas.

Item/Company	CGPC (Toufen factory)	TVCM (Linyuan factory)	CGPCP (Linyuan factory)
Water stress areas	Low to moderate water stress zone	Moderate to high water stress zone	Moderate to high water stress zone
Water stress	10~20%	20~40%	20~40%



#### Assessment of water risks and implementation

CGPC's Toufen factory 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 through scenario analysis, and refer to [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 (Toufen factory in Miaoli is in a low to moderate stress area, and Linyuan factory 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 results	Impact of extreme weather
CGPC's Toufen factory	<b>Low to moderate water stress zone</b>	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 January 7, 2021, 11% starting February 19, 2021, and 17% starting May 12, 2021, and the weekly water intake reported and the water meter data (by photo) needed to be checked to verify whether the water conservation standards have been met. Statistics show that as of the end of July 2021, the average water conservation performance of the Toufen factory has reached more than 15%, that of TVCM's Linyuan factory has reached 11%, and that of Taiwan Highpolymer's Linyuan factory has reached 20%. Due to the less than expected rainfall, the Toufen factory cooperated with the government's policy to implement water conservation measures of 2 days of non-supply for every 5 days of supply starting April 6, 2021.
TVCM's Linyuan factory	<b>Moderate to high water stress zone</b>	
CGPCP's Linyuan factory	<b>Moderate to high water stress zone</b>	
Identification of water risk (occurrence)	<b>Assess operational risks of locations based on water consumption, seasonal change, drought, flooding, groundwater decline, etc.</b>	
Management actions	<p><b>A. Conservation of process water:</b></p> <p>(1) Start water conservation measures to increase the conductivity of the water replenished to the cooling water tower.</p> <p>(2) Increase the concentration ratio of the cooling water tower and reduce the frequency of water replacement in the scrubber tower.</p> <p>(3) Discharge the cooling water, and recycle it as the water used in the scrubber.</p> <p><b>B. Conservation of water used in daily life</b></p> <p>(1) Decompressed water supply.</p> <p>(2) Place water bottles and install water savers to squat toilets to achieve water conservation.</p> <p>(3) Continue to advocate water conservation to employees.</p> <p>(4) Improve on-site patrol inspections, and send personnel to handle any water leak immediately.</p> <p><b>C. Improve the recycling water treatment operation and the recycling rate and actively plan rainwater recycling.</b></p> <p><b>D. Purchased water and active the use of underground in the Toufen factory.</b></p> <p><b>E. Continue to maintain contact with government agencies to obtain water information.</b></p> <p><b>F. CGPC plans to implement ISO 46001 and ISO 14046 in 2022.</b></p> <p><b>G. Conduct monthly factory review meetings, exchange opinions with other factories from time to time, and keep track of climate and reservoir information.</b></p>	
Water conservation results	<p>1. Install centrifuge dryer waste water recovery systems (HBF) for CGPC's Toufen factory and Taiwan Highpolymer's Linyuan factory.</p> <p>2. The total volume of recovered water in CGPC and Taiwan Highpolymer is 849.3 million liters in 2021, and CGPC accounts for 20.75% and Taiwan Highpolymer accounts for 104.08%.</p> <p>Note: CGPC's recycled water includes HBF process recycled water, steam condensate, and coal boiler sedimentation tank uses effluent water instead.</p>	

### CGPC's building materials factory – Rainwater recycling and reuse



#### Solution: Rainwater recycling and reuse

##### Description:

CGPC has been established for 58 years. The building materials factory 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 purpose. In 2021, Miaoli only had 33 days with rainfall more than 10mm.

- ◆ Rainwater storage tank capacity: (12-inch pipe X 2M X 6) about 3 tonnes + 1 tonne buckets (2), which can store about 5 tonnes of rainwater.
- ◆ Application: 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 save water bills and 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. Due to that 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 factory in the last 3 years

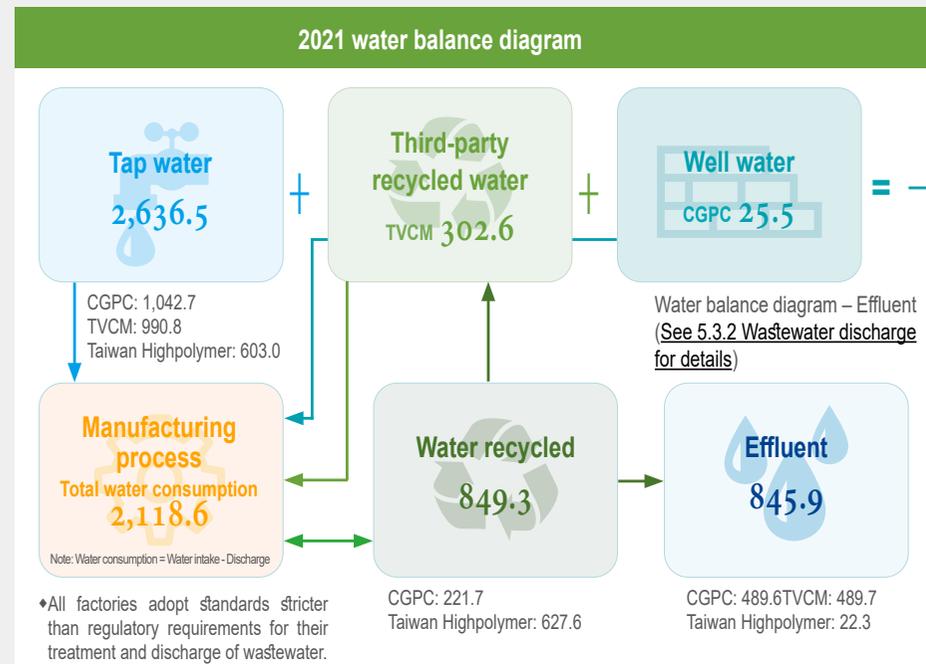
(Unit: million liters)

By company	Source	2019	2020	2021
CGPC (Toufen factory)	Tap water	1,065.0	1,061.7	1,042.7
	Groundwater	1.8	1.4	25.5
	<b>Total</b>	<b>1,066.8</b>	<b>1,063.1</b>	<b>1,068.2</b>
TVCM (Linyuan factory)	Tap water	974.6	913.7	990.8
	Party from third-party (Note)	282.2	298.0	302.6
	<b>Total</b>	<b>1,256.8</b>	<b>1,211.7</b>	<b>1,293.4</b>
CGPCP (Linyuan factory)	Tap water	536.5	531.9	603.0
	<b>Total</b>	<b>536.5</b>	<b>531.9</b>	<b>603.0</b>

Note: Taiwan Highpolymer's recycled water from the HBF process is provided to the cooling water tower of TVCM.

### CGPC's water resources statistics

(Unit: million liters)



(Unit: million liters)



Note: 1. CGPC completed the HBF (process recycling water system) in July 2018, which puts the qualified treated and recycled water into the cooling water tower, reducing the consumption of tap water.

2. Although Taiwan Highpolymer (Linyuan factory) continued to increase its production in 2019, the overall water consumption dropped significantly due to the factory's use of HBF (process recycling water system).

### Proportion of local reservoir consumption

(Unit: million liters)

By company	Year	Water intake	Reservoir output	Percentage
CGPC (Toufen factory)	2019	1,065.0	52,416	2.03%
	2020	1,061.7	52,416	2.03%
	2021	1,042.7	40,517	2.57%
TVCM (Linyuan factory)	2019	974.6	160,600	0.61%
	2020	913.7	160,600	0.57%
	2021	990.8	160,600	0.62%
CGPCP (Linyuan factory)	2019	536.5	160,600	0.33%
	2020	531.9	160,600	0.33%
	2021	603.0	160,600	0.38%

By company	Reservoir	Percentage of water intake to reservoir water outflow	Total water withdrawal (Unit: million liters)
CGPC	Yongheshan	2.57%	2,964.6
TVCM	Fengshan Reservoir	0.62%	
CGPCP	Fengshan Reservoir	0.38%	

### Water recycled and reused in the last 3 years

(Unit: million liters)

By company	Recycling %	2019	2020	2021
CGPC (Toufen factory)	Water recycled	124.9	159.5	221.7
	Total water withdrawal	1,066.8	1,063.1	1068.2
	Recycling %	11.70%	15.00%	20.75%
CGPCP (Linyuan factory)	Water recycled	554.8	609.1	627.6
	Total water withdrawal	536.5	531.9	603.0
	Recycling %	103.41%	114.52%	104.08%
<b>Total water recycled in two factories</b>		<b>679.70</b>	<b>768.60</b>	<b>849.30</b>

Note: CGPC's recycled water includes HBF process recycled water, steam condensate, and coal boiler sedimentation tank uses effluent instead.

Taiwan Highpolymer revised its 2020 and 2019 data of recycled water by adding the amount of water recycled from the manufacturing process.

### Centrifuge dryer waste water recovery systems (HBF) for CGPC's Toufen factory and Taiwan Highpolymer's Linyuan factory.

#### Condition before improvement

Before installing the system, the centrifuge wastewater and factory wastewater are treated by the sand filter system and then discharged to the sewage treatment plant.

#### 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 discharge.

#### Completion date

CGPC and Taiwan Highpolymer continued to modify equipment in April and July 2018, respectively, to reinforce the growth rate of recycled water.

#### Expected benefits after improvement

##### 2021 amount of water conserved:

- ◆CGPC's recycled water volume: **134.8** million liters/year
- ◆Taiwan Highpolymer's recycled water volume: **627.6** million liters/year
- ◆Total: **762.4** million liters/year



### 5.3.2 Wastewater discharge management (GRI 303-4)

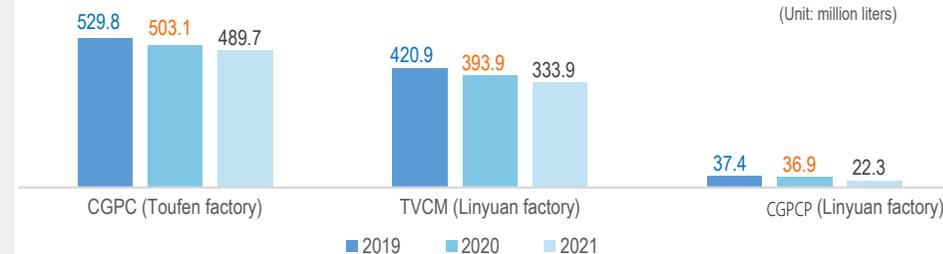
CGPC's factories adopt standards stricter than regulatory requirements for their treatment and discharge of wastewater. The destinations of each plant's effluent are as follows:

By company	CGPC (Toufen factory)	TVCM (Linyuan factory)	CGPCP (Linyuan factory)
Effluent Destination	Jhonggang River	Ocean discharge in Dalinpu (Note)	

Note: The wastewater of each factory in Linyuan Industrial Park is treated and then discharged to the sewage treatment plant in Linyuan, and then transported to the Kaohsiung Linhai Linyuan & 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 standard.

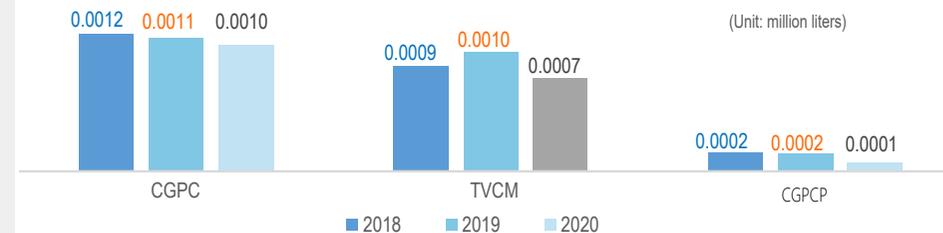
### Wastewater discharged in the last 3 years

(Unit: million liters)



### Wastewater discharge intensity in the last 3 years

(Unit: million liters)



- Note: 1. The amount of effluents of TVCM and Taiwan Highpolymer's Linyuan factories is far less than the consumption of tap water.
- Note: 2. 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 Waste water 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.

By company	Test items	2019 Mean	2020 Mean	2021 Mean	Discharge standard	Internal control value
CGPC (Toufen factory)	pH	7.80	7.57	7.55	6~9	7~8
	(SS) Suspended solids (mg/L)	10.80	6.13	13.53	30	<25
	(COD) Chemical oxygen demand (mg/L)	53.10	26.33	32.00	100	<80
TVCM (Linyuan factory)	pH	7.50	7.80	7.85	6~9	7~8
	(SS) Suspended solids (mg/L)	17.20	7.91	17.30	30	<25
	(COD) Chemical oxygen demand (mg/L)	86.70	47.81	41.95	100	<80
CGPCP (Linyuan factory)	pH	7.15	7.20	7.05	6~9	7~8
	(SS) Suspended solids (mg/L)	8.65	8.70	5.35	30	<25
	(COD) Chemical oxygen demand (mg/L)	58.90	54.50	65.00	100	<80

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

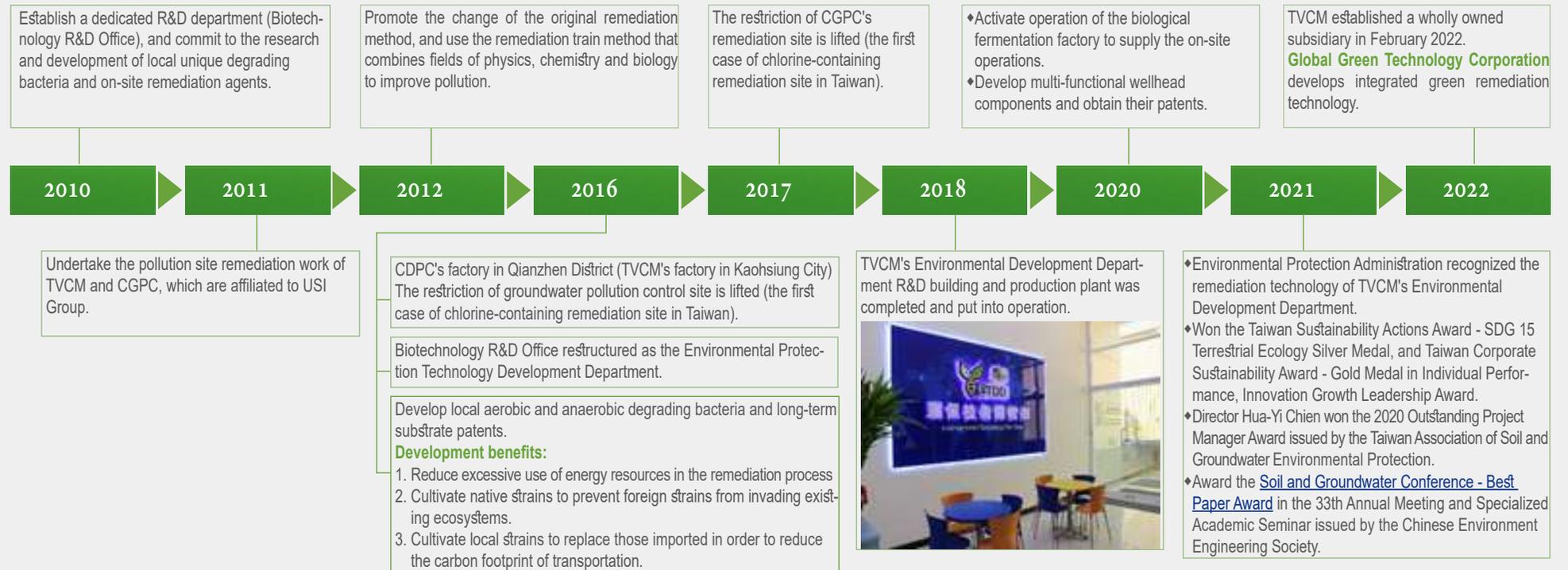
TVCM is a subsidiary of CGPC. It conducts its production on a leased land in Qianzhen District of Kaohsiung City in its early days. Due to business considerations, it stopped production in 1989 and ended the land lease. However, the land was announced by the Environmental Protection Administration in October 2006 as a groundwater pollution control site. Although the Company does not own the land, it has to face the pollution problems results from previous operations for the purpose of sustainability, and has initiated its groundwater pollution control program.

In the early phase, the Company commissioned an engineering consulting company to carry out physical/chemical remediation by extracting and adding chemical agents, but the approach could not effectively extend to the entire site, and the concentration of pollutants in the groundwater would easily rise again. The remediation cost was also high, with limited results.

In 2009, the employees at TVCM tested a biological remediation method. The test results showed that the biological remediation method was feasible and the performance was significant. Since there was no manufacturer providing such specialized technology at the time, TVCM immediately established its Biotechnology Research and Development Office in May 2010, dedicated to developing remediation technologies in-house.



## Promotion of development (2010 to 2021)



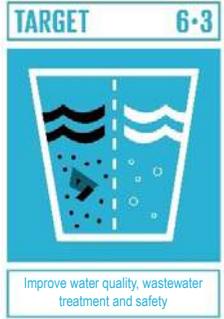
CGPC's soil and groundwater remediation technology restores the original land through biological remediation technology, which also reduces the harm to groundwater sources and pollutants that harm ecosystems, and it is also linked to **SDGs 6** Clean water and sanitation and **SDGs 15** Protect terrestrial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



**6** Clean Water and Sanitation



**15** Life on Land



**TARGET 6-3**  
Improve water quality, wastewater treatment and safety



**TARGET 6-6**  
Protection and restoration of water ecosystems



**TARGET 15-1**  
Protection and restoration of terrestrial and freshwater ecosystems



**TARGET 15-3**  
End desertification and restore degraded land

## Remediation performance – CDPC's factory 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 Agency 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's remediation team has implemented the groundwater pollution control plan for about 6 years. The restriction of the site was lifted in April, 2016, making it the first chlorine-containing organic pollution site to be lifted from the controlled list in Taiwan. The successful experience made it a good example for promoting improvement of sites with dense non-aqueous phase liquid (DNAPL). Remediation requires years of actual performance before it can be affirmed by government agencies.

### ◆2020 to 2021 development key points



#### Construct 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 an utility patent in 2020.

## Remediation performance – CGPC's factory in Toufen

### ◆Lifted the status as a remediation 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. The commissioned environmental protection consulting firm was not able to complete the improvement in 2013. TVCM's team took over the implementation of remediation in 2015, and, after more than one year of remediation, was able to keep it within the controlled standard after long-term monitoring, and finally completed the improvement work in advance in 2016. In February and March, 2017, the Company obtained official letters from the Environmental Protection Administration and the Environmental Protection Agency of the County Government of Miaoli, respectively, announcing the lift of restriction on the remediation and controlled site, becoming the first chlorine-containing organic pollution site to be lifted from the controlled list in Taiwan. \*Environmental Protection Administration recognized the remediation technology of TVCM's Environmental Development Department.

### ◆Obtained the certificate showing the lifting of restrictions in 2021.



**行政院環境保護署污染場址整治技術解列證明書**  
Certificate of Technology Applied in Delisted Soil and Groundwater Contamination Site  
Environmental Protection Administration, Executive Yuan, R.O.C. (Taiwan)

茲證明台灣氯乙烯工業股份有限公司 環保技術開發部於102年6月 – 106年2月期間，以抽出處理法與現地化學氧化技術執行苗栗縣含氯有機物污染場址地下水污染整治工作，技術有效並於106年2月14日解除整治場址列管。

This is to certify that **Environmental Technology Development Department, Taiwan VCM Corporation** has implemented a chlorinated compounds contaminated site groundwater remediation project, Miaoli County, between Jun. 2013 and Feb. 2017. The remedies, pump and treat and in-situ chemical oxidation, were applied to the site cleanup. The site has met the groundwater control standards and been delisted on Feb. 14, 2017.

日期：中華民國110年12月12日  
案例編號：No. R00001  
行政院環境保護署  
署長 

This certificate is valid from Jan. 12, 2021.  
Serial number No. R00001  
Environmental Protection Administration, Executive Yuan, R.O.C. (Taiwan)  
Minister 

## 5.4 Air pollution control

### Material issue: Air pollution control and prevention

 <b>Meaning to CGPC</b>	 <b>Strategic Policy</b>	 <b>Commitment</b>
<p>Reduce the impact of greenhouse gas emissions and air pollutants on the environment.</p>	<p>Switch to the use of low-polluting fuel (natural gas) to reduce sulfur oxides (SOx), nitrogen oxides (NOx) and volatile organic compounds (VOCs) emissions.</p>	<p>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.</p>

Promotion policy	Unit	2019 Base year	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Continue to replace equipment, and use low-polluting fuels	Reduce sulfur oxide emission intensity (ton/kt)	0.173	0.170	0.014 	0.170	0.167	0.159
	Reduce NOx emission intensity (ton/kt)	0.228	0.224	0.168 	0.224	0.221	0.209
	Reduce the emission intensity of volatile organic compounds (ton/kt)	0.347	1.424	1.829 	1.418	1.401	1.329

Note: 1. 2019 is the base year (emissions per unit of product, cumulatively reduced by 8% until 2030).  
 2. Due to the change in the calculation method of VOCs emissions in 2021, the unit emission intensity target from 2019 to 2021 was changed to the same basis as the calculation method in 2021.  
 3. Due to the increase in production capacity and the increase in emission intensity, the construction of pollution prevention equipment is expected to be completed in 2022.

 Exceed target  Achieved  
 partially  Not achieved



Each factory of CGPC conducts regular inspections for air pollutants and reports the results to the competent authority as scheduled, obtains the installation and operation permits of stationary sources of pollution according to law, and has designed air pollution personnel and their work substitutes responsible for managing the processes.

The main air pollutants emitted by CGPC's factories from the manufacturing process include sulfur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOCs) and particulate pollutants (total suspended particulate, or referred to as TSP).

Sulfur oxides and nitrogen oxides are mainly produced by boilers, and volatile organic compounds are mainly emitted from manufacturing process and equipment components.

### Air pollution emissions in the last three years

(Unit: tonnes/year)

By company	Pollutants	2019	2020	2021	2021 Percentage of pollutants in performance indicators of each plant
CGPC (Toufen factory)	Sulfur oxides (SOx)	55	19	5	97%
	Nitrogen oxides (NOx)	45	28	30	35%
	Volatile organic compounds (VOCs)	447	510	607	93%
TVCM (Linyuan factory)	Sulfur oxides (SOx)	4	0.1	0.1	3%
	Nitrogen oxides (NOx)	62	41	55	65%
	Volatile organic compounds (VOCs)	26	26	38	6%
CGPCP (Linyuan factory)	Volatile organic compounds (VOCs)	7	6	5	1%
	Total suspended particulate (TSP)	12	6	6	-



Note:

1. Since 2020, CGPC and TVCM has switched to the use of natural gas for fuel, so SOx and NOx emissions have decreased. However, due to the increase in production in 2021, the number of days of boiler operating also increased, resulting in an increase in NOx and VOCs emissions.
2. Since 2020, Taiwan Highpolymer'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. Due to the change in the calculation method of VOCs emissions in 2021, the unit emission intensity target from 2019 to 2021 was changed to the same basis as the calculation method in 2021.

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

### Material issue: Waste management

 <b>Meaning to CGPC</b>	 <b>Strategic Policy</b>	 <b>Commitment</b>
Comply with environmental protection regulations, legally clean and transport, improve resource reuse rate, and pursue sustainable resource utilization.	Continue to promote waste classification and improve resource reuse rate.	Reduce waste per unit of output year by year.

Promotion policy	Unit	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Promote circular economy to reduce waste and increase reuse rate	Amount of waste generated per unit of output (ton/ton)	0.0065	0.0034 	0.0065	0.0050	0.0045
	Reuse rate %	80.0	83.8 	80.0	85.0	90.0
	Landfill rate	20.0	16.2 	20.0	15.0	10.0

 Exceeded goal  Achieved  Partially achieved  Not achieved



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 factory 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 the waste cleaning plan and reporting data are abnormal in order to ensure that the factory management complies with 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.

### Amount of waste generated in the last three years

(Unit: tonne)

	By company		Final disposal	2019	2020	2021
	General industrial waste	CGPC (Toufen factory)	Recovery and reuse		2,692.50	2,532.4
Landfill				395.2	325.1	108.6
<b>Total for CGPC</b>			<b>3,087.7</b>	<b>2,857.5</b>	<b>2,514.0</b>	
TVCM (Linyuan factory)		Recovery and reuse		148.9	134.0	432.0
		Landfill		417.0	174.0	358.3
<b>Total for TVCM</b>			<b>565.9</b>	<b>308.0</b>	<b>790.3</b>	
CGPCP (Linyuan factory)		Recovery and reuse		49.6	21.3	43.9
		Landfill		48.4	50.0	53.7
<b>Total for Taiwan Highpolymer</b>			<b>98.0</b>	<b>71.3</b>	<b>97.6</b>	
<b>Total from three factories</b>			<b>3,751.6</b>	<b>3,236.8</b>	<b>3,401.9</b>	
Hazardous industrial waste	CGPC (Toufen factory)	Landfill		0.01	0.02	0.01
	TVCM (Linyuan factory)	Landfill		36.94	10.43	38.30
	<b>Grand Total</b>			<b>36.95</b>	<b>10.45</b>	<b>38.31</b>

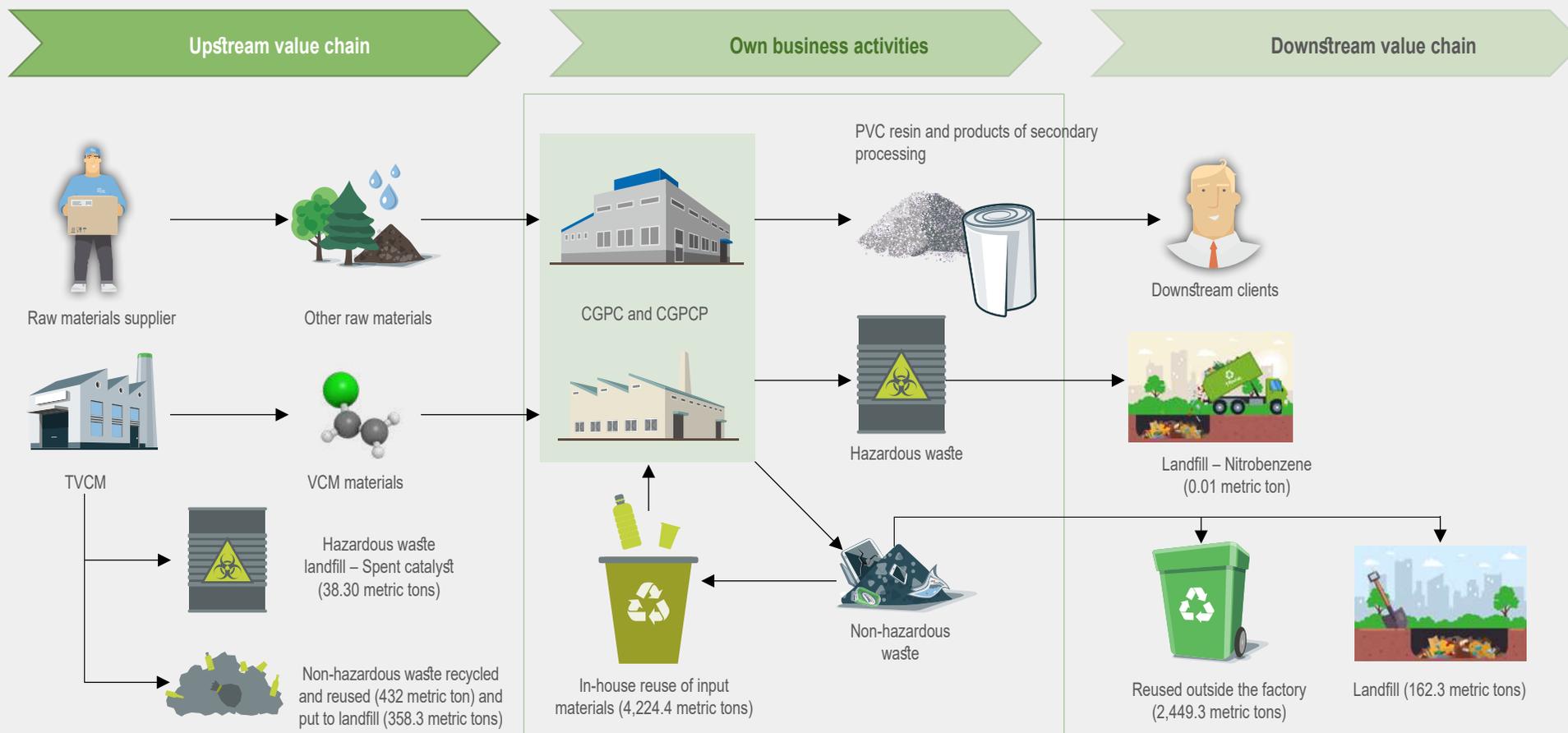


- ◆ All recyclable resources from CGPC's factories are given to legal vendors for recycling.
- ◆ Our environmental safety and health units regularly inspect waste disposal vendors' management and disposal monitoring, and the general affairs units work with waste treatment organizations to formulate contracts. 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 2021, the disposal and treatment agencies did not have any breach of contract.
- ◆ CGPC's 2021 amount of industrial waste decreased due to the reduced generation of waste wood (recycled and reused) and waste plastics (landfill).
- ◆ TVCM's 2020 amount of industrial waste decreased due to equipment maintenance and occupational safety incidents, which reduced the production, so the waste was also reduced.
- ◆ TVCM's 2021 amount of industrial waste increased due to that waste treatment plant had the ongoing annual maintenance program in 2020, and the in-house waste was accumulated until 2021 before being disposed off, which resulted in the increase of the amount of sludge (recycled and reused) transported.

## Life cycle management for waste

The hazardous waste generated by CGPC and TVCM in 2021 was 38.31 tonnes. Without proper management and effective treatment, random disposal can pollute the environment (air, soil and water), further affecting the ecosystems and harm human health. Therefore, we have adopted the following management measures:

1. Review vendors' qualifications: They need to be qualified waste removal and treatment organizations.
2. Use the GPS real-time tracking system to confirm the transportation route and flow.
3. Follow vehicles to conduct inspections from time to time to ensure that hazardous wastes are properly disposed of.



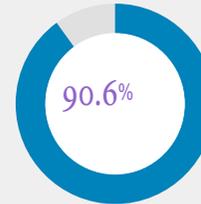
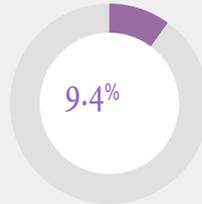
# 6 Social inclusion (GRI 102-8, 201-3, 401-1~401-3, 403-1~403-10, 404-1~404-3, 405-1, 405-2)



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.



Female, **85** people



Male, **823** people



Average age

**45.81** years old



Average tenure

**18.6** years



Average salary

**NT\$1,190** thousand



Median salary

**NT\$1,165** thousand



Education higher than technical colleges

**53.3%**

### Manpower

#### Number of employees:

The total number of employees is 908, with 823 males (90.6%) and 85 females (9.4%). 891 people (98%) are local hires in Taiwan, and 17 are migrant workers from other countries (Thailand and Indonesia) due to particular job demand.

Taiwanese employees are mostly located in Taipei, Miaoli and Kaohsiung, and they are all full-time regular employees. Except for 6 people and the 17 foreign migrant workers who signed fixed-term contracts (a total of 23 people), the rest of CGPC's employees are on indefinite contracts.

### Others Issues

2021 CGPC companies (including subsidiaries TVCM and CGPCP and excluding overseas investment affiliates. 100% manufactured in Taiwan, and the same applies to this section and latter).

In order to provide employment opportunities to the disadvantaged, 19 persons with disabilities are employed in 2021, accounting for 2.09% of the Company's total number, which is higher than the 1% employee percentage required by the People with Disabilities Rights Protection Act.

### Issue

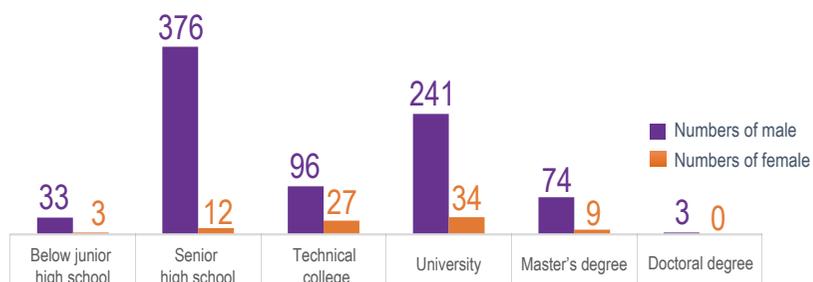
- Talent attraction and retention (see [Section 6.2](#))
  - Talent development and cultivation (see [Section 6.3](#))
  - Occupational safety and health (see [Section 6.4](#))
  - Transportation safety (see [Section 6.5](#))
- See each section for description

## 6.1 Manpower structure (GRI 102-8, 405-1)

### 2021 Statistics by position, job location, age, education background and gender

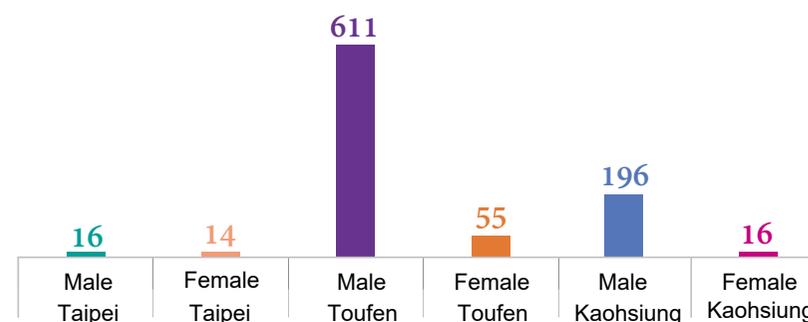
Category	Groups	Male		Female		Group subtotals and percentages	
		Number of people	Percentage of group	Number of people	Percentage of group	Number of people	Percentage of all employees
Job Title	Tier-one supervisors	38	4.6%	1	1.2%	39	4.3%
	Tier-two supervisors	135	16.4%	6	7.1%	141	15.5%
	General employees	650	79.0%	78	91.8%	728	80.2%
Job location	Taiwan	823	100.0%	85	100.0%	908	100.0%
Employment type	No fixed term or perpetual contract:						
	Full-time staff	801	97.3%	84	98.8%	885	97.5%
	Fixed term or temporary contract:						
	Contract staff	22	2.7%	1	1.2%	23	2.5%

**Total number of employees: Full-time staff + Contract staff** 908



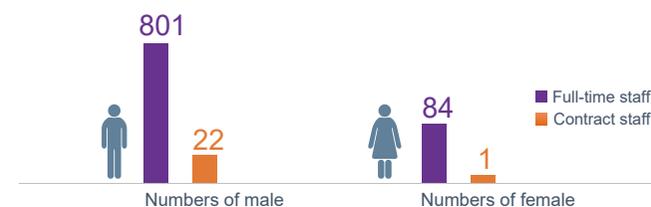
In response to technological advances and in order to improve efficiency, we have continued to replace old equipment in the factories with new ones, and personnel with relevant academic qualifications and operational skills are required. In 2021, we recruit new employees to make up for those who retire, and most of our new hires have either bachelor's or master's degree. 53.3% 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.

### 2021 Work region statistics table

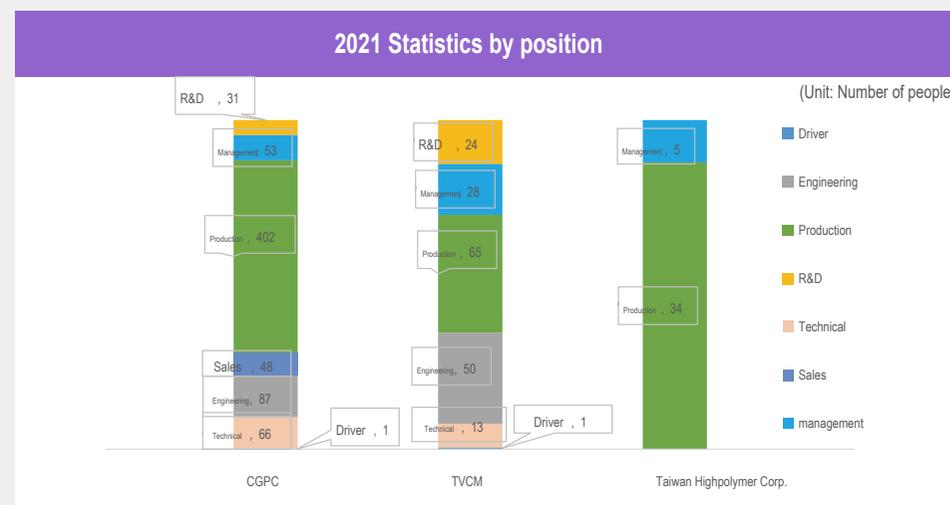
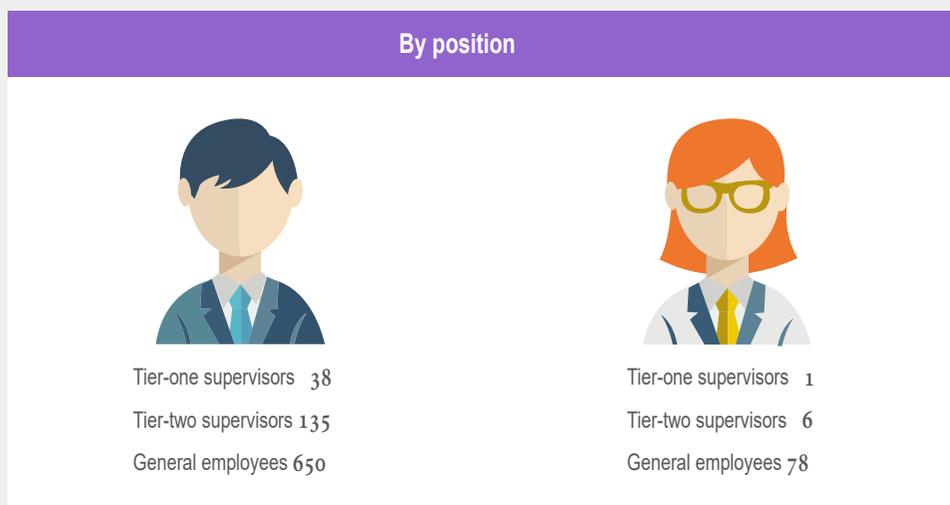
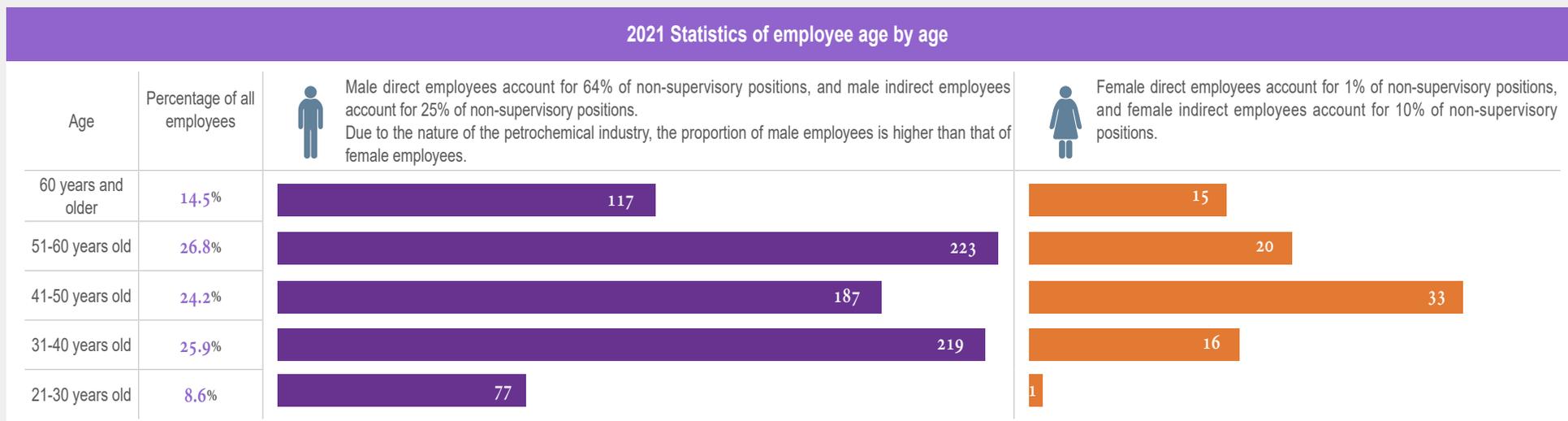


Employees are located in Taipei, Toufen and Kaohsiung.  
The reason for the high number of male employees: Job sites in the factories have mostly labor-intensive work.

### 2021 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 factory as of 2021.12.31.  
Note 3: We employed 19 persons with disabilities, accounting for 2.09% of the Company's total number, which is higher than the 1% employee percentage required by the People with Disabilities Rights Protection Act.



## 6.2 Talent Attraction and Retention (GRI 401-1)

### Material issue: Talent attraction and retention

 <p><b>Meaning to CGPC</b></p>	 <p><b>Strategic Policy</b></p>	 <p><b>Commitment</b></p>
<p>Employees are the foundation of CGPC's sustainable development, so creating a happy workplace for employees is our long-term commitment.</p>	<p>Value employees' rights and interests, promotion channels, and salary and benefits in line with the market.</p>	<p>Reduce employee turnover.</p>

Promotion policy	Unit	2021 goal	2021 result	2022 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 %	≤ 3.00	2.20 	≤ 3.00	≤ 2.80	≤ 2.50

 Exceeded goal 
  Achieved 
  Partially achieved 
  Not achieved



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.

## 6.2.1 Appointment and resignation

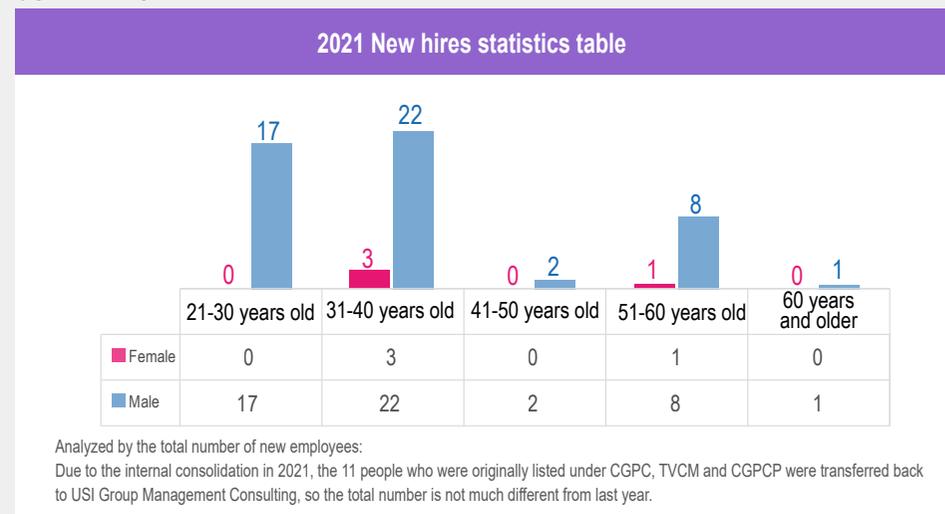
### Recruitment

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 Tufen 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 54 new hires in 2021, accounting for 5.79% of the total number of employees, and the distribution by gender and age is shown as follows:

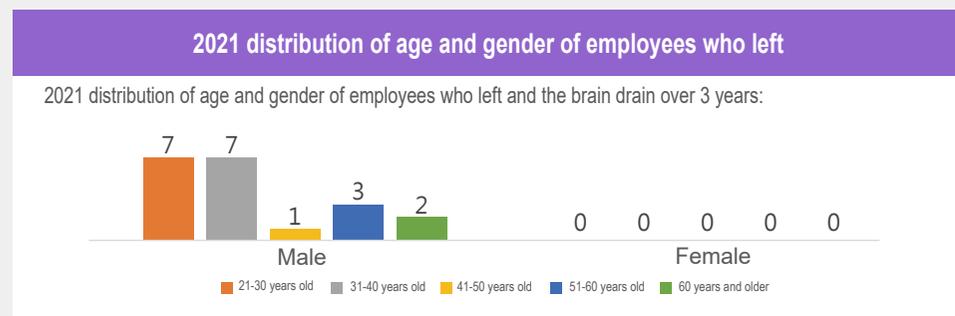
3-year comparison of new employees							
Region	Age/Gender	2019 Male	2019 Female	2020 Male	2020 Female	2021 Male	2021 Female
Taiwan	21-30 years old	46	1	24	0	17	0
	31-40 years old	30	0	12	0	22	3
	41-50 years old	5	0	2	0	2	0
	51-60 years old	1	0	0	0	8	1
	60 years and older	5	0	3	0	1	0
	Subtotal of new employees	87	1	41	0	50	4
<b>Total number of employees</b>		973		920		908	
<b>Percentage</b>		9.04%		4.46%		5.79%	

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 factory as of 2021.12.31.



### Talent turnover

In 2021, a total of 20 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 2.2%. In order to reduce the brain drain rate, the personnel units have set a turnover rate target of less than 3% (excluding transfer or retirement) to retain talents for the Company.



Brain drain from 2019 to 2021			
Item	2019	2020	2021
Outgoing employees (excluding those who retired)	32	25	20
Total number of employees	973	920	908
Percentage of outgoing employees to total number of employees	3.3%	2.7%	2.2%

Note: From 2019 to 2021, there were 80, 83, and 68 employees who resigned (including retirees), accounting for 7.5% of all employees, and a decrease of 1.5% compared with 2020. The analysis of the reasons for resignation in 2021 found that it was because of the decreasing number of people who retired.

## 6.2.2 Salary and benefits (GRI 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. In order 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 2021 is about 3%). We give special raises to outstanding talents who have excellent performance in order to keep our salary offers competitive in the market.



### 2021 Salary comparison between male and female employees



Note: Subsidiaries are not included in this table. CGPC has two senior female managerial officers who are tier-one supervisors in professional positions, so the salary is higher than that of male supervisors. Most male employees are on-site operators, while women are office employees, so female employees are paid more than male employees.

### 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	Description	2019	Difference compared with 2018	2020	Difference compared with 2019	2021	Difference compared with 2020
1	Number of full-time employees in non-managerial positions	722	5	718	-4	679	-39
2	"Average salary" of full-time employees who are not in managerial positions (annual salary in NT\$ thousand)	957	-76	995	38	1,190	195
3	"Median salary" of full-time employees who are not in managerial positions (annual salary in NT\$ thousand)	925	-86	965	40	1,165	200

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

### Employee remuneration system

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.

## Employee welfare



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 factory, the employee dormitory area of Toufen factory has basketball court, table tennis room, social halls, game rooms, etc. 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.

## 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 45.81 years old, so the number of birth is relatively low. In 2021, a total of 25 people applied for the childcare subsidies, receiving a total of \$250,000.

2021 number of applicants for maternity allowances



## Employees applied for parental leave in 2021



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	67	5	72
	Actual number of people who used parental leave without pay in the current year	1	1	2
Reinstatement 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	1	2
	B) Number of people who should be reinstated after the parental leave of absence without pay	1	1	2
	Reinstatement = A/B	100%	100%	100%
Retention status	C) Number of people still employed 12 months after reinstatement in the previous year	-	-	-
	D) Actual number of people reinstated in the previous year	-	-	-
	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%

## Pension system



We allocate monthly an amount of employees' monthly salaries and wages to employees' personal pension account in the Bureau of Labor Insurance.

Item	Labor pension	
	Old system	New system
Legal basis	Labor Standards Act	Labor Pension Act (effective starting 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%

Notes:

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 2021. 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 of the survey covered employee satisfaction and engagement. In the future, we will continue to listen to employees' opinions on the content of the report and promote improvement measures.

Company	CGPC			TVCM			CGPCP		
Survey period	2021/09/06~2021/09/10								
Participants	All employees								
Title	Assessment of 9 aspects, supervisors, salary, co-workers, work content, development, corporate culture, value recognition, commitment and willingness to stay.								
Year	Number of respondents	Recovery rate (Note 2)	Satisfaction (Note 1)	Number of respondents	Recovery rate (Note 2)	Satisfaction (Note 1)	Number of respondents	Recovery rate (Note 2)	Satisfaction (Note 1)
2021	179	80%	4.78	72	95%	4.74	14	93%	4.66
2019	150	63%	4.56	42	58%	4.34	15	100%	4.65
Survey results	<ul style="list-style-type: none"> <li>◆ Overall satisfaction: Compared with 2019, all three companies showed an increase in 2021, CGPC up by 5%, TVCM up by 9% and CGPCP up by 0.2%.</li> <li>◆ Continuing from the above: The items with the highest scores are "Development", "Co-workers" and "Supervisors".</li> <li>◆ Continuing from the above: the items with the highest scores are "Salary", "Willingness to stay" and "Value recognition".</li> </ul>								
Improvement solutions	<p>In response to the 2021 items rated lower in the satisfaction survey, "Salary", "Willingness to stay" and "Value recognition", we will carry out the following improvement measures from 2022 to 2023:</p> <ol style="list-style-type: none"> <li>1. Starting salary for new hires: We take the market standard and the level offered by industry peers into consideration to adjust our starting salary for new hires, further improving the Company's recruitment and retention competitiveness.</li> <li>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.</li> <li>3. Implementation of a new training system: We have built an all-new education and training platform to improve the online and mobile learning capabilities, further facilitating transformation and development of manpower.</li> <li>4. Strengthen resignation interviews and analysis and take corresponding measures.</li> <li>5. Communicate the Company's business philosophy and cultural values through internal activities (such as birthday parties, recognition of role model employees, senior employees and volunteer teams, etc.).</li> </ol>								

Note 1: Employees' overall satisfaction of all dimensions of satisfaction (minimum of 1 point and maximum of 6 points).

Note 2: Recovery rate = Number of respondents / Total number of people.

## 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.



Lounge for inspection teams of the Quality Technology Section: Office ceiling, partition veneer, and reinforcement of floor slabs and frames.



Renovation of the laboratory for the Testing Section.



### Condition before improvement:

The office space is not lit enough, and the cabinets, tables, chairs and decoration are old.

### Improvement solutions:

1. Renovate the lounge for the inspection teams.
2. Renovate the laboratory for the Testing Section.
3. Improve the firefighting facilities of the dormitory for singles.

**Date of completion:** December 2021

**Estimated cost:** The project cost about NT\$3.5 million.

**Effect:** Promote employees' physical and mental health and team cohesion.

### Objectives:

1. 2021 objectives: (Already achieved)
  - (1) Renovate the lounge for the inspection teams.
  - (2) Renovate the laboratory for the Testing Section.
  - (3) Improve the firefighting facilities of the dormitory for singles.
2. 2022 objectives:
  - (1) Central dust collection equipment project for new powder warehouse.
  - (2) New toilet construction for Fabrics Two Section.
3. 2025 objectives (intermediate term): Complete improvement to the space from the 1st to the 6th floor in the office building.
4. 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.

## 2021 Events

Due to the pandemic, the Company suspended some of the events (year-end celebration banquet, Christmas lunch, Mid-Autumn Festival party, etc.) in 2021.



2021 Lunar New Year group greeting ceremony



Birthday party at Toufen factory



Birthday party in Taipei



Birthday party at Linyuan factory



Commendation of model workers at Linyuan factory



Taipei, Toufen and Linyuan offices conducted group greeting ceremony online



Pineapple giveaway in Toufen factory



Ghost Festival activity in Linyuan

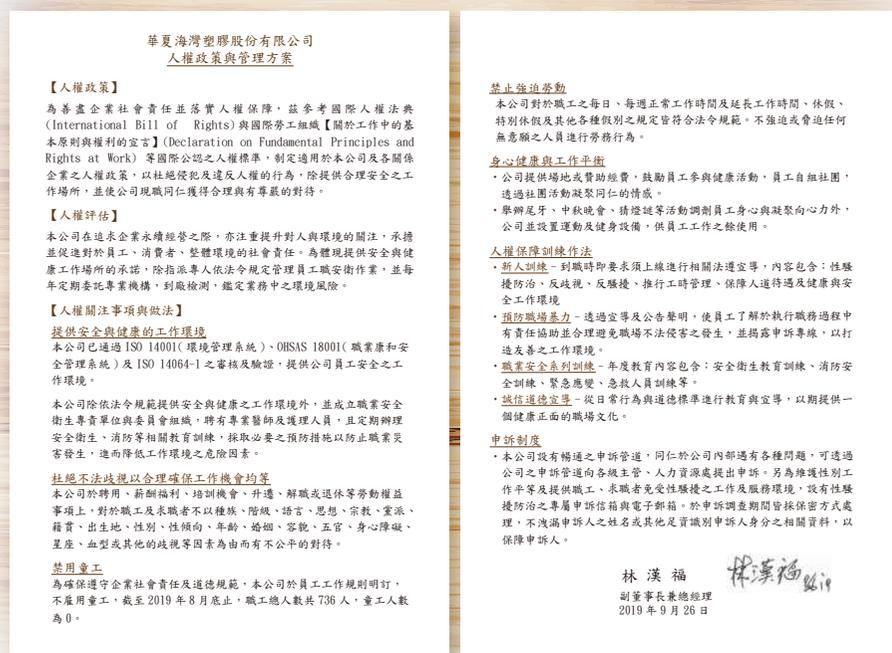
## 6.2.3 Human rights and protection (GRI 404-2)

### Human rights assessment

While pursuing the corporate sustainability, we value the emphasis on people and the environment, and promote social responsibility for employees, consumers and the overall environment. In order to demonstrate the commitment to providing a safe and healthy workplace, we assign dedicated personnel to manage employees' occupational safety and health operations according to laws and regulations. We also regularly commission professional organizations to inspect and identify environmental risks in the business every year.

We are committed to providing employees with an equal-opportunity work environment, and do not discriminate on the basis of race, skin color, age, sexual orientation, ethnicity, disability, pregnancy, religion, political affiliation, association membership or marital status. In addition to formulating a system to protect the human rights of employees, we regularly communicate and exchanges opinions on issues related to employees' working conditions, welfare, rights and interests through unions or employer-employee meetings.

In 2021, we organized training courses on human rights protection, please see the [website](#) for details.



### 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 2021 statistics of members of each company is shown in the table to the left. 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.

#### 2021 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	688	638	661
TVCM	181	159	181
CGPCP	39	34	39
Grand total	908	831	881
Percentage	-	91.52%	97.03%

- 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.

- Description:  
 ♦ Not in the Employee Welfare Committee: 27 contract personnel working for CGPC in Toufen.  
 ♦ Not in the union: (1) For CGPC, 1 employee in Toufen, 22 in Taipei, and 27 contract personnel, for a total of 50 people.  
 (2) For TVCM, 8 employees in Taipei, 14 employees in Linyuan factory, for a total of 22 people.  
 (3) For CGPCP, there are 5 people.

## Employee assistance program

CGPC is a member of CGPCP's affiliates, and is entitled to the services of the Employee Assistant Program Service Center (EAPC) of CGPCP. 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.

## 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.

### ◆ Employer-employee 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.

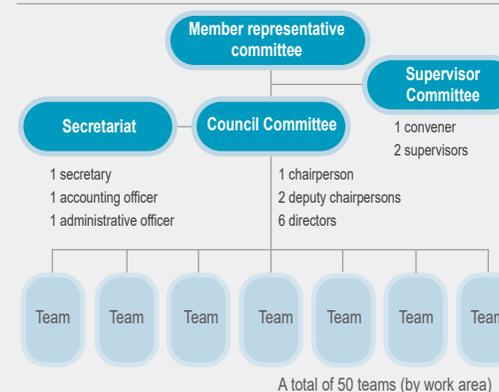
### ◆ Employee grievance channel

CGPC – Feng-Kai Hsiao at [fkhsiao@cgpc.com.tw](mailto:fkhsiao@cgpc.com.tw); TVCM and CGPCP – Hsien-Wen Lu at [hunterlu@tvc.com.tw](mailto:hunterlu@tvc.com.tw)

## Audit Committee's email

CGPC has set up an "Audit Committee mailbox" 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 2021.

Organizational Chart for CGPC's Union



Organizational Chart for TVCM's Union



Organizational Chart for CGPCP's Union



## 6.3 Talent Cultivation and Development (GRI 404-1, 404-3)

### Material issue: Talent cultivation and development

 <p><b>Meaning to CGPC</b></p>	 <p><b>Strategic Policy</b></p>	 <p><b>Commitment</b></p>
<p>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.</p>	<p>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.</p>	<p>Increase the number of training sessions.</p>

Promotion policy	Unit	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Improvement training	Sessions	120	139 	120	130	140

 Exceeded goal 
  Achieved 
  Partially achieved 
  Not achieved



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.



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 Diverse on-the-job training program

In order to make on-the-job training systematic and have teaching materials and available online, we have incorporated the training into the knowledge platform to keep the professional knowledge required for each function, so that employees can learn from the internal website at any time. We have begun to promote the structured on-the-job training (SOJT) program since 2010. Learning materials on core competencies have been produced by the responsible person/experienced employees of various units starting 2013. As of the end of 2021, a total of 468 e-learning materials have been completed.

2021 statistics by specialization (management, quality control, technology, safety and environment protection), internal or external training, and gender:

Year	2021	
	Male	Female
Course categorization		
Average training hours for management	1.8	0.9
Average training hours for quality control	0.9	0.3
Average training hours for technology	9.5	0.3
Average training hours for safety and environment protection	8.5	0.4
Total person-time	4,598	488
Total hours	18,849	1,660
Average training hours per person	22.6	
Total number of employees	908	

Hierarchical management courses

Specific personnel training

Training of new hires



Management training



Quality control training



Technological training



Safety and environmental protection training

### 6.3.2 Training performance

2021 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)	Total number of people		
Supervisors	24.1	177	35.6	8	24.6	185	2019	21.2
Director labor	17.5	467	9.0	7	17.4	474	2020	22.4
Indirect labor	35.8	179	18.7	70	31.0	249	2021	22.6
<b>Total</b>	<b>22.9</b>	<b>823</b>	<b>19.5</b>	<b>85</b>	<b>22.6</b>	<b>908</b>	<b>3-year average</b>	<b>22.1</b>

**Description:**

Most of the company's employees are male (nature of the industry), and according to regulations, they need to complete hierarchical training education and training courses in order to be promoted, so the number of class hours has increased a lot. Most of the female employees are administrative and specialized personnel, and there are many related specialized education and training courses for them. 2019 training. The number of participants (number of employees) slightly increased, and the number of class hours decreased, resulting in a decrease in the average training hours per person. In 2020 and 2021, the PSM-related courses were introduced, slightly increasing the training hours.



In 2021, the total number of training hours for employees reached 20,509 hours, with an average of 22.6 hours per person. 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.



### Talent development plan



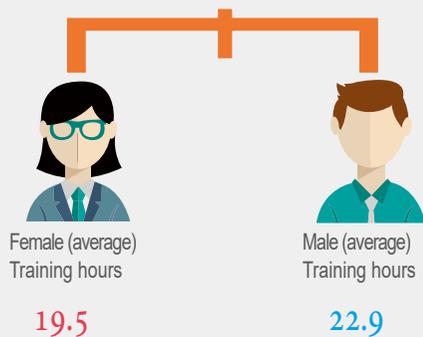
In order to provide the Group's middle and senior managers with opportunities for continuing education and learning new knowledge, CGPCP's Training and Organizational Development Department of the Human Resources Division offers training courses that help participants think outside the box and explore creativity and innovation potential to improve the efficiency and performance of current jobs, which will find more business opportunities for and contribute to the Company.

Specifically plan the following two hierarchical training courses:

- ◆ Management course for middle and senior managers: The courses were officially launched at the end of 2019, with a duration of 1.5 years. The results of the evaluation and analysis of the competency of middle- and high-level managers in the Group and the courses offered by well-known school at home and abroad were incorporated into the planning for 12 specialization courses and practical topics.
- ◆ Management courses for high-ranking managers: Officially started in 2020, and they are the integrated version of the 12 courses offered at EMBA.



Average training hours for CGPC/TVCM/CGPCP **22.6**



### 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

System) from the government to ensure the reliability and correctness of our training process. We also receive regular TTQS audit to continuously improve the quality of training and the operational efficiency of our manpower cultivation system. In 2021, a total of 140 person-time received subsidies from the Workforce Development Agency, the Ministry of Labor, totaling 43 training hours.

**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.

### 2021 average training hours by position

Job Title	Male		Female	
	Person-time	Training hours	Person-time	Training hours
Driver	3	7.0	0	0.0
Technical	299	1,076.0	78	252.5
Engineering	735	3,573.0	31	87.5
R&D	453	2,224.0	69	298.0
Sales	158	570.5	76	264.0
Production	2,620	10,251.0	62	166.0
management	330	1,147.5	172	592.0
<b>Training hours</b>	<b>4,598</b>	<b>18,849.0</b>	<b>488</b>	<b>1,660.0</b>

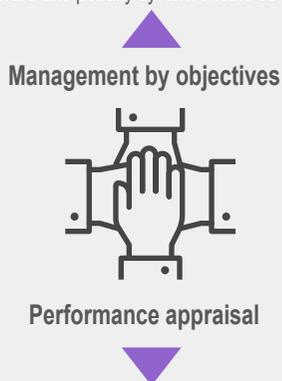
Note: 1. The statistics of the number of supervisors include the managerial officers and employees who are appointed as managers (inclusive) and above.  
2. The statistics table includes the training hours for retired, transferred and resigned employees for the year.

### 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 2021, as high as 97.4% of 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.



#### 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.

The 2021 male-female ratio of employee performance appraisal is as follows:

Gender	Male			Female		
	Category	Total number of people	Actual number of people evaluated	Percentage	Total number of people	Actual number of people evaluated
Supervisors	177	176	99.4%	8	8	100.0%
Director labor	467	445	95.3%	7	6	87.5%
Indirect labor	179	179	100.0%	70	70	100.0%
Remarks	1. Period of evaluation data: 2021/01/01-2021/12/31, and the number of employees is as of 2021/12/31. 2. A total of 908 people, 884 people were evaluated, and 24 did not participate in the evaluation, and the description is as follows: (1) Toufen: 24 (Chairman 1, and 23 contract personnel) (2) TVCM: 0 (3) CGPCP: 0					

#### Commendation of senior employees in 2021



Toufen Plant



Linyuan factory

## 6.4 Safe and Healthy Workplace (GRI 403:2018)

### Material issue: Occupational safety and health

 <p><b>Meaning to CGPC</b></p>	 <p><b>Strategic Policy</b></p>	 <p><b>Commitment</b></p>
<p>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.</p>	<p>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.</p>	<p>Zero disaster and zero disabling injury incident.</p>

Promotion policy	Unit	2021 goal	2021 result	2022 goal	2025 goal	2030 goal
Reinforce on-site patrol inspection and improve potential hazards	Frequency of disabling injuries (F.R.)	0	2.68 <b>X</b>	0	0	0
Reinforce the prevention of scrolling and pinching injuries and safety management of stackers.	Severity of disabling injuries	0	43 <b>X</b>	0	0	0

Reasons for failure to achieve:

Relevant units have proposed countermeasures to strengthen job safety analysis to prevent potential hazards from occurring. For details, please see pp. 112-115.

 Exceeded goal 
  Achieved 
  Partially achieved 
 **X** Not achieved



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.

## 6.4.1 Occupational safety management (GRI403-1, 403-2, 403-4, 403-7, 403-8, 403-9)

### CGPCP 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.

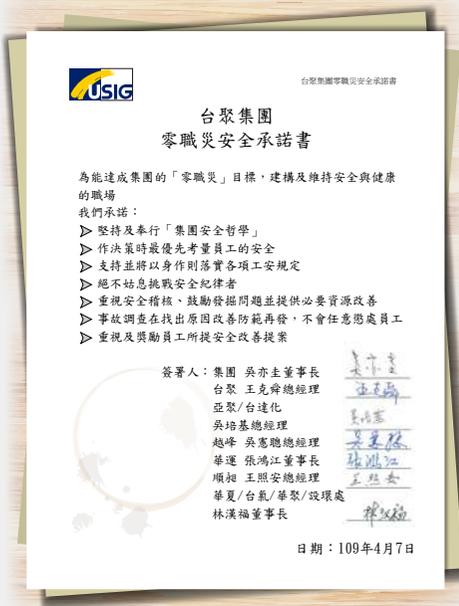
CGPC organizes training courses on human rights protection every year, please see the [website](#) for details.

We have established the ISO 45001 occupational safety and health management system, and TVCM, CGPCP and we have passed the ISO 45001 occupational safety and health management system verification in 2019 and 2021, respectively.

### Occupational safety and health organization and operation

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 2021, we participated in the activities of the Safety and Health Family activities in Miaoli County as a core family member, and actively invited other contractors to participate in order to improve the safety management standard. The Occupational Safety and Health Administration funded and supported the Safety and Health Family initiative established and supervised by each county and city government. The objective is to improve the work environment and promote employment services for enterprises with less than 100 employees. See [work environment improvement](#) for details.





The ISO 45001 occupational safety and health management system includes the employees of CGPC's Toufen factory, TVCM's Linyuan factory and CGPCP's Linyuan factory (excluding employees working in Taipei).

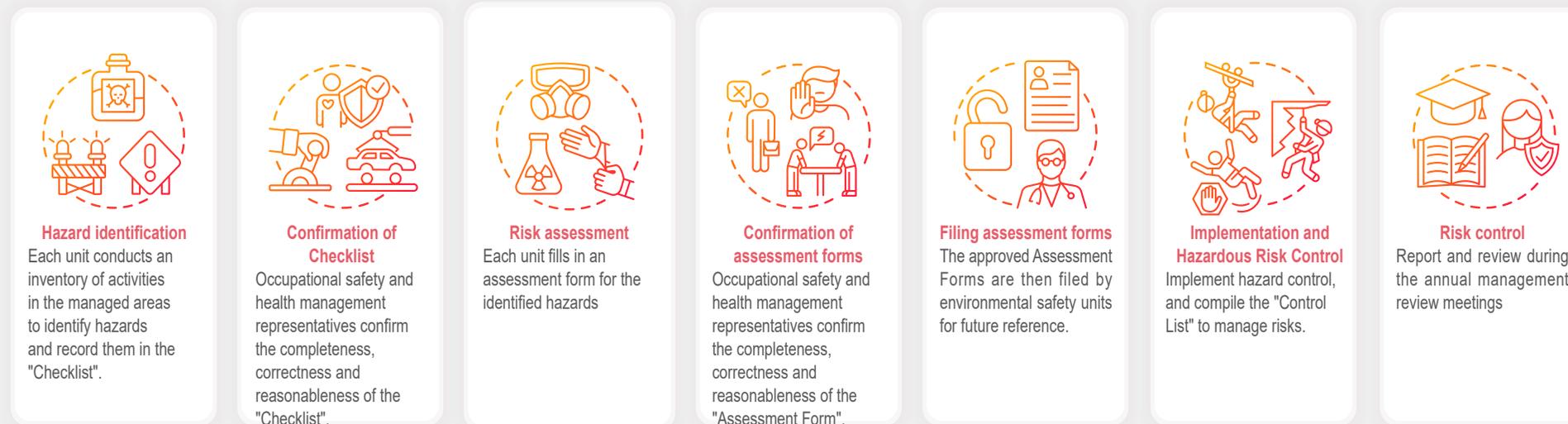


A total of 1,058 employees (Company's employees, 908 people, and contractors have about 150 people) reviewed by external agencies, and their jobs include sales, production, design, development, procurement, administration, engineering, contracting, etc., covering 100% of the Company's business areas.



## 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, 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:



## Occupational safety and disaster management

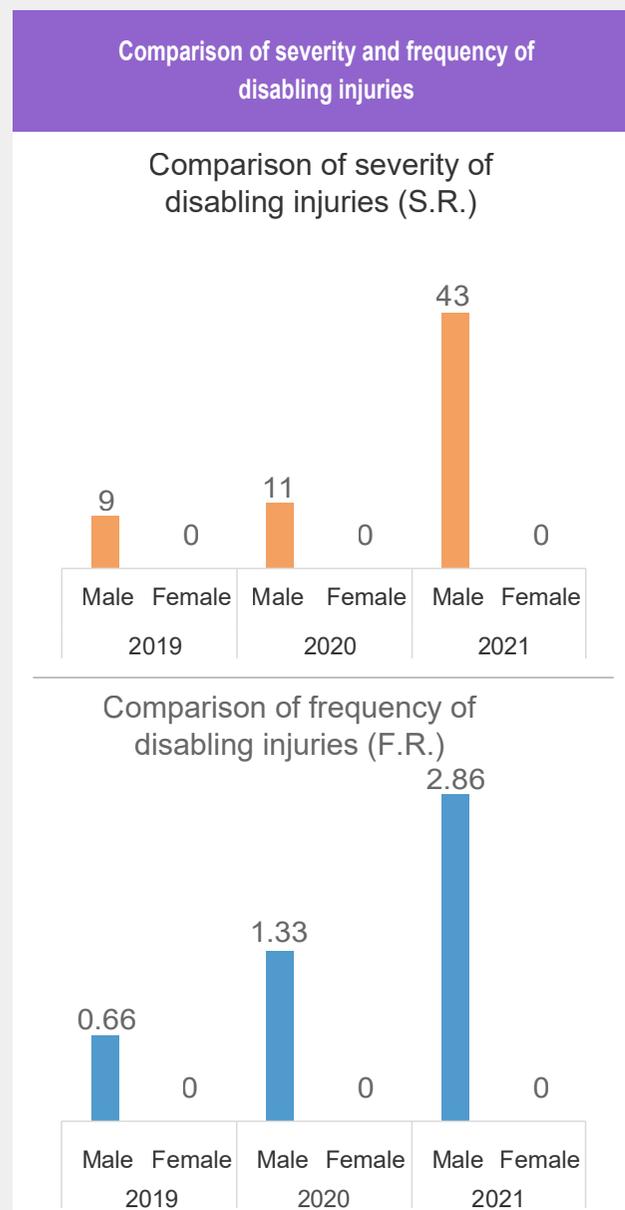
We have set our occupational disaster management objective as "Zero incident. Zero disaster." In order to prevent occupational disasters, protect the safety and health of workers, and achieve the objectives and standard of safety and health management, we have established the Safety and Health Work Rules, and require all employees to abide by them.

### Most recent 3-year statistics of CGPC (CGPC's Toufen factory, and TVCM and CGPCP's Linyuan factories)

(Million man hours, 200,000 man hours)

Item	Item	2019		2020		2021	
	Gender	Male	Female	Male	Female	Male	Female
Million man hours	F.R.	0.66	0	1.33	0	2.86	0
	S.R.	9	0	11	0	43	0
	F.S.I	0.077	0	0.12	0	0.35	0
200,000 man hours	F.R.	0.13	0	0.27	0	0.57	0
	S.R.	1.8	0	2.2	0	8.6	0
	F.S.I	0.015	0	0.024	0	0.07	0

Note: TVCM and CGPCP (between 2019 and 2021) did not have incidents involving suppliers or contractors.  
 Note: (1) Frequency of disabling injuries (F.R.) = Number of injuries x 10<sup>6</sup> / Total working hours  
 (2) Severity of disabling injuries (S.R.) = Number of days lost due to accidents x 10<sup>6</sup> / Total working hours  
 (3) Frequency severity index (F.S.I.) = Square root of [(F.R. X S.R.)/1000].  
 (4) Male-female ratio: Male 100%: Female 0%.  
 (5) Data source: Monthly report of occupational hazard statistics  
 (6) Bloomberg ESG indicator: Frequency of disabling injury (F.R.) = Number of injuries x 200,000 / Total working hours.  
 (7) Bloomberg ESG indicator: Severity of disabling injury (S.R.) = Number of days lost x 200,000 / Total working hours.  
 (8) Please see 6.4.1 [Injuries caused](#) by accidents.



2021 accident injuries (CGPC)		
By company	Reasons for the incident	Improvement measures
<b>CGPC Toufen Plant</b>	Fingers pinched when replacing iron core tubes.	<ul style="list-style-type: none"> <li>◆ Equipment improvement.                             <ul style="list-style-type: none"> <li>(1) Added support frames for iron core tubes, no longer use manpower to hold and support the iron core tubes when replacing them, further preventing the hazard of pinching.</li> <li>(2) The passive side is changed to a round chuck, and the replacement operation can be completed after the core tube is sleeved with the chuck.</li> </ul> </li> <li>◆ Risk management – Implement job safety analysis to prevent potential hazards from occurring.</li> <li>◆ Safety observation – Reinforce supervisors' management by walking around and safety observation, further preventing potential hazards from occurring.</li> </ul>
	Impact to the head while adjusting the thickness of tubes.	<ul style="list-style-type: none"> <li>◆ Implement job safety analysis to prevent potential hazards from occurring.</li> <li>◆ Reinforce supervisors' management by walking around and safety observation, further preventing potential hazards from occurring.</li> <li>◆ Promote safety awareness for and keep records of the incidents.</li> <li>◆ Implement automatic inspection before adjusting the tube thickness.</li> <li>◆ Require personnel to wear protective equipment such as safety helmets.</li> </ul>
	Middle finger of right hand pinched due to negligence when cutting materials.	<ul style="list-style-type: none"> <li>◆ Set up automatic cutting devices.</li> <li>◆ Reinforce promotion of work safety of each machine.</li> <li>◆ Implement job safety analysis to prevent potential hazards from occurring. Accident scenarios are incorporated into risk assessments to ensure the effectiveness of control measures.</li> </ul>
<b>CGPC's contractors</b>	Wooden pallets scratching nearby pedestrians when the stacker was moving.	<ul style="list-style-type: none"> <li>◆ Disseminate importance of safety.</li> <li>◆ If the cargo carried obstructs the front view, the stacker then should go in reverse in a slow speed.</li> <li>◆ Install reversing radar to electric stackers to prevent them from hitting personnel standing behind.</li> <li>◆ Increase the safety factor of stacker driving, add AI smart sensor safety systems, and use technology to make up for the lack of visibility during operation.</li> </ul>
	Packaging staff injured by conveyor belt rollers.	<ul style="list-style-type: none"> <li>◆ Add the emergency stop rope pull coverage on the south and west sides.</li> <li>◆ The conveyor belt for bulk bag used to be activated by automatic mode. It is now changed to manual confirmation, and then activated manually on the control panel.</li> <li>Iron plates are added to the middle roll-in points to reduce the gap.</li> </ul>

Note: TVCM and CGPCP did not have incidents involving contractors for three consecutive years from 2019 to 2021.

## 2021 Injuries caused by accidents

In the event of an incident in CGPC's Toufen factory in 2021 (as explained below, there were no accidents in TVCM and CGPCP), the Company actively reviewed the cause of the accident, reduced the hazard factors to prevent recurrence, and immediately proposed countermeasures and cares for employees. Three industrial safety incidents and two contractor incidents occurred in CGPC in 2021:

### Occupational safety – Care

#### 愛心社公告

- 主旨：承攬商乙順公司員工王昇安捐款事宜。
1. 愛心社發起之承攬商員工王昇安愛心募款活動，經同仁熱烈響應，最終募得 465,500 元。
  2. 王小姐於昨日(11/29)出院，目前由台中一家義肢公司安置照護，之後將陸續進行義肢安裝與復健。
  3. 愛心於今日(11/30)前往探視，為她加油打氣，並致贈 20,000 元(另總廠長陳協理代表公司發給慰問金 100,000 元)，同仁捐款則以匯款方式匯到其帳戶。王小姐一再表達對於愛心社與捐款同仁的感謝。
  4. 捐款名單與簽收單如附件，由衷感謝各位同仁的熱心善舉。



愛心社 敬啟  
2021/11/30

- ◆ After the employee of the contractor was involved in the industrial safety incident, CGPC and employees offered condolence allowances and donation to Miss Wang who got injured.
- ◆ The Company's Industrial Safety Office fully cooperated with the competent authorities in the investigation and formulated improvement measures to prevent recurrence. The contractor has reached a settlement with Miss Wang.



CGPC's head of factory and assistant manager Chang of the Management Department (representing CGPC and the charity club, respectively) expressed their condolence and gave condolence allowances to show the Company's gratitude. Leniendi dolent volut

### Occupational safety – Prevention of reoccurrence

The employer involved in this industrial safety incident is the Company's contractor. We immediately sent personnel to offer condolence allowances as soon as the incident occurred. The employees in the factory also initiated donations to Miss Wang who got injured. The Company's Industrial Safety Office fully cooperated with the competent authorities in the investigation and formulated improvement measures which requires the contractor to implement the measures to prevent recurrence and propose the following improvement measures:

<p><b>Engineering control</b></p>	<ol style="list-style-type: none"> <li>(1) Add shields, enclosures, safety shutters, emergency rope pull and button to the bulk bag conveyor belt.</li> <li>(2) Add monitors to the operation area of the bulk bag conveyor belt.</li> <li>(3) Changed from continuous automatic control activation to single-stage manual control activation to prevent personnel from accidentally touching the scrolling and pinching point during operation which can cause disasters.</li> </ol>
<p><b>Administrative management</b></p>	<ol style="list-style-type: none"> <li>(1) Revise the job safety analysis (JSA) and formulate the corresponding JSA checklist.</li> <li>(2) Revise the operating procedures of bulk bag packaging machines and organize education and training sessions.</li> <li>(3) The added safety measures should revise the corresponding SOP and put the contents into practice.</li> <li>(4) Reinforce supervision and communicate with the contractor.</li> </ol>
<p><b>Contractor management</b></p>	<ol style="list-style-type: none"> <li>(1) The supervisor who supervises the contractor's on-site operations uses the toolbox meeting to read the SOP to ensure that the workers really understand the SOP.</li> <li>(2) Require contractors to implement education and training for their workers.</li> <li>(3) The management personnel of the Company and the contractor shall use CCTV to assist them in observing the safety behaviors of the workers. If there is any violation of the safety and health operating standards, they will be corrected, and the violations will be recorded.</li> </ol>
<p><b>Protect workers</b></p>	<ol style="list-style-type: none"> <li>(1) Make a bulletin board of safety work standards and put it at the job site.</li> <li>(2) Require contractors to remind workers of matters to be observed.</li> </ol>

## Safety and health patrol inspections and environmental safety and health inspections

We have established the Safety Performance Indicators, Safety and Health Patrol Inspection and Environmental Safety and Health Inspection Guidelines to improve the safety of various operations and ensure the life safety and health of personnel. For violations, we issue improvement notices which require improvement to be completed by a deadline.

### Statistics of safety performance indicators are as follows:

Safety performance indicators	CGPC	TVCM	CGPCP.
Frequency of disabling injuries (F.R.)	2.86	0	0
Severity of disabling injuries (S.R.)	43	0	0
Frequency severity index (F.S.I.)	0.35	0	0
Occupational safety violation ticket	0	3	0
Emergency response drills	36	12	3
Education and training sessions	79	99	5
Safety patrol inspections	1028	494	298
Completion rate of occupational safety objective management solutions	100%	100%	100%
Violation improvement rate	83.4%	100%	100%

Note: 1. Occupational safety fines. Please see [3.5 Regulatory compliance](#)

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

### 2021 Absence statistics table

Company type/Gender	Male	Female
CGPC (Toufen factory)	0.32%	0.05%
TVCM (Linyuan factory)	0.55%	0.11%
CGPCP (Linyuan factory)	1.34%	0.04%

Note: 1. Absence rate = Total days absent / Working days x 100%.

2. Total days absent: The total number of absence days in 2021 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 2021.

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

Company	CGPC			TVCM			CGPCP		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Patrol inspection frequency	463	806	1028	557	710	494	124	190	298
Violation numbers	1,336	1,411	1328	309	488	293	124	190	298
Improvements made	1,336	1,398	1152	296	476	290	118	190	298
Improvement in progress made	0	13	176	13	12	3	6	0	0
Improvement rate	100%	99.1%	86.7%	96%	98%	99%	95%	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.



## 6.4.2 Occupational health management (GRI403-3, 403-4, 403-6, 403-8, 403-10)

Every year, CGPC conducts work environment monitoring and chemical classification management for [hazardous chemical substances](#), and commissions large hospitals to conduct health examinations to ensure employees' health, and reports the results to the competent authority for review. In 2021, the Company's health exam rate reached 100%, (covering employees of the head office in Taipei, CGPC Toufen factory, TVCM's Linyuan factory and Taiwan Highpolymer's Linyuan factory), among which the types of operations that require special health exams involve noise, lead, dust, vinyl chloride, Dimethylformamide (DMF), chromic acid and its salts, cadmium and its compounds, n-hexane, ionizing radiation.

2021 Statistics table of important training sessions

Course name	CGPC		TVCM		CGPCP	
	Total number of people	Training Total hours	Total number of people	Training Total hours	Total number of people	Training Total hours
Process safety management	101	483.5	180	685.5	23	116.0
Work safety training/promotion	434	1,494.0	172	412.5	4	18.0
Environmental protection training	65	281.5	2	40.0	-	-
On-the-job safety and health education and training (Including on-the-job and return training for operation supervisors)	830	3,546.0	160	952.5	48	512.0
Emergency response drills	654	1,398.0	230	1,352.0	60	135.0
Self-defense fire formation training	124	496.0	-	-	-	-
Firefighting training/promotion	6	48.0	-	-	-	-
Discussion on labor laws and regulations conducted by human resources personnel	6	18.0	5	15.0	-	-
Must-know labor laws for business executives	50	150.0	24	72.0	4	12.0
Workplace health promotion seminars	14	48.0	237	250.0	30	30.0
First aid and vocational nursing education Training	5	90.0	6	86.0	-	-
<b>Total</b>	<b>2,289</b>	<b>8,053.0</b>	<b>1,016</b>	<b>3,865.5</b>	<b>173</b>	<b>865.0</b>

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

2021 Status on specialized health checkup

(Unit: people)

Operations	CGPC (Toufen factory)		TVCM (Linyuan factory)		CGPCP (Linyuan factory)	
	Expected	Examination rate	Expected	Examination rate	Expected	Examination rate
Noise	190	100%	-	100%	-	100%
Lead	43		-			
Dust	299		-			
Vinyl chloride	84		53		31	
Dimethylformamide	44		-		-	
Chromic acid and its salts	17		-		-	
Cadmium and its compounds	33		-		-	
n-hexane	4		-		-	
Ionizing radiation	3		-		-	

Source: CGPC's 2021 specialized health examination report.

## 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 that the specialized health exam or the follow-up results are determined as normal by doctors.  
Level 2 refers to that the specialized health exam or the follow-up results are determined as abnormal but not related to the work environment by doctors.
- (2) The 2021 results of specialized health examination are shown as follows, and the examination rate was 100%.
- (3) No occupational illness cases in 2021.
- (4) We commissions professional physicians of occupational medicine to carry out employee health services on-site twice a month and hold health guidance and counseling course once every year to improve the physical and mental health of employees.
- (5) For those who are found to show abnormality during the specialized health examination, they are arranged for return visits, and physicians of occupational medicine will give them personal health guidance.
- (6) Absence rate is also one of the indicators for evaluating workplace health. Employees may be affected by factors such as work pressure or health risks, resulting in decrease of morale and increase of absence rate. The statistical table is as follows:
- (7) In order to effectively protect the safety and health of employees, we have identified 12 needs for training based on job type, work environment and other indicators, and arrange training sessions in proportion to the incidence rate and the impact to the Company's operation shown as follows:
- (8) We have provided professional blood pressure monitors for employees to develop the habit of measuring and recording their blood pressure for doctors' reference. The earlier we find the illness, the faster we can get it treated.
- (9) Create 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.
- (10) We 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 2021, all 172 employees of TVCM received their health examination. Among them, 53 received specialized check for vinyl chloride, and appropriate health management measures are adopted for the results. In 2021, 10 people were placed in Level 2 for their specialized work, and all have completed the health interview, for a completion rate of 100%.
- (11) In order to make the workplace healthier, we hold health seminars from time to time.  
Two health promotion seminars were held in the second half of 2021, on 2021.12.03 and 2021.12.07, respectively. The topic for the 12/3 session was on the 2021 health examination results of TVCM and the prevention and health care of common cardiovascular diseases; 30 people participated in the seminar, and the overall satisfaction was 90 points. The 12/7 session was about embracing a happier life and recipes for health care of joints; 30 people participated in the seminar, and the overall satisfaction was 94 points.
- (12) We 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 at TVCM have qualified the tests, ensuring their respiratory protection during operations.
- (13) In order to assist in the pandemic control efforts and care for medical staff, we have sponsored NT\$250,000 for medical care and pandemic control in Shuangho Hospital of the Ministry of Health and Welfare, and was awarded a certificate of appreciation by the hospital.
- (14) While the pandemic continued to proliferate in 2021, we prepared health-promoting astragalus propinquus tea and health defense tea made by Sun Ten Pharmaceutical and gave them to all employees as gifts to improve everyone's immunity against the pandemic virus.

### Protect employees' health



Respiratory mask fit testing

### Nursing room



New nursing room – Provide a comfortable environment for

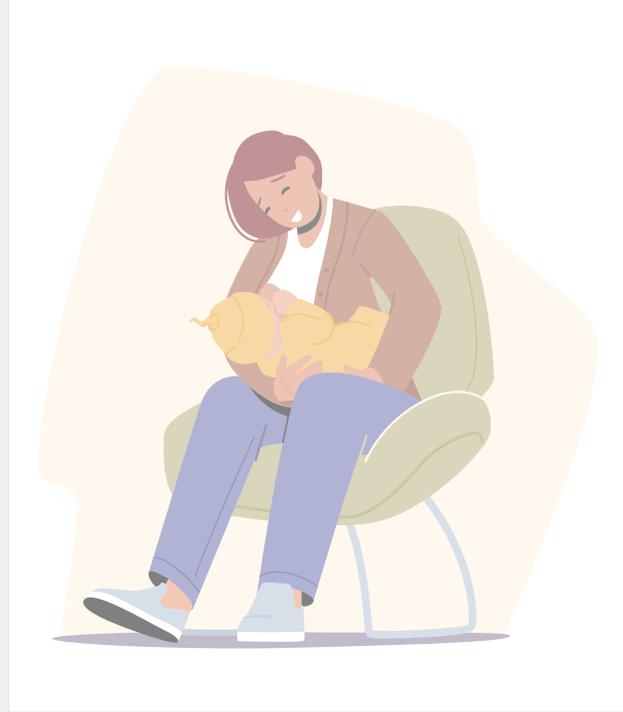
### Health promotion seminar



Health promotion seminar on embracing a happier life and recipes for health care of joints



CGPC sponsoring medical care and pandemic control funds



Health promotion seminar – Prevention and health care of common cardiovascular disease

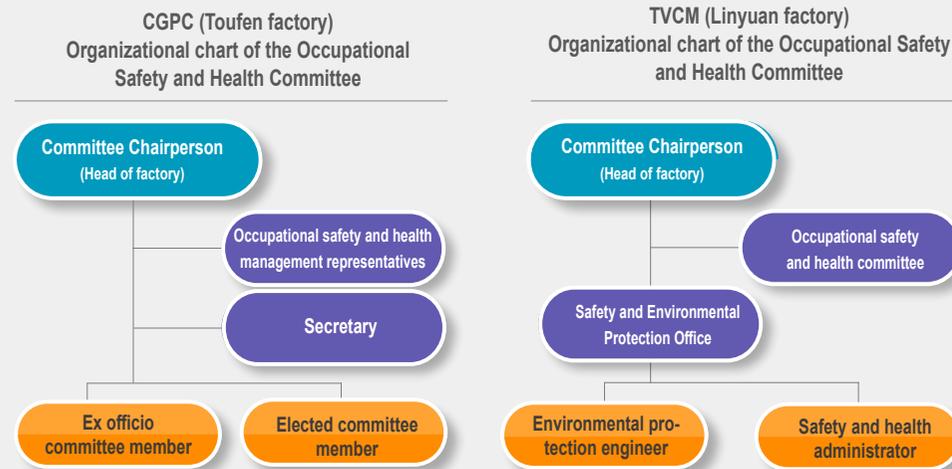


Continue to fight against the pandemic. Improve immunity to ensure health.



### 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 2021 occupational safety and health committee members			
By company	Committee member type	Number of people	Percentage
CGPC (Toufen factory)	Elected committee member (labor representative)	9	39%
	Ex officio committee member (employer's representative)	14	61%
	<b>Total</b>	<b>23</b>	<b>100%</b>
TVCM (Linyuan factory)	Elected committee member (labor representative)	9	36%
	Ex officio committee member (employer's representative)	16	64%
	<b>Total</b>	<b>25</b>	<b>100%</b>

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 Occupational safety and health management system verification



#### Implementation of contractor management

##### Contractor safety education and training sessions

Every year, contractors must be informed of hazards before entering the factory 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 2021, a total of 5,141 person-time attended the safety education and training for contractors before they enter the factory for work.

##### 2021 number of sessions and participants of the contractor work safety and health field visit and promotion education and training at each factory

By company	Number of sessions	Participating person-time
CGPC (Toufen factory)	369	2,181
TVCM (Linyuan factory)	134	2,805
CGPCP (Linyuan factory)	15	155
<b>Total</b>	<b>518</b>	<b>5,141</b>



### Outline of discussion topics of the Occupational Safety and Health Committee in 2021

01. Improvement of diesel storage tank and container
02. Street lights at night south of factory
03. Auditing of contractors
04. Assess the installation of speed limiters to stackers in-house or at contractors
05. Replace the iron core tube of the coiler
06. Issues about contractors managing stackers
07. Issues about contracting managing materials loading and unloading vehicles
08. Reinforce pandemic control measures
09. Contract personnel not wearing masks during the pandemic control period
10. Access control management of parking lot south of factory
11. Incident reporting and contractor management
12. Assessment of AED installation
13. Repair road potholes
14. Ground repair of parking lot south of factory
15. Standards for acceptance testing conducted by calibration personnel
16. Briefing for contractors before commencement of jobs
17. Change meeting time of safety committee
18. Floor cleaning of toilets in the factory area
19. Occupational injury incidents of contractors
20. Install reversing radar to electric stackers and stackers
21. Install wireless controllers to stationary cranes
22. Diesel drum reduction management
23. Fire safety equipment management

### 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 2021). 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.

#### 2021 Number of emergency drills and participating person-time of each factory

By company	Number of sessions held	Participating person-time
CGPC (Toufen factory)	36	566
TVCM (Linyuan factory)	12	185
CGPCP (Linyuan factory)	2	26
<b>Total</b>	<b>50</b>	<b>777</b>

Name, person-time, hours of training courses					
Course name	Person-time/ Hours	Level/Gender	Supervisors	Not supervi- sors	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	760	2,152	2,912
		Female	18	111	129
	<b>Total person-time</b>		<b>778</b>	<b>2,263</b>	<b>3,041</b>
	Hours	Male	2,605	9,811	12,416
		Female	40	310	350
	<b>Total hours</b>		<b>2,645</b>	<b>10,121</b>	<b>12,766</b>

Average training hours per male employee (908 people) accounting for all employees: 13 hours

Average training hours per female employee (908 people) accounting for all employees: 0.4 hours

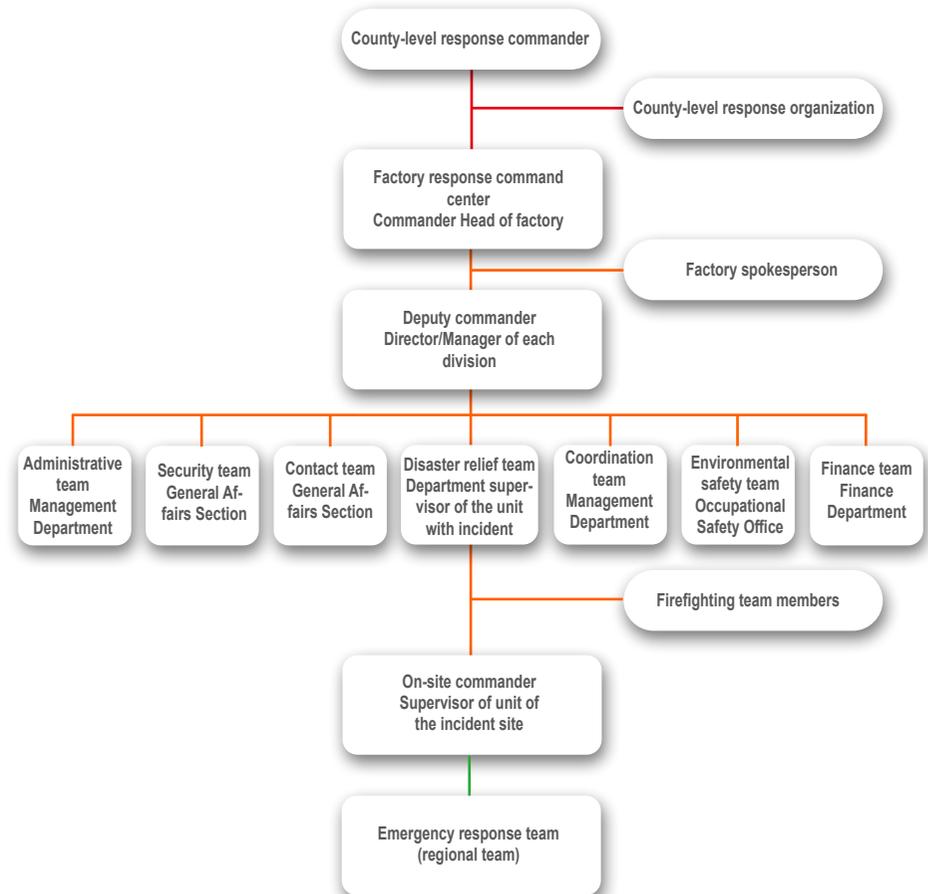
### Status of emergency response training and drills at each factory



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.

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

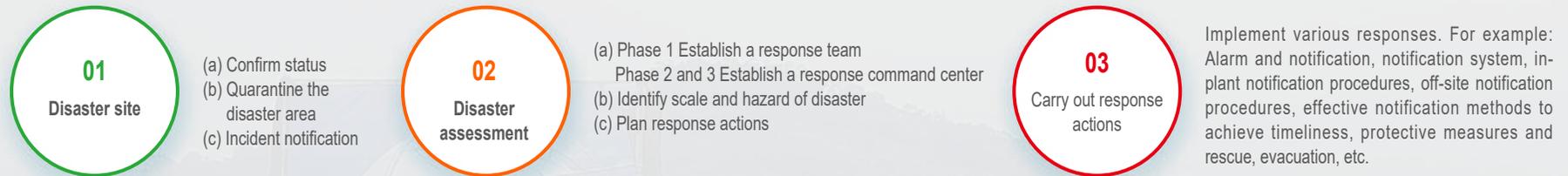
- Contingency framework for the Phase 1 (can be effectively handled by the unit where the incident occurs)
- Contingency framework for the Phase 2 (disaster continues to expand to affect the factory and cannot be put under control)
- Contingency framework for the Phase 3 (disaster expands to outside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



### Emergency response process



### Procedures for actual implementation of emergency response

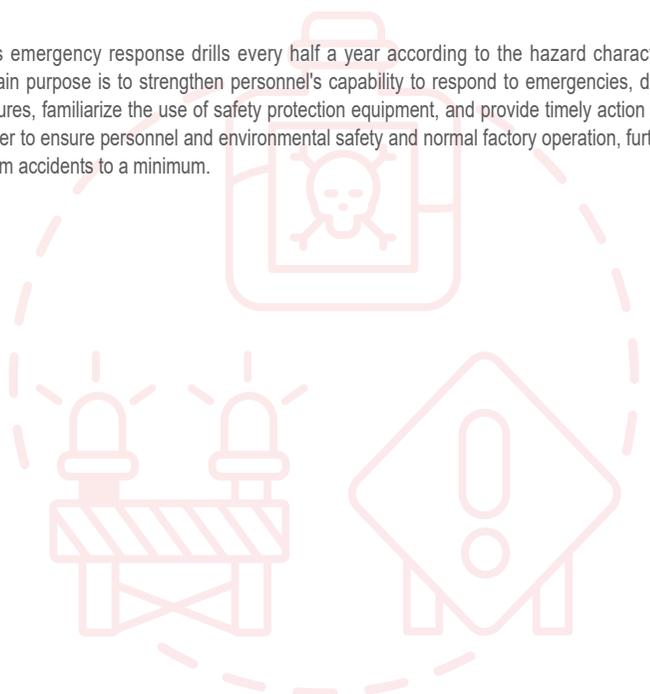


Status of emergency response training and drills at each factory



**TVCM:**

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.



Status of emergency response training and drills at each factory

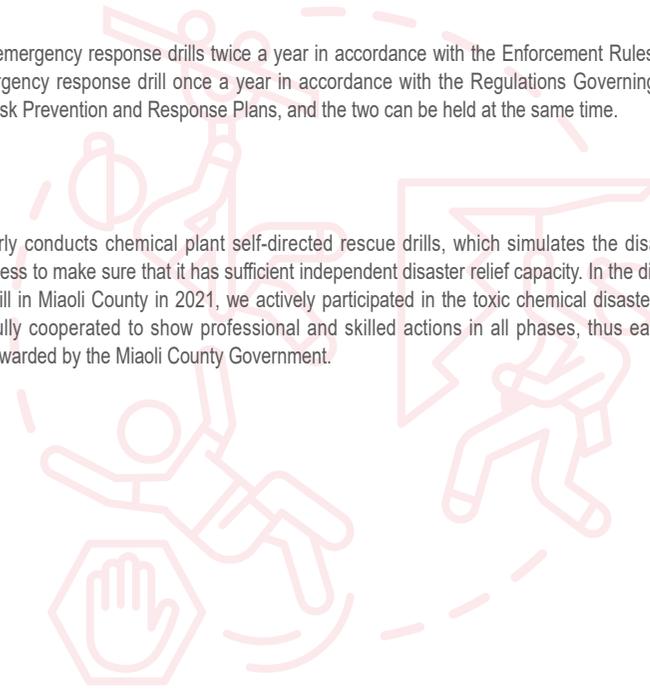


**CGPCP:**

CGPCP hold 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.

**CGPC:**

CGPC regularly conducts chemical plant self-directed rescue drills, which simulates the disaster rescue and response process to make sure that it has sufficient independent disaster relief capacity. In the disaster prevention and rescue drill in Miaoli County in 2021, we actively participated in the toxic chemical disaster rescue, and the participants fully cooperated to show professional and skilled actions in all phases, thus earning a trophy of appreciation awarded by the Miaoli County Government.

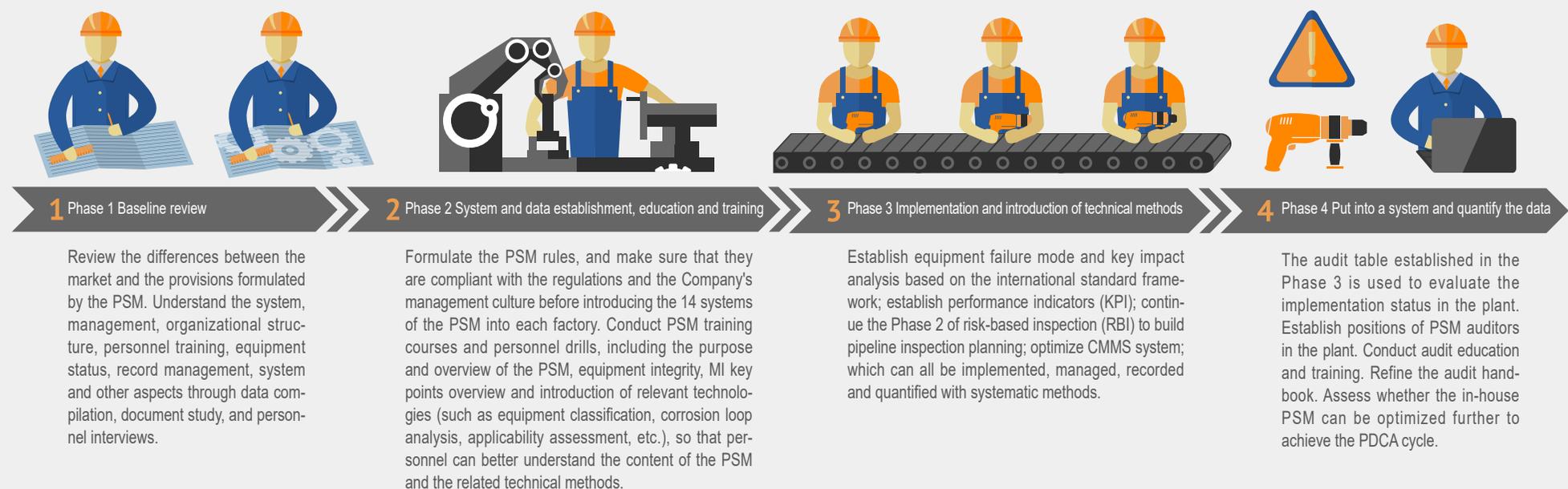


## 6.4.6 Process safety management (GRI 403-4, 403-5, 403-7)

CGPC's hazardous work locations include the factory in Toufen and the PVC resin processing area in CGPC's Linyuan factory, which are considered Type C hazardous workplace. TVCM's Linyuan factory 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 factory 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 #3 factory 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:





## 1 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).



## 2 Promoted the establishment of CMMS in 2021

Promoted establishment of CMMS in 2021: Incorporated improvement and technology of equipment integrity into the process to reduce losses and risk of disasters.

Key equipment:

1. Hazards that could lead to major incidents if the equipment fails or malfunctions.
2. Be able to prevent/control the occurrence of major incidents or mitigate the impact of hazards from major incidents.
3. Causing serious production or economic losses when the equipment fails.



## 3 Improvement plan items

Contents include PSM program documents, labor participation, education and training, operating procedures, pre-startup safety inspection, contracting management, hot work permit, incident investigation, emergency response, compliance audit, trade secrets, MI baseline review, mentoring to establish MI-related program documents, hazard chain correspondence list, equipment classification, equipment PM/PDM plan improvement review, RBI analysis/corrosion loop, AIMS improvement suggestions, etc. The above information is summarized as described in the plan worksheet.

**2021 Process safety performance indicators are shown as follows:**

Item	Code	Content of indicators	Unit	2021 performance
Process safety and emergency response	RT-CH-540a.1	Process safety incident counts (PSIC)	Number	CGPC: 0, TVCM: 1, CGPCP: 0
		Process safety total incident rate (PSTIR)	%	CGPC: 0, TVCM: 33, CGPCP: 0
		Process safety incident severity rate (PSISR)	%	CGPC: 0, TVCM: 98, CGPCP: 0
	RT-CH-540a.2	Number of transportation incidents	Number	CGPC: 0, TVCM: 0, CGPCP: 0

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

- (a) Related to manufacturing process:
  - (b) Chemical spills 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 the fire or explosion exceeds USD\$ 25,000, any of which needs to be reported.
  - (c) The incident occurs in a production, distribution, storage, public or pilot plant.
  - (d) 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 man-hour / Total employee work hours)
- (3) Process safety incident severity rate (PSISR) (= Total severity score for all process safety incidents x 200,000 man-hour / Total employee work hours)
- (4) Cause of incident: Used incorrect gaskets which caused leakage (chemicals), and no one was injured. Improvement measures: When the equipment is undergoing acceptance check, the auxiliary facilities should be checked in addition to the main body, and the PSSR should be implemented when the equipment is ready to go online.

**Plan work:**

Plan work	Descriptions
Education and training	Based on the items to be implemented in the PSM, prepare PSSR process documents and checklists, compliance checklists, etc., and arrange training courses, risk control planning and other response measures.
Operational safety	Process engineers who are familiar with the field create samples of the operating procedures and pre-startup safety inspection checklists.
Hot work permit	Personnel responsibilities, operations management, necessary preventive measures, and the location of chemicals are shown on the floor plan of the factory area, verify the possible hazardous chemicals at the job site before starting hot work.
Incident investigation	Create evidence checklists, incident investigation work form and incident investigation technique form.
Emergency response	Complete the emergency response procedures documents, establish response and treatment measures table for chemical hazards and analyze the scope of leakage related to VCM.
Follow-up audit	Create an audit summary table, and audit and review regularly.
Equipment management	<ol style="list-style-type: none"> <li>1. Take inventory of equipment and classify them, and verify in-house key equipment.</li> <li>2. Establish a corrosion handbook, screen out the key equipment/pipelines, and establish a corresponding inspection plan.</li> <li>3. Propose recommendations for system improvement based on the in-house maintenance management system and maintenance records.</li> </ol>

**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.

2021 target	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.
2021 Performance	Phase 2 (needs about 10 to 18 months, estimated completion time: 2023/02/28): CMMS system specifications, implementation and the auditing of the 14 items of the PSM. Mainly for the construction of the system. Formulate the PSM rules based on the other domestic examples and the regulations in the US, and include the content on the optimization of the Phase 1 baseline review, in-house management culture, overall management system and manufacturing process conditions, so that the 14 items of the PSM can comply with the rules.
2022 objectives	PSM platform and KPI planning: After the platform planning is established and the KPIs are implemented, we can clearly understand the implementation status of the PSM. The platform has 14 major items and a total of 94 subsystems. Main functions: (1) Link various data of PSM (2) Record the implementation of PSM (3) Statistical charts to show the implementation status (4) Collect/review/update various data (5) Import CCPS PSM performance indicator calculation (6) Cooperate with the Company's implementation technology
2025 objectives (intermediate term)	Cooperate with external consultants (industry-academia collaboration) to establish the in-house PSM system, implement technical methods, and systematically manage CMMS.
2030 objectives (long-term)	Each PSM work item refers to the Recognized And Generally Accepted Good Engineering Practices (RAGAGEP) to have a common language with international standards. Complete the following tasks: 1. 14 items of PSM comply with the requirements to achieve feasibility. 2. CMMS systematically manages equipment, establishes the Group's reliability data, and keeps track of equipment status. 3. Quantify KPIs, regularly inspect KPIs related to maintenance and PSM, and find out the best management practices of the factory. For PSM auditing works, regularly schedule audits, and inspects the areas that need to be optimized and improved in the factory to achieve the PDCA cycle.

## Key promotion items

### 01 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.



### 03 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.



### 02 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.



### 04 Contractor management

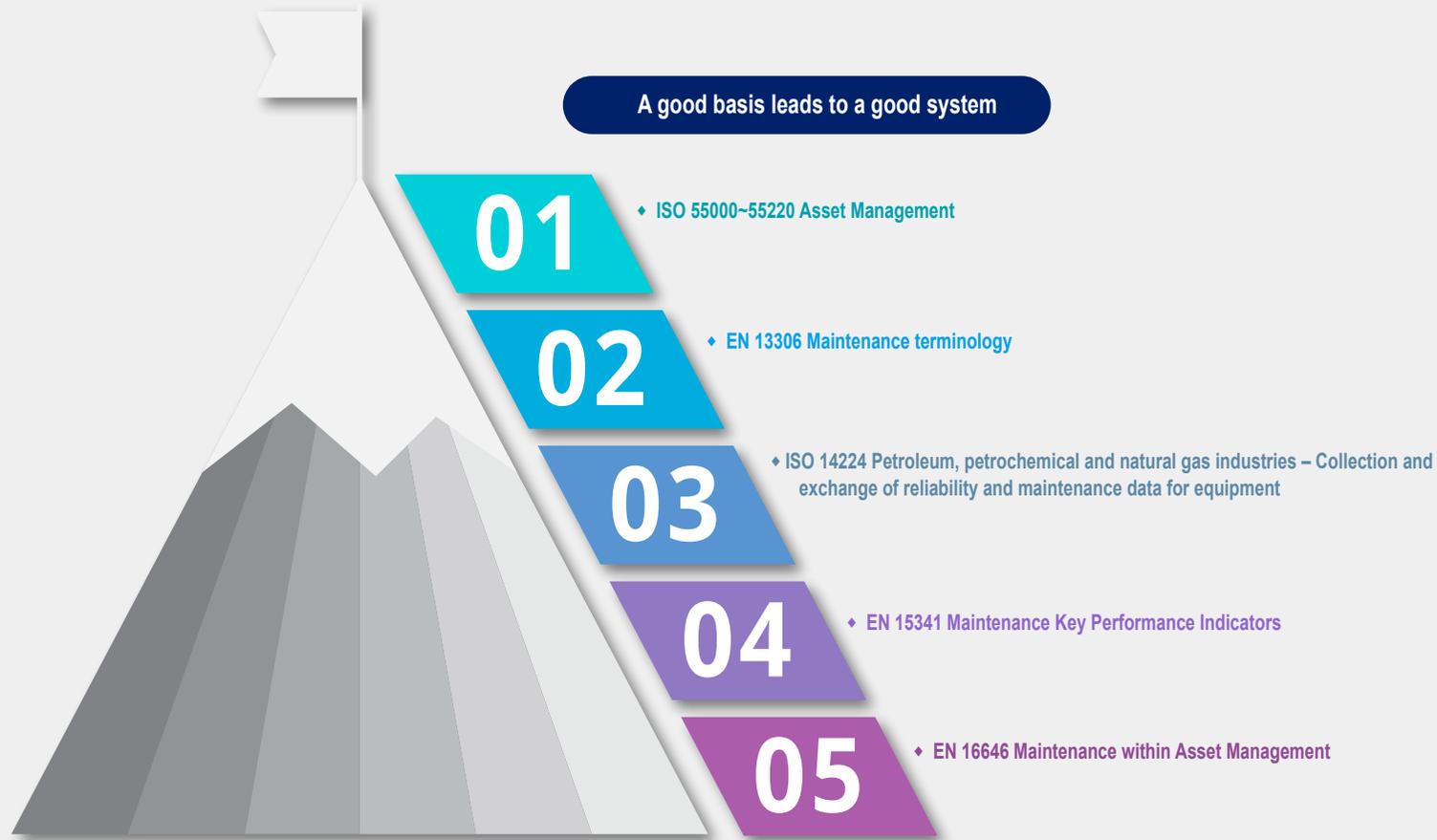
In order to prevent contractors from having catastrophic leakage that leads to catastrophic incidents during the contract period, a series of management process and follow-up, such as contractor assessment, contractor agreement organization meeting, factory entry management, toolbox meeting, process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



### 05 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 413-2)

### Material issue: Transportation safety management

 <p><b>Meaning to CGPC</b></p>	 <p><b>Strategic Policy</b></p>	 <p><b>Commitment</b></p>
<p>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.</p>	<ol style="list-style-type: none"> <li>1. Formulate management standards for vehicle transportation, loading and unloading management, emergency equipment and detection systems.</li> <li>2. Annual qualification review of transportation contractors and drivers.</li> <li>3. Regular promotion, drills, spot checks and audits.</li> <li>4. Ensure the operation of pipeline safety management system (PSMS), establish pipeline integrity management plan and implement pipeline risk management.</li> </ol>	<p>Ensure that all transportation complies with regulations, improve personnel training and safety testing, and achieve the goal of zero disasters and zero accidents.</p>

Promotion policy	Unit	2021 goal	2021 result	2022 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%	92% 	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

Reasons for failure to achieve: Inspection and audit found 408 cases of deficiencies in transportation safety, and a total of 375 cases have been improved for an improvement rate of 92%. (Due to the pandemic situation, inspections were concentrated at the end of the year, and the delivery of parts from equipment manufacturers was delayed. Some of them were major contracting projects, so they could not be completed as scheduled).

 Exceeded goal 
  Achieved 
  Partially achieved 
  Not achieved



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 man-made errors or equipment problems and environmental pollution harming the health of the public and causing life and property losses.



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

### 1. CGPC's Toufen factory/CGPCP 's Linyuan factory:

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 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 factory:

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 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 (VCM) is transported from TVCM's spherical storage tanks to CGPCP through above-ground pipelines (45%).

## Grievance measures

### 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.



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.

## 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 evaluation and review

### 1. Vehicles and equipment:

- 1-1 Formulate specific rules for handling accidents of vinyl chloride 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 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) 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 2021 review rate for transportation contractors and tanker trucks is 100%. Transportation safety The patrol inspection and audit found 408 cases of deficiencies, and 375 cases have been improved for an improvement rate of 91.91% (Due to the pandemic situation, inspections were concentrated at the end of the year, and the delivery of parts from equipment manufacturers was delayed. Some of them were major contracting projects, so they could not be completed as scheduled).
- 5-2 Regularly promotion and drills and update emergency response plans. (Minimize the impact when accidents occur). In 2021, 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 contractors:

- ◆ 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	2019	2020	2021
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

**2021 Raw materials shipment volume**  
VCM, solar salt  
278,000 tonnes



**2021 finished product shipment volume**

PVC resin particles)	liquid caustic soda, hydrochloric acid, bleaching	processed products (pipe, tape, PVC leather, plastic
171,000 tonnes	169,000 tonnes	65,000 tonnes



### 2021 Improvement rate of deficiencies found by transportation safety inspection and audit

By company	Total cases of deficiencies	Number of cases improved	Improvement rate
CGPC (Toufen factory)	378	345	92%
TVCM (Linyuan factory)	15	15	100%
CGPCP (Linyuan factory)	15	15	100%
<b>Total</b>	<b>408</b>	<b>375</b>	<b>92%</b>

Reasons for failure to achieve: Due to the pandemic situation, inspections were concentrated at the end of the year, and the delivery of parts from equipment manufacturers was delayed. Some of them were major contracting projects, so they could not be completed as scheduled.

## 6.5.2 Emergency response planning and training

### Emergency response planning, drills and items

### 1 Promotion

1. Safety awareness
2. Safety and control of use of stackers
3. Identify potential hazards
4. Restricted areas for loading and unloading goods
5. Case studies and description of safety precautions
6. Work rules and emergency notification procedures
7. Warehouse escape map and facilities

### 2 Drills

1. Task teams and explanation
2. Fire drills
3. Check for injuries at a safe place and call for support
4. Notify relevant supervisors and security guards
5. Press the fire alarm
6. Operate fire extinguishers, pull-pull-press
7. Operate the hoses and water guns
8. Moving teams help rescue property
9. Practice first aid and send the injured to hospitals
10. Evacuate and count people

### 3 2021 emergency drill number of sessions and participants

By company	Number of sessions held	Participating person-time
CGPC (Toufen factory)	11	112
TVCM (Linyuan factory)	1	23
CGPCP (Linyuan factory)	2	16
<b>Total</b>	<b>14</b>	<b>151</b>

## Emergency drills and promotion



### Transportation safety improvement

Install reversing radar to the rear of stackers

In order to prevent the stackers from colliding with pipelines, equipment and pedestrians when they go in reverse, we have installed reversing radars to the rear of 39 stackers.



## 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.

TVCM's pipelines in Linyuan factory are divided into:

- ◆ **Underground pipelines:** Ethylene materials are transported through the underground pipelines from China General Terminal & Distribution Corporation to TVCM's spherical storage tanks.
- ◆ **Above-ground pipelines:** Directly supplied from TVCM's VCM spherical storage tanks to CGPCP.



Above-ground pipelines:

The VCM raw materials are provided from TVCM's spherical storage tanks V-6006 along the blue pipeline for production. The route is about 50 meters long and above the ground. The UT and VT tests are carried out regularly every year and suggestions are made according to the test results.

### Pipeline maintenance and management flow chart



TVCM's Linyuan factory adopts the boundary connection technique on the route of the underground pipelines to transmit the CCTV images of 23 locations available from the Transportation Bureau of the City Government of Kaohsiung to the control room, achieving 24-hour monitoring of the environmental change and road condition of the route.

### 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.

### 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 (refer to the [briefing](#)), and CGPC has planned and constructed storage tanks. Smart equipment has been installed for safety to lay the foundation for future operation and development.

### Real-time image presentation of pipelines

**設置地下管線之CCTV(Closed-Circuit Television)即時影像**

資源：利用高雄市政府網站提供即時影像資源。

構想：於地下管線路徑上將現有設置CCTV即時影像，整合並設置控制室。(沿途設有23個監視器)

發文：已發文獲得市府交通局正式同意。

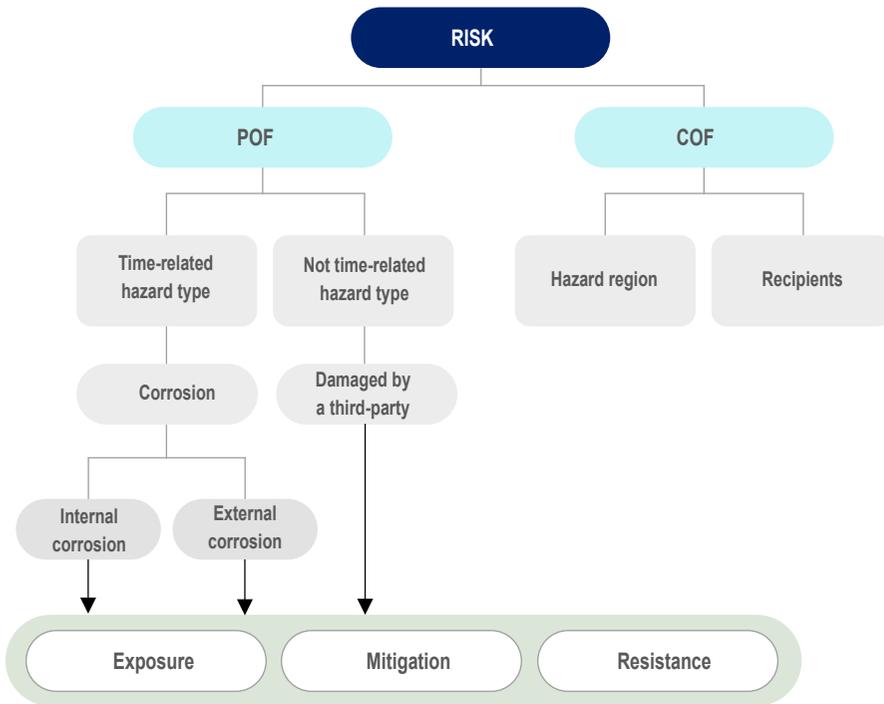
技術：擷取使用【界接技術】。

編號	監視器設置地點
1	洲五路/海墘路口
2	中山路/海墘路口
3	中山路/海墘路口
4	洲五路/海墘路口
5	中山路/海墘路口
6	中山路/海墘路口
7	中山路/海墘路口
8	中山路/海墘路口
9	中山路/海墘路口
10	中山路/海墘路口
11	大寮路/海墘路口
12	中山路/海墘路口
13	洲五路/海墘路口
14	洲五路/海墘路口
15	洲五路/海墘路口
16	洲五路/海墘路口
17	洲五路/海墘路口
18	中山路/海墘路口
19	中山路/海墘路口
20	洲五路二段/大寮路-東林路交叉路口
21	洲五路二段/大寮路-東林路交叉路口
22	東林路一段與洲五路二段交叉路口
23	東林路一段與洲五路二段交叉路口

已於2016/4/18建置完成於控制室實地監測。



## Risk assessment framework for TVCM pipelines



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%
Inspection of above-ground pipelines	Once a year	100%

## 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.

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 test was conducted on November 3, 2021. The test items were based on the program process, and the test data was confirmed by the DNV to be consistent with the on-site inspection.

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

## 6.6 Social participation

### Environmental protection

#### Beach cleaning, wetland adoption

- ◆ Due to the COVID-19 pandemic, no large-scale beach cleaning activities were organized. When the pandemic situation was less severe, 12 people showed up to a beach cleaning activity in October, and removed a total of 35 kg of waste. Since 2017, a total of 612 person-time have showed up to the beach cleaning activities, removing a total of 2,153 kg of waste.
- ◆ 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 2021, and has adopted the wetland for 8 consecutive years, from 2014 to 2021, donating a total of NT\$800,000.

### Education and activities

- ◆ In 2021, the USI Education Foundation spent a total of NT\$11.71 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

- ◆ **The volunteering team cleaning streets.** A total of 700 person-time between 2010 and 2021.
- ◆ **Adoption of street lights and parks**  
A total of NT\$1.2 million has been donated to the adoption of 12 consecutive years. A total of 2,400 street lights have been adopted, and the park adoption maintenance has accumulated a total of 700 person-times.
- ◆ **The charity club and community care activities included** 5 visits in 2021, and a total of 97 visits have been organized over 11 years.
- ◆ **USI Cup tennis championship, slow pitch softball friendship tournament**  
The tennis championship tournament is held once a year. The 19th tournament was held in 2021, and the tournament has drawn participation of a total of about 4,000 person-times over the years.  
Starting 2020, the USI slowpitch softball friendship tournament would be held every year. The purpose is to develop team work and improve employees' cohesion.
- ◆ **Sponsored the table tennis team of Miaoli County Datong Senior High School**  
In order to promote the development of sports culture in local schools, we sponsored Miaoli County Datong Senior High School NT\$10,000. The table tennis team of the school won the gold medal in group competition in the 2021 National High School Games.
- ◆ **Donation to pandemic control efforts**  
In response to the novel coronavirus pandemic in 2021, CGPC donated 456 25kg-drums of high-concentration sodium hypochlorite disinfectant bleach to the Environmental Protection Bureau of the County Government of Miaoli, Toufen Township Office, Zhunan Township Office and Toufen Industrial Park Service Center to be used in the pandemic control efforts.  
In order to assist in the pandemic control efforts and care for medical staff, CGPC has sponsored NT\$250,000 for medical care and pandemic control in Shuangho Hospital of the Ministry of Health and Welfare.
- ◆ **Care for employees. Help farmers**  
Chairman of the Group gave every employee health-promoting astragalus propinquus tea and health defense tea as gift to help everyone improve immunity against the pandemic.  
In response to the export difficulty faced by the pineapple production, the Company purchased a production batch of pineapples as giveaway to employees to show its support for farmers.
- ◆ **Thousand people donation campaign in Neihu Technology Park**  
In 2021, the Company organized the 4th and 5th Neihu Technology Park Thousand People Blood Drive (USI Group was the co-organizer). 98 people donated a total of 154 bags of blood (250cc/bag).



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".

## 6.6.1 Environmental protection

### Beach cleaning

CGPC's Toufen factory started to participate in the marine environment policy of the Environment Protection Bureau of the County Government of Miaoli starting 2017, taking the initiative to adopt a 500-meter section of beach by Longfeng Fishing Port in Zhunan Township. (Please refer to [Coastal Cleanup and Adoption System](#)). Due to the novel coronavirus pandemic in 2021, the annual beach cleaning event has been cancelled to protect participants from risk of close contact with one another. In October, 12 participants showed up to conduct beach cleaning of Longfeng Fishing Port, and removed a total of 35 kg of waste.



The statistics of 2021 beach cleaning activities are as follows:

Category	PET bottle 	Glass bottle 	Tin can 	Fishing net 	Other general garbage 	Total
Weight (kg)	2	3	2	15	13	35

## Environmental protection – Wetland by Dong-Hsing Bridge on Zhonggang River

Wetland park by Dong-Hsing Bridge on Zhonggang 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 Zhonggang 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

### Adoption of 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 12 consecutive years from 2010 to 2021, donating NT\$100,000 a year to Toufen Township Office to care for 200 street lights. Accumulating an amount of NT\$1.2 million and 2,400 street lights. The Company was invited to participate the commendation event held in March 2021, receiving a certificate of appreciation from Mayor Hsueh-Chu Lo of Toufen.



## 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 12 years, from 2010 to 2021. Four times a month, for a total of about 700 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 2021, about 700 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.

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.

Employees at factories of TVCM, CGPCP, Asia Polymer Corporation and Taita Chemical Company for years have participated in the USI Cup tennis championship organized by Linyuan Tennis Association. The tournament is in its 19th year in 2021. A total of 200 people are in this year's competition, and a total of 4,000 people have participated in the tournament over the years.

Since 2020, TVCM, Taiwan Highpolymer, Taita, CGPCP, Asia Polymer have jointly organized the USI Group Slowpitch Softball Friendship Tournament. This year, a total of 100 employees from the companies participated in the tournament, and a total of 200 person-time have participated in the tournament since its inception. TVCM and Taiwan Highpolymer 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.

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.



### The 19th USI Cup tennis championship in 2021



### 2021 USI Group (5 factories in southern region) slowpitch softball friendship tournament



### 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.



### TVCM awarded a trophy of appreciation for being a partner of Linyuan Police Station in maintaining public security

TVCM and other model enterprises in Linyuan Industrial Park jointly donated computers and detection equipment to Linyuan Police Station. The collaboration between the police force and citizens constructed an excellent public security environment for the local residents in Linyuan.

Linyuan Police Station organized a ceremony to recognize the joint donation of computer and detection equipment on May 11, 2021, and deputy chief of factory Su-Jian Li of TVCM received the award on behalf of the Company.

Donating computers and detection equipment helps Linyuan Police Station improve its criminal investigation and prevention and evidence collection capabilities and service efficiency to the people, further co-creating an excellent public security environment to protect the people. TVCM's Linyuan factory and other local companies jointly donated 17 computers and a batch of detection equipment (2 professional-grade monocular cameras, 1 set of professional-grade fixed-focus lenses and 10 digital camcorders) to support Linyuan Police Station in maintaining public security. The donation is was to fulfill corporate social responsibility, hoping that the collaboration between the police force and the people can protect the safety of local residents in Linyuan.



## Community welfare

The table tennis team of Miaoli County Datong Senior High School has been formed for just 4 years, but with rigorous training, it was able to win a gold medal in group competition in this year's National High School Games without corporate sponsorship. TVCM has sponsored the team NT\$10,000, hoping to nurture the local athletes and improve their training condition.



## Occupational safety and health family

The Safety and Health Family program was initiated and supervised by the County Government of Miaoli, with the funding for operations backed by the Occupational Safety and Health Administration. The objective is to improve the work environment and promote employment services for enterprises with less than 100 employees. CGPC is one of the core enterprises playing the role of pioneer for the program. On August 20, 2021, a workplace safety and health course was held at Zhunan Industrial Park Service Center. Co-organized by the Company and other Family members, the course aimed to improve the safety of various types of equipment used in factories of all Family members to build culture of workplace safety and quality workplace environment. On October 8, 2021, CGPC organized a seminar to showcase the results of the Safety and Health Family members' efforts and advocate prevention of occupational disasters to help the members identify and assess risks and make improvements.



## Pandemic control actions

2021, the novel coronavirus pandemic initiated community spread. CGPC donated 456 25kg-drums of high-concentration sodium hypochlorite disinfectant bleach to government agencies to help communities conduct disinfection to block the spread of the pandemic.

- ◆ Toufen Industrial Park Service Center: 50 drums to be distributed to all companies in the Park.
- ◆ Toufen Township Office: 66 drums to be distributed to all neighborhoods and villages within the jurisdiction.
- ◆ Zhunan Township Office: 40 drums to be distributed to all neighborhoods and villages within the jurisdiction.
- ◆ Environmental Protection Bureau of the County Government of Miaoli: 300 drums. To be used for its daily operations, and by the National Army Chemical Corps to disinfect the entire area of Toufen, Zhunan on June 8, 2021.

CGPC provided the bleach badly needed by government agencies and helped calming the county residents. We will continue to work with various government agencies in the joint fight against the pandemic.



## Community building and welfare

### Charity Club community care activities

CGPC's Charity Club was established in Toufen factory 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 2021 the Club organized 5 visits of community care, and a total of 97 visits have been organized from 2010 to 2021. Adhere to the philosophy of "Spread love and care for the society", and take the initiative to do good for the society to fulfil 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 donate to St. Francis Girls' Home, St. Francis Nursing Home, World Vision Taiwan, Miaoli County Family Support Center, and other institutions.



World Peace Association



Genesis Social Welfare Foundation



Genesis Social Welfare Foundation



Genesis Social Welfare Foundation

### Recovery Home

The Recovery Home visited CGPC's Charity Club on 2021/03/01 to appreciate the long-term assistance the Club has provided. The Recovery Home offers a semi-protected environment for communities, helping patients gradually adapt to social and family life and nurturing one's independence in handling food, clothing, housing and transportation needs to be reintegrated into the society.

### People with disabilities and the elderly in poverty

Assist and care for the people with physical and mental disabilities and the elderly in poverty, and help them become self-reliant and healthy and fully develop their potential to be integrated into the society. Help the elderly in poverty receive the nursing need. The Charity Club regularly donates to Hwa Yen Development Center, Kuang-Ai Care Center, Genesis Social Welfare Foundation, Ming-Te Education and Nursing Institute, Yu-An Children Home, etc.

### Emergency relief

In the event of a major incident or accident to the communities or the family of the Company's employees, which causes financial difficulty, the Charity Club visits those in need and provides emergency relief fund to help them overcome difficulties. In 2021, an employee of CGPC's long-term contractor, Miss Wang, suffered from a disabling injury. She came from a single parent family and is the only source of income for her family, and the injury really put her in a dire situation. The Charity Club donated NT\$20,000 and conducted a fund raising in the Company. CGPC's employees answered the call and were able to pool NT\$465,500 for her.



Recovery Home



Recovery Home



Emergency relief

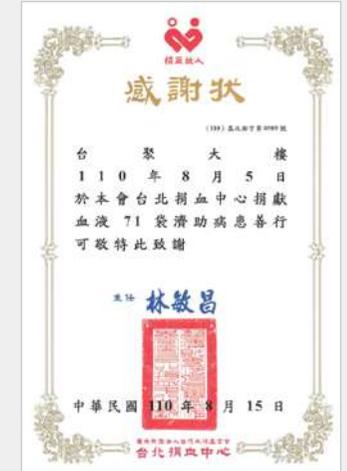
### Care for employees. Help farmers

The export of pineapples this year faced difficulty, resulting in over-supply in the domestic market. The government advocates support for farmers. The Company also purchased pineapples as giveaway gift to employees to show its support for fruit farmers.



### 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 (CGPCP was the co-organizer). The statistics of participation in each year is shown as follows:



Results of thousand-people blood drive in Neihu Technology Park over the years



### 6.6.3 USI Education Foundation

The USI Education Foundation was established on December 30, 2011, funded by the joint donation of CGPCP 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.

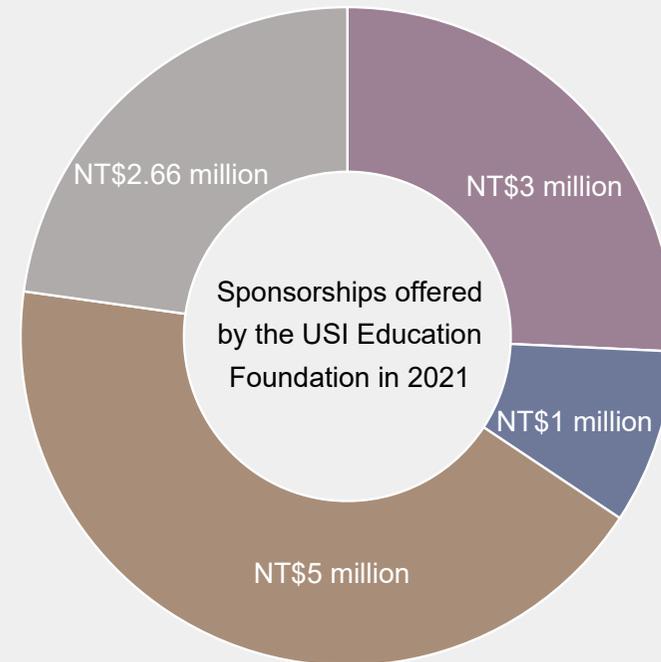
In order to expand the scale of public welfare, CGPC and TVCM joined the sponsorship efforts in 2017, and Taita also participated in the sponsorship program in 2018 to show its support, enabling the USI Education Foundation to commit more resources in education in remote areas, sustainability and other public welfare to give back to the society.



Donation to Toufen Junior High School

### Charity events

In 2021, the USI Education Foundation spent a total of NT\$11.71 million in various sponsorships, which include NT\$3 million for scholarships and grants, NT\$1 million to the Alliance Cultural Foundation and NT\$5 million to the Junyi School of Innovation in Taitung and NT\$2.66 million sponsoring various educational welfare activities.

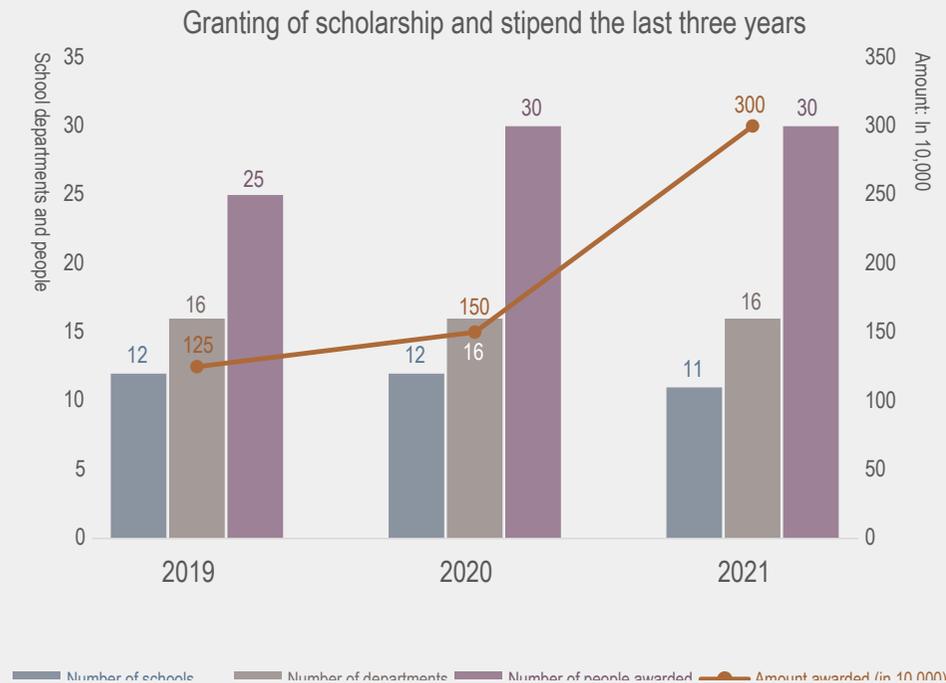


Junyi School of Innovation in Taitung | Scholarships | Alliance Cultural Foundation | Other educational charity events

## Setting up scholarships

For disadvantaged 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 degree grow into industry talents. This is the 10th anniversary of the establishment of the scholarship program. A total of NT\$14.1 million has been awarded to 266 students.

In 2021, a total of NT\$3 million of scholarship is awarded to 30 students studying in 16 majors in 11 public and private universities. Among them, 16 are studying for the doctoral degree, 9 are studying for the master's degree and 5 are studying for the bachelor's degree, and 17 of them are considered disadvantaged students. On December 10, 2021, a scholarship award ceremony and commendation luncheon were held to recognize the award-winning students. 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 the society and give back to the society.



2021 Scholarship award ceremony and commendation luncheon

## Alliance Cultural Foundation and Junyi School of Innovation in Taitung

### Junyi School – Fulfill rural education

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 Hualien and Taitung areas. Chairman Stanley Yen of the Alliance Cultural Foundation hopes that reform of rural education and implementation of innovative and experimental education will provide opportunities to disadvantaged children. The Alliance Cultural Foundation also has established the Rural Education Seedling Program to provide scholarships to disadvantaged children in Hualien and Taitung areas to study in Junyi School of Innovation. The efforts over the past 10 years have benefitted 185 children, and more than 80% of the children are of indigenous background, coming from Amis, Puyuma, Bunun, Paiwan, Rukai, Tao and Truku tribes.

Children living in remote areas with limited resources need to be even more connected with the world to create more possibilities for the future of their hometown. In 2017, the Alliance Cultural Foundation launched a study-abroad program and established the Innovative Study Abroad Education Fund to provide scholarships to students with high potential at Junyi School of Innovation. They are eligible for applying for overseas 2 years communities colleges or the United World College. This program creates a new start connecting with the world, and students will be able to learn professional skills and have a global perspective, and it is hope that they will become the driving force bringing changes their tribe and hometown in the future. Since the program was launched, a total of 14 students have already applied for studying abroad. 8 of them have already completed their study and successfully transferred to universities or colleges of their choice for further studies. Among them, 2 have been awarded scholarships from universities in the US.

The pandemic has greatly changed the world. Educators have begun to reflect on the purpose of education, believing that developing children's self-directed learning abilities to face the future challenges is the most important goal of education, and this is in line with the goal of Junyi School of Innovation. Junyi School of Innovation's core philosophy is to cultivate students' core competencies "Be a good person. Live well. Do good things." Students will have good character, life attitude, self-efficacy, a global perspective and self-directed learning abilities to become good global citizen. There are courses of "Life exploration", "Creative learning" and "International connection" to guide students in self-exploration to find their confidence and direction. There is the "Self-directed learning" to train students to plan their own learning time and set goals to absorb knowledge of diverse fields. The program collaborates with external professional units to broaden and deepen students' learning, hoping to develop their learning for life attitude. The program actively realizes the philosophy and value of "Unlocking talents. Positive and innovative. Local connection. Bilingual and international."

In response to the pandemic situation, many schools adopted online teaching starting May. Junyi School of Innovation prepared learning boxes containing books, picture albums, handicraft and baking materials, snacks and teachers' notes to all students, so that students can feel the love and care from school teachers during the summer break. There are group learning activities, and the school's teaching staff set up study groups based on their own expertise, such as calligraphy and extended learning activities to make students' summer vacation more fulfilling. After school resumes, it is found that since students haven't seen their classmates for a while, they cherish the time spent interacting with their classmates even more, and their dependence on mobile phones is also significantly reduced.



The well-established "Life exploration" course in the high school includes three areas, cycling, mountain exploration and water exploration. The course is divided starting the 11th grade. The photo shows the course of wilderness challenge.



The Thanksgiving dinner in November is prepared by the students in the international hospitality and tourism course of the "Creativity learning group". They learn cooking and hospitality techniques and develop life and social skills.



In the charity fund-raising event of "Singing for Wildlife Hospital", teachers take students who are skillful in singing and dancing to participate in service courses and use their talents and expertise to support wild animals with actions.

In the contemporary art course of the "Creativity learning group", professional photographers are invited to guide students to explore interdisciplinary issues of social and humanities through images, and to learn photography and curation of art exhibitions through the works of international photography competitions. The picture below shows the works of Junyi School of Innovation. Note: The results were originally scheduled to be published at the annual art festival in May, but the event was cancelled due to the pandemic.



### The Alliance Cultural Foundation's Listener Project.

During the pandemic outbreak in 2020, studies found that education in many countries went online and children were unable to go to school for a long time, which resulted in them lacking the opportunities to interact with others, which can be a unfavorable situation for school-age children who are supposed to be growing and developing personality. The Alliance Cultural Foundation recognizes that the mental health of teenagers in the campus has become an issue that needs attention. The teachers in remote areas are generally younger and less experienced, and the experience of senior teachers and professionals proves to be precious. Therefore, the Alliance Cultural Foundation launches the "Listener Project" online course, a total of 49 videos featuring psychological counselors and educators to help novice teachers shorten the trial and error process. The self-directed learning of awareness cultivates front-line teachers to become young people's good listeners and build trusting relationships and positive communication, so they can accompany the thriving youths in receiving psychological support, hoping that in the future, they will have more strength to support themselves and resilience to help others.

Want to understand more about your children? Parents or family members need to understand their children to build positive interactions. Click and listen to the following links.

 <p><b>Listeners' self-development</b> Improve teachers' listening skills</p> <p><a href="#">VIEW ALL</a></p>	 <p><b>Understand teens</b> Concepts and mindsets of accompanying teenagers</p> <p><a href="#">VIEW ALL</a></p>	 <p><b>Start class management</b> Develop positive teacher-student relationships</p> <p><a href="#">VIEW ALL</a></p>	 <p><b>Students with special needs and inclusive education</b> Recognize the needs of special learning</p> <p><a href="#">VIEW ALL</a></p>
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### 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 this September. Specialized choir teachers nurtured by the Harvest365 Foundation and music teachers at Toufen Junior High School take the choir composed of 7th and 8th graders to perform singing and dancing. They participate in the annual music festival, which gives them motivation to learn and helps them develop self-confidence.

The philosophy of the music project is not to be selective of students and not to make them sing for competitions. It is to make every child learn happily and sing for happiness. It is hoped that the choir singing course will make every child sing with confidence and courage to challenge themselves, and develop good moral character and teamwork spirit.



Choir students practicing



### Toufen Junior High School to implement the Junyi Academy platform

The Company helps the USI Education Foundation start sponsoring Toufen Junior High School of Miaoli County to implement the Junyi Academy education platform starting 2017. The Company also donated 30 iPads in 2021. Using the wireless network equipment installed by the Company helps the students who need to use the school's computers for education, and the students can learn how to use computer software.

We will continue to watch the development of Toufen Junior High School, and hope to narrow the gap in educational resources received by students in the city and those in metropolitan areas, so the students can have equal opportunity for growth.



## Sponsor other educational charity events

Sponsored other education charity projects in 2021, such as Boyo Social Welfare Foundation, Teach for Taiwan Foundation, Azure Alliance, Bulareyaung Dance Company and Hunter School. Our foundation will continue to sponsor these organizations that have been well recognized, so they can continue helping more schoolchildren.

1. Bulareyaung Dance Company was established in 2002. It adheres to the mission of "Flipping poverty" and believes in that impoverished children's only hope is through education. Free supplementary education is given to disadvantaged junior high and elementary schoolchildren. The 2 to 3 hours of after-class tutoring is given 5 days a week. The method of teaching according to aptitude, the strict quality control and care coaching improve condition for more stable learning, and every disadvantaged child can then have a proper learning environment to develop basic skills, improve competitiveness in the society to be independent and escape poverty. Disadvantaged families were hit hard during the pandemic period, which once again highlights the digital gap between city and rural areas. In the early phase of class suspension, as high as 70% of schoolchildren did not have digital equipment. Boyo has prepared learning packs for each child, so learning can go into each family. Children will be able to continue learning even without network service. Since its establishment 19 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 schoolchildren.
2. Teach for Taiwan was established in 2013. It was an idea inspired by the Teach for America in the US. It is a non-profit organization dedicated to solving the difficulty of educational inequality, hoping to create equal opportunities for every child. TFT believes that education is an issue of concern for everyone, and it is a process in which life affects life. The program trains outstanding young people who have a sense of mission to go to lower-income rural primary schools to teach for at least 2 years, exerting positive influence inside and outside the classroom, schools, communities and the society. The program hopes to bring quality education and opportunities of self-development to every child in Taiwan, regardless of their background, so they can escape the disadvantaged condition. The program also resolves the difficulties with recruitment and high turnover of teachers in rural schools in Taiwan. In 2014, the program sent out its first batch of 9 TFT teachers to go serve in 8 schools in Taitung and Tainan, which became their starting point of change. So far, TFT has sent 269 young people to travel to rural areas. They have gone to schools in Taitung, Tainan Pingtung, Yunlin, Hualien and Nantou, helping more than 6,000 disadvantaged school children.
3. The Azure Alliance was established in 2017. It launched the "Azure – Save Our Ocean" program to develop high-performance, cost-effective, easy-to-operate and safe smart sea sweeping robots to remove marine waste in Taiwan's fishing ports, further transforming Taiwan's marine cleaning industry to restore the marine ecology. The program has surveyed 106 port areas around Taiwan and tested in 5 ports in 2021. It also established its first demonstration base in Zhuwei Fish Harbor of Taoyuan in 2022 to speed up its efforts removing floating garbage on the sea surface. It has organized 79 marine environmental education promotion events, providing lectures in schools and companies.
4. Bulareyaung Dance Company was established in 2015, and its cultural foundation was established the following year. It communicates the indigenous culture through dances, and has organized performances and seminars at each tribe, sharing dances and body development through workshop sessions. The founder is the Taiwanese indigenous choreographer Bulareyaung Pagarlava. He comes from the Paiwan tribe, and his search for identity takes him back home to Taitung. He hopes to create together with other tribal children to share performances with the world. His "Go Home and Dance – Tribal Tour Performance" has been established for 6 years, and the group has held 16 performances in 14 tribes. Bulareyaung Pagarlava believes that tribes are the most beautiful theaters for the dance troupes. He hopes to bring dancers to perform at their home tribes, inspiring children who love dancing and artistic creation, and making the elders feel that dance on the stage is something to be proud of. Tribes will be able to see another aspect of indigenous dances.
5. The Hunter School was established by Taiwanese indigenous writer Ahronglong Sakinu in 2004. Ahronglong Sakinu is a winner of several literary awards. He vividly depicts the life experience of tribal growth and the hunter culture inherited by the elders into wonderful stories. He hopes to share these wisdoms with the next generation and enable the public understand the indigenous culture, and make different ethnic groups respect one another. These beliefs become the basis for the establishment of the Hunter School. Ahronglong Sakinu uses his home in the tribe as the school base. In addition to conveying the essence of the traditional culture of the indigenous peoples and the wisdom of the tribe, he teaches how to apply the philosophy and attitude of hunters to life, including getting along with oneself, overcoming fear, tapping inner potential, etc., and leading young people to establish their own value and identity, realizing the dream of different education systems.

# 7 Appendix

## 7.1 GRI index

GRI 102 general disclosure for 2016					
	Disclosure items	Section	Page Number	Note	
Organizational Profile	102-1	Name of organization	<a href="#">1.1 Company Profile</a>	P.10	
	102-2	Activity, brand, product and service	<a href="#">1.2 Vinyl-Chain upstream and downstream relationships</a> , <a href="#">4.1. Customer service management</a>	P.12, P.47~50	
	102-3	Location of headquarters	<a href="#">1.1 Company Profile</a>	P.10	
	102-4	Operating locations	<a href="#">1.1 Company Profile</a>	P.10	
	102-5	Ownership and legal form	<a href="#">1.1 Company Profile</a>	P.10	
	102-6	Market served	<a href="#">1.2 Vinyl-Chain upstream and downstream relationships</a>	P.12	
	102-7	Size of organization	<a href="#">1.1 Company Profile</a> , <a href="#">3.2 Operational performance</a>	P.10、P.33~36	
	102-8	Information about employees and other workers	<a href="#">1.1 Company Profile</a> , <a href="#">6.1 Manpower structure</a>	P.10, P.93~94	
	102-9	Supply chain	<a href="#">4.3 Supply Chain Management</a>	P.53~58	
	102-10	Major changes in the organization and its supply chain	—		No major changes
	102-11	Precautionary principle or policy	<a href="#">3.4 Risk Management</a>	P.41~44	
	102-12	External initiative	<a href="#">4.4 Participation of external organizations</a> , <a href="#">5.2.1 Response to climate change is an opportunity for enterprises' sustainable operations</a>	P.59, P.65-66	Participate in the "Earth Hour - Switch off Lights Tonight for 1 hour" campaign
	102-13	Membership qualification of cooperatives and associations	<a href="#">4.4 Participation of external organizations</a>	P.59	
Strategy	102-14	Decision maker's statement	<a href="#">Statement from the Business Operators</a> , <a href="#">Sustainable Management Policy and Results</a>	P.4~5, P.6-7	
	102-15	Key impact, risk and opportunity	<a href="#">3.2 Operating performance</a> , <a href="#">3.4 Risk management</a>	P.33~36, P.41~44	
Ethics and integrity	102-16	Value, principle, standards and code of conduct	<a href="#">2.1.1 Corporate sustainability vision and goals</a> , <a href="#">1.2 Business philosophy</a>	P.16, P.11	
Governance	102-18	Governance structure	<a href="#">1.1 Company Profile</a> , <a href="#">3.1 Corporate governance</a>	P.10, P.28~33	
Stakeholders Communication	102-40	Stakeholder groups	<a href="#">2.3 Identify key stakeholders</a>	P.21~23	
	102-41	Group agreement	—		Not yet signed
	102-42	Identify and select stakeholders	<a href="#">2.3 Identify key stakeholders</a>	P.21~23	
	102-43	Guidelines for communicating with stakeholders	<a href="#">2.4 Identification of Material Issues</a>	P.24	
	102-44	Proposed key issues and concerns	<a href="#">2.4 Identification of Material Issues</a> , <a href="#">2.6 Description of material issues</a>	P.24, P.26	

GRI 102 general disclosure for 2016				
Disclosure items		Section	Page Number	Note
Reporting practices	102-45	All entities included in the consolidated financial statements	<a href="#">1.1 Company information, 3.2 Operational performance</a>	P.10 · P.33~36
	102-46	Define report content and topic boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25
	102-47	List of material issues	<a href="#">2.6 Description of material issues</a>	P.26
	102-48	Information re-editing	—	No information re-editing
	102-49	Report change	<a href="#">2.1.3 Changes in material issues</a>	P.17
	102-50	Report period	<a href="#">About this Report</a>	P.2~3
	102-51	Date of most recent report	<a href="#">About this Report</a>	P.2~3
	102-52	Date of most recent report	<a href="#">About this Report</a>	P.2~3
	102-53	Contact person who is available to answer questions related to the report	<a href="#">About this Report</a>	P.2~3
	102-54	Declaration in accordance with the GRI standards	<a href="#">About this Report</a>	P.2~3
	102-55	GRI index	<a href="#">7.1 GRI index</a>	P.154~155
	102-56	External guarantee / assurance	<a href="#">5.1 Environmental Management Policy, 7.4 Verification statement</a>	P.61~63, P.162~163

## 7.2 Index of material issues

Disclosure of subject-specific guidelines							
Material issue	SDGs Sub-target	Disclosure items		Section	Page Number	Remarks	
<b>Category: Economy</b>							
Financial performance	8.2 8.8	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">3.2 Operating performance (management policy)</a>	P.33~36	
			103-3	Assessment of management policy	<a href="#">3.2 Operating performance (management policy)</a>	P.33~36	
		GRI 201: Economic performance 2016	* 201-1	Direct economic value generated and distributed by the organization	<a href="#">3.2.4 Description of direct economic value generated and distributed by the organization</a>	P.36	
			* 201-2	Financial impacts and their risks and opportunities caused by climate change	<a href="#">5.2.4 Potential financial impact of risks and opportunities</a>	P.68	Partial disclosure
			* 201-3	Defined benefit plans, obligations, and other retirement plans	<a href="#">6.2.2 Salary and benefits</a>	P.97~102	
		* 201-4	Financial assistance received from the government	<a href="#">3.2.5 2021 Government subsidies</a>	P.36		
Technology Research and Development	8.3	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">3.3 Technological research and development (management policy)</a>	P.37~40	
			103-3	Assessment of management policy	<a href="#">3.3 Technological research and development (management policy)</a>	P.37~40	
		Customize theme		<a href="#">3.3 Technology Research and Development</a>	P.37~40		

Disclosure of subject-specific guidelines							
Material issue	SDGs Sub-target	Disclosure items			Section	Page Number	Remarks
<b>Category: Economy</b>							
Product quality	12.a	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">4.2 Product Quality</a>	P.50~52	
			103-3	Assessment of management policy	<a href="#">4.2 Product Quality</a>	P.50~52	
		Customize theme			<a href="#">4.2 Product Quality</a>	P.50~52	
<b>Category: Environment</b>							
Climate Change and Energy Management	7.a 3.1 13.3	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">5.2 Climate change and energy management (management policy)</a>	P.64~77	
			103-3	Assessment of management policy	<a href="#">5.2 Climate change and energy management (management policy)</a>	P.64~77	
		GRI 302: Energy 2016	* 302-1	Energy consumption within the organization	<a href="#">5.2.6 Energy management</a>	P.70	
			* 302-3	Energy intensity	<a href="#">5.2.8 Greenhouse gas management</a>	P.72~73	
			* 302-4	Reduction of energy consumption	<a href="#">5.2.7 Energy conservation and carbon education solutions and performance</a>	P.71	
Water Resources Management	3.9 6.3 12.4	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">5.3 Water resources management (management policy)</a>	P.78~85	
			103-3	Assessment of management policy	<a href="#">5.3 Water resources management (management policy)</a>	P.78~85	
		GRI 303: Water and effluents 2018	✗ 303-1	Interactions with water as a shared resource	<a href="#">5.3.1 Water management</a>	P.79~82	
			✗ 303-2	Management of water discharge-related impacts	<a href="#">5.3.3 Waste water quality testing</a>	P.83	
			* 303-3	Water withdrawal	<a href="#">5.3.1 Water management</a>	P.79~82	Distribution of water stress
			* 303-4	Water discharge	<a href="#">5.3.2 Wastewater discharge management</a>	P.82	
			* 303-5	Water consumption	<a href="#">5.3.1 Water management</a>	P.79~82	
Air pollution control	3.9 11.6	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">5.4 Air pollution control (management solution)</a>	P.86~87	
			103-3	Assessment of management policy	<a href="#">5.4 Air pollution control (management solution)</a>	P.86~87	
		GRI 305: Emissions 2016	* 305-1	Direct greenhouse gas emissions (Scope 1)	<a href="#">5.2.8 Greenhouse gas management</a>	P.72~73	
			* 305-2	Indirect greenhouse gas emissions from energy (Scope 2)	<a href="#">5.2.8 Greenhouse gas management</a>	P.72~73	
			* 305-4	GHG emissions intensity	<a href="#">5.2.8 Greenhouse gas management</a>	P.72~73	
			* 305-5	Reduction of GHG emissions	<a href="#">5.2.1 Response to climate change is an opportunity for enterprises' sustainable operations</a> <a href="#">5.2.7 Energy conservation and carbon reduction solutions and performance</a>	P.65~66 P.71	
			* 305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	<a href="#">5.4 Air pollution control</a>	P.86~87	

Disclosure of subject-specific guidelines							
Material issue	SDGs Sub-target	Disclosure items			Section	Page Number	Remarks
<b>Category: Environment</b>							
Waste Management	3.9 1.6 12.4 2.5	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">5.5 Waste management (management policy)</a>	P.88~90	
			103-3	Assessment of management policy	<a href="#">5.5 Waste management (management policy)</a>	P.88~90	
		GRI 306: Waste 2020	* 306-1	Waste generation and significant waste-related impact	<a href="#">5.5 Waste Management</a>	P.88~90	
			* 306-2	Management of significant waste-related impact	<a href="#">5.5 Waste Management</a>	P.88~90	
			* 306-3	Waste generated	<a href="#">5.5 Waste Management</a>	P.88~90	
<b>Category: Society</b>							
Talent Attraction and Retention	8.5 8.8 103 10.4	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">6.2 Talent attraction and retention (management policy)</a>	P.95~104	
			103-3	Assessment of management policy	<a href="#">6.2 Talent attraction and retention (management policy)</a>	P.95~104	
		GRI 401: Employment 2016	* 401-1	New hires and outgoing employees	<a href="#">6.2.1 Appointment and resignation</a>	P.96	
			* 401-2	Benefits provided to full-time employees (excluding temporary or part-time employees)	<a href="#">6.2.2 Salary and benefits</a>	P.97~102	
			* 401-3	Parental leave	<a href="#">6.2.2 Salary and benefits</a>	P.97~102	
		GRI 405: Diversity and Equal Opportunity 2016	* 405-1	Percentage of corporate governance organization members and various types of employees by gender, age group, minority group, and other indicators of diversity	<a href="#">6.1 Manpower structure</a>	P.93~94	
			* 405-2	Ratio of basic salaries and remuneration to women and men by employee category and key operating locations	<a href="#">6.1 Manpower structure</a> <a href="#">6.2.2 Salary and benefits</a>	P.93~94 P.97~102	
Talent development and cultivation	4.3 4.5	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">6.3 Talent development and cultivation (management policy)</a>	P.105~109	
			103-3	Assessment of management policy	<a href="#">6.3 Talent development and cultivation (management policy)</a>	P.105~109	
		GRI 404: Training and Education 2016	* 404-1	Average hours of training per year per employee	<a href="#">6.3 Talent Development and Cultivation</a>	P.105~109	
			* 404-2	Programs improving employees' capabilities and transition assistance	—	None	
			* 404-3	Percentage of employees receiving regular performance and career development reviews	<a href="#">6.3 Talent Development and Cultivation</a>	P.105~109	
Occupational safety and health	8.8	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">6.4 Safe and healthy workplace (management policy)</a>	P.110~128	
			103-3	Assessment of management policy	<a href="#">6.4 Safe and healthy workplace (management policy)</a>	P.110~128	

Disclosure of subject-specific guidelines							
Material issue	SDGs Sub-target	Disclosure items			Section	Page Number	Remarks
<b>Category: Society</b>							
Occupational safety and health	8.8	GRI 403: Occupational Safety and Health 2018	✗ 403-1	Occupational safety and health management system	<a href="#">6.4.1 Occupational safety management</a>	P.111~116	
			✗ 403-2	Hazard identification, risk assessment and incident investigation	<a href="#">6.4.1 Occupational safety management</a>	P.111~116	
			✗ 403-3	Occupational healthcare services	<a href="#">6.4.2 Occupational health management</a>	P.116~118	
			✗ 403-4	Worker participation, consultation, and communication on occupational health and safety	<a href="#">6.4.1 Occupational safety management</a> <a href="#">6.4.3 Occupational safety and health organizations</a> <a href="#">6.4.4. Contractor safety management</a>	P.111~116 P.119 P.119~120	
			✗ 403-5	Worker training on occupational health and safety	<a href="#">6.4.4. Contractor safety management</a> <a href="#">6.4.5 Emergency response</a>	P.119~120 P.120~123	
			✗ 403-6	Promotion of worker health	<a href="#">6.4.6 Process safety management</a>	P.124~128	
			✗ 403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	<a href="#">6.4.6 Process safety management</a>	P.124~129	
			* 403-8	Workers covered by an occupational health and safety management system	<a href="#">6.4.1 Occupational safety management</a>	P.111~116	
			* 403-9	Work-related injuries	<a href="#">6.4.1 Occupational safety management</a>	P.111~116	
			* 403-10	Work-related illness	<a href="#">6.4.1 Occupational safety management</a>	P.111~116	
Transportation safety	11.5	GRI 103: Management Policy 2016	103-1	Explain material issues and their boundaries	<a href="#">2.5 Value chain of boundaries for material issues</a>	P.25	
			103-2	Management policy and its elements	<a href="#">6.5 Transportation safety management (management policy)</a>	P.129~132	
			103-3	Assessment of management policy	<a href="#">6.5 Transportation safety management (management policy)</a>	P.129~132	
		GRI 413: Local Communities 2016	* 413-2	Operations with significant actual and potential negative impacts on local communities	<a href="#">6.5 Transportation Safety Management</a>	P.129~132	

Note: ✗Disclosure of management policy \*Disclosure of subject-specific



## 7.3 SASB Index

Refer to the Sustainability Accounting Standards – Chemicals issued by the Sustainability Accounting Standards Board (SASB)

Item	Code	Content of indicators	Unit	2019	2020	2021	Corresponding chapter	Page Number	
Greenhouse gas	RT-CH-110a.1	Scope 1 GHG emissions (tonne CO <sub>2</sub> e. Scope 1 GHG emissions are regulated by emissions restriction regulations at a percentage (%). 15.12 / No regulatory control yet.	(1) Million tonnes CO <sub>2</sub> e (2) %	(1) 0.1644 (2) 99.9%	(1) 0.1491 (2) 99.9%	(1) 0.158 (2) 99.9%	<a href="#">5.2.8 Greenhouse gas management</a>	P.72~73	
	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. 2021 Energy conservation and carbon reduction solutions and performance: (1) Carbon reduction (tonne CO <sub>2</sub> e) 2,741, (2) Energy conservation (GJ) 28,528			<a href="#">5.2 Climate change and energy management</a>	P.64~77	
Air quality	RT-CH-120a.1	Emissions of the following air pollutants:						<a href="#">5.4 Air pollution control</a>	P.86~87
		(1) Nitrogen oxides	tonne	107	69	85			
		(2) Sulfur oxides	tonne	59	19,138	5.13			
		(3) Volatile organic compounds	tonne	118	107	212			
(4) Hazardous air pollutants (HAPs)	tonne	0	0	0					
Energy management	RT-CH-130a.1	(1) Total energy consumed (GJ)	GJ	4,180,835	3,773,586	4,247,960	<a href="#">5.2.6 Energy management</a>	P.70	
		(2) Percentage of energy consumption from grid (%)	%	28%	28%	27%			
		(3) Percentage of renewable energy use (%)	%	-	-	-			
		(4) Energy generated in-house (GJ)	GJ	-	-	-			
Water management	RT-CH-140a.1	(1) Total water withdrawal	Million liters	2,860	2,807	2,965	<a href="#">5.3 Water Resources Management</a>	P.78~85	
		(2) Total water consumption	Million liters	1,872	1,873	2,119			
	(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.					

Item	Code	Content of indicators	Unit	2019	2020	2021	Corresponding chapter	Page Number
Water management	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.			<a href="#">5.3 Water Resources Management</a>	P.78~85
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) 37 (2) 76%	(1) 11 (2) 83%	(1) 38 (2) 84%	<a href="#">5.5 Waste Management</a>	P.88~90
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.			<a href="#">6.6 Social welfare</a>	P.136~153
Occupational health and safety	RT-CH-320a.1	(1) Formula of total recordable incident rate (TRIR): (Number of incidents x 200,000) / Total number of employee hours worked	%	CGPC: 0.13 TVCM: 0.55 CGPCP: 0	CGPC: 0.27 TVCM: 0.55 CGPCP: 0	CGPC: 0.72 TVCM: 0 CGPCP: 0	<a href="#">5.1 Environmental management policy</a>  <a href="#">6.4 Safe and healthy workplace</a>	P.61~63
		(2) Mortality rate, a. Regular employees, b. Contract employees	a. Regular employees %	CGPC: 0 TVCM: 0 CGPCP: 0	CGPC: 0 TVCM: 0.59 CGPCP: 0	CGPC: 0 TVCM: 0 CGPCP: 0		P.110~128
	RT-CH-320a.2	Description of assessment and monitoring of health risks for workers and non-workers (reduce exposure to long-term/chronic illness).	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 are seven new products developed in the past 2 years, and the total sales of new products in 2021 is NT\$113,858 thousand.			<a href="#">3.3 Technology Research and Development</a>	P.37~40
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.	%	CGPC: 6.79% TVCM: 100% CGPCP: None	CGPC: 5.51% TVCM: 99.79% CGPCP: None	CGPC: 5.61% TVCM: 99.85% CGPCP: None	<a href="#">5.1 Environmental management policy</a>	P.61~63

Item	Code	Content of indicators	Unit	2019	2020	2021	Corresponding chapter	Page Number
Chemical safety and environmental management	RT-CH-410b.1	The percentage (%) of relevant products that have undergone hazard analysis.	%	100%			<a href="#">5.1 Environmental management policy</a>	P.61~63
	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	Percentage of overall revenue coming from GMO products	%	No GMO products are produced.			-	-
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.			<a href="#">5.1 Environmental management policy</a> <a href="#">6.4 Safe and healthy workplace</a>	P.61~63 P.110~128
Process safety and emergency response	RT-CH-540a.1	Process safety incident counts (PSIC)	Number	CGPC: 0 TVCM: 0 CGPCP: 0	CGPC: 0 TVCM: 1 CGPCP: 0	CGPC: 0 TVCM: 1 CGPCP: 0	<a href="#">6.4 Safe and healthy workplace</a>	P.110~128
		Process safety total incident rate (PSTIR) (= Process safety incident cases x 200,000 million man-hour / Total employee work hours)	%	CGPC: 0 TVCM: 0 CGPCP: 0	CGPC: 0 TVCM: 1 CGPCP: 0	CGPC: 0 TVCM: 1 CGPCP: 0		
		Process safety incident severity rate (PSISR) (= Total severity score for all process safety incidents x 200,000 million man-hour / Total employee work hours)	%	CGPC: 0 TVCM: 0 CGPCP: 0	CGPC: 0 TVCM: 1 CGPCP: 0	CGPC: 0 TVCM: 1 CGPCP: 0		
	RT-CH-540a.2	Number of transportation incidents	Number	CGPC: 0 TVCM: 0 CGPCP: 0	CGPC: 0 TVCM: 1 CGPCP: 0	CGPC: 0 TVCM: 1 CGPCP: 0		

## 7.4 Verification statement






By Royal Charter

### INDEPENDENT ASSURANCE OPINION STATEMENT

#### CGPC 2021 ESG Report

The British Standards Institution is independent of China General Plastics Corp. (hereafter referred to as CGPC in this statement) and has no financial interest in the operation of CGPC other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of CGPC only for the purposes of assuring its statements relating to its ESG report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by CGPC. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to CGPC only.

#### Scope

The scope of engagement agreed upon with CGPC includes the followings:

- The assurance scope is consistent with the description of CGPC 2021 ESG Report.
- The evaluation of the nature and extent of the CGPC's adherence to AA1000 AccountAbility Principles (2018) in this report as conducted in accordance with type 1 of AA1000AS v3 sustainability assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process.

This statement was prepared in English and translated into Chinese for reference only.

#### Opinion Statement

We conclude that the CGPC 2021 ESG Report provides a fair view of the CGPC ESG programmes and performances during 2021. The ESG Report subject to assurance is free from material misstatement based upon testing within the limitations of the scope of the assurance, the information and data provided by the CGPC and the sample taken. We believe that the 2021 Environment, Social and Governance (ESG) performance information are fairly represented. The ESG performance information disclosed in the report demonstrate CGPC's efforts recognized by its stakeholders.

Our work was carried out by a team of ESG Report assurers in accordance with the AA1000AS v3. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that CGPC's description of their approach to AA1000AS v3 and their self-declaration in accordance with GRI Standards: Core option were fairly stated.

#### Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- A review of issues raised by external parties that could be relevant to CGPC's policies to provide a check on the appropriateness of statements made in the report.
- discussion with managers on approach to stakeholder engagement. However, we had no direct contact with external stakeholders.
- 17 interviews with staffs involved in sustainability management, report preparation and provision of report information were carried out.
- review of key organizational developments.
- review of the findings of internal audits.
- review of supporting evidence for claims made in the reports.
- an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000AP (2018).

#### Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness and Impact of AA1000AP (2018) and GRI Standards is set out below:

#### Inclusivity

This report has reflected a fact that CGPC has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for the information of Environment, Social and Governance (ESG) in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the CGPC's inclusivity issues.

#### Materiality

CGPC publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of CGPC and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the CGPC's management and performance. In our professional opinion the report covers the CGPC's material issues.

#### Responsiveness

CGPC has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for CGPC is developed and continually provides the opportunity to further enhance CGPC's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the CGPC's responsiveness issues.

#### Impact

CGPC has identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. CGPC has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within the organization. In our professional opinion the report covers the CGPC's impact issues.

#### GRI Sustainability Reporting Standards (GRI Standards)

CGPC provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the CGPC's sustainability topics.

#### Assurance level

The moderate level assurance provided is in accordance with AA1000AS v3 in our review, as defined by the scope and methodology described in this statement.

#### Responsibility

The ESG Report is the responsibility of the CGPC's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

#### Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI: 

Peter Pu, Managing Director BSI Taiwan



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