

台塑企業
FORMOSA PLASTICS GROUP



2018 Formosa Chemicals & Fibre Corporation
CSR Report Corporate Social Responsibility Report

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About the Report

Overview

According to the GRI Standards issued by the Global Report Initiative (GRI) in 2016, Formosa Chemicals & Fibre Corp. issues a Corporate Social Responsibility Report ("CSR Report") every year to provide a detailed account of our sustainable commitment and actions geared toward economic development, environmental protection, and social welfare.

Scope and Boundary of the Report

The Report mainly refers to Formosa Chemicals & Fiber Corp. (hereinafter referred to as "FCFC" or "the Company") and its domestic subsidiaries listed in the consolidated financial statements, including Formosa Idemitsu Petrochemical Corp., Formosa BP Chemicals Corp., Formosa FCFC Carpet Co., Ltd., Tah Shin Spinning Corporation, Formosa Biomedical Technology Corp.,

and Hong Jing Resource Co. Ltd. Benchmarks and the report scope and boundaries used in the 2018 Report are identical to those in 2017. All of the financial statements have been duly verified by our CPAs. All figures are expressed in New Taiwan Dollar (NTD) unless otherwise specified. Some of the statistics are provided by the government agencies and related websites, and expressed in either descriptive or numerical forms. Other measurements used, if any, will be specifically described in the Report.

Duration and Issuance Date

The duration of the Report is from January 1, 2018 to December 31, 2018. The Report is expected to be issued in June 2019, and the previous version was issued in June 2018.

Report Guideline

The Report is prepared in accordance with the regulations from "Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies." Contents and structure of the Report are in line with the GRI Standards 2016 except for the topics of "GRI 303: water and effluents" and "GRI 403: occupational safety and health," which are prepared in line with the 2018 updated version. The Report is prepared in accordance with the objectives and structure of the core option, in which the Company's major sustainable topics, strategies, goals, and measures are disclosed.

- 📍 GRI Standards: 2016 and 2018
- 📍 Materiality, Inclusivity, Responsiveness, and Impacts of AA1000 AccountAbility Principles Standard 2018
- 📍 Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies
- 📍 ISO 26000 Guidance on Social Responsibility
- 📍 United Nations Global Compact
- 📍 Sustainable Development Goals (SDGs)



Third Party Verification

To reinforce comparability and substantiality, all of the information disclosed in the Report has been verified by the British Standards Institution (BSI). For more information on BSI's Independent Assurance Opinion Statement, refer to Appendix 5. The Independent Assurance Opinion Statement is presented using international common indicators, and notes are provided in related sections of the Report in case of any estimation.

Contact Information

If you have any questions or suggestions about the contents of the Report, please contact us using the following information:

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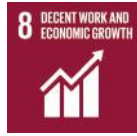
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Goals of Corporate Social Responsibility

To realize corporate social responsibility and seek sustainable development, FCFC has set up short, medium, and long-term objectives and directions for sustainable commitments. We expect to work together with the stakeholders to facilitate our sustainable commitments to corporate governance, environmental protection, and social welfare.

Economic			
Material Topic	2018 Objectives	2018 Results	
<ul style="list-style-type: none"> ▶ Corporate Governance ▶ Operating & Financial Performance ▶ Operational Risk Management and Responses 	<ul style="list-style-type: none"> ☉ Pay close attention to the amendments to the Company Act and respond accordingly. ☉ Promote the production and marketing of high-value, differentiated products and increase the sales volume of special-grade plastic products to 48.2%. ☉ Stabilize the delivery, service, and product quality through safe production to further reduce costs. ☉ To control the progress of contracting construction projects, in each month, the President's Office requested the Contracting Center to accelerate construction projects that having been pending for 3 months. ☉ To prevent monopoly from sole suppliers, the Company will formulate related regulations for relevant departments to develop consumable materials that were previously ordered from exclusive vendors. 	<ul style="list-style-type: none"> ✦ The Company has reviewed responses to the amendments to the Company Act and carried out the measures on a timely basis. ✦ Increased revenue of special-grade plastic products from 36.5% to 37.7%. ✦ Carried out safe production and stabilized delivery schedule in practice; customer satisfaction reached 4.3 points in 2018, showing progress over the 4.1 points in 2017. ✦ Contracting Center was requested on a monthly basis to accelerate the handling of construction projects that have been pending for 3 months, and the Contracting Center has reviewed and handled each project on a case-by-case basis. ✦ The necessity of developing materials procured from exclusive vendors was reviewed through a computer-based audit system, and relevant departments were requested to develop alternative products. 	



2019 Objectives	Mid-term goals (3-5 years)	Long-term goals (more than 5 years)
<ul style="list-style-type: none">📍 The Annual Report will also be prepared in the English language starting from 2019, and the position of the Governance Manager has been established. Investor Conference is planned to be organized twice annually.📍 Information including average employee remuneration and adjustments is planned to be disclosed on the Market Observation Post System (MOPS) and financial statements in line with amendments to the Securities and Exchange Act.📍 Continue to increase the ratio of special-grade plastic products to 39.1%.📍 Review the status of launching AI application technologies that have been proposed on a monthly basis and to propose new application technologies.	<ul style="list-style-type: none">📌 Improve the ranking of FCFC's corporate governance evaluation.📌 Complete 1 pilot plant of smart factory.📌 Reduce residual materials and reduce inactive inventory.	<ul style="list-style-type: none">⚙️ Improve the Company system, strengthen internal control, create shareholder value, and enhance the effectiveness of corporate governance.⚙️ Enhance AI applications and introduce Industry 4.0 smart production.⚙️ Material and inventory rationalization.

Environmental	   		
Material Topic	2018 Objectives	2018 Results	
<ul style="list-style-type: none"> ▶ Air Pollutant Management ▶ Waste Management ▶ Compliance with Environmental Laws ▶ Mitigation and Adaptation to Climate Change ▶ Water Resource Use and Management ▶ Controlled Chemical Substance Management 	<ul style="list-style-type: none"> ☉ Promote the carbon footprint verification and look for opportunities for improvement under the risk of climate change. ☉ Promote the green plant certification for sustainable development with balancing environmental protection and industrial development through energy/resource conservation, pollution prevention, and green management. ☉ Participate in Carbon Disclosure Project (CDP) climate change questionnaire to disclose data, risks, and opportunities with respect to carbon management. ☉ Utilize carbon reduction programs in operations to conserve energy and reduce organizational GHG emissions 2018 reduction goals will be to reduce water consumption per unit by 2%, energy consumption per unit by 3%, and reduce waste by 1% based on 2017 data. ☉ Phase out large-scale old diesel vehicles for self-use and contractors within 3 years to meet the Phase 4 environmental standards. 	<ul style="list-style-type: none"> ✦ Longde Plant in Yilan, Mailiao Plant in Yunlin, and Xingang Plant in Chiayi have all conducted ISO 14067 Carbon Footprint Verification through third-party assurance unit in 2018. ✦ Promoted green plant certification through clean production actions including energy and resource conservation, pollutant prevention, and green management; promoted the ongoing verification of the Haifeng SM Plant. ✦ Participated in Carbon Disclosure Project (CDP) climate change questionnaire to disclose data, risks, and opportunities with respect to carbon management Global climate change questionnaire was ranked "Leadership level A-" and water safety questionnaire was ranked "Management level B" in 2018. ✦ Water consumption and unit electricity consumption at the Mailiao Plant in Yunlin were reduced by 2.6% and 1.8% compared to the 2017 data respectively; unit gas consumption was reduced by 2.4% and waste was reduced by 27.4% (mostly attributable to reduction in the number of production plants receiving routine inspections in 2018, leading to fewer waste). ✦ Diesel vehicles at the Longde Plant, Yilan and the Mailiao Plant, Yunlin, were completely replaced. 	



2019 Objectives	Mid-term goals (3-5 years)	Long-term goals (more than 5 years)
<ul style="list-style-type: none">Apply for the greenhouse gas offset project to the Environmental Protection Administration (EPA).The fuel for the existing heat medium boilers at each plant will be replaced by natural gas or process gas to reduce GHG emissions.	<ul style="list-style-type: none">Encourage every plant to obtain the Green Seal.Continue to promote Company-wide carbon risk management and receive "Leader" ranking on the CDP questionnaire.	<ul style="list-style-type: none">Conduct emission outlet improvements at the plants and promote smokeless plants to work toward zero white-smoke emissions.

Social	    			
Material Topic	2018 Objectives	2018 Results		
<ul style="list-style-type: none"> ▶ Occupational Health and Safety. ▶ Industrial and Public Safety ▶ Protecting Employees' Human Rights. ▶ Community Engagement and Contribution. ▶ Employee Welfare and Compensation. ▶ Career development and training. 	<ul style="list-style-type: none"> ☉ Set zero major occupational disaster or general occupational disaster as the goal of 2018. ☉ Promote activities in the Formosa LOHAS, Yilan, including distoechodon tumirostris swimming upstream, road running, Land Art Festival, and environmental education. ☉ Promote the cleaning of surroundings and community environments and expect to co-organize 29 local temple activities and festivals. ☉ Expect to organize 9 charitable activities through the influence of the corporate for the disadvantaged, such as senior visits and fundraising for nursing homes. ☉ Expect to organize 12 community activities to promote the relationships between plants and local communities. 	<ul style="list-style-type: none"> * Zero major occupational disaster or fire occurred in 2018 with the exception of general occupational disasters such as personnel tripping or sustaining minor injuries. * Organized 48 sessions of environmental educational activities focusing on industry milestones, natural ecology, humanities, and water culture to effectively correlate with local communities and to convey the concept of Formosa LOHAS Circle. * Formosa LOHAS Marathon was organized to effectively coordinate with tourism factories and hotels in the neighborhood. Charity fairs were also organized to encourage the public to experience the beauty of Yilan. * Cleaned the community environments, local parks, and surroundings and sponsored 41 community activities. * Organized 10 charitable activities for the disadvantaged, such as senior visits, product purchases, and fundraisers for nursing homes. * Organized 15 community activities, including the flea market, free clinic, blood drives, charity fairs, Ming Hwa Yuan Arts performance, and Paper Windmill performance, to promote the relationships between plants and local communities, and all proceeds were donated to disadvantaged groups. 		



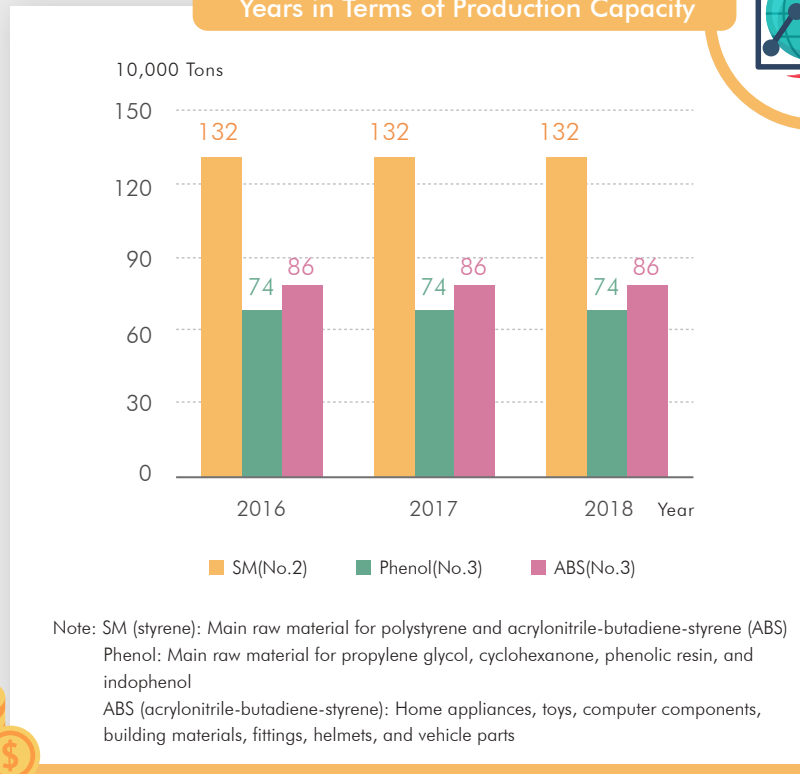
2019 Objectives	Mid-term goals (3-5 years)	Long-term goals (more than 5 years)
<ul style="list-style-type: none">• Promote personnel, equipment, and environmental safety.• Expect to recruit 10 individuals from AI-related fields to be trained at the Technical Professionals or Manager Program at the Taiwan AI Academy.• Continue to promote Formosa LOHAS Circle activities at Yilan, Changhua, and Chiayi and to collaborate with related environmental protection agencies in hosting social welfare activities including environmental education, beach cleanup, and marathon.• Promote the cleaning of surroundings and community environments and expect to co-organize 36 local temple activities and festivals to actively engage in the communities.• Expect to organize 9 charitable activities through the influence of the corporate for the disadvantaged, such as senior visits and fundraising for nursing homes.• Expect to organize 14 community activities to promote the relationships between plants and local communities.	<ul style="list-style-type: none">• Continue to recruit and train AI personnel based on actual needs.• Foster positive employee relations and a healthy workplace environment.• Work with local communities to incorporate the concepts of circular economy and environmental protection into ecology and leisure.• Increase the percentage of employees receiving professional occupational certification.	<ul style="list-style-type: none">• Actively achieve the goals of zero occupational injury and zero accident.• Promote positive social development based on the spirit of taking from and giving back to society.• Continue to increase the completion ratio of interdisciplinary knowledge training among mid-tier and senior managers and business executives.• Actively develop AI talent.

CSR Highlights and Performance

Economic



World's Top 3 Products for 3 Consecutive Years in Terms of Production Capacity





Environmental

CDP Questionnaire Rating



- Participated in CDP climate change disclosure questionnaire rating for the first time in 2018 and received "Leadership A-" ranking
- Participated in CDP water safety questionnaire rating for the first time in 2018 and received "Management B" ranking

Received ISO 14046 Water footprint certification in 2018

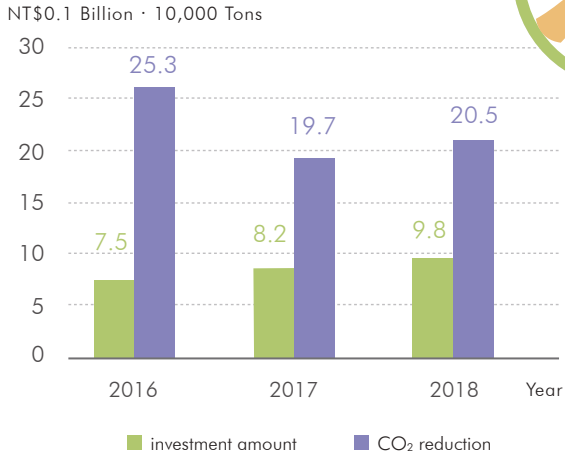


Mailiao, Haifeng Plants

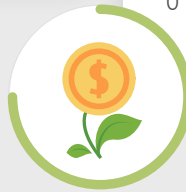
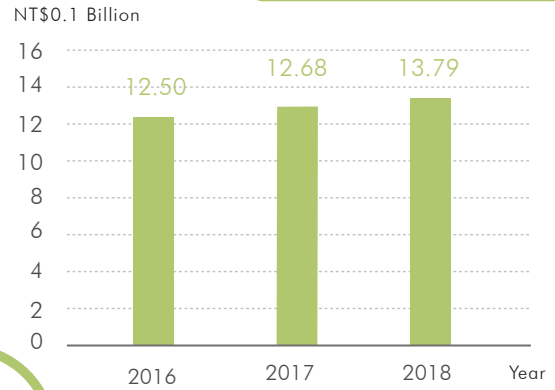


Longde, Changhua, Xingang Plants

Energy Conservation Improvement Investment Amount and CO₂ Emission Reduction



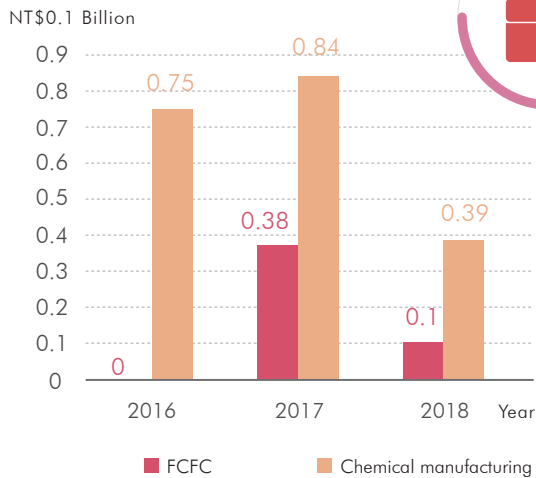
Environmental Costs



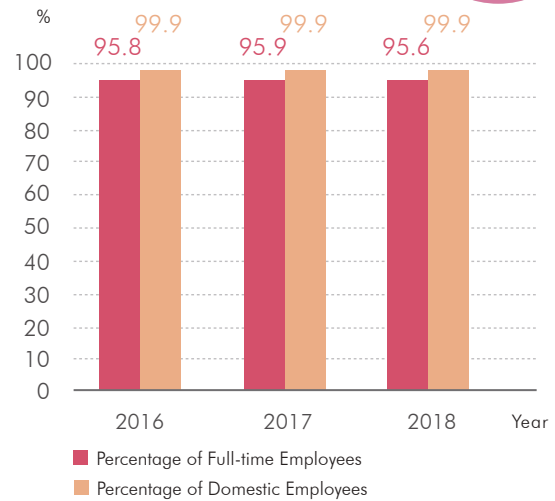
Social



Frequency-Severity Indicator



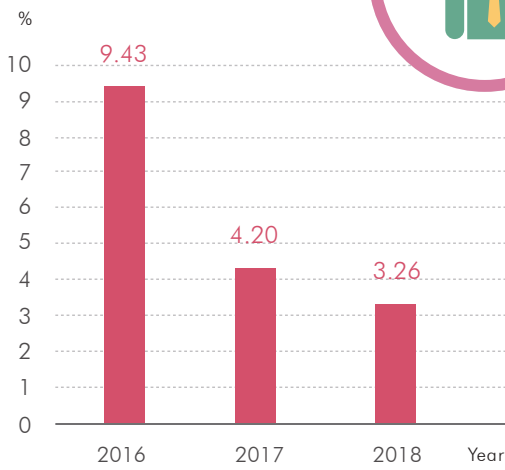
Percentage of Full-time Employees and Domestic Employees



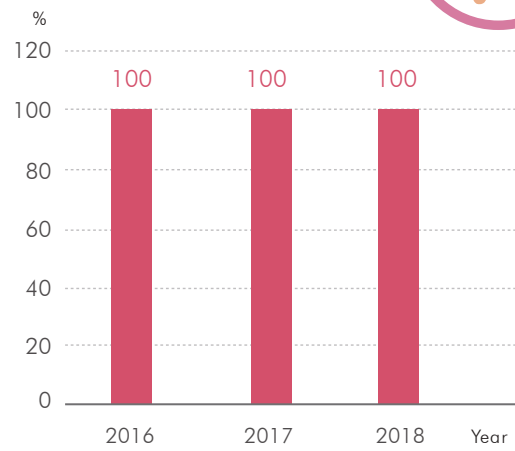
Note: Industry data is derived from "2016–2018 Total Injuries Indicator by Industry" from Occupational Safety and Health Administration, Ministry of Labor.



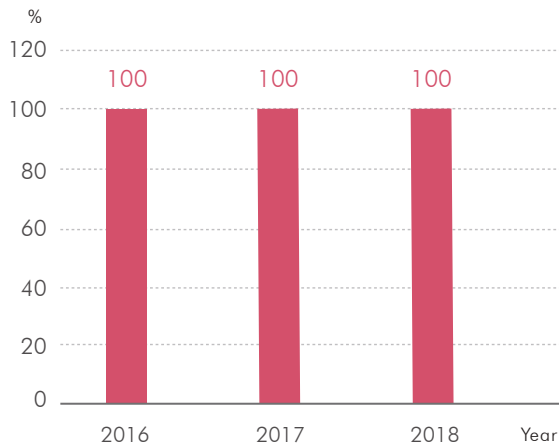
Employee Turnover Rate



Percentage of Employees Reinstated from Unpaid Parental Leaves



Completion Rate of the Annual Training Program



2018 Awards



Phenol Plant received "Silver Medal-2018 Energy Conservation Benchmark Award."



Mailiao PTA Plant received "2018 Excellence in Water Conservation Enterprise."



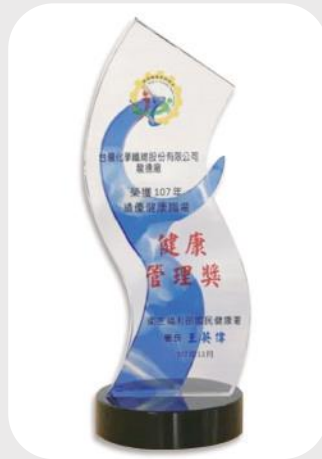
Aromatic Hydrocarbon Plant 3 received "2018 Excellence in Voluntary Industry GHG Reductions Award."



Xingang Plant received "2018 Innovative Idea in Healthy Workplace Awards-Honorable Mention."



Xingang Plant received "2018 Excellent Healthy Workplace Vitality Award."



Longde Plant received "2018 Excellence in Healthy Workplace Management Award."



Formosa BP Chemicals Corp. received "2018 Excellent Healthy Workplace Vitality Award."





1



A Pioneer of Infinite Value Creation

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1.1 From the Management Team

Thanks to an active global market and economic growth as well as the gradual recovery of crude oil prices from their low points since the beginning of 2016, the petrochemical industry has been recovering for more than three consecutive years now. Though the Fourth Quarter (Q4) in 2018 was impacted by factors including the China-US trade war, the continued Fed interest rate hike, the slowing down of Chinese economy and the falling oil prices, leading the petrochemical industry to experience a sudden downturn, the Company still achieved overall positive performance in 2018. Under the collective efforts from our employees, we made various improvements, reduced production costs, actively produced and marketed differentiated products, and expanded to new markets including ASEAN countries and the Middle East.

Corporates use their human capital assets to create value. In a swiftly changing competitive environment, continuing to invest in, develop, and retain talent can help businesses to solve new, emerging challenges, while also constantly drive corporates to sustainable growth. Based on our principle to care for employees and to share our performance results with employees, the Company maintains a mechanism of mediating salary adjustments in every July and keeping year-end bonus calculations transparent. This also helps employees to maintain clear goals, thus creating synergies between both the management and the employees. Our average salary adjustment ratio over the past five years (2013–2017) was 4.09%, and the 2018 adjustment was a significant 4.63%, higher than the average adjustment ratio of 2.34% among petrochemical industry competitors in the same period. In addition, to promote employee health and to respond to the government's policy of promoting a healthy workplace, we take employee needs into full consideration and initiate healthy workplace measures based on the nature of our workplace. For instance, we encourage power walks, jogging, and aerobic exercises among employees, and assist them to lose weight, quit smoking, and coach employees on voluntary health management. Positive results from active employee health promotions at the Longde Plant, Xingang Plant and Miaoliao BP Plant have also helped us to win healthy workplace awards from the Health Promotion Administration.

The Intergovernmental Panel on Climate Change (IPCC) indicated in an October 2018 report that the scale of temperature rising across the globe has exceeded the goal set in the Paris summit. Faced with various disasters resulted from increasingly extreme climate, to ensure carbon reduction standards are fulfilled, corporates are subjected to increasing supervision from stakeholders including customers, communities, governments, and environmental groups. To enhance energy use efficiency and reduce carbon dioxide (CO₂) emissions, the Company is actively committed to various water-saving, energy-saving, and carbon reducing measures. We have co-organized outstanding water-saving projects award ceremonies along with other entities in the Formosa Plastics Group (FPG) since 2009, to encourage every department to actively propose water and energy-saving projects. In 2016, we took a step further to collaborate with leading colleges and universities and invited various industries to join our efforts. In addition to sharing FPG's experiences in terms of energy and water saving performance, we also select best water and energy-saving improvement project to represent the Company in the water conservation and energy conservation enterprise contest organized by the Ministry of Economic Affairs. The Company's Mailiao SM Plant, Aromatic Hydrocarbon Plant 1, Polycarbonate Plant, and Phenol Plant have been awarded energy and water-saving awards in the past three years (2016–2018), demonstrating the Company's outstanding performance in energy conservation and carbon reduction activities. The next step after energy conservation and carbon reduction and circular economy would be our active promotion of Industry 4.0. By using our existing, enormous production management data as the basis for AI development, we will use AI to process big data and first develop smart manufacturing technology, abnormal equipment detection, smart equipment development, and smart surveillance technology, then gradually expand to other relevant applications in our industry.

While actively developing our business, the Company's plants are also committed to long-term neighborhood bonding. We invest in caring for disadvantaged groups, after-school tutoring for students, student scholarships, health promotions for community residents, neighborhood environmental cleanups, and nearby beach cleanups based on the regions' actual needs. In addition, we also jointly organize unique regional cultural performances, emergency relief and donations for social welfare groups with foundations, and are committed to enhancing relationships between FCFC plants and local communities with the local residents. In recent years, we have also worked alongside other Group subsidiaries and the Group Administration to initiate and promote "Formosa LOHAS communities project" in Yilan, Taoyuan, Yunlin and Kaohsiung where FCFC plants are located. The project, Formosa LOHAS Circle, is a joint effort between the Company and neighborhood communities, shops, small farms, and local governments and entails diverse themes including LOHAS life style, health, recreation, regimen, ecology, humanities and cultural creativity, and has gained resounding popularity. We will continue to give back to the local communities in the future and to work toward social prosperity.

Social responsibility works should never cease. We will continue to communicate with stakeholders including community residents, shareholders, customers, suppliers, and employees, and to actively fulfill our corporate social responsibility. We will contribute to economic development, improve the quality of life of employees and the society, and aspire to gain recognition and support from our stakeholders, which will drive our business toward sustainable management.

Formosa Chemicals & Fibre Corporation

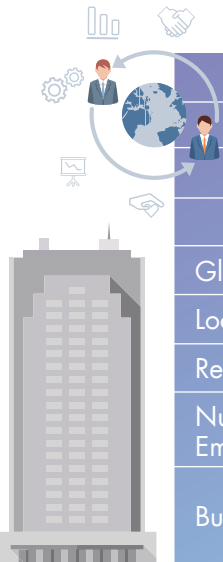
Chairman

Wen-Yuan Wang

2019

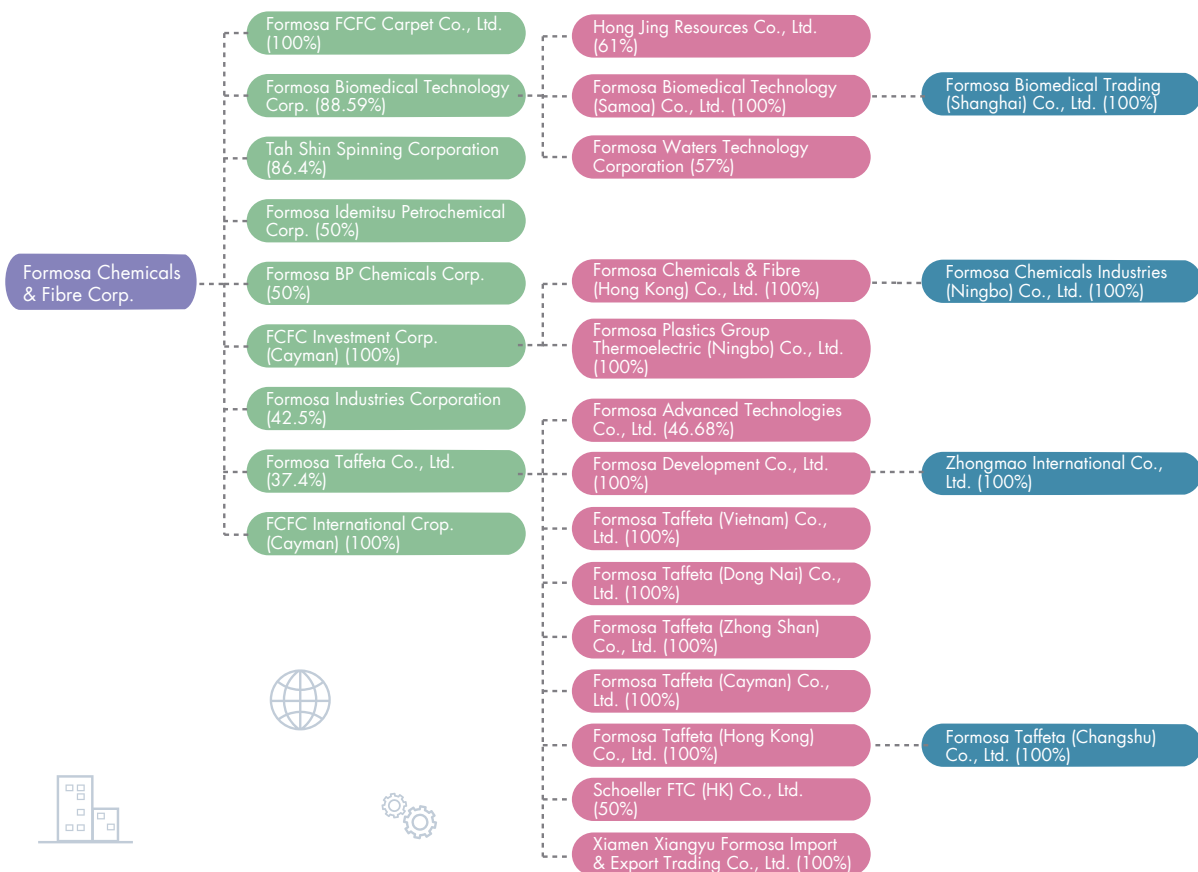
1.2 About FCFC

1.2.1 Company Overview

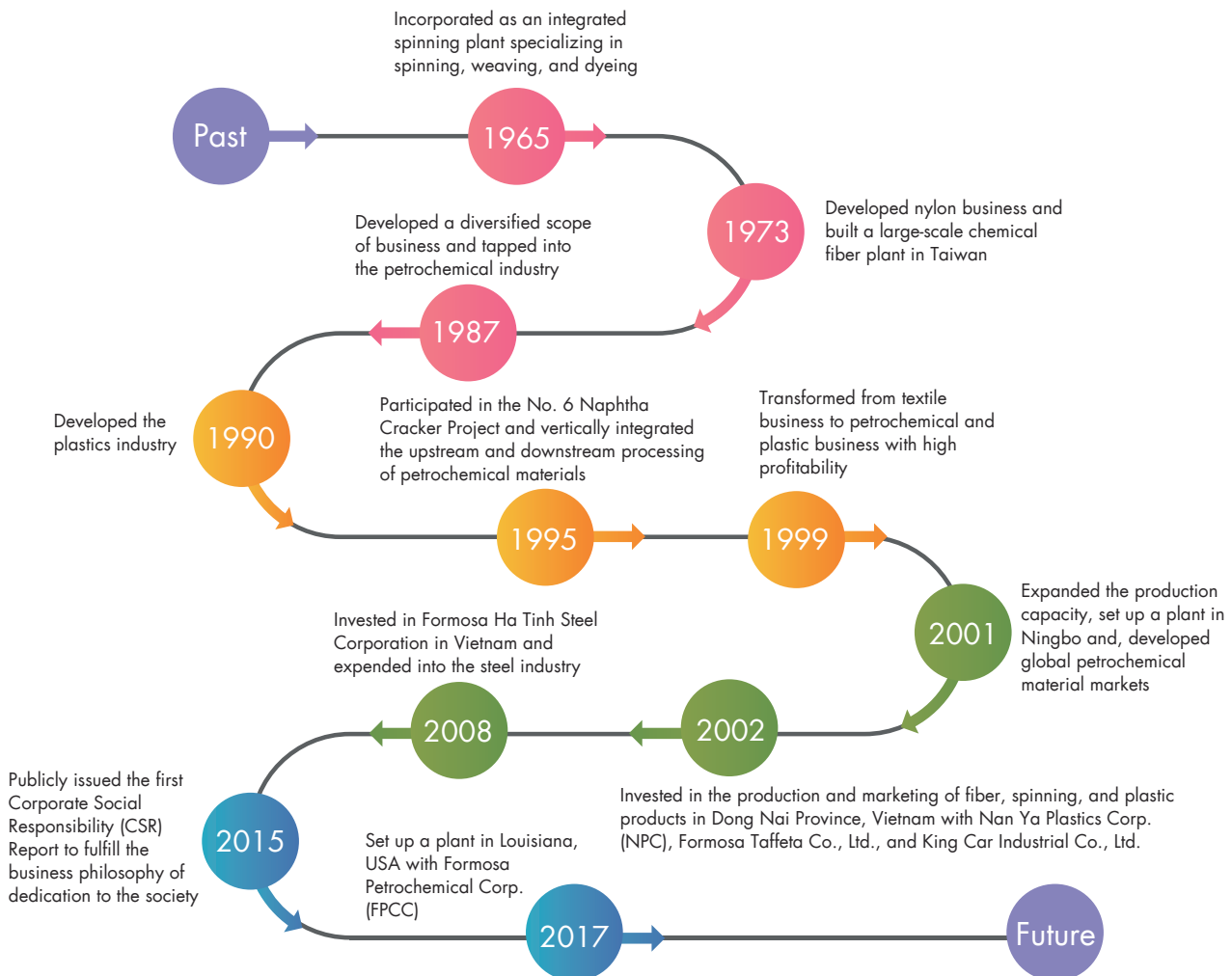


Company Name	Formosa Chemicals & Fibre Corporation
Year Founded	1965
Industry	Petrochemical, plastics, fiber, textile, and cogeneration
Affiliates	12 in Taiwan and 16 overseas
Global Presence	Taiwan, China, and Vietnam
Location of the head office	Changhua County, Taiwan
Revenue in Taiwan (2018)	NT\$301.706 billion
Number of Full-time Employees (2018)	5,361 persons
Business Philosophy	Diligence, perseverance, frugality and trustworthiness; to aim at the sovereign good; perpetual business operation; dedication to the society

Organizational Chart of FCFC



1.2.2 Company History

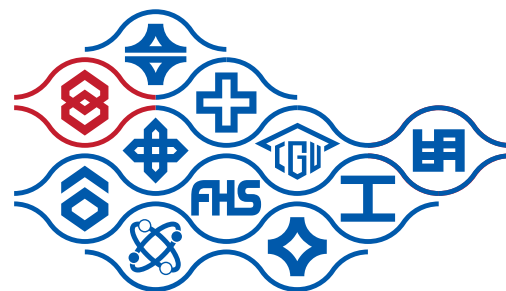


Note: Please see Company Introduction on the 2018 Annual Report for the Company history of FCFC.

1.2.3 Corporate Identity System

Formosa Plastics Group (FPG) has a chained logo as its corporate identity system, which represents the significance of interactive connections, cooperation, harmony, consistency, and the endless, powerful development capacity of FPG. Each symbol in the logo borrows a meaning from Chinese words to promote our outstanding traditional cultures and to enhance the positive image of trustworthiness among international players with its unique, simple, and powerful style.

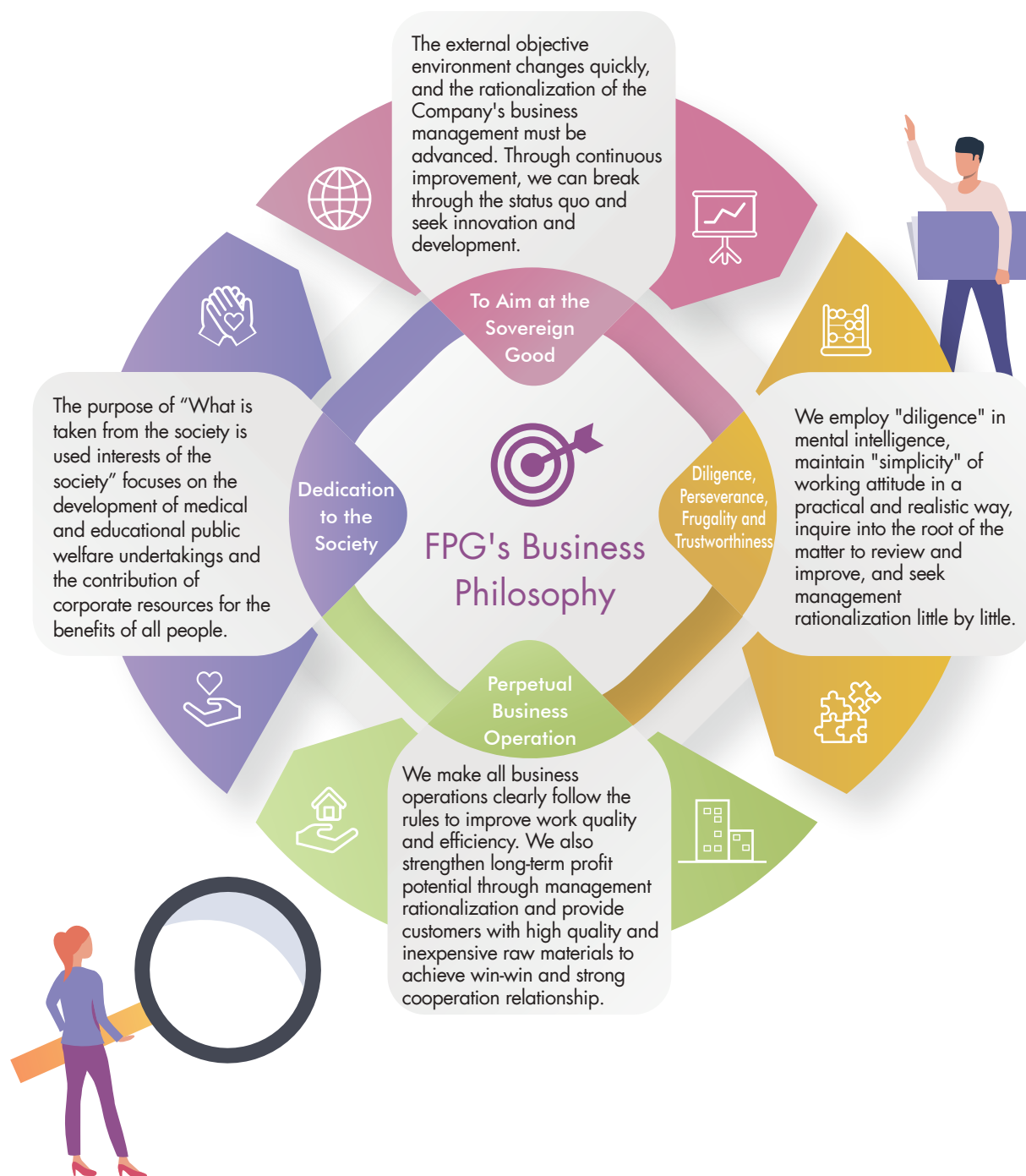
Our corporate identity comes from FPG's corporate identity system. The corporate identity of FCFC is the upper half of the Chinese character "糸" and also resembles the word "台". The two hexagons symbolize the basic sign for chemical structures and are partially overlapped to emphasize that FCFC is a chemical company.



台塑企業
FORMOSA PLASTICS GROUP

1.3 Business Philosophy

Holding true to FPG's business philosophy of diligence, perseverance, frugality and trustworthiness, FCFC pursues rationalization by working in a practical and realistic way and ultimately aims at the sovereign good. This is the major driving force of our endeavor to further refine our operations and performance and ultimately achieve the perpetual business operation.



1.4 Stakeholder Identification and Communication


1.4.1 Stakeholder Identification Procedures

The CSR Reporting Team conducted internal discussions with managers from each department and took the five major principles of AA100 Stakeholder Engagement Standard (SES), including Dependency, Responsibility, Influence, Tension, and Diverse Perspectives, into consideration. After evaluations in 2018, in consideration that "experts and scholars" mostly offered consultation and recommendation to FCFC regarding environmental impacts, and "environmental groups" were supervisors in the private sector, we decided to express the two independently as compared with 2017. Below are the 8 major stakeholders of FCFC.







1.4.2 Stakeholder Communication Channels and Frequency

FCFC has established multiple and effective communication channels that enable stakeholders to express their needs and thoughts and have them be understood. Feedback and decisions regarding these requests are provided in the Report and have served as significant references for developing our business strategies and plans for fulfilling corporate social responsibility in the future. Our communication with key stakeholders in 2018 is described as follows:


Stakeholder	Importance to FCFC	Frequency and Methods of Communication	Topics of Concern
 Community Residents	As community friendliness has been an important subject for our business operation, we consider local residents while establishing our annual business strategies and objectives.	Occasionally, at least 3 times/year 1. Community relations teams regularly participates in village or communal gatherings and visits nearby residents. 2. Organize various seminars or conferences. 3. Designated "Good Neighbor" 24-hour hotline for residents to provide opinions on environmental protection issues.	<ul style="list-style-type: none"> 🔍 Corporate Governance 🔍 Air Pollutants Management 🔍 Waste Management 🔍 Water Resource Use and Management 🔍 Controlled Chemical Substance Management 🔍 Industrial and Public Safety 🔍 Community Engagement and Contribution

Stakeholder	Importance to FCFC	Frequency and Methods of Communication	Topics of Concern
 Government Agencies	<p>In addition to following related laws and regulations, FCFC also communicates with government sectors to promote sustainable business operation.</p>	<p><i>Occasionally, at least 4 times/year</i></p> <ol style="list-style-type: none"> 1. Appoint personnel to attend legal hearings and conferences organized by competent authorities and to communicate the business operations. 2. Respond to government for review and amendment through white papers submitted by the Chinese National Federation of Industries to protect the rights and interest of the industries. 3. Explain the plans related to the Mailiao Sixth Naphtha Cracker and carry out environmental evaluation-related tasks at the Sixth Naphtha Cracker Environmental Supervision Committee in each quarter. 4. Plants all participate in arbor projects, park fundraisers, and workplace health promotion activities organized by local government agencies. 5. Explain about the plants' management status to local democratic parties and works. 	<ul style="list-style-type: none"> 🔍 Corporate Governance 🔍 Air Pollutants Management 🔍 Waste Management 🔍 Water Resource Use and Management 🔍 Controlled Chemical Substance Management 🔍 Compliance with Environmental Laws 🔍 Mitigation and Adaptation to Climate Change 🔍 Industrial and Public Safety 🔍 Occupational Health and Safety 🔍 Energy Consumption and Management 🔍 Social and Economic Regulatory Compliance 🔍 Employee Welfare and Compensation 🔍 Protecting Employees' Human Rights 🔍 Product Liability
 Experts and Scholars	<p>We continue to communicate with experts and scholars and remain committed to implementing sustainable development goals by following their recommendations regarding safety, health, and environmental sustainable topics</p>	<p><i>Occasionally, at least 3 times/year</i></p> <ol style="list-style-type: none"> 1. Appropriate explanations and communications during various meetings, and related personnel are invited to visit our plants when necessary. 2. Discuss and communicate environmental protection issues with external associations. 3. Organize an annual conference to present outstanding improvements in energy conservation and carbon reduction or environmental protection and discuss possible refinements with professionals. 4. A safety, health and environment (SHE) section has been made available on our official website to provide a communication channel for SHE issues. 	<ul style="list-style-type: none"> 🔍 Corporate Governance 🔍 Air Pollutants Management 🔍 Waste Management 🔍 Water Resource Use and Management 🔍 Compliance with Environmental Laws 🔍 Mitigation and Adaptation to Climate Change 🔍 Environmental Cost and Benefit Analysis 🔍 Plant Emergency Response Mechanism

Stakeholder	Importance to FCFC	Frequency and Methods of Communication	Topics of Concern
 Environmental Protection Groups	<p>We value environmental sustainability topics as much as the environmental conservation groups, and collaborate with them toward environmental sustainability through exchanging ideas and opinions.</p>	<p>Occasionally, at least 3 times/year</p> <ol style="list-style-type: none"> 1. Appropriate explanations and communications during various meetings, and related personnel are invited to visit our plants when necessary. 2. Discuss and communicate environmental protection issues with external associations. 3. Annual conference for energy conservation and carbon reduction or outstanding improvements in energy conservation is organized and environmental conservation groups are also invited to join. 4. A safety, health and environment (SHE) section has been made available on our official website to provide a communication channel for SHE issues. 	<ul style="list-style-type: none"> 🔍 Corporate Governance 🔍 Air Pollutants Management 🔍 Waste Management 🔍 Water Resource Use and Management 🔍 Compliance with Environmental Laws 🔍 Mitigation and Adaptation to Climate Change 🔍 Environmental Cost and Benefit Analysis
 Shareholders and Investors	<p>FCFC continues to seek long-term benefits for our shareholders and investors based on credible business operations and sustainable development.</p>	<p>Shareholders' Meeting once/year Other meetings organized occasionally at least once/year</p> <ol style="list-style-type: none"> 1. Company operating status and future outlook are presented at annual Shareholders' Meeting. 2. Finance Department under FPG's Group Administration is in charge of answering questions and needs from shareholders. 3. "Investors' Section" has been set up on the Company's website for Q&A from investors. 4. Statements and material information that shall be disclosed are announced on the "Market Observation System (MOPS)" on a timely basis. 5. A spokesperson is appointed to serve as the contact between FCFC and institutional investors. 	<ul style="list-style-type: none"> 🔍 Corporate Governance 🔍 Operating & Financial Performance 🔍 Innovative Development and AI Applications 🔍 Air Pollutants Management 🔍 Waste Management 🔍 Mitigation and Adaptation to Climate Change 🔍 Major Investment Projects 🔍 Operational Risk Management and Responses

Stakeholder	Importance to FCFC	Frequency and Methods of Communication	Topics of Concern
 Customers	<p>Customer support is the key factor to our sustainable development, and customer feedback is the motivation behind our constant improvement; providing customers with stable and quality products is our responsibility.</p>	<p>Occasionally, at least once/year</p> <ol style="list-style-type: none"> 1. Participate in relevant product exhibitions to understand customer needs and popular trends. 2. Occasional meetings or visits to clients to understand customer needs. 3. "Customer Opinion and Feedback Form" and "Customer Satisfaction Survey" are used to understand customer needs and suggestions. 4. Technical teams are provided for after-sale service and assistance. 5. A hotline and website are set up to instantly interact and communicate with customers. 	<ul style="list-style-type: none"> 🔍 Corporate Governance 🔍 Operating & Financial Performance 🔍 Air Pollutants Management 🔍 Waste Management 🔍 Innovative Development and AI Applications 🔍 Anti-corruption Measures
 Suppliers and Contractors	<p>Suppliers and contractors provide stable and quality products and services and establish a credible supply chain.</p>	<p>Occasionally, at least 3 times/year</p> <ol style="list-style-type: none"> 1. Procurement Department and Contracting Center of FPG communicate with the Company from time to time. 2. FPC Electronic Trading System Customer Service Center. 3. Supplier Conferences are organized. 4. E-mail addresses will be provided on the main page of FPG's official website to receive and handle suppliers' and contractors' suggestions. 	<ul style="list-style-type: none"> 🔍 Corporate Governance 🔍 Operating & Financial Performance 🔍 Procurement and Supply Chain Management 🔍 Air Pollutants Management 🔍 Waste Management 🔍 Controlled Chemical Substance Management 🔍 Compliance with Environmental Laws 🔍 Industrial and Public Safety 🔍 Major Investment Projects 🔍 Occupational Health and Safety



Stakeholder	Importance to FCFC	Frequency and Methods of Communication	Topics of Concern
 <p data-bbox="209 1021 320 1048">Employees</p>	<p data-bbox="368 353 560 792">Employees are our most valuable assets and the basis of corporate competitiveness. By providing comprehensive training and a friendly working environment, we strive to improve employees' cohesiveness.</p>	<p data-bbox="619 353 991 383"><i>Occasionally, at least 4 times/year</i></p> <ol data-bbox="619 389 1043 1659" style="list-style-type: none"> 1. Divisional meetings are regularly organized within the plants to interact and communicate with employees. 2. Physical and online opinion mailboxes are established and "799" hotlines are set up in each plant with designated personnel to receive responses. 3. The Formosa Plastics Group Magazine is published by the Group Administration bi-monthly to enhance employee's understanding of the Group. 4. Senior executives communicate directly with union representatives from time to time. 5. Employees are encouraged to join the labor union or the Employee Welfare Committee to participate in regular meetings to communicate with the attendant management. 6. Employee satisfaction survey is conducted annually. 7. Employees can give suggestions for the Company's policies via the Policy Suggestion Feedback Form. 8. Employees are encouraged to share original ideas via the FPG Innovation Platform. 9. Employee guidance counselors assist and coach newly recruited personnel. 10. On-site medical staff arrange for employee health care and provide health consultation on a daily basis. 	<ul data-bbox="1066 353 1342 898" style="list-style-type: none"> 🔍 Corporate Governance 🔍 Operating & Financial Performance 🔍 Air Pollutants Management 🔍 Waste Management 🔍 Occupational Health and Safety 🔍 Employee Welfare and Compensation 🔍 Industrial and Public Safety 🔍 Protecting Employees' Human Rights 🔍 Career Development and Training

1.5 Identification of Material Topics

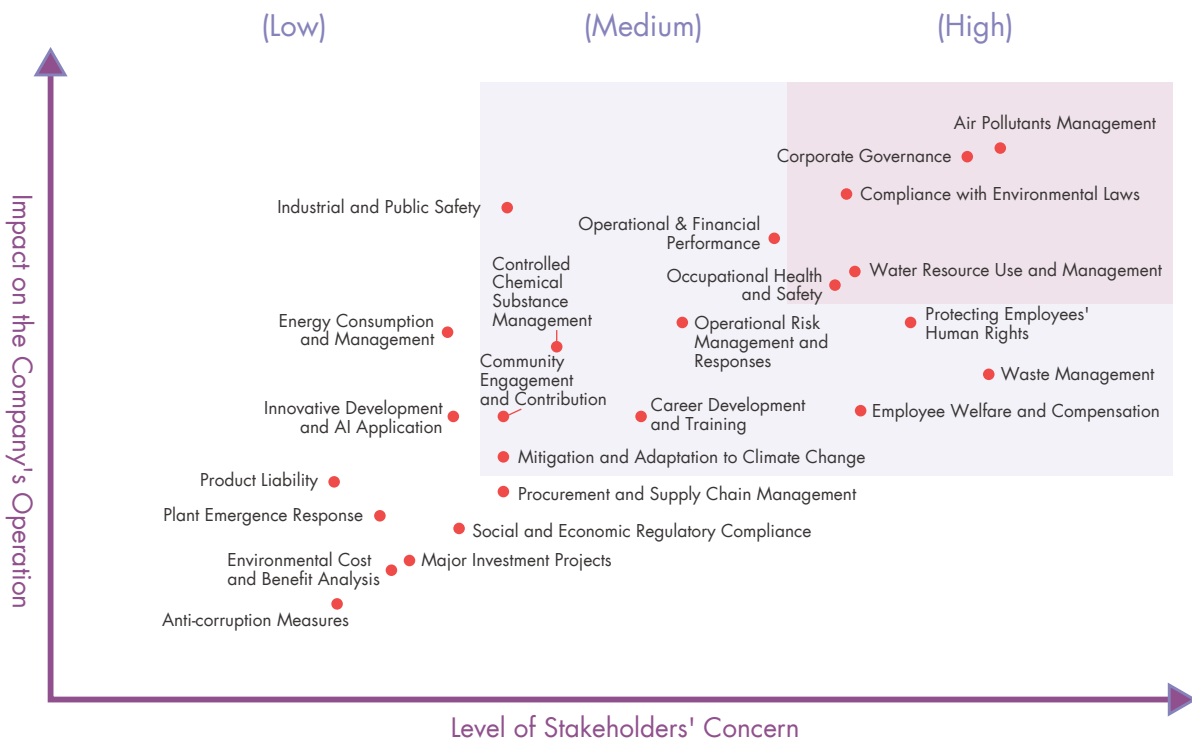
FCFC communicates with our eight stakeholders through various channels. Topics of concern to the stakeholders are compiled and discussed by relevant departments; after reaching a consensus, the discussion will serve as the reference for contents to be revealed in the Report.

1.5.1 Procedures for Identifying Material Topics



1.5.2 Prioritizing Material Topics

Stakeholders' concerns are reviewed by President's Office, Safety & Health Department, Accounting Department, Industrial Complex Administration Department, Business Department representatives, and CSR Committee members. Once integrated, the major concerns of stakeholders are proposed. At the beginning of 2019, a meeting was held to decide on the subject of the Report and material topics. Once the Report is completed, these topics are reviewed by the President, the Vice Chairman, and the Chairman to ensure their consistency with the stakeholders' needs; the Report will then be submitted to the Board of Directors for approval.



1.5.3 Impact of Material Topics on the Value Chain

After discussions and confirmation from the CSR Reporting Team and internal managers, FCFC has identified our five major value-creating processes, which are "R&D and improvement," "raw material purchasing," "manufacturing and production," "product sales," and "after-sale service and consultation." The processes will be the boundaries of impacts and influences from material topics. Subsequently, we were able to evaluate the impacts from the 15 material topics to our value chain as well as the stakeholders subject to impacts from the material topics and the Company's corresponding economic, environmental, and social actions to such impacts.

Entities Subject to the Impact	Employees and Government Agencies	Employees, Government Agencies, and Suppliers and Contractors	
Material Topic	Value Chain	R&D and Improvements	Raw Material Procurement
Economic Impact	Corporate Governance	N/A	Through reinforcing the corporate governance standards, requirements on FCFC procurement, contractors, and supplier code of ethics have also been made more rigorous accordingly in pursuit of integrity and ethical business conduct.
	Operating & Financial Performance	By putting more pressure on operating performance, the Company will be encouraged to research and develop higher value and differentiated products and to improve the production processes, thus enhancing productivity.	Raw material procurement strategies and costs will directly impact the operating and financial performance of the Company.
	Operational Risk Management and Responses (Note 1)	Whether the research and development of products and process improvements can remain up-to-date will impact the Company's operating risk.	Prices, exchange rates, and supply and demand status of global raw materials, as well as the timing of internal raw material procurement and inventory control will present risks to the Company's operations.

Employees, Government Agencies, Suppliers and Contractors, Residents of Operating Sites, Experts and Scholars, and Environmental Groups	Employees, Government Agencies, Suppliers and Contractors, Residents of Operating Sites, and Customers	Employees, Government Agencies, Customers, Shareholders and Investors
Manufacturing and Production	Product Sales	After-Sale Services and Consultation
<p>The strengthening of corporate governance will impact the compliance and improvement processes of FCFC's production procedures.</p>	<p>By making the internal control on sale cycle more rigorous, we can reduce the financial risks resulting from errors or frauds and thus enhance the quality of financial reporting.</p>	<ul style="list-style-type: none"> ■ The strengthening of corporate governance standards will help increase the requirements on ethical conduct for operating and after-sale service personnel at FCFC. ■ "Encouraging shareholders to take actions" will prompt shareholders and investors to actively exercise their rights and interests.
<p>Sound processes will ensure the stability of operating performance and will also be reflected upon more stable production input; alternatively, large fluctuations in the production process will negatively affect operations.</p>	<ul style="list-style-type: none"> ■ Selling price and volume will directly impact operating and financial performance. ■ Product sales that meet customer needs or sale of differentiated or higher value products will drive the Company's operating and financial performance. 	<p>Robust operating and financial performance will influence the investment decision-making of shareholders and investors regarding the Company.</p>
<p>Whether safety management is maintained over the personnel, equipment, materials, and goods-in-progress during the production process will significantly influence the Company's production and operating risks.</p>	<p>Product sales concentration, inventory control, exchange rates, and changes in selling price will lead financial risks to arise.</p>	<p>Positive after-sale service can reduce the risk of customer churn.</p>

Entities Subject to the Impact		Employees and Government Agencies	Employees, Government Agencies, and Suppliers and Contractors
Value Chain		R&D and Improvements	Raw Material Procurement
Material Topic			
Environmental Impact	Air Pollutants Management	FCFC conducts process and equipment research and development and improvements from the source in order to reduce the negative impacts from production-stage emissions.	Components of procured fuel coal, such as sulfur, ash, fixed carbon and water, will affect the quality of combustion emissions and thereby impact air pollutant management.
		GRI 305: Emissions Corresponding Chapter: 3.4 Air Pollutant Management	
	Waste Management	FCFC conducts process and equipment research and development and improvements from the source in order to reduce the wastes from production-stage emissions.	Procurement of quality raw materials can help reduce waste; conversely, waste and environmental burden will increase.
		GRI 306: Effluents and Waste Corresponding Chapter: 3.5 Waste and Controlled Chemical Substance Management	
	Water Resource Use and Management	FCFC conducts process and equipment research and development and improvements from the source in order to reduce the negative impacts from industrial wastewater arising from production stage and to increase water cycling efficiency.	N/A
		GRI 303: Water and Effluents; 306: Wastewater and Solid Waste Corresponding Chapter: 3.2 Water Resource Use and Management	
	Mitigation and Adaptation to Climate Change (Note 2)	Climate change affects product development and process improvement, and the Company is moving toward low-carbon products.	Raw material procurement, transportation and storage methods will be impacted by climate change, and adjustments and changes will be made accordingly.
		GRI 305: Emissions Corresponding Chapter: 3.3 Mitigation and Adaptation to Climate Change	

Employees, Government Agencies, Suppliers and Contractors, Residents of Operating Sites, Experts and Scholars, and Environmental Groups	Employees, Government Agencies, Suppliers and Contractors, Residents of Operating Sites, and Customers	Employees, Government Agencies, Customers, Shareholders and Investors
Manufacturing and Production	Product Sales	After-Sale Services and Consultation
<p>Improper management over process emissions or emissions that exceed the regulatory standards will result in penalties from the competent authorities and may even result in interruption of production, leading to additional production costs and impact on the corporate image.</p>	<p>Whether tools including transportation vehicles used during the product sale stage are in compliance with regulatory emission standards will impact and influence the sale.</p>	<p>N/A</p>
<p>Improper waste management will result in risks from production processes and may lead to penalties from breach of related laws, impacting the corporate image.</p>	<p>N/A</p>	<p>N/A</p>
<ul style="list-style-type: none"> ■ Stable water supply and adequate water use management will be beneficial toward process operations, production, and cost control. ■ Treatment and discharge of industrial wastewater will impact production, and improper management may even lead to breaches of relevant laws and impact the corporate image. 	<p>N/A</p>	<p>N/A</p>
<ul style="list-style-type: none"> ■ Climate change will influence the selection of plant sites, production costs, and various legal compliance. 	<p>The storage method, sale and transportation, and marketing activities of finished goods will be impacted by climate change, and adjustments and changes will be made accordingly.</p>	<p>After-sale services and consultation will be rendered more complex by climate change.</p>

Entities Subject to the Impact		Employees and Government Agencies	Employees, Government Agencies, and Suppliers and Contractors
Value Chain		R&D and Improvements	Raw Material Procurement
Material Topic			
Environmental Impact	Controlled Chemical Substance Management	FCFC conducts process and equipment research and development and improvements from the source in order to reduce the negative impacts from controlled chemical substances during the production stage.	Improper transportation or storage of controlled chemical substance used as raw materials will cause harm to personnel and the environment.
		FCFC and Industrial Issue Corresponding Chapter: 3.5 Waste and Controlled Chemical Substance Management	
Environmental Impact	Compliance with Environmental Laws	Changes in environmental laws may affects product development and process improvement.	Changes in environmental laws will impact raw material procurement, storage and usage methods.
		GRI 307: Environmental Compliance Corresponding Chapter: 3.6 Environmental Compliance	
Social Impact	Employee Welfare and Compensation	More competitive employee benefits and remuneration than industry competitors and legal regulations will help reduce turnover from employees throughout the value chain, as well as to attract and retain outstanding talent.	
		GRI 401: Employment Corresponding Chapter: 4.2 Employee Remuneration and Benefits	
Social Impact	Career Development and Training (Note 3)	Besides retaining talent throughout the value chain, a comprehensive career development and training system can also provide employees with various development and functional knowledge, thereby increasing cohesion.	
		GRI 404: Training and Education Corresponding Chapter: 4.3 Developing Human Capital	

Employees, Government Agencies, Suppliers and Contractors, Residents of Operating Sites, Experts and Scholars, and Environmental Groups	Employees, Government Agencies, Suppliers and Contractors, Residents of Operating Sites, and Customers	Employees, Government Agencies, Customers, Shareholders and Investors
Manufacturing and Production	Product Sales	After-Sale Services and Consultation

Improper use of controlled chemical substance during the production process will cause harm to the health of employees, suppliers, and nearby residents. In addition, there may be damage to the peripheral environment, thereby impacting the corporate image.

Improper storage or transportation of controlled chemical substance will cause harm to personnel and the environment.

N/A

Air pollution, wastewater, solid waste emissions or treatment during production process shall comply with legal standards. Incompliance or emissions that exceed the regulatory standards will result in penalties from the competent authorities and may even impact the corporate image.

Whether products are in compliance with local legal regulations and certification will impact whether products can be sold.

N/A

Entities Subject to the Impact		Employees and Government Agencies	Employees, Government Agencies, and Suppliers and Contractors
Material Topic	Value Chain	R&D and Improvements	Raw Material Procurement
	Social Impact	Occupational Health and Safety	N/A
		GRI 403: Occupational Health and Safety Corresponding Chapter: 4.4 A Health and Safe Work Environment	
Industrial and Public Safety		N/A	N/A
		FCFC and Industrial Issue Corresponding Chapter: 4.4 A Health and Safe Work Environment	
	Community Engagement and Contribution	N/A	N/A
		GRI 413: Local Communities Corresponding Chapter: 5.1 Community Engagement	
	Employee Human Rights Protection (Note 4)	Equal employment, provision of a work environment without discrimination or harassment, and no differential treatment based on race, nationality, age, or gender, will have positive influences and impacts on every stage of a corporate's value chain. Thorough execution of human rights protection policy can enhance the corporate image and operating performance.	
		GRI 402: Labor-Management Relations Corresponding Chapter: 4.1 Employee Human Rights Protection	

Note 1: After materiality analysis evaluation in 2018, in order to stay aligned with global trends and to focus more on risk management, "Operational Risk Management and Responses" has been included as a material topic for 2018.

Note 2: Topics related to climate change in 2017, "Greenhouse Gas Emissions and Carbon Issues" and "Climate Change Risk Management" have been combined into "Mitigation and Adaptation to Climate Change." This material topic will be described through mitigation and adaptation methods. Though the stakeholder questionnaire analysis indicated that this is a topic of follow-up concern, but it has been included as a material topic for 2018 due to its status as a material industry topic.

Note 3: Talent recruitment and retention topics encompass many details, and its core "Career Development and Training" has been included as a material topic for 2018 to precisely respond to our stakeholders.

Employees, Government Agencies, Suppliers and Contractors, Residents of Operating Sites, Experts and Scholars, and Environmental Groups	Employees, Government Agencies, Suppliers and Contractors, Residents of Operating Sites, and Customers	Employees, Government Agencies, Customers, Shareholders and Investors
Manufacturing and Production	Product Sales	After-Sale Services and Consultation

Whether the production environment is safe and worry-free is closely tied with employee and supplier health. Without a safe environment, not only employee and supplier health will be affected, productivity will also decline and labor costs will also increase.

Whether product storage methods, environment, and the selling process are safe will affect the health and safety of employees and suppliers at work.

N/A

Ensuring the safety of production process will lower the impact on the safety of local community residents as well as the peripheral environment, thereby enhancing the image that the Company is focused on industry and public safety.

A positive industry and public safety image is beneficial toward product sales; conversely, it will affect customers' trust for the Company's products.

N/A

By actively building ties with communities nearby production plants and responding to societal needs and giving back to the society, conflicts between corporates and the local communities will decrease, leading to co-prosperity as well as helping the Company to build its image.

Efforts toward community participation and giving back to the society will positively help product sales; conversely, the market's acceptance of the products will be negatively affected,

N/A

Note 4: Topics related to employee human rights in 2017, "Employee Rights and Protection" and Labor-Management Mediation" have been combined into "Employee Human Rights Protection," and included as a material topic for 2018 after review and discussion conducted by the CSR Reporting Team.

Note 5: "N/A" indicates that the Company has not identified the impacts or influences on the value chain from related material topics. And the Company will continue to follow up and to evaluate accordingly.



2



Creating an Innovative Economy

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2.1 Corporate Governance



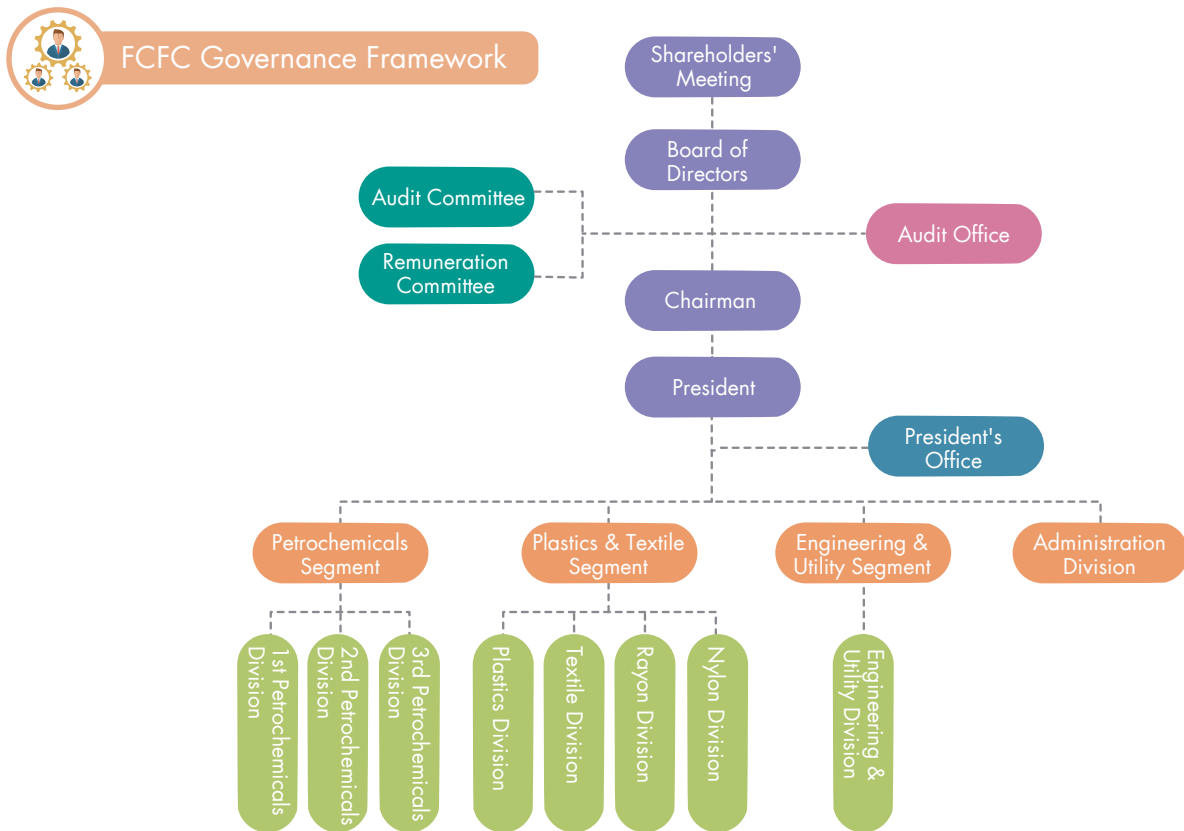
Management Approach to Corporate Governance



Policy	Abide by Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and other related regulations.
Responsibilities	Board of Directors is the highest governance body and is responsible for drafting and executing the governance system.
Resources	Group Administration of the Formosa Plastics Group (FPG) and the President's Office and other related departments of FCFC will collectively promote governance tasks.
Specific Actions	<ul style="list-style-type: none"> • Draft and execute the governance system to ensure the achievement of goals including operational results and efficiency, reliability of financial reporting and legal compliance, through a comprehensive internal control system. • Establish Code of Ethical Conduct and require employees to sign documents to state self-discipline. • Organize training and advocate for legal compliance awareness in employees.
Goals and Commitments	Complete for better ranking on the Corporate Governance Evaluation from the Taiwan Stock Exchange (TWSE) and establish a position of Governance Manager and introduce the AI innovative management model.
Grievance Mechanism	Establish "Violation Reporting Guidelines" as an internal channel for reporting violations.
Performance Evaluation Methods and Results	Internal auditors will conduct audits on governance matters including the Board of Director, Audit Committee, Remuneration Committee, and the internal control system, and review and amend the internal control mechanism based on the status of deficiency improvements and their underlying causes.



2.1.1 Corporate Governance Profile



Operation of Board of Directors

The Board of Directors is the highest governance body as well as the center of operational decision-making at FCFC. In addition to conforming to the resolutions made in shareholders' meetings, the Board of Directors acts in accordance with the corresponding laws and regulations (e.g. Company Act, Securities and Exchange Act, Articles of Incorporation, and Rules of Procedure for Board of Directors Meetings) to operate business. Furthermore, we have established the Board and Management Ethics Policy. In all circumstances, all personnel shall abide by this policy when performing duties to prevent wrongdoing against the Company and the shareholders.

After the ideal candidates are nominated and put into a candidate list, members of the Board of Directors are selected in the shareholders' meeting. The term of office is three years, and a meeting must be held at least once every quarter. Currently there are 15 Directors with an average age of 65. All of whom are experts in their respective fields with ample industry management experience. To strengthen the independence and diversity of governance, 3 Independent Directors and 1 female Director have also been elected. Please refer to "2018 FCFC Annual Corporate Governance Report—Directors' Profile" for details.

To prevent conflicts of interest between members of the Board of Directors and the Company, if any member of the Board of Directors releases the non-competition clause from the labor contract, he or she must explain the details at the shareholders' meeting for final permission in accordance with the Company Act. To prevent members of the Board of Directors from hiding facts due to self-interest, relevant regulations have been stipulated in the Rules of Procedure for Board of Directors Meetings and the Articles of Incorporation. Regarding the meeting agenda, if a member of the Board of Directors or his/her representative has a conflict of interest that might cause damage to the Company, he or she is only allowed to make comments and respond without any

right to engage in discussion or voting; he or she is also not allowed to engage in voting on behalf of other members of the Board of Directors. In addition, social responsibility issues with respect to economy, society and the environment will be submitted to the Board of Directors for discussion, if necessary, as a basis for promoting social responsibility.

Remuneration for the Highest Governance Body

Since August 2011, FCFC has set up a "Remuneration Committee" to evaluate the Company's Directors' and managers' salary remuneration policies and systems, and make recommendations to Board of Directors to prevent the compensation policy from guiding Directors and managers in undertaking the Company's risk appetite conduct. Pursuant to the Remuneration Committee Charter, at least two meetings shall be convened in each year. In 2018, two meetings were convened. Please refer to "2018 FCFC Annual Corporate Governance Report—Composition, Responsibilities and Operation of the Company's Remuneration Committee" for details on the operation of the Remuneration Committee.

Senior executives' annual compensation is mainly composed of salary, bonuses, and employee bonuses with pension and benefits properly allocated. The Chairman carries out a comprehensive performance appraisal for executives' overall performance within their authority and individual work attainments. To ensure that senior executives fully understand and achieve the Company's strategic goals, the incentive system is tied up with individual work attainments and the overall performance of the Company.

Independent Audit Committee

To reinforce the Board of Directors' function as a supervisory body, FCFC established the Audit Committee in June 2015 to verify the fair presentation of its financial statements, to select (or discharge) the CPAs and evaluate their competitiveness, independence, and performance, and to supervise the Company's internal control, legal compliance, and risk management. Through establishing an Audit Committee and a comprehensive auditing management system, we have construed an independent, professional supervisory mechanism. The Audit Committee is composed of 3 Independent Directors. Please refer to "2018 FCFC Annual Corporate Governance Report—Director Profile and Diversification Policy of Board Composition" for details.

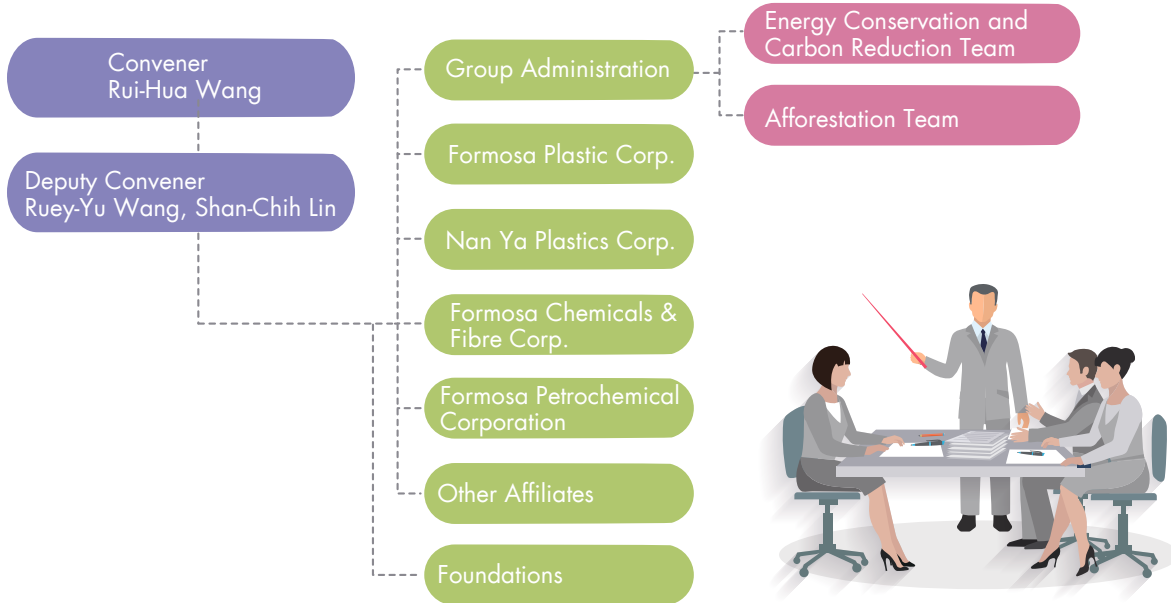
Training Courses for Directors

To continuously facilitate in the enhancement of professional and legal knowledge of Directors and to actively implement the corporate governance system, the Company's Directors receive relevant studies and training in each year. Please refer to "2018 FCFC Annual Corporate Governance Report—Corporate Governance Status and Reasons for Deviations from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies: Item 8" for details.

2.1.2 Organization of the CSR Committee

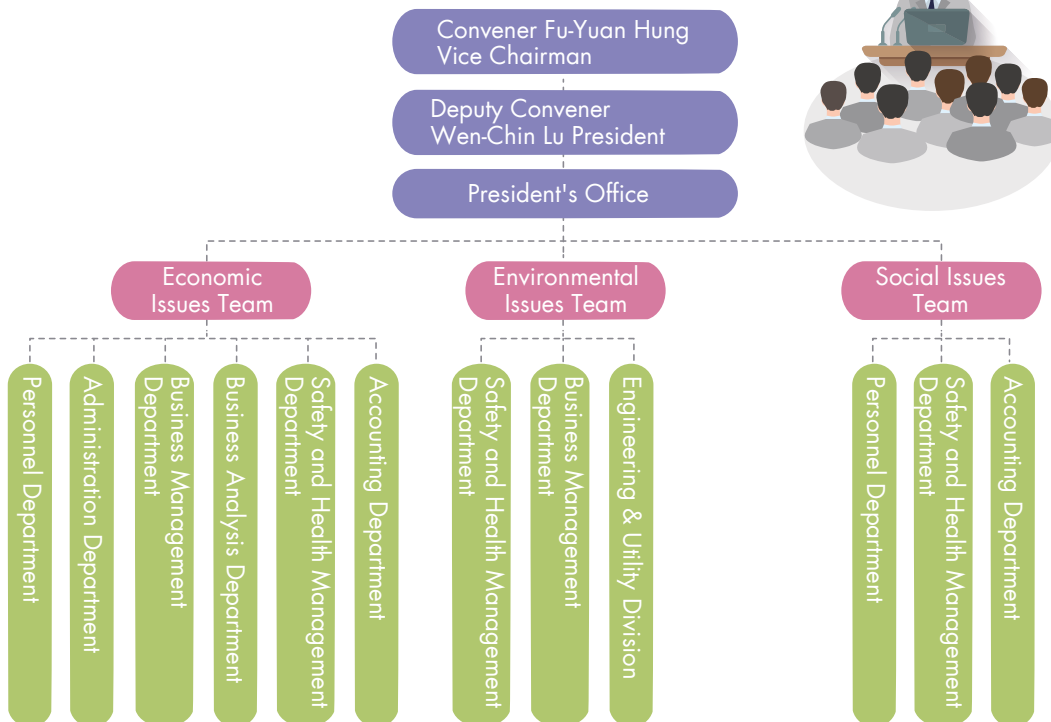
To effectively exercise corporate social responsibility, FPG formed the CSR Committee in 2008, which is led by the Managing Director Rui-Hua Wang from Formosa Plastics Corp. and assisted by the Managing Director Ruey-Yu Wang and Shan-Chih Lin from FCFC. The CSR Committee is responsible for proposing CSR strategies and evaluating their performance throughout the FPG. Under this structure, the Energy Conservation and Carbon Reduction Team and the Afforestation Team are responsible for environmental protection-related affairs; in addition, many foundations have been established directly under the convener and deputy conveners to promote social welfare-related affairs.

Organization of FPG CSR Committee



FCFC is a subsidiary to Formosa Plastics Group (FPG), with Vice Chairman Fu-Yuan Hung acting as the convener and President Wen-Chin Lu acting as the deputy convener to promote corporate social responsibility. Three teams in charge of economic issues, environmental issues, and social issues respectively are established under the convener and the deputy convener to promote social responsibility in cooperation with the CSR Committee of the Group Administration.

Organization of FCFC CSR Team



2.1.3 Internal Control Mechanisms

To ensure financial transparency and compliance, FCFC has established a comprehensive audit system in addition to setting up the Audit Committee. Furthermore, relevant audit reports are presented to Board of Directors. Furthermore, the Group Administration of Formosa Plastics Group (FPG) jointly established by respective FPG companies also plays an important role in independent audit. With its extraordinarily independent status, the auditing proficiency and efficiency can be improved to achieve full supervision.

👍 Professional and Independent Internal Audit System

Every year, the Audit Office under FCFC's Board of Directors appoints internal auditors to attend audit training courses organized by professional training institutions to carry out various internal audits over Company businesses. In addition, FPG has also established the Group Administration to centralize management within FPG companies. The Group Administration is responsible for the formulation of management policy, the development of the computerization of various systems, and the improvement in management and projects. Furthermore, its staff independently evaluate and supervise the functions of FPG companies to ensure their operational efficiency.

Internal audit is not the sole obligation of the Audit Office. Each department is also required to carry out the internal audit of its own on either a regular or intermittent basis. The Audit Office shall review the result of the internal audit at each department and then decide whether to carry out a scheduled or unscheduled inspection to ensure that internal control has been thoroughly implemented at each department.

Legal Compliance within FPG



👍 Computerized Management Procedures

FCFC's Computerized Management Procedures has the following four features:

Features	Description
One entry with multiple outputs	Data can be transferred after keyed in by users.
Interconnection between the six main management segments	Data from six major management functions including HR, finance, operations, production, IT and materials, and engineering, are linked and can be accessed.
Consistency of information	Checkpoint is set at links between data to automatically check for consistency and detect error.
Management of abnormalities	Relevant personnel are notified to understand the cause of abnormalities and to take corresponding actions once abnormalities are detected.

2.1.4 Ethical Business Conduct

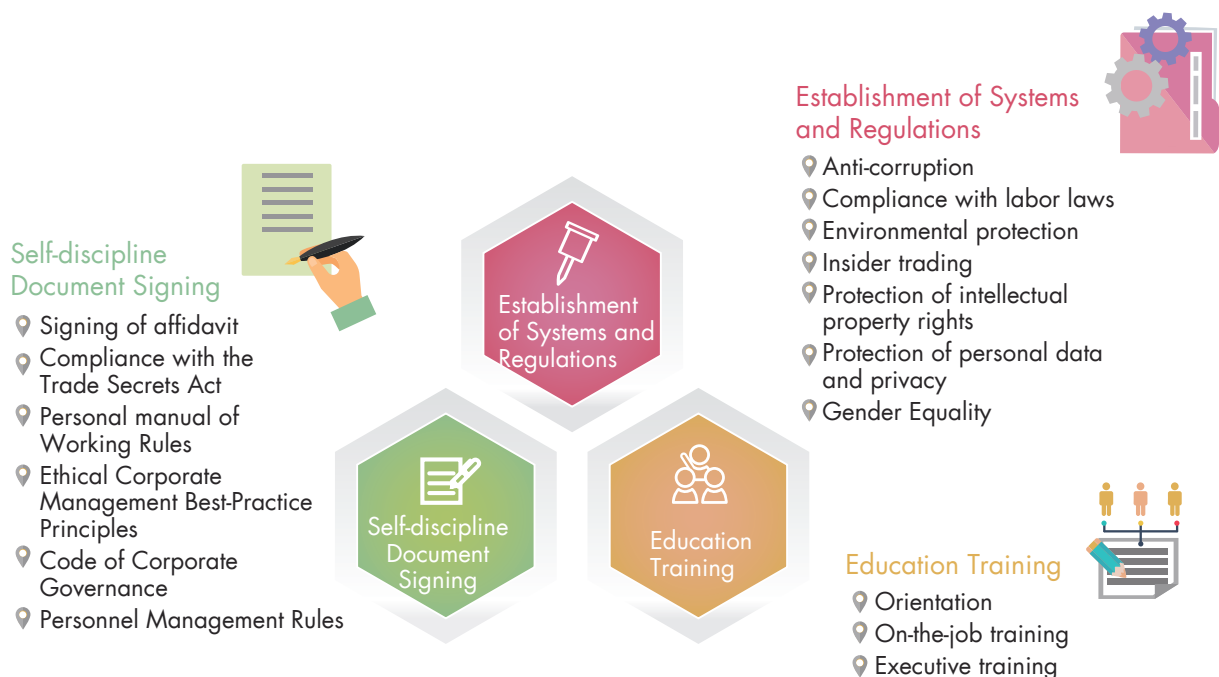
📌 Core Value

With the core values of diligence, perseverance, frugality and trustworthiness, FCFC has stipulated strict ethics and principles. We expect that our employees' speech and conduct meet the ethical requirements and the Company's reputation and regulations, whether in the workplace or their daily lives.



📌 Establishment of Systems and Regulations

The Company has separately established relevant compliance systems or standards for different regulations under the ethical business framework. These include: anti-corruption, compliance with the Labor Standards Act, environmental protection, insider trading, intellectual property protection, personal information and privacy protection, and gender equality and more. We adopt rigorous punitive measures based on a philosophy of punishing only the perpetrators, and adopt practices such as termination of employment or business transaction relations, as well as suitable legal actions.



✚ Signing of Self-discipline Document

All employees are required to sign a pledge on the first day of employment, stating that he/she will abide by the Trade Secrets Act, and will also be given a manual of Work Rules. Furthermore, employees can refer to the Principles of Ethical Corporate Management, Principles of Corporate Governance, and Rules for Personnel Management, which specify the Company's ethical corporate management policies and regulations on unethical conduct.

Moreover, for the positions dealing with external vendors (e.g. procurement staff and contracting staff), it is necessary for them to sign the self-discipline convention and positions will be rotated on a regular basis to prevent the occurrence of any collusive tender offers (quotations), under-the-table operations or malpractice.

In addition, FCFC has established the Board and Management Ethics Policy for Directors and managers. To offer, promise, request or accept any illegitimate interests directly or indirectly or to commit other acts that violate ethics, lawlessness or fiduciary duties is strictly forbidden to prevent any violation of good faith, such as malpractice, embezzlement, bribery, disclosure of secrets or misrepresentation.

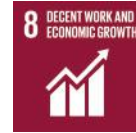
✚ Training

FCFC includes duty-related laws and regulations in the orientation, on-the-job training and executive training to strengthen the legal concept that employees should have. In 2018, we organized the course on anti-corruption regulations for operations, R&D personnel, and supervisors. The government's legal body was invited to disseminate common corporate corruption cases and strengthen the sensitivity of case reviewers and supervisors to potential corruption.

✚ Reporting Channel

FCFC provides internal channels for reporting illegal conduct through systematic "Violation Reporting Guidelines." When illegal or inappropriate actions that affect individual or Company rights or interests are discovered internally, or should any employee attempt to receive inappropriate interests through his/her position, an employee can report on the matter by filling a "reporting form" and submitting it to the supervisor of a relevant department based on the subject's position. No incident was reported by employees in 2018.

2.1.5 Operational and Financial Performance



Management Approach to Operational and Financial Performance

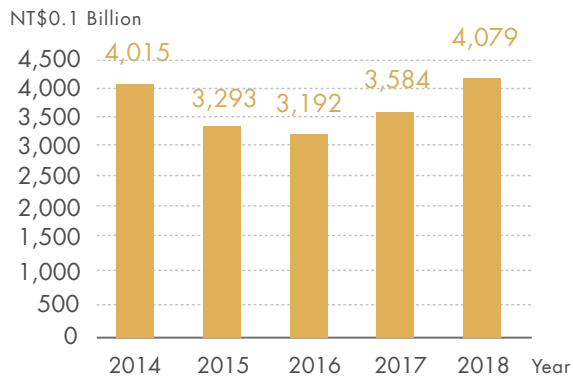


Policy	Strive to enhance management performance by developing diversified and high-value products and to diversify investment markets to lower management risk and improve operating performance.
Responsibilities	Operating segments will draft annual performance goals and carry out the goals accordingly. The management level is responsible of supervising and assisting the achievement of such goals.
Resources	Though the pursuit of profit is not the sole objective of the Company, but it is the most basic requirement. Therefore, the Company's resources will fully support the achievement of operating and financial performance goals.
Specific Actions	<ul style="list-style-type: none"> Financial operations are robust and stable, and the Company does not deal in high leverage, high risk investments. Appropriate derivatives are used to hedge against the risks of interest rate and exchange rate fluctuations to reduce influences from market changes.
Goals and Commitments	Annual financial performance targets are set in each year to pursue for sound, stable profitability.
Grievance Mechanism	<ul style="list-style-type: none"> Company network or physical mailboxes. Inquire the Share Transfer Office or propose recommendations during the Shareholders' Meeting.
Performance Evaluation Methods and Results	The Company regularly reviews effectiveness of goal implementation, and such reviews include monthly, quarterly, and annual management performance reviews. Evaluation and improvements are conducted on operational status at each department, while the management level also supervises operations at all times to enhance performance.

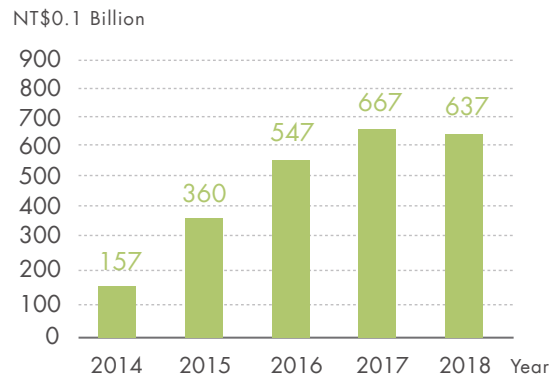
\$ Financial Performance

The Company benefited from the global economy and market recovery in the first half of 2018, and operating profit increased in the first three quarters due to increased production volume, increased product value, and enhanced production efficiency. Nevertheless, the sudden drop in oil prices in the fourth quarter (Q4), which led to speculative outlook from customers for the unclear market, coupled with high costs of inventory clearance, resulted in a slight decrease in the operating profit. Our pre-tax profit on the consolidated financial statements was NT\$63.7 billion. The Company's revenue, pre-tax profit, earnings per share and shareholders' return on equity in the consolidated financial statements for 2018 are shown as follows:

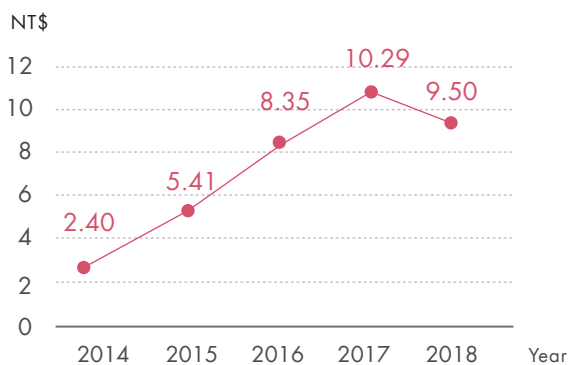
2014–2018 Operating Revenue



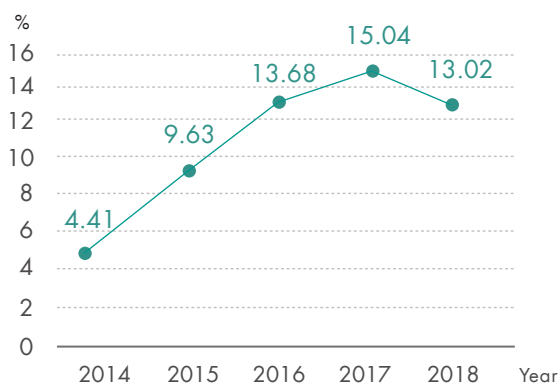
2014–2018 Pre-tax Profit



2014–2018 Earnings per Share



2014–2018 Return on Shareholders' Equity



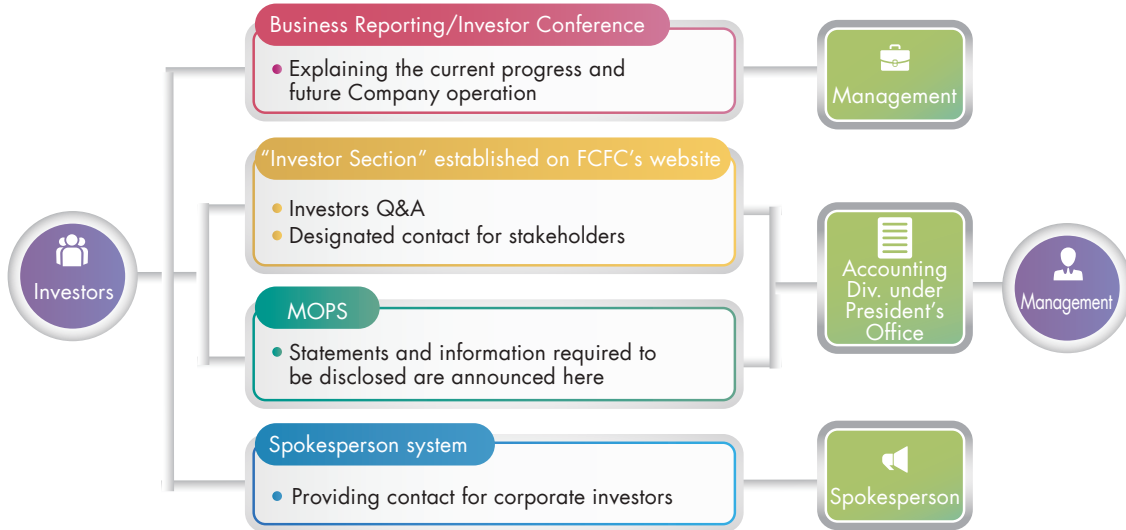
Paying taxes is a responsibility and obligation that all businesses shall bear. The Company paid NT\$4.816 billion in business income tax and NT\$314 million in customs in 2018, representing a 32.0% and 20.8% growth compared to 2017. In addition, the Company did not receive relevant grants or subsidies from the government in this year. The 2018 Consolidated Financial Statements are available for inquiry and download on the Company's official website.

Investor Relations

The Finance Department of the Group Administration has established the Shareholder Services Department to serve as a communication channel between the Company and the shareholders and be responsible for stock affairs. The Shareholder Services Department strives to elevate service standards, including developing a seal verification system, strengthening storage security, and fulfilling stock dematerialization for all FPG companies.

FCFC also maintains a section called Investor Relations on the official website to answer investors' inquiries. All statistics and relevant data are disclosed in MOPS. In addition, the Company has also established a spokesperson system and provides channels of communication for corporate investors. The Company also announces business performance monthly and organizes the Investor Conference every six months, maintaining face-to-face channels of communication.

 Framework of Communications with Investors



2.2 Operational Risk Management and Response

 Operational Risks and Corresponding Management Strategies



Policy	After various risks have been identified by relevant functional departments, mitigation measures and corresponding policies will be established based on the risks. Relevant laws and levels of impacts to the Company's operation will be also taken into consideration when setting risk-hedging timeline and objectives.
Responsibilities	Each department of the Company shall identify risks and levels of impact as references for setting corresponding measures.
Resources	Departments that face risks shall propose levels of impacts to operation and corresponding measures. Each functional department facilitates in the response and mitigation of risks.
Specific Actions	Risk corresponding actions for financing, climate change and information security risks and more, are carried out by Finance, Safety, Health and Environment, and Information Departments.
Goals and Commitments	The level of impact from rapidly-changing internal and external environments on corporate operations is gradually increasing, and every change presents a certain risk to the corporate. Therefore, the Company's goal is to minimize the level of impact from each risk.
Grievance Mechanism	Deficiencies in risk management can be reported to FCFC' Audit Office, Independent Directors, or the Board of Directors.
Performance Evaluation Methods and Results	Each department with risks will self-evaluate the effectiveness of risk identification and mitigation, while the FPG Group Administration and the President's Office from FCFC will also conduct performance evaluation and coaching over departments with risks.

2.2.1 Risk Identification Procedures

Faced with impacts from changes in the global environment and increasingly complex challenges, a comprehensive risk management mechanism and crisis response and management capabilities have become important cornerstones to a company's sustainable management. By adhering to the existing functional system and internal control system, the Company actively faces and controls risks through the most cost-effective methods in six major aspects, namely HR, information, finance, legal, procurement, and production, which shall be considered during management processes.



Each functional department operates based on the Company's regulations and systems, and actively identifies and reports risks out of line to each functional supervisor. Moreover, functional departments will also collaborate to identify risks in the aforementioned six aspects through relevant meetings from time to time. In addition, the Audit Office is in charge of reviewing risks in every aspect and whether sustainable risk management is carried out in accordance with regulations. And Independent Directors will also communicate with Audit Manager in regards to auditing deficiencies and abnormal incidents from time to time, and report to the Board of Directors.

2.2.2 Risk Items and Countermeasures

With rapid changes in the internal and external environment, companies are faced with an increasing number of risks during operation. To keep impacts caused by various risks on the Company's operation to a minimum, after discussing potential risks, the Company's relevant departments will propose appropriate countermeasures one-by-one. The following are major risk issues and responses to be taken:

Risk Issues	Responses
Risk factors that directly impact FCFC's income: fluctuation in exchange, loaning of funds to others, making endorsements/guarantees, and derivative transactions	<ul style="list-style-type: none"> ■ Please refer to "2018 FCFC Annual Corporate Governance Report—Review and Analysis of Financial Status and Financial Performance and Risks: Item 6."
Shortage of Raw Materials	<ul style="list-style-type: none"> ■ Actively develop new supplier relations and increase sources of material. ■ Establish a raw material inventory control mechanism, to set the safe inventory quantity and propose purchases at the right time. ■ Seize information on market and material sourcing status and procure ahead of time when needed.

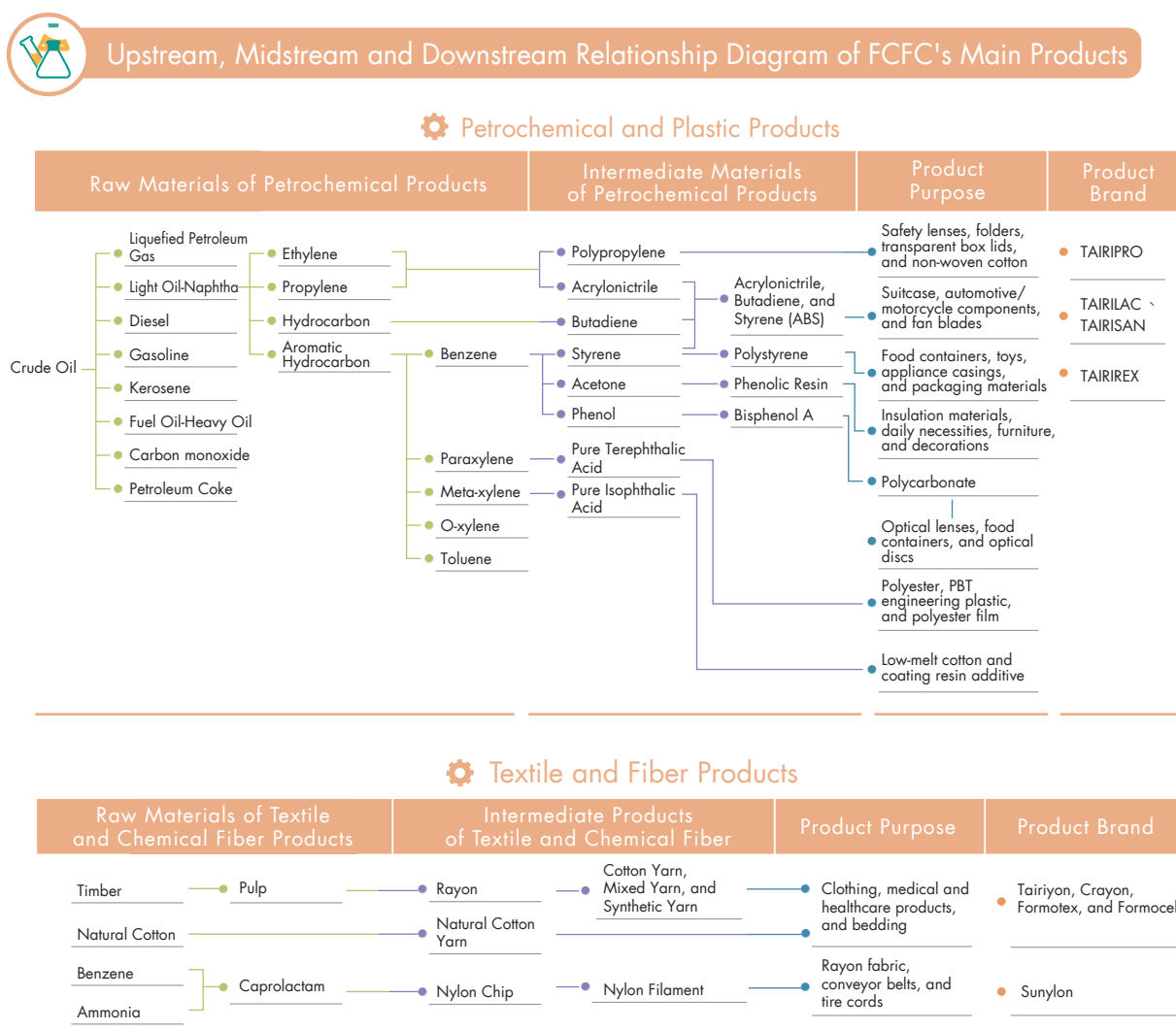
Risk Issues	Responses
Water, Electricity, and Steam Supplies	<ul style="list-style-type: none"> ■ Power, steam needed by the Company's Longde Plant, Xingang Plant and Mailiao area are steadily provided by cogeneration system. ■ Since regional environmental protection policies are increasingly demanding in recent years (e.g. the reduction of permitted raw burning coal consumption volume), we continue to launch various energy-saving and carbon reduction management and improvements to reduce the consumption of power, steam. ■ After AWARE evaluation at all Company plants, though no data has indicated that we are located within water resource pressure zones, we have set our plants as water resource pressure zones in response to risks associated with water resources and continue to plan various water-saving management and improvement measures. ■ Planning Desalination Plant to Achieve Stable Water Sources.
Industrial Safety	<ul style="list-style-type: none"> ■ All plants continue to promote processing, equipment, and environmental safety management measures.
Climate Change	<ul style="list-style-type: none"> ■ Climate change has become a risk issue of global concern. The Company's water-saving and energy-saving promotion team will draft improvement projects, organize industry visits and promote various energy-saving and carbon reduction improvements. ■ Pollution prevention is also an important part of environmental protection. We advocate for circular consumption by conducting waste reduction, recycling, and emission reduction from the source in regards to wastewater, exhaust, and solid waste.
Changes in Environmental Policy	<ul style="list-style-type: none"> ■ The Company's Safety, Health, and Environment Department understands and participates in changes and discussions of environmental policies from public sectors at all times to immediately respond to and to incorporate such changes into the Company's operational strategies, turning potential crisis into opportunities. ■ In response to environmental protection policies, the existing fuel in thermo oil boilers at all plants have been substituted by natural gas or process gas. Besides reducing GHG emissions and various air pollutants, the efficiency of boilers has also increased accordingly.
Information Security	<ul style="list-style-type: none"> ■ To prevent similar incidents to the silicon wafer leader in Taiwan being hacked by the WannaCry virus, leading to abrupt stop in production line and NT\$2.596 billion of losses from happening to FCFC, we continue to strengthen information governance. We have established response standards and procedures, and reinforced disaster prevention, information security, surveillance, warning mechanism, abnormality management and support. ■ In addition, we regularly review the necessity of network setup and connectivity in all departments that require computer usage to ensure the normal operation of overall information network and efficiency of data transmission.
Anti-dumping Investigation	<ul style="list-style-type: none"> ■ The Company's risk of product sales has increased in response to protectionism of domestic industries from various countries, leading to anti-dumping investigation on imported products and anti-dumping tariffs. Besides enhancing the added-value of products, FCFC also actively responds to anti-dumping investigation. We work closely with trading companies and dealers in each country to help expansion our market share to the global market.

2.3 Product Sustainability

In addition to the core petrochemical industry in which FCFC is involved, we have also expanded our market reach through vertically integrated production to reduce operating costs by expanding the production volume. We strive to meet customers' demand for raw materials and improve our market competitiveness. Currently, we have completed our deployment throughout up-, mid-, and downstream sectors for petrochemicals, plastics, fibers, and textiles.

2.3.1 Upstream and Downstream Relationship of FCFC Products

Upstream and Downstream Relationship Diagram of FCFC Products



✦ Use of Raw Materials

FCFC is a part of upstream and downstream integrated plants of FPG. Most of our raw materials are supplied by FPG companies or the upstream manufacturing process. The supply and demand are less affected by market fluctuations, which can stabilize the sources of raw materials and reduce the inventory. The consumption and sources of FCFC's major raw materials in 2018 are summarized in the following table:

Raw Material	Unit	Quantity	Main Supplier
Naphtha & Medium Naphtha	ton	3,873,009	Imported and domestic suppliers
Aromatic Hydrocarbon	ton	1,278,279	Formosa Petrochemical Corporation
Xylene Mixture	ton	772,802	Imported
Benzene	ton	1,563,447	Imported and domestic suppliers
Paraxylene	ton	812,926	Imported and domestic suppliers
Propylene	ton	502,753	Formosa Petrochemical Corporation
Ethylene	ton	404,238	Formosa Petrochemical Corporation
Acrylonitrile	ton	85,566	Formosa Plastics Corporation
Butadiene	ton	56,814	Formosa Petrochemical Corporation
Bisphenol A	ton	172,461	Nan Ya Plastics Corporation
Rubber	ton	10,861	TSRC Corporation, Asahi Kasei Corporation, and JSR
Caprolactam	ton	92,124	China Petrochemical Development Corporation, Royal DSM (Netherlands), and Sumitomo Group (Japan)
Pulp	ton	71,704	Saiccor (South Africa) and NPC (Japan)
Slack Coal	ton	1,573,235	Indonesia, Australia

✦ Brand

FCFC started up as a mass manufacturer of textile products and later transformed from fiber and textile-oriented industries into petrochemical and plastic-oriented industries. Over the years, we have established many brands. By integrating group manufacturing techniques, academic research, and medical trials, our subsidiary Formosa Biomedical Technology Corp. officially established the brand FORTE for skincare products in 2003. FORTE has many distributors nationwide and has become one of the most renowned skincare brands in Taiwan. Currently, our subsidiaries own the following brands:



Main Brands of FCFC's Subsidiaries

Company	Main Brand	Product	Use
Formosa Biomedical Technology Corp.	FORTE	Skincare products	General products
	DR'S FORMULA	Detergents, skincare products, blankets, and undergarments	General products
	Derma Formula	Cosmetic products	General products
	Formosa Plastics	Detergents	General products
	Forte	Cleaning products	General products
	TAIRY	Cleaning products	General products
	Shen-Yen	Cleaning products	General products
	MeDiPro	Medical devices and medical examination reagents	Medical products
	Formosa One Sure	Medical examination reagents	Medical products
	Formosa Biomedical Technology	Detergent, skincare products, medical examination reagents, and healthcare food products	General products
	MD Formula	Healthcare food products	General products
	Forte Solution	Skincare products	General products
	DF	Skincare products	General products
	Biolead	Household detergents	General products
Formosa Carpet Corp.	Formosa Carpet Tile	Carpet sheets	Building materials
	Formosa Carpet Roll	Full carpets	Building materials



2.3.2 Main Products

✦ Production Capacity

To strengthen the management, expand the operation, and enhance competitiveness, FCFC has increased its production capacity to meet downstream customers' needs. Of our production, 7 petrochemical and plastic products have capacities that currently rank among the top ten in the world:

Product Category	Item	Description	Key Value
Petrochemical Products	Aromatic Hydrocarbon (Aroma)	As an important upstream product of FCFC, aroma is used to produce key materials, such as benzene, toluene, OX (o-xylene), MX (m-xylene), and PX (p-xylene). Benzene is integrally provided for FCFC to produce the remaining key intermediate products. With this horizontally integrated system across FPG companies, FCFC can improve the overall market competitiveness.	Production Capacity in Taiwan: 3.88 million tons Global Ranking: 7
	Styrene (SM)	FCFC produces styrene using self-produced benzene and FPCC-produced ethylene. Styrene is then used to produce plastic products, such as polystyrene (PS) and acrylonitrile, butadiene, and styrene (ABS), which are later delivered to plastic and chemical fiber industries for further processing to satisfy various industrial demands and horizontal integration.	Production Capacity in Taiwan: 1.32 million tons Global Ranking: 2
	Phenol	FCFC produces phenol and acetone using self-produced benzene and FPCC-produced propylene. Phenol is mainly used as a raw material by Nan Ya Plastics Corporation to produce BPA. FCFC then uses BPA to produce polycarbonate (PC), which is later sold to downstream optical, LED, and plastic processing industries to produce a variety of products.	Production Capacity in Taiwan: 0.44 million tons Overseas Production Capacity: 0.3 million tons Global Ranking: 3
	Acetone	Acetone is mainly used as a raw material for methyl methacrylate and methyl isobutyl ketone.	Production Capacity in Taiwan: 0.27 million tons Overseas Production Capacity: 0.19 million tons
	Pure Terephthalic Acid (PTA)	FCFC produces pure terephthalic acid (PTA) using self-produced p-xylene (PX). PTA is mainly provided for textile industries and beverage industries to produce polyester fibers and plastic bottles, respectively. PTA is also used to produce polyester resins, such as ethylene terephthalate and butylene terephthalate.	Production Capacity in Taiwan: 1.7 million tons Overseas Production Capacity: 1.2 million tons Global Ranking: 9

Product Category	Item	Description	Key Value
Petrochemical Products	Pure Isophthalic Acid (PIA)	FCFC produces isophthalic acid (PIA) using self-produced m-xylene (MX). PIA is used to produce polyester resins, such as PET (bottle grade & membrane grade), alkyd resin, unsaturated polyester resin, allyl polyphthalate, dibutyl isophthalate and other high polymers and plasticizers. PIA is also used to produce photographic developers, coating, modifiers, and medicines.	Production Capacity in Taiwan: 0.2 million tons Asian Ranking: 2
	Acetate	Formosa BP Chemicals Corporation is a joint venture established by FCFC and British Petroleum (BP) with a 50:50 partnership. In general, it mainly produces acetic acid, which is later delivered to FCFC, Nan Ya Plastics Corporation, and Dairen Chemical Corp. to produce PTA, Butanediol (BDO), and vinyl acetate (VAM), respectively.	Production Capacity in Taiwan: 0.3 million tons
Plastic Products	Polystyrene (PS)	FCFC produces a variety of PS products using self-produced SM. The PS products are used to produce food containers, toys, appliance casings, and packaging materials.	Production Capacity in Taiwan: 0.32 million tons Overseas Production Capacity: 0.2 million tons Global Ranking: 5
	Acrylonitrile, Butadiene, and Styrene (ABS)	FCFC produces a variety of ABS resin products using self-produced SM, FPCC-produced butadiene, and FPC-produced acrylonitrile. The ABS resin products meet the needs of all aspects, from the general grade, extrusion grade to special purposes, such as high gloss, high flow, heat-resistant, flame-resistant, transparent, and electroplating grades.	Production Capacity in Taiwan: 0.41 million tons Overseas Production Capacity: 0.45 million tons Global Ranking: 3
	Polypropylene (PP)	FCFC produces PP using FPCC-produced propylene, including homopolymer and random, impact copolymer. PP is supplied to injection, extrusion, fiber, blowing, and vacuum forming industries to be widely used in home appliances, automobile parts, food packaging, toys, and consumer goods.	Production Capacity in Taiwan: 0.64 million tons Ranking in Taiwan: 1
	Polycarbonate (PC)	FCFC produces polycarbonate (PC) using Idemitsu's phosgene polymerization process. Featuring high physical strength and transparency, PC is supplied to injection, blowing, and extrusion industries to be widely used in home appliances, automotive lamps and components, food containers, instrument housings, outdoor sun visors, and optical components.	Production Capacity in Taiwan: 0.2 million tons Global Ranking: 7

Product Category	Item	Description	Key Value
Fiber & Textile Products	Rayon	FCFC purchases wood pulp to produce rayon with good water absorption and dyeing and a soft, comfortable texture. Rayon features special drapes zero-static and high biodegradability. It is applied to clothing fabrics, lining fabrics, plastic base fabrics, sanitary materials, and laundry-free materials.	Production Capacity in Taiwan: 78,000 tons Taiwan's Only Rayon Manufacturer
	Nylon Filament	FCFC purchases caprolactam to produce nylon chips. Nylon chips are then processed to produce nylon filaments, oriented yarn, tire cord yarn, and industrial yarn, which are used as raw materials to produce ski clothing, aerobic suits, umbrellas, stockings, vans, bags, and fishing nets.	Production Capacity in Taiwan: 89,000 tons Overseas Production Capacity: 36,000 tons
	Yarn	FCFC produces a variety of yarn using self-produced rayon, NPC-produced polyester cotton, and purchased natural cotton. Yarn is used as a raw material for woven fabric.	Production Capacity in Taiwan: 11,000 tons Overseas Production Capacity: 69,000 tons

2.3.3 Promoting Circular Economy-Recycling of Byproducts

To promote circular economy, the Company recycles exhaust and waste produced during the manufacturing process in addition to achieving important results in energy and water conservation, thereby reducing production costs and promoting sustainable use of resources. The main results achieved in 2018 are as follows:

Department	Direction	Effectiveness
1st Petrochemical Division	Crude hydrogen produced from reforming process at the aromatic hydrocarbon plant: 48,882 tons of purified hydrogen, produced from the hydrogen purifiers, were delivered to the PTA plant in the same industrial complex and Formosa Petrochemical Corporation's oil refinery plant for use. Through the trans-alkylation processing reaction and hydridealkylation reaction, the remaining hydrocarbons that contain C4- were transformed into hydrocarbons that contained C1~C3-.	100% of these exhaust gases (574,809 tons) are introduced into the gas burning system and applied as burning fuels for in-plant stoves. Burning gas from this source is self-sufficient, so no additional heavy crude oil or LPG is necessary.
1st Petrochemical Division	In 2015, the crude hydrogen refrigeration system and LPG purification system were established to condense the heavy components in crude hydrogen generated from the reformation process. The recycled liquefied petroleum gases (LPG) were then purified and improved in July.	All of which are delivered to the SM plant in the same industrial complex and to Formosa Petrochemical Corporation's oil refining plant to reduce fuel consumption. An additional 35,846 tons of LPG were recycled in 2018.

Department	Direction	Effectiveness
Plastics Division	<ul style="list-style-type: none"> Sludge reduction improvement at the Xingang PABS (PS&ABS) Plant was enabled by replacing cool-air drying with vacuum disc dryers. Off-grades in packaging washing tanks at the Mailiao PABS Plant are now recycled during plastic pallet production. An incinerator is introduced to the PP Plant, in which exhaust gas that was transmitted to furnace is now treated at the incinerator. 	<ul style="list-style-type: none"> Water content in sludge has been reduced from 75% to 40%, decreasing sludge production by 980 tons in each year. Production of off-grades are reduced by 36 tons annually. Each year, steam gas production can be increased by 7,000 tons, and exhaust gas discharged to furnace can be reduced by 720,000 Nm³.
Rayon Division	Mirabilite liquid, a byproduct generated from spinning and coagulation process at the Rayon Division, was recycled and transformed into dry mirabilites through vacuum crystallization.	In 2018, 48,120 tons of dry mirabilites were produced, reducing wastewater generation.
Nylon Division	Extracted water (remaining parts that were not thoroughly polymerized) was generated from polymerization and spinning process.	100% of extracted water is recycled and generated into 8,400 tons of Caprolactam (CPL), which are later applied to the polymerization reaction. Nylon chunks and nylon fibers (particles) are reprocessed by downstream customers into 2,600 tons of nylon chips to reduce raw material consumption.

2.3.4 Product Safety and Health

FCFC has always cared about customers' safety and health. When developing and improving products, we evaluate the extent of impact that each stage imposes on safety and health. Constant improvements are also made in the manufacturing process, such as manufacturing waste reduction and green product development, to create eco-friendly and green-powered products. The following are improvements that have been taken:

- ▶ Environmentally-friendly plastic pallets are used in place of traditional wooden pallets at production divisions and automated warehouses. In addition, new plywood pallets are used in export containers to meet animal and plant health inspection and quarantine policies.
- ▶ Vehicles used to ship Company products are asked to meet Phase 4 environmental standards rather than Phase 2 to reduce influences from car exhaust on the environment.
- ▶ Wood pulp that meets SGS "Chain-of-Custody" certification and Forest Stewardship Council (FSC) requirements is used to produce non-woven fabric to avoid excessive deforestation.
- ▶ Rayon cotton production has received Oeko-Tex Standard 100 certification, proving that related products do not contain known hazardous substances that harm human health, and that the production process is friendly to the environment and no harm will be done to the environment during its recycling process.
- ▶ In 2017, FCFC worked with Environmentally Biodegradable Polymer Association to promote the certification of compostable rayon cotton. To reduce the environmental impact of rayon cotton products, the biodegradable compost certificate was received in June 2018.

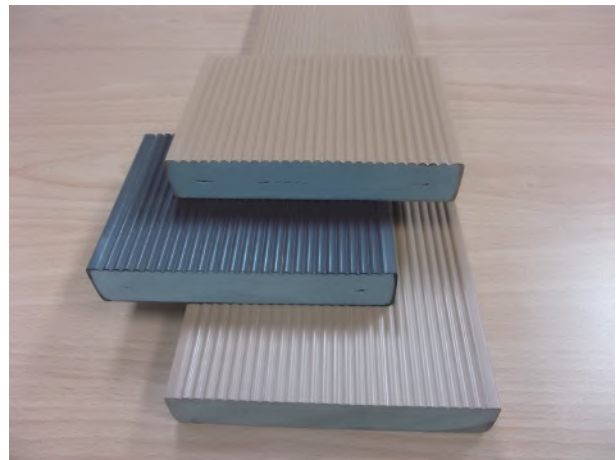
- ▶ The Company supported EU REACH and carried out chemical substance registration, evaluation, and authorization procedures. Currently, 16 product pre-registration has been completed, and 11 of which are products exported to EU with quantities greater than 1,000 tons. Official registration of said products have been completed within the deadline, and the M-Xylene product registration is currently in progress. The Company supported Korean REACH, and 2 product registrations have been completed for SM and Phenol respectively.
- ▶ We provide the following eco-friendly and customer-friendly products and will continue to develop green products that have environmentally and socially low impacts in the future:

Product	Contribution to Society and Consumers
Electro-plating Grade ABS (for automobiles)	Applicable to automobile surfaces, wheel covers, and water storage covers, with such specific features as sturdiness, light-weight, electroplating, and recyclable.
Light-dispersing Grade PC (for LED lights)	Specific features include transparency, light dispersion, weather resistance, UV resistance, heat resistance, flame resistance (UL94V-2), and RoHS-certified.
GPS (for light diffuser plate)	Applicable to LVD-TV & LED-TV light diffuser boards, with such specific features as transparency, heat resistance, size stability, and moisture resistance.
PP (for automobile interior/exterior design)	Replace hard plastic with recyclable green material; replace metal and buffer in automobile bumper with plastic to reduce overall automobile weight and steel consumption.
PP (for household appliances, corrugated boards, and hot water pipelines)	Save wood materials for making paper; replace hard plastic and steel tubes used in architecture PC/ABS alloys are used to manufacture electronic products, such as notebooks/mobile phones, which can improve the impact resistance of mobile electronic device casings and reduce the frequency of replacement.
Medical Grade PP	Replace PC with PP in manufacturing medical appliances and baby utensils to prevent patients and babies from being exposed to endocrine disrupting substances.
Impact-resistant PP	Impact-resistant PP can be used to manufacture containers that require impact resistance, such as luggage, to reduce the frequency of replacement and waste.
PC/ABS Alloys	PC/ABS alloys are used to manufacture electronic products, such as notebooks/mobile phones, which can improve the impact resistance of mobile electronic device casings and reduce the frequency of replacement.
ASA	ABS plastic materials that require secondary processing is substituted to prevent air and water pollutants from electroplating or spraying. A green, eco-friendly material, ASA can be recycled and reused and can be used to replace bricks or wood to prevent air pollution from brick production or deforestation, thus preventing harm to the natural environment. Its useful life is longer than other forms of resin, reducing environmental pollution from wear and tear of plastics.
Weather- and Heat-resistant PC	Climate- and heat-resistant PC materials are used in batteries of electric scooters and electric bicycles, which help to reduce air pollution and carbon emissions.
Coffee Yarn	Coffee yarn is composed of coffee particles that can form fibers of different shapes. The product comes with several special features, such as being easy to dry, UV resistance, and foul odor control.
Nylon Bath-dyeing	Nylon materials that are bath dyed can be blended and dyed along with other materials (such as wool) during manufacturing process, reducing multiple dyeing of different materials, thus conserving processing time and materials and reducing environmental impacts.

Product	Contribution to Society and Consumers
Recycled Nylon Chips	Various waste nylon fabrics, chips, yarns, and Velcro are recycled by professional recycling equipment and remade into CPL raw materials with quality comparable with fresh CPL. Fiber-grade nylon chips are reproduced and weaved into eco-friendly nylon yarns that meet various customer specifications.
Cool Yarn	By adding cooling material, heat conductive material, fiber water content, and heat dispersion material, FCFC cool yarn provides a cool sensation and great sustainability. Through polymerization, cool particles are congregated together to form cool yarn with relatively higher production efficiency.



PC/ABS Rubber Injection-Grade Electroplated Hub Caps



ASA Extrusion-Grade Router Boxes

2.3.5 Participation in External Associations

FCFC actively participates in several external associations and groups of related industries. Through our communication and interaction with these associations and jointly holding relevant seminars and international conferences, we have the opportunity to share and acquire knowledge of various market trends and technical information. This allows FCFC to contribute to numerous industries and provide the government pertinent experience and advice. In 2018, association membership fees and related sponsorship amounted to NT\$2,579,200.

🔗 Petrochemicals and plastics sector:

We have participated in a total of 7 petrochemical associations, namely Petrochemical Industry Association of Taiwan (where the Vice Chairman Fu-Yuan Hung serves as Executive Director), Taiwan Synthetic Resins Manufacturers Association (where the Chairman Wen-Yuan Wong serves as Executive Director), Acid and Alkali Industry Association of Taiwan, Taiwan Cogeneration Association, Pressure Vessel Association, Chinese Association for Energy Economics, and Taiwan Responsible Care Association.

🔗 Textile fiber sector:

We have participated in a total of 4 associations, namely Taiwan Textile Federation (where the Chairman Wen-Yuan Wong serves as Honorary Chairman), Taiwan Man-Made Fiber Industries Association (where the Chairman Wen-Yuan Wong serves as Executive Director) and the Taiwan Spinner's Association (where the Chairman Wen-Yuan Wong serves as Executive Director), and Better Cotton Initiative.

Others:

We have participated in a total of 13 associations, namely Chinese National Federation of Industries (where the Chairman Wen-Yuan Wong serves as Chairman), Chinese National Association of Industry and Commerce (Taiwan), Industrial Safety and Health Association, Cross-Strait CEO Summit (where the Chairman Wen-Yuan Wong serves as Executive Director), Taiwan Safety Council, Taiwan Association of Energy Service Companies, Taiwan Boiler Association, Engineering Safety and Health Management Association, Taiwan Association of Occupational Health Nurses, Chinese Business Accounting Association, Huizhi Club, and Chinese Human Resource Management Association.

2.4 Development, Innovation, and AI Applications

2.4.1 Product Development and Innovation

FCFC has been vertically integrated, which requires our employees to be well trained and equipped with full knowledge and experience in each production process, from raw materials to finished goods. Through inter-department cooperation and R&D management, R&D resources have been fully integrated and utilized to develop innovative ideas so that products can be developed to meet market demands.

Establishing a R&D Culture of Professional Technical Services

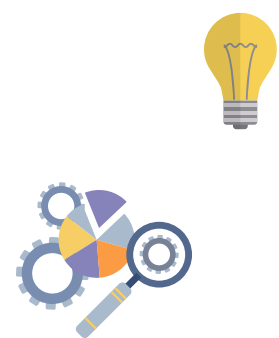
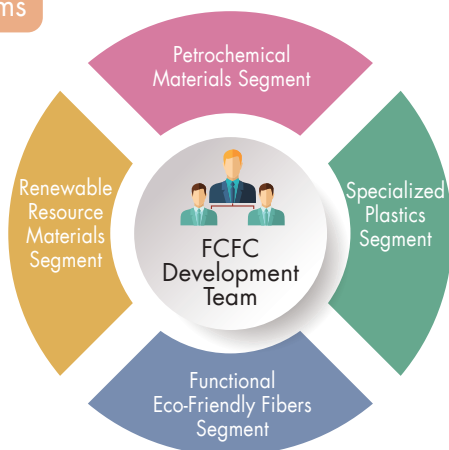
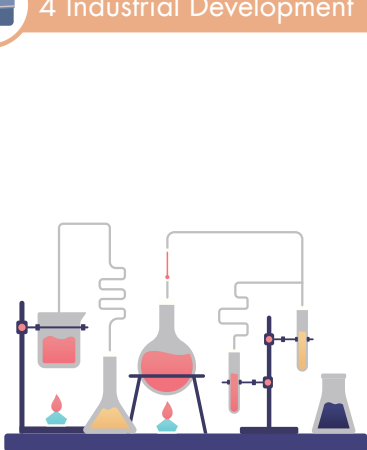
To encourage research and development and enhance product value, FCFC has established a R&D culture of professional technical services. All R&D employees are aware of the fact that high functionality of materials, multi-functional products, and advancement in the control of processes are the keys to scientific development.

To make it easier for vendors and consumers to confirm the quality of products researched and developed by FCFC, all R&D results are submitted to independent third-party entities for product quality attestation to meet common international specifications and quality standards.

Realizing Vertical Integration Management

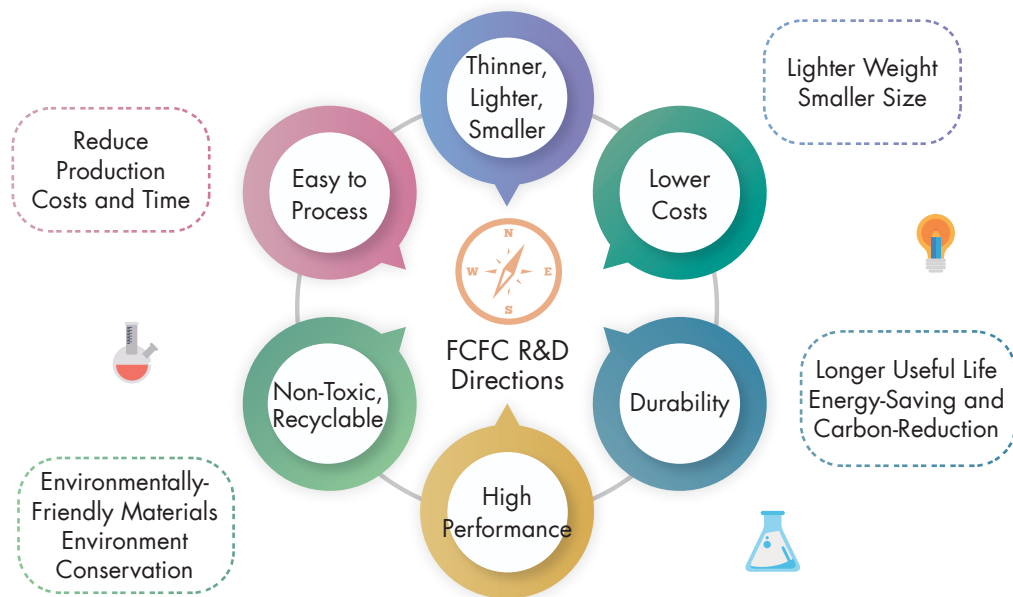
To provide customers a variety of eco-friendly products with superior quality, FCFC has invited experts from the government and academic and research institutes to give speeches on a regular basis. Moreover, four cross-departmental industrial development teams have been formed by the President's Office to integrate resources, study product techniques, analyze industrial conditions, and make comparisons with other industries so that vertical integration can be strengthened to facilitate the comprehensive and horizontal development of all products.

4 Industrial Development Teams



Since their inception in September 2002, the four industrial development teams regularly meet to discuss product development trends and break bottlenecks and exchange ideas. They also propose R&D projects and allocate tasks to be carried out by various departments. To date, the Company has completed the development of a number of environmentally friendly and energy-saving products, as well as investment evaluation of new products and new businesses. In the future, we will continue to develop R&D plans for products with high performance, ease of processing, durability, recyclability without toxins, decreased costs, lightness, and compactness; at the same time, we will strengthen our overall R&D performance to aid sustainable growth.

 Guidelines for FCFC Product Development and Innovation



 Encouraging Development and Innovation by Honoring Outstanding Teams

To encourage development and innovation, FPG has established a variety of promotional measures that are aimed at patent proposal, certified patents, key products, and patents addressed toward significant benefits; furthermore, FPG invites each department to participate in the annual FPG Technology Application Seminar, where departments with the most innovative ideas are chosen to enter a competition in which they are awarded for outstanding R&D outcomes. FCFC has assigned employees to participate in the competition, where they have won prizes.

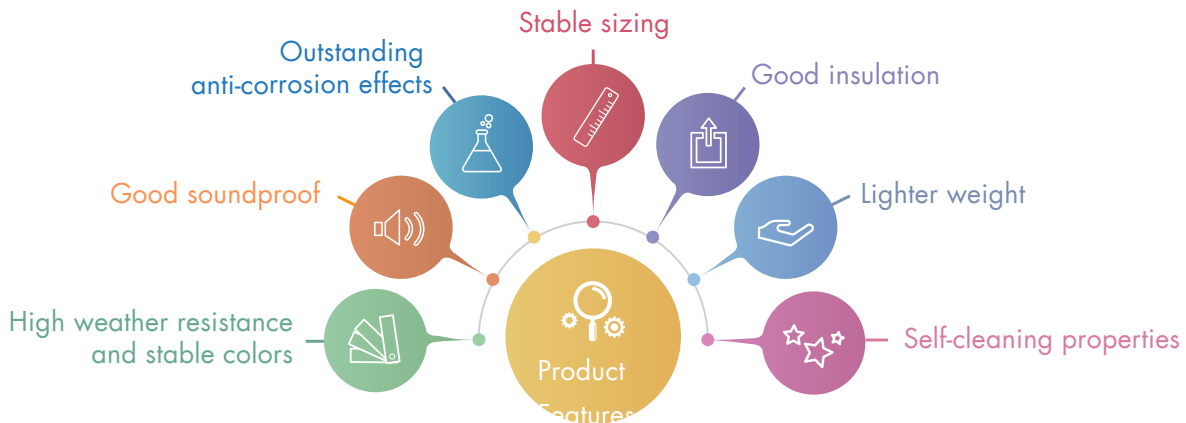


The 16th FPG Technology Application Seminar

Examples of Development and Innovation

Development of Eco-friendly Resin ASA

TAIRILAC ASA (acrylonitrile styrene acrylate) is an acrylonitrile, styrene and acrylate tripolymer resin. It has no residual double bond structure in its main chain, and has excellent weather resistance, and its processing is friendly to the external environment in that it does not require high-polluting spraying or electroplating. This enhances its outdoor use while protecting the environment. ASA's outstanding weather resistance, balanced mechanical nature and good formability give it great market potential.



Market applications include the following:

Construction: rooftops, windows and doors, faux wood, stair railings, ventilation openings, road signs, and sign boards

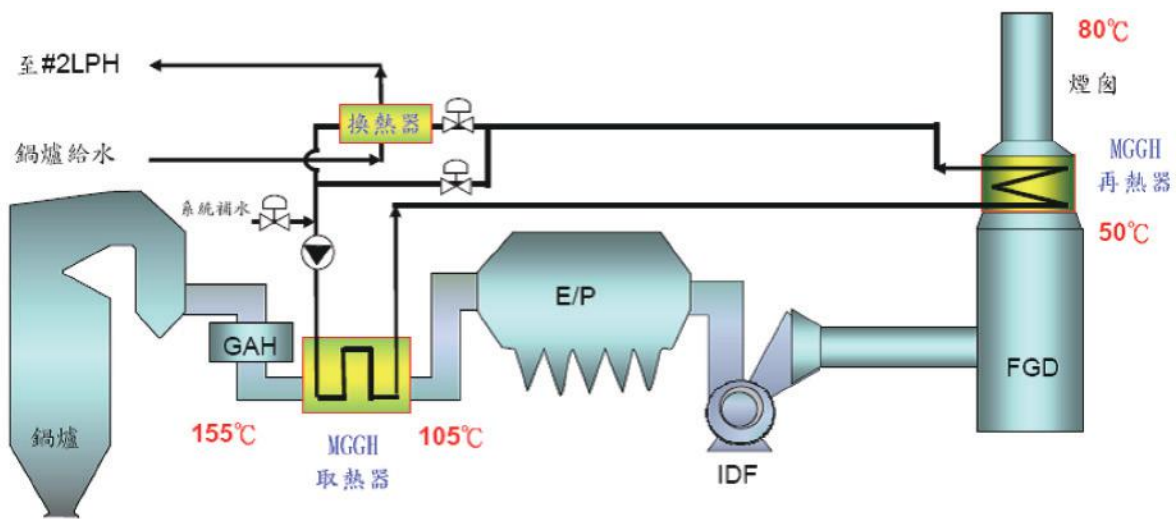


Automotive parts and components: rear mirror, front grille, base of the motorcycle front light, and headlight casing



Agricultural machinery: seedling transplanter, cultivator engine hood, hood on tractors, and pipe overlock





Media Gas-Gas Heater (MGGH) System Diagram



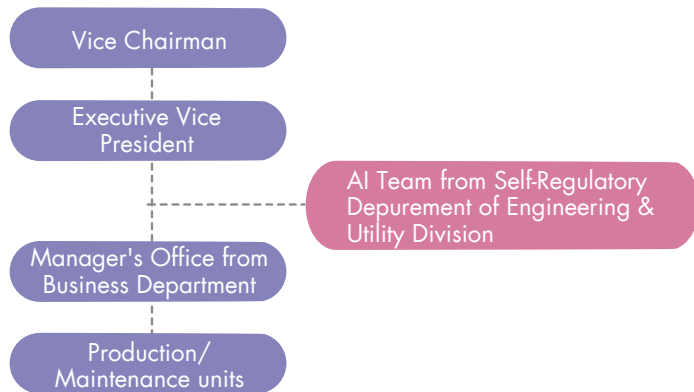
Comparison of LT2/3 Machinery Before and After Visual Pollution Improvements

2.4.2 AI Applications

The trend of Industry 4.0 has made artificial intelligence (AI) and machine learning (ML) very popular around the world. The Company is actively developing smart factory and is working on utilizing big data to enhance production optimization, energy conservation, and smart management to improve overall profitability and sustainable development. We have proposed strategies to create brand-new business value and to embrace business planning in the coming age of AI. We have assigned employees from information, mathematics, statistics, and programming backgrounds to learn AI module training at the Taiwan AI Academy. In addition, we have also undertaken transitions in various aspects through existing PI system to develop production management, processing optimization, preemptive maintenance, labor safety management, and energy-saving systems. An AI project team has also been set up and continues to recruit experts and talents from related fields, who will help the Company to overcome current production, management, energy conservation, labor safety, and marketing challenges.



Promotional teams



The Vice Chairman has designated the Executive Vice President to be convener, while the associate managers and senior engineers from each business division as well as ranks of divisional managers and above from production plants and maintenance offices are responsible for implementations. AI smart technology resources are provided by the Engineering & Utility Division, so that the Company can gradually accumulate experiences and develop into a comprehensive AI smart factory from a bottom-up approach.



Applications of AI Smart Factory



Product quality Advancement

Correlation between variables and quality are operated quantitatively and production recommendations are provided to enhance and stabilize quality.



Processing adjustment and optimization

Factors that affect process stability are analyzed based on operational data, and optimized operation and energy-saving production guidelines are provided.



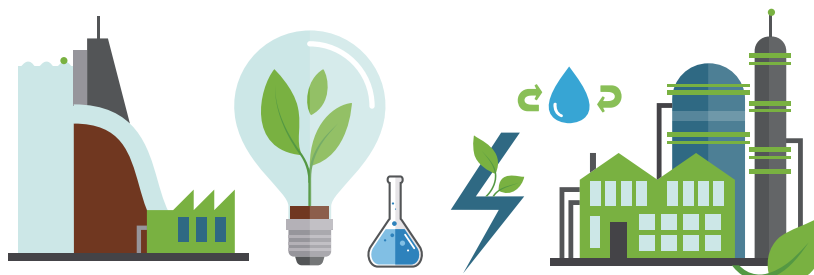
Preventive equipment abnormality diagnostics

Data exploration is used to monitor the status of equipment operation, providing early warnings for adjustment, inspection, and maintenance to prevent abrupt failures.

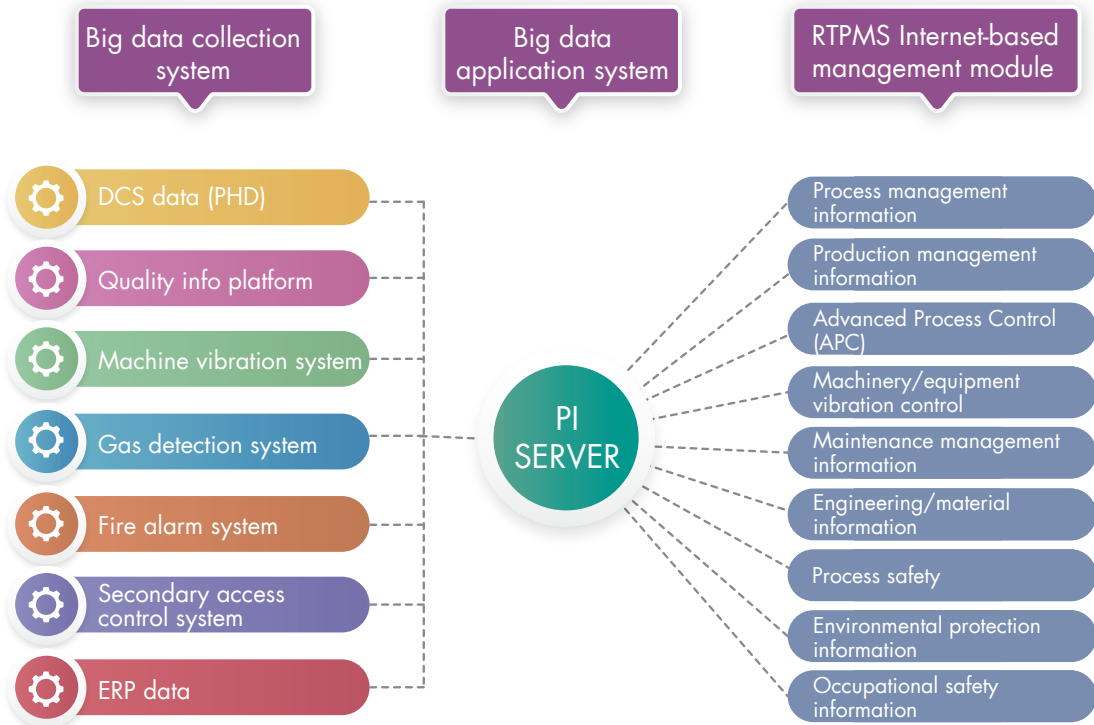


Production and sales management optimization

Customer order and production dynamic information are integrated while market status and product profitability are estimated to enhance product and sales management and smart warehousing management.



Real-Time Production Management System (RTPMS)



Professional AI Talent Training



Personnel training

- Personnel have been sent to participate in Technical Professionals or Manager Program at the Taiwan AI Academy since January 2018.
- Currently 23 and 11 employees have completed their respective training and more employees are being trained.



Internal education and training

- Professional companies are commissioned to organize the AI training workshop, which teaches fundamental basics to AI and data science, work processing, and project planning to production.
- Professors from Department of Industrial Engineering and Management at National Chiao Tung University are invited to teach AI training to associate managers.



Investments in Software and Hardware

- Mailiao, Xingang, Longde Plants in Taiwan, and Ningbo Plant in China, have introduced fiber optic network, big data platform software, servers, and Plan Information hardware expansion mainframe. In addition, solid-state drive (SSD) PI system software detection point and system data remote control have also been introduced.
- AI deep learning server is established, whose computation speed is 20x of a normal computer.
- Docker technology is used to build Python programming environment.
- Data analytics software (iEM & PRiSM) are used to conduct early warning of equipment or process abnormality via the data collected by the PI system.

Industry-Academic Cooperation

The Company partners with academic institutions including National Sun Yat-sen University, Chang Gung University, National Taiwan University of Science and Technology, National Taipei University of Technology, and the Industrial Technology Research Institute on subjects including process control optimization, material/product mix optimization, energy-saving and carbon reductions, quality estimate and control, product defect identification, customer order and shipment management, raw material price forecast and decision-making over material mix, reinforcement of management functions, collection of existing big data, data screening, clearing, data exploration and analysis, module development and evaluation, and online testing and applications.

Future Development Goals

We will continue to recruit and train professional talents, develop AI smart factory to reduce energy consumption ranging from steam gas to power, and to achieve instant AI-enabled process optimization. AI will also help us to maximize the production efficiency of catalysts, forecast equipment reliability and real-time abnormality correction and maintenance, personnel control, labor safety maintenance, forecast fluctuations in raw material prices and changes in material mix, and help to build a well-rounded AI smart factory by managing customer orders, production, warehousing and shipment IoT.

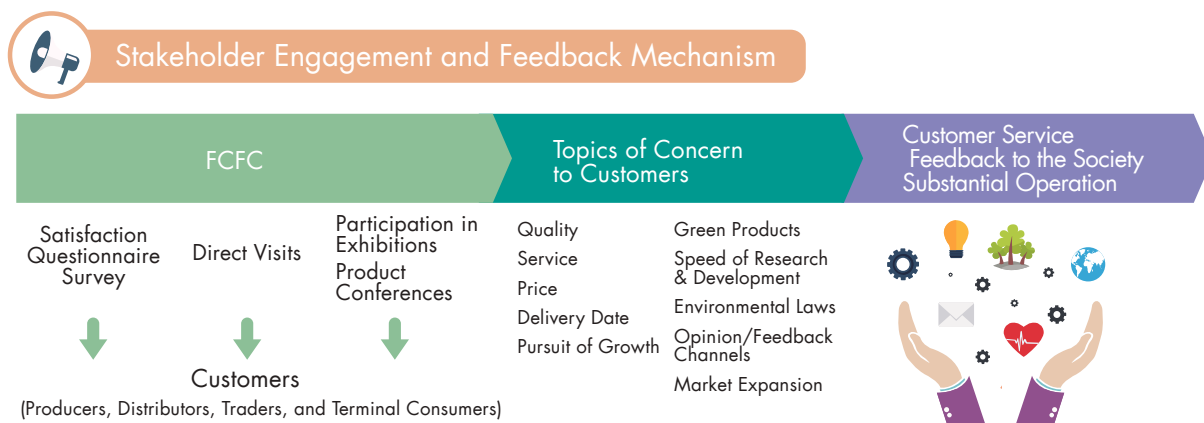
2.5 Customer Service and Supply Chain Relations

2.5.1 Customer Relations

"Customers First" is our core value. FCFC strives to build long-term cooperation relations with customers based on mutual respect and benefits. Sales reps are bridges to communication between customers and businesses. Good customer service and increasing customer satisfaction are not exclusive for sales department, but also a common, continuous goal for everyone in the Company. We value comments from customers very much and strongly believe that the positive performance of our downstream customers reflects upon the Company in a positive manner. We are committed to fostering long-term, trusting partnerships with all of our customers.

★ Model of Positive Interaction

To achieve good positive relations, we visit our customers on a regular basis to discuss the development of existing and future products. We also take the initiative to form interactive and real-time channels of communication by organizing dealer conventions or participate in major trade shows (e.g. Intertextile Shanghai Apparel Fabrics) every year to stay up to date on the latest market trends and to receive direct feedback from customers for existing and new products. Customer feedback are used as important references for operations and future improvements.



★ Disclosure of Product Information

The "Products" section is set up on the official website for customers to check out product features, functions, and specifications.

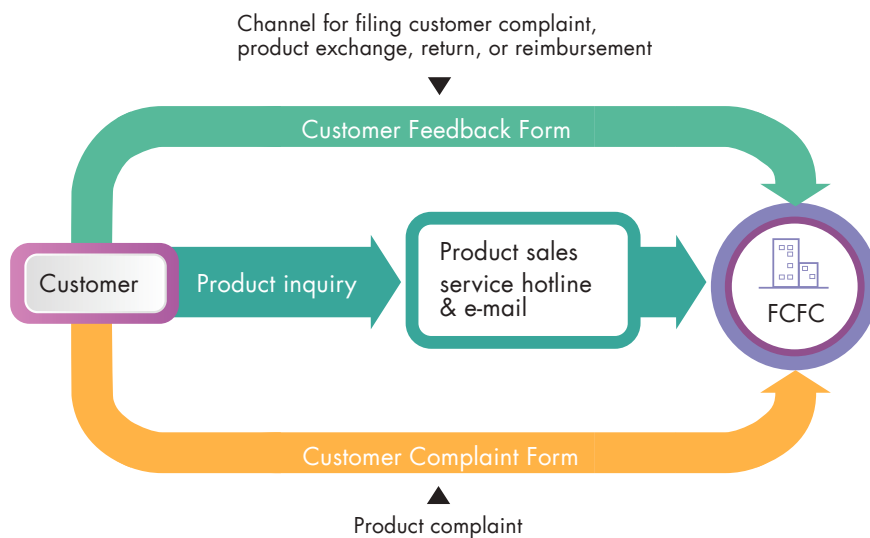
★ Responses to Customer Feedback

The Company has established official channels for customers to give suggestions, voice complaints, exchange or return a product, and apply for reimbursement. Besides dealing with sales reps directly, customers can also voice their opinions on product sales service hotline and email inbox on our Company website. The Sales Department will regularly compile, sort, analyze, and prioritize issues of customer concern by importance, timeliness, and order of improvement, to ensure that customer needs are being properly handled.

In case of customer complaint, the operations department where the incident has occurred will fill out a "customer complaint form." To ensure that customer complaints are properly handled, the complaint form will be processed into the computerized management system to keep track of progress after the accountability and improvement plan are confirmed by the head of the responsible department, and to ensure that various returns, concessions, and/or reimbursements are made. In 2018, we have had 16 customer complaints, mostly attributable to product quality failing to meet customer needs. All cases were resolved by returns or reimbursements after communicating with the customers.



Response & Handling of Customer Feedback



2.5.2 Customer Satisfaction Survey

To raise customer satisfaction, we have collected customer opinions and feedback on our products and services to improve internal business operation. Furthermore, in compliance with ISO9001, which values the quality and customer satisfaction, we conduct at least one customer satisfaction survey for both domestic and foreign customers every year. The survey is composed of eight sections. Adjustments can be made to the survey depending on the issues of customer concern.

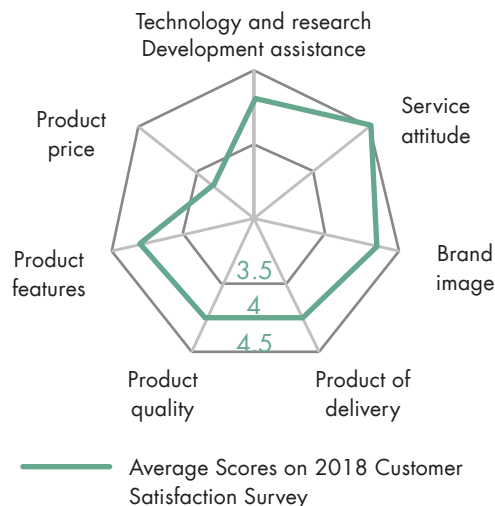
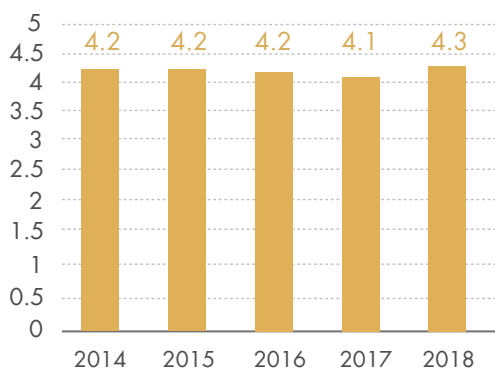


 Customer satisfaction survey model



According to the result of the customer satisfaction survey in 2018, the overall performance of the Company was beyond satisfaction. However, among these reviews, the product price failed to meet customers' expectations due to the recovering global economy and the continuous increase in crude oil prices, which hiked up the prices of plastic products and forced us to raise product prices in response to costs. We have included each of our customer's suggestion in our operating policies.

In 2018, the customer satisfaction averaged 4.3 points (out of 5).



2.5.3 Legal Compliance and Customer Privacy

All of our manufacturing and sales comply with the relevant regulations. In addition to the ISO 14001 Environmental Management System, OHSAS 18001 Occupational Safety and Health Management System, and Taiwan Occupational Safety and Health Management System (TOSHMS) certifications that have been obtained by all of our plants, we have also established the Regulations Governing Personal Data regulations and have requested that each related department lists them as one of its voluntary inspection items. Employee and customer information will only be provided for the authorized personnel; otherwise, employees are required to sign the application form for collecting, processing and using personal information and ensure that such information is used for business purposes. Relevant procedures for assuring legal compliance will be strictly examined. Statistics indicate that no case was concerned with privacy infringement in 2018.

2.5.4 Suppliers and Contractors

FCFC provides online suppliers and contractors the Formosa Technology E-Market Place to perform multiple operational functions, including inquiry, quote, bargain, order, delivery, and payment. Furthermore, contractor briefings are periodically held to reinforce bi-lateral communication between both parties.

FCFC Supplier Classification	
Category	Type
Raw Materials	Manufacturers and dealers
Equipment	Manufacturers and distributors
Construction	Contractors for construction, machinery and electrical equipment

All business activities and contents on investment agreements of the Company are carried out in accordance with local and national laws and regulations. In addition, contracts and agreements with suppliers, contractors and other business partners are all handled in accordance with national human rights laws, and are not filtered by or contain human rights provisions. The procurement and outsourcing policies mainly revolve around local vendors. FCFC only sources goods from overseas and allows bidding from abroad when local suppliers are unable to meet the needs. The rate of local procurement in 2018 was 72%.

To reduce carbon emissions from shipping vehicles, FPG has been collaborating with KERRY TJ Logistics since January 2009, in which the two enterprises will jointly launch "Internet-based Purchasing Supplier Centralized Delivery Procedures." Online delivery services are provided on Formosa Plastics Corporation's supplier network so that centralized delivery can be made to reduce the number of shipping vehicles needed. According to the statistics, 98% of suppliers complied with the system in 2018.

In addition, traditional invoices have been replaced with e-invoices to reduce costs and increase management efficiency. Thus far, 81% of suppliers have used e-invoices, which has significantly reduced time, costs, and paper consumption for both parties.

2.5.5 Supplier Management

Supplier Qualifications

Suppliers which intend to work with FCFC are required to be qualified with written and on-site references. FCFC only accepts those that pass the qualification test. Should there be a delay in delivery, inferior quality control, or a violation of occupational safety, the suppliers are required to undergo the process of re-qualification. We maintain long-term business relationships with those that meet our expectations.

Delivery terms and requirements are selected by the purchasing department based on procurement needs for different materials during each purchase. Terms may include Restriction of Hazardous Substances (RoHS) qualification, nationally stipulated labor safety qualification, ISO certification, labeling for hazardous material on the containers, recycling containers or shipping tools used, prioritize purchasing of products made by physically or mentally disabled groups, or non-radioactive pollution certification. Terms that are selected will be announced on the quotation form and order notice, and suppliers will be asked to meet such requirements accordingly. The aforementioned charts will also explain that FCFC will hold true to the philosophies of sustainable management and fair trade agreement, and rigorously require transaction vendors to meet environmental protection, labor safety, and human rights requirements. Deliveries from vendors who fail to meet such requirements will be refused and said vendors will be further evaluated.

To ensure that suppliers can fulfill corporate social responsibility along with FCFC, starting from 2019, "Supplier Code of Conduct" and "Risk Evaluation Survey" will be reviewed and enforced. Suppliers will be asked to respond to said forms and to meet terms related to labor practices, environment, and labor rights.

Contractor Classification Management System

To reinforce safety management, control the quality of contractors, improve contractors' occupational safety standards, and prevent their employees from injuries, FCFC has implemented the classification management system. This system categorizes our contractors into three classes, namely A, B and C, according to their proficiency in facility environment, construction site, engineering machinery, safety management, technical capability, and business performance. For project contractors who demonstrate abnormalities, such as poor construction quality, schedule delays, mismanagement, bidding with a borrowed license, and subcontracting without notice, we will require management improvements or cease future dealings.

To prevent contractors from hiring child labor or forced labor, FCFC also establishes contract agreements based on national human rights regulations. Our contractors are required to follow the regulations governing labor and occupational safety and health; furthermore, our contract notice clearly states that only labor aged 16 years or above can be hired. In 2018, no incident related to child labor and forced labor occurred within the contractors.

We also require contractors to include the cost of health and safety management in their budgets, and mandatory safety and health related examinations should be detailed and listed on their contracts. The cost of safety and health management will automatically be included in the budget for each quotation, which prevents suppliers from accidentally excluding safety and health cost. As to inquiries for public bidding, we ensure that the final bidding price for occupational safety and health management is no less than the budgeted amount to prevent contractors from not fulfilling occupational safety and health management.

To ensure that suppliers can fulfill corporate social responsibility along with FCFC, starting from 2019, "Supplier Code of Conduct" and "Risk Evaluation Survey" will be reviewed and enforced. Suppliers will be asked to respond to said forms, and more rigorous management will be enforced over suppliers with elevated risk levels.

2.5.6 Green Procurement

Using products with eco-friendly labels can help lower resource consumption and reduce environmental pollution and its impact on the Earth. FCFC will prioritize procurement of products with environmental protection seals and badges that symbolize they meet recyclable material standards, can be recycled, pose low pollution or save energy, as well as Type II environmental protection, for example, products with Energy Label, Water Label, and Energy Star certification. Most of the green products we have purchased include 14 products ranging from toners, personal computers, to lighting fixture. And we were praised by local governments on numerous occasions for outstanding green procurement performance. Total procurement of green products in 2018 amounted to NT\$12.84 million.

2.6 Description of Material Economic Issues

Description of ABS Plant Expansion in Ningbo, China

In consideration of the large demand for ABS import in China and the room for growth, in addition to further planning differentiated products to expand and diversify the ABS market, we plan to invest approximately US\$121 million in our production facility in Ningbo, China. The 500 thousand tons of ABS annual production capacity is projected to increase to 750 thousand tons annually. The expansion plan is currently undergoing and is estimated to be completed in 2 years.

Description of Influences from US-China Trade War

As the US-China trade war wages on, the two major economies continue to impose tariffs on each other. Besides experiencing a slump in Chinese products being imported to the United States, the supply chain of global plastic manufacturers has also indirectly shifted as a consequence. Though the FCFC products that are made in China are mostly supplied to China's domestic market, it can be expected that the long-term influence of the trade war will cause the global supply chain to gradually shift away from China and toward countries with large populations such as India and Indonesia. Besides continuing to operate in China, the Company is also actively cultivating Vietnam and participating in expansion plans in Louisiana, US. At the same time, we are also actively launching high-value and differentiated products to compete for diversified market opportunities in order to reduce the influences caused by the US-China trade war.





3

Fostering a Sustainable Environment

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Upholding FPG's safety, health and environmental (SHE) policy, FCFC has devoted its efforts to environmental protection and community safety. To fulfill our commitment to environmental sustainability, we also encourage our employees to sharpen their professional knowledge and always take safety, health and environmental protection (SHE) into consideration before making any business decisions to safeguard the environment.

3.1 Mission in Maintaining Safety, Health, and Environmental Protection

It is our core belief that industrial development and environmental protection are equally important. It is our social responsibility to provide our customers products that are safe to use, while protecting the safety, health, and well-being of our employees, contractors, operations, and neighboring communities. By accepting this obligation, we can make FCFC more competitive.

All employees must have the proper professional knowledge to perform their duties. With each decision they make, they should consider the potential impact on the overall environment, health and safety. Every employee must have the fullest understanding of the policies/procedures that govern their duties and follow them. When resolving problems, they must inquiry into the root of the matter and make continuous improvements to keep up with the best industry practices.

3.1.1 Organization and Strategy of Safety, Health and Environment

Organization and Responsibility of Safety, Health and Environment (SHE)

To strengthen the Company's SHE management and perpetual business operation needs, a SHE Division has been set up directly under the President's Office. The division oversees the integration of all SHE policies, establish relevant management procedures, and to carry out the procedures throughout the Company. In addition, a Safety and Health Office has been set up at each plant to be in charge of matters related to safety, health, and environmental protection within respective plants.

A SHE association meeting is held once a month and a Safety and Health Committee meeting is held at each plant quarterly, in which executives, plant managers, plant directors, SHE personnel and employees gather to discuss and reflect upon different SHE issues in the hope of achieving the ultimate goal of zero occupational hazard, zero disaster and zero pollution through SHE management.

Safety, Health and Environmental Management System

FCFC has systematized SHE management, including the SHE regulations, a management information system, and an office automation system, for employees and contractors to follow. To make the SHE practices meet the international standards, 20 production plants located in Yunlin Mailiao, Chiayi Xingang, and Yilan Longde sites have successfully passed the ISO 14001 Environmental Management System, OHSAS 18001 Occupational Safety and Health Management System, and Taiwan Occupational Safety and Health Management System (TOSHMS) certifications.

Strategies and Actions for Environmental Protection

Establishing Goals

- Holding true to the mission of aiming at the sovereign good, the Company actively promotes various environmentally-friendly improvements and establishes annual goals. We also regularly understand and review the progress of goal implementations.
- Reinforced coaching is implemented for plants falling to keep up with preset goals, and rewards are given for plants with good performance in order to enhance employee participation and sense of accomplishment.

Adoption of Advanced Processing Equipment

- We adopt the most advanced manufacturing processes and pollution control equipment based on the concepts of best available technology (BAT) and best available control technology (BACT) from the beginning of the plant design stage.

Review and Improvements

- We care about the quality of air, soil, groundwater, ocean and public health in nearby areas by strictly controlling water resources and consumption of energy as well as through performing constant reviews and improvements.

3.1.2 Energy Conservation, Carbon Reduction and Pollution Control Organization

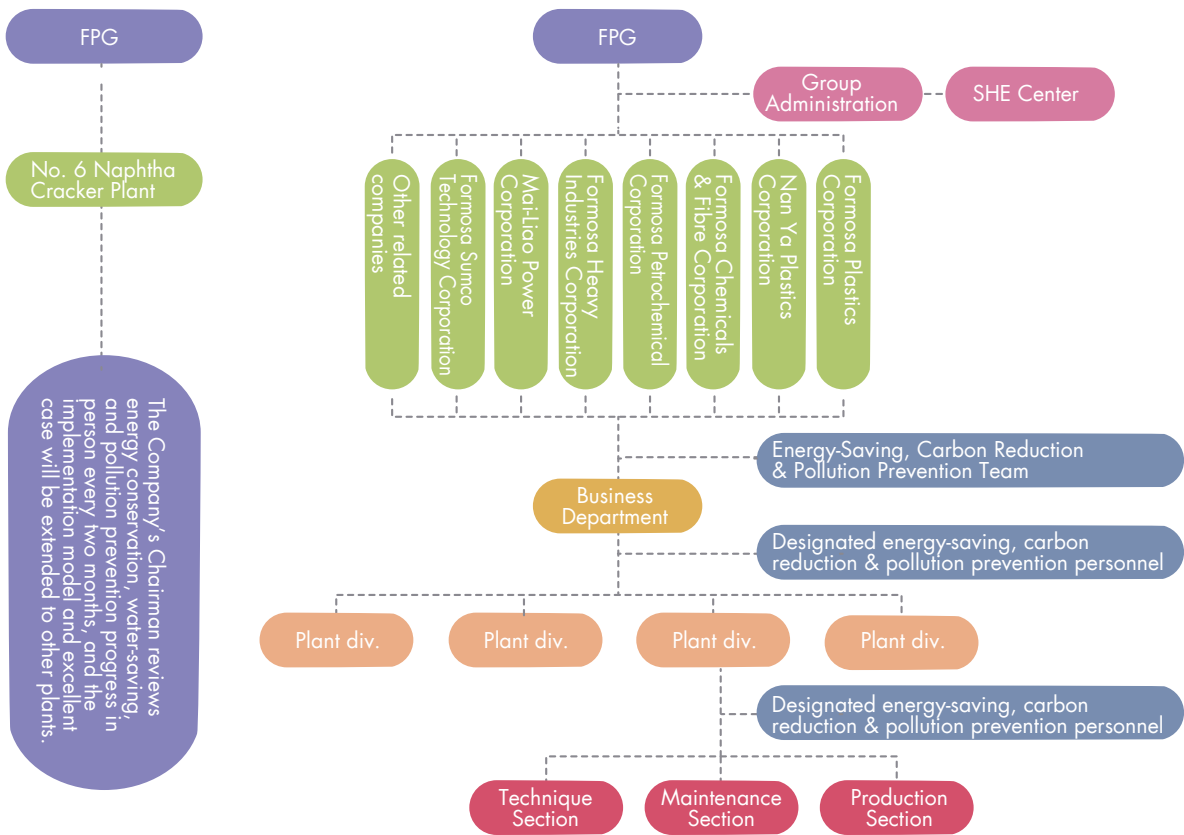
Energy Conservation, Carbon Reduction and Pollution Control Organization

In response to the issues of water conservation and carbon reduction in recent years, FPG has integrated its corporate resources to establish the Energy Conservation, Carbon Reduction and Pollution Control Organization, with FCFC's Vice Chairman Fu-Yuan Hung designated as the convener to promote water conservation and pollution control across all FPG companies. Since 2008, illumination conservation, green products, green procurement, office environmental protection, recycling and green buildings had also been incorporated into the scope of environment protection.





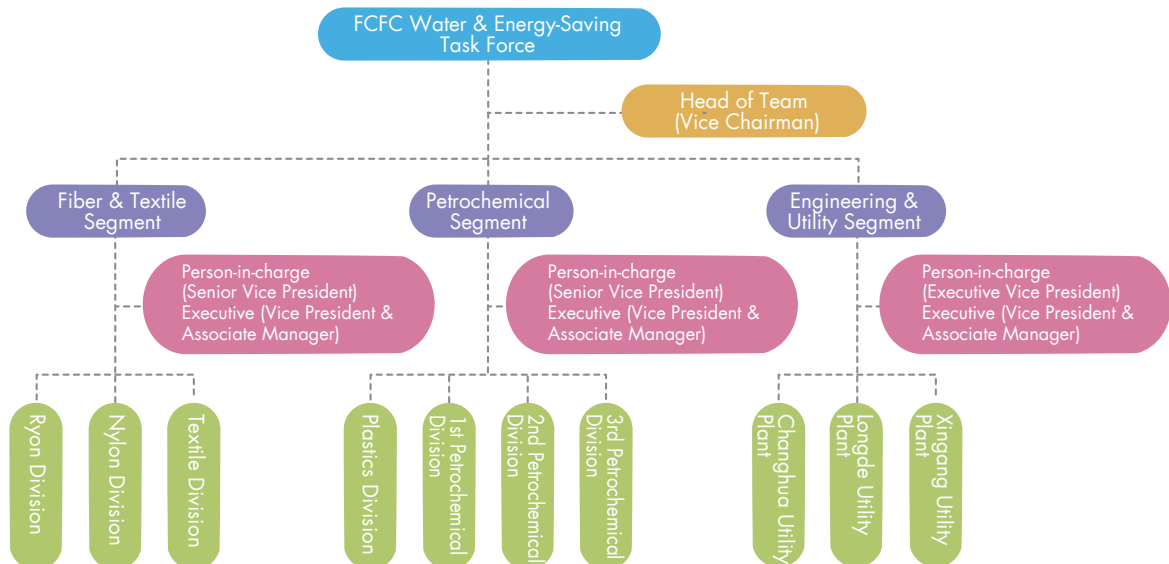
Energy Conservation, Carbon Reduction and Pollution Control Organizational Chart



To put water and energy conservation into practice, FCFC's Vice Chairman has undertaken the post of a convener that is responsible for designating assistant managers to promote water and energy conservation at Rayon Division, Nylon Division, Textile Division, Petrochemicals Division, and Engineering & Utility Division. A water and energy conservation review meeting is held each month. The Water and Energy Conservation Organization and its responsibility are shown below.



FCFC Water and Energy Conservation Organizational Chart



Energy-saving and carbon reduction goals are met through various activities including studying and proposing projects and improving issues, organizing seminars, and various supplementary programs.

3.1.3 Environmental Costs

The Company introduced the environmental accounting system in October 2008, and was the first in Taiwan to include environmental costs into its accounting system. Environmental expense in 2018 was NT\$1.379 billion. With the introduction of the environmental accounting system, we can monitor environmental costs and accurately disclose various actions to protect the environment to our stakeholders. The launch of the environmental accounting system also allowed us to record financial information related to environmental activities ranging from investments, maintenance, R&D, to registration fees of environmental equipment so that management decision-making could be made from the perspective of environmental preservation. This helps enhance the Company's competitiveness, and at the same time, prevent or eliminate environmental impacts from business activities and improve resource efficiency.

Unit: NT\$million

FCFC Environmental Costs in 2018		
Type	Item	Sum
Environmental Costs	Operating Costs	860
	Costs Associated with Suppliers and Customers	35
	Management Costs	306
	Social Event Costs	11
	Fees and Energy Taxes	167
	Total	1,379
Revenue in 2018		301,708

Note 1: The operating costs listed above include green procurement expenses, product recycling and reproduction expenses, and expenses derived from product services for environmental protection.

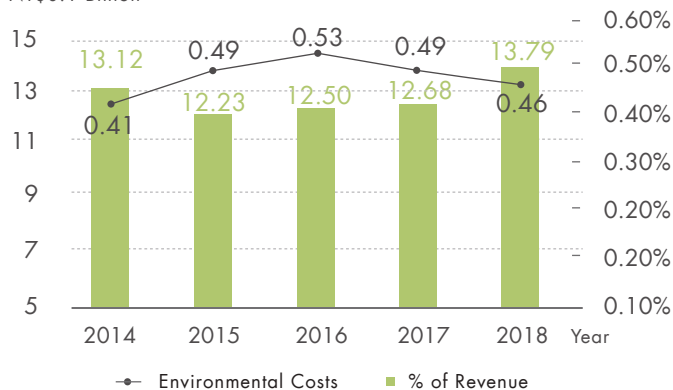
Note 2: Property, plants and equipment in the 2018 environmental costs were accounted for using depreciation expense.

Note 3: The source of revenue in 2018 is from the Individual Financial Statements.



Percentage of Environmental Costs to Revenue

Unit: NT\$0.1 Billion



3.2 Water Resource Use and Management



Water Resource Use and Management Approach



Policy	Adhere to water source stability and water conservation policies and comply with regulations related to Water Pollution Control Act
Responsibilities	Corporations predominantly focusing on producing and selling plastic products need to pay special attention to the use and management of water resources. The Water and Energy Conservation Team is in charge of implementing specific actions.
Resources	<ul style="list-style-type: none"> ■ The Water and Energy Conservation Team has been established to support various water-saving tasks to reduce impacts from water resources. ■ Formosa Plastic Group Evaluation Committee of Influences on Marine Ecosystems by the Mailiao Industrial Complex's Wastewater Disposal was established to evaluate the influences on marine ecology from water discharge.
Specific Actions	<ul style="list-style-type: none"> ■ Continuous water monitoring systems (CWMS) was set up to receive real-time updates on water discharge. ■ Evaluate influences on ecology from plant discharge to promote various measures including water use reduction during processing, rainwater recycling, water-saving management, and reduction in evaporation loss, to reduce water consumption needs
Goals and Commitments	Respond to SDGs Target 6.4, increase water use efficiency, and to ensure sustainable fresh water supply and recovery
Grievance Mechanism	<ul style="list-style-type: none"> ■ SHE section has been set up on the Company website as a channel for feedback. ■ Stakeholders can ask FCFC about environmental protection issues during various external meetings.
Performance Evaluation Methods and Results	<ul style="list-style-type: none"> ■ Rainwater recovery ratio at the Yunlin Mailiao Plant has reached 90%. ■ One drop of water can be reused 7 times at the FPC Mailiao Industrial Complex. ■ Participated in CDP Water Safety Disclosure Survey for the first time in 2018 and received "Management B" ranking

3.2.1 Water Resource Consumption Management



Water source

The water sources of each of FCFC's plants (Changhua, Yunlin Mailiao, Yilan Longde, Chiayi Xingang) are mainly surface water from rivers, lakes and reservoirs. The Longde Plant at Yilan County has been granted the right to use a small amount of groundwater by Yilan County Government. Actual water sources in 2018 are indicated in the following table:

Unit: million liters

2018 FCFC Water Sourcing Table				
Type	Plant			
	Longde	Changhua	Mailiao	Xingang
Surface Water (A)	14,987.2	172.4	15,117.2	12,867.8
Groundwater (B)	831.5	0	0	0
Sum (A)+(B)	15,818.7	172.4	15,117.2	12,867.8
Water Use Quantity	43,976.1			

Use of Water from the Jiji Weir

It's said that the Mailiao Industrial Complex's use of water from the Jiji Weir affects agricultural and domestic water. Based on the Monthly Report of Industrial and Public Water Consumption from Agricultural Water Consumption in the Jiji Weir provided by the Industrial Development Bureau, Ministry of Economic Affairs, the Jiji Weir has provided 247,589 to 572,887 ten thousand tons of water annually over the past 5 years (2014–2018); on the average, 2.6% was for industrial purposes, while 1.9% of the agricultural water was used for industrial purposes annually. This shows that the Mailiao Industrial Complex's use of water from the Jiji Weir has an insignificant impact on the source of water in the Jiji Weir and does not affect other industries or farmers. The records of water consumption are summarized below:

Unit: ten thousand tons

Water Supplied by the Jiji Weir from 2014 to 2018						
Year	Inflow to the Jiji Weir (A)	Average Agricultural Water Use (B)	Average			
			industrial Water Use (C)	Percentage (C)/(A)	Taking from Agricultural Water (D)	Percentage (D)/(B)
2014	315,258	182,795	10,462	3.3%	3,646	2.0%
2015	247,589	144,380	9,999	4.0%	3,632	2.5%
2016	510,257	227,234	9,976	2.0%	3,317	1.5%
2017	572,887	186,163	10,138	1.8%	3,328	1.8%
2018	307,946	182,450	10,256	3.3%	3,618	2.0%
Average	390,787	184,604	10,166	2.6%	3,508	1.9%

Source: The Annual Report of the Jiji Weir Operations from Central Region Water Resource Office, Water Resource Agency, Ministry of Economic Affairs

3.2.2 Water Resource Discharge Management

The industrial wastewater produced from each FCFC plant is treated properly by wastewater treatment facilities based on the nature of the source of the wastewater, so that the water quality of the discharge can meet national standards. Based on the Water Pollution Control Act and the location of the plant, Mailiao Industrial Complex adopts ocean discharge into the Taiwan Strait. Alternatively, river discharge is adopted at the other three plants, where Yilan Longde Plant discharges to the Xincheng River, Chiayi Xingang Plant discharges to the Puzih River, and Changhua Plant discharges to Taichung Wuxi River.

Unit: million liters

2018 FCFC Water Discharge Volume				
Discharge volume is based on the terminal point	Plant			
	Longde	Changhua	Mailiao	Xingang
Surface Water (A)	11,376.4	170.3	0	2,307.2
Sea water (C)	0	0	4,021.9	0
Sum (A)+(B)	11,376.4	170.3	4,021.9	2,307.2
Water Discharge Volume	17,875.8			

In addition, a total of 5 sets of automatic effluent monitoring systems have been installed in the Changhua Plant, Yunlin Mailiao Plant, Chiayi Xingang Plant, and Yilan Longde Plant to monitor the water volume, water temperature, pH value, chemical oxygen demand (COD), and suspended solids (SS) around the clock, with all monitored data delivered to local authorities in a timely manner. All wastewater treatment facilities will reduce COD and adjust pH values through aerated biological treatment. In addition, sludge dryers are installed at Longde Plant, Mailiao Plant, and Xingang Plant, which help reduce the water content in sludge from 85% to less than 50%, significantly reducing the sludge volume.

2018 Water Quality Control of Discharge											
Plant	Water Volume (CMD)		pH			COD (mg/L)			SS (mg/L)		
	Permissible Volume	Discharge Volume	Statutory Requirements	Internal Control Value	Average Value	Statutory Requirements	Internal Control Value	Average Value	Statutory Requirements	Internal Control Value	Average Value
Longde	42,238.0	31,168.0	6.0~9.0	6.5~8.5	7.9	100.0	100.0	56.7	30.0	24.0	9.4
Changhua	3,521.8	474.0	6.0~9.0	6.0~9.0	7.4	100.0	100.0	38.0	30.0	24.0	7.0
Mailiao	33,520.0	16,047.1	6.0~9.0	6.8~8.7	8.2	100.0	100.0	40.4	30.0	18.0	6.0
Xingang	10,700.6	6,168.0	6.0~9.0	6.5~8.5	7.7	100.0	100.0	43.7	30.0	25.0	6.5



Automatic Effluent Monitoring System

重大點源放流水自動連續監測資訊公開查詢系統
Continuous Waste Water Monitoring Open Data System

即時監測值 | 歷史日趨勢 | 歷史月趨勢 | 業者自行宣告歷史查詢

請選擇 台灣化學纖維股份有限公司 廠家廠

序列編號	名稱	監測位置	監測項目	監測日期	監測時間	監測值	排放標準	單位	狀態	備註	是否屬重大違規
P5801773	台灣化學纖維股份有限公司廠家廠	D01 放流口	總磷量	1080124	0900	5.6	30	mg/L	正常值	警報	否
P5801773	台灣化學纖維股份有限公司廠家廠	D01 放流口	化學需氧量	1080124	0900	45.18	100	mg/L	正常值	警報	否
P5801773	台灣化學纖維股份有限公司廠家廠	D01 放流口	懸浮固體	1080124	0905	8.49	6-9	---	正常值	警報	否
P5801773	台灣化學纖維股份有限公司廠家廠	D01 放流口	導電度	1080124	0905	6305.67	---	umho/cm	正常值	警報	否
P5801773	台灣化學纖維股份有限公司廠家廠	D01 放流口	水溫	1080124	0905	27.00	---	5分鐘電值(0.1°)	正常值	警報	否

◆ Influences of Discharge on Ecology: Mailiao Industrial Complex Marine Ecology Evaluation

FCFC has established the Formosa Plastic Group Evaluation Committee of Influences on Marine Ecosystems by the Mailiao Industrial Complex's Wastewater Disposal to improve plant operations based on BAT & BACT models. The Committee aims to understand whether the quality of water emissions has an impact on the marine ecology and to propose feasible suggestions for improvement through scientific approaches. As of 2018, statistics reveal that the Mailiao Industrial Complex has had no significant impact on nearby seawater, marine ecology, aquaculture industry, fishery resources, or surface breeding. If perceivable impacts prevail in the near future, FCFC will plan to reduce the severity of impacts through countermeasures proposed by the professional counseling committee to secure the living standards of local residents and the sustainability of local marine ecology.

In 2018, the average daily wastewater disposal of the Mailiao Industrial Complex was 80,977 tons, far below the environmental assessment limitation of 187,638 tons. Due to our strict self-regulations that wastewater from each treatment center cannot be emitted until standards are met, which is reinforced by daily inspection of effluent quality, the temperature, electric conductivity, and pH value of the disposed water in recent years has met effluent standards.

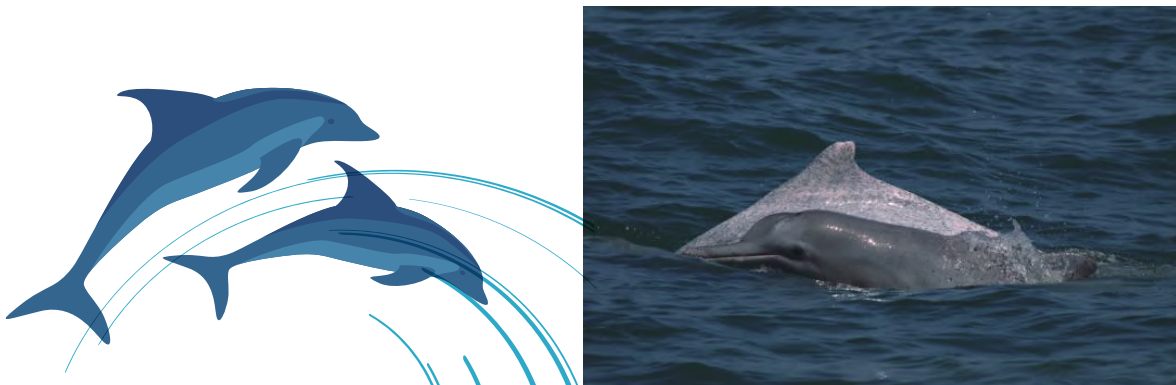
Plankton or phytoplankton species within Mailiao's marine ecosystem show prominent changes with the seasonal circulation. In general, plankton and phytoplankton show greatest abundances in the interval between springtime and summertime. Therefore, the results of the marine ecosystem investigation show higher plankton or phytoplankton quantities in the second and third quarters than those in the first and fourth quarters. Investigation results reveal that the same goes for benthos and fish in Mailiao's marine ecosystem; that is, benthos and fish quantities also change with the seasonal circulation. No impact of the Mailiao Industrial Complex's operation on benthos and fish quantities has been found thus far.

◆ Influences of Discharge on Ecology: Study on the Chinese White Dolphins

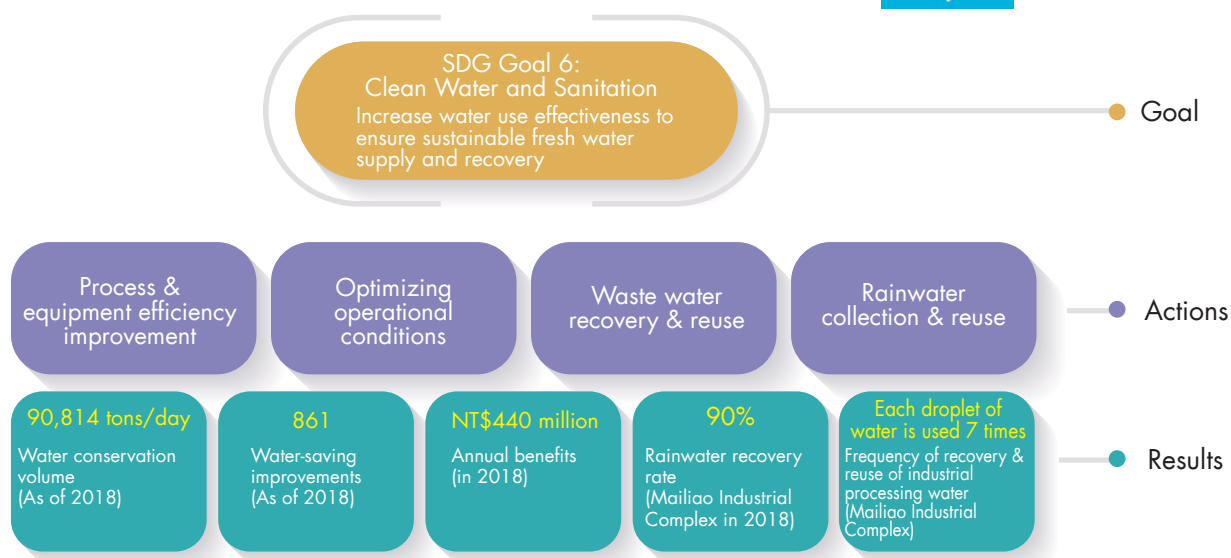
Since August 2008, Chinese white dolphins have been protected under the International Union for Conservation of Nature as a critically endangered species. According to the research, the dolphins' habitat is in a 3-km offshore region that spans from Miaoli to Tainan's coastal area.

Professional institutes employed by FPG have been conducting a long-term study since 2008, in which 256 trips were made, 286 sightings recorded, and 1,421 dolphins identified in the long and narrow range along the Yunlin coast (offshore <3 km and depth <15 m). Among the group members, mother-child dolphin pairs account for 50% to 70%, and 54% of the dolphins are seen repeatedly each year. Therefore, the coast of Yunlin is considered an important nursery habitat.

A compilation of past data indicates that 6 groups of Chinese white dolphins had been spotted approximately 500 meters away from the water discharge location of the Mailiao Industrial Complex and 2 groups to the north of the water discharge location near the Zhuoshui River estuary. This shows that the operation of the Mailiao Industrial Complex has no negative impact on the Chinese white dolphins' habitat.



3.2.3 Water Resource Consumption Efficiency



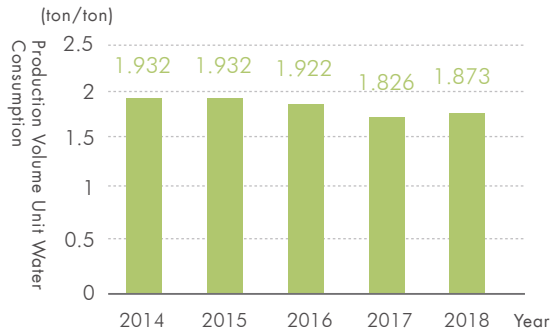
Water Consumption in the Mailiao Industrial Complex (FCFC & Formosa BP Chemicals Corp.) from 2010 to 2018					
Item \ Year	2000–2017	2018	Accumulated Volume (2000–2018)	Ongoing	Total
Number of Improvement Projects	726	135	861	70	931
Volume Saved (Tons/Day)	89,001	1,813	90,814	5,912	96,726
Amount Invested (NT\$0.1 billion)	26.55	0.19	26.74	9.6	36.34
Investment Benefit (NT\$0.1 Billion/Year)	4.25	0.15	4.40	0.30	4.70

Unit: million liters

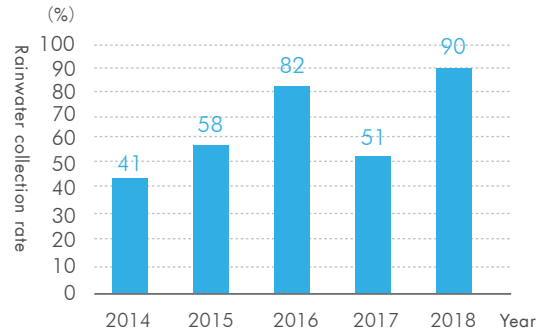
2018 FCFC Water Consumption				
Discharge volume based on the terminal point	Plant			
	Longde	Changhua	Mailiao	Xingang
Water Consumption	4,442.3	2.1	11,095.3	10,560.6
Total Water Withdrawal by Source	26,100.3			



Water Consumption in the Mailiao Industrial Complex (FCFC & Formosa BP Chemicals Corp.) from 2014 to 2018



Rainwater Collection Rate in the Mailiao Industrial Complex (FCFC & Formosa BP Chemicals Corp.) from 2014 to 2018



FCFC has installed rainwater storage tanks to stockpile and use rainwater. In 2018, the rainwater collection rate at the Mailiao Industrial Complex was 90% and the average volume of rainwater collected was 2,545 tons/day. The Company participated in CDP water safety survey in 2018 for the first time and received positive recognition in the form of "Management B" ranking. We will continue to participate in the aforementioned survey to demonstrate our efforts and performance in terms of water resource issues.

In 2018, the volume of recovered processing industrial wastewater (excluding circular use from cooling towers) was 426,478 tons per day. Based on the calculation formula from "Directions for Application Review on Proposal of Water Usage" from the Ministry of Economic Affairs, the Company's 2018 industrial water use recovery rate was 89.7%. (Note)

(Note) Water use recovery rate 89.7% = recovery of industrial processing water 382,518 tons per day / 2017 total water use at Mailiao Plant 426,478 tons per day

3.2.4 Soil and Groundwater Management

Groundwater quality monitoring management:

To monitor changes in groundwater quality, monitoring wells have been established within Changhua, Mailiao, Xingang and Longde industrial complexes, while certified institutions are authorized to perform soil and groundwater testing during high flow and dry seasons each year.

Prevention actions:

- The floor of each plant may be paved with anti-corrosion coatings or acid and alkali-resistant bricks based on the manufacturing process and the characteristics of raw materials and products.
- The appearance of the storage tanks (such as the surroundings and the tank walls) should be kept clean. If any traces of leakage are found, they should be repaired immediately to avoid soil and groundwater pollution caused by such leakage.
- Underground storage tanks should be constructed of non-corrosive materials and a secondary containment.
- When wastewater from the manufacturing process is transported to the on-site collection system, the process trench should be kept dry during normal use. In special cases where the process trench is used to collect wastewater, it should be provided with a stainless steel lining and, if necessary, an anti-corrosion, acid and alkali-resistant containment.

Installed stainless steel lining in groundwater storage tanks



Before Installation



After Installation

3.3 Mitigation and Adaptation to Climate Change



Mitigation and Adaptation Management Approach to Climate Change



Policy	To reduce potential impacts from climate change, besides complying with environmental laws such as the Greenhouse Gas Reduction and Management Act in practice, internally, the Company also sets various environmental protection systems and standards that shall be adhered by relevant departments through energy-saving, carbon reduction & pollution prevention teams.
Responsibilities	As climate change will directly impact business divisions, the energy-saving, carbon reduction & pollution prevention team needs to actively initiate mitigation and adaptation measures, while other indirect management departments also offer their support.
Resources	FCFC and Group Administration from FPG are actively committed to relevant tasks, such as participating in the CDP climate change survey rating, in response to the management targets of climate change mitigation and adaption.
Specific Actions	<ul style="list-style-type: none"> ■ Promote various energy-saving and carbon reduction measures and facilitate cooperation between subsidiaries and plants within FPG under the circular economy principle to fully integrate and coordinate resources. ■ Follow the government's promotions of green energy policy by using diversified energy consumption. ■ Participate in CDP climate change survey rating.
Goals and Commitments	<ul style="list-style-type: none"> ■ Reduce unit energy consumption by 3% over the previous year. ■ Substitute existing fuel gas with natural gas or processing gas as the fuel for the existing thermal oil boilers in each plant before 2020.
Grievance Mechanism	<ul style="list-style-type: none"> ■ SHE section has been set up on the Company's website as a channel for interested parties to provide their opinions and feedback. ■ Stakeholders can ask FCFC about environmental protection issues during various external meetings.

Performance Evaluation Methods and Results	<ul style="list-style-type: none"> ■ Regularly convene the "energy and water-saving performance evaluation meeting" to inspect various countermeasures, review implementation performance, and re-establish goals to stay up-to-date. ■ Participated in CDP Climate Change Disclosure Survey for the first time in 2018 and received "Leadership A-" ranking.
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3.3.1 Response Strategies to Climate Change Risks

FCFC continues to pay attention to global climate change and response trends and collects potential risks associated with climate change as one of the internal risk management projects. We take various factors into consideration, such as financial impact, reputation impact, global economic situation, energy cost fluctuations and environmental regulation costs, to determine the priority level of risks, so as to ensure the stability of FCFC's operation and maintain competitiveness.

	Risk	Opportunities
Economic	<ul style="list-style-type: none"> ■ Shortage of energy and resources leads to inflation of energy and resource prices, causing operational costs to increase. ■ Improvements in response to climate change or introduction of relevant machinery lead to early retirement of existing equipment and additional improvement expense. ■ New or substitute technologies used to meet low-emission requirements leads to increased investment expense. 	<ul style="list-style-type: none"> ■ Cross-plant and upstream and downstream resource integration is conducted to reduce raw material waste and to reduce transportation and consumption costs of raw material. ■ Reduce production costs by enhancing efficiency ■ Create new business opportunities through continuous R&D of products that meet environmental protection trends
Environmental	<ul style="list-style-type: none"> ■ Extreme weather such as typhoons and floods may lead to disruption and abrupt stop or delay in production, transportation difficulty, and problems in supply chain. ■ Extreme changes in rainfall lead to increased difficulty in planning of sourcing and using of water resources. ■ Increase in temperature may impact processing terms, leading to additional equipment investments and increase in power consumption. ■ Rise in sea level may lead sea-side plant facilities to be subjected to water damage or tidal floods. 	<ul style="list-style-type: none"> ■ Develop low-carbon products and market alternatives to increase revenue from green products ■ Research and develop process and equipment improvement in response to rising temperature in order to reduce operational costs ■ Develop water and energy-saving technologies to reduce energy and resource consumption
Social	<ul style="list-style-type: none"> ■ After the Greenhouse Gas Reduction and Management Act has been enforced, the consequent coordinating measures for total volume control, allocation, auction, sales, and transaction of GHG emissions will cause relevant carbon reduction fees to increase. ■ Extreme weather may impact consumers' needs and preferences. 	<ul style="list-style-type: none"> ■ Actively save energy and reduce emissions, implement circular economy, and reduce energy and resource consumption to lower operational costs ■ Enhance the Company's operational performance by developing products with new purpose, new materials, and special sizes to meet market needs

In response to the fact that international carbon reduction management has now encompassed GHG emissions from supply chain, FCFC has begun to launch supply chain GHG emissions volume (Scope 3) and product carbon footprint inventories since 2018. We will continue to promote such initiatives to seek for carbon reduction management measures, which include carbon reduction measures such as vehicle-sharing during peak hours and launching Company buses. In addition, the Company received "Leadership A-" ranking in the CDP climate change disclosure survey in 2018, and will continue to participate in this survey rating in the future so that investors around the world can all understand the Company's energy-saving and carbon reduction performance in response to global climate change. It is also expected that the fuel for the existing heat medium boilers at each plant will be replaced by natural gas or process gas by 2020 to reduce GHG emissions.

3.3.2 Greenhouse Gas Inventories and Energy Use

FCFC launched GHG emissions inventories and verification in accordance with ISO 14046-1 in 2009. In particular, the verification of the Yunlin Mailiao Plant is conducted by British Standards Institution (BSI), while verification of Changhua, Chiayi Xingang, and Yilan Longde Plants are conducted by System & Serviced Certification (SGS). Currently, inventories of GHG emissions of 2005–2017 have been completed, and inventory of 2018 is still undergoing. It is expected to be completed and announced on the Taiwan National Greenhouse Gas Registry before the end of August pursuant to the "Greenhouse Gas Emissions Verification and Registration Management Method" from the Environmental Protection Administration (EPA). As the international carbon reduction management has covered GHG emissions of the supply chain, FCFC has also begun to promote GHG inventory and verification of its supply chain (Scope 3) since 2017. The following is a table of the GHG emissions from each plant in 2017:

FCFC Greenhouse Gas Emissions in 2017

Unit: tons CO₂e

Plant	Mailiao Plant	Xingang Plant	Changhua Plant	Longde Plant	Subtotal
Scope 1	1,879,650	2,185,977	1,406	1,370,228	5,437,261
Scope 2	3,503,640	34,225	34,450	1,042	3,573,357
Category 3	3,412		2,478		6,160
Total	5,386,702		3,630,075		9,016,777

Source: 1. 2017 inventory reports published by SGS and BSI.

2. GHG emission factors used in the GHG inventory are quoted from the Greenhouse Gas Emission Factor Table Version 6.0.3 (updated on January 17, 2018) published by the Environmental Protection Administration, Executive Yuan.
3. Calculations are based on the Global Warming Trends data from Intergovernmental Panel on Climate Change's Fourth Evaluation Report published in 2007.
4. Year 2005 is set as the current base year, and the base year may be adjusted based on legal regulations or the Company's production status as needed.

Pursuant to regulations 4.1, 4.2, and 4.3 from the ISO 14064-1, organizational boundaries and operational boundaries of the Company's business divisions (plants) will be described to define the boundaries of GHG emission inventories. To clearly define the organizational boundaries that the Company manages and to set a centralized emission compilation method, it has been clearly stated in the management standards that except for special circumstances in which the "equity method" will be used to define the boundaries, the right-of-control method will be used in all definitions of organizational boundaries.

Total energy consumption in the Mailiao Plant was approximately 2.78×10^{16} joules in 2017. Most of the GHG emissions came from internally-purchased electricity, steam, and fuel, which account for 26.73%, 37.99%, and 34.21% respectively. Total energy consumption from other plants was approximately 3.66×10^{16} joules, and GHG emissions mostly came from coal combustion, accounting for 94.91%. In addition, based on the 2017 revenues of 240.881 billion (FCFC and Formosa BP Chemicals Corp.), energy density was approximately 267 thousand joules/NTD, and 3.743 thousand tons CO₂e-/NT\$0.1 billion.



FCFC Major Emission Sources and Consumption of Greenhouse Gas in 2017

Emission Source	Mailiao Plant				Emission Source	Plants Other than the Mailiao Plant			
	Consumption (A)	Heating Value (B)	Total Energy Consumption (A)*(B)	CO ₂ e Emissions (%)		Consumption (A)	Heating Value (B)	Total Energy Consumption (A)*(B)	CO ₂ e Emissions (%)
Purchased Power	1,766,044 thousand kWh	3.6*10 ³ KJ/kWh	6.36*10 ⁶ GJ	26.73%	Coal Combustion	1,484,717 tons	2.4*10 ⁷ KJ/ton	3.56*10 ⁷ GJ	94.91%
Fuel Oil	53,621 KL	4.1*10 ⁷ KJ/KL	2.20*10 ⁶ GJ	0.07%	Fuel Oil	11,713 Kiloliter	4.1*10 ⁷ KJ/KL	4.80*10 ⁵ GJ	1.19%
Fuel Gas	619,572 M ³	3.8*10 ³ KJ/M ³	2.35*10 ⁴ GJ	34.21%	Externally Purchased Electrical Power	129,151 thousand kWh	3.6*10 ⁶ KJ/thousand kWh	4.65*10 ⁵ GJ	1.93%
Internally Purchased Steam Gas	6,863,109 ton	2.8*10 ⁶ KJ/ton	1.92*10 ⁷ GJ	37.99%	Externally Purchased Steam	0 ton	2.8*10 ⁶ KJ/ton	-	0%
Total			2.78*10 ⁷ GJ	-	Total			3.66*10 ⁷ GJ	-

1. Data Source: FPG Computer Database on Greenhouse Gas Inventory

2. Joule (abbreviated as J); 1KJ=1,000J; 1GJ=10⁹J

3.3.3 Climate Change Mitigation

Global climate change and greenhouse gas (GHG) have become the most important issues in the global community. The Company has established the GHG inventory reduction management computerized system in accordance with FPG, and energy-saving improvements at each plant have been established in the system to make management and audit over implementation progress, efficiency, and CO₂ reduction volume easier. Since 2008, FCFC has participated in the Industrial GHG Voluntary Reduction Plan promoted by the Industrial Development Bureau and received Taiwan Green Productivity Foundation to verify the improvement in the reduction of GHG emissions.

From 2000 to 2018, we have made 4,534 improvements and invested NT\$10.99 billion. Cumulatively, benefits from such improvements have amounted to NT\$10.05 billion. In 2018, the unit steam consumption in the Mailiao Industrial Complex was 0.881 kWh/ton, which shows a decreasing trend year by year.

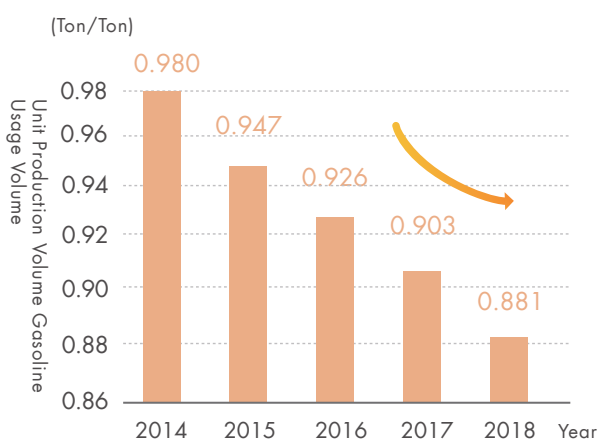


FCFC (including Formosa BP Chemicals Corp.) Energy Conservation from 2000 to 2018

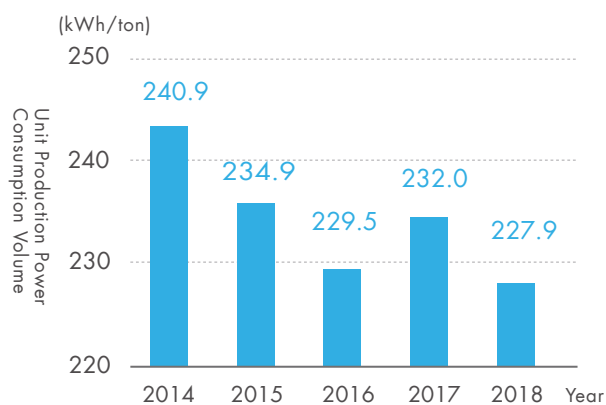
Item \ Year	2000–2017	2018	Accumulated Volume (2000–2018)	Ongoing	Total
Improvement (Number of Cases)	3,784	750	4,534	385	4,919
Steam Saved (Tons/Hour)	872	87	959	224	1,183
Electricity Saved (1,000 kWh/Hour)	102	8	110	13.5	123.5
Fuel Saved (Tons/Hour)	16.9	0.6	17.5	0.3	17.8
CO ₂ e Reduction (1,000 Tons)	3,382	205	3,587	615	4,202
Amount Invested (NT\$0.1 Billion)	99.9	10	109.9	46.2	156.1
Investment Benefit (NT\$0.1 Billion/Year)	92.5	8	100.5	15.6	116.1



Unit Steam Consumption in the Yunlin Mailiao Plant (FCFC and Formosa BP Chemicals Corp.) from 2014 to 2018





Unit Electricity Consumption in the Yunlin Mailiao Plant (FCFC and Formosa BP Chemicals Corp.) from 2014 to 2018



The Yilan Longde Plant, Yunlin Mailiao Plant, and Chiayi Xingang Plant completed ISO 14067: Product Carbon Footprint verification in 2018, and third-party assurance has been received. We will continue to promote product carbon footprint inventories in the future to ensure that expected results can be achieved in energy-saving improvements.

3.3.4 Climate Change Adaptation

According to the WEF 2019 Global Risk Report published by the World Economic Forum at the beginning of 2019, risks associated with climate change have the highest possibility of risk occurrence and impacts. Moreover, the impacts from "failure to adapt to climate change" have been extremely high since 2015. To enhance FCFC's capability and resilience to climate change in order to reduce negative impacts from climate change, the Company is actively drafting and launching various projects to focus on both environmental protection and sustainable industry development and to minimize relevant impacts. Relevant projects include pushing for obtaining green facility certification at the Haifeng Plant and clean production activities such as energy and resource conservation, pollution prevention, and green management.

Climate Change Risks	Description of Impacts	Adaptation Action Plan
 Floods from typhoons or heavy rainfall	<ul style="list-style-type: none"> Equipment is affected by floods, leading to disruptions in production. Transportation is stopped by floods, causing the difficulty of employees entering the plants and raw materials being shipped. Finished products may be damaged or downgraded by floods. Traffic disruption leads to delivery problems, causing operation to stop. 	Water discharge and wind resistance will be reinforced at each plant to prevent damage caused by typhoons. Actions include (1) operational managers will gather the head of each plant to discuss countermeasures to typhoons to mitigate disasters during seasons in which typhoons are frequent. (2) In case of typhoon, backup generators should be prepared at each production facility in case of blackouts, and emergency pumps are used to discharge water.
 Decrease in rainfall leading to droughts	Insufficient water source for production negatively affects activation or disrupts production, leading to increased costs.	<ul style="list-style-type: none"> Reduce and recover industrial water and invest in advanced processes and equipment update. Build water tanks to counter any drought-related crisis. Plan to build a desalination plant in response to insufficient water resources.



3.4 Air Pollutant Management



Air Pollutant Management Approach



Material Topic

Policy	The Company pays close attention to domestic laws on emissions and regards relevant laws as the basis to our air pollution emission improvements, for example, the draft for "Standard for Hazardous Air Pollutant Emissions from Fixed Sources." In addition, the Company also complies with the Montreal Protocol on Substances that Deplete the Ozone Layer, in which substances or equipment that would deplete the Ozone layer will not be used during production processes.
Responsibilities	Departments that emit air pollutants will be responsible to reduce such pollution, and FCFC's SHE Department will both supervise and assist in their improvement.
Resources	FPG has established the Evaluation and Counseling Committee for Mailiao Industrial Complex's Air Quality Impact, which coordinates the air quality evaluation at Mailiao Industrial Complex.
Specific Actions	<ul style="list-style-type: none"> ■ Continuous automated detection systems have been set up at each emission pipe to instantly monitor the emissions of all air pollutants. ■ The best available control technology (BACT) has been adopted to comply with Air Pollution Control Act from the EPA.
Goals and Commitments	The Company will continue to advocate for waste reduction from the source and recovery improvement tasks to reduce pollutant emissions from the source and lower environmental impacts. We aspire to achieve our "zero pollution" target and to create an environment for sustainable management.
Grievance Mechanism	<ul style="list-style-type: none"> ■ SHE section has been set up on the Company's website as a channel for interested parties to provide their opinions and feedback. ■ Stakeholders can ask FCFC about environmental protection issues during various external meetings.
Performance Evaluation Methods and Results	All emissions are performing better than legally stipulated levels.

Emissions and Control

We constantly seek to make improvements in air pollution control. A total of 3 sets of FTIR infrared sensors and 11 sets of GasFind IR have been purchased to monitor leaks of process gas. Since 2007, certified institutions have been authorized by the co-generation coal-fired unit twice a year to make sure that our plants' dioxin emissions meet national standards. According to the Montreal Protocol on Substances that Deplete the Ozone Layer, FCFC does not use any raw material or equipment that depletes the ozone layer during the manufacturing process.

In 2017, the Environmental Protection Administration made an early announcement of the Standard for Hazardous Air Pollutant Emissions from Fixed Sources (draft) to strengthen the control of hazardous air pollutants, gradually specifying emission standards for specific industries and controlling their air pollutant emissions. The Company will follow up the provisions and progress of the draft closely to make early improvements. The air pollutant emissions in 2018 are shown in the table below:

Unit: tons/year

Type	Plant				Total	
	Longde	Changhua	Mailiao	Xingang		
Air Pollutant Emission Management	Sulfur Oxides (SO _x)	140.021	0	399.723	304.718	844.462
	Nitrogen Oxides (NO _x)	213.522	0	1,184.427	782.393	2,180.342
	Volatile organic compounds (VOC)	115.180	3.519	612.441	88.85	819.990
	Total Suspended Particles (TSP)	23.300	0	35.933	28.612	87.845

Source: The air pollution, wastewater, and waste filing website of the Environmental Protection Administration

Air Quality Impact Monitoring and Analysis at the Mailiao Industrial Complex

In view of the public concerns about the Mailiao Industrial Complex's air pollution, FPG has established the Evaluation and Counseling Committee for Mailiao Industrial Complex's Air Quality Impact in September 2011 to analyze the air pollution of public concerns accurately through rigorous scientific research.

To ensure that all environmental indicators are controlled in a timely manner, we have built a comprehensive environmental monitoring network that consists of 8 layers of intense monitoring control with considering the prevailing wind direction in Mailiao. The network includes 8,109 fixed gas detectors, 39 GasFind IR thermal imaging cameras used by the American military, 34 CEMS fixed pollutants sequential monitoring systems, 39 FLARE fixed pollutants sequential monitoring systems, 8 mobile FTIR monitors, and 8 fixed FTIR monitors within the Mailiao Industrial Complex as well as 1 VOC monitoring station, 10 photochemical assessment monitoring stations, 12 automatic odor sampling stations, 10 fixed air quality monitoring stations, and 1 air quality monitoring vehicle outside the Complex to identify emission sources as quickly as possible and ensure local air quality.

Recent studies have indicated that northeastern monsoons are more frequent during winter at Central and Southern Taiwan, where air pollution is more severe. Pollutants at the Mailiao Industrial Complex are mostly carried to the Taiwan Strait, indicating that the influence from emissions from Mailiao, located in the western coast, is negligible. Results of government research has further proven that the reduction of PM_{2.5} density cannot be done by simply reducing industrial loading alone. Influences from open-air combustion, car exhaust, and emissions from beverage and food industries shall also be taken into account, which have contributed toward the deterioration of air quality in Taiwan in recent years. Therefore, comprehensive planning is needed to reduce all sources of pollution in order to improve air quality in Taiwan. To this means, reasonable air quality standards and reduction responsibilities shall also be established.



VOC Monitoring Station



Air Quality Monitoring Vehicle



Comparison between Air Quality Detected by the Environmental Protection Bureau and Statistics of the No. 6 Naphtha Cracking Plant

Monitoring item	Monitoring Station	No. 6 Naphtha Phase 4 April 2010–December 2018	Control Standards
SO ₂ (ppb)	No. 6 Naphtha	3.8	250
	Tucheng (Northern Taiwan)	3.1	
	Hsienhsi (Central Taiwan)	4.0	
	Taihsi (Yunlin-Chiayi-Tainan)	3.4	
	Xiaogang (Kaohsiung-Pintung)	7.4	
NO ₂ (ppb)	No. 6 Naphtha	9.1	250
	Tucheng (Northern Taiwan)	17.9	
	Hsienhsi (Central Taiwan)	12.2	
	Taihsi (Yunlin-Chiayi-Tainan)	8.2	
	Xiaogang (Kaohsiung-Pintung)	21.5	
O ₃ (ppb)	No. 6 Naphtha	31.4	120
	Tucheng (Northern Taiwan)	28.3	
	Hsienhsi (Central Taiwan)	31.6	
	Taihsi (Yunlin-Chiayi-Tainan)	36.5	
	Xiaogang (Kaohsiung-Pintung)	27.1	
CO (ppm)	No. 6 Naphtha	0.4	35
	Tucheng (Northern Taiwan)	0.5	
	Hsienhsi (Central Taiwan)	0.3	
	Taihsi (Yunlin-Chiayi-Tainan)	0.3	
	Xiaogang (Kaohsiung-Pintung)	0.5	
PM ₁₀ (µg/m ³)	No. 6 Naphtha	55	125
	Tucheng (Northern Taiwan)	40	
	Hsienhsi (Central Taiwan)	50	
	Taihsi (Yunlin-Chiayi-Tainan)	49	
	Xiaogang (Kaohsiung-Pintung)	64	
PM _{2.5} (µg/m ³)	No. 6 Naphtha	30	35
	Tucheng (Northern Taiwan)	22	
	Hsienhsi (Central Taiwan)	25	
	Taihsi (Yunlin-Chiayi-Tainan)	26	
	Xiaogang (Kaohsiung-Pintung)	33	

Monitoring item	Monitoring Station	No. 6 Naphtha Phase 4 April 2010–December 2018	Control Standards
NMHC (ppm)	No. 6 Naphtha	0.2	-
	Tucheng (Northern Taiwan)	0.2	
	Hsienhsi (Central Taiwan)	0.1	
	Taihsi (Yunlin-Chiayi-Tainan)	0.1	
	Xiaogang (Kaohsiung-Pintung)	0.2	
Description	<ul style="list-style-type: none"> PM_{2.5} detected by the No. 6 Naphtha Cracking Plant was acquired manually. Records provided by the monitoring stations of the Environmental Protection Administration (the EPA) were all acquired through an automated system. The EPA sets the standard as an average amount per hour. The value of PM_{2.5} in the No. 6 Naphtha Cracking Plant is lower than that in Hsiaokang and similar to that in monitoring stations near other air quality or industrial zones. 		

Source: The EPA Air Quality Monitoring Station & the No. 6 Naphtha Cracking Plant Air Quality Monitoring Station.

We have taken extra measures to ensure that odors produced by our facilities do not influence the surrounding residents. On September 17, 2010, FPG established the Odor Evaluation Team, which consists of members from the Group Administration and 4 FPG's main companies. Odors around the facilities are examined daily at 4 p.m., and the results are reported to the supervisors so that they can take immediate corrective actions. Though an improvement program was promoted to identify odor sources during the manufacturing process and resulted in an increasing number of odor sources identified from 2014 to 2015, the number has gradually decreased since 2016, and the overall odor control has been significantly improved.

Number of Odor Sources from 2010 to 2018

Ongoing Improvement	9 Cases
Improved	199 Cases
Total	208 Cases

3.5 Waste and Controlled Chemical Substance Management



Waste and Controlled Chemical Substance Management Approach



Policy	Waste management policy is carried out in accordance with related waste disposal laws from the government and the "Industrial Waste Management Procedures" from FPG. For controlled chemical substances, permits shall be obtained pursuant to regulations from each competent authority.
Responsibilities	Departments that produce the waste and/or use the controlled chemical substances shall be in charge of relevant management, while the SHE department will both supervise and facilitate in such management.
Resources	As of 2018, total investments in improvements designed to reduce pollutant emissions have reached NT\$17.95 billion.

Specific Actions	<ul style="list-style-type: none"> Reduce the life cycles of controlled chemical substances and waste through prevention, reduction, recovery and reuse. Select waste disposal and treatment companies that have obtained qualified environmental protection permits. Conduct classification management and exposure assessment in regards to controlled chemical substances, and establish warning and containment facilities.
Goals and Commitments	Achieve the goal of "zero pollution".
Grievance Mechanism	<ul style="list-style-type: none"> SHE section has been set up on the Company's website as a channel for interested parties to provide their opinions and feedback. Stakeholders can ask FCFC about environmental protection issues during various external meetings.
Performance Evaluation Methods and Results	<ul style="list-style-type: none"> Ratio of waste recovery and reuse in 2018 was 88%. No abnormal incident occurred during waste treatment conducted by waste disposal companies in 2018. No occupational injury related to controlled chemical substance occurred in 2018.

3.5.1 Waste Management

To reach the ultimate goals of zero waste and zero landfill, waste management, including source classification, manufacturing waste reduction, and resource recycling, is implemented to reduce waste incineration and landfill.

Each unit is required to reduce, sort, store, reuse, and clean up manufacturing waste in accordance with the regulations with respect to waste disposal and the Regulations Governing Industrial Waste established by FPG. Waste management is outsourced to domestic suppliers and have not been exported for treatment. In addition, we prioritize reuse over waste incineration, thermal treatment, and waste landfill.

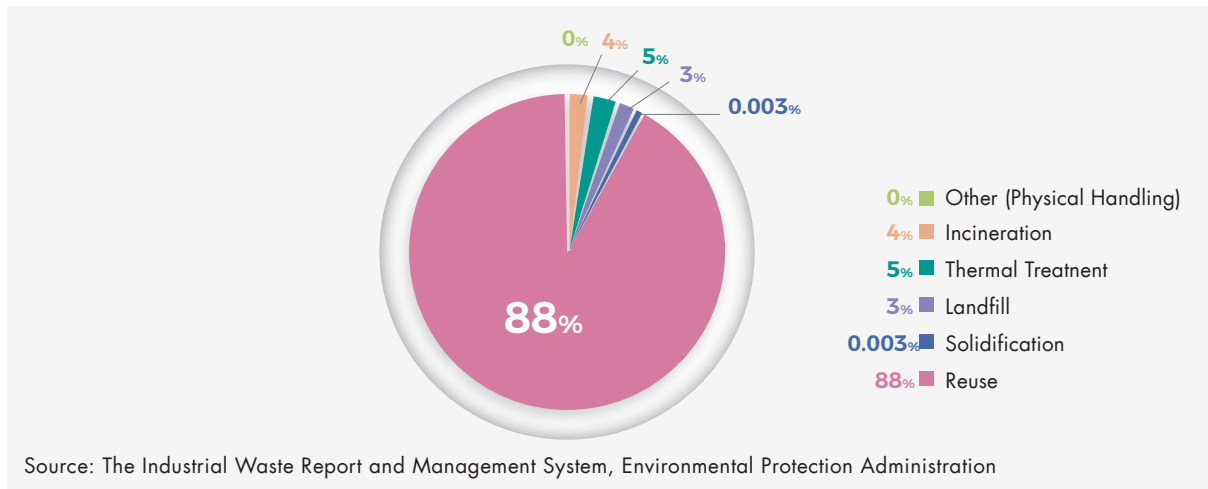
Waste disposal is carried out at each plant based on the waste disposal plan approved by competent authorities, and qualified waste disposal and treatment companies are selected. Waste disposal self-audit control measures will be established to ensure that waste disposal companies comply with environmental protection laws and that industrial waste is treated properly to prevent illegal conducts including illegal landfill. No abnormal incident involving disposal companies' illegal disposal occurred in 2018.

In 2018, FCFC's industrial waste reached 273,376 tons, and reused resources (including coal ash) reached 241,310 tons (88%). A total of 32,057 tons of the remaining industrial waste and 9 tons of hazardous industrial waste were properly handled by qualified institutions as summarized below:

Type	General				Hazardous	Reuse	Total
	Other (Physical Handling)	Incineration	Thermal Treatment	Landfill	Solidification		
Handling Capacity (Tons)	987	10,108	12,163	8,799	9	241,310	273,376
Percentage (%)	0.36	3.70	4.45	3.22	0.003	88.27	100



FCFC Waste Generation and Treatment Methods



3.5.2 Controlled Chemical Substance Management

To ensure the safe management of the production, use, storage and transportation of controlled chemical substances in the operating sites and facilities of each plant, we have obtained the required government licenses for the controlled chemical substances in accordance with the regulations governing environmental protection, occupational safety, fire and transportation. We have also established internal regulations to strengthen the independent management of controlled chemical substances; in addition, regular assessments of the working environment are conducted by external environmental assessment institutions to control the real working environment and the employees' exposure.

Each plant will consider possible disasters with respect to the manufacturing process and formulate the Regulations of Emergency Rescue based on the Safety Data Sheet (SDS) as a training material for emergency response drills. Unscheduled tests shall be conducted twice every year along with an overall drill in disaster prevention and contingency plans.

Classification and Exposure Assessment

We screen the hazards and the use of controlled chemical substances in the operating sites and then classify the hazards using GHS and determine the potential exposure based on the level of diffusion and consumption of chemical substances. A risk matrix is used to determine the management method (overall ventilation, engineering control, isolation, and special regulations) and the risk level of chemical substances, so as to reduce operators' exposure.

Containment for Controlled Chemical Substances

Storage tanks are equipped with containment, such as anti-overflow embankments and collecting trenches, to contain the controlled chemical substances and avoid damage or pollution in case of leaks.



Controlled Chemical Substance Detectors and Alarms

A gas detector is installed around the operating site of controlled chemical substances to instantly transmit the on-site gas value detected to the DCS. The DCS controllers monitor at any time and have operators check once the gas detector detects an abnormality.



Safety Protective Equipment and First-aid Medicine Management

All departments are required to regulate the use, storage, and hazardous characteristics of controlled chemical substances according to the scale and install a sufficient number of emergency rescue devices, such as safety protective clothing, air respirators, fire-fighting clothing, stretchers, acid and alkali-resistant gloves, and fire-fighting equipment, for emergency use.



3.5.3 Pollution Control Improvement Projects

Since its incorporation, FCFC has focused on both industrial development and environmental protection. We promote environmental protection based on the spirit of inquiring into the root of the matter. According to the best available control technology (BACT), we have built our plants based on the best manufacturing technology, the best pollution control equipment, and the best environmental protection system; furthermore, we have been committed to reducing pollutant emissions. As of 2018, the total investment reached NT\$17.95 billion. Of the 31 ongoing pollution control betterment projects in 2019, 20 projects involve exhaust, 9 projects involve wastewater (including soil and groundwater) and 2 projects involve waste reduction, with estimated NT\$1.481 billion to be further invested. The expenditures on the ongoing pollution control betterment projects are shown below:

 Expenditures on the Ongoing Pollution Control Betterment Projects in 2019

	Type	Number of Projects	Amount Invested (in NT\$1,000)
Ongoing	Exhaust	20	1,166,794
	Wastewater	9	274,789
	Wastes	2	39,712
	Total	31	1,481,295

3.6 Compliance with Environmental Laws

 Management Approach to Compliance with Environmental Laws



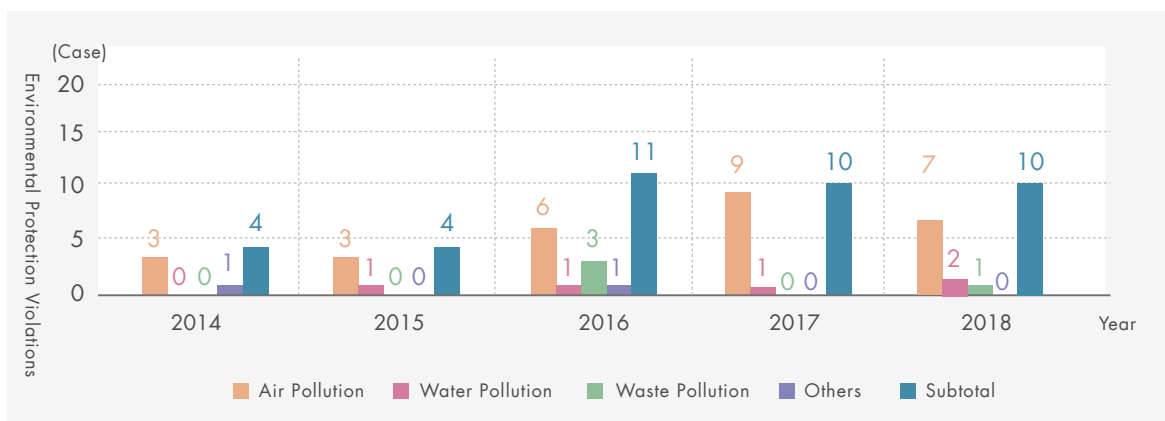
Policy	To pursue compliance and to exceed environmental laws and standards from the Environmental Protection Administration and to comply with FPG's environmental protection supervision and management methods, so that all relevant operating activities, products, and services at all FCFC plants can comply with environmental laws.
Responsibilities	Environmental protection experts have been designated at all FCFC production departments to be in charge of compliance with environmental protection laws. In addition, the Safety, Health and Environmental Protection Division (SHE) also assists in, guides, and supervises matters related to environmental protection.
Resources	Designated personnel at FCFC will continue to follow up and focus on amendments to environmental protection laws and drafts from competent authorities and to propose improvement projects.
Specific Actions	A designated department will browse the latest environmental protection laws announced by the government on government websites monthly, and to participate in environmental protection public hearings and seminars as needed. This will help the Company to obtain information on the latest environmental protection laws and drafts and to understand the underlying missions, key implementation, and trends.

Goals and Commitments	FCFC will ensure safe production processes to prevent from causing environmental pollution and set "zero penalty" as the goal.
Grievance Mechanism	<ul style="list-style-type: none"> SHE section has been set up on the Company's website as a channel for interested parties to provide their opinions and feedback. Stakeholders can ask FCFC about environmental protection issues during various external meetings.
Performance Evaluation Methods and Results	<ul style="list-style-type: none"> The Company has established the procedures for compliance verification in accordance with the ISO 14001 Environmental Management System. If the results of compliance verification indicate non-compliance that cannot be improved immediately, we will request improvement plans to be formulated and follow up on their enforcement. No major leakage incident occurred in 2018. In 2018, 10 environmental protection violations occurred. Five of which were paper-based documentation errors, 2 were leaks from equipment components, 2 were abnormal discharge, and 1 was for exceeding the permitted odor levels. Cumulatively, FCFC was fined NT\$1.25 million. Regarding the environmental protection violations, we have implemented horizontal improvements and warned every department through internal meetings. We have also strengthened random inspection management and increased preventive equipment.

As FCFC has intensive upstream and downstream presence in the petrochemical industry, we have become a major inspection target for the central and local environmental protection government agencies (inspected 3 times per day).



FCFC Environmental Violations (2014–2018)



3.7 Description of Material Environmental Issues

Impact of the Air Pollution Control Act

The amendments to the Air Pollution Control Act were approved and enacted on June 25, 2018. In response to the new laws, the Company has established more rigorous standards. The project of cogeneration reforms has been developed since 2016. As much as NT\$2.6 billion has been invested into this project, which is expected to be completed by 2019, and would help emissions from cogeneration machines to meet the most rigorous standards and to rival that of natural gas machines. This would help the Company to mitigate impacts from amendments to the Air Pollution Control Act. In addition, the Company also expects to finish improvements to thermal oil boilers used in production processes by 2020. These improvements would reduce various emissions and to further reduce impacts from the legal amendments.

Cogeneration Machinery Improvement Plan To be completed by 2019

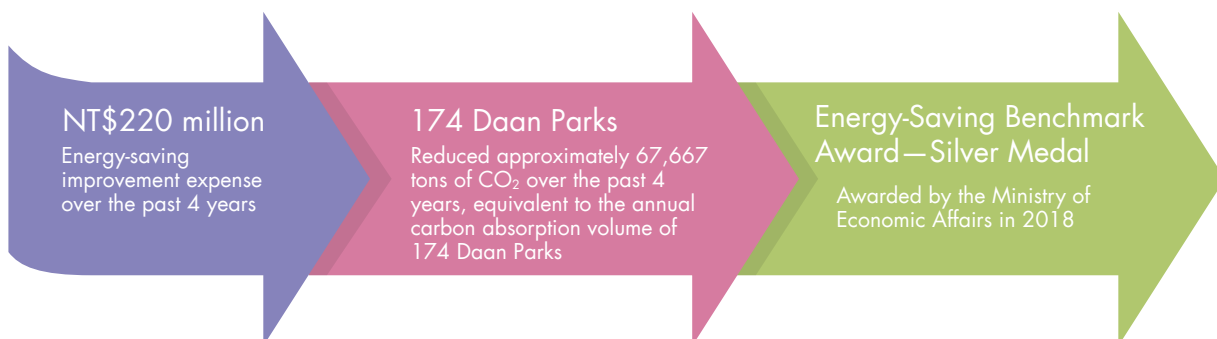
- Introduce bundled tube dust collectors to minimize particulate emissions
- Increase capacity of selective catalytic reduction (SCR) and reform low nitrogen combustion to minimize nitrogen oxide (NOx) emissions
- Introduce steam reheaters to reduce visual exhaust pollution

Thermal Boiler Improvement To be completed in 2020

- Replace worn boilers with new ones to reduce emissions of pollutants
- Replace fuel oil with liquefied petroleum gas (LPG)

Phenol Plant Honored with 2018 Energy-Saving Benchmark Award—Silver Medal

FCFC's Phenol Plant in Mailiao, Yunlin has achieved significant energy conservation and carbon reduction results. The plant has gradually completed 92 energy conservation and 78 power-saving improvements from 2015 to 2018, in which 19,650 kiloliter of oil equivalent (koe) and 23,160 thousand kWh of power were conserved, helping the Company to reduce 67,667 tons of CO₂ emissions. Energy conservation and carbon reduction results from 2015–2018 are equivalent to the annual carbon absorption volume from 174 Daan Parks (Note). FCFC's environmental protection investments exceeded NT\$220 million, winning Silver Medal from 2018 Energy-Saving Benchmark Awards from the Ministry of Economic Affairs.



Note: Calculations are based on the 2018 Energy-Saving Awards Ceremony data from the Ministry of Economic Affairs, which can be found on the website "Energy Park."



4

A circular icon containing a stylized figure of a person standing on a pedestal and holding a trophy aloft with their right hand.

Fostering Sustainable Human Capital

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4.1 Employee Human Rights Protection



Employee Human Rights Protection Management Approach



Policy	The Company supports and complies with basic human rights principles including the Universal Declaration of Human Rights, International Bill of Human Rights, the UN Global Compact, and the International Labour Organization's Declaration of Fundamental Principles and Rights at Work on top of local laws and regulations where the Company operates.
Responsibilities	FPG's Group Administration and FCFC President's Office and all departments promote human rights protection based on FCFC Human Rights Policy.
Resources	The FCFC Human Rights Policy, signed and enacted by the Chairman of FCFC, stipulates that every department throughout the Company must be committed to implementing human rights protection.
Specific Actions	<ul style="list-style-type: none"> ▪ Establish the Sexual Harassment Prevention Measures to reinforce sexual harassment prevention and provide employees with a reporting channel. ▪ Comply with the Employment Service Act to provide public, fair, and impartial job opportunities for all candidates. ▪ Develop the Personal Data Management Regulations to properly keep and handle employees' personal data.
Goals and Commitments	FCFC's employee rules have clearly stipulated that no employee shall be subjected to discrimination because of union membership. All employees are protected by the rules. The Company also strictly prohibits the use of child labor and any incident that violates human rights or discrimination rules.
Grievance Mechanism	<ul style="list-style-type: none"> ▪ The Company established the Guidelines for Employee Appeals to build a diversity of reporting channels. ▪ Executive Coordination Meetings are held, in which executives discuss and determine major rewards and punishments. ▪ Employee opinion mailboxes have been set up. ▪ An online mailbox in the business information system has been set up.
Performance Evaluation Methods and Results	<ul style="list-style-type: none"> ▪ Ratio of employee participation in union is 69.1% in 2018. ▪ No use of child labor or human rights violation or discriminatory incident occurred in 2018.

Objective

FPG Human Rights Protection



Action

Anti-harassment

Established the Sexual Harassment Prevention Measures to reinforce sexual harassment prevention and provide employees a reporting channel

Anti-discrimination

Complied with the Employment Service Act to provide public, fair, and impartial job opportunities for all candidates

Personal Data Protection

Developed the Personal Data Management Regulations to properly keep and handle employees' personal data

Communication Mechanisms

- Establishing the Guidelines for Employee Appeals to build a diversity of reporting channels
- Creating the Executive Coordination Meetings in which executives discuss and determine major rewards and punishments

To strengthen and to fulfill human rights protection, the human rights protection policy was proposed by the Company and enacted by the Chairman in 2018 in reference to the International Bill of Human Rights. Please refer to FCFC's website—Social Responsibility—Employee Workplace Safety—Human Rights Policy for details.

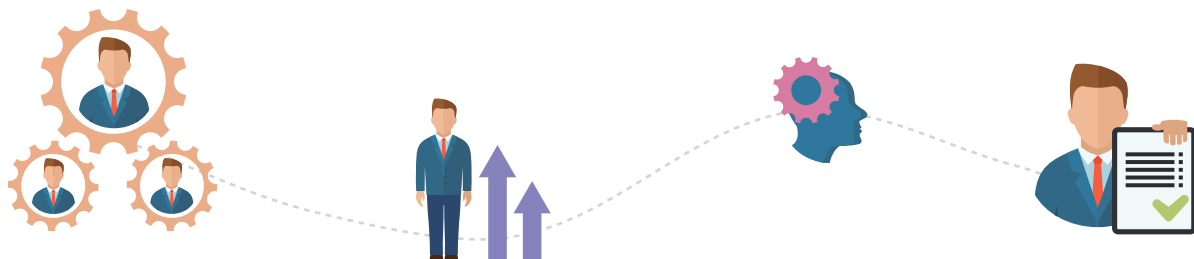
4.1.1 Employee Opinions and Feedback

FCFC emphasizes a harmonious relationship between the management and employees. We offer multiple communication channels for employees to voice their opinions and make suggestions. Employees are encouraged to take part in the labor union or the Employee Welfare Committee to voice their suggestions to the management in regularly-held meetings. We prioritize the labor union's suggestions when formulating crucial policies; in addition, all the employees are protected by the mutual agreement of the management and employees.

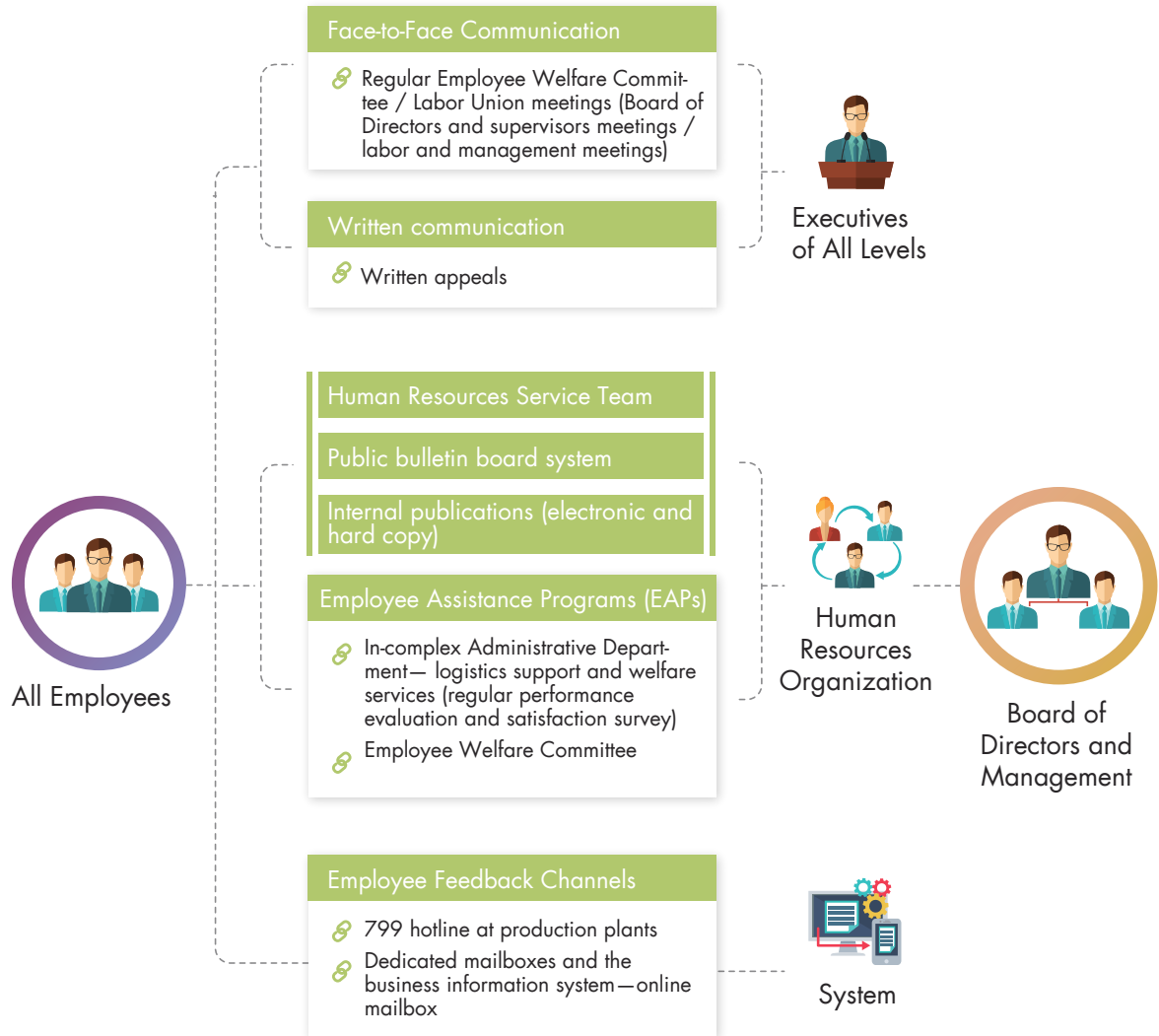
We have also set up the following channels for internal communication:

- Suggestion boxes at appropriate locations
- An online mailbox in the business information system
- 799 hotlines at each complex

Regarding new recruits, we hold periodic consultation programs so that we can better understand the various difficulties they face in both their jobs and their daily life. By resolving their problems, we hope to eliminate their uneasiness of adjusting to a new working environment and reduce the turnover rate.



FCFC Internal Communication Channels



4.1.2 Employee Profile

In 2018, FCFC's regular employment accounted for 96%, all of which were full-time employees; the temporary employment (e.g. consultants, contract-based employees, foreign employees, and work-study students) accounted for only 4%, including 1 part-time employee. The percentage of local employees was over 99%. The percentage of local male to female employees was 7:1; the average age was 44.1 years old; the average years of service were 18.2 years.

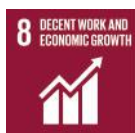


FCFC Manpower Structure in 2018

Unit: Person

Type	Nature	Female		Male		Total
		Number of Persons	Ratio on the Group	Number of Persons	Ratio on the Group	
Employment Contract	Regular Employees	651	12.1%	4,710	87.9%	5,361
	Temporary Employees	140	56.2%	109	43.8%	249
Type of Employment	Full-Time Employees	790	14.1%	4,819	85.9%	5,609
	Part-Time Employees	1	100.0%	0	-	1
Position	Executives	1	0.2%	48	1.0%	49
	First and Second Level Directors	26	4.0%	1,160	24.6%	1,186
	Entry Level Managers and Employees	340	52.2%	3,502	74.4%	3,842
	Assistants	284	43.6%	0	-	284
Location	Northern Taiwan	212	32.6%	787	16.7%	999
	Central Taiwan	134	20.6%	2,275	48.3%	2,409
	Southern Taiwan	250	38.4%	1,079	22.9%	1,329
	Eastern Taiwan	55	8.4%	569	12.1%	624
Age	Under 29 Years Old	59	9.06%	510	10.83%	569
	30-39 Years Old	119	18.28%	1,067	22.65%	1,186
	40-49 Years Old	224	34.41%	1,766	37.49%	1,990
	50-59 Years Old	213	32.72%	1,103	23.42%	1,316
	Over 60 Years Old	36	5.53%	264	5.61%	300
Years of Service	Under 10 Years	172	26.42%	1,416	30.06%	1,588
	11-20 Years	61	9.37%	1,021	21.68%	1,082
	20-30 Years	233	35.79%	1,563	33.18%	1,796
	Over 30 Years	185	28.42%	710	15.07%	895
Education	Doctor's Degree	0	-	9	0.2%	9
	Master's Degree	48	7.4%	516	11.0%	564
	Bachelor's Degree	44	6.8%	828	17.6%	872
	Others	559	85.9%	3,357	71.3%	3,916
Subtotal of Regular Employment by Gender		651	100.0%	4,710	100.0%	5,361

4.1.3 Recruitment



Employee Recruitment

FCFC's recruitment has always been carried out in a fair, impartial and transparent manner in accordance with the Labor Standards Act. Based on the fundamental human rights that everyone is equally considered for any job opportunities, we evaluate each candidate completely based on his or her expertise and experience. After candidates are employed, we ensure that they receive fair treatment in terms of promotion, evaluation, training, and rewards and punishments. We expect to achieve the SDGs Target 8.6 through FCFC's human resources system, thereby substantially reducing the proportion of youth not in employment, education or training.



2018 New Employee Statistics by Age and Regional Distribution

Type		Female		Male	
		Number of Persons	Ratio on Total Employees	Number of Persons	Ratio on Total Employees
Age	Under 29 Years Old	31	0.58%	213	3.97%
	30-39 Years Old	14	0.26%	56	1.04%
	40-49 Years Old	1	0.02%	1	0.02%
	50-59 Years Old	-	-	-	-
	Over 60 Years Old	-	-	-	-
Region	Northern Taiwan	12	0.22%	19	0.35%
	Central Taiwan	10	0.19%	152	2.84%
	Southern Taiwan	21	0.39%	71	1.32%
	Eastern Taiwan	3	0.06%	28	0.52%
Total		46	0.86%	270	5.04%

Note: Ratio on Total Employees = New (Male) Female Employees / Total Regular Employees

Employment Security

Seeing the protection of employees' right of work as a priority, we have established an integrated HR mechanism in which human resource reallocation is adopted rather than layoffs. All personnel transfers and adjustments are reported verbally by heads of departments and processed in accordance with regulations and applicable laws. Rotation is completed within 10 days on average. In addition, in case of organizational restructuring for operational needs, leading to changes that affect employees' employment status, the announcement method and time of such changes will always be carried out in accordance with the Labor Standards Act.

In 2018, the turnover rate (including retirement) of FCFC was 3.26%, and 46.29% of which were retirees. This fully demonstrates FCFC's emphasis on caring for employees and providing employment security.



2018 Statistics on Turnover by Age and Regional Distribution

Type		Female		Male	
		Number of Persons	Ratio on Total Employees	Number of Persons	Ratio on Total Employees
Age	Under 29 Years Old	11	0.21%	35	0.65%
	30-39 Years Old	15	0.28%	21	0.39%
	40-49 Years Old	5	0.09%	9	0.17%
	50-59 Years Old	8	0.15%	20	0.37%
	Over 60 Years Old	6	0.11%	45	0.84%
Region	Northern Taiwan	9	0.17%	30	0.56%
	Central Taiwan	5	0.09%	46	0.86%
	Southern Taiwan	29	0.54%	22	0.41%
	Eastern Taiwan	2	0.04%	32	0.60%
Total		45	0.84%	130	2.42%
Turnover Rate (Year)		3.26%			

Note: Ratio on Total Employees = (Male) Female Turnover / Total Regular Employees

Percentage of Local Recruits as Senior Managers

We have contributed to the local communities by prioritizing employment offers to local residents. We also train the locals to become senior managers. The percentage of local recruits as senior managers over the past 5 years is shown in the table below:



Percentage of Local Recruits as Senior Managers over the Past 5 Years

(Unit: Person, %)

Year	2014	2015	2016	2017	2018
Number of persons	1,046	1,019	940	677	691
Percentage of Local Recruits (%)	47.5	47.0	43.7	39.6	39.2

Note: Senior managers refer to those who are higher than entry level managers, have more than 5 years of service, and have the birthplace identical with the workplace.

4.2 Employee Remuneration and Benefits



Employee Remuneration and Benefits Management Approach



Policy	FCFC holds true to the philosophy of "equal pay" and the mission of "seeing all employees as members of our family" while establishing the benefits and remuneration system for our employees.
Responsibilities	We provide a fair career development environment and excellent remuneration for our employees. We also implement various comprehensive benefits system.
Resources	The "799" hotline is set up at each operational site to provide timely channels for employees to reflect their thoughts and to solve their problems.
Specific Actions	Organizational meetings are held via the union and the Employee Welfare Committee to achieve bi-lateral communications.
Goals and Commitments	We offer more competitive remuneration than industry competitors and a wholesome benefit system. Besides providing proper care in terms of food, clothing, accommodations, transportation, education, and recreation, we also care for employees' families to provide a worry-free work environment.
Grievance Mechanism	<ul style="list-style-type: none"> Physical and online opinion mailboxes. Organizational meetings of the union and Employee Welfare Committee.
Performance Evaluation Methods and Results	<ul style="list-style-type: none"> We offer higher minimum wage than the legally stipulated standards. The ratio of minimum salaries for females and males for the identical positions and ranks is 1:1. Various benefits measures more competitive than legal regulations are offered.

4.2.1 Employee Remuneration

The compensation standards for new recruits are established at FCFC based on the education and experience required by the position's. The minimum salary ratio of female and male employees with identical positions and ranks is 1:1. After employment, annual promotions and raises are determined by performance to provide corresponding remuneration. At present, the salary ratio of male and female employees is shown in the table below:



Salary Ratio of Female and Male Employees

Unit: %

Type	Year	2016		2017		2018	
		Female	Male	Female	Male	Female	Male
Level 2 Managers or Above		100	103	100	95	100	97
Entry Level Managers or Below		100	142	100	138	100	136

The minimum salary ratio of females serving in roles of entry-level managers (inclusive) or below is lower than that of males. This is mostly attributable to the fact that most female workers in entry-level jobs, for instance, operators or administrative staff, do not work on shifts, while entry-level male workers may receive more shift-related incentives. In addition, the minimum salary standards at FCFC exceed the legally-stipulated minimum wage of NT\$22,000/month by 8.03% for both males and females. In addition, the Company also provides performance-based bonuses, year-end bonuses, and employee bonuses based on profitability to inspire and reward employees for their work performance.

The following table indicates the number non-managerial full-time employees and their median and average salary in 2018:



Salary Overview of FCFC Non-managerial Staff

Year	2017	2018
Number of non-managerial employees (number of persons)	4,600	4,890
Average salary of non-managerial employees (NT\$/year)	1,381,789	1,384,584
Median salary of non-managerial employees (NT\$/year)	1,260,311	1,278,527

Regarding retirement protection, the Company makes monthly contributions to employees' pension funds based on the new or old pension plan selected by the employees so that FCFC is able to provide pensions to employees when they meet the statutory conditions of retirement.



2018 FCFC Pension System Overview

Item	Number of Applicable Employees	Allotment Percentage
Old pension plan	1,500 persons	2% monthly appropriation of the Company-wide salaries
New pension plan	3,567 persons	6% monthly appropriation based on the employee's salary

Note: Please refer to the accounting items related to "Pension" in the 2018 Consolidated Financial Statements for FCFC's pension recognition.

4.2.2 Employee Benefits

FCFC views each and every employee as a member of our family. Initially, before a plant begins operation, we ensure that such basic needs as food, accommodations, and recreational infrastructure are already in place; furthermore, we actively promote a variety of employee benefits that aim to provide our employees and their families with basic necessities, education, and recreation.

Various employee benefits have been implemented according to the corporate welfare system with a number of benefits better than the statutory requirements. We have established the Employee Welfare Committee at each plant to organize employee trips, holiday gifts, birthday gifts, scholarships for employees' children, group insurance, recreation activities, and club funds. The Administration Department of each plant is responsible to support the implementation of welfare business. For details of each benefit, please refer to "2018 Annual Report V. Operational Overview—Labor-Management Relations."

★ **Insurance Benefits:**

In addition to labor insurance and national health insurance, the Employee Welfare Committee of each plant provides casualty insurance and medical insurance. Employees are offered a variety of group insurance policies with discounted premiums, such as casualty insurance, medical insurance, and cancer insurance, so that they can freely select more comprehensive insurance plans.

★ **Club Funds:**

Funds are provided to clubs for various travel, sporting activities, arts and cultural exhibitions, and various life-related seminars.



Photography Club of the Yilan Longde Plant



Road Running Club of the Chiayi Xingang Plant

★ **Retirees' Association:**

To show our gratitude for contributions from our retired employees, the Retirees' Association was founded in 2013. The Company is in charge of the Yilan, Changhua, and Chiayi branches, and as of the end of 2018, the Association has recruited 920 members. The Company allocates funds for activities in each year to connect with the retirees through social activities.



FCFC provides an unpaid parental leave system, and employees can file for applications as needed. In 2018, a total of 11 female workers have applied for unpaid parental leaves, and the number of applicants over the past three years are indicated in the following table:



FCFC Application for Unpaid Parental Leaves and Reinstatement

Item	2016			2017			2018		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Number of Employees Qualified for Unpaid Parental Leaves	8	180	188	6	148	154	12	180	192
Number of Employees Applying for Unpaid Parental Leaves	8	-	8	6	-	6	11	-	11

Item	2016			2017			2018		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Number of Employees Expected to Reinstatement in the Year (A)	3	-	3	4	-	4	6	-	6
Number of Employees Applying for Reinstatement in the Year (B)	3	-	3	4	-	4	6	-	6
Number of Employees Having Reinstated for over a Year (C)	2	1	3	3	-	3	4	-	4
Reinstatement Rate (%) (B/A)	100	-	100	100	-	100	100	-	100
Retention Rate (%) (C from the year / B from the previous year)	100	100	100	100	-	100	100	-	100

Note 1: Since most of our employees sought long-term daycare approaches, the number of employees applying for unpaid parental leaves was rather low.

Note 2: " - " indicates no numeric value.

4.3 Human Capital Development



Career Development and Training Management Approach



Policy	We provide good career development and training system and measures, and carry out well-rounded talent development based on the "Training Management Method."
Responsibilities	Employee is the most important asset to a company, as well as the foundation to sustainable management. Planning a comprehensive training system and actively developing outstanding talent is an important growth driver for the Company's business.
Resources	FPG's Group Administration has established the "Training Management Method" for each subsidiary to comply with. The related functional departments from the President's Office of FCFC will promote and conduct computerized management in line with the ERP training system.
Specific Actions	Training courses are computerized to regularly remind the organizers to arrange for employee training within the deadline. In case incomplete training is overdue, the system will continuously follow up until it has been completed.
Goals and Commitments	<ul style="list-style-type: none"> As a mid-term talent training objective, we aim to enhance the ratio of employees passing professional certification. We will continue to expand the ratio of completion of cross-functional knowledge training for mid-tier and senior managers and executives in order to achieve the long-term goals of employee development and talent retention.

Grievance Mechanism	<ul style="list-style-type: none"> Physical and online opinion mailboxes. Dedicated hotline. Organizational meetings of the union and Employee Welfare Committee.
Performance Evaluation Methods and Results	All formal employees are subjected to performance evaluation and review. The average review ratio across all categories in 2018 was 95.9%. Through performance evaluations, managers are able to communicate with subordinates face-to-face and can further discover their talents, which may be taken into consideration for training and job transfers, helping fulfill the career development management.

4.3.1 Employee Career Development Management

In addition to providing favorable compensation and benefits, FCFC also attaches great importance to our employees' career development. Appropriate training programs are arranged at each stage, from new recruits to entry level employees and then to the managerial level. Such training programs include orientation, basic training, professional training, manager reserve training and cross-functional training. To implement the talent development plan, we have established the Training Management Regulations. With the ERP training system, we can electronically monitor and keep track of each employee's training progress to ensure that training is completed within the given time frame; therefore, we can ensure that each employee is equipped with the necessary expertise and skills in line with the objectives of the talent development plan.



Employees' Career Development Path



In addition to the training courses, we also review the appropriateness of employees' duties and implement performance evaluations on a regular basis to examine employees' career development and to motivate our employees to improve their performance.

FCFC Evaluation Mechanism	
Employee Category	Frequency
Level 2 Managers (inclusive) or below	Monthly performance evaluation
Level 1 Managers	Quarterly performance evaluation
All Employees	Annual year-end evaluation

At present, all employees of FCFC are required to undergo the performance evaluations except for temporary employees (such as consultants, contract-based employees, work-study students, and foreign employees). The average of all categories is 95.9%. Through performance evaluations, managers are able to communicate with subordinates face to face and further discover their talent that may be referred to in case of training or job transfers, which helps fulfill the career development management.



Percentage of Employees Receiving Regular Performance and Career Development Evaluations in 2018

Unit: %

Employee Category	Executives	Level 1 Managers	Level 2 Managers	Entry Level Managers	Entry Level Employees	Total
Male	67.5	99.5	100.0	99.9	97.4	95.9
Female	7.7	75.0	100.0	100.0	82.3	

Note: The percentage of executives receiving evaluations was rather low due to a higher percentage of temporary consultants.

4.3.2 Employee Professional Training and Development

To strengthen employees' expertise and safety, professional training is divided into 9 functions. Employees are encouraged to obtain the required licenses for their particular expertise; in addition, we have established regulations governing ranking advancement and promotion to encourage employees to learn the second expertise or foreign languages and participate in transfer training. We also provide various seminars from time to time to promote life-long learning.



9 Functions of Professional Training



To promote employees' awareness of human rights and occupational safety, we organize occasional courses on occupational safety and health, the Labor Standards Act, the Sexual Harassment Prevention Act, and the Act of Gender Equality in Employment in addition to the orientation where employees receive training related to evaluation, appointment, employee benefits, attendance and plant access control.

2018 Training Results for the 9 Functions in Managers

Type of Manager	Number of Participants	Training Hours
Mid-tier to Senior Managers	583 persons	2,198 hours
Executives	130 persons	410 hours

In terms of enhancing employees' professional techniques and professional certification, the Company has asked FPG's "Technical Training Center" to regularly organize employee professional certification training courses including "Processing Operators Training" and "Fire Prevention Management Personnel Training." In addition, professional technical training courses such as "Fixture Leak Detection Training," "Paint Coating Inspector Training," and "Soldering Inspector Training" are also organized.



2018 Professional Certification Training and Professional Technical Training Results

Unit: hour

Training Type	Number of Participants	Training Hours	Courses with the Most Number of Participants
Professional Certification Training courses	630 persons	18,128 hours	Safety Supervisor Functionality Training Course
Professional Technical Training	416 persons	4,044 hours	Equipment Installation Inspector Course

In 2018, each employee received an average of 37.6 hours of training (21.2 hours for senior managers; 36.5 hours for entry level managers; 44.8 hours for entry level employees) with the completion rate of 100%.



FCFC Employee Training over the Past 3 Years

Unit: hour

Rank \ Year	2016			2017			2018		
	Male	Female	Average	Male	Female	Average	Male	Female	Average
Mid-tier to Senior Managers	19.7	13.5	19.6	17.4	8.8	17.2	21.5	12.8	21.2
Entry Level Managers	33.8	18.5	32.9	29.4	20.7	29.1	36.9	28.5	36.5
Entry Level Employees	23.2	34.8	25.3	32.3	35.0	32.8	46.0	40.6	44.8
Average Number of Training Hours Per Person	24.0	33.0	25.2	27.7	32.9	28.4	37.5	38.3	37.6

Note: Mid-tier to senior managers (inclusive) or above refer to executives, level 1 managers and level 2 managers.



FCFC Training Completion Rate over the Past 3 Years

Unit: %

Year \ Rank	Basic Training	Professional Training	Annual Training Program
2018	99.3	99.9	100
2017	100	98.7	100
2016	100	99.8	100

Note: The completion rate refers to the ratio of completed training courses which should be completed in the year.

4.4 A Healthy and Safe Working Environment



Management Approach to Occupational Health and Safety and Industrial and Public Safety

Material Topic

Policy	Comply with applicable laws including Occupational Safety and Health Act, Labor Health Protection Rules, and Health Management Procedures. Personnel are asked to strictly abide by standard operating procedures (SOP) during operations.
Responsibilities	Ensure that all employees take part in safety and health management activities, adopt appropriate corrective measures, and continuously improve the safety of the operational environment.
Resources	FCFC President's Office has established Safety and Health Level 1 Management to coordinate the safety and health management within the Company. Individual safety and health promotional teams are set up at each plant and facility. In addition, a dedicated unit has been set up at FPG's Group Administration to allocate resources to each FPG company and to set up policies.
Specific Actions	<ul style="list-style-type: none"> ■ Strengthen safety and health requirements during the procurement and outsourcing system. ■ Provide employee with health checkups that are superior to legal requirements. ■ Carry out process hazard analysis and management. ■ Promote disaster prevention programs and plant-wide emergency response measures.
Goals and Commitments	Achieve the goal of "zero injury and zero disaster" to further create a sustainable business environment.
Grievance Mechanism	<ul style="list-style-type: none"> ■ Respond to suggestions for safety and health management during monthly Safety, Health and Environmental Protection Conference or quarterly Safety and Health Committee meeting, and conduct immediate improvements. ■ On-site medical professionals are appointed to provide professional medical advice and consultation based on employees' needs.
Performance Evaluation Methods and Results	Performance evaluation is carried out pursuant to the national "Occupational Safety and Health Management System," and annual review of the implementation progress and immediate improvements are conducted each year.

4.4.1 Employee Health Management

According to the Regulations of the Labor Health Protection and FPG's Health Management Regulations, FCFC organizes general health examinations as well as special health examinations for operators working under high temperature, high pressure, or hazardous fluids. In 2018, the results of the special health examinations showed no incidence of occupational disease. Besides the health examination items already stipulated in the stated laws and regulations, health examination items such as Alpha-Fetoprotein (AFP), carcinoembryonic antigen (CEA), oral cancer, and high density lipoprotein-cholesterol (HDL-C) are also incorporated to facilitate better employee healthcare. As shown in the table below, the frequency of health examinations for employees aged 30–40 and 40–65 is better than the statutory requirements to take better care of employees' health.



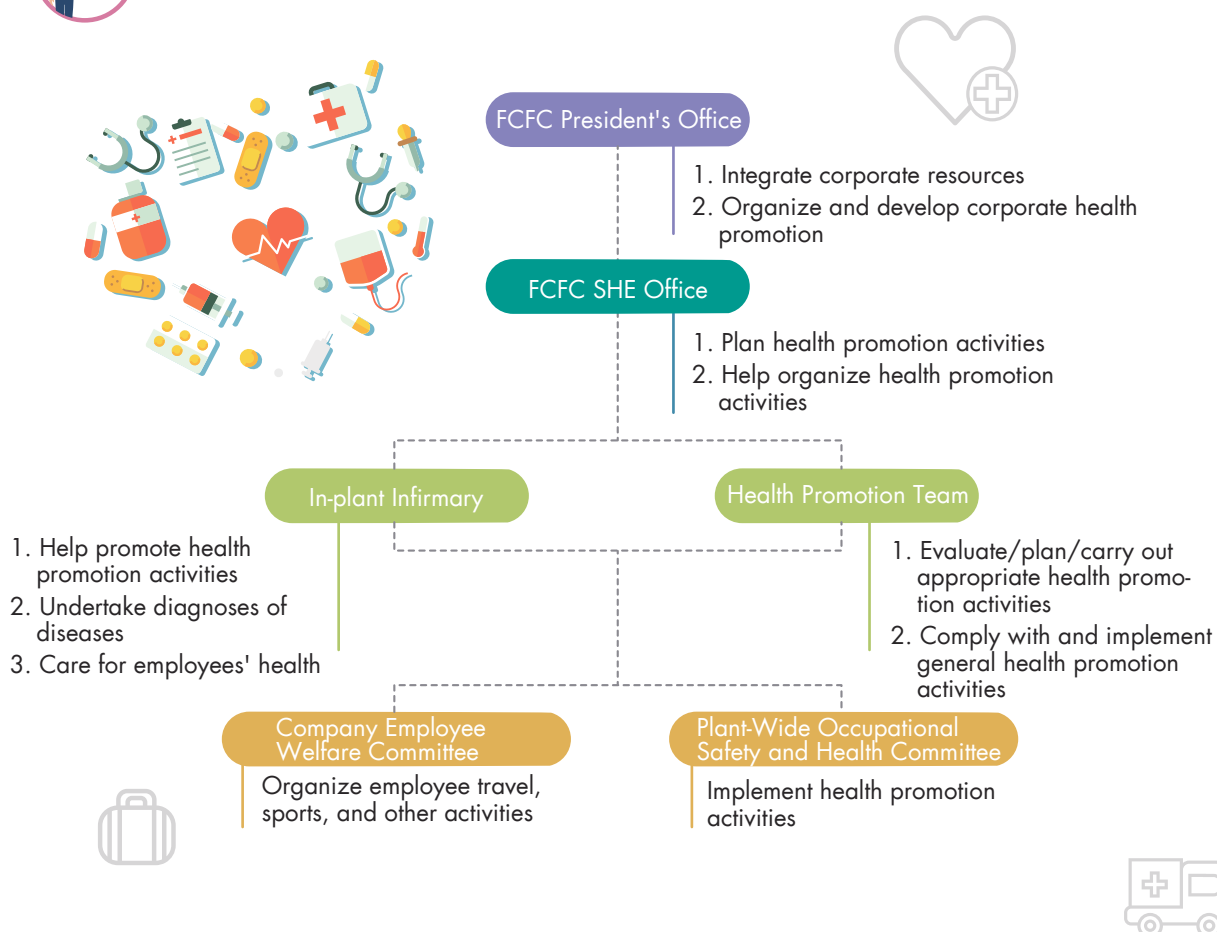
Comparison between FCFC Frequency of Health Examinations and Statutory Requirements

Age	Statutory Requirements	FCFC
Under 29 Years Old	Once/5 years	Once/5 years
30-39 Years Old	Once/5 years	Once/3 years
40-44 Years Old	Once/3 years	Once/3 years
45-64 Years Old	Once/3 years	Once/2 years
Over 65 Years Old	Once/1 year	Once/1 year

To further promote health management, the SHE Office at Mailiao has helped establish a health promotion organization. The Employee Welfare Committee and the Infirmary are invited to participate in health promotion programs. In 2018, a weight loss activity was held at the Mailiao Plant and attracted 1,835 attendants. The total weight lost reached 1,976 kg. To provide employees better healthcare and safety, the health promotion organization received employees' opinions by attending labor union meetings and management-employee meetings.



Health Promotion Organization



Medical personnel are assigned to industrial complexes to provide employees with personal health guidance and professional counseling services. In collaboration with the Medical Center of Chang Gung Memorial Hospital, FCFC promotes preventive medicine and disease prevention to raise employees' awareness of their health conditions. To enhance employees' awareness of their diet, exercise, and health conditions, we have offered physical and mental healthcare promotion activities on topics such as smoke and alcohol prevention, healthy diet, and physical fitness. A total of 52 seminars were organized throughout 2018 (as shown in the table below). The Xingang Plant was awarded the 2018 Healthy Workplace Creative Award by Ministry of Health and Welfare.

Seminars Held in the First Half of 2018	Seminars Held in the Second Half of 2018
"Cancer Prevention and Longevity" Cancer Prevention Health Seminar Series	Prevention of Musculoskeletal Diseases Caused by Repetitive Work
Healthy Enterprise Workers	De-stressing Day: Simple Rehabilitation Exercise
Testing CO+ and Getting to Know Health Risks of Smoking	Prevention of Eye-Related Diseases in Middle-Aged and Senior Citizens
Enjoy Work and Prevent Burnout	"PM2.5, a Silent Killer" Cancer Prevention
Health Care for Menopause	"Improvement Management of Body Condition and Be Healthy" Health Protection Lecture for Mothers
Respecting Patients' Rights and Interests	Acupressure Massage

4.4.2 Promoting a Healthy Workplace in Cooperation with Government Agencies

The Company actively participates in healthy workplace activities in line with the government. The Longde Plant in Yilan has collaborated with the Ministry of Economic Affairs to promote joint prevention activities for local industrial zones. Moreover, the Mailiao Plant has formed a 2-year alliance with Central Region Occupational Safety Health Center, in which the plant will be committed to enhancing the engineering safety and hazard identification competency of contractors throughout the Naphtha No. 6 area. The "2018 Falling Prevention While Working at Heights (Including Work Safety Analysis) Observation Tour" was separately held at Xingang and Mailiao Plants, which taught about the construction of the 90cm column, the construction frame reinforcement measures and the hazard prevention for roof operations.



FCFC also continues to participate in the healthy workplace award co-hosted by the Ministry of Health and Welfare and the Ministry of Labor. In 2018, the Longde Plant was awarded "Excellent Healthy Workplace—Health Management Award" while Xingang and the Acetate Plant at Mailiao were awarded with "Excellent Healthy Workplace—Healthy Physique Award."



4.3.3 Workplace Safety Management

An occupational safety and health committee has been established at each industrial complex. The committee convenes meetings on a regular basis to explain the EHS policies and their implementation to the labor representatives. The number of committee members and labor representatives of each industrial complex are summarized below:

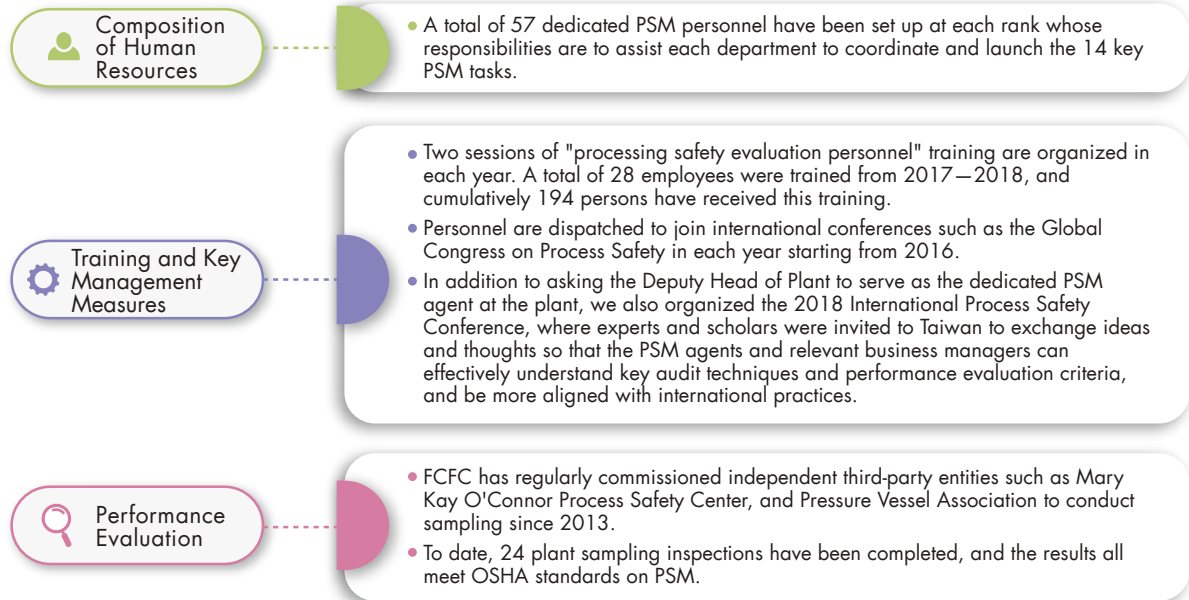
Plant	Chairperson	Number of Occupational Safety and Health Committee Members	Number of Labor Representatives	Percentage of Labor Representatives (%)
Mailiao Plant	Vice President Chi-Chu Chang	7	3	42.9
Xingang Plant	Director Chih-Ming Hu	16	9	56.3
Changhua Plant	Manager Wen-Kuang Tseng	8	3	37.5
Longde Plant	Assistant Vice President Chin-Fu Huang	12	11	91.7

To absorb knowledge from a diversity of professional domains, FCFC shares technologies and skills with experienced domestic and foreign teams. For example, we periodically collaborate with labor inspection institutions to organize symposiums and observation tours, work with local authorities to arrange emergency response drills, and appoint firefighters to receive practical fire training in professional fire agencies in the hope of improving employees' responses to unexpected situations.

In addition, we invite TÜV Rheinland Group and Lloyd's Register Quality Assurance to conduct comprehensive inspections, set up verification and offer suggestions, and commission IHS to instruct our employees the process hazard analysis (PHA), making our safety, health and risk assessments and fire management in line with the international standards. By the mutual cooperation with government agencies, various resources can be brought into full play.

Process Safety Management (PSM)

To improve the process management at each plant, FCFC implements 14 items of PSM in accordance with the regulations of the Occupational Safety and Health Administration (OSHA).



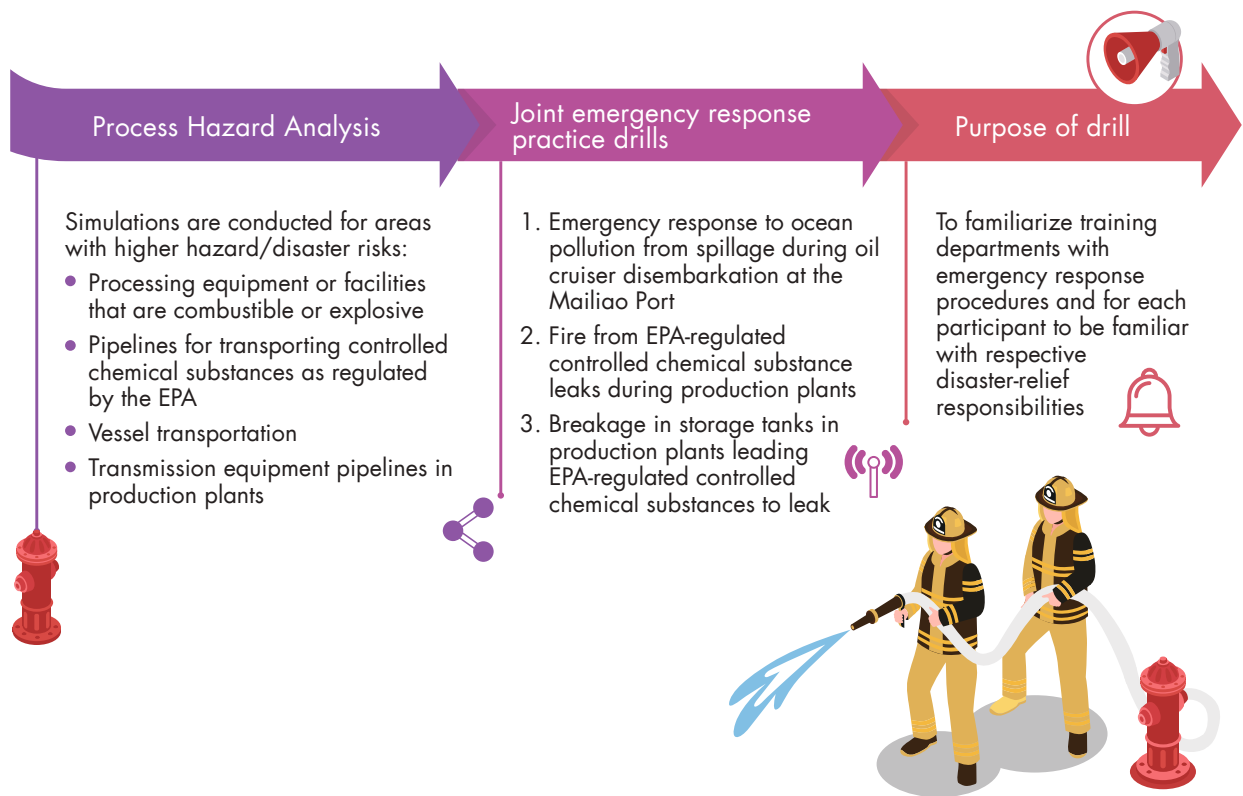
Management of Change (MOC)

To ensure that any alternation in the design, equipment, materials or operation does not create new or potentially harmful situations, we actively carry out the process hazards analysis (PHA). Since 2011, we have scheduled the annual MOC counseling and evaluation plan, along with exchange activities, for each plant in Taiwan. The plants are divided into 5 MOC project teams based on their specific locations (with the Mailiao Industrial Complex subdivided into Mailiao MOC Project Team and Haifeng MOC Project Team). PSM personnel from the Business Department are designated (to other Business Departments) as the leaders of MOC Project Teams to facilitate exchange activities and performance evaluations in the plants.

In 2018, the MOC counseling and evaluation plan was completed. The results show that hazard identification, risk assessment, and development of related control measures can be carried out in advance for each alteration to avoid possible damage after the alteration.

Disaster Prevention Plan Promotion

To strengthen the disaster response capability at the Mailiao Industrial Complex, FPG works with the disaster-relief units from central and regional governments to organize joint disaster relief practice drills quarterly. This helps all employees and emergency response team members to be more accustomed to the response procedures and joint disaster prevention alert procedure. By working with government agencies, we can also unearth potential hazard factors throughout the complex as well as to perfect our disaster relief methods, helping us build a more complete disaster relief model.



In addition, we are committed to each practice drill, since each one of them represents a valuable learning experience for all production plants. Therefore, all factory supervisors are asked to observe and to exchange opinions during each joint practice drill held in every quarter, in order to enhance the overall disaster relief awareness and rescue competency throughout the Mailiao Plant.

Complex Emergency Response Drill for Leakage of Controlled Chemical Substances as Regulated by the EPA



Emergency Response Drill for Ocean Pollution



Emergency Response for Fire



4.4.4 Statistics of Occupational Injuries

Information on FCFC's occupational injuries in 2018 is indicated in the table below. No occupational disease occurred to either male nor female workers, and the average total injury index for males and females was 0.1, which is significantly lower than 0.39 from the chemical material manufacturers throughout Taiwan (Note). In addition, no material occupational injury or disaster occurred, and no accident which posed 6 months or more of injury occurred. These figures can be seen proof of the Company's efforts toward minimizing occupational injuries.



FCFC Occupational Injuries in 2018

Disabling Injury Rate		Disabling Severity Rate		Frequency-severity indicator		Absence Rate		Occupational Disease Rate	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0.86	0	13	0	0.1	0	0.34	0.55	0	0

Note: Industry information comes from the 2016–2018 Frequency-Severity Indicator by Sector published by the Occupational Safety and Health Administration, Ministry of Labor. (<https://osha-performance.osha.gov.tw/content/info/Download.aspx>)

The Company is a chemical material manufacturer and the chemical substances at our workplace are primarily benzene and its derivatives, which are followed by the Type 1 chemical substance causing occupational disease as listed by the Bureau of Labor Insurance. Based on the nature of our production processes, personnel have increased risk exposure to chemical substances. Therefore, after the special employees' health checkup has been conducted in each year in accordance with "Guidelines for Tiered Health Management Recommendation for Workers' Special Health Checkup," the Company will submit any abnormal results to occupational doctors for subsequent review and diagnosis. To ensure employees' safety at work, work of employees with abnormal results will be adjusted subsequently, or the results will be served as reference for reducing work environment risks.

Compared to the occupational safety performance of the domestic chemical material manufacturing industry, the frequency-severity indicator of FCFC from 2016 to 2018, excluding traffic accidents, were well below the statistics published by the Ministry of Labor. This reflects our efforts made to prevent similar abnormalities by reinforcing our employee's ability to identify potential hazards and strengthening equipment safety.

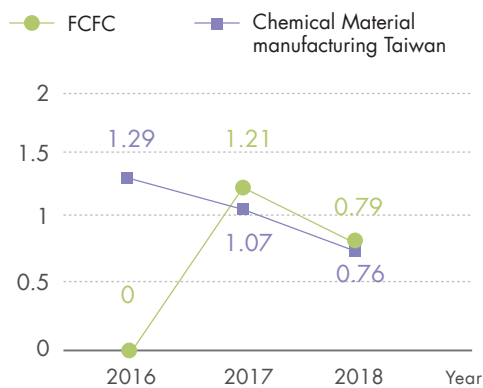
 FCFC Occupational Injuries over the Past 3 Years

Year	Disabling Injury Rate	Disabling Severity Rate	Frequency-Severity Indicator	Absence Rate	Occupational Disease Rate	Working Hours
2016	0	0	0	0.3	0	8,526,549
2017	1.21	119	0.38	0.41	0	7,452,532
2018	0.76	11	0.1	0.37	0	7,899,430

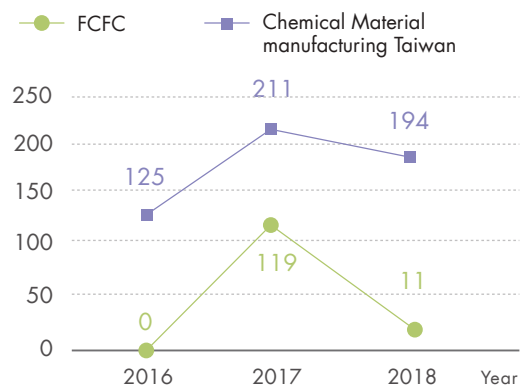
Note 1: Frequency-Severity Indicator was higher in 2017 than that of 2016 or 2018. This was mostly attributable to the two material employee occupational injuries in 2017, namely the flashover incident at the SM Plant in Mailiao, and the electric arc burn incident in the transformer room of the ARO1 Plant.

Note 2: Working hours = number of employees*working days in a given year*8 hours + overtime hours - hours of leave

 Disabling Injury Rate



 Disabling Severity Rate



Year	FCFC's Contractors		
	Disabling Injury Rate	Disabling Severity Rate	Working hours
2016	1.60	50	2,736,726
2017	0.81	5	3,061,871
2018	0.94	4	6,461,511

Note 1: The absence rate and the occupational disease rate of contractors were unavailable; thus, the working hours were estimated through the access system. Hours of absence include hours of sick leave and work-related injuries.

Note 2: Working hours = number of contractors during the reporting period*250 working days*8 hours

In 2018, there were a total of 11 occupational injuries from FCFC employees and contractors at the workplace. No material or severe occupational injury occurred, nor were there any occupational accident that required 6 months or more of loss of work. In consideration of the characteristics of the Company's work, besides the risk of spilling from chemical substances, there are also higher risks of machinery injuries, collision caused by transportation of materials, or falling. Therefore, the Company has been active in increasing the reliability of equipment in recent years in the hope of reducing potential personnel risks during operations through the improvement of the equipment. In the event of an accident, related information is immediately reported to the authority in charge and the supervisors at all levels; in addition to reporting to the local inspection agency in accordance with the Occupational Safety and Health Act and the Enforcement Rules of Labor Inspection Act, the Mailiao Industrial Complex also reports to the Yunlin Offshore Industrial Park Service Center and the Yunlin County Government. According to the Regulations Governing Accident Handling and the Regulations Governing Emergency Responses, in the event of an accident, the Company groups the employees based on the emergency response organization and initiates the emergency response procedures at section, plant and complex level based on the severity of the accident. Each team handles the accident according to its duties. The accident will be reported through the accident (abnormality) bulletin system and the accident (abnormality) SMS system. After the accident takes place, the investigation procedures will be initiated to clarify the cause and improve accordingly, so as to avoid the recurrence of similar accidents.

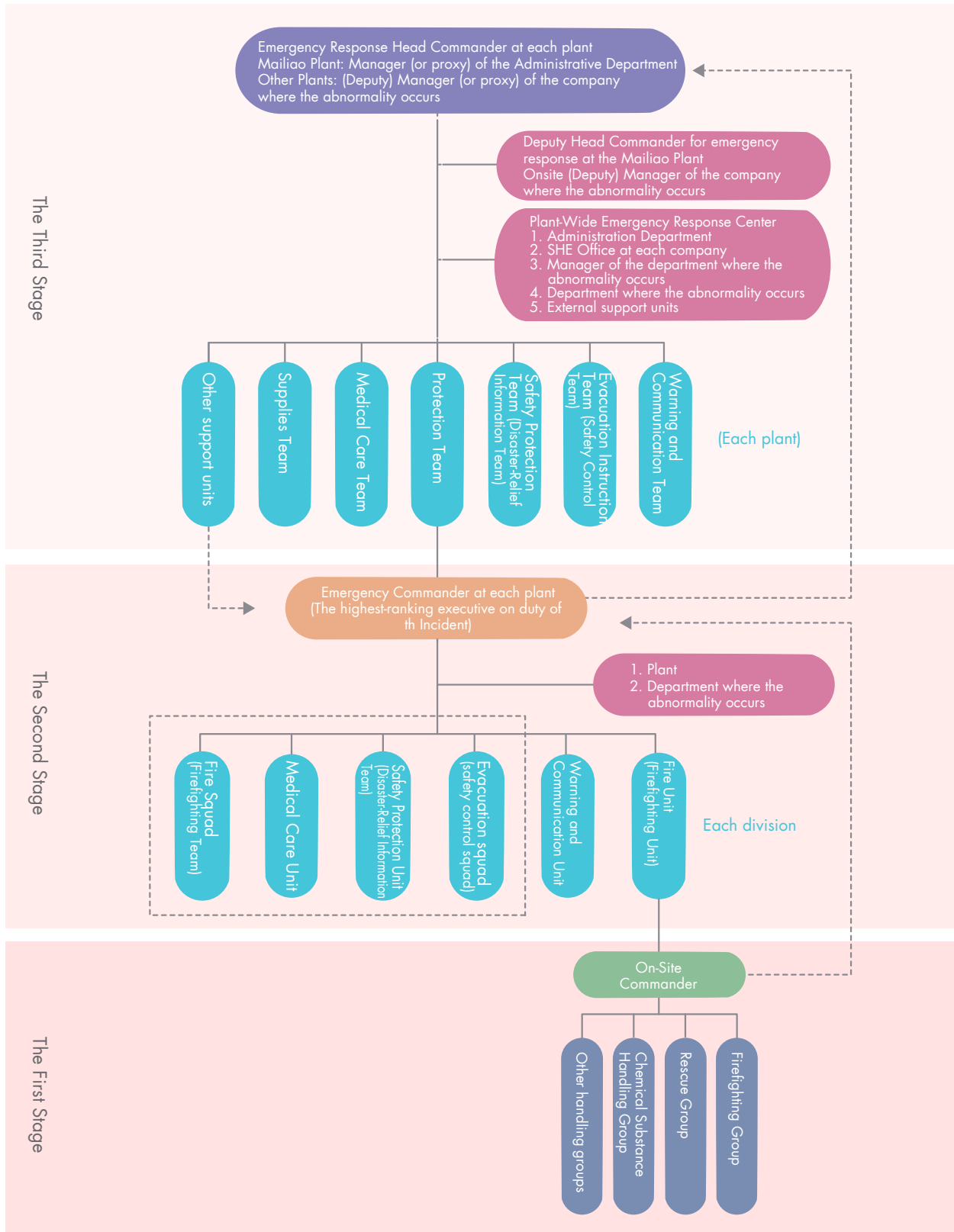


2018 FCFC Occupational Injuries at Each Plant

Plant	Fire	Major Occupational Disaster	General Occupational Disaster	Total
Longde Plant	0	0	4	4
Changhua Plant	0	0	0	0
Mailiao Plant	0	0	3	3
Xingang Plant	0	0	4	4
Total	0	0	11	11



Emergency Response Organizational System (Fire/Explosion) at Each Plant



Overview of Occupational Disasters

The Company's occupational disaster rate (persons per thousand) from 2016 to 2018 was lower than the national average:

Item	2016	2017	2018
Number of Occupational Disabilities	1	3	6
Occupational Disaster Rate (Persons per Thousand)	0.19	1.65	1.07
Number of Occupational Fatalities	0	0	0
Number of Major Occupational Disasters (Contractors)	1	0	0
Number of Occupational Fatalities (Contractors)	1	0	0
National Occupational Disaster Rate (Persons per Thousand)	2.95	2.73	2.61
Remark	1. The above-mentioned national occupational disaster rate (persons per thousand) did not include traffic accidents. 2. The occupational disaster rate (persons per thousand) in 2017 was higher than that in 2016 due to 2 major occupational disasters.		

In 2018, our employees and contractors sustained 11 accidents at the workplace, as described below:

Common Occupational Disasters in 2018				
Plant	Category of Accidents	Victim	Frequency of Accidents	Number of Injuries
Longde	Tripping	Employees	1	1
	Contact with hazardous substance		1	1
	Falling	Contractors	1	1
Xingang	Tripping	Employees	1	1
	Abrasion		1	1
	Pinching (by machinery)		1	1
	Bruises	Contractors	1	1
Mailiao	Tripping	Employees	1	1
	Bruises	Contractors	2	2
	Abrasion		1	1
Total			11	11

4.4.5 Contractor and Supplier Safety

Upholding FPG's business philosophy, FCFC considers contractors our own employees and important business partners. To ensure the safe operations, we insist on holding periodic meetings with contractors before starting construction to give a full explanation so that the related personnel can be provided with a safe working environment. Before working at our plants, all contractors must pass through relevant training and testing to ensure their safety and health knowledge and awareness. The Company also advocates for contractors' autonomous management. In 2018, we offered training for 5,127 contractors with a qualification rate of 100%. In addition, while signing contractual agreements, the Company requires contractors to abide by safety and health laws and to establish safety and health management personnel. The Company aims to achieve our zero-disaster goal through such mutual trust and cross-supervisory means.

Construction Safety Management for Contractors

To improve transportation safety, we require all carriers and contractors to propose their own safety management systems and take into account the Safety & Quality Assessment System (SQAS) evaluation. Every year, all carriers must receive SQAS evaluation, and those pass the evaluation will be certified by SQAS. As of now, the number of contractors transporting hazardous materials for FPG has reached 72. Moreover, each transport vehicle that passed the SQAS evaluation will be equipped with GPS or a dash cam. It must be equipped with necessary safety protection that passes regular inspection depending on the characteristics of dangerous goods before entering the factory. The Company strictly prohibits any personnel from bringing lighters or cigarettes into the plants to prevent sources of fire. In addition, unqualified electric appliances or machinery are also banned from the plants to prevent any potential hazards. Sobriety test equipment and blood pressure monitors are also set up at all storage tanks and shipping departments. Sobriety test and blood pressure test is conducted on all cargo drivers, whereby those with sobriety test that exceeds 0mg/liter or blood pressure higher than 160mmHg are prohibited from bottling and delivery. Those who exceed 180mmHg are banned from all operations and asked to leave the plant.

In addition to communicating with contractors about construction safety in the kick-off meeting before construction, we also conduct a briefing meeting before starting daily operations to inform operators of the possible risks and hazards at the workplace. We also inspect their mental conditions to prevent accidents due to negligence.

To strengthen the safe operations of in-plant carriers, the Guidelines for the Operation of Stackers and Powered Pallet Trucks stipulate that a plant is required to reduce the rate of accidents through guidance, speed limit control, and lane separation. In addition, when passing the road outside the plant is necessary, a truck or pallet truck is required to transport the goods to the operating site so as to further enhance carriers' awareness of independent safety management.

Spontaneous audit is conducted at each construction site through engineering safety patrol. In addition, for engineering projects that are more accident prone or have higher risks, a project-based audit will be conducted. In case of rule violation, immediate punishment and the reason of abnormality will also be announced and explained to prevent recurrence through immediately correcting the operators' engineering methods. Moreover, all abnormalities will be compiled into course materials for subsequent educational training. By continuous advocacy and training, the contractors' safety and health knowledge will be enhanced to achieve our operation safety objective.

Training and Certification of Safety Supervisors

To ensure the safety of construction, we have appointed the dedicated safety and health personnel superior to the domestic regulations. According to the corporate safety and health policy, safety supervisors are appointed to remind contractors of construction safety in due course, ensure their compliance with standard operating procedures and attend their independent inspections before construction; in addition, safety supervisors review the construction in a timely manner to ensure the safety of contractors and the process. We organize training for safety supervisors every year to enhance their supervisory skills on-site. As of 2018, 1,744 employees had received such training with 1,296 becoming certified safety supervisors.

4.5 Description of Material Occupational Safety Issues

Implementation of Step 2 Designation of Priority-Managed Chemical Substances and Transportation Methods

To reduce occupational hazards from chemical substances, the Ministry of Labor has implemented of the Step 2 Designation of Priority-Managed Chemical Substances and Transportation Methods since April 1, 2019. The Company will encompass p-xylene, o-xylene, and meta-xylene products into the boundaries of declaration. Besides conducting necessary declaration and filing in accordance with the government, the Company will also plan environmental inspection data and the ranked chemical substance management system from the Occupational Safety and Health Administration. Besides conducting risk evaluation from chemical exposure at each plant through the GHS health hazard classification, physiochemical property, and quantity of use of each chemical substance, the Company will also implement improvement measures based on the evaluation results. For instance, the Company plans to introduce automated sampling machine and provide appropriate protective gear to reduce the chances of chemical exposure and to reduce potential harm.

Incident involving LPG pipeline leak at Aroma Plant 3 leading to fire outbreak

On April 7, 2019 at 14:05, a gas explosion and fire broke out at the Company's Aromatic Hydrocarbon Plant 3 at the Mailiao Plant. This was caused by a leak in the LPG pipeline, leading to leaks of LPG, which was non-toxic after combustion. After the incident, an immediate roll-call on the onsite personnel was taken, and no injury was found. Production was immediately ceased at the plant. As of the publication of this Report in June, the Company had already commissioned an external inspection institution to complete a visual checkup on all existing pipelines. An international independent third-party assurance entity was also asked to conduct safety certification. Currently, production has still not yet resumed at the plant. The site of the accident is being repaired, and production will resume after consent from the labor inspection institution has been received in the future. This accident was mostly attributable to the corrosion of the LPG pipeline at the Aromatic Hydrocarbon Plant, leading gas outbreak and accumulation in the peripheral environment, which led to gas explosion. The Company has humbly reviewed our mistake and proposed the following improvements:

1. The Company will re-evaluate the abnormal handling procedures and alert procedures of pipeline leaks. In case of hazardous liquid leaks, loading must be immediately decreased and production shall be halted. In addition, necessary measures to prevent accidents from accumulation must be taken.
2. The Company has asked the Industrial Technology Research Institute (ITRI) to assist in causal analysis and to determine the damaged mechanism. Inspection plan will be reviewed and revised, and corresponding non-destructive inspection technology will be taken.





5

Community Engagement

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The operation of FCFC is built on FPG's vision taking from and giving back to society. We are dedicated to collaborating with FPG in various charitable events and contributing to society, as well as to contribute the Company's profits to the community in the hope of creating common prosperity in the neighboring communities.

5.1 Community Engagement

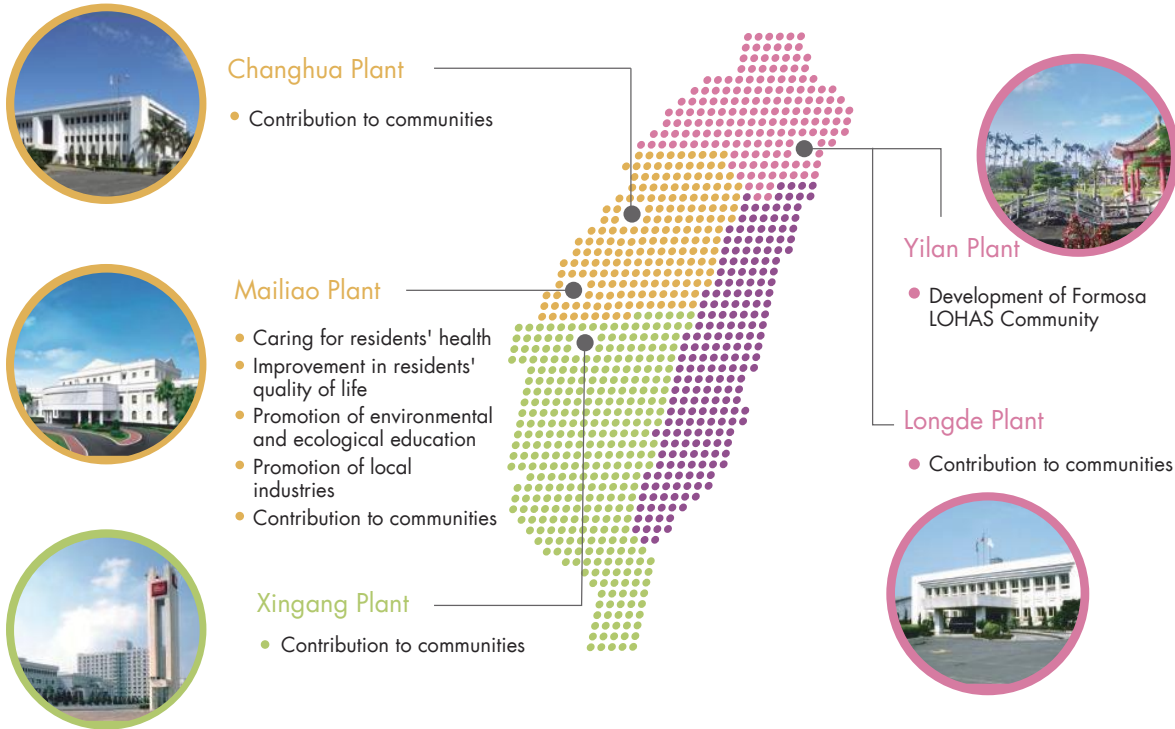


Community Engagement and Contribution Management Approach



Policy	We conduct rigorous environmental impact evaluation with criteria that surpass the national standards, in order to fulfill our environmental evaluation commitments to minimize any impacts to the neighboring communities and to help them to develop.
Responsibilities	We strive to minimize the impacts from FCFC plants and activities on the local environment and residents from neighboring communities.
Resources	The Administration Department at each plant will act as channels of communication with their respective local communities. FCFC President's Office will also assist by collaborating with the charity foundations at FPG to promote various activities to foster positive neighborhood ties and to promote charity welfare.
Specific Actions	Community service teams or volunteer teams have also been built to promote community activities and to actively advocate various company policies.
Goals and Commitments	Promote sustainable development of the sites of operation to enhance the relationships between the plants and local communities.
Grievance Mechanism	The Good Neighbor Hotline has been established to provide local residents with a communication channel.
Performance Evaluation Methods and Results	<ul style="list-style-type: none"> Enhance the quality of life in neighboring communities and to enhance physical health of residents. Join FPG charity foundations in promoting charitable activities and assess the results of said activities each year.





5.1.1 Care for Community Residents' Health

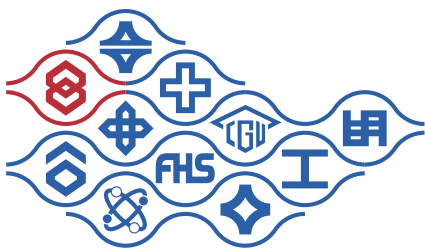


The SDGs Goal 3, Target 3.9 specifies "by 2030, substantially reduce the number of deaths and illnesses caused by hazardous chemicals, air, water and soil pollution, and contamination." Considering the Company's industrial characteristics and close relationship with the residents of the operating areas, the Company's vision and plans for promoting the residents' health are as follows:

Health Promotion Plan for Residents near the Mailiao Industrial Complex

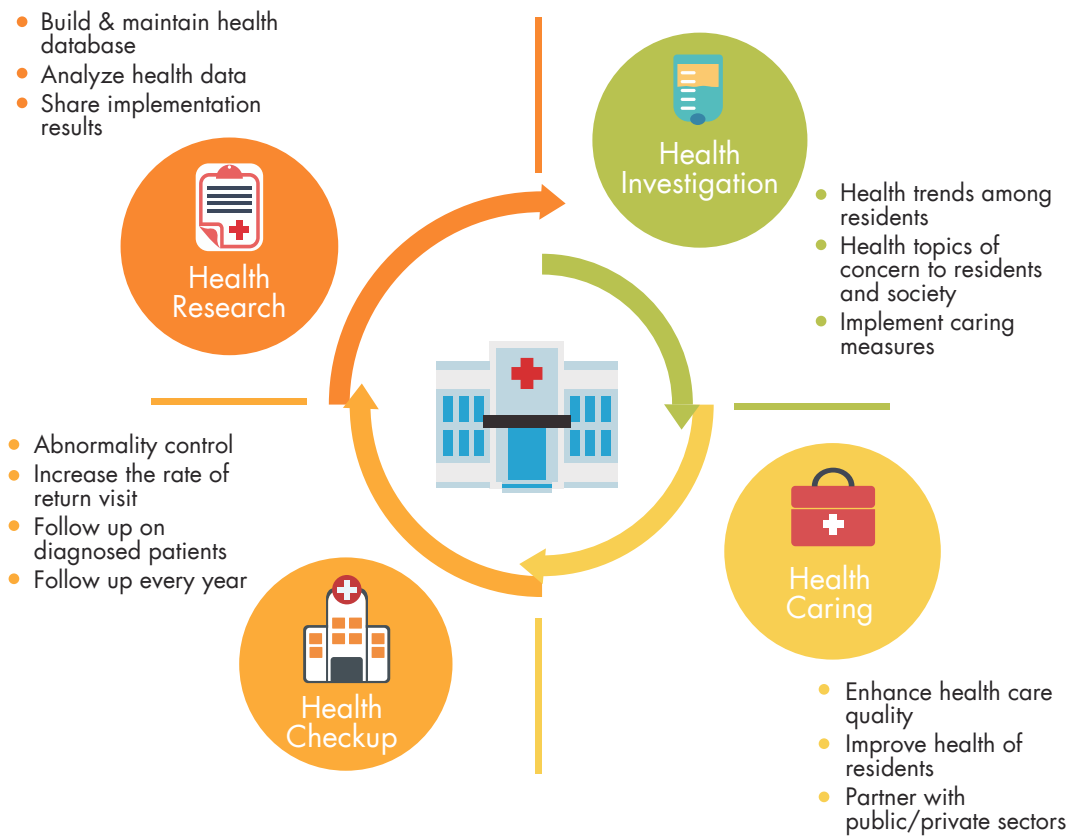
A Beautiful New World

Vision to Promote the Seaside Health Community Model in Yunlin



Plans to enhance the health of pregnant women, children, teenagers, adults and senior citizens

- Increase ratio of balanced diet
- Increase ratio of regular exercise
- Increase ratio of stress-relief
- Reduce ratio of smoking, drinking, or chewing beetle nuts
- Reduce ratio of obesity
- Enhance quality of life



Health Research

FPG has entrusted National Cheng Kung University with a health risk assessment program for specific hazardous air pollutants. As of 2018, 64 specific air pollutants have been assessed for health risks. The original area assessed was 30 km x 30 km in the No. 6 Naphtha Cracking Plant, including Mailiao, Taixi, Dongshi, Lunbei, Baozhong, Tuku, and Sihu Townships in Yunlin as well as Dalun Township in Changhua. The average value of cancer risks was 5.07×10^{-7} , and the largest value was 6.38×10^{-6} , which are both between the tolerable range of 10^{-6} and 10^{-4} ; the largest value of non-cancer risks was lower than 1, which demonstrates that the risk impacts on human health is within the tolerable range.



Benchmark of International Cancer Risk Assessment



Health Survey

To engage local communities and provide healthcare services for the locals, FPG established the Yunlin Chang Gung Memorial Hospital, which has been provided medical services for local residents since December 2009. Since 2010, we have been synchronizing the medical and educational resources of the Chang Gung Medical Foundation to facilitate health education and promotion of the local residents through hospitals, communities, and schools.

Community health education activities held in 2018 were participated by 8,053 residents from nearby communities. Comparisons of the residents' health checkup data indicated their continuous health improvements, which demonstrates our efforts to make Mailiao the benchmark of healthy communities.

Health Care

In 2018, the Yunlin Chang Gung Memorial Hospital had a medical team of 300 medical staff, 522 open beds, and 25 Western and Chinese medicine clinics, with a total of 134,279 outpatients, 14,704 emergency patients, and 17,279 inpatient bed days treated. The Yunlin Chang Gung Memorial Hospital will continue to expand its service range and scale to improve medical services along the coastal of Yunlin Township.

A course on tobacco control was organized for 1,372 junior high school students. In consideration of main causes of smoking, such as stress relief, Mailiao High School and Taixi Elementary School worked with the John Tung Foundation to encourage teenagers to relieve stress by exercising and to get into health habits of regular exercise.

Health Examination

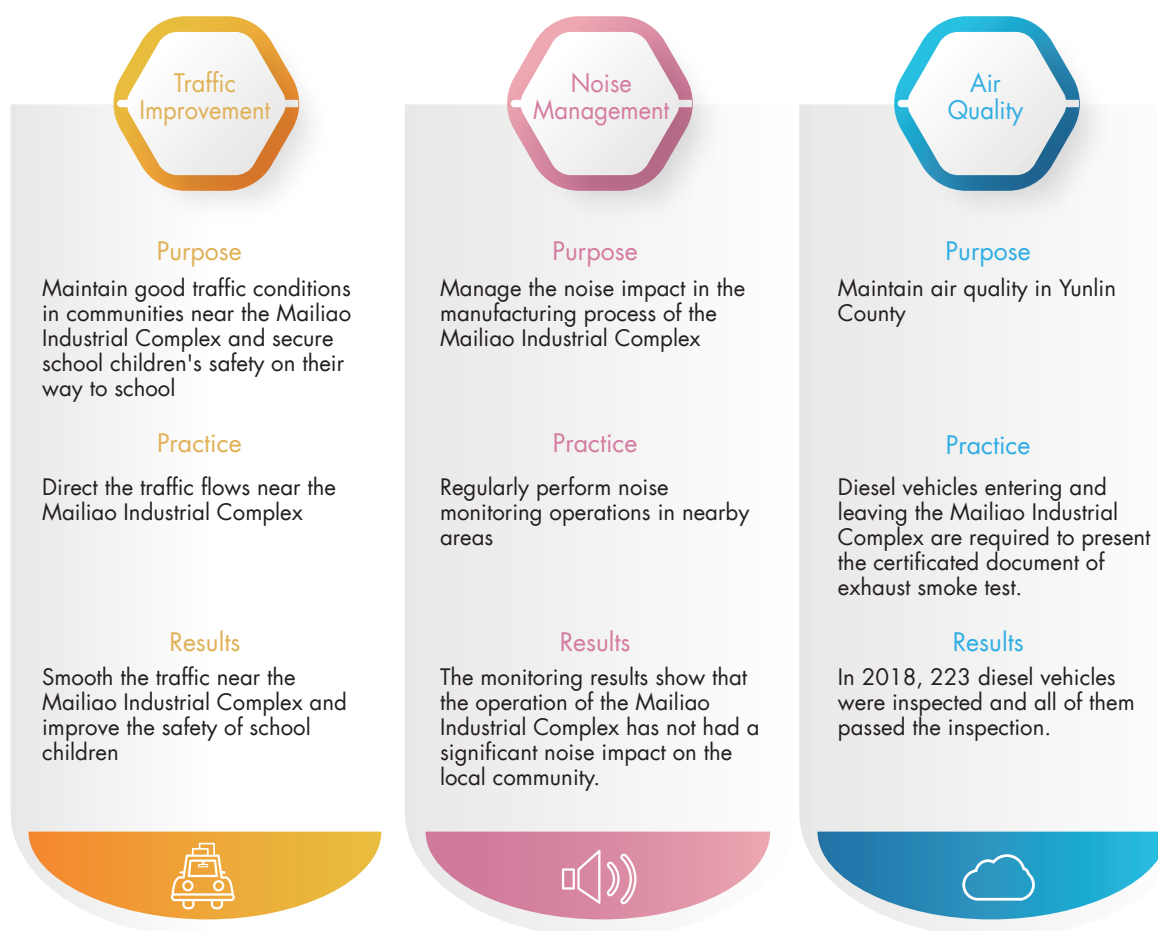
For FPG's Mailiao Industrial Complex to provide the most practical and considerate medical assistance and healthcare, the Yunlin Chang Gung Memorial Hospital has been entrusted to provide free health examinations for residents living in Mailiao and Taixi Townships. In 2018, a total of 10,090 residents received free health examinations with 722 patients with abnormalities offered follow-up services. By allowing local residents to understand their own health conditions, potential illnesses or diseases could be discovered and treated in early stages.



Free Health Examination in Mailiao and Taixi Townships



5.1.2 Improvement of the Quality of Life of Community Residents



Improving Quality of Life

(1) Traffic Improvement

Since construction of the Mailiao Industrial Complex first began in 1997, transportation detection has been regularly conducted on the main entrances to/from the complex. Surveillance data over the years indicate that the road service quality was between A (vehicle speed ≥ 65 km/hr) and E (vehicle speed ≥ 31 km/hr) during daily rush hours, and between A-C (vehicle speed ≥ 48 km/hr) in non-peak hours.

To increase the road service quality during daily peak hours, FCFC actively separates the working hours of employees and contractors, sets up employee buses, and encourages employees and contractors to take the heavy-vehicle exits and routes as well as asks voluntary police force to regulate the roads at important crossroads in neighboring communities. In addition, parents are invited to assist students in Qiaotou Elementary School to cross the road safely to and from school each day to ensure their safety.

(2) Noise Management

To control the noise changes around the Mailiao Industrial Complex, we routinely commission certified institutions to monitor noise at North Terminal, South Terminal, Mailiao Dorm, West Coast Bridge, Qiaotou Elementary School, Syucuo Branch (former site), Fengan Elementary School, Ciaotou, and Haifeng. The results show that all values meet standards except for some abnormal values resulting from biological sounds and human activities, such as night markets, religious festivals, and school bells, which also indicates that the operation of the Mailiao Industrial Complex does not make an impact on the noise of the local community.

(3) Air Quality

To improve the air quality in Yunlin County, an emission qualification certificate must be attached to diesel vehicles when applying for entrance permits. When the competent authority lodges complaints regarding diesel vehicles, the contractors are required to re-attach qualifications; otherwise, entrance is prohibited. Based on the statistics of diesel vehicle emission inspections by the Department of Environmental Protection of Yunlin County, 223 diesel vehicles were inspected on roads and lanes around the Mailiao Industrial Complex in 2018, and all of which passed the inspections. Inspection results over the years are indicated below:

Year	Traffic Volume (A)	Number of Vehicles Intercepted (B)	Number of Vehicles Inspected (C)	Number of Qualified Vehicles (D)	Inspection Passing Rate (D/C)	Inspection Failure Rate (D/B)	Traffic Volume Failure Rate (D/A)
2016	1,875	375	126	124	98.4%	0.5%	0.1%
2017	1,850	393	156	156	100%	0.0%	0.0%
2018	3,240	223	108	108	100%	0.0%	0.0%

Note:

1. Number of Vehicles Checked refers to the number of diesel vehicles checked in the roadside inspections by the Environmental Protection Administration.
2. Number of Vehicles Inspected refers to the number of diesel vehicles emitting black smoke among the diesel vehicles checked in the roadside inspections.
3. Number of Qualified Vehicles refers to the number of diesel vehicles inspected and meeting the statutory requirements for exhaust smoke and opacity.

5.1.3 Promotion of Environmental and Ecological Education

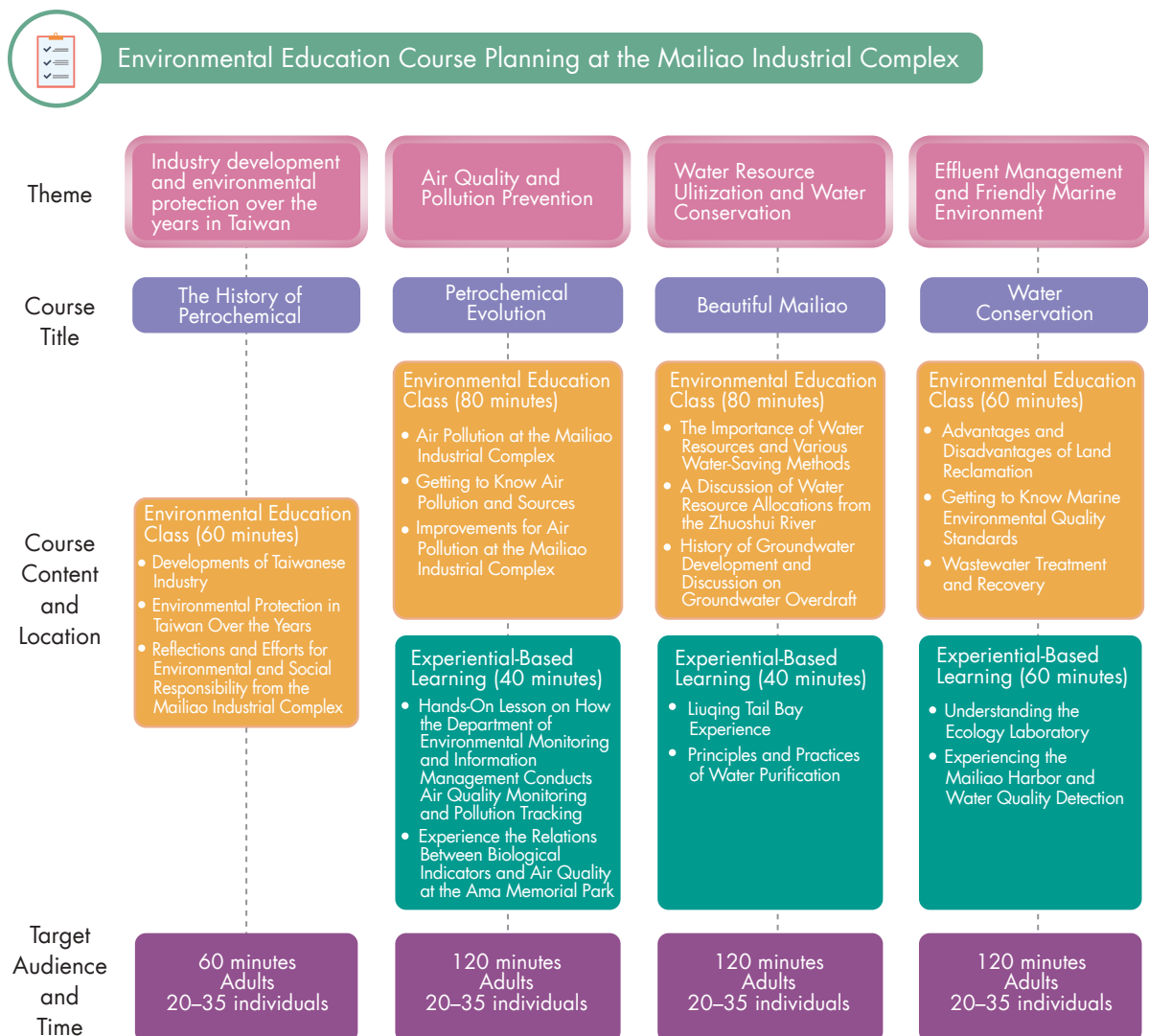


Due to increased attention for environmental protection in recent years, it has become an area of focus for the public. Alternatively, environmental education has become an emerging public trend. For external parties to better understand the promotion of circular economy, energy and water-saving performance, and our efforts toward environmental protection at Naphtha No. 6, Mailiao Industrial Complex has been opened up to public visit since 2015 for the public to experience firsthand and share with their friends and relatives their thoughts of Mailiao, as well as to fulfill environmental conservation, energy and water-saving, and ecological preservation in their daily lives. At the same time, the public can also understand the present status of our efforts to "emphasizing both environmental protection and industrial development" at Naphtha No. 6.

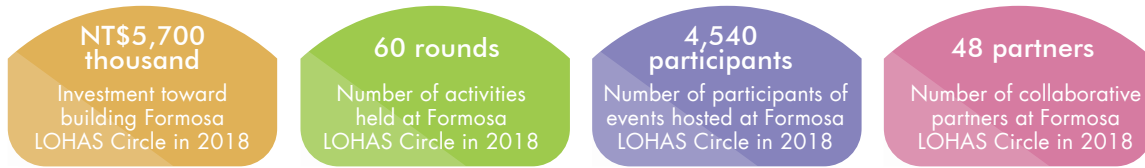
A series of fun, experiential, interactive, and story-telling environmental education courses have been designed at Mailiao Industrial Complex. Themes of these courses are as follow:

- (1) Evolution of Taiwanese industrial development and environmental protection: The industry's pursuit for balanced industrial development and environmental protection throughout the years is presented to the public. This course is designed to remind the industry to see environmental protection as a priority while seeking for economic development, and encourage the public to fulfill environmental protection in their daily lives. We also hope to further understand the public's expectations for FPG so that we can continue to improve.
- (2) Air quality and pollution prevention: By explaining about air pollution and how the government is attempting to improve air quality, we aim to deal with concerns of FPG's alleged air pollution at Mailiao Industrial Complex and gradually improve. With the course content, participants can understand that in addition to pursuing for economic development, Mailiao Industrial Complex also sees environmental protection as a priority. We also aim to enhance the public's awareness of environmental protection so as to reduce air pollution in their daily lives.

- (3) Water resource consumption and water conservation: Using the water consumption issue at Mailiao Industrial Complex, which is a topic of concern for the public, as the theme, this course discusses the water resource distributions of the Zhuoshui River through historical background, various statistics, data, and phenomenon. Through interactive discussion on the topic, everyone can reflect on the purposes of manually changing water allocations or river flow, their impacts on the environment, and how to achieve a balance. At the same time, by learning about the inconvenience and impacts that insufficient water resources would have on all walks of life, the public can be inspired to value water resources and to conserve water use. In addition, the course teaches the public about water-saving methods that could be practiced in everyone's daily lives by introducing the water-saving practices at Mailiao Industrial Complex.
- (4) Discharge management and friendly marine environment: By explaining about the impacts on the marine environment from the land reclamation at Mailiao Industrial Complex, FPG presents the need to conduct rigorous discharge management, reduce volume of discharge, and conduct water recovery at Mailiao Industrial Complex, which help achieve the ultimate goal of total discharge recovery. Though water discharge is still ongoing, but layers of rigorous control are put in place to ensure that the discharge does not impact the marine environment. The purpose of this course is for the public to understand and think about the benefits of land reclamation from an engineering perspective, as well as environmental impacts during and after the construction process, thereby enhancing the public's independent and critical thinking capability regarding the environment.
- (5) Environmental education facilities planning at Mailiao Industrial Complex: By using the existing Administration Building, Environmental Monitoring Center, Environmental Lab, and Mailiao Port, environmental education is carried out by the environmental education staff and volunteers according to the teaching plan as follows:



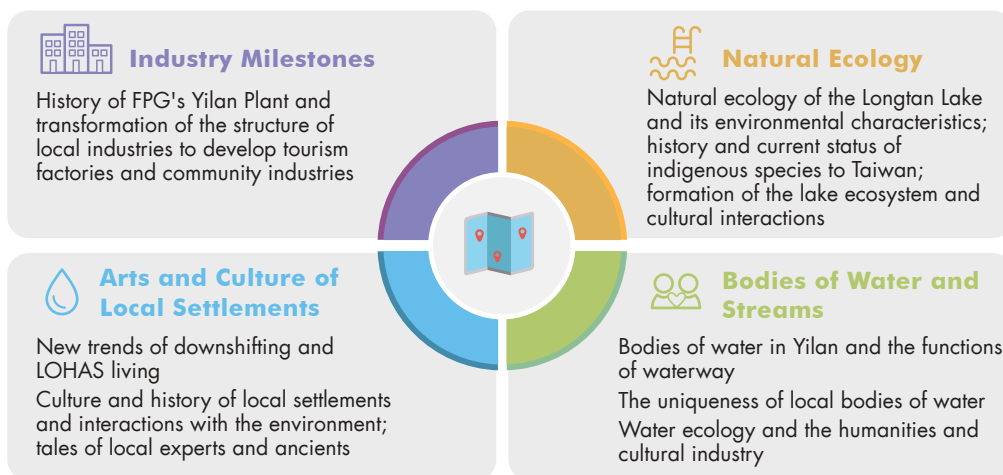
5.1.4 Formosa LOHAS Circle at Yilan



Formosa LOHAS Circle has been gradually established at Yilan, Taoyuan, Yunlin, and Kaohsiung by FPG's Group Administration in recent years. Founded with the purpose of community engagement and environmental sustainability, FPG coordinates with neighborhood communities, vendors, small-scale farmers, and local governments to promote LOHAS Circle. A series of activities were organized by Formosa LOHAS Circle at FCFC's Yilan Plant in 2018:



Environmental Education Activities at Formosa LOHAS Circle, Yilan



- On June 30th, we launched the first session of environmental education activities intended for adults, titled "Longtan Stories: Nature, Settlements and the Textile Plant." Subsequently, a total of 9 sessions were held with the following themes: "Artistic Nature: the Beauty of Trees in Dapo," "Finding Truth in the Camera Lens: Dapo Images," "Biological Research at the Banks of Longtan Lake," and more. By integrating with the local environment, the courses spread our philosophies of building a healthy and recreational LOHAS circle as well as our focus on environmental preservation.



- The administrative building at our Yilan Plant was transformed into a "Longtan Lake Ecology Classroom," where environmental education and local culture were taught. A total of 48 environmental educational activities were held between November and December, and 24 of which were jointly organized with 7 schools in the surrounding environment, including Long Tan Elementary School, Ching Kou Elementary School, Li Xing Elementary School, Taichung Municipal Cheng Kung Elementary School, Gong Jheng Elementary School, Tong-Le Primary School, and Chung Dau K-12 School. The other 24 sessions were open to the public and were received with widespread popularity.



- On December 2nd, the Formosa Yilan Ecology Marathon was held and was participated by over 3,800 runners and residents at neighboring communities. FCFC, Longtan community, 10 tourist factories, and 6 hot spring resorts all coordinated this marathon, along with enriched natural environment, tour buses, and charity fair, allowing the public to better appreciate the beauty of Yilan.



In 2019, we will encourage employees and the public to actively participate in our activities at the Formosa LOHAS Circle with the theme of "engagement." In addition, Formosa LOHAS Yilan is expected to continue to organize 50 environmental education activities focused on 4 core topics, namely industry, humanities, waterways, and ecology, at its Longtan Lake Ecology Classroom. Moreover, we also plan to organize 6 rounds of the young artist and family screen printing DIY event in the hope of effectively enhancing family relations through fun-filled interactions. We will also collaborate with universities and colleges to inject innovative development ideas, fulfill environmental education, and strengthen the local ties at Formosa LOHAS Yilan.

To better preserve the environment, Formosa LOHAS Yilan will be included in FCFC's annual beach cleanup and partner with relevant environmental conservation institutions in 2019. A large-scale beach cleanup event will be organized to show our determination toward achieving environmental sustainability and caring the environment. Environmental education will also be held to make the event more meaningful and interesting. The event is expected to host up to 2,500 participants.

Additionally, Formosa LOHAS Changhua will organize the first "Great Buddha Family Marathon" at FCFC's founding plant, Changhua Plant. We hope to encourage the public to get into a habit of exercising and to enhance their physiological and mental well-being. Moreover, we will also promote local tourism during the marathon by collaborating with FBC Health Center, local government, and elementary and junior high schools in neighboring communities. Interactive games are also planned to encourage family interactions and make the event more interesting. We hope to effectively promote local tourism and community development through the marathon, which is expected to host up to 2,500 participants.

5.2 Giving Back to Society

5.2.1 Social Welfare Donations from FPG

To realize our 2 founders' philosophy, FPG proactively works with the government and private organizations to comprehensively understand social needs and help the disadvantaged organizations. In recent years, FPG has donated nearly NT\$55.4 billion to educational, medical, and social welfare charities to continuously provide assistance for those in need. The Group Administration is responsible for organizing and planning major charitable events, such as early treatment, donation of pneumococcal vaccines to the elderly, Rainbow Project for prisoners, housing improvement for solitary seniors, scholarships for disadvantaged students, school assistance for indigenous students, financial assistance for families under domestic violence, medical and economic assistance for patients with rare diseases, sports talent training, and promotion of Taiwanese cultures, while FPG companies are responsible for promoting and implementing such events.



FPG Charitable Donations

Unit: NT\$100 million

Year	Type	Description of the charitable act	Donation Amount
1960–Today	Education	Establishment of Ming Chi University of Technology and subsequent donations	279.5
		Establishment of Chang Gung University and subsequent donations	
		Establishment of Chang Gung University of Science and Technology and subsequent donations	
	Medical	Establishment of Chang Gung Memorial Hospital	28.4
		*Helping poor patients to access medical services	
1990–Today	Caring for the Disadvantaged	*Helping indigenous students receive education and other subsidies	24.5
*Donation of cochlear implants			
Improving the service quality of disability organizations and other social welfare organizations			
Children's and women's welfare			
2000–Today	Environmental Care	Donations to Taipei, Kaohsiung, and Yunlin Second Prisons for the Rainbow Project and drug withdrawal program for prisoners with AIDS	13.4
		Recycling kitchen waste	
		Planting organic crops	
		Afforestation	

Year	Type	Description of the charitable act	Donation Amount
2000–Today	Caring for the Elderly	*Establishment of Chang Gung Health and Culture Village	7.2
		Donation of pneumococcal vaccines to the elderly	
	Reconstruction of Disaster Zones	**Donations for the reconstruction of 76 old and dangerous schools in areas damaged by the 921 Earthquake and Typhoon Morakot, as well as other counties/cities.	48.5
	Cultural Promotion	Donations to local culture and performance groups	0.9
	Sports Promotion	Promotion of sports and development of outstanding sports talents	2.4
	Health Promotion	Carrying out health promotion research and related academic research	2.5
	Community Investment	Involvement in the communities near FPG plants	135.8
Others	Chang Gung Social Welfare Fund and other donations	11.3	
Total			554.4

Note 1: "*" denotes donations derived from the revenue of Chang Gung Memorial Hospital and are not included in the total donation amount.

Note 2: "**" denotes the reconstruction of old and dangerous schools, including those under construction.

Note 3: The table only records donations made in Taiwan.

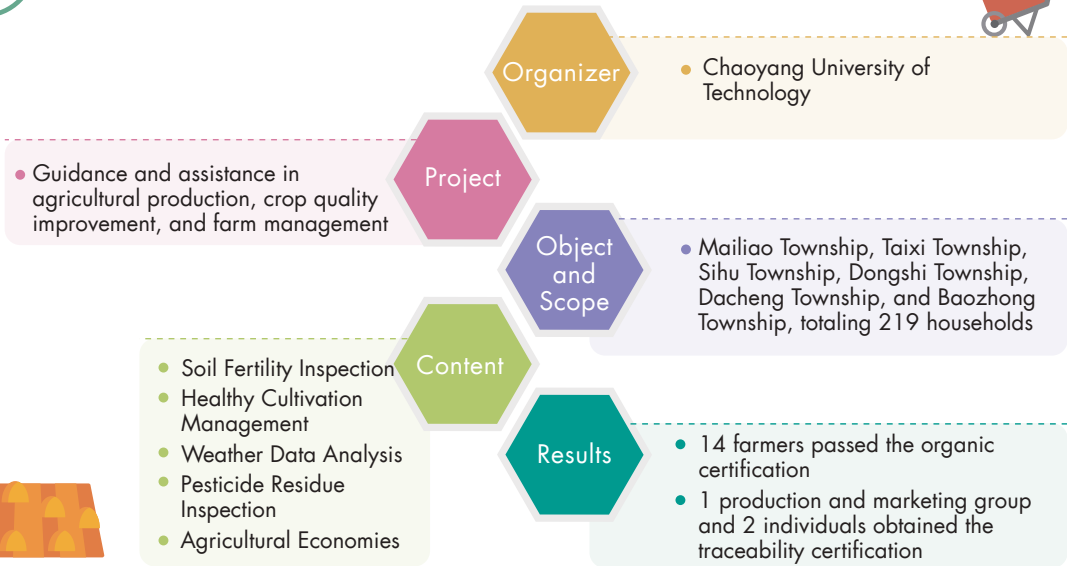
5.2.2 Promoting Local Industries

The construction of the No. 6 Naphtha Cracking Plant started in 1994. Since it was officially put into operation in 1998, it has brought a lot of job opportunities to the local communities, thus promoting the local economy. Over the past 20 years, FPG has developed 4 major initiatives, namely agricultural counseling, subsidies for afforestation, fishery counseling, and release of fry to nearby waters through the application of science and technology to promote the sustainable development of local industries in cooperation with local communities.

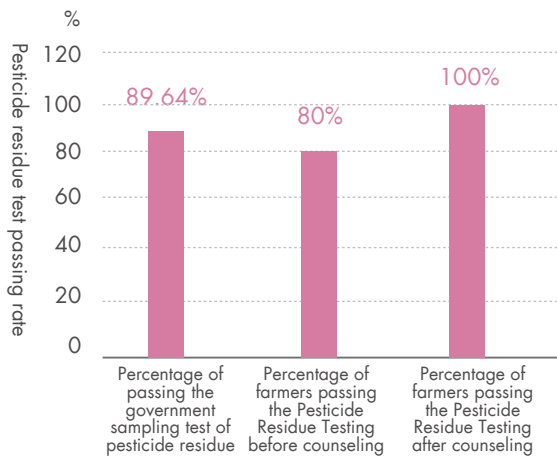




Agricultural Counseling



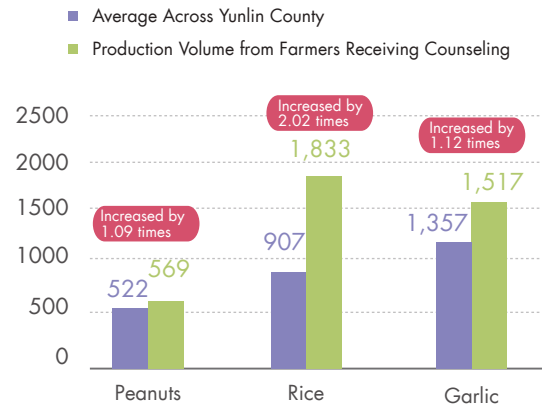
Comparison of Passing the Pesticide Residue Testing Before/After Counseling



Note: The passing rate of pesticide residue examination throughout Taiwan is approximately 90%; nevertheless, coastal regions in Central and Southern Taiwan were nicknamed the home of pesticides since illegal pesticides were prevalent. This is equivalent to the passing rate of pesticide residue examination after FCFC's first year of agricultural counseling program was provided. Currently, passing rate has reached 100% after correct farming methods are taught to the farmers through the counseling program, which help minimize the use of pesticides.



Performance of Counseling Regional Staple Crop Farmers



Note: Production volume has surpassed average production volume in Yunlin after farmers received counseling. This was particularly obvious in staple crops including rice.

1
2
3



朝陽科大農業輔導團隊
Chaoyang University of Technology

健康管理

少肥少藥

豐收好品質

營養管理

病蟲害管理

施肥

灌溉

工作項目	處理
定植	本微菌相關商品、苦楝粕、有機質肥料
生長期	酸澆液、生肥菌、營養元素、補鈣錳相關產品
開花結果期	本微菌相關商品、促進開花及果實肥大之營養元素、適時噴混合銅鋅相關產品。

一般：施肥■中耕■澆水
試驗：中耕■澆水■施肥

用藥少
省藥費

無害農
藥殘留

果飽



落花生常見病害

白絹病



立枯病



鹽害



過晚採收發芽



發新梢



播壓過重，發育不完全



果實變形



落花生常見蟲害

●金針蟲



●綠蟲



●甜菜葉蛾



●小黃薊馬



●赤葉蟎



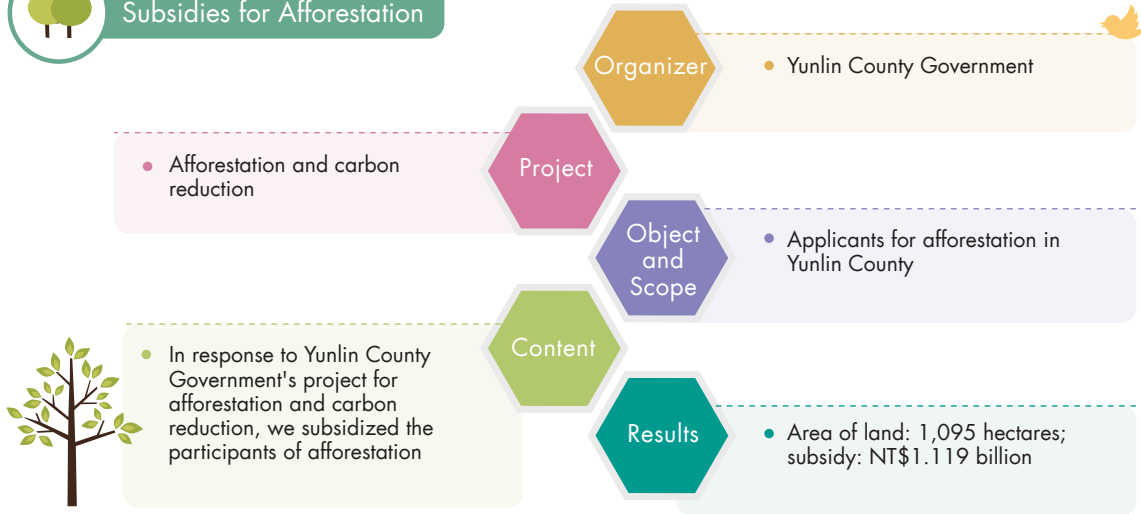
Note: Professional pamphlets on past experiences of teaching farmers to overcome various challenges are published



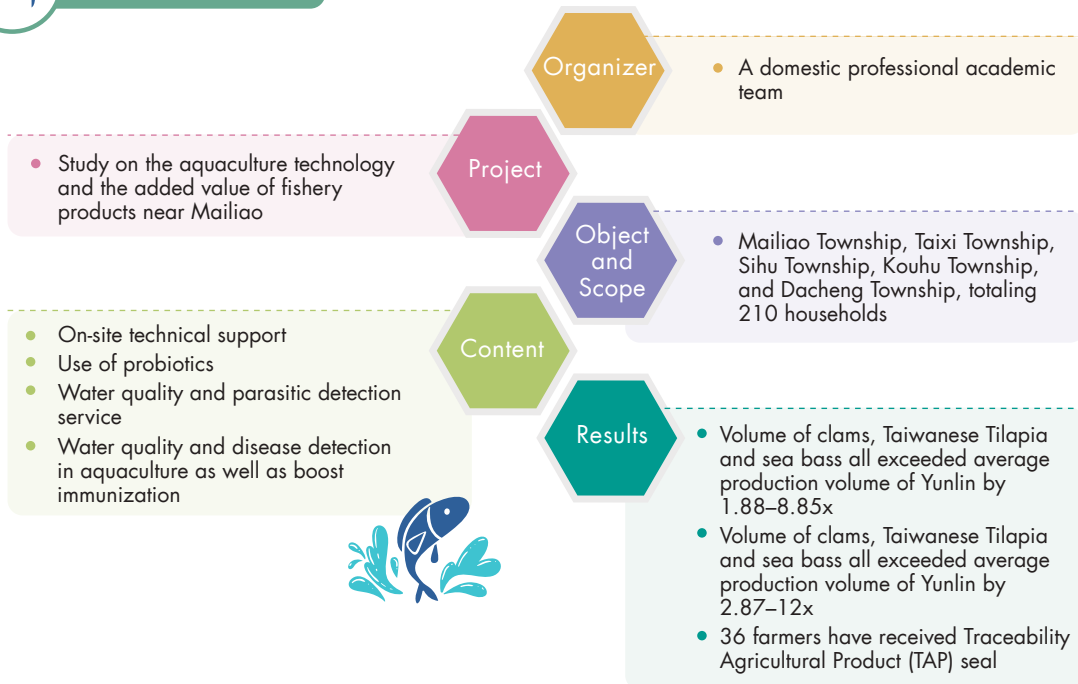
Guided procedures, press conference, and hosting marketing/promotional events



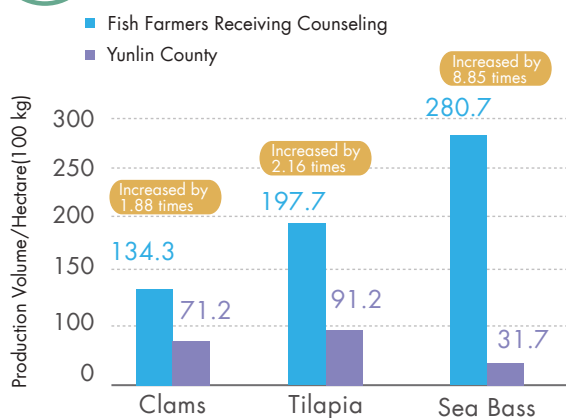
Subsidies for Afforestation



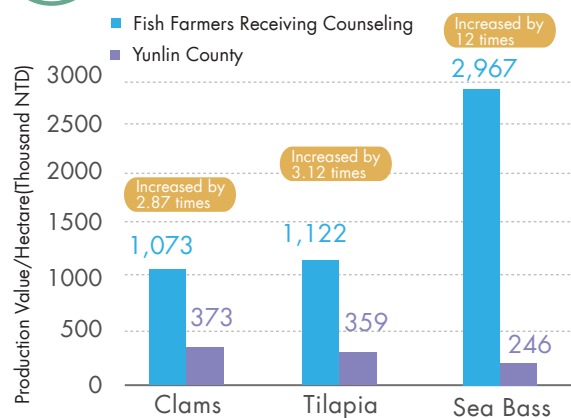
Fishery Counseling



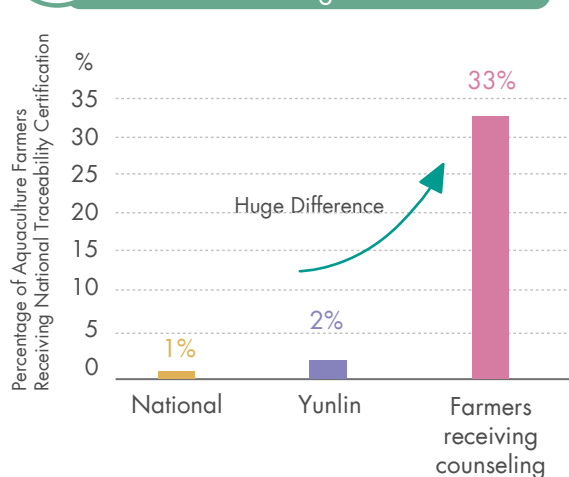
Average Production Volume from Fish Farmers Receiving Counseling



Average Production Value from Fish Farmers Receiving Counseling



Comparison of Production Volume from Farmers Receiving Counseling and Yunlin Average



Traceability	National	Yunlin	Farmers receiving counseling
Number of farmers receiving national traceability certification	265	77	36
Number of aquaculture farmers	32,687	4,429	110
Percentage	1%	2%	33%

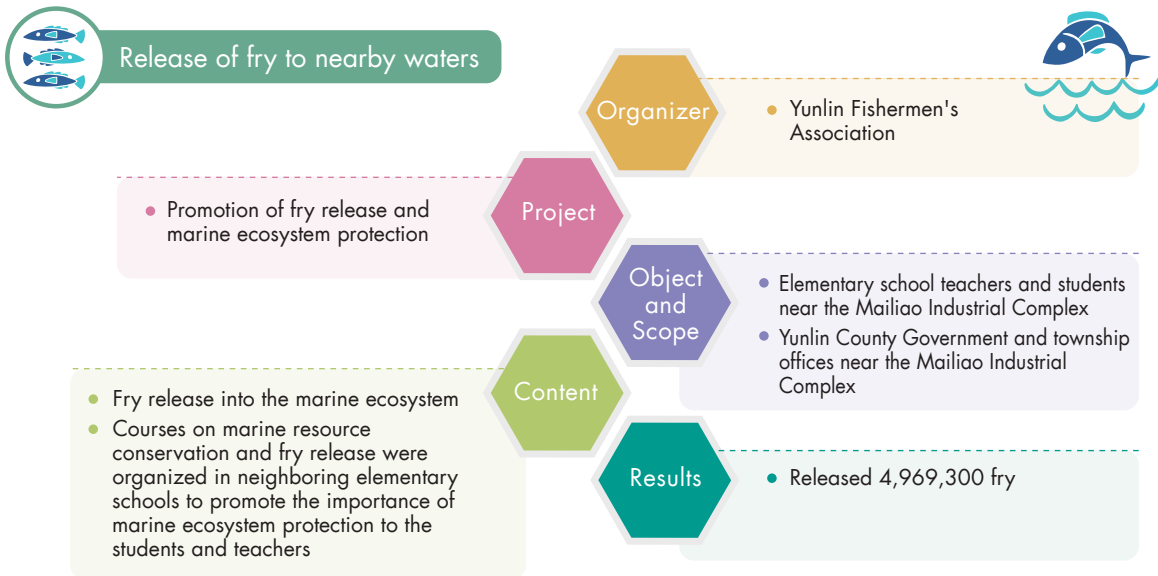
Note: Statistical data from the Fisheries Agency, Council of Agriculture indicate that there are 32,687 inland aquaculture businesses throughout Taiwan, and approximately 1%, or 265 of which have received traceability certification. Yunlin County is home to 4,249 aquaculture farmers, and 2% of whom, or 77 farmers, have received traceability certification. And of the 110 aquaculture farmers counselled by the Company, an astounding 33%, or 36 of whom have received traceability seal. This proves our counseling is effective in helping local farmers produce quality and safe non-toxic aquaculture products.



Co-organized Clams Festival with the Yunlin Fishery Association Event



Technical communication with local aquaculture farmers



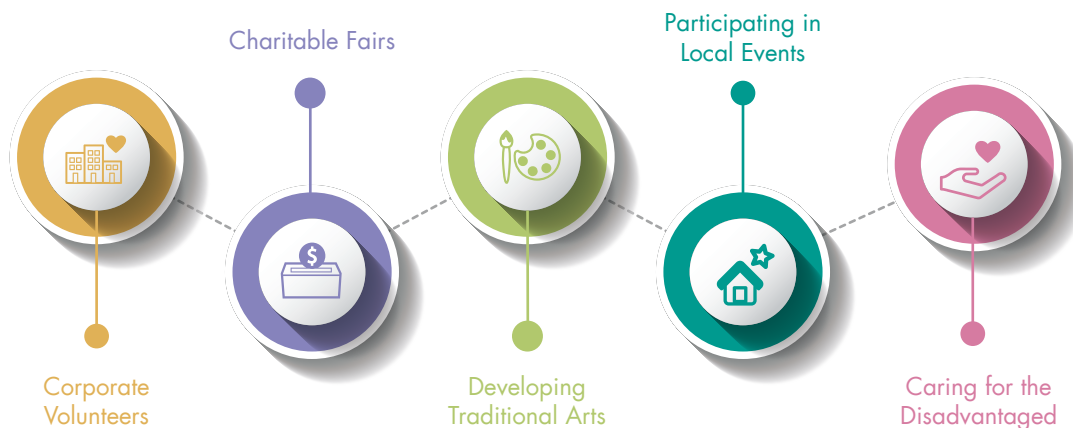
5.2.3 Enhancing Relationships between FCFC Plants and Local Communities

In 2018, the Administration Department of each complex was responsible to organize community activities as follows:

Item		Donation Amount (in NT\$10,000)
Caring for the Disadvantaged	Providing assistance for the disadvantaged organizations, such as subsidies for funerals	167
Promoting Local Festivals	Sponsoring Yilan International Children's Folklore & Folkgame Festival, temple activities, and community activities	831
Maintaining Community Environments	Providing funds for the remuneration of community cleaning team, road cleaning, and replacement of street lights	246
Others	Funding activities from neighboring foundations, student academic scholarships, and donating Yung-tsai Food Safety Center in Chiayi	5,139

Note: The donation amount of the Xingang Plant was shared by FPC, NPC, and FCFC; the donation amount of the Mailiao Plant was shared by FPC, NPC, FCFC, and FPCC.

Every year, the Changhua Plant, Longde Plant, and Xingang Plant, and Mailiao Plant hold activities that enhance the relationships between the plants and the local communities. Labor unions, employees, and volunteers all actively participate, while local residents are also invited to take part in these activities. All income generated from these activities have been donated to local disadvantaged organizations. By holding charitable events and traditional art performances, we hope to strengthen our relationship with the local communities.



Corporate Volunteers

To enhance relationships with the local community residents, FCFC continues to host the "Environmental Volunteer Day" event, in which our management team will lead and encourage employees to serve as volunteers in neighborhood cleanup and other volunteer activities such as mountain/beach cleanup. An environmental protection volunteering team is also formed to sweep roads, hiking trails, and beaches in neighboring communities one hour before work or on weekends and holidays. The team improves the cleanliness of neighborhood areas and uses local spare space to plant trees, creating more recreational and leisure space for the local residents.

To promote the culture of volunteering within the Company, we have encouraged our employees to serve the communities as volunteers. In 2018, 1,629 employees provided volunteer services, such as working with government-certified public welfare organizations to maintain local community cleanliness and participating in extracurricular school programs; in addition to physical services, our employees also assisted related units in organizing charitable activities. For example, we donated supplies to public welfare organizations, cleaned the homes of solitary seniors, granted charitable donations, offered volunteer services, and cared for the disadvantaged families.

To encourage volunteers' contributions, we began implementing a recording system of volunteer service hours in 2011. Employees receive a reward for every 15 service hours they have volunteered; moreover, volunteers' family members and children are also invited to serve as volunteers. Those who participate are given certificates of their volunteering hours as a form of encouragement and recognition.



Volunteer Activity Led by Executives



Employees Devoting Themselves to Volunteering

Charitable Fairs

To promote waste reduction, recycling, and reuse, we arrange a flea market, where unwanted goods are collected to be sold from both our employees and local residents, with all proceeds donated to charitable organizations. In addition, we regularly host charitable fairs to raise funds for the disadvantaged. All income generated from these charitable fairs is donated to local charitable organizations, which in turn provide scholarships for the disadvantaged students.



The Charitable Fair Organized in Cooperation with Local NPOs



Proceeds from the Flea Market Donated to Public Welfare Organizations

Developing Traditional Arts

To commemorate his mother, Madame Wang Zhan Yang, FPG Founder Mr. Wang Yung-Tsai donated and founded the Wang Zhan Yang Trust. Understanding the challenges to preserve traditional arts and the inequality in the distribution of cultural resources, the trust aims to promote traditional arts and local culture. For six consecutive years, FCFC's Changhua Plant, Yilan Longde Plant, Chiayi Xingang Plant, and Yulin Mailiao Plant have collaborated to organize charitable performances from Ming Hwa Yuan Arts and Cultural Group and other performers, so that visual feasts normally reserved for the national halls could also be enjoyed in the countryside, helping art education to bloom. Ifkids Theater and Apple Theater were also invited to perform. As of 2018, a total of 157,000 audience had attended performances by Ming Hwa Yuan Arts and Cultural Group, all of which were resounding.



Ming Hwa Yuan Arts and Cultural Group performance in local communities



Ifkids Theater Performance received widespread popularity

Participating in Local Events

The operation of FCFC is built on the basis of taking from and giving back to society. We are dedicated to participating in local activities, including donating to local academic buildings, promoting local government's policies, and providing assistance for charitable events and other grand events sponsored by institutes or schools near our industrial complexes. Assistance is also given to competitions organized by local governments, activities arranged by disability institutes, religious festivals, school sports days, villager self-empowerment activities, festival activities, and weddings and funerals to maintain close contact with the local communities.



Housing Construction Period II



Donations to the Lantern Festival Activity

Caring for the Disadvantaged

To provide care for nearby communities and local residents, a welfare organization composed of our employees and collaborative contractors also provides assistance for seniors, children, the disadvantaged, and first aid organizations. We hope that FPG and all of our employees will continue to promote community engagement and attract more attention to the disadvantaged.



Caring for the Disadvantaged



End-of-Year Caring for Solitary Seniors

5.3 Description of Material Community Issues

👑 Incidence of Cancer in Taixi Township

According to the domestic research reporting a high incidence of cancer near the No.6 Naphtha Cracking Plant in Taixi Township, few local residents filed a civil lawsuit against five companies in the No.6 Naphtha Cracking Plant in August 2015 on the grounds of suffering from cancer or deaths due to cancer and claimed some NT\$70 million. A total of 13 verbal arguments have been called, and relevant evidence is still under investigation and clarification.

In addition, a civil lawsuit was filed by Mr. Lins to five companies in FPG's No.6 Naphtha Cracking Plant in April 2018 for claims of some NT\$10.32 million. A total of 5 verbal arguments have been called, and relevant evidence is still under investigation and clarification.

According to the national statistics compiled by Ministry of Health and Welfare, the total incidence of cancer in Taixi Township from 2008 to 2010 increased by 0.40 time compared with that between 1999 and 2001, which is lower than the national increase of 0.45 time. The increase of 4.07 times claimed by the residents is nonexistent. The international literature also points out that there are many causes of cancer, and the incubation period of cancer is about 10 to 20 years. The No.6 Naphtha Cracking Plant has been in operation since 1999 and started operating on a large scale in 2005; therefore, there is no exact causal relationship between the residents' suffering from cancer and the operation of the Sixth Naphtha Cracker Project.

👑 FPG's Efforts to Promote Tourism in Post-earthquake Hualien

A severe earthquake shook Hualien on February 6, 2018, causing severe consequences including multiple injuries, deaths, and collapsed buildings. The Hualien Government was instantly committed to disaster relief and offered various support measures to victims to restore their livelihoods. Always striving to extend a helping hand, FPG donated NT\$50 million and Chairman Wong Wen-Yuan also paid a personal visit to Hualien. He was very impressed by Hualien County Commissioner Fu Kun-chi's efficiency in post-quake rebuilding. Commissioner Fu also stated that rebuilding Hualien takes every ounce of effort from local communities. Nevertheless, though the beautiful scenery remain, the county had lost its prospering tourism business. Our Chairman identified with Commissioner Fu's philosophy of "helping oneself before seeking help from others," and promised to actively encourage our employees to travel to Hualien in an effort to reboot the local tourism industry.

Therefore, FPG Travel Service Co., Ltd., a subsidy of FPG, organized 2-day trips to Hualien for employees and their families. Starting from April 21st, 9 TRA trains were arranged to depart from Taipei, Chiayi, and Kaohsiung to pick up about 7,100 employees and family members. In addition, approximately NT\$5,000 of travel allowance was offered to each employee, and NT\$1,500 to each of their family members.

By taking action, FPG helped promote local tourism industry in Hualien and local businesses to flourish, and we hope that local tourism can pick up and exceed its former glory in Hualien.







Appendices

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Appendix 1 Global Reporting Initiative (GRI) Comparison Table

The indexes mentioned below are cross-referenced with the GRI Standards: 2016. Nevertheless, updated GRI Standards: 2018 has been adopted for “GRI 303: Water and Effluents” and “GRI 403: Occupational Health and Safety.” As shown in the Statement of Independent Assurance Opinion, relevant information have been verified to comply with the requirement on external assurance from GRI Standards.

GRI 102: General Disclosures 2016				
Disclosure Item	Description	Referenced Section	Remark	
Organizational Profile	102-1	Name of the organization	1.2.1	
	102-2	Activities, brands, products, and services	2.3.1	No product that is banned in specific markets
	102-3	Location of headquarters	1.2.1	
	102-4	Location of operations	1.2.1	
	102-5	Ownership and legal form	1.2.1	
	102-6	Markets served	1.2.1	
	102-7	Scale of the organization	1.2.1	
	102-8	Information on employees and other workers	4.1.2	
	102-9	Supply chain	2.5.4 2.5.5	
	102-10	Significant changes to the organization and its supply chain	-	No significant change in 2018
	102-11	Precautionary principle or approach	2.2.1 2.2.2	
	102-12	External initiatives	Report Guideline 4.4.2	
	102-13	Membership of associations	2.3.5	
	Strategy	102-14	Statement from senior decision-maker	1.1
Material Topic: Treatment and Response to Operational Risks				
Strategy	102-15	Key impacts, risks, and opportunities	2.1.3 2.2.1 2.2.2 3.3.1	FCFC has chosen to disclose this item though it is not a core option.
Management Approach	103-2	The management approach and its components	2.2	
	103-3	Evaluation of the management approach	2.2	
Ethics and Integrity	102-16	Values, principles, standards, and norms of behavior	2.1.4 2.5.3	



GRI 102: General Disclosures 2016				
Disclosure Item	Description	Referenced Section	Remark	
Material Topic: Corporate Governance				
Governance	102-18	Governance structure	2.1.1 2.1.2	
	102-36	Process for determining remuneration	2.1.1	FCFC has chosen to disclose this item though it is not a core option.
Management Approach	103-2	The management approach and its components	2.1	
	103-3	Evaluation of the management approach	2.1	
	102-40	List of stakeholder groups	1.4.2	
Communication with Stakeholders	102-41	Collective bargaining agreements	4.1.1	Though the Company has not made collective bargaining agreements, the Company still listens to employees' opinions through labor unions and employment relations meetings.
	102-42	Identifying and selecting stakeholders	1.4.1	
	102-43	Approach to stakeholder engagement	1.4.2	
	102-44	Key topics and concerns raised	1.4.2	
	102-45	Entities included in the consolidated financial statements	1.2.1	
	102-46	Defining report content and topic boundaries	Report Scope and Boundary	
	102-47	Material Topic list	1.5.3	
	102-48	Restatements of information	Report Scope and Boundary	No restatement of information
	102-49	Changes in reporting	Report Scope and Boundary	No significant change
Reporting Practice	102-50	Reporting period	Duration and Issuance Date	
	102-51	Date of the most recent report	Duration and Issuance Date	
	102-52	Reporting cycle	Duration and Issuance Date	
	102-53	Contacts for questions regarding the Report	Contact Information	
	102-54	Claims of reporting in accordance with the GRI Standards	Report Guideline	
	102-55	GRI content index	Appendix 1	
	102-56	External assurance	Appendix 5	

GRI 103: Management Approach 2016				
Disclosure Item		Description	Referenced Section	Remark
Management Approach	103-1	Explanation of the material topic and its boundary	1.5.3	
GRI 200: Topic-Specific Standards Economic Topics 2016				
Disclosure Item		Description	Referenced Section	Remark
Material Topic: Operational and Financial Performance				
Economic Performance	201-1	Direct economic value generated and distributed	2.1.5	
	201-3	Defining benefit plan obligations and other retirement plans	4.2.1 4.2.2	
	201-4	Financial assistance received from government	2.1.5	
Management Approach	103-2	The management approach and its components	2.1.5	
	103-3	Evaluation of the management approach	2.1.5	
Market Presence	202-1	Ratios of standard entry-level wage by gender compared to local minimum wage	4.2.1	
	202-2	Proportion of senior management hired from the local community	4.1.3	
Indirect Economic Impacts	203-1	Infrastructure investments and the development and impact of services supported	5.1	
Procurement Practices	204-1	Proportion of spending on local suppliers	2.5.4	
Anti-corruption	205-3	Confirmed incidents of corruption and actions taken	-	No corruptive incidents occurred in 2018.
GRI 300: Topic-Specific Standards Environmental Topics 2016				
Disclosure Item		Description	Referenced Section	Remark
Material Topic: Water Resource Use and Management				
Water and Effluents (GRI: 2018)	303-3	Water Use Quantity	3.2.1	
	303-4	Water Release Volume	3.2.2	
	303-5	Water Consumption	3.2.3	
Effluents and Waste	306-1	Water discharge by quality and destination	3.2.2	
	306-5	Water bodies affected by water discharges and other (surface) runoff discharges	3.2.2	
Management Approach	303-2	Management of discharge-related impacts	3.2.2	
	103-2	The management approach and its components	3.2	
	103-3	Evaluation of the management approach	3.2	



GRI 300: Topic-Specific Standards Environmental Topics 2016

Disclosure Item	Description	Referenced Section	Remark
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Material Topic: Mitigation and Adaptation to Climate Change

Emissions	305-1	Direct (Scope 1) GHG emissions	3.3.2	
	305-2	Indirect (Scope 2) GHG emissions	3.3.2	
	305-3	Indirect (Scope 3) GHG emissions	3.3.2	
	305-4	GHG emissions intensity	3.3.2	
Management Approach	103-2	The management approach and its components	3.3	
	103-3	Evaluation of the management approach	3.3	

Material Topic: Air Pollutants Management

Emissions	305-7	NO _x , SO _x , and other significant air emissions	3.4	
Management Approach	103-2	The management approach and its components	3.4	
	103-3	Evaluation of the management approach	3.4	

Material Topic: Waste Management

Effluents and Waste	306-2	Waste by type and disposal method	3.5.1	
	306-3	Significant spills	3.6	
Management Approach	103-2	The management approach and its components	3.5	
	103-3	Evaluation of the management approach	3.5	

Material Topic: Compliance with Environmental Protection Regulations

Compliance with Environmental Protection	307-1	Non-compliance with environmental laws and regulations	3.6	
Management Approach	103-2	The management approach and its components	3.6	
	103-3	Evaluation of the management approach	3.6	

GRI 400: Topic-Specific Standards Social Topics 2016

Disclosure Item	Description	Referenced Section	Remark
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Material Topic: Employee Welfare and Remuneration

Employment	401-1	New employee and employee turnover	4.1.3	
	401-2	Benefits provided to full-time employees (not including temporary or part-time employees)	4.2.2	
	401-3	Parental leave	4.2.2	
Management Approach	103-2	The management approach and its components	4.2	
	103-3	Evaluation of the management approach	4.2	

GRI 400: Topic-Specific Standards Social Topics 2016

Disclosure Item		Description	Referenced Section	Remark
Material Topic: Employee Human Rights Protection				
Labor/Management Relations	402-1	Minimum notice periods regarding operational changes	4.1.3	
Management Approach	103-2	The management approach and its components	4.1	
	103-3	Evaluation of the management approach	4.1	
Material Topic: Occupational Health and Safety				
Occupational Health and Safety (GRI: 2018)	403-9	Occupational injury	4.4.4	
	403-10	Occupational disease	4.4.4	
Management Approach	403-1	Occupational Safety and Health Management System	4.4	
	103-2	The management approach and its components	4.4	
	103-3	Evaluation of the management approach	4.4	
Material Topic: Career Development and Training				
Training and Education	404-1	Average hours of training per year per employee	4.3.2	
	404-2	Programs for upgrading employee skills and transition assistance	4.3.1	
	404-3	Percentage of employees receiving regular performance and career development reviews	4.3.1	
Management Approach	103-2	The management approach and its components	4.3	
	103-3	Evaluation of the management approach	4.3	
Employee Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	2.1.1 4.1.2	
	405-2	Ratio of basic salary and remuneration of women to men	4.2.1	
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	4.1.1	
Material Topic: Community Engagement and Contribution				
Local Community	413-1	Operations with local community engagement, impact assessments, and development programs	5.1	Local community engagement, impact assessments, and development programs have been implemented at all operations.
	413-2	Operations with significant actual and potential negative impacts on local communities	5.1	
Management Approach	103-2	The management approach and its components	5.1	
	103-3	Evaluation of the management approach	5.1	



GRI 400: Topic-Specific Standards Social Topics 2016				
Disclosure Item		Description	Referenced Section	Remark
Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	2.3.4	
	416-2	Violations of health and safety regulations concerning products and services	2.3.4	No violation of health and safety-related regulations concerning products and services in 2018
Marketing and Labeling	417-1	Requirements for product and service information and labeling	2.5.1	
	417-2	Violations of product and service information and labeling regulations	-	No violation of regulations concerning products and services in 2018
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	2.5.3	No complaint concerning breaches of customer privacy and losses of customer data in 2018
Social and Economic Regulatory Compliance	419-1	Violations laws and regulations in the social and economic area	-	No violations of regulations concerning product services and use in 2018

FCFC and Industrial Issue				
Disclosure Item		Description	Referenced Section	Remark
Material Topic: Controlled Chemical Substance Management				
Management Approach	103-2	The management approach and its components	3.5 3.5.2	
	103-3	Evaluation of the management approach	3.5	
Material Topic: Industrial and Public Safety				
Management Approach	103-2	The management approach and its components	4.4	
	103-3	Evaluation of the management approach	4.4	

Appendix 2 Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies

Material Issues	Description	Referenced Section	Remark
Chapter 1 General Principles	Purposes of establishment, applicable objects, and principles of practice	About the Report	
Chapter 2 Exercising Corporate Governance	Implementation of corporate governance practices	2.1 Corporate Governance	
Chapter 3 Fostering a Sustainable Environment	Development of a sustainable environment	3. Fostering a Sustainable Environment	
Chapter 4 Preserving Public Welfare	Preservation of public welfare	5. Creating Common Prosperity	
Chapter 5 Enhancing Disclosure of Corporate Social Responsibility Information	Improvement in the disclosure of corporate social responsibility information	Goals of Corporate Social Responsibility CSR Highlights And Performance	
Chapter 6 Supplementary Provisions	Review and improvement in the corporate social responsibility system	1. A Pioneer of Infinite Value Creation	



Appendix 3 ISO 26000 Guidance on Social Responsibility

	Material Issues	Referenced Section	Remark
Organizational Governance	Decision-making processes and structures	2.1 Corporate Governance	
Human Rights	Complying with laws and regulations and avoiding the audit of the risk posed by human rights problems	4.1 Employee Human Rights Protection	
	Human rights risk situations	4.1 Employee Human Rights Protection	
	Avoidance of complicity—direct, beneficial, and silent complicity	4.1 Employee Human Rights Protection	
	Resolving grievances	4.1 Employee Human Rights Protection	
	Discrimination and vulnerable groups	4.1 Employee Human Rights Protection	
	Civil and political rights	4.1 Employee Human Rights Protection	
	Economic, social, and cultural rights	4.1 Employee Human Rights Protection	
	Fundamental principles and rights at work	4.1 Employee Human Rights Protection	
Labor Practices	Employment and employment relationships	4.1 Employee Human Rights Protection	
	Conditions of work and social protection	4.1 Employee Human Rights Protection	
	Social dialogue	4.1 Employee Human Rights Protection	
	Health and safety at work	4.4 A Healthy and Safe Workplace Environment	
	Human development and training in the workplace	4.3 Human Capital Development	
Environment	Prevention of pollution	3. Fostering a Sustainable Environment	
	Sustainable resource use	3. Fostering a Sustainable Environment	
	Climate change mitigation and adaptation	3.3 Mitigation and Adaptation to Climate Change	
	Protection of the environment, biodiversity, and restoration of natural habitats	3. Fostering a Sustainable Environment	
Fair Operating Practices	Anti-corruption	2.1.4 Ethical Business Conduct	
	Responsible political involvement	2.3.5 Participation in External Associations 2.1.5 Operational and Financial Performance	

	Material Issues	Referenced Section	Remark
Fair Operating Practices	Fair competition	2.5.5 Supplier Management	
	Promoting social responsibility in the value chain	1.1 From the Management Team 1.3 Management Vision	
	Respect for property rights		All employees must sign the Statement on Respecting Intellectual Property Rights to announce the Company's policy and stand against illegal software. Violators will be subject to both legal sanctions and penalties pursuant to the Company's Articles of Association.
Consumer Issues	Fair marketing, factual and unbiased information, and fair contractual practices	2.5.3 Legal Compliance and Customer Privacy	
	Protecting consumers' health and safety	2.5.1 Customer Relations	
	Sustainable consumption	2.3.4 Product Safety and Health Responsibility	
	Consumer services, support, and complaints and dispute resolutions	2.5.1 Customer Relations 2.5.2 Customer Satisfaction Survey	
	Consumer data protection and privacy	2.5.3 Legal Compliance and Customer Privacy	No violation of customer privacy or loss of customer data in 2018
	Access to essential services	2.5.1 Customer Relations	
	Education and awareness	2.5.1 Customer Relations	
Community Involvement and Development	Community involvement	5.1 Community Engagement 5.2 Giving Back to Society	
	Education and culture	5.1.3 Promotion of Environmental and Ecological Education 5.2.3 Enhancing Relationships between FCFC Plants and Local Communities	
	Employment creation and skill development	5.1 Community Engagement 5.2 Giving Back to Society	
	Technology development and access	5.1 Community Engagement	
	Wealth and income creation	5.1 Community Engagement	
	Health	5.1.1 Care for Community Residents' Health 5.2 Giving Back to Society	
	Social investments	5.2 Giving Back to Society	



Appendix 4 United Nations Global Compact

Category	Ten Principles	Referenced Section	Remark
Human Rights	Businesses should support and respect the protection of internationally proclaimed human rights.	2.5.5 Supplier Management 4.1 Employee Human Rights Protection	
	Business should make sure that they are not complicit in human rights abuses.	2.5.5 Supplier Management 4.1 Employee Human Rights Protection	
Labor	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	4.1 Employee Human Rights Protection	
	Businesses should uphold the elimination of all forms of forced and compulsory labor.	4.1 Employee Human Rights Protection	
	Businesses should uphold the effective abolition of child labor.	4.1 Employee Human Rights Protection	
	Businesses should uphold the elimination of discrimination in respect of employment and occupation.	4.1 Employee Human Rights Protection	
Environment	Businesses should support a precautionary approach to environmental challenges.	2.3.4 Product Safety and Health Responsibility	
	Businesses should undertake initiatives to promote greater environmental responsibility.	3. Fostering a Sustainable Environment	
	Businesses should encourage the development and diffusion of environmentally friendly technologies.	2.4 Development, Innovation, and AI Applications 2.3.4 Product Safety and Health Responsibility	
Anti-corruption	Businesses should work against corruption in all its forms, including extortion and bribery.	2.1 Corporate Governance	

Appendix 5 Statement of Independent Assurance Opinion

INDEPENDENT ASSURANCE OPINION STATEMENT

Formosa Chemicals & Fibre Corporation 2018 Corporate Social Responsibility Report

The British Standards Institution is independent to Formosa Chemicals & Fibre Corporation (hereafter referred to as FCFC in this statement) and has no financial interest in the operation of FCFC 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 FCFC only for the purposes of assuring its statements relating to its corporate social responsibility (CSR), 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 FCFC. 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 FCFC only.

Scope

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

1. The assurance scope is consistent with the description of Formosa Chemicals & Fibre Corporation 2018 Corporate Social Responsibility Report.
2. The evaluation of the nature and extent of the FCFC's adherence to AA1000 AccountAbility Principles (2018) in this report as conducted in accordance with type 1 of AA1000 Assurance Standard (2008) with 2018 Addendum 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 FCFC 2018 Corporate Social Responsibility Report provides a fair view of the FCFC CSR programmes and performances during 2018. The CSR 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 FCFC and the sample taken. We believe that the 2018 economic, social and environmental performance information are fairly represented. The CSR performance information disclosed in the report demonstrate FCFC's efforts recognized by its stakeholders.

Our work was carried out by a team of CSR report assurers in accordance with the AA1000AS (2008) with 2018 Addendum. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that FCFC's description of their approach to AA1000AS (2008) with 2018 Addendum 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 FCFC'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.
- 10 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 FCFC 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 economic, social and environmental information in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the FCFC's inclusivity issues.

Materiality

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

Responsiveness

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

Impact

FCFC has Identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. FCFC 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 FCFC's impact issues.

GRI Sustainability Reporting Standards (GRI Standards)

FCFC 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 at least one topic-specific disclosure). Based on our review, we confirm that social responsibility and sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the FCFC's social responsibility and sustainability topics.

Assurance level

The moderate level assurance provided is in accordance with AA1000AS (2008) with 2018 Addendum in our review, as defined by the scope and methodology described in this statement.

Responsibility

The CSR report is the responsibility of the FCFC'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
2019-05-02

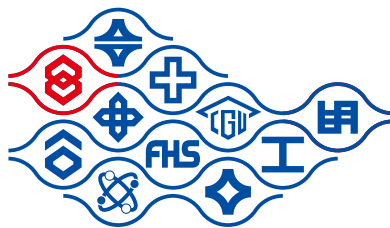
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