

2018 NAN YA PLASTICS CORPORATION CSR Report Corporate Social Responsibility Report

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# From the Chairman

Since its founding in 1958, the Company has adhered to the business philosophy of "diligence, perseverance, frugality and trustworthiness" as well as "to aim at the sovereign good." While based in Taiwan, it has an international outlook. After years of expansion and development, it has now established itself in diversified industries including plastic processing, chemical engineering, polyester, and electronic materials while actively devoting itself to environmental protection, circular economy, and social welfare. Through the development and promotion of various projects and the joint efforts of all employees, the Company continues to be selected as a constituent of the "Taiwan Sustainability Index" and steadily moves towards the long-term goal of "sustainable management and dedication to society."

For the first three quarters of 2018, due to the good fundamentals of the global economy, the Company's comprehensive industrial chain plus the effort of actively developing high-value and differentiated products, revenue and profitability were excellent. During the fourth quarter however, due to the Sino-US trade war and the sharp decline in international oil prices, market demand dwindled and the operating conditions became drastically different. Fortunately, with the joint effort of all employees and the result of the first three quarters, the Company's annual revenue still hit a record high. The net profit after income tax and EPS also reached the third highest in history.

In the future, in the face of the complicated situation of Sino-US trade war, cross-strait relations, and oil price fluctuations, we will adopt four management strategies including "actively expand and diversify the market, increase production capacity utilization rate," "strengthen research and development, and develop high-value and differentiated products," "implement circular economy, reduction as well as reuse of resources to maximize economic benefits," and "promote process optimization, industrial 4.0 and introduce AI to enhance product competitiveness." Moreover, process optimization and AI development have been selected as the key topics. The Company hopes to achieve resource integration and efficiency improvement to add growth momentum to the operations through the application of new technologies and techniques.

At the same time, in order to respond to global climate change and achieve the goal of energy conservation and carbon reduction, the Company has long promoted environmental protection. In addition to energy conservation and emission reduction, waste reduction, and recycling, the Company has promoted circular economy activities in recent years to pursue the "reduce, reuse and recycle" of resources to maximize the economic benefits of recycling.

The Company's specific actions and efforts in environmental protection have also been praised and affirmed by government agencies. In 2018, the Company's kung san site was awarded the "Industry Greenhouse Gas Voluntary Reduction Management Excellence Award" by the Ministry of Economic Affairs. Meanwhile, PFG Fiber Glass Corp., an invested company, was awarded the "Excellent Manufacturer for Industrial Greenhouse Gas Voluntary Reduction" by the Ministry of Economic Affairs for its outstanding energy-saving performance. In addition, the Company participates in the Carbon Disclosure Project (CDP)'s climate change evaluation. The results are upgraded from the "Management Level (B)" in 2017 to the "Leadership Level (A-)" in 2018. Although we have achieved concrete results in environmental protection, we will not stop here. We will continue to dedicate to environmental protection and circular economy, which will create a win-win situation for the internal operating conditions and external communities.



The Company is convinced that it is our top priority to improve occupational safety management and create a safe and happy working environment. We hope to recruit outstanding talents through this to enhance the Company's core competitiveness and future growth momentum, so as to lay a good foundation for sustainable development. Therefore, we are committed to providing employees with excellent salary and benefits, solid training, and smooth promotion channels. We lay great emphasis on the employees' physical and mental health as well as the workplace. In addition to promoting occupational safety by involving everyone in order to strengthen training, supervision, management, workplace care and health care, we supervise all plants for passing the verification of OHSAS 18001 and TOSHMS occupational safety and health management systems in order to create a safe working environment with all due protection for employees. The Company did not experience any major work safety incidents in 2018, and will continue to implement work safety management in the future to establish the culture of work safety.

With the spirit of "What is taken from the society is used in the interests of the society," we have long been involved in social welfare activities organized by local communities and disadvantaged groups. We also encourage our employees to provide warmth and assistance to the community with empathy and support. We also render our support for arts and cultural groups, allowing care and traditional art to reach the community and create tightly-knit community. In addition, the seven foundations and charitable trusts established by the two founders have long been contributing resources and efforts to education, medical care, disadvantaged groups, as well as culture and sports promotion. For example, we have donated S. pneumoniae vaccines to the Ministry of Health and Welfare over the past few years. We have also helped children with developmental delays and improved the quality of service provided to institutions that take care of the disabled. Moreover, we have assisted rehabilitating drug addicts to acquire skills that would help them re-integrate in the society. It is our wish to bring happiness and cheer to the society.

As an excellent corporate citizen, the Company has integrated sustainable development with the operational strategy. This report is also a response to the United Nation's Sustainable Development Goals (SDGs). In the future, we will continue to implement the business philosophy of "diligence, perseverance, frugality and trustworthiness," "to aim for the sovereign good," "perpetual business operation," and "dedication to the society" through promoting corporate governance, building a sustainable environment, and actively engaging in social welfare activities. We will listen and respond to what the environment and society needs, and use the feedback to redirect our effort. Through positive interaction and continuous improvement, the Company can make more contributions to the environment and society. Social responsibility will become part of the business philosophy while we strive for sustainable development. We hope to protect our planet along with our stakeholders by caring for the environment and society to create a favorable world order.

Nan Ya Plastics Corp.

President

Chia-Chau Wu

2019



This is the fifth Corporate Social Responsibility (CSR) report of Nan Ya Plastics Corp. (hereafter referred to as "Nan Ya Plastics," the Company). It provides a detailed description of the efforts made for environmental protection, company governance, and social welfare in 2018 (2018/01/01 to 2018/12/31). In the future, the Company will publish CSR reports on an annual basis.

#### **Publication Overview**

Publication date of the first edition: December 2015

Publication date of the previous edition: June 2018

Publication date of the current edition: June 2019

Publication date of the next edition: June 2020



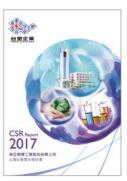
2014 CSR report



2015 CSR report



2016 CSR report



2017 CSR report

## **Compilation Policy**

The Company has prepared this report in accordance with the "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies" developed by the Taiwan Stock Exchange Corporation. The structure of the report is based on GRI Standards (GRI Sustainability Reporting Standards) and is written in accordance with the guidelines and structure outlined in the Core option. It discloses the Company's main sustainability topics, strategies, goals, and measures.

- GRI Standards (GRI Sustainability Reporting Guidelines)
- Aderiality, Inclusivity, Responsiveness and Impact of AA1000 Accountability Principles Standard (2018 version)
- Ocrporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies
- ♀ ISO 26000 Social Responsibility Guidance
- ♥ United Nations Global Compact Cross Reference List



#### **Data Scope and Source**

Comparing with 2017's CSR report, the information still centers on the Company. But the data of the Taiwan subsidiaries such as Nan Chung Petrochemical Corp., Nan Ya Printed Circuit Board Corp., PFG Fiber Glass Corp., etc. have been included. (Hereinafter referred to as subsidiaries in Taiwan. Companies such as Wen Fung Industrial Co., Ltd, Wenling Technology Corp. and Formosa Plastics Group Investment Corp. have a very low impact on the consolidated revenue. Therefore, relevant information is not disclosed). Overseas investment subsidiaries are not included. However, some chapters covering overseas investment companies will separately state the relevant information. (For example, some of the data in Chapter 1 which refers to the information in the consolidated financial statements includes the information of the invested company disclosed in the consolidated financial statements.) Sources of financial data are published after verification by accountants. Other statistical data is public information quoted from government agencies and websites. It is presented as text and numerical description. Any exception will be noted in the report.

#### **Third-Party Verification**

In order to ensure the transparency and credibility of the report, the disclosed information is independently verified by the British Standard Institute (BSI), a third-party international certification authority, in accordance with the AA1000 Accountability Type 1 assurance and the core options of GRI Standards for independent verification. BSI's independent assurance statement is also included in this report.

#### **Contact Information**

If you have any questions or suggestions about this report, you are welcome to give your feedback. The contact information is as follows:

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# Ongoing Sustainability Governance Strategy

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#### **Chapter Summary**

The Company adheres to the spirit of "diligence, perseverance, frugality and trustworthiness" and "to aim at the sovereign good." With occupational safety and environmental protection as the premise, the operations were stable in 2018. Even under the impact of the Sino-US trade war in the fourth quarter, as well as the dwindling global economy and oil price, with the concerted efforts of all employees and strict cost control, we set the operational goal of full scale production and sale. As a result, the annual revenue still experienced growth compared to 2017. In addition, the Company has long promoted corporate social responsibility. We pursue sustainable development by implementing corporate governance, environmental protection, and giving back to the society in order to create a win-win situation for the maximum benefit of the society and stakeholders.

#### **United Nations Sustainable Development Goals (SDGs)**



**Material Issues** 

- 1. Integrity Management
- 2. Financial Performance

#### Short-, Medium- and Long-term Goals for Material Issues

#### Medium and Long-term Short-term Goals Sustainable Commitment 2018 Progress Goals (2020-2025) (2019 Goals) Comply with law and Continue to carry out ★ Strengthen research and The consolidated business ethics, establish the expansion plan: development, increase turnover in 2018 was a sound system to domestic high-value the proportion of NT\$333.062 billion, maintain good corporate copper, polyester differentiated and highrepresenting an increase governance film, high-grade PEPA of 8.8% over 2017 value products Connect with the synthetic paper etc., ★ Avoid excessive Six Board of Directors international market overseas US EG plant concentration of exports meetings were convened with a 95.6% attendance and actively enhance and China copper clad to China and expand competitiveness to boost laminate, glass fiber emerging markets rate shareholder interests cloth plant ♠ Publish the English According to the 2018 Regularly organize Disclose relevant version of the annual audit plan, 48 items education and training information in English to report were audited. Except for directors and connect with the world By Reviewing and for missing paperwork employees, as well as ▶ Continuously improve the maintaining the internal or incomplete data clearly defining the internal control system control system to meet found in 10 cases, no system of promotion, to comply with law and the requirements of major abnormalities assessment, training, practical needs laws and internal were detected. All rewards, and No major violations (with control needs in order abnormalities have punishments for the penalties exceeding to strengthen corporate been improved in employees NT\$1 million) governance the meantime. The ♦ No major violations (with) completion rate is 100%. No major violations penalties exceeding NT\$1 million) occurred in 2018.

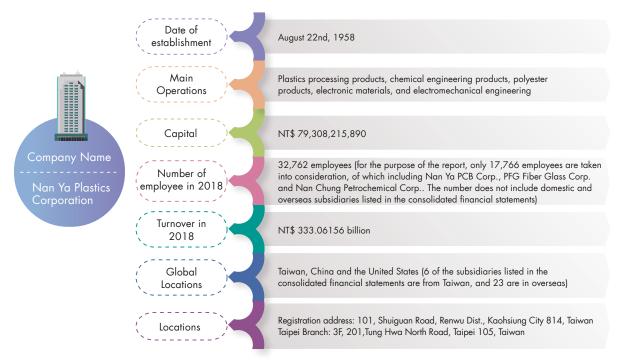
#### **CSR** Achievements at a Glance

- Consolidated turnover: NT\$333.062 billion (an increase of 8.8% over 2017).
- Earnings per share exceeded NT\$6 for three consecutive years.

## 1.1 About Nan Ya Plastics

#### 1.1.1 Company Introduction

Nan Ya Plastics Corporation (hereinafter referred to as "the Company" was established in 1958. Initially, the Company focused on secondary processing products such as PVC pipes, PVC leather, and PVC film. After working hard for nearly 60 years, the Company gradually expanded to the fields of chemical engineering products, polyester products, electronic materials, and electromechanical engineering. Since 1979, the business has been expanded overseas to the United States, China and so on. It is now a diversified international business. (For the Company's development history, please refer to the official website: https://www.npc.com.tw/j2npc/zhtw/about/history).



Note 1: The source of employee number comes from the 2018 Annual Report. (as of December 31st, 2018, including the subsidiaries in the consolidated financial statements

Note 2: The turnover, global locations, and number of subsidiaries come from the 2018 consolidated financial statements.



# Major Global Locations



#### Hong Kong

Nan Ya Plastics (Hong Kong) Co., Ltd. PFG Fiber Glass (Hong Kong) Co., Ltd. Nan Ya Printed Circuit Board (Hong Kong) Co., Ltd.

Nan Ya Printed Circuit Board (Kunshan) Co., Ltd.

Nan Ya Electronic Materials (Kunshan) Co., Ltd.

Nan Ya Draw-Textured Yarn (Kunshan)

PFG Fiber Glass (Kunshan) Co., Ltd.

#### Nantong

Nan Ya Plastics (Nantong) Co., Ltd. China Nantong Huafeng Co., Ltd. Nantong Huafu Plastics Co., Ltd. Nan Ya Electric (Nantong) Co., Ltd.

Nan Ya Plastics (Ningbo) Co., Ltd.

Nan Ya Plastics (Huizhou) Co., Ltd. Nan Ya Electronic Materials (Huizhou) Co., Ltd.

Nan Ya Trading (Huizhou) Co., Ltd.

#### Guangzhou

Nan Ya Plastics (Guangzhou) Co., Ltd.

Nan Ya Plastics (Xiamen) Co., Ltd.

Taiwar Mailiao Nan Ya Plastics Corp. USA NPC-Mailiao Branch NPC-Taipei Branch Nan Ya Plastics Corp., America Nan Chung Petrochemical Shulin Dist., New Taipei City Nan Ya Plastics Corp., Texas Corp. Nan Ya PCB (U.S.A.) Co., Ltd. NPC-Shulin Site Hsinkang Township, Chiayi County Taishan Dist. New Taipei City NPC-Hsinkang Branch NPC-Linkou Site PFG Fiber Glass Corp. Wenling TechnologyCorp. Taibao City, Chiayi County Wen Fung Industrial Co., Ltd. NPC-Chiayi Site Guishan Township, Taoyuan County Kaohsiung City NPC-Kung San Site NPC-Linyuan Site NPC-Renwu Site Luzhu City, Taoyuan County NPC-Jinxing Site

Note1: Nan Ya Plastics (Nantong) Co., Ltd. and Nan Ya Plastics Film (Nantong) Co., Ltd. merged in October, 1, 2018, and the surviving company after the merger was Nan Ya Plastics (Nantong) Co., Ltd.

Nan Ya Printed Circuit Board Corp.

Note2: Nan Ya Plastics (Huizhou) Co., Ltd. and Nan Ya Plastics Film (Huizhou) Co., Ltd. merged in October, 1, 2018, and the surviving company after the merger was Nan Ya Plastics (Huizhou) Co., Ltd.

Note3: Data resource: 2018 consolidated financial statements

#### 1.1.2 Business philosophy

The Company's business philosophy is to pursue the rationalization of all things "in a practical and realistic way" with the attitude of "diligence, perseverance, frugality and trustworthiness", and the ultimate goal is "to aim at the sovereign good". While pursuing "perpetual business operation", we are also committed to the goal of "dedication to the society", and hope to become a quality leadership standard that makes employees happy, investors feel at ease, and society can trust.



Nan Ya Plastics Corporation's business philosophy

#### Social contribution

The Company adheres to the purpose of "what is taken from the society is used interests of the society", focusing on the development of medical and educational public welfare. We contribute corporate resources to the benefit of all humanity.



# Diligence, perseverance, frugality and trustworthiness

We "diligently" use wisdom to maintain a "simple and realistic" attitude towards work, and inquire into the root of the matter to rationalize corporate management.





All operations are clearly in compliance with regulations in order to improve quality and efficiency of work. We strengthen our long-term profit potential through rationalizing corporate management, and achieve a win-win and strong partnership by providing customers with high-quality and low-cost raw materials.



To aim at the sovereign good

Due to the rapid changes in the external environment, the rationalization of corporate management must be improved, and the current situation needs to be broken through by continuous improvement in order to seek innovation and development.



## 1.1.3 External Association Participation

In order to improve the operational status of Taiwanese industries, the Company actively participates in various industrial associations; our employees also hold important positions in some associations such as directors or representatives. In addition to sharing operating experience through the association, co-organizing seminars and international conferences, we also share the latest market trends, changes in supply and demand, and technical information with the industry. Moreover, we participate in various international trade negotiations and consultation in order to contribute to the overall industry. Advice is also provided to the government on issues of international industries and economics.

External Association Name	Company Manager	Position
Taiwan Synthetic Resins Manufacturers Association	Chairman Chia-Chau Wu	Managing Director
Patrochamical Industry Association of Taiwan	Chairman Chia-Chau Wu	Director
Petrochemical Industry Association of Taiwan	President Ming-Jen Tzou	Director
Taiwan Plastics Industry Association	Senior Vice President Fong-Chin Lin	Director
Taiwan Accreditation Foundation	Senior Vice President Fong-Chin Lin	Director
Taiwan Man-Made Fiber Industries Association	Senior Vice President Sin-Yi Huang	Managing Director
ialwan Man-Made Fiber Industries Association	Consultant Zo-Chun Jen	Director
Taiwan Textile Printing, Dyeing & Finishing Association	Senior Vice President Sin-Yi Huang	Director
Taiwan Printed Circuit Association	Assistant Vice President Tse-Hsiu Chiang	Director
Taiwan Knitting Industry Association	Assistant Vice President Cheng-Yi Su	Director
Fire Door Association of R.O.C	Department Manager Feng-Hsiang Wang	Director
Taiwan Fire Safety & Material Association	Department Manager Feng-Hsiang Wang	Director
Taiwan Responsible Care Association	-	-
Taiwan Electrical and Electronic Manufacturer's Association	-	-
Taiwan Association of Machinery Industry	-	-
Low Carbon Building Alliance	-	-

#### **1.1.4** Awards





## 1.1.5 Operating Performance





	Management Approach (Corresponding GRI Standards: Economic Performance)
Policy	The Company adheres to the spirit of "diligence, perseverance, frugality and trustworthiness" and "to aim at the sovereign good" to pursue "perpetual business operation." With stable production as the main axis of operation, the Company continues to introduce advanced technologies such as Industry 4.0 and AI to increase the proportion of differentiated and high-value products, enhance competitiveness, and create new development niches.
Responsibilities	Company units, business divisions
Resources	Formulate relevant integrity management policies; computerize management of various operations to reduce human error in intervention and judgment.
Grievance Mechanism	Please refer to CH 1.3.2 (2) "Communication with Stakeholders"
Specific Actions	Not to engage in financial operations unrelated to the business to maintain the Company's stable development, and create profits for shareholders.      Continue to develop high-value and differentiated products to increase profits.
Evaluation Method	Financial report, corporate governance evaluation
Result	<ul> <li>Consolidated turnover: NT\$333.062 billion (an increase of 8.8% over 2017).</li> <li>Earnings per share exceeded NT\$6 for three consecutive years.</li> </ul>

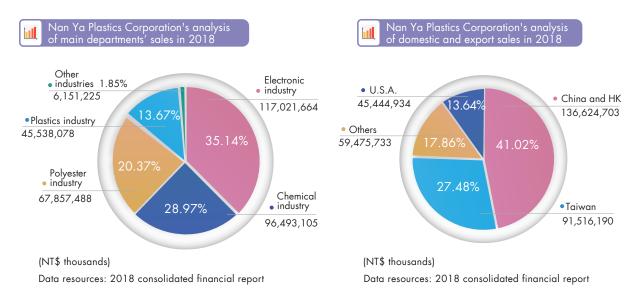
The Company's 2018 consolidated revenue was NT\$333.062 billion, representing an increase of 8.8% from 2017's NT\$306.139 billion. The consolidated profit before income tax was NT\$61.525 billion, representing a decrease of 2.0% from 2017's NT\$62.776 billion. This is mainly due to the impact of the Sino-US trade war at the beginning of the fourth quarter. The global economic growth started declining, and the international oil price fell by 40% from the high point in early October. The market demand froze, and all customers became conservative. Orders declined, and the overall performance reflected the situation of a sharp reversal of the business environment. Although the performance of the industry is good, the investment income recognized by the equity method is reduced.

#### Nan Ya Plastics Corporation's financial performance

Unit: NT\$ thousands

			Omi. Try moodanas
Item	2016	201 <i>7</i>	2018
Net Sales	275,294,431	306,139,952	333,061,560
Cost of Sales	243,895,390	256,172,821	283,997,975
Profit before income tax	53,846,991	62,776,174	61,525,186
Retained earnings	191,296,477	208,480,444	220,788,020
Earnings per share(NT\$)	6.16	6.87	6.65
Return on total equity (%)	14.70	15.03	13.97
Total tax(excluding business tax)	1,010,915	2,240,766	2,817,655

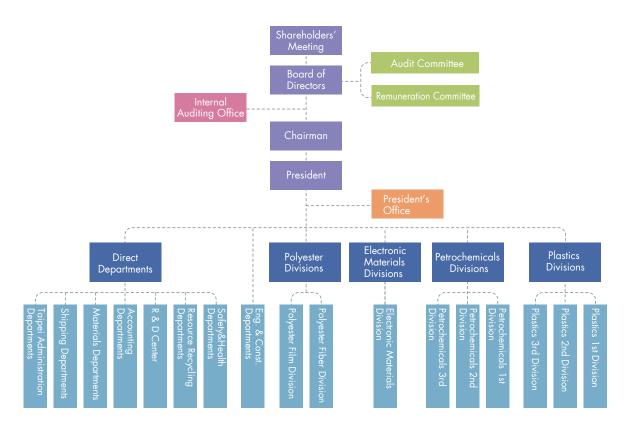
Data resources: consolidated financial report and annual report for each year



# 1.2 Corporate Governance

## 1.2.1 Organizational structure

The Company has a clear organizational structure as well as rights and responsibilities. The current chairman does not hold a managerial position to ensure the independence of the Company's operations. In addition, the Company has 10 business divisions for different product categories, as well as indirect departments based on functional attributes. All of these are governed by the president.



#### 1.2.2 Board of Directors

#### (1) Members of Board of Directors:

The election of the Company's directors is based on the candidate nomination system. After the qualifications are reviewed, the list of candidates is submitted to the shareholders' meeting for selection. All those selected serve a threeyear term, and they convene at least once per quarter. At present, the Board of Directors has a total of 15 directors, out of which 3 are independent. They are all highly qualified and experienced in industrial management. In particular, many directors have worked for a long time in the petrochemical and plastics industries. With rich experience and management capabilities, the directors provide professional strategic guidance for the future development of the Company. For detailed information about the directors, such as register, academic qualifications, career experience and further studies, etc., please refer to the Company's official website (https://www.npc.com.tw) and the annual report.

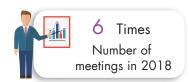


	· .	
ale I	Directors	

Unit: NT\$ thousands

	Numbers of Directors Independent Directors		nt Directors	Female Directors	
Company	(including independent directors)	Numbers Percentages %		Numbers	Percentages %
Nan Ya Plastics Corporation	15	3	20%	2	13%







#### (2) Remuneration for the Directors and executive officers

The current remuneration standards and structure for the directors and executive officers are evaluated and approved by the Remuneration Committee and submitted to the Board of Directors for approval. The performance evaluation of the executive officers is assessed by the chairman according to the overall performance of the executive officers' responsibilities and the individual "annual performance goals" to ensure the executive officers understand and achieve the Company's strategic goals. It is also an incentive system which connects the executive officers' performance with the Company's overall performance.



#### The Company's annual Directors' remuneration as a % of 2018 net income

Item	2016	2017	2018
Directors Compensation	22,742	23,909	24,233
Percentages %	0.05	0.04	0.05

Note: The percentages are Directors' remuneration to the net income.

#### 1.2.3 Functional Committee

In order to strengthen the supervisory function of the Board of Directors, the Board of Directors of the Company has two functional committees, namely the "Audit Committee" and the "Remuneration Committee." Both committees are composed of independent directors. The Audit Committee convened 5 times in 2018, and the Remuneration Committee convened twice. The main functions of the committees and the attendance of the members are as follows:

Committee Name	Audit Committee	Remuneration Committee
Primary Functions	<ol> <li>Ensure fair presentation of the Company's financial statements</li> <li>The appointment (or dismissal) of Certified Public Accountant, evaluation of competency, independence, and performance</li> <li>Ensure that the Company's internal controls are effectively implemented</li> <li>Ensure that the Company follows the relevant laws and regulations to control existing or potential risks</li> </ol>	Evaluate the Company's directors and managers' compensation policies and systems, make recommendations to the Board of Directors for decision-making

	2018 Attendance						
Job Title	Name	Actual Attendance	Attendance by Proxy	Attendance Rate	Actual Attendance	Attendance by Proxy	Attendance Rate
Managing Director (Independent Director)	Chih-Kang Wang (Convener)	5	0	100%	1	1	50%
Independent Director	Yi-Fu Lin	5	0	100%	2	0	100%
Independent Director	Yun-Peng Chu	4	1	80%	1	1	50%

<sup>1.</sup> The directors who were unable to attend should appoint a proxy in accordance with the regulations

<sup>2.</sup>For matters regarding the communication between independent directors, accountants, and internal audit supervisors, please refer to the Corporate Governance section of Nan Ya Plastics Corp.'s website (https://www.npc.com.tw/j2npc/zhtw/investor/Board%20of%20Directors)

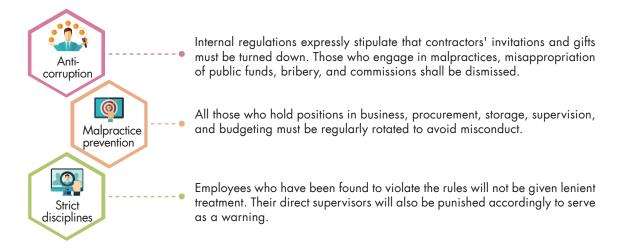
#### 1.2.4 Integrity Management and Anti-corruption





Management Approach (Corresponding GRI Standard: Anti-corruption)					
Policy	"Integrity management" is regarded as a purpose of the Company's operation. Through continuously strengthen corporate governance, the three major aspects of "setting of institution and norm", "self-discipline document signing" and "educational training implementation" are aimed at raising the awareness of "anti-corruption, malpractice prevention, and strict discipline" among all employees. The Company also computerizes the management of various operations and uses technology to achieve management purposes. Last but not least, the Company implements audit operations as an aid to strive to eliminate fraud and reduce relevant risks.				
Responsibilities	Auditing Office, President's Office				
Resources	Formulate relevant integrity management policies; computerize management of various operations to reduce human error in intervention and judgment.				
Grievance Mechanism	Provide internal and external channels for reporting illegal and unethical activities in accordance with the "Employee Grievance Procedure" and "Internal and External Reporting Procedure of Unlawful and Unethical Behaviors."				
Specific Actions	<ol> <li>Standards and regulations: An internal query channel for regulations such as "Ethical Corporate Management Best Practice Principles," the "Corporate Social Responsibility Best Practice Principles," the "Corporate Governance Practice Principles," and the "Personnel Management Rules."</li> <li>Grievance mechanism: Internal and external reporting channels have been specified in the "Employee Grievance Procedure" and the "Internal and External Reporting Procedure of Unlawful and Unethical Behaviors."</li> <li>Internal control: The management of various operations has been computerized. Each department conducts independent business inspections on a regular basis, and the independent audit department also performs inspections from time to time.</li> </ol>				
Evaluation Method	Corporate Governance Evaluation				
Result	<ul> <li>No corruption was reported in 2018</li> <li>The Company ranked in top 20% of the 868 listed companies that were evaluated for the 5th Corporate Governance Review in 2018</li> </ul>				

"Diligence, perseverance, frugality and trustworthiness" are the core spirit of the Company. We have formulated strict ethical standards and relevant principles in the hopes that every member of the Company, including members of the subsidiaries, will behave in a responsible manner at work and in life, maintain high ethical standards, company reputation and compliance with laws and regulations.



#### (1) Code of Conduct and Avoidance of Conflict of Interests

The Company has 17 important codes such as the "Corporate Governance Practice Principles" and the "Ethical Corporate Management Best Practice Principles," which are disclosed in the "Investor Section" of the official website (https://www.npc.com.tw).

In order to avoid conflict of interests between directors and the Company, the Company follows the following regulations:

- 1. If the directors wish to have the non-competition agreement lifted, they must first report to the shareholders according to the provisions of the Company Act and obtain their permission.
- 2. For matters relating to Board of Directors meetings, if the interests of the directors themselves or the institutions they represent are harmful to the interests of the Company, they are allowed to speak and ask questions but shall not participate in the discussion and voting. Moreover, they should recuse themselves. They shall not represent other directors in exercising their voting rights (the implementation of the recusal is detailed in the 2018 annual report).

#### (2) Anti-corruption Policies and Actions

The Company raises the awareness of "anti-corruption, malpractice prevention and strict discipline" among all employees through three major aspects of "setting of institution and norm", "self-discipline document signing" and "educational training implementation". The implementation is as follows:

#### A. Setting of institution and norm

The Company has established relevant systems and regulations for different legal fields. For any violation of professional ethics, the Company adopts the principle of zero tolerance to execute punishment such as termination of employment or business dealings for the violators, as well as taking appropriate legal action.

#### B. Self-discipline document signing

All employees of the Company are required to sign a "pledge" stating the willingness to abide by the "Trade Secrets Act", never accept any bribes, etc., A "Working Rules" manual is also distributed to provide instant query for rules and regulations. In the case of dealings with external manufacturers (such as procurement, contracting, etc.), it is necessary to sign a "self-discipline convention" and adopt regular rotation to prevent fraud. Moreover, for directors and managers, there is the "Ethical Code of Conduct" that prohibits direct or indirect provision, promise, request or acceptance of any undue advantage, or other conduct that violates good faith, legality, or fiduciary duty.

#### C. Educational training implementation

Education and training is an important channel for raising awareness of the internal systems and the employees' correct concept of the rule of law. The Company incorporates the relevant regulations of business operations into various training courses such as pre-employment training, professional job training, and supervisor training, so that all employees can have relevant legal concepts. For all employees in the Purchasing Department and the Outsourcing Center, an online course on the "Anti-Corruption Act" has been formulated to foster work ethics and cultivate the employees' ability to discover abnormalities and risks.



#### (3) Reporting Channel

The Company provides a channel for reporting internal malpractices and illegal activities through an institutionalized "Employee Grievance Procedure". The Company and the person in charge of the investigation shall investigate and report the complaint in a fair and impartial manner. Not only the complainant should not receive retaliation, the entire process should be kept confidential, otherwise the person in charge of the investigation will be punished accordingly. (Please refer to 4.2.4 for Valuing Employee Feedback).

#### 1.2.5 Internal Control Mechanism

The internal control mechanism of the Company is characterized by the implementation of internal control at all levels within the Company. Through the implementation of the sound internal control mechanism, the Company promotes the operational efficiency and reduces operational risks. In addition, through the assistance of audit management to ensure the Company's operations can protect the rights and interests of shareholders. The details are as follows:

#### (1) Computerization of Operational Management

In addition to importing target management and improvement project in 1968, the Company has implemented computerization of operational management in 1982 with the following four characteristics:

- One input, multiple transmissions
- Six interconnected management functions
- Cross-checked data
- Abnormality management

The Company's management is divided into six functions including personnel, finance, business, production, materials, and engineering. The onsite users enter the basic data into the computer and transfer it to each level. The data between each function is captured and connected, and checkpoints are set when data connected to each other. The computer automatically checks the data and debugs through human-set logic. Once an abnormality is found, the relevant personnel are immediately prompted to understand the cause of the abnormality and the pending work. Eventually, a computer database for the business analysis reports is established. Therefore, the biggest feature of the Company's internal control mechanism is the comprehensive computerized management, which can greatly reduce the mistakes caused by human intervention and judgment.

#### Computerized Management Performance: Closing account in one day

The Company completed the target of closing account in one day in May 2001. Since then, on the morning of the 1st of each month, the management can quickly obtain the information regarding the profits and losses of the previous month to make various management decisions accordingly. The instant access to data is the best example of computerized management.

## (2) Professional and Independent Internal Audit

The Company has established an internal auditing office under the Board of Directors and appointed full-time internal auditors who are required to participate in training courses organized by professional institutions every year to continuously improve their professional capabilities. Internal auditors review the implementation of the management system, strengthens the computerization of each functions, as well as supervising and promoting improvement projects to ensure operational efficiency.

The scope of internal auditing includes:

- P Review the reliability and integrity of financial and operational information
- P Review the existing system to ensure compliance with policies, plans, procedures, contracts and regulations.
- P Review methods for safeguarding assets
- P Evaluate the efficiency and effectiveness of resource utilization
- P Review the operations or project plans to verify whether the results are consistent with the established goals.

Internal auditing is not the sole obligation of the independent auditing department. The operational and relevant departments are also required to carry out independent audits on the specific items within the specified period. The independent auditing department then implements scheduled or unscheduled inspections reviews depending on the self-auditing results from each department to ensure that internal control has been thoroughly implemented within every department.

## 1.2.6 Risk Management

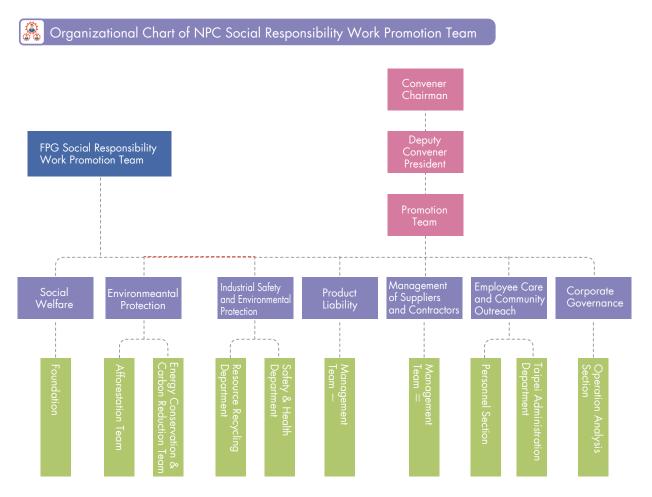
Various potential risks and operational assessments must be taken into consideration in the company's sustainable management. The relevant departments plan and evaluate the impact of potential risks and formulate appropriate countermeasures. The Company's main risk identifications and corresponding measures are as follows:

Risk Identification	Potential Risks	Corresponding Measures
	Changes in Interest Rates	For the long-term liabilities of floating interest rates, the financial market situation is carefully evaluated, and swap contracts are signed with banks when interest rates are relatively low to reduce the risk of interest rate fluctuations.
<u></u>	Changes in Exchange Rates	Insufficient funds for foreign exchange in daily operations are addressed by making spot exchange transactions or forward foreign exchange transactions when the exchange rate is favorable. As for long-term foreign currency liabilities, when the exchange rate is at a relatively low level, long-term forward foreign exchange contracts or cross-currency swaps are signed with the banks to minimize the impact caused by exchange rates change.
Financial Risks	Loans to other parties	In principle, the Company only issues loans to affiliated companies.  The amount is in accordance with Article 15 of the Company Law and granted with the approval of the Board of Directors.
	Endorsement/ Guarantee	The Company only endorses and guarantees a parent company or an affiliated company. In principle, the foresaid company can only obtain the Company's endorsement and guarantees for the purpose of unified financial dispatching. The endorsement/ guarantee are mostly for financing and import tax guarantees.
	Derivative Transactions	Derivative transactions are conducted for the purpose of avoiding market risks caused by fluctuations in exchange and interest rates, rather than for arbitrage and speculative investment.
Raw Material- Related Risks	Supply Interruption	<ol> <li>Actively exploring qualified suppliers to increase sources.</li> <li>Establishing a raw material inventory control mechanism, to set the safe stock, and propose the reasonable amount for purchase at the right time.</li> <li>Stay informed of demand of production and sales and the supply situation of the market. Prepare the materials in advance if necessary.</li> </ol>
	Sales Concentration	Avoiding excessive sales concentrates in a single specific region (China, for example) and actively developing and expanding new markets (such as: ASEAN, Europe, Central and South America, etc.).
Market Risks	Unbalanced Production and Sales	<ol> <li>When a product fails to be sold out, production utilization or schedule of annual repair and maintenance have to be adjusted accordingly.</li> <li>The salesperson should actively visit the customers and make timely adjustments of production specifications and output, in order to meet the needs of customers and the market.</li> </ol>

Risk Identification	Potential Risks	Corresponding Measures
Equipment Maintenance Risks	Equipment Maintenance	<ol> <li>Establishing appropriate safety stocks for equipment components and implementing spare parts control through the information system.</li> <li>Establishing equipment maintenance SOP and using information tools to strengthen management in order to maintain the normal operations.</li> </ol>
Information Security Risks	Information Security Hazard	<ol> <li>Standardizing the operating procedures.</li> <li>Strengthening information security management, including equipment monitoring, notification mechanism, abnormality management and backup.</li> <li>Implementing education and training, and conducting drills from time to time.</li> </ol>
	Work Safety Incidents	<ol> <li>Conducting hazard identification and risk assessment in a timely manner as well as drills for risk reduction measures and emergency response.</li> <li>All business is promoted in a safe manner in order to achieve the goal of "zero work injury, zero disaster, and zero pollution."</li> </ol>
SHE Risks	Environmental Protection	<ol> <li>In order to reduce the emission of environmental pollutants, the waste discharge technology is improved, and a water- and energy-saving team is set up.</li> <li>Continuously promoting circular economy through raw material reduction, water resources integration, and waste recycling. The staff is encouraged to optimize the process, reduce the use of materials, and regularly hold environmental protection seminars to promote various environmental improvement measures.</li> <li>Promoting pollution reduction, waste recycling, and wastewater recycling.</li> </ol>
Climate Change Risks	Carbon Emission Management	<ol> <li>In response to climate change, the employees are encouraged to propose specific improvement plans for greenhouse gas reduction and hold seminars regularly to improve various technologies for energy conservation and carbon reduction.</li> <li>Investing in the development of green products, improving product weatherability and reusability, reducing carbon emission of production processes, and extending product life cycle.</li> <li>Conducting carbon footprint inventory to set short, medium and long-term carbon emission targets as well as developing effective carbon reduction improvement programs.</li> </ol>

# 1.3 CSR Management

In order to effectively integrate and promote the Company's CSR, the Chairman of the Board of the Company acts as the convener, and the President as the deputy convener. They are responsible for the Company's CSR strategy formulation and performance supervision. The President Office, Taipei Administration Department, Safety and Health Department, Resource Recycling Department and Safety, Health and Environmental Unit of various divisions actively implement and promote corporate governance, community outreach and environmental protection, etc. In addition, because the Company is a member of FPG, if local perpetual development and social welfare are common business of the FPG, the "Foundation", "Energy Conservation and Carbon Reduction Team" and "Afforestation Team" under the "Social Responsibility Work Promotion Team" will coordinated the execution.

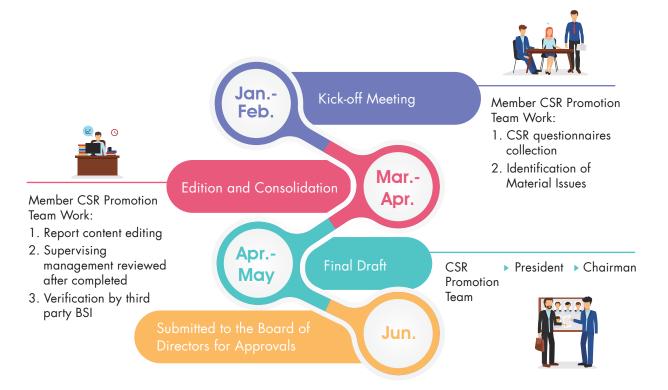


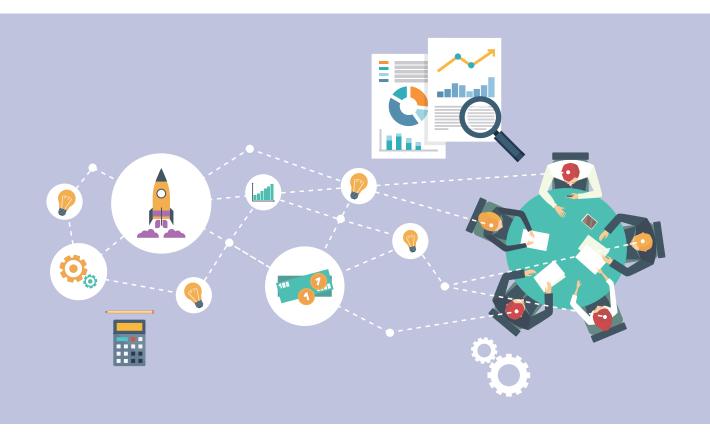
Note: FPG Social Responsibility Work Promotion Team coordinates common business of the FPG. (I.e. local perpetual development, social welfare, etc.)

The member of Promotion Team integrated stakeholder's concerns based on their experiences and a meeting was held to decide on the subject of the Report and the editing order of material issues. Once the Report is completed, these issues are reviewed by the convener and the deputy convener to ensure their consistence with the stakeholders' needs; the Report will then be submitted to the Board of Directors for approval.

Ongoing Sustainability Governance Strategy

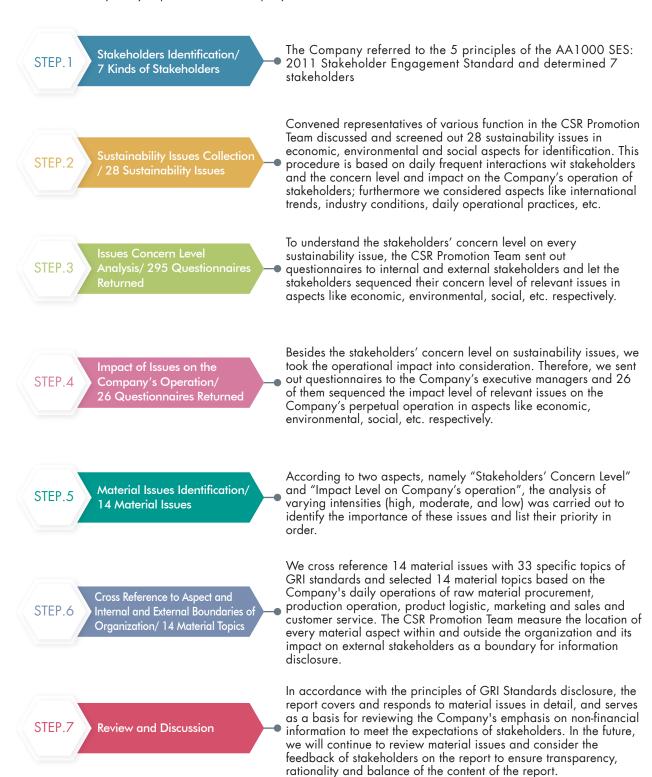
## CSR Report Editing Process





#### 1.3.2 Stakeholders and Material Issues Identification

Identification of stakeholders and material issues is the core of CSR implementation. Every year the Company convenes the member of CSR Promotion Team when editing CSR report to communicate, discuss, and gain consensus on current stakeholders and issues they concerned. This will be the important reference of the disclosed content of CSR report. The 2018 materiality analysis process of the Company is as follow:





According to international trends, industry conditions, daily operational practices, daily frequent interactions with stakeholders and the concern level and impact on the Company's operation of stakeholders the CSR Promotion Team adopted the 5 principles of "AA1000 Stakeholder Engagement Standard" (Dependence, responsibility, impact, multiple perspectives and tension) and identified the main stakeholders including resident in operating area, government agencies, experts, scholars and environmental group, shareholders and investors, customers, suppliers, contractors and employees.



#### (2) Communication with Stakeholders

The Company attaches great importance to the rights and opinions of stakeholders, and has established a diversified and smooth communication channel with them. In addition to providing information on the Company's sustainable development, it also understands and responds to issues that stakeholders concern and continuously monitors and improves the company's performance in corporate social responsibility.





Shareholders and Investors

Shareholders and investors are the owners of the Company, and non-financial disclosure information has gradually become a factor for investors to screen investment targets. We continue to pursue the company's sustainable development in a responsible manner and seek long-term benefits for it

- 1. Shareholders' Meeting
- 2. Board of Directors' Meeting
- 3. Market Observation Post System
- 4. "Investor Section" of the Company's Website
- 5. Earnings Conference
- 6. Email/Telephone

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Customers

Earning the customer's support is the value of the Company and the feedback of the customer is the driving force for our progress

- 1. Dealer Meeting
- 2. Product Exhibition
- 3. Special Visit
- 4. Customer Satisfaction Survey, Customer Complaint Form
- 5. Customer Complaint Channel
- 6. Email/Telephone



Suppliers and Contractors

The coordination and support of our partners is one of the key factors for the Company to pursue success and sustainable development

- 1. Vendor Briefing
- Customer Service of Formosa Technology
   E-market Place
- 3. Complaint Channel of Suppliers/ Contractors
- 4. Email/Telephone
- 1. Morning Meeting
- Physical Suggestion Box/ Online Suggestion Box(Notes, Outlook)
- 3. "799" hotline
- 4. "FPG" Bimonthly Magazine
- 5. Direct Communication between Union Representative and Senior Executive
- 6. Union, Welfare Committee
- 7. Employee Satisfaction Survey
- 8. Management System Feedback Form

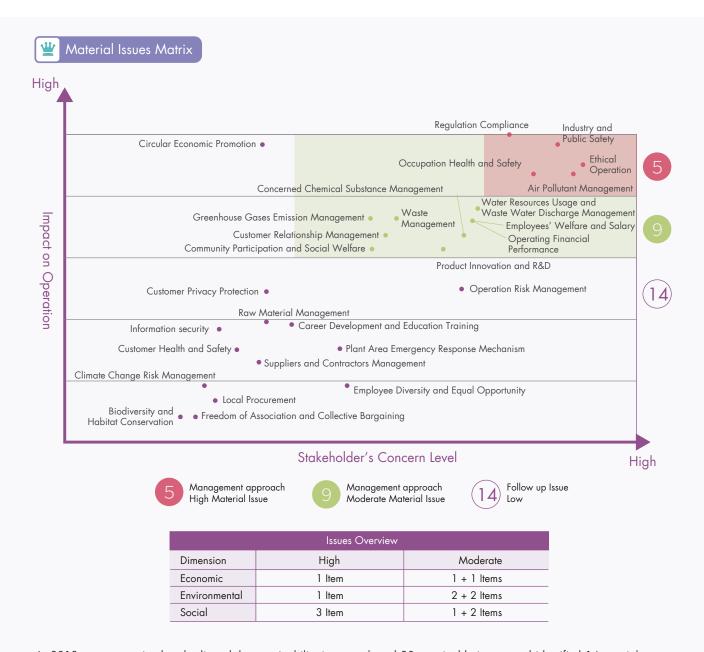
Employees

Employees are the foundation of the Company to strengthen its competitiveness. Through providing sound education and training and a friendly working environment can the Company enhance the cohesiveness of employees and lay a good foundation for sustainable management

Frequency	Main Concern Topics	Response and Engagement
<ol> <li>Irregular</li> <li>Monthly</li> <li>Irregular</li> </ol>	<ul> <li>Ethical Operation</li> <li>Regulation Compliance</li> <li>Greenhouse Gases Emission Management</li> <li>Air Pollutant Management</li> <li>Waste Management</li> <li>Industry and Public Safety</li> </ul>	<ul> <li>1.2 Corporate Governance</li> <li>2.2 Collaborative Business Model</li> <li>2.3 Supplier and Contractor Management</li> <li>3 Green Environment Management Promotion</li> <li>4 Creating a Happy and Safe Workplace</li> <li>5 The Pursuit of Co-Prosperity and a Better Homeland</li> </ul>
<ol> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> </ol>	<ul> <li>Ethical Operation</li> <li>Regulation Compliance</li> <li>Industry and Public Safety</li> <li>Air Pollutant Management</li> <li>Water Resources Usage and Waste Water Discharge Management</li> <li>Concerned Chemical Substance Management</li> </ul>	<ol> <li>1.2 Corporate Governance</li> <li>2.2 Collaborative Business Model</li> <li>2.3 Supplier and Contractor Management</li> <li>3 Green Environment Management Promotion</li> <li>4 Creating a Happy and Safe Workplace</li> <li>5 The Pursuit of Co-Prosperity and a Better Homeland</li> </ol>
Irregular     Irregular	<ul> <li>Regulation Compliance</li> <li>Greenhouse Gases Emission Management</li> <li>Air Pollutant Management</li> <li>Water Resources Usage and Waste Water Discharge Management</li> <li>Concerned Chemical Substance Management</li> <li>Occupational Health and Safety</li> </ul>	3 Green Environment Management Promotion 4 Creating a Happy and Safe Workplace
<ol> <li>Yearly</li> <li>Quaterly</li> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> </ol>	<ul> <li>Ethical Operation</li> <li>Operating Financial Performance</li> <li>Regulation Compliance</li> <li>Employees' Welfare and Salary</li> <li>Occupational Health and Safety</li> <li>Industry and Public Safety</li> </ul>	<ul><li>1.2 Corporate Governance</li><li>2.2 Collaborative Business Model</li><li>4 Creating a Happy and Safe Workplace</li></ul>
<ol> <li>Yearly</li> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> <li>Irregular</li> </ol>	<ul> <li>Product Innovation and R&amp;D</li> <li>Ethical Operation</li> <li>Customer Relationship Management</li> <li>Occupational Health and Safety</li> </ul>	<ul><li>1.2 Corporate Governance</li><li>2.2 Collaborative Business Model</li><li>4 Creating a Happy and Safe Workplace</li></ul>
<ol> <li>Yearly</li> <li>24 hour</li> <li>Irregular</li> <li>Irregular</li> </ol>	<ul> <li>Air Pollutant Management</li> <li>Occupational Health and Safety</li> <li>Industry and Public Safety</li> </ul>	<ul><li>2.3 Supplier and Contractor Management</li><li>3 Green Environment Management Promotion</li><li>4 Creating a Happy and Safe Workplace</li></ul>
<ol> <li>Daily</li> <li>24 hour</li> <li>24 hour</li> <li>Bimonthly</li> <li>Irregular</li> <li>Irregular</li> <li>Yearly</li> <li>Irregular</li> </ol>	<ul> <li>Ethical Operation</li> <li>Regulation Compliance</li> <li>Employees' Welfare and Salary</li> <li>Occupational Health and Safety</li> <li>Air Pollutant Management</li> <li>Water Resources Usage and Waste Water Discharge Management</li> </ul>	<ul><li>1.2 Corporate Governance</li><li>2.2 Collaborative Business Model</li><li>2.3 Supplier and Contractor Management</li><li>3 Green Environment Management Promotion</li><li>4 Creating a Happy and Safe Workplace</li></ul>

#### (3) Material Issues Identification

The Company cross referenced "GRI Standards", "Corporate Social Responsibility Best Practice Principles for TWSE Listed Companies", "ISO 26000 Social Responsibility Guidance", "10 Principles of UN Global Impact", industry issues and news as the basis of issues identification. We also take the advice of employees and external stakeholders into consideration and held a CSR meeting for identification.



In 2018, we re-examined and adjusted the sustainability issues, selected 28 sustainable issues, and identified 14material issues, two more than in 2017, mainly adding "Products Innovation and R&D" and "Community Participation and Social

Based on two aspects namely "Impact on NPC's Operation" and "Stakeholder's Concern Level", we analyzed the three strengths of high, moderate and low for these issues, identified their importance and prioritized them. The issues located in upper right area are the material concern issues. We will appropriately expose the issues of concern in this report in the spirit of refinement and improvement. In the future, we will continue to communicate with stakeholders and list the shortcomings as the key points for improvement, and strive to maintain a good communication bridge and partnership with stakeholders.

	Material Issue	Intern	al Boundaries			Externo					
Dimension		NPC	Taiwan Subsidiaries	Residents in Operating Area	Government Agencies	Experts, Scholars and Environmental Group	Shareholders/Investors	Customers	Suppliers and Contractors	Employees	GRI Standard Reference
Economic	Ethical Operation	<b>√</b>		<b>√</b>	<b>√</b>		<b>√</b>	1			GRI 102 General Disclosures GRI 205 Anti-corruption GRI 405 Diversity and Equal Opportunity
	Regulation Compliance	<b>√</b>		✓	✓	1	✓				GRI 419 Socioeconomic Compliance
	Financial Operating Performance	1	Subsidiaries Consolidated Financial Report				1				GRI 201 Economic Performance
	*Product Innovation and R&D	✓					1	<b>√</b>			-
	Greenhouse Gases Emission Management	1	1	1	1	1					GRI 305 Emissions
	Air Pollutant Management	1	1	1	1	1			1		GRI 305 Emissions
Environmental	Water Resource Usage and Waste Water Discharge Management	1	✓	1	1	1					GRI 303 Water and Effluents GRI 306 Effluents and Wastes
	Waste Management	1	✓	1		1	1	1	ļ		GRI 306 Effluents and Wastes
	Concerned Chemical Substance Management	1	1	1		1	1	1			-
	Occupational Health and Safety	1	1	1			1			1	GRI 403 Occupational Health and Safety
	Industry and Public Safety	1	✓	1		1	1	1		1	GRI 403 Occupational Health and Safety
Social	Employee Welfare and Salary	<b>√</b>	1	✓		1	✓	1		1	GRI 202 Market Presence GRI 401 Employment GRI 405 Diversity and Equal Opportunity
	Customer Relationship Management	1	1	1	†	+		✓	*		GRI 417 Marketing and Labeling GRI 418 Customer Privacy
	Community Participation and Social Welfare	1		✓	1	+			†		GRI 413 Local Communities

Note 1: " $\star$ " represents the material issue is unable to respond to the GRI Standard, but is the issue that the Company concerns.

			Vo	alue Cho	ıin				
Dimension	Material Issue	R&D and Improvement	Raw Material Procurement	Production	Product Sales	After-sales Service and Consulting	Impact Description	Respond	Corresponding Chapter
	Ethical Operation	✓	<b>√</b>	✓	✓	✓	<ul> <li>Conduct business trade with the principles of integrity, fairness and transparency</li> <li>Prevent any form of fraud from happening</li> <li>Create an equal and friendly working environment and enhance the coherence of employee</li> </ul>	<ul> <li>Formulate "Code of Integrity" and other code of conduct</li> <li>"System and Standard Setting", "Self-discipline Document Signing" and "Educational Training"</li> <li>Provide good communication and compliant channel</li> </ul>	1.2 4.1 4.2
Economic	Regulation Compliance	✓	✓	✓	✓		The promotion of various businesses is based on regulation compliance which can help the Company maintain stable and sound operation	<ul> <li>Formulate internal control system and S.O.P of various operations</li> <li>Management operation computerization</li> <li>Implement audit operation</li> </ul>	2.2 3.6
	Financial Operating Performance	✓	✓	✓	✓	✓	<ul> <li>Lay a solid foundation for perpetual operation</li> <li>Provide employees with a safe and secure life</li> <li>Drive and boom the upstream and downstream industries</li> </ul>	<ul> <li>Continuously promote process optimization and import AI</li> <li>Increase the sales proportion of differentiated and high-value products</li> <li>Promote expansion plans in response to market trends</li> </ul>	1.1 4.2
	Product Innovation and R&D*	✓		1	✓		Strengthen product competitiveness and enhance the growth momentum of the Company's operation	<ul> <li>Continue to invest in R&amp;D</li> <li>Import knowledge management platform</li> <li>Attend "FPG Technology Application Seminar"</li> </ul>	2.1

			Vo	alue Cho	iin				
Dimension	Material Issue	R&D and Improvement	Raw Material Procurement	Production	Product Sales	After-sales Service and Consulting	Impact Description	Respond	Corresponding Chapter
Environmenta	Greenhouse Gases Emission Management	✓	1	✓	1	1	<ul> <li>Cut down external cost of the Company due to violation and reduce the impact of operation on the environment</li> <li>In response to the impact of climate change, the logistic and storage method of raw material and finish good should keep pace with times</li> <li>The climate change affects the market trend, the Company's production cost and selection of factory site</li> </ul>	<ul> <li>Reduction target setting</li> <li>Promote energy conservation and carbon reduction</li> <li>Entrust a third party to conduct greenhouse gases inventory</li> <li>Promote carbon footprint verification of products like EG, BPA and EPOXY in 2018</li> <li>Continue to develop green products that are friendly to environment</li> <li>Take climate change, local environmental regulation and etc. into consideration when assessing the construction of factory</li> </ul>	3.2
ntal	Air Pollutant Management	1	1	✓	1		<ul> <li>Do our best in air pollutant management to ensure the compliance with environmental regulation and the requirement of environmental assessment to maintain a good image of the Company</li> <li>Ensure the procurement of raw material and the production and logistic process of finish good are complied with regulation to maintain a stable operation</li> </ul>	<ul> <li>Follow the BACT principle and conduct monitoring operation</li> <li>Base on the characteristics of process, we continue to promote improvement projects and maintain the equipment periodically</li> <li>Strengthen educational training to make the personnel be familiar with system operation</li> </ul>	3.3

			Vo	alue Cho	iin				
Dimension	Material Issue	R&D and Improvement	Raw Material Procurement	Production	Product Sales	After-sales Service and Consulting	Impact Description	Respond	Corresponding Chapter
Environmental	Water Resource Usage and Waste Water Discharge Management	1		1			<ul> <li>Ensure the stability of water resources in plant area and carry out water management to reduce the cost of water and maintain a stable operation</li> <li>Carry out waste water management to ensure the environmental regulation compliance and environmental assessment requirement to maintain a good image of the Company</li> </ul>	<ul> <li>Promote water conservation measures in various plant area</li> <li>Diverge, collect and plan treatment facilities according to the characteristics of waste water</li> <li>Set up a dedicated department to ensure the water quality of effluent meets the regulatory standards</li> <li>Promote circular economy</li> </ul>	3.4
	Waste Management	✓	<b>√</b>	✓			<ul> <li>Reduce waste from operation to reduce the relevant disposal cost and mitigate environmental impact</li> <li>Purchase appropriate raw material with good quality, refine production process and recycle the waste to reduce the generation of waste</li> </ul>	<ul> <li>Every plant should classified and collect according to the characteristics of waste and take recycling as priority, followed by incineration or landfill</li> <li>Do our best to examine and manage the qualification of clearance vendors to ensure the relevant operations meet the regulatory standards</li> </ul>	3.3
	Concerned Chemical Substance Management*	1	1	1	1		Manage the logistic, production and storage process of concerned chemical substance used for production or generated for production process to avoid public hazard from happening	<ul> <li>The sites and facilities of concerned chemical substance of various plant are proved by competent authority</li> <li>In accordance with the requirements of the Environmental Protection Administration, the chemical substances used in the manufacture have obtained existing chemical substances code</li> <li>Establish hazard prevention and drill response plan</li> </ul>	3.3

			Vo	alue Cha	ıin				
Dimension	Material Issue	R&D and Improvement	Raw Material Procurement	Production	Product Sales	After-sales Service and Consulting	Impact Description	Respond	Corresponding Chapter
	Occupational Health and Safety		1	1	•		<ul> <li>Create a safe working environment to enhance employees coherence and avoid the decline of production efficiency or the increase of abnormal disposal cost</li> <li>Supplier and contractor should provide a health and safe working environment for their employees to ensure the stable supply of raw material and labor services</li> </ul>	<ul> <li>Set up "Occupational Health and Safety Commission"</li> <li>Promote "Process Safety Management" and intensify the safety culture of all employees</li> <li>Implement contractor construction safety management, supervisors system and contractor logistic safety quality assessment system</li> <li>Various plants area have obtained the verification of OHSAS 18001 and TOSHMS</li> </ul>	2.3 4.4
Social	Industry and Public Safety			✓	✓		<ul> <li>Ensure the safety of production process and reduce the impact on the safety of residents nearby plant area and impact on environment to maintain a good image of the Company</li> <li>Carry out industry and public safety management to enhance the trust of government agencies and customers and benefit product promotion</li> </ul>	<ul> <li>Formulate         "Regulations for         Safe Transportation"         and "Regulations for         Emergency Response"         Promote "Process         Safety Management"         and implement         contractor construction         safety management     </li> <li>Promote drill of         hazard prevention         plan every year</li> </ul>	2.3 4.4
	Employee Welfare and Salary	<b>√</b>	✓	✓	<b>√</b>	<b>√</b>	<ul> <li>Create a happy and secure working environment to enhance the coherence of employees and ensure the stability of operation</li> <li>Provide employee with generous welfare and salary, and smooth promotion channel to attract outstanding people join us and lay a stable foundation of perpetual operation</li> </ul>	<ul> <li>Create a friendly and diverse working environment</li> <li>Pay attention to personnel education and training, and provide a smooth promotion channel</li> <li>Provide good communication and complaint channels</li> </ul>	4.1 4.2

			Value Chain						
Dimension	Material Issue	R&D and Improvement	Raw Material Procurement	Production	Product Sales	After-sales Service and Consulting	Impact Description	Respond	Corresponding Chapter
	Customer Relationship Management				✓	✓	Customer first is our core value and the foundation of business operation. Create a partnership of coexist and co-prosper with customers allow us to grasp market pulsation and create growth momentum	<ul> <li>Through visits         customers and attends         product exhibitions         periodically and other         ways, the business         department grasps the         market pulsation</li> <li>The Company's         website provides a         complete product         inquiry system</li> <li>Provide customers         with multiple         communication         channels and handle         customer's issue in         time</li> <li>Customer satisfaction         survey(every year)</li> </ul>	2.2
Social	Community Participation and Social Welfare			✓	✓		We will do our best to work closely with neighbors, respond to social needs in a timely manner, invest in social welfare, coexist and co-prosper with the community and enhance harmonious relations to improve corporate image and enhance public trust in the Company	<ul> <li>Various plants         cares for local         neighborhoods by         ways like "Visit and         Communication",         "Traditional Culture         Promotion",         "Community         outreach",         "Environmental         Volunteer" and         "Charity Service"</li> <li>Mailiao Industry         Complex set up a         dedicated research         unit to conduct         environmental impact         assessment. We         also provide fishery         counseling, fry         release and promote         environmental         education</li> <li>Coordinate with FPG         to promote charitable         activities</li> </ul>	5







#### Mission



The company cares for the health of its internal employee and strives to achieve local health care and work together to create a good foundation for sustainable growth.

#### Action

- Provide employee with health examation that is superio to regulations periodically and continue to track and consult.
- 2. Provide occupational diease prevention for employee.
- FPG provides free health examation for residents in Mailiao area to improve local medical environment.

#### Corespond Chapter

- 4.4 Workplace Safety
- 5.1 Local Participation
- 5.2 Social Contribution

#### Mission



Water resources are an essential resource for industrial production and an indispensable element of survival for human beings. The company strives to improve the recycling rate of water resources, and fulfill wastewater treatment and protection of aquatic ecosystems.

#### Action

- Continue to conduct water conservation improvement operation.
- In the past 2 years, the rainwater recycle rate of Mailiao Industry Complex has exceed 70%.
- 3. Promote "Circular Economic".

#### Corespond Chapter

3.4 Water Resource Management

#### Mission



The company continues to develop high value-added products and provides employees with generuos salary and benefits and a safe working environment.

#### Action

- 1. Provide generous salary and welfare.
- 2. We do not hire child labor.
- In the past five years, the proportion of local residents employed as supervisors has remained above 46%.
- Disabling injury frequency rate and disabling injury severity rate are lower than the industry average.

#### Corespond Chapter

- 4.1 Human Rights Protection and Employment
- 4.2 Employee Rights and Benefits
- 4.4 Workplace Safety

#### Mission



In addition to continuing to invest in energy conservation and improvement, the company continues to develop differentiated, high-value and environmentally friendly environmentally friendly products to improve energy efficiency, reduce resource consumption and create a niche for sustainable growth.

#### Action

- 1. Improve energy efficiency.
- 2. Promote "Circular Economy".
- Develop environmentally friendly products that are in line with environmental trends.

#### Corespond Chapter

- 2.1 Diversified ProductApplication
- 3.2 Greenhouse GasEmission Management3.5 Circular EconomyPromotion

#### Mission



The Company has long promoted environmental protection work, using resource management and process waste reduction to carry out resource integration, waste reduction, recycling, etc. We continue to promote the "circular economy", and develop environmentally friendly products that are in line with environmental trends.

#### Action

- 1. Waste management.
- 2. Air pollutant management.
- 3. Waste water disposal.
- 4. Promote "Circular Economy".
- Develop environmentally friendly products that are in line with environmental trends.

#### Corespond Chapter

- 2.1 Diversified Product Application
- 3 Green Environment

  Management Promotion

#### Mission



Climate change is a sustainable development issue for all human beings. The company reduces its impact on climate change by improving energy efficiency, control and reducing greenhouse gas emissions.

#### Action

- 1. Improve energy efficiency.
- Continue to coduct energy conservation improvement operation.
- The intensity of greenhouse gas emissions in 2018 decreased from 2017.

#### Corespond Chapter

3.2 Greenhouse Gas Emission Management





# **Product Value Expansion**

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#### **Chapter Summary**

The Company believes that stable and high-quality suppliers could help the Company continue to grow. Customer is not only at the heart of what we do, but also the foundation of our business operations. Besides reinforcing product R&D and innovation, we strive to create a positive cooperative relationship with the supply chain and customers for common prosperity. We would like to join forces with them to achieve a bright future for sustainable development.

## **United Nations Sustainable Development Goals (SDGs)**



## **Material Issues**

- 1. Product innovation and R&D
- 2. Customer Relationship Management
- 3. Regulatory Compliance

## Short-, Medium- and Long-term Goals for Material Issues

Sustainable Commitment	Medium and Long-term Goals (2020-2025)	Short-term Goals (2019 Goals)	2018 Progress
<ul> <li>Strengthen research and development, develop high-value and differentiated products to increase profitability</li> <li>Promote process optimization and Industry 4.0, as well as incorporating AI to enhance product competitiveness</li> <li>Develop green raw materials and environmentally friendly products that are good for health</li> </ul>	<ul> <li>Strengthen research and development, increase the proportion of differentiated and high-value products</li> <li>Continue to focus on customer needs, protect customer privacy and strengthen partnerships</li> <li>No major violation regarding product labeling, customer privacy, etc. (with penalty exceeding NT\$1 million)</li> </ul>	<ul> <li>★ Strengthen research and development, increase the proportion of differentiated and high-value products</li> <li>★ Avoid excessive concentration of exports to China and expand emerging markets</li> <li>★ Publish the English version of the Annual Report to establish international connections</li> <li>★ Formulate and require vendors to sign the "Supplier/ Contractor Corporate Social Responsibility Commitment" and "CSR Questionnaire for Vendors"</li> <li>★ No major violation regarding product labeling, customer privacy, etc. (with penalty exceeding NT\$1 million)</li> </ul>	R&D expenditure in 2018 exceeded NT\$1 billion (three consecutive years of growth)  Overall satisfaction reached 4.3 points in the 2018 customer satisfaction survey, accounting for 86% of the total score (three consecutive years of growth)  No major violation regarding product labeling, customer privacy, etc. occurred in 2018

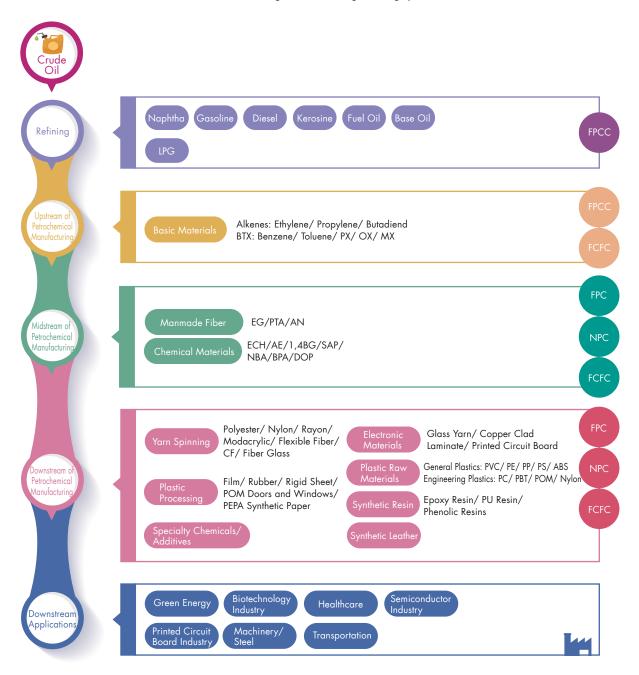
#### **CSR Achievements at a Glance**

- The Company's R&D expenditure in 2018 exceeded NT\$1 billion (three consecutive years of growth).
- The Company's 2018 customer satisfaction survey results in an overall satisfaction of 4.3 points, accounting for 86% of the total score (three consecutive years of growth).

## 2.1 Diversified Product Application

## 2.1.1 Product Association Diagram

The company is a subsidiary of Formosa Plastics Group. In addition to the horizontal development in the petrochemical industry, we also actively engage in the vertical integration of upstream and downstream industries in order to reduce production costs, meet the customers' needs for raw materials, and enhance competitiveness by expanding the economic scale. Formosa Plastics Group has completed the upstream, midstream, and downstream establishment in the fields of refining, chemical engineering, plastics, fiber and electronics.



Note: "Raw Materials Usage Status" and "Production and Sales Volume" please refer to 2018 annual report.

#### 2.1.2 Product Introduction

The Company and our subsidiaries in Taiwan are located in midstream and downstream of Formosa Plastics Group. Since the Company has benefited from the vertical integration of raw materials, we produced a number of competitive products:

#### (1) Plastic processing products:

The five general plastics such as PVC, PE, PP, PS and ABS supplied by Formosa Plastics Corporation and Formosa Chemicals and Fibre Corporation are used as the main raw materials for processing. The major uses of the products are as follows:

Product name	Important use
Flexible PVC Film	Raincoats, tape, floor tiles, wardrobes, shower curtains, tablecloths, labels, waterbeds, table mats, etc.
PVC Leather	Vehicles, furniture, boats, footwear, bags, fabrics, raincoats, toys, gloves, etc.
Rigid Film	Vacuum forming, food packaging, credit card, floor tile fitting, wood veneering, printing, stationery, electroplating, photo album, fold molding, water tower plate
PP Synthetic Paper	Stationery, labels, advertising tags, cards, lithography
A-PET Film and Sheet	For food packaging, printing, stationery, folding, high frequency heat sealing
PU Synthetic Leather	Shoes, bags, furniture, 3C product covers, etc.
POM Doors and Windows	Energy-saving doors, windows and curtain wall for buildings
SMC Fiberglass Door	SMC room door, fire door, entrance door
PEPA Synthetic Paper	Advertisement printing, printing paper, label paper, stationery
Rigid PVC Pipe	Engineering, water plant, electrical, drainage and general construction pipes
BOPP Stretch Film	Tape, garment bags, food packaging, photo albums, etc.
UP Resin	Crafts, transparent shower, artificial stone, shipbuilding, furniture and building materials, etc.
Engineering Plastic	Electronics, sports equipment, home appliances, automotive materials, etc.

#### (2) Chemical engineering products:

Propylene, ethylene and butane supplied by Formosa Petrochemical Corporation are processed and manufactured. The main applications of the products are:

Product name	Important use
BPA	Epoxy resin, PC resin
Ethylene Glycol	Polyester fiber products, ester pellets for bottles, polyester film, antifreeze
Plasticizer	Wire, cable, film, rubber, building materials, medical equipment, Jiemei Film
1,4 BG	PU resin, PBT resin, COPE thermoplastic elastomer, GBL, etc.
THF	PTMEG resin, medical intermediates and solvents
MA	Unsaturated polyester resin, lubricating oil additive, coating

#### (3) Electronic materials:

from glass fiber filaments to printed circuit board, a complete system of vertical integration is formed. The main applications of the products are:

Product name	Important use
Copper Clad Laminate	Printed circuit boards (PCB)
Epoxy Resin	Electronic, civil, paint, composite materials
General Circuit Board (Nan Ya PCB)	Desktop computers, notebook computers, workstations, servers, mobile phones, tablets, game consoles, etc.
IC Substrate	Computer central processing unit (CPU), chipsets, smartphones, RF modules for mobile phone, network communication chips, digital TV and set-top box chipsets, etc.
Glass Fiber (PFG)	Electronic-grade glass fabric for PCB, braided electrical sleeving products, paper and tape reinforcement, axel material for grinding wheels, materials for electrical thermal insulation, tensioned membrane structure and high-temperature filter bags

#### (4) Polyester products:

Pure terephthalic acid (PTA) from Formosa Chemicals & Fibre Corporation and self-produced ethylene glycol are used as raw materials. The main product applications are:

Product name	Important use
Polyester cotton	Cloth, toy filler, snow jacket lining
Polyester pellet	Scooter windshield, zipper belt, blowing molding, brush, tire mesh belt
Polyester full drawing yarn	Umbrella, ski gear cloth, knitted fabric, stitching thread, fishing net, fishing gear
Polyester draw texturing yarn	Woven fabric, knitting, tie, ribbon

#### (5) Electromechanical engineering:

providing mechanical equipment designs, utility consumption, production and distribution switchboards, cast resin transformers, vacuum contactor switchgears, etc. In terms of switchgear products, we mainly promote cooperation between large engineering companies and motor technicians in order to acquire state-owned enterprises and public construction orders.

(For detailed product information, please refer to: https://www.npc.com.tw)

#### 2.1.3 Main Brands

Most of the products are marketed globally with Nan Ya 🕪 brands. After years of hard working, we have established good reputation in the industry.





## 2.1.4 Product Development and Innovation



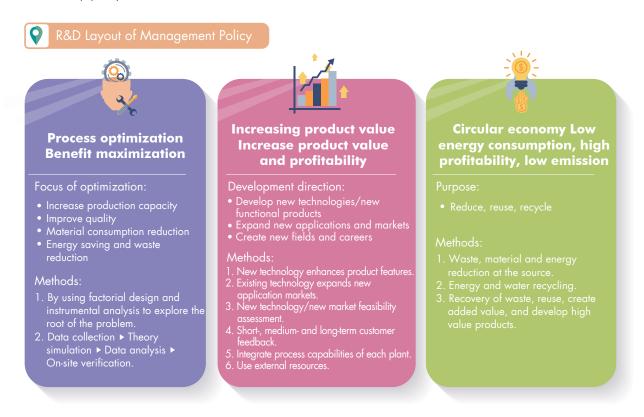


	Management Approach (Corresponding GRI Standards:-)
Policy	The Company continues to strengthen R&D. In addition to green products, the Company also dedicates to developing high-value and differentiated products to enhance competitiveness and create new niches.
Responsibilities	R&D center, technical office of each factory.
Resources	<ol> <li>The Company has a R&amp;D center, and each division is equipped with a Technical R&amp;D office.</li> <li>R&amp;D expenditure for 2018: NT\$1,190,767,000.</li> </ol>
Grievance Mechanism	Please refer to CH1.3.2.(2) "Communication with Stakeholders"
Specific Actions	<ol> <li>Build a R&amp;D system: The Company has a R&amp;D center, and each division is equipped with a Technical R&amp;D office to strengthen research and development capabilities.</li> <li>FPG Technological Application Seminar: FPG holds annual technological application seminars to select innovative research works for R&amp;D competitions and publish results, in order to facilitate knowledge exchange and encourage growth among companies.</li> </ol>
Evaluation Method	FPG Technological Application Seminar
Result	The Company's Design Division of Chiayi Plant, Polymer Group and Composite Materials Group of the R&D Center, and the Production Group 2 of the Electronics Technology Division were awarded good to excellent ratings in the 2018 FPG Technological Application Seminar.



#### (1) Three Major Innovation Policies

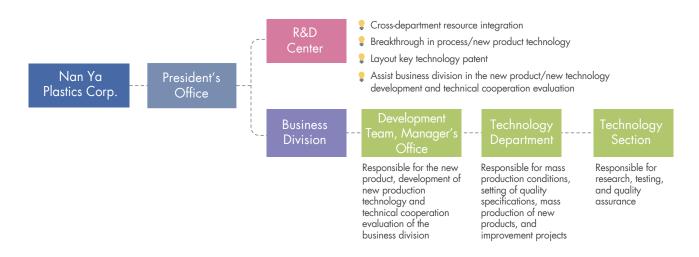
The Company is part of FPG with products in the fields of plastic, chemical, electronics, fiber, etc. In recent years, R&D layout is carried out in terms of process optimization, high-value products development and circular economy in line with the Group policy.



#### (2) Management Processes for R&D and Innovation

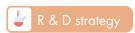
#### 1. R&D Organization

Each division of the Company has a development team in the management office, technical department and technical group that are responsible for new products/ development/ production/ quality assurance and so on. An independent R&D Center for high-end product has also been set up to integrate inter-departmental resources, assist departments in breaking through technical obstacles and expanding into new niche markets.



#### 2. R&D Strategy

- (1) Integrate technical and market aspects, hold regular production, sales, and technical meetings, and develop high-value and potential products that meet the short-, medium- and long-term needs of the market.
- (2) Join hands with domestic and foreign partners, including peers, raw materials suppliers, equipment manufacturers, customers, universities, and research institutions to jointly develop products and markets to create a win-win situation.



#### Market Aspect

#### External market research

- Competitor technical survey
- Industry trends and market research
- Domestic and international exhibitions and seminars
- Future R&D trends survey
- R&D trends of domestic and foreign university
- R&D trends of major companies at home and abroad

## Internal Production and sales information

- Market response and customer feedback
- Direct and end customer needs
- Identify potential markets and customers



## Technical Aspect

#### External technical resources

- Hire consultants from academia as well as individuals from the industry
- Key material technology and equipment survey
- Technical cooperation, authorization or purchase
- Industrial Research Institute, Academia Sinica, etc.
- Domestic academic seminar
- Peer, raw material supplier, equipment supplier, customer, university, research institutes, etc.

## Internal technological integration

- Production and process technology requirements
- New raw material and supply requirements
- New technology and equipment requirements

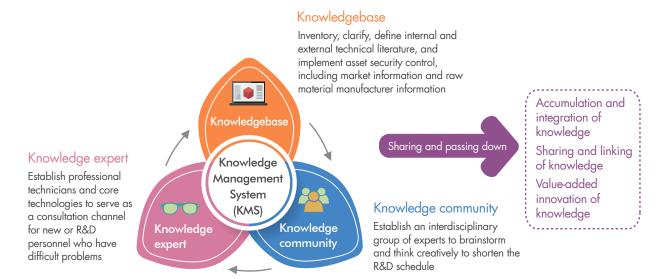
#### 3. Introduction of Knowledge Management Technology Platform

The Knowledge Management System (KMS) has been introduced to the R&D center for the following purposes:

- (1) Integrate technical data, establish expert system to solve technical problems
- (2) Complete knowledge transfer, personnel training, and document management
- (3) Shorten the file query time and speed up the learning speed of new recruits

## 1

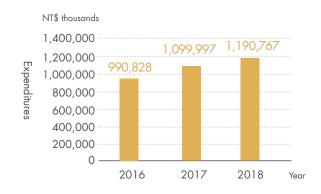
#### The Three Cores of the Technology Platform



#### (3) Expenditure

The Company purchased various pilot production equipment and precision analytical instruments. In addition to reducing raw material costs for new products to be produced directly, the Company can also provide small-batch samples for customer evaluation and shorten the development schedule.

## The R&D expenditure in the past three years

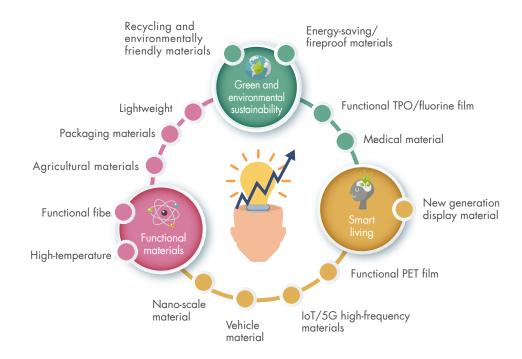




#### (4) Innovative R&D and Product Applications

The Company's products span the fields of plastic, chemical, electronics, fiber etc. In terms of product categories, they can be divided into plastic products, chemicals, electronic material, fibers and textiles, machinery and switchgear, etc. In recent years, in addition to promoting the Industrial 4.0 intelligent chemical plant in the product line, the Company has made efforts in the R&D of innovative products to be in line with government policies, including 14 innovative R&D fields such as recycling and environmentally friendly materials, energy-saving/fireproof materials, IoT/5G high-frequency materials and automotive materials.

#### nnovative R&D and Product Applications



#### (5) Establish an Excellent Innovative R&D Team

In order to boost R&D, FPG has set up various R&D incentives to reward patent proposals, certifications, and key products or patents that derive major benefits. All departments regularly convene for the FPG Technological Application Seminar to select innovative works for competitions and publish the results. The departments with excellent research results are publicly praised and awarded bonuses so that ideas can be exchanged within the Group to further stimulate research and innovation. In 2018, the Company's Design Division of Chiayi Plant, Polymer Group and Composite Materials Group of the R&D Center, and the Production Group 2 of the Electronics Technology Division were awarded good to excellent ratings.



The 16th FPG Technological Application Seminar



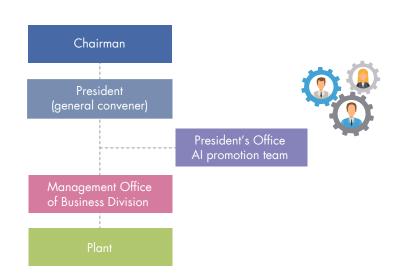
The 16th FPG Technological Application Seminar Award Ceremony

#### 2.1.5 Artificial Intelligence (AI) Application

Artificial intelligence (AI) has set off a digital revolution worldwide. Since 2018, the Company has organized and trained an internal AI promotion team to develop relevant technologies used in image flaw detection, virtual instrument establishment, and other application fields. Through the process optimization and AI technology introduction, the Company hopes to enhance factory automation, digitalization and intelligence to gradually construct smart factories.

#### Promotion Organization and Tasks

The President is appointed by the Chairman to act as the general convener of the Company's AI promotion. The President's Office, the management office, the data scientists and the process field experts from each factory (department) jointly form the AI promotion team. Through cooperation between the President's Office and the management office AI promotion team, AI projects can be more accelerated.





Department	President's Office	Management Office of Business Division	Plant
Role	Project coordination	Project execution	Project proposal
Function	<ul> <li>Company Al Promotion Center</li> <li>Project feasibility confirmation and technical assessment</li> <li>Project modeling</li> <li>Provide data analysis methods or suggest suitable algorithms</li> <li>New Al technology introduction and evaluation</li> <li>Horizontal development of mature projects</li> <li>Establish an exchange platform</li> <li>Technology transfer assistance for subcontracted case</li> <li>Organize education and training</li> <li>Regularly hold Al promotion seminars</li> </ul>	<ul> <li>Data integrity confirmation</li> <li>Data pre-processing</li> <li>Modeling practice (model application)</li> <li>Analysis result verification</li> <li>Project progress control</li> <li>Technology transfer for subcontracted case</li> </ul>	<ul> <li>Formulate project themes and goals</li> <li>Build and collect required data</li> <li>Provide needed-assistance according to meet the needs of each project</li> <li>Model follow-up correction</li> </ul>



#### 👗 Al Professional Training

In order to train AI professionals and strengthen the ability to develop AI applications internally, the Company has three major directions including "Arrangement to Taiwan AI Training School," "Internal AI Education and Training," and "Industry-Academy Cooperation." The key points are as follows:



Off-site Training (At Taiwan Al Academy)

- Qualifications for personnel sent for training in batch from August 2017:
  - 1. New recruits with backgrounds in statistical analysis, neural networks, etc.
  - 2. Selection of supervisors or staff with expertise in programming from the business division
- Develop key competencies such as problem definition, data processing, model training, problem solving, and site incorporation
- At present, 56 persons have finished training and 18 are being trained. More personnel will be assigned to participate in training



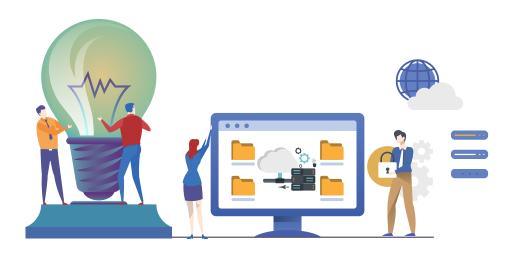
**Internal Training** (Internal Al-related education and training)

- Training purposes:
  - 1. Form correct concepts of AI for supervisors at all levels
  - 2. Strengthen the ability of program language, data pre-processing, and model development for dedicated staff at each department
- Course names:
  - 1. "Basic Statistical Quality Control"
  - 2. "Advanced Statistical Quality Control"
  - 3. "Introduction to Artificial Intelligence"
  - 4. "Al Academy Prerequisites"
  - 5. "Data pre-processing"
  - 6. "Image Recognition Practice"



Industry-Academy Cooperation (Collaboration between the industry and academia)

- Technical exchange with professional companies:
  - 1. Companies: Microsoft, Amazon, and so on
  - 2. Objectives: Strengthen data pre-processing and model development capabilities
- Industry-academy cooperation with academic institutions:
  - 1. Academic institutions: Yuan Ze University, Chang Gung University, and Ming Chi University of Technology
  - 2. Objectives: Transfer technology during the cooperation, develop independent technology to facilitate subsequent horizontal expansion
  - 3. Areas incorporated with Al application development:
    - (1) Defect image recognition
    - (2) Smart farm
    - (3) Rotating equipment life prediction
    - (4) Power system reliability monitoring

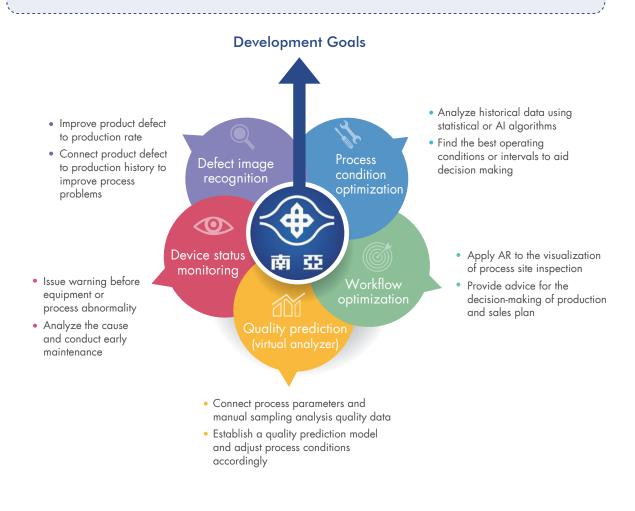


#### **Solution** All application areas and development goals

The current AI application areas of the Company include the following five items:

#### Establish smart factories with adaptability and resource efficiency

- 1. Focus on in-depth research and development for the major applications, develop independent technologies and gradually apply AI technology to various management functions
- 2. Equip the factory with the ability of sensory collection, environmental monitoring, Internet, information exchange, manufacturing execution, decision analysis, and so on through the integration of software and hardware





#### 2.1.6 Product Safety and Health Responsibility

From raw material procurement to the product sales, the Company attaches great importance to the health and safety of our customers. Therefore, the production process is continuously improved (such as harmful formulas reduction, energy saving, carbon reduction, and green product development). To follow market trends and meet customer needs, we have shifted our focus to producing non-toxic and environmentally friendly products with improved production processes as well as green energy products. More details are as followed:

- (1) Non-toxic products: Besides developing halogen-free, phosphorus-free carrier board, we also developed arsenic-free copper foil, which does not contain environmentally harmful arsenic, to enable a new generation of circuit boards to be used in green appliances and other fields. Epoxy resin that is free of volatile organic compounds was also developed to be used in environmentally friendly industrial coatings to continuously reduce environmental impact.
- (2) Environmentally friendly products: By replacing equipment continuously as well as developing and using high-efficiency catalysts to improve energy efficiency. We also expand ethylene recovery equipment through waste gas to reduce ethylene use and energy consumption during the production of ethylene glycol products. In addition, rainwater recycling is promoted by adding rainwater storage to improve recovery efficiency. This not only improves the use of water resources but also reduce overall environmental impact.
- (3) Water-saving and energy-saving improvement: In response to the government's policy of promoting water-saving and energy-saving in the industry, the Company has continuously engaged in water-saving, energy-saving and carbon-reduction improvements. We held a water-saving and energy-saving selection in enterprise, some of excellent cases in which were also awarded in energy-saving competition held by Ministry of Economic Affairs for several times.
- (4) Green energy: Take the cast resin transformer (high efficiency type) (20kV 2500kVA) as an example, it saves 96,912 dollars/year in comparison with the general oil immersed transformer. And carbon dioxide emission is reduced by 18.7 metric tons/set. The "Environmental Seal" has been awarded by the Executive Yuan's Environmental Protection Bureau, and it is estimated to reduce the annual carbon dioxide emissions by 5,610 metric tons per year.











#### POM doors and windows

Replace doors and windows made of wood, aluminum and iron. Also, they can save electricity, and can be 100% recycled.

#### Eco polyester film

By using polyester pellets produced from recycled PET bottles to reduce the environmental pollution of PET bottles and the loss of CO<sub>2</sub> and energy.

#### Thermal insulation film

By using nanometer pigment, it can be used for automotive window film and building window film.

#### Aluminum plastic film

It can be used on packaging of pouch cells, which can applied to 3C products and electrical vehicles, etc.

#### **PVC** tiles

The main raw materials are calcium carbonate and polyvinyl chloride, which are resistant to abrasion, acid and alkali, pressure, flame, corrosion and non-conductivity, and have little environmental hazard.

#### Nan Ya Q-Box

Special plastic material, which is suitable for humid climate, can overcome moisture and decay. Also, it avoids from pests, cockroaches, etc. Thus it has a long life, and does not contain formaldehyde and plasticizers.

## Halogen-free copper clad laminate

It does not contain harmful halogens which will produce dioxin after burned. So it can apply in areas such as green appliances, and reducing environmental impact.

## Phosphorus-based epoxy resin

By reducing the traditional bromine-based circuit board to be disposed by landfills, it can greatly reducing the impact on the environment.

#### Water-based epoxy resin

Replacing organic solvent epoxy resin with water-based epoxy resin which produced from self-made emulsifier to reduce VOC dispersion and further environmental impact.

## Industrial-grade glass fiber cloth

It is resistant to fire and corrosion. It is substituted for plastic and wood to apply to building materials such as curtains, floor tiles and ceilings. It not only reduces environmental loading but also provides consumers with a safer living environment.

#### Epoxy resin for wind turbine blades

With low viscosity, good operability and good mechanical strength, it can be applied to composite materials of green energy wind turbine blades.

## Polyester and bottle-use pellets from biomass

Replacing traditional methods of petroleum refining by converting sugar cane molasses can reduce the use of petrochemical raw materials.

## Polyester from post-consumer recycled PET bottles

The materials recycled from the waste PET bottles are melted and made into fibers. In addition to reducing the environmental pollution of the PET bottle waste, it also reduces the use of petrochemical raw materials, reduces the loss of  $CO_2$  and energy, and contributes to slowing global warming.

#### Arsenic-free copper foil

Mainly used as a circuit board material, because it does not contain arsenic which is harmful to the environment, it can be applied environmentally in the fields of green electronic products and reduce the burden on the environment.

#### Cast resin transformer

There are no doubts about the poisons such as cadmium, lead, hexavalent chromium and mercury compounds in the production and materials of this product. Compared with the average transformer, each transformer can reduce 18.7 metric tons of carbon dioxide emissions per year and has been obtained "Environmental Mark" issued by the Ministry of the Interior.

#### Carbon nanofibers

By recycling waste coffee grounds or coconut shells, carbonizing and grinding them into nano-sized powders, and then adding them to polyester fibers, they can have multiple functions such as keeping warm, deodorizing, far infrared rays and negative ions





#### The Company's products which has obtained environmental protection marks



#### Environmental Mark (Green Mark)

#### Environmental Mark:

- Plastic pallet
- PE pipe
- Recycled polyester cotton
- Polyester Partial
- Orientation Yarn (POY)
- Polyester Draw Texturing
- Yarn (DTY)
- Polyester Full Drawing Yarn (FDY)
- Executive Yuan
  Environmental Protection
  Administration's first class
  environmental protection
  transformer specifications:
  - Resin type dry-type or distribution voltage regulator with single-phase and three-phase AC voltage levels below 36kV



Green building materials

1. High performance (sound insulation)

PU waterproof material

W9F fixed window

100% environmentally friendly recycled PVC plastic

primer, epoxy topcoat

Water-based epoxy

Regeneration:

POM window-W9S horizontal sliding window, W9K push out window,

High performance (sound insulation):

2. Regeneration

Mealth:



Singapore Green Building Product, SGBP

- Deluxe Vinyl Sheet (door panel)
- Celuka (door panel)
- PVC wall panel
- Deluxe Vinyl Tile



Global Recycle Standard, GRS

- Recycled environmentally friendly film
- Environmentally friendly fiber pellets (no heavy metals)
- Environmentally friendly recycled products (POY, DTY, FDY, cotton, pellet, film, polyester yarn)
- Environmentally friendly recycled products (Woven fabric, knitting)



POM doors and windows



Phosphorus- based epoxy resin



Wind turbine - Epoxy resin for wind turbine blades



Cast resin transformer resin

## 2.2 Collaborative Business Model





Management A	Approach (Corresponding GRI Standards: 417 Marketing and Labeling, 418 Customer Privacy)
Policy	Customer first is our core value and the foundation of our business. Besides offering customers a diversified selection of products, comprehensive product information and feedback channels are provided on the Company's website. Customer satisfaction survey is conducted at least once a year to maintain good customer relations.
Responsibilities	Each business units.
Resources	<ol> <li>In addition to the business units, the management office of each division also has management staffs.</li> <li>There is a good communication channel on the Company's website.</li> </ol>
Grievance Mechanism	<ol> <li>Annual customer satisfaction survey.</li> <li>Company website of Nan Ya Plastics Corp.</li> <li>Customer or supply chain feedback channel.</li> </ol>
Specific Actions	<ol> <li>In order to protect customer information, the Company established a personal data protection organization responsible for data protection and the implementation of specific measures related to the Personal Information Protection Act. Awareness has also been raised for all employees.</li> <li>Customer satisfaction survey is conducted once a year for the Company to evaluates the customer relationship management. Adjustments are made as appropriate.</li> </ol>
Evaluation Method	Customer satisfaction survey.
Result	The overall satisfaction reached 4.3 points in the 2018 customer satisfaction survey, accounting for 86% of the total score (three consecutive years of growth).

The sales staff functions as the bridge between the customers and the Company. Not only the business department should improve customer service and satisfaction, all staff should make continuous effort create a business environment that allows mutual growth with our customers in their daily operations and management. The Company puts great emphasis on customer rights and feedback. When the downstream customers' business is expanded, it is an affirmation and support for the Company. The Company hopes to form a virtuous circle to grow with customers and pursue a winwin situation.

## 2.2.1 Collaborative customer relationship

#### Good interaction

In order to strengthen customer relationships, the business department regularly visits customers, exchanges opinions on existing or new products, and establishes an interactive and timely communication channel. Through attending product exhibition, we can talk face-to-face with the customers about market information as well as incorporating customer feedback in the company's future operations.



#### Stakeholder communication and feedback mechanism



#### Customer feedback and handling

Customer relationship management is an important part of the company's sustainable operation. In order to understand the valuable opinions of customers, the company has clearly defined the customer complaints channel, return, refund, as well as compensation application procedures. The customers can express their opinions through the "Customer Feedback Form." The customer service agent in turn fills out the "customer complaint form." The department of management office then determines the ownership and improvement plan of the complaints. After the case has been presented to the authorities, returns, discounts or compensations are processed. The progress is logged in the computer system. In terms of customer feedback, the company provides various product sales service lines and e-mail addresses on the website so that the customers can share their feedback through multiple channels. Relevant departments regularly summarize the issues or concerns for classification and analysis. The importance and timeliness are used to prioritize the issues and ensure customer needs are addressed.



## 2.2.2 Customer Satisfaction Survey

To understand whether our products and services meet our customers' needs and expectations, we collect our customers' feedback and suggestions as a reference for the improvement of internal operations. The survey item includes eight major themes such as product characteristics, product quality, product delivery, product price, service attitude, technical service, brand image and overall satisfaction. The survey topics are also adjusted based on the customers' engagement.

## Customer satisfaction survey model

According to the results of the 2018 Customer Satisfaction Survey, the overall satisfaction reached 4.3 points, accounting for 86% of the total score. Seven performance indicators were above "satisfactory." Some product price failed to meet customer expectations. The customer perceived that the raw material price decreased, but the product price has not been adjusted as expected. The company will continue to pursue cost reduction to mitigate the impact of fluctuations of raw material price.



Year	Technology Research	Service Attitude	Brand Image	Product Delivery	Product Quality	Product characteristics	Product Price	Overall Satisfaction
2016	4.2	4.3	4.2	4.0	4.1	4.1	3.5	4.1
2017	4.3	4.4	4.3	4.1	4.2	4.2	3.6	4.2
2018	4.3	4.5	4.4	4.2	4.3	4.3	3.7	4.3

Note: 5 points means very satisfied, 4 points means satisfied, 3 points means neutral, 2 points means dissatisfied, 1 point means very dissatisfied.

## 2.2.3 Compliance



The Company's production and sales operations are conducted in accordance with the laws and regulations. We continue to develop environmentally friendly products in line with EU's RoHS, REACH and so on. The product has reached green building materials standards or green energy applications in hopes of ensuring the health and safety of customers, as well as contributing to the sustainable development of the environment.



The Company's product information is listed in accordance with the regulations. In line with the regulations of the Industrial Development Bureau of the Ministry of Economic Affairs, all packaging and product delivery list of products that are not used as food additives is marked as "Not fit for human and animal consumption."

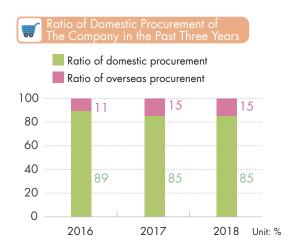


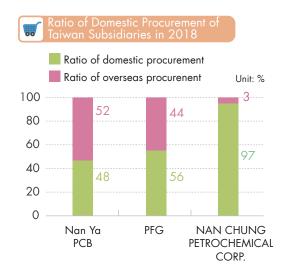
In terms of data protection, the Company has established "personal data management regulations" that are listed as a self-inspection item for all relevant departments. For business purposes, employees must first sign the "Personal Data Collection, Processing and Utilization Application Form" for compliance review. If the application is in line with relevant laws and regulations, and only when it is used in specific ways will access be granted.

## 2.3 Supplier and Contractor Management

#### Principle of Priority for Local Procurement

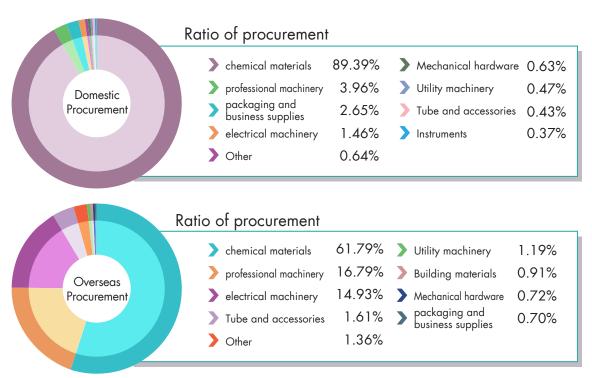
The Company's procurement and contracting policies prioritize local purchases and contracting. Procurement and bidding only happens abroad when there are no local options. The domestic procurement ratio during the past three years is as follows:





In addition, the related operations continue to use E-transaction to establish a harmonious relationship between both parties and achieve the goal of open, fair and just of procurement and contracting mechanism. Moreover, through the sound management mechanism of contractors, we can replace the less satisfactory ones while cultivating long-term partners.

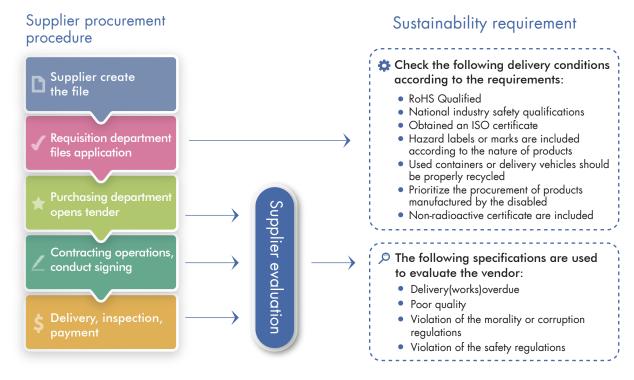
The distribution of the supply chain of the Company and Taiwan subsidiaries in 2018, including professional machinery, chemical materials, packaging and business supplies, and other items, the procurement ratio is as follows:



#### 2.3.1 Vendor Management

#### Supplier Sustainability Issues

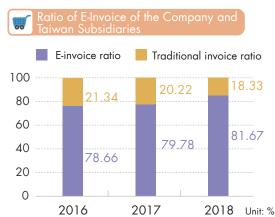
When handling procurement, the Company adheres to the principle of sustainable management and fair trading. We are committed to requiring vendors to comply with environmental protection, work safety, and human rights requirements. If a vendor fails to meet the requirements, the shipment will be rejected and this fact would be listed in the vendor's assessment as a punishment. The procurement process is as follows:



In addition, traditional invoices have been replaced with e-invoices to reduce costs and increase management efficiency. Thus far, over 80% of suppliers have adopted e-invoices, which has significantly reduced the time and costs of labor as well as costs of stamps and paper.

#### Contractors Sustainability Issues

To reinforce safety management, control the quality of contractors, improve the contractors' work safety, and prevent injuries for their employees, the Company has established a classification management system for contractors.





Contractor Classification Management System

Assessed Item						
Factory, equipment	Safety management capability	Technical skills	Contract history			
Contractor Classification						
A	В		С			

The contractor classification system provides the contractor department reference for tenders. In addition, the Company has listed the safety and health management expenses for outsourced business as salary in the budget. Besides including contract specifications and computer control, the Company also reviews safety and health management expenses during the tender process. The amount of the management expenses must not be lower than the budget, so as to avoid the contractor sacrificing safety and health management due to low price bidding.

#### Future Plans

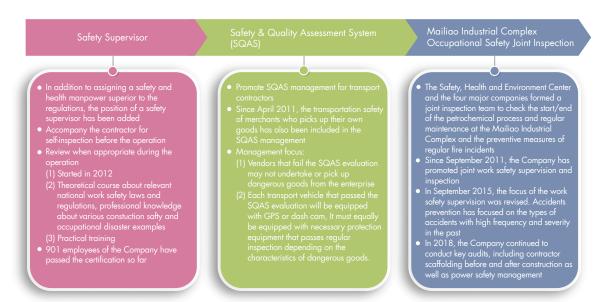
In addition, the Company has required contractors to jointly implement corporate social responsibility. In 2019, the Company is scheduled to formulate the "Supplier/Contractor Corporate Social Responsibility Commitment" and the "CSR Questionnaire for Vendors." The vendors are required to sign in order to be reviewed whether they meet the labor, environment, and human rights requirements.

#### 2.3.2 Contractor Safety Management

In order to ensure the safety of the work environment, the Company requires contractors to comply with the laws and regulations regarding occupational safety and health, and set up safety and health management personnel. The contractors must pass safety and health education and hazard identification training before entering the factory. The Company also promotes the independent management of contractors to achieve zero disaster goals through mutual trust and cross supervision. In order to establish a platform for good communication and coordination, the main management methods are as follows:

Organization Coordination Meetings	Exchange information about workplace hazards and possible improvement suggestions in order to achieve work safety.	
Personnel Access Management	Through access control management, the number of workers is under control. The contractor must enhance the knowledge and concept of safety and health through education, training and testing before entering the factory.	
The contractors are reminded of the potential risks and hazards that may occur during the operation every day before entering the factory. Also, the mental state of the personnel contected to avoid work accidents.		
Regular Audit	The contractors are required to abide by the safety and health regulations of the Company and the law. If abnormality is discovered during the audit, a review meeting will be held in the same afternoon to address the problem and prevent recurrence.	

In addition, in order to strengthen the safety management of contractors and ensure workplace safety, the Company also promotes the following operations:







# Green Environment Management Promotion

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#### **Chapter Summary**

Since its incorporation, the Company has laid equal emphasis on industrial development and environmental protection by actively paying attention to environmental protection and climate change trends, pursuing energy and resource reduction, as well as using the best control technology to reduce waste at the source and in production. Moreover, the Company follows the principle of circular economy to review and recycle various resources. Through operational control and regular monitoring, the Company ensures that all air pollutant emissions are superior to national standards. In addition, process optimization management and green product development are incorporated into the operations as the effort to boost economic development and social prosperity in Taiwan.

## United Nations Sustainable Development Goals (SDGs)







## Material Issues

- 1. Greenhouse gas emission management
- 2. Water usage and effluent discharge management
- 3. Controlled chemical substance management
- 4. Air pollutant management
- 5. Waste management

#### Short-, Medium- and Long-term Goals for Material Issues

#### Sustainable Commitment Besides laying equal Based on the statistics in The Company's total Continue to promote emphasis on industrial 2018, the Company's water consumption in water conservation, 2018 was 20,066,000 development and water consumption per energy conservation, environmental protection, carbon reduction, and unit product should tons, representing a waste reduction as well be reduced by 2%, decrease of 3.3% from the Company is moving energy consumption towards to creating as increasing rainwater the 20,745,000 tons in eco-industrial parks. storage and utilization per unit product should 2017 be reduced by 3%, the Compared with 2017, The best processes are Monitor and manage adopted to prevent the plants with higher amount of waste per the Company's air pollution, achieve clean standards, add air unit product should be pollutant emissions in production, energy pollution prevention reduced by 1%, and 2018 decreased by conservation, carbon equipment, and reduce the discharge of source 8.9% for SOx, 4.3% for reduction, and water pollutant emissions to effluent should be NOx, and 17.7% for conservation avoid environmental reduced by 5% **TSP** Promote clean violations ★ The 2019 Carbon The intensity of production, green ▶ Promote "circular Disclosure Project greenhouse gas emissions in 2018 buildings and purchasing economy" (CDP) Climate Change decreased by 10.1% green energy-saving raw Questionnaire maintains materials and supplies leadership score compared with 2017 In the 2018 Carbon in order to implement energy-saving and Disclosure Project (CDP), carbon-reduction green the climate change consumption policies questionnaire scored "Leadership Level (A-)" that are "recyclable, lowpollution, and resourceand the water security saving" questionnaire scored Develop green "Management Level (B)." raw materials and environmentally friendly products that are good for health

#### **CSR** Achievements at a Glance

- The Company's greenhouse gas emission intensity in 2018 decreased by 10.1% compared with 2017.
- Compared with 2017, the Company's air pollutant emissions in 2018 decreased by 8.9% for SOx, 4.3% for NOx, and 17.7% for TSP.
- The rainwater collection rate of the Company's Mailiao Industrial Complex in 2018 was 100% (up 25.2% from 2017).
- The Company's green procurement expenditure in 2018 reached NT\$71.54 million.

## 3.1 Commitment to Environmental Protection

The Company's safety, health and environmental (SHE) policy is based on the "Safety, Health and Environmental Policy" of Formosa Plastics Group. Besides pledging to protect the environment and maintain community safety, all employees are required to enrich their profession and treat safety and environmental protection as their priority. Everyone should lead by example and regard safety, health and environmental protection as their responsibility.

#### 3.1.1 Safety, Health and Environmental Policy

#### Safety, Health and Environmental Policy of Formosa Plastics Group

We are convinced that both environmental protection and industrial development are equally important. Ensuring the safety of products, employees, contractors, factories and communities is a corporate social responsibility and a part of the company's competitiveness.

We believe that all disasters and accidents, no matter how small, can be prevented. Through the values of the Company and utilizing the power of the organization and system, the level of work safety of each factory in the Company can reach acceptable standards. All supervisors must participate and understand the system properly, provide adequate training, require complete implementation and continuous improvement of the system to make sure the policy and object can be achieved.

All employees must constantly enrich their profession and take safety and environmental protection into consideration for any decision. They must have the fullest understanding of the system and thoroughly implement it. When resolving problems, they must inquiry into the root of the matter and make continuous improvements to keep up with the best industry practices.

Leading by example. It is everyone's responsibility to protect the safety of our colleagues, the community, and ourselves; maintain the natural environment and the Company's assets.

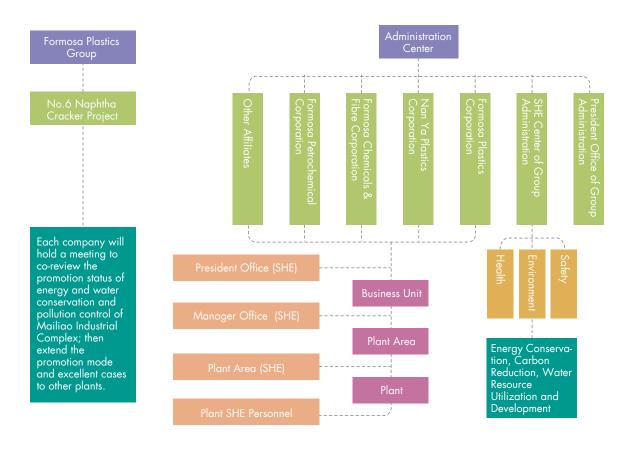
#### Environmental Operation Guidelines

Since its incorporation, the Company has laid equal emphasis on industrial development and environmental protection. With the two founders' philosophy of "diligence, perseverance, frugality and trustworthiness" and "inquire into the root of the matter," the Company aims at providing the best products with the least resources to improve Taiwan's economy and build a prosperous society. Over the years, while pursing economic growth, we have actively promoted pollution prevention and environmental protection.



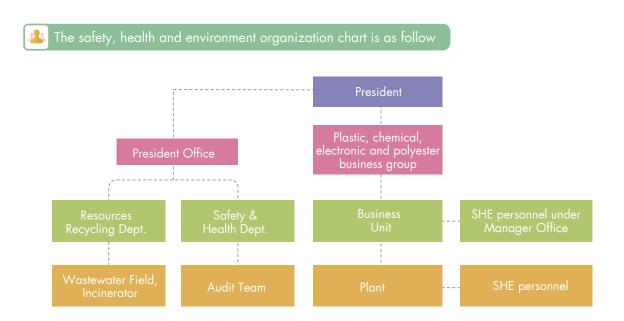
# 3.1.2 Energy Conservation, Carbon Reduction and Pollution Control Organization Chart

In response to the issues of water conservation and carbon reduction, FPG has strengthen the driving force and effectiveness of water and energy conservation related operations and established "Energy Conservation, Carbon Reduction and Pollution Control Organization" in 2006. FPG integrates and promotes the work of water and energy conservation and pollution prevention and improvement and has involved illumination conservation, environmental accounting, green procurement, office environmental protection, recycling and green buildings to expand the scope of environmental protection in 2008.



#### 3.1.3 Organization and Promotion of Safety, Health and Environment

The president office of the Company has set up "Safety & Health Department" and "Resource Recycling Department" to integrate the safety, health and environmental protection affairs; meanwhile, we established audit team to be in charge of plant area audit, tracking and improvement procedures. Each business unit and plant also deploys SHE personnel to supervise and coordinate various environmental protection business.



On the other hand, the promotion of SHE is based on three main directions-"Promotion of Standard Operation Procedure", "Introduction of Environmental Management System" and "Self-Audit", and we expect full staff participation and implementation of related regulations and SHE works.

Promotion of Standard Operation Procedure	Introduction of Environmental Management System	Self-Audit
Establish S.O.P  Create a culture of full participating industry safety	Operation requirements pass the certification of management system and obtain certificates  Review latest regulation requirements to make sure the related operations accordance with regulations  Accept certification authorities' annual audits, and improve any discover	Self-examination of each plant  External audit of SHE center and the Company's audit team 1. Thorough inquiries surveys 2. Selected audit 3. Mockup EPA audit



#### The certificates of environmental management system that the Company obtained are as follows

Name of Certificate	Unit/Product
ISO 14001: 2015 Environment Management System	Plant of Shulin, Linkou, Kung San, Jinxing, Mailiao, Haifeng, Hsinkang, Chiayi, Renwu and Linyuan.
ISO 50001 Energy Management System	Plant 2 of Shulin, CCL Plant 1 of Hsinkang, CCL Plant 3 of Hsinkang
Green Factory Label	CCL Plant of Shulin, CCL Plant 1 of Hsinkang, CCL Plant 3 of Hsinkang
Green Building Label	Film Plant 2 of Shulin (Silver), Plant 2 of Shulin, CCL Plant 1 of Hsinkang, CCL Plant 3 of Hsinkang
Responsible Business Alliance	Release Film Plant of Shulin
Carbon Footprint	EG, BPA, EPOXY, etc.
Water Footprint	The Company



ISO 14001: 2015 Environment Management System Certificate



ISO 50001 Energy Management System Certificate



Green Building Label



Responsible Business Alliance



Certificate of Green Factory Label

#### 3.1.4 Environmental Accounting

#### Environmental Accounting

The promotion of environmental accounting can record the financial information like investment, maintenance, development and fees of environmental equipment which could help the Company analyze and make business decision from the ankle of environment and improve the competitiveness. The Company took the lead in constructing the environmental accounting system in 2003 through the guidance of the Industrial Bureau and Chiao Tung University. The system was officially implemented in 2004.

#### Nan Ya Plastics 2018 Environmental Costs Details

Unit: NT\$ thousands

Unit: NT\$ 100 millions

Туре	ltem	2018
	Operating Costs	1,492,969
	Costs Associated with Suppliers and Customers	20,815
	Management Costs	46,146
Environmental	Research development Costs	1,520
Costs	Social Event Costs	23,952
	Loss and Remediation Costs	200
	Fees, Tax, Energy Tax, and others	53,610
	Total	1,639,212

Note 1: Source: Environmental Accounting Database of the Company

Note 2: The operating costs listed above include green procurement expenses, product recycling and reproduction expenses, and expenses derived from product services for environmental protection.

The total environmental expenditure in 2018 was NT\$1.639 billions. The estimated future investment in equipment improvement is about NT\$1.739 billion, concentrating on process equipment upgrade, efficiency improvement, material and energy reduction, environmental pollution reduction, and exhaust quality

ltem	2016	2017	2018
Turnover	1,548.64	1,734.02	1,889.09
Environmental Cost	15.60	16.05	16.39

improvement in order to achieve the Company's annual targets for pollution, energy, water, and greenhouse emission reduction.

#### Green Procurement

The Company purchases products that are made with recycled materials, products with recyclable, low-pollution, energy-saving and Type 2 Green Mark and products with that have the same efficacy that can increase social benefits and reduce social cost or similar products (such as energy-saving, water-saving, and Energy Star labels). According to statistics, the green procurement expenses of the Company and subsidiaries in Taiwan was NT\$ 71.54 million and NT\$ 1.27 million respectively in 2018.

### Unit: NT\$ thousands

# Since its founding, the Company has put equal emphasis on industrial development and environmental protection. In order to implement environmental protection and other related work, the Company adopts the BACT principles including the improvement of process and pollution prevention equipment, and cooperate with a complete environmental management system; every pollution emission is lower than legal standard. In 2018, the total pollution prevention expenses is around NT\$ 1.023 billion and the breakdown are as follows:

Prevention Expenses of Plant Pollution

	Omi. 1414 moosanas
Туре	2018
Air Pollution Prevention Costs	267,437
Water Pollution Prevention Costs	<i>7</i> 36,189
Soil and Groundwater Pollution Prevention Costs	14,828
Noise and Vibration Prevention Costs	14
Toxic Waste Prevention Costs	1,375
Other Pollution Prevention Costs	3,282
Total	1,023,125

# 3.2 Greenhouse Gas Emission Management





	Management Approach (Corresponding GRI Standard: 305 – Emissions)
Policy	The Company has established an ERP information management system for greenhouse gas emissions. Since 2005, it has followed the ISO 14064-1 standard to promote greenhouse gas emission inventory. Since 2009, the Company has commissioned a third-party agency for verification. In addition, the Company continues to promote process optimization, water and energy saving projects to achieve the goal of reducing and managing greenhouse gas emissions.
Responsibilities	The Resource Recycling Division of the President's Office is responsible for the promotion, and each plant has a dedicated staff for implementation.
Resources	<ol> <li>Establish an ERP information management system.</li> <li>Each plant has dedicated greenhouse gas management and inventory personnel that are professionally trained.</li> <li>The greenhouse gas emission is verified annually by the British Standards Institution (BSI) and the System &amp; Services Certification (SGS).</li> </ol>
Grievance Mechanism	<ol> <li>Each year, each plant can make proposals that are reviewed in the 2-phase on-site audit closing meeting.</li> <li>The improvement plan is proposed through the "management system feedback form."</li> </ol>
Specific Actions	<ol> <li>Since 2018, inventory and verification for scope 3 carbon and water footprint have been added.</li> <li>The Company applied for the "Carbon Emission Exchange Program" from the Environmental Protection Administration to demonstrate the determination and efforts to actively promote greenhouse gas reduction.</li> </ol>
Evaluation Method	<ol> <li>In addition to voluntary internal audits, third-party agencies are commissioned to verify the annual greenhouse gas emissions.</li> <li>Participate in external reduction evaluation to evaluate the reduction performance.</li> </ol>
Result	<ol> <li>The Company achieved 100% of the greenhouse gas inventory</li> <li>The Company scored "Leadership Level (A-)" for the Carbon Disclosure Project's (CDP)     "Climate Change Questionnaire"</li> <li>Kung San Plant won the "Excellent Award for Voluntary Industrial Greenhouse Gas Reduction     of 2018"</li> </ol>

# 3.2.1 Climate Change Risk Management

# (1) Climate Change Risk Management Strategy

	Management Strategy
Promote Low-carbon Manufacturing	Continue to adopt the best available control technology and process optimization to reduce energy consumption, as well as setting goals for energy consumption per unit product and greenhouse gas emission control
Promote Water and Energy Saving Projects	Continue to promote various water and energy-saving improvement projects, encourage all units to participate in internal and external appraisals and exchanges, give timely rewards, provide channels for learning excellent examples and strengthen motives for reduction
Regular Inventory and Verification	Establish an ERP information management system for greenhouse gas emissions. Third- party agencies are commissioned to conduct inventory verification each year to keep greenhouse gas emissions under control

# (2) Identification and Response to Climate Change Risks

Dimension	Risk Consideration	Response Measures	2018 Progress
	Greenhouse gas inventory and declaration	<ul> <li>Promote greenhouse gas data inventory</li> <li>Commission BSI and SGS for inventory verification</li> <li>Voluntarily participate in the CDP rating</li> </ul>	<ul> <li>The Company reached 100% of the greenhouse gas inventory</li> <li>Add Scope 3 audits</li> <li>Scored A- in CDP rating</li> </ul>
Laws and Regulations	Amendment to the Renewable Energy Development Act	<ul> <li>Short-term: apply for renewable energy certificates and pay the deposit</li> <li>Long-term: review and set up renewable energy power generation equipment</li> </ul>	-
	Extreme climate leads to reduced or disrupted production capacity	<ul> <li>Develop disaster response capabilities</li> </ul>	Set up an emergency response team to keep an eye on the local climate change information for the plant and improve disaster response capabilities.
Natural Disaster	Temperature changes lead to increased water and energy consumption during the production process	<ul> <li>Improve green building and clean production awareness of each plant</li> <li>Optimize energy management</li> <li>Continue to promote "circular economy"</li> </ul>	<ul> <li>The Copper Foil Substrate         Plant (3 plants in total)         passed the "Energy         Management System (ISO         50001) Standard"</li> <li>Publish water and energy-         saving cases to promote         circular economy</li> </ul>

Dimension	Risk Consideration	Response Measures	2018 Progress
Other Influences (Market Impact)	Increase the Company's cost and sales in response to market demand for low carbon products	<ul> <li>Continue to promote green procurement</li> <li>Continue to invest in the development of environmentally friendly product to respond to market demand</li> <li>Produce environmentally friendly products and obtain environmental protection labels</li> <li>Voluntarily participate in the CDP rating</li> </ul>	<ul> <li>The Company's 2018 green procurement expenditure reached NT\$71.54 million</li> <li>Complete carbon footprint inspection of EG, BPA, EPOXY, and other products</li> <li>For details regarding products with environmental label, please refer to 2.1.6 Product Safety and Health Responsibility</li> <li>Scored A- in CDP rating</li> </ul>

# 3.2.2 Energy Conservation Improvement Rewards and Performance

# (1) Improvement Award Method

Project Award

Project Award

Promote improvement project system and NT\$ 300 to 20,000 of proposal reward will be given accordingly.

Personal Innovation
Encouragement

Promote IE improvement proposal award system and NT\$ 300 to 20,000 of proposal reward will be given accordingly.

Excellent Improvement Cases Publish

Nominate excellent improvement cases to attend the corporation's annual evaluation. Hold the presentation of excellent environment protection, energy-saving and water-saving cases by turns

Excellent Environmental Protection
Vender evaluation

Attend the corporation environmental protection award, excellent energy-saving and water-saving evaluation held by government; encourage various plants to participate and reward them accordingly

# (2) Environmental Protection Performance and Awarded Results in recent year

### Award



- CCL Plant 1 of Hsingkang won the 23rd Environmental Protection Enterprise Award from the Environmental Protection Agency of the Executive Yuan.
- Textile Plant of Kung San won the Excellence Award from the Energy Bureau of the Ministry of Economic Affairs.



- CCL Plant 1 of Hsingkang won the Bronze Award of the 24th Environmental Protection Enterprise Award of the Environmental Protection Agency of the Executive Yuan.
- X Kung San Plant won the 2015 Excellent Award for Voluntary Industrial Greenhouse Gas Reduction.
- CCL Plant 3 of Hsingkang won the 2015 Excellent Award for Voluntary Industrial Greenhouse Gas Reduction.



- EG Plant of Mailiao won the 2016 Excellent Award for Voluntary Industrial Greenhouse Gas Reduction.
- Nan Chung Petrochemical Corp. won the 2016 Excellent Award for Voluntary Industrial Greenhouse Gas Reduction.
- X Kung San Plant won the 2016 Excellence Award for Energy Conservation and the award for 2016 Voluntary Reduction of Industrial Greenhouse Gases.



- EG Plant of Mailiao won the award for 2017 Voluntary Industrial Greenhouse Gas Reduction and Carbon Reduction Contribution Award.
- Both the Kung San Plant and Hsingkang Plant have won the 2017 Excellent Award for Voluntary Industrial Greenhouse Gas Reduction.
- TPFG Fiber Glass Corp. won the 2017 Excellent Award for Voluntary Industrial Greenhouse Gas Reduction.
- Kung San Plant won the Silver Award in Group B of the Energy Bureau Energy Conservation 2017 Award of the Ministry of Economic Affairs.



- X Kung San Plant won the 2018 Excellent Award for Voluntary Industrial Greenhouse Gas Reduction.
- PFG Fiber Glass Corp. won the 2018 Excellent Award for Voluntary Industrial Greenhouse Gas Reduction.

Cooperated with the government to conduct afforestation and reduce carbon exhaust

In 2011, the Company started to receive a 10-year afforestation and carbon reduction subsidy. As of 2018, the Company has received the flatland afforestation award in Yunlin County, with an application area of 1,094.97 hectares, and about 1.119 billion in subsidies have been provided to the afforestation applicants, contributing to the afforestation and carbon reduction.



Chairman of the Company, Wu Chia-chau, took the lead in responding to the Wilderness Protection Association's Earth Hour event

# 3.2.3 Greenhouse Gas Emission Volume

According to the "Greenhouse Gas Inventory Reduction Management Regulation" of the Company, the Company's 2018 internal audit of greenhouse gas volume was about 2.65 million metric tons of CO<sub>2e</sub> in Scope 1 and 3.58 million metric tons of  $CO_{2e}$  in Scope 2. For scope 3, is mainly based on periodically inventory and only list the audit checklists and emission source of each item. According the ISO 14064-1 specifications, it is not included in the emission volume. The company's annual greenhouse gas emission volume are as follows:

# (1) Greenhouse gas emission status:

Unit: tons of CO2e

Company/Item	Year	2014 (Benchmark)	2015	2016	2017	2018 (Note3)
	Scope 1 (Note1)	2,900,221	2,999,320	2,693,827	2,843,984	2,645,521
Na Ya Plastics	Scope 2 (Note2)	3,133,603	3,293,289	3,381,490	3,51 <i>7</i> ,981	3,581,805
	Total	6,033,824	6,292,609	6,075,317	6,361,965	6,227,326
	Scope 1	9,533	7,394	6,984	6,074	5,514
Nan Ya PCB	Scope 2	376,119	358,993	333,11 <i>7</i>	320,831	332,343
	Total	385,652	366,387	340,101	326,905	337,857
	Scope 1	146,099	156,526	153,346	121,069	86,650
Nan Chung Petrochemical	Scope 2	297,731	292,659	296,461	308,670	303,461
	Total	443,830	449,185	449,807	429,739	390,111
	Scope 1	89,105	83,942	88,539	75,445	<i>77</i> ,018
PFG Fiber Glass	Scope 2	160,431	186,476	184,843	181,543	185,157
	Total	249,536	270,418	273,382	256,988	262,175

Source: Formosa Plastics Corporation Database.

Note 1: Scope 1 refers to direct emissions of greenhouse gases.

Note 2: Scope 2 refers to indirect emissions of greenhouse gases.

Note 3: The 2018 emissions are still under certification. This data is the internal audit data.

Note 4: After 2016 (inclusive), the GWP announced in the IPCC Fourth Assessment Report (2007) is used as the basis for calculating the carbon dioxide equivalent of emissions according to the regulations of the Environmental Protection Administration.

Note 5: Regarding the emission factor, Scope 1 individual direct emission sources are calculated according to the "EPA Greenhouse Gas Emission Factor Management Table." Scope 2 indirect emissions are based on the Taipower Power Coefficient published by the Bureau of Energy, Ministry of Economic Affairs. After BSI or SGS verification, the figures become the power and steam coefficient of each Formosa Plastics Group plant.

# (2) Greenhouse gas emission intensity and reduction effect

The Company and its subsidiaries have large variety of products, therefore this report uses the greenhouse gas emissions of  $CO_{2e}$  of each company's turnover as the greenhouse gas emission intensity. It is also used for the analysis of the annual greenhouse gas reduction. According to the analysis result, the greenhouse gas emission intensity (tons  $CO_{2e}$ /turnover) in the past three years shows downward trend.

# Summary of the intensity of greenhouse gas emissions and reductions from 2014-2018

Company	ltem	2014 (Benchmark)	2015	2016	2017	2018 (In Audit)
	Greenhouse Gas Emissions (Kiloton $CO_{2e}$ )	6,033	6,293	6,075	6,362	6,227
Na Ya Plastics	Turnover (NT\$ 100 million)	1,922	1 <i>,7</i> 99	1,549	1,734	1,889
	Greenhouse Gas Emissions Intensity (Kiloton CO <sub>2e</sub> / NT\$ 100 million)	3.14	3.50	3.92	3.67	3.30
	Greenhouse Gas Emissions (Kiloton CO <sub>2e</sub> )	386	366	340	327	338
Nan Ya PCB	Turnover (NT\$ 100 million)	342	285	254	215	235
rian la l'es	Greenhouse Gas Emissions Intensity (Kiloton CO <sub>2e</sub> / NT\$ 100 million)	1.13	1.28	1.34	1.52	1.44
	Greenhouse Gas Emissions (Kiloton CO <sub>2e</sub> )	444	449	450	430	390
Nan Chung	Turnover (NT\$ 100 million)	100	80	76	80	85
Petrochemical	Greenhouse Gas Emissions Intensity (Kiloton CO <sub>2e</sub> / NT\$ 100 million)	4.44	5.61	5.92	5.38	4.59
	Greenhouse Gas Emissions (Kiloton CO <sub>2e</sub> )		_	273	257	262
PFG Fiber Glass	Turnover (NT\$ 100 million)	_	_	41	46	46
	Greenhouse Gas Emissions Intensity (Kiloton CO <sub>2e</sub> / NT\$ 100 million)	_	-	6.66	5.59	5.70

Note 1: Source: Formosa Plastics Corporation Database. The source of turnover is from individual Financial Statement.

Note 2: PFG Fiber Glass Corp. was included as the consolidated subsidiary of the Company at the end of 2016. Therefore, only the data for 2016-2018 was disclosed.

# 3.2.4 Energy Saving Performance

In recent years, the Company has continuously reviewed and strengthened the integration of resources across plants and companies and actively promoted circular economy. As a result, the overall energy efficiency has been greatly improved. In 2018, the Company and its subsidiaries in Taiwan completed a total of 560 energy-saving improvement projects with an investment of NT\$ 820 million and an annual benefit of NT\$ 650 million. It is expected to reduce greenhouse gas emissions ( $CO_{2e}$ ) by 276,000 tons/year. In addition, 397 energy-saving improvement projects are being promoted with an estimated investment of NT\$1.63 billion. This will furthers reduce greenhouse gas emissions ( $CO_{2e}$ ) by about 337,000 tons/year.

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# Energy-saving implementation status summary of the Company and its subsidiaries in Taiwan

Year Item	1999-201 <i>7</i> (A)	2018 (B)	In progress (C)	Total (D=A+B+C)
Improved Items	3,285	560	397	4,242
Steam Saved (Ton/Hour)	476.8	48.7	132.2	657.7
Electricity Saved (Megawatt/Hour)	66.5	5.4	6.0	77.9
Fuel Saved (Ton/Hour)	6.6	1.5	1.3	9.4
CO2e Reduction (10,000 Tons/Year)	169.2	27.6	33.7	230.5
Amount Invested (NT\$ 100 million)	45.2	8.2	16.3	69.7
Investment Benefit (NT\$100 million /Year)	45.2	6.5	7.7	59.4

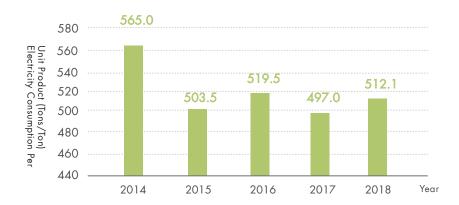
Source: Formosa Plastics Corporation Database.

Take Mailiao Industrial Complex as an example. According to statistics, the average steam consumption in 2018 was 490.2 tons/hour, the average electricity consumption was 193,441 degrees/hour, the steam consumption per unit product was 1.30 tons/ton, and the electricity consumption per unit product was 512.1 degrees / ton, showing a downward trend year by year, the trend of the two units of product usage are as follows:









# 3.3 Waste and Air Pollution Management

# 3.3.1 Waste Management





Mar	nagement Approach (Corresponding GRI Standard: 306 - Effluents and Waste)
Policy	Environmental impact is reduced from the start through source reduction and resource recovery. Further along the process, the legal operations are ensured through the 3-phase management.
Responsibilities	In order to promote waste management and reduction, management responsibilities are divided for various plants, manager's office, Safety and Health Division, and the President's Office.
Resources	<ol> <li>Each unit has a dedicated personnel responsible for the daily management and reduction. External coordination is the responsibility of the cleaning department and Safety and Health Division.</li> <li>For the prevention expenditure of 2018, please refer to 3.1.4.</li> </ol>
Grievance Mechanism	Refer to CH 1.3.2. (2) Communication with Stakeholders.
Specific Actions	<ol> <li>Each plant regularly reviews and draws up reduction projects according to the process characteristics.</li> <li>The safety, health and environment department will work with relevant units to review the implementation results and share good examples.</li> </ol>
Evaluation Method	<ol> <li>Internal audit: Each plant assigns dedicated personnel to conduct daily inspections. The control department performs audits and random inspections according to the annual plan.</li> <li>Commissioned testing: Inspection units are commissioned regularly according to the characteristics of the waste.</li> <li>Flow tracking: The commissioned removal and processing department is visited at least once a year.</li> </ol>
Result	<ol> <li>The Company's hazardous waste for 2018 amounted to 4,806.2 tons, and general waste amounted to 113,901.5 tons.</li> <li>The subsidiaries in Taiwan produced 10,319.2 tons of hazardous waste and 14,850.6 tons of general waste for 2018.</li> </ol>

# (1) Waste Management Procedures



# (2) Waste Treatment Statistics

In 2018, the Company produced a total of 118,707.7 tons of waste, with a 81% ratio for resource recovery, followed by 11% for landfills, and the rest was for incineration (the Company tends to bury waste, as incinerators generate dust). The categorizations for hazardous and general wastes are as follows:



Disposal status summary of the Company

Item	Hazardous Waste				General Waste	
Disposal Method	Landfill Incineration Recycling			Landfill	Incineration	Recycling
Handling Capacity (Ton)	0.0	0.0 42.9 4,763.3		13,425.2	9,304.1	91,172.2
Subtotal		4,806.2				
Total	118,707.7					



Disposal status summary of subsidiaries in Taiwan

Unit: Metric Tons

	Item	Hazardous Waste		General V		aste	
Disposal Method		Landfill	Incineration	Recycling	Landfill	Incineration	Recycling
	Nan Ya PCB	0.0	91.7	10,227.5	23.4	1,310.1	888.5
Company	Nan Chung	0.0	0.0	0.0	325.3	59.1	244.7
	PFG	0.0	0.0	0.0	83.9	199.4	11,716.2
Subtotal		10,319.2			14,850.6		
Total		25,169.8					



# 3.3.2 Controlled Chemical Substance Management



	Management Approach (Corresponding GRI Standard: - )
Policy	In order to comply with the statutory requirements, the controlled chemical substances operated by each plant, as well as the sites and facilities of operation must be approved by documents issued by the competent authority. Drills are also conducted in accordance with the hazard prevention and contingency plans.
Responsibilities	In order to comply with rules regarding controlled chemical substances, the roles are divided according to management responsibilities into operation plant, materials department, manager's office, the Safety and Health Division, and the President's Office.
Resources	<ol> <li>The operating unit is equipped with dedicated environmental protection personnel responsible for management, and the Safety and Health Division is responsible for external coordination.</li> <li>For the prevention expenditure of 2018, please refer to 3.1.4.</li> </ol>
Grievance Mechanism	Refer to CH 1.3.2. (2) Communication with Stakeholders.
Specific Actions	<ol> <li>Each plant regularly reviews and formulates reduction plans according to process characteristics.</li> <li>In conjunction with the EPA's "Regulations of New and Existing Chemical Substances Registration," registration codes have been obtained for existing chemical substances manufactured and imported by the Company.</li> </ol>
Evaluation Method	<ol> <li>Internal audit: Each plant assigns dedicated personnel to conduct daily inspections. The control department performs audits and random inspections according to the annual plan.</li> <li>Plant exchange meeting: The theme of the disaster will be formulated every month, and the exercise will be carried out by the plant in rotation and comments will be given.</li> <li>"Analysis of the use of toxic chemical substances in Mailiao Industrial Complex"</li> </ol>
Result	<ol> <li>There were no environmental penalties related to controlled chemical substance violations in 2018.</li> <li>All plants completed regular drills according to regulations.</li> </ol>

In order to understand the environmental problem caused by controlled chemical substances, the Company worked with the professional organization commissioned by Formosa Plastics Group to conduct "Analysis of the use of controlled chemical substances in Mailiao Industrial Complex". The analysis was conducted on 21 toxic chemical substances in category 1 to 3 used in 10 plants. The report was shared with the fire department of each plant as reference for the revision of emergency response and risk management plans.



# 3.3.3 Air Pollution Prevention





	Management Approach (Corresponding GRI Standard: 305-emissions)
Policy	In accordance with the principle of BACT and the method of "effective reduction of source pollution and optimization of control equipment," the Company continuously reviews and improves according to process characteristics. The Company implements regular equipment maintenance to ensure optimal performance, as well as conducting training to familiarize the staff with system operations.
Responsibilities	In order to make the emission comply with the control standards and implement the air pollution prevention management, the roles are divided according to management responsibilities into operation plant, materials department, manager's office, the Safety and Health Division, and the President's Office.
Resources	<ol> <li>Each unit is equipped with dedicated personnel responsible for operational management, and the Safety and Health Division is responsible for external coordination.</li> <li>For the prevention expenditure of 2018, please refer to 3.1.4.</li> </ol>
Grievance Mechanism	Refer to CH 1.3.2. (2) Communication with Stakeholders.
Specific Actions	<ol> <li>Regular review and reduction proposals are conducted by each planr.</li> <li>The safety, health and environment department will work with relevant units to review the implementation results and share good examples.</li> </ol>
Evaluation Method	<ol> <li>Internal audit: Each factory assigns dedicated personnel to conduct daily inspections. The control department performs audits and random inspections according to the annual plan.</li> <li>Commissioned testing: Inspection units are commissioned regularly according to the frequencies and items on the license.</li> </ol>
Result	<ol> <li>The Company's air pollution emissions in 2018 amounted to 4,707.6 tons, a decrease of 127.4 tons compared with 2017.</li> <li>Dioxin emission concentration from shared steam-electricity co-generation coal-fired units in the plants of Shulin, Linkou, Jinxing, and Chiayi (tested every 2 years) also meets emission standards (less than 1.0 ng-TEQ/Nm3).</li> <li>The white smoke improvement project is expected to be completed before 2019/12/E.</li> </ol>

# (1) Air Pollution Prevention System

The Company sets up prevention equipment according to the process exhaust characteristics to properly collect and treat the exhaust gas. Each discharge outlet is regularly commissioned for testing. The results are lower than the pollutant discharge standards stipulated by government regulations. In order to reduce the environmental impact caused by coal combustion, the utility plant uses low-nitrogen burners, electrostatic precipitators, flue gas desulfurization equipment (FGD), and selective catalytic reduction equipment (SCR) to effectively reduce the emission concentration of nitrogen oxides (NOx), sulfur oxides (SOx), and total suspended particulate(TSP). A closed coal bunker design (as shown below) is adopted to reduce TSP spread. In addition, wet EP has been evaluated and added in order to reduce the TSP removal efficiency since 2018.







Closed Coal Bunker

In order to address the doubts that the chimney emits white smoke as a pollutant, each plant has begun to promote the improvement projects since 2017. By adding an "MGGH" to heat the outgoing flue gas temperature, white smoke was eliminated (the before/after comparison as shown below). The improvement is expected to be completed by the end of December 2019.



Before Improvement



After Improvement

# (2) VOC Reduction and Odor Control

In order to prevent VOC from escaping and reduce to the petitions of the odor from local community, the Company actively promotes various VOC reduction operations. The examples include putting lids on aeration tanks where the wastewater treatment plant is prone to releasing VOC and odor. The treatment plant is also equipped with pipelines to collect exhaust gas to be sent to the processing facility. The company also follows Formosa Plastics Group to purchase 9 sets of GasFind IR infrared leak detectors used by the United States in military applications. The detectors are deployed in various factories to help identify and addressed the source of the leak.

# (3) Air Pollution Emission Statistics

# Annual air pollution emission volumes of the Company



# 2018 Air pollution emission volume of each plant in Nan Ya Plastics

Unit: Metric Tons

Plant/Item	Sulfur Oxides (SOx)	Nitrogen Oxide (NOx)	Volatile Organic Compounds (VOC)	Total Suspended Particles (TSP)
Shulin	120.2	247.4	315.4	8.9
Linkou	72.6	123.5	21.0	5.4
Kung San	4.7	140.8	25.9	9.2
Jinxing	195.1	272.7	18.8	32.0
Mailiao	98.0	405.9	273.8	20.0
Hsinkang	2.0	5.0	1,635.0	33.0
Chiayi	63.0	171.2	137.7	55.0
Renwu	2.2	2.5	137.2	6.0
Linyuan	0.0	0.0	46.5	0.0
Total	557.8	1,369.0	2,611.3	169.5

Source: Declared Data of Air pollution expense and emissions each Formosa Plastics Group's plant.

### 2018 Air pollution emission volume of subsidiaries in Taiwan

Unit: Metric Tons

Plant/Item	Sulfur Oxides (SOx)	Nitrogen Oxide (NOx)	Volatile Organic Compounds (VOC)	Total Suspended Particles (TSP)
Nan Ya PCB	0.0	0.0	46.2	0.7
Nan Chung	0.1	1.7	9.7	0.0
PFG	59.4	131.1	0.0	24.2
Total	59.5	132.8	55.9	24.9

Source: Declared Data of Air pollution expense and emissions from each Formosa Plastics Group's plant.

# 3.4 Water Resource Management

# 3.4.1 Water Consumption Statistics

The Company and its Taiwan subsidiaries have 9 major plants all over the country. The total water consumption in 2018 was 26,118 kilotons/year, which decreased by 67 kilotons compared with the 26,185 kilotons in 2017. The main sources of water for each plant are from river, reservoir, tap water, and groundwater, etc. To conserve water resources, the Company continued to promote various water-saving measures in all plants, including rainwater recovery and waste water recycling. Take Mailiao Industrial Complex as example, it recycled 581 kilotons of water in 2018 (taking up 4.7% of the plant's total water consumption). On the other hand, 261 kilotons of waste water were recycled, accounting for 3.22% of the Company's water consumption. According to the water recovery rate (R2) announced by the Ministry of Economic Affairs (plus the process water recovery, process circulation, and cooling water recovery), the water recovery rate of Mailiao Industrial Complex could reach 88.8%.

Company	Plant	Water Resource	2017 Water Consumption (kiloton/year)	2018 Water Consumption (kiloton/year)
	Shulin	Shimen Reservoir, Dahan River, Groundwater	1,962	1,996
	Linkou	Dahan River, Groundwater	1,459	1,408
	Kung San	Shimen Reservoir, Groundwater	1,826	1,508
	Jinxing	Taoyuan Irrigation	2,433	1,989
Nan Ya	Mailiao	Jiji Dam	10,368	10,638
	Hsinkang	Lantan Reservoir, Zengwen Reservoir, Chianan Irrigation, Groundwater	1,315	1,186
	Chiayi	Lantan Reservoir, Zengwen Reservoir, Chianan Irrigation,	1,344	1,301

Company	Plant	Water Resource	2017 Water Consumption (kiloton/year)	2018 Water Consumption (kiloton/year)
	Renwu	Fengshan Reservoir, Groundwater	31	35
Nan Ya	Linyuan	Fengshan Reservoir	7	5
	Subtotal		20,745	20,066
Nan Chung	Mailiao Jiji Dam		1,744	1,705
Nan Ya PCB	Jinxing	Taoyuan Irrigation	2,947	3,665
PFG	Hsinkang Lantan Reservoir, Zengwen Reservoir, Chianan Irrigation,		749	682
Total			26,185	26,118

Note: Above data are internal audit statistics, the water consumption volumes of each plant is in audit.

# 3.4.2 Effluent Discharge Management and Sewage Prevention





Man	agement Approach (Corresponding GRI Standard: 303 - Water, Effluents and Waste)
Policy	The Company follows the principle of waste reduction at the source and end-point control when it comes to water resources. Firstly, water consumption is reduced at the source to promote resource reuse and reduce the load on the treatment facilities. Finally, the effluent is treated by the wastewater treatment plant to ensure compliance with regulatory standards and minimize environmental impact.
Responsibilities	In order to make the effluent discharge meet the control standards, stable operations of the equipment, reduction and self-management are adopted. The main division of labor is as follows according to management duties:  1. Effluent generation and treatment department: Plant.  2. Control department: President's Office (including Safety and Health Division and the Recycling Division) and Manager's Office.
Resources	<ol> <li>Each unit is equipped with dedicated personnel responsible for operational management, and the Safety and Health Division is responsible for external coordination.</li> <li>For the prevention expenditure of 2018, please refer to 3.1.4.</li> </ol>
Grievance Mechanism	Refer to CH 1.3.2. (2) Communication with Stakeholders.
Specific Actions	<ol> <li>Regular reviews and reduction projects are drawn up by the water and energy saving team of each plant.</li> <li>The safety, health and environment department will work with relevant units to review the implementation results and share good examples.</li> </ol>
Evaluation Method	<ol> <li>Internal audit: Each plant assigns dedicated personnel to conduct daily inspections. The control department performs audits and random inspections according to the annual plan.</li> <li>Commissioned testing: Inspection units are commissioned regularly according to the frequencies stipulated by the "Water Pollution Control Measures and Test Reporting Management Regulations."</li> </ol>
Result	The Company released a total of 6,870,500 tons of water in 2018, a decrease of 265,700 tons compared with 2017.

# (1) Effluent Discharge Management Measures

Processing
Stage

The engineer and construction department and the safety, health and environment unit collect and assign treatment facilities (including physical, biological, and chemical treatment methods) according to the process effluent characteristics to reduce the impact on the discharged water body.

Dedicated processing departments and personnel are assigned to effectively manage effluent through regular education and water quality inspections to ensure compliance with regulatory standards prior to discharge.

The improvement plans are regularly evaluated and implemented by each plant based on the effluent quality and quantity.

# **Specifications for Effluent Testing**

Each plant regularly commissions sampling and testing every quarter, and the processing department conducts testing at least once a day. The results all meet the national control standards. Among them, the Shulin, Mailiao, Hsinkang, and Chiayi plants have automatic continuous monitoring system for water discharge (8 sets in total), which have real-time connections to the local competent authorities. The volume, temperature, pH value, and conductivity are monitored 24 hours (COD and SS are also measured for the Mailiao Industrial Complex).

# (2) Effluent Discharge Quantity

The Company's daily water discharge in 2018 was 18,823.4 tons/day. The Company's trend of discharge in the past three years, as well as the subsidiaries' discharge for 2018 are as follows:



Annual effluent quantity of the Company

Unit: Matric Tons/Day

Plant	Water Volume for the Discharge	2016	2017	2018
Shulin	Dahan River	2,267.5	2,044.8	2,069.6
Linkou	Tamsui River	3,237.3	3,778.0	3,179.7
Kung San	Industrial Zone	2,051.8	2,085.1	1,999.6
Jinxing	Nankan River	1,200.3	1,070.1	874.0
Mailiao	Taiwan Strait	7,548.9	8,179.4	8,452.8
Hsinkang	Niuchou River	1,516.8	1,379.9	1,188.4
Chiayi	Puzi River	729.5	946.8	984.0
Renwu	Houjin River	62.1	60.8	66.8
Linyuan	Industrial Zone	5.8	6.2	8.5
	Total		19,551.1	18,823.4

Source: Formosa Plastics Corporation Database.

Note: The volume of effluent in the Linkou plant includes the 2,694.8 tons/day that are entrusted to Nanya Technology for treatment.

# 2018 Effluent quantity of subsidiaries in Taiwan

Plant	Water Volume for the Discharge	2018 Effluent Volume (Tons/Day)
Nan YA PCB	Nankan River	7,159.9
PFG	Puzi River	1,186.0
	8,345.9	

Source: Formosa Plastics Corporation Database.

Note: The effluent of Nan Chung Petrochemical Corp. is entrusted to the Company's Mailiao wastewater treatment plant for treatment.

# 3.4.3 Water Saving Performance

The Company's plants mostly use ground (surface) water and tap water as water sources. Since water resource is limited, measures such as process water reduction, water saving management measures, and evaporation loss reduction are implemented for effective water use and reduction. In addition, effluent is recycled and reused. Rainwater collection is carried out in all plants through increasing collection areas and setting up storage tanks in order for rainwater to be effectively stored and reused.

The Company and its subsidiaries in Taiwan completed a total of 79 water-saving improvement projects in 2018 with an investment of NT\$66 million and an annual benefit of about NT\$8 million (the water-saving results are shown in the table below). Taking Mailiao Industrial Complex for example, the water consumption is reduced on a yearly basis. In 2018, the average water consumption was 32,227 tons/day, the water consumption per unit product was 3.55 tons/ton, the rainwater recovery rate was 50.4%, and the average amount of rainwater recovery was 1,592 tons/day. The water consumption and rainwater recovery per unit product for Mailiao Industrial Complex are shown in the chart below:

# (1) Water Consumption per Unit Product



Water Saving Implementation Status summary of the Company and its Subsidiaries in Taiwar

Year Item	1999~201 <i>7</i> (A)	2018 (B)	In Progress (C)	Total (D=A+B+C)
Improved Items	569	79	88	736
Water Saved (Tons/Day)	24,260	1,177	1,354	26,791
Amount Invested (NT\$ 100 million)	3.71	0.66	1.09	5.46
Improve Efficiency (NT\$ 100 million/Year)	1.56	0.08	0.06	1.70

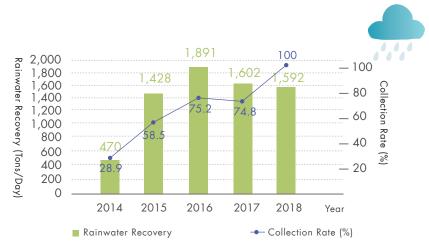
Source: Formosa Plastics Corporation Water and Energy Saving Case Database

# (1) Water Consumption per Unit Product

Annual water consumption trends per unit product of Mailiao Industrial Complex



Annual rainwater recycling and collection rat e trends per unit product of Mailiao Industrial Complex



Note 1: The amount of rainwater recovered = [amount of rainwater recovered from each plant in Mailiao]
/ [number of days in the month]

Note 2: Collection rate = [recovered rainwater] / [(monthly average rainfall mm/month from weather data) x (rainwater collection area of each plant) x 24hr]

# 3.4.4 Soil and Groundwater Management

In order to effectively manage the quality of soil and groundwater, groundwater monitoring operations have been carried out quarterly since the construction of the plant. To ensure the leakage incident can be kept under control as soon as possible, after consulting the Soil and Groundwater Remediation Process of the Industrial Bureau of the Ministry of Economic Affairs as well as US experts, the Company has set up "Soil and Groundwater Pollution Remediation and Inspection Management Plan" to manage known pollution and potential pollution.

# 3.5 Circular Economy Promotion

To fulfil corporate social responsibility and environmental protection, the four companies of Formosa Plastics Group have joined hands to integrate resources, set up energy conservation and carbon reduction promotion teams, and enhanced water and energy conservation to achieve effective use of resources. The goals are continuously reducing waste and recycling.

### Promotion Method

The Company adheres to the 3Rs of circular economy, and reviews the implementation based on the 4 dimensions of raw materials, water cycle, energy cycle, and resource recovery. With the 3Rs of circular economy in mind, the Company actively promotes:

- Raw material cycle integration: Reduce the use of raw materials and increase conversion rate.
- Water cycle integration: Reduce water use, water recycling, and wastewater recovery.
- Energy cycle integration: Reduce the use of steam and electricity, reuse energy.
- Waste cycle integration: Reduce waste production and reuse waste.

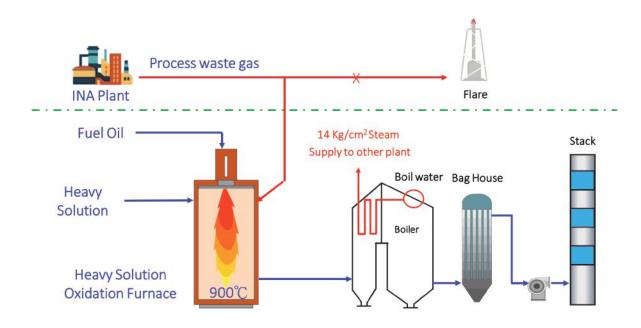


# Results Published

In order to encourage all units to strive to improve energy conservation, carbon reduction, and circular economy, the Company cooperated with domestic universities to hold a presentation on excellent examples of energy and water saving and environmental protection.

Time	Venue	Primary Results
201 <i>7</i> May 11th	Yunlin University of Science and Technology held a conference on "The implementation of circular economy of the FPG Mailiao Industrial Complex"	<ul> <li>The Company proposed "recycling of wastewater (cooling water, discharge water)." By setting up wastewater recycling facilities, 1,200 tons of daily wastewater are extracted, out of which 600-700 tons can be recovered at the recycling rate of 50%-58%. After treatment, wastewater can be used in the process to reduce industrial water use.</li> <li>In 2018, the Company continues to plan the process wastewater recycling facilities. 2,000 more tons of wastewater are planned to be extracted from the daily wastewater, out of which 1,400 tons can be recycled for the process. It is scheduled to be completed in June 2019.</li> </ul>
2018 May 18th	National Chung Cheng University in Chiayi hosted the "Presentation on the Selection of Energy- and Water-saving Units of FPG"	The Company's Copper Foil Plant 1 of Hsinkang's "Process Water Recycling" and the Mailiao Maleic Anhydride Plant's "Improved Cross-Plant Exhaust Gas Recycling" were awarded the third place and the Best Work Award, respectively.

# Examples of Circular Economy



# The maleic anhydride plant integrates the INA plant combustion tower process exhaust gas for recycling

The maleic anhydride plant uses the exhaust gas of the INA plant as auxiliary combustion fuel. As a result, the use of heavy liquid high-temperature oxidizer fuel is reduced from 953 kg/hour to 809 kg/hour, saving 144 kg/hour of fuel, achieving zero-emission of the combustion tower of INA plant and reducing air pollution.



May 11th, 2017 "The implementation of circular economy of the FPG Mailiao Industrial Complex



May 18th, 2018, "Presentation on the Selection of Energy- and Water-saving Units of FPG"

# 3.6 Environmental Violations

The Company and its subsidiaries in Taiwan did not experience any significant spills in 2018. However, 8 environmental protection tickets were received. After review, although no case directly resulted in environmental pollution, how the personnel executed operations needs to be improved. Besides raising awareness by turning the cases into educational materials, the Company now requires warning management for on-site assessment to be done on computer. The immediate goal is to reduce the number of environmental protection tickets to less than 50% compared to 2018, and to achieve zero-environmental protection violation as the long-term goal. The number of environmental protection fines in the past three years is as follows:

Туре	2016	2017	2018
Air Pollution	4 cases/ NT\$ 400,000	2 cases/ NT\$ 200,000	6 cases/ NT\$ 600,000
Water Pollution	0 case/ NT\$ 0	0 case/ NT\$ 0	1 case/ NT\$ 105,000
Waste Pollution	0 case/ NT\$ 0	0 case/ NT\$ 0	1 case/ NT\$ 6,000
Others	0 case/ NT\$ 0	1 case/ NT\$ 100,000	0 case/ NT\$ 0
Total	4 cases/ NT\$ 400,000	3 cases/ NT\$ 300,000	8 cases/ NT\$711,000







# Creating a Happy and Safe Workplace

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# **Chapter Summary**

Employees are the cornerstone of the Company's sustainable development. The Company's overall productivity and competitiveness are enhanced through the joint effort of all employees. In terms of recruiting and retaining talents, we abide by the laws and regulations to protect the employees' human rights. We also offer excellent remuneration packages as well as a sound management system, solid training, and open and impartial promotion channels, in order to absorb top talents. Furthermore, we treat the physical and mental health of the employees and work environment as our top priorities. We actively establish the culture of work safety, raise employee awareness, and strive to provide a safe and secure environment.

# United Nations Sustainable Development Goals (SDGs)



# **Material Issues**

- 1. Occupational health and safety
- 2. Industrial and public safety
- 3. Employee benefits and remuneration

# Short-, Medium-, and Long-term Goals for Material Issues

# Sustainable Commitment Regularly promote education and training of directors and employees, and clearly define the system of promotion, evaluation, training, rewards, and discipline for employees Protect employees' rights by providing comprehensive education and training, promotion system, and

a safe and healthy work

environment

# Medium and Long-term Goals (2020-2025)

- Organize interviews and seminars for new recruits and help employees in need so as to retain talents
- Continuously provide employees with complete education and training, smooth promotion channels, and create a safe and secure working environment
- "Zero occupational injury, zero disaster, zero pollution"

# Short-term Goals (2019 Goals)

- Organize interviews and seminars for new recruits and help employees in need so as to retain talents
- "Zero occupational injury, zero disaster, zero pollution"

# 2018 Progress

- The "Personnel
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   The "Personnel" Counselor" system has been implemented to conduct regular interviews with newlyrecruited management trainees since August 2014. Through caring, consulting and coaching, the Company helps them to learn and develop stably. In addition, the Company's website has set up a personnel counseling service network to provide a two-way communication platform for all employees that need help.
- No work incident resulted in death in 2018. The disabling injury frequency rate was 0.33, the disabling injury severity rate was 6, and the disabling injury index was 0.04. All occupational hazard indicators were lower than those of our peers.

# **CSR Achievements at a Glance**

- Employees of the Company and its Taiwan subsidiaries: more than 93% are full-time staff, with 93.5% of Taiwanese citizens.
- In 2018, the average monthly resignation rate for employees of the Company and its Taiwan subsidiaries was 0.13%.
- No work incident resulted in death in 2018 for the Company and its Taiwan subsidiaries. The disabling injury frequency rate was 0.33, the disabling injury severity rate was 6, and the disabling injury index was 0.04. All occupational hazard indicators were lower than those of our peers.

# 4.1 Human Rights Protection and Employment

In order to attract outstanding talents, the Company provides stable and excellent salary, as well as comprehensive education, training, and promotion systems. The employees' professional competence is continuously developed. To take full advantage of human resources, we implement sound welfare measures and create a safe and healthy working environment to take care of mental and physical health of each employee. We also established multiple communication channels for employee feedback and rights protection, so that the employees can be an important cornerstone to the Company's sustainable development.

# 4.1.1 Human rights policy

The Company strictly abides by labor and human rights regulations at home and abroad and has a human rights policy as follows:

### Human Rights Policy of Nan Ya Plastics Corporation

Nan Ya Plastics Corporation supports and follows the basic human rights principles, such as "The Universal Declaration of Human Rights"," International Cov-enant on Civil and Political Rights", "International Covenant on Economic Social and Cultural Rights", "The United Nations Global Compact", "Declaration of Fundamental Principles and Rights at Work" by International Labour Organization and the laws and regulations of the operating locations worldwide

Nan Ya Plastics Corporation has established a human rights policy to protect existing employees (including contractual and temporary staff). We also expect our suppliers and contractors to abide by the following principles to safeguard human rights:

- Comply with local labor and environmental regulations of operation locations to ensure
  that employees have reasonable working conditions and a safe and healthy working
  environment.
- We committed to creating an equal employment work environment, which also free from discrimination and harassment, and has no different treatment based on race, nationality, age, gender, marital status, political position, religious beliefs, etc.
- 3. No forced labor, no child labor.
- 4. Respect for the right to privacy and the freedom of employees to association
- Establish a smooth labor-management communication channel and provide a complaint
  mechanism. If there is a violation of human rights, the investigation procedure will be
  carried out immediately and remediation and improvement measures will be
  implemented.
- Regular review and assessment of relevant human rights systems and human rights measures.

# 4.1.2 Employment

The Company's recruitment process has always been fair, just, and impartial. The candidates are hired based on their qualifications while fully abiding by the provisions of Labor Law. Child labor has never been employed. Based on the human rights principle of equal employment opportunities, we only take personal professional competence and experience as considerations. The assessment, training, rewards and disciplines are all clearly defined and standardized, so that all employees enjoy fair treatment. There were no violations of human rights or discrimination in 2018.

# 2/3

Age and regional distribution of NPC's new recruits in 2018

Unit: Person

Туре	Division	Female	Male
	Under 29	116	655
	30~39	29	157
Age	40~49	1	1
	50~59	0	0
	Over 60	0	0
	Northern Taiwan	75	389
Region	Central Taiwan	0	55
	Southern Taiwan	71	369
	Total	146	813
Propor	tion of New Recruits	4.1%	5.7%

Note: The proportion of new recruits is the number of new recruits of the gender divided by the total number of people of the same gender.

# 4.1.3 Workforce Structure

In 2018, the Company and its Taiwan subsidiaries employed a total of 19,102 employees, of which 93.5% were Taiwanese citizens. 93% were full-time staff, 7% were contractors. 484 come from outsourced companies, including 289 males and 195 females, all of them are Taiwanese nationality. Based on the analysis of the formal composition of local employees, the ratio of men and women is about 4:1, the average age is 44.7 years, and the average years of service is 19.7 years, including 196 persons with disabilities, accounting for 1.0%.



# 212

# Workforce Structure of the Company and its Taiwan Subsidiaries in 2018

Unit: Person

		Fer	male	М	ale	Total
Туре	Division	Number of People	Proportion of the group	Number of People	Proportion of the group	
	Executive and above	2	0.1%	62	0.4%	64
Position	Primary & Secondary Supervisor	72	2.0%	2,116	14.9%	2,188
	Junior supervisors and personnel	3,459	97.9%	12,055	84.7%	15,514
	Northern Taiwan	2,593	73.4%	7,943	55.8%	10,536
Location	Central Taiwan	60	1.7%	1,465	10.3%	1,525
	Southern Taiwan	880	24.9%	4,825	33.9%	5,705
	Under 29	260	7.4%	1,535	10.8%	1,795
	30-39	897	25.4%	2,410	16.9%	3,307
Age	40-49	1,638	46.4%	5,517	38.8%	7,155
	50~59	648	18.3%	3,927	27.6%	4,575
	Over 60	90	2.5%	844	5.9%	934
	Less than 10 years	523	14.8%	3,279	23.0%	3,802
Length of	11~20 years	936	26.5%	2,782	19.6%	3,718
Service	21~30 years	1,587	44.9%	5,839	41.0%	7,426
	Over 30 years	487	13.8%	2,333	16.4%	2,820
	Ph.D.	0	0.0%	36	0.2%	36
Educati	Master's Degree	81	2.3%	694	4.9%	775
Education	College	118	3.3%	1,888	13.3%	2,006
	Others	3,334	94.4%	11,615	81.6%	14,949
C	Gender subtotal	3,533		14,233		17,766

Note: The workforce structure is based on the number of employee' statistics on December 31, 2018.

# 213

### Contractor Manpower Structure of the Company and its Taiwan Subsidiaries in 2018

Unit: Person

Job Title	Female	Male
Consultant	1	11
Contract workers	9	55
Foreign laborers	494	750
Interns	2	14
Gender subtotal	506 830	
Total	1,3	36

Note: This table is based on the number of contractors as of December 31, 2018.

# 4.1.4 Local Supervisor Ratio

In order to feedback to local communities, the Company and its Taiwan subsidiaries have prioritized local inhabitants for the recruitment. Moreover, the Company actively cultivates local residents to become senior supervisors. In addition, the supervisors at all levels are national employees. They were trained and cultivated internally by the Company to encourage the morale among employees. During the past three years, the proportion of supervisors who are local residents has maintained at more than 48%.

Ratio of supervisors who are local residents for the Company and its Taiwan subsidiaries over the past 3 years

Unit: Person, %

Year	2016	2017	2018
Number of Persons	2,450	2,550	2,607
Ratio (%)	56.6%	48.4%	68.7%

Note: 1. The supervisors on this chart refer to the staff in junior management and above with 5 years of service, with registered addresses in the same

2. Statistics for 2018 include the Company's information and those of its Taiwan subsidiaries.



# 4.2 Employee Rights and Benefits Material Issue





	Management Approach (Corresponding GRI Standard: 401 - Employment)
Policy	Employees are the cornerstone of the Company's sustainable development. The Company's overall productivity and competitiveness are enhanced through the joint effort of all employees. In terms of recruiting and retaining talents, we abide by the laws and regulations to protect the employees' human rights. We also offer excellent remuneration packages as well as a sound management system, solid training, and smooth promotion channels, in order to absorb top talents.
Responsibilities	Continuously improve the professional ability of employees, create a safe and healthy working environment, and take care of the physical and mental health of each employee.
Resources	Provide stable and excellent salary, comprehensive education and training, promotion and development system, as well as excellent welfare measures.
Grievance Mechanism	<ol> <li>Employees give feedback and engage in talks through participating in regular meetings held by the trade union (labor-management associations), Welfare Committee, and other organizations.</li> <li>Set up physical suggestion boxes, a virtual suggestion box in the company information system as well as the "799 hotline" at each plant.</li> </ol>
Specific Actions	<ul> <li>Action Plan 1: Talent Development and Cultivation</li> <li>Talent recruitment - recruitment policy, campus promotion.</li> <li>Training Program - Implement the "Personnel Counselor" system and training courses at different levels.</li> <li>Comprehensive remuneration, benefits and promotion - various allowances, raise, welfare measures superior to the law and promotion system.</li> <li>Action Plan 2: Diversity and Inclusion</li> <li>Diversified employment - female and male employees of the same position and grade have a basic salary ratio of 1:1, employment opportunities are given to persons with disabilities.</li> <li>Gender-friendly - friendly and equal environment with zero discrimination.</li> <li>Action Plan 3: Good Labor-Management Relationship</li> <li>Employment Profile - manpower structure, new recruits and turnover.</li> <li>Transparent grievance mechanism and counseling/interview strategies.</li> </ul>
Evaluation Method	<ul><li>Annual report</li><li>CSR report</li></ul>
Result	<ul> <li>Employees of the Company and its Taiwan subsidiaries: 93% are full-time staff, with 93.5% of Taiwanese citizens.</li> <li>The average monthly resignation rate of employees of the Company and its Taiwan subsidiaries in 2018 was 0.13%.</li> </ul>

# 4.2.1 Employee Remuneration

The Company's salary is above the local minimum wage. In order to attract and retain outstanding talents, the salary is also above the industry average. Salaries for new recruits are based on the qualifications required for the job. Female and male employees of the same position and rank receive equal pay for equal work. Employee performance is reviewed regularly in order for raise and promotion to be given accordingly.



# Proportion of salary for female and male employees

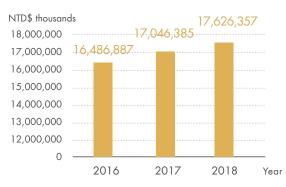
Proportion of salary for female and male employees of the same position and rank of the Company and its Taiwan subsidiaries

Position	Female	Male
Secondary supervisors (inclusive) and above	100	124
Junior supervisors (inclusive) and below	100	139

Note: In 2018, the salary of male employees is higher than that of females. The salary difference of the secondary supervisors (inclusive) and above is caused by the difference in seniority. The salary difference of the junior supervisors (inclusive) and below is due to the shift workers are mostly male, resulting in the shift allowance.



Salary and welfare expenses of the Company



Source: Historical financial statements of the Company



# Average and median salary

In 2018, the number of full-time employees who are not carrying out management duties as well as their average and median salary are as follows:

Year	2017	2018
Number of employees who are not carrying out management duties (person)	11,446	11,672
Average salary of employees who are not carrying out management duties (NT\$ thousands/ year)	1,336	1,343
Median salary of employees who are not carrying out management duties (NT\$ thousands/ year)	1,250	1,274

# 4.2.2 Good Job Security

The Company provides a safe and secure job career, establishes a human integration mechanism, and replaces staff dismissal with staff deployment. When the personnel deemed as unqualified for the job are coached, transferred, or dismissed, in addition to complying with the provisions of the Labor Law and related laws and regulations, the department heads will fully communicate with the parties and follow the prescribed procedures before the transfer or changes in duties.

The voluntary quitting rate of the Company and its Taiwan subsidiaries in 2018 was 0.13%. The absence rate was 0.20%. (The absence rate calculation takes sick leave, official leave, and work-related injury leave, of which male took up 0.20% and female 0.21%). Absence rate for outsourced employees was 1.10% (1.10% for male and 1.00% for female). This fully demonstrates the effectiveness of employee care and job security, as well as employees' trust and recognition of the Company.

1

Age and regional distribution for resigned employees of the Company and its Taiwan subsidiaries in 2018

Unit: Person

Туре	Division	Female	Male
	Under 29	24	110
	30-39	13	46
A ===	40-49	15	41
Age	50~59	14	136
	Over 60	6	115
	Retirement	7	104
	Northern Taiwan	50	320
Region	Central Taiwan	0	46
	Southern Taiwan	29	186
	Total	79	552
	Turnover Rate	2.2%	3.9%

Note: 1. The number of resignations in the above table includes retirees and employee who dismissals with severance pay.

# 4.2.3 Employee Benefits and Care

In order to let all permanent employees work with ease of mind and fully utilize his / her expertise, the Company continues to treat employees like family. During the construction of each factory, food, accommodation and leisure facilities have all been planned. Long-term welfare of the employees is also taken into consideration by actively planning various benefits systems.

The Company has implemented a number of employee benefits and preferential measures that are superior to statutory requirements, including:



<sup>2.</sup> The turnover rate is the number of people who has resigned of the gender, divided by the total number of people of the same gender.

In addition, in order to create a mother-friendly workplace, nursing rooms are set up in the factories in compliance with the law. Moreover, unpaid parental leave is also offered. Eligible staff members can also adjust work hours depending on childcare needs. In 2018, a total of 14 employees applied (9 women and 5 men) applied. The reinstatement rate was 88.9%.

# Parental leave application and reinstatement rate of the Company and its Taiwan subsidiaries

Unit: Person

		2016			2017			2018	
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Actual Number of Parental Leave Applications	6	6	12	9	5	14	9	5	14
Number of Employees Expected to be Reinstated during the Year (A)	7	2	9	10	8	18	10	8	18
Number of Applications for Reinstatement during the Year (B)	7	2	9	9	7	16	9	7	16
Reinstatement Rate % (B/A)	100	100	100	90	87.5	88.9	90	87.5	88.9
Retention Rate %	100	100	100	100	100	100	100	100	100

Note 1: Retention rate refers to the rate of reinstated employee staying for over 1 year after parental leave ends.

Note 2: Statistics for 2018 include the Company's information and those of its Taiwan subsidiaries.

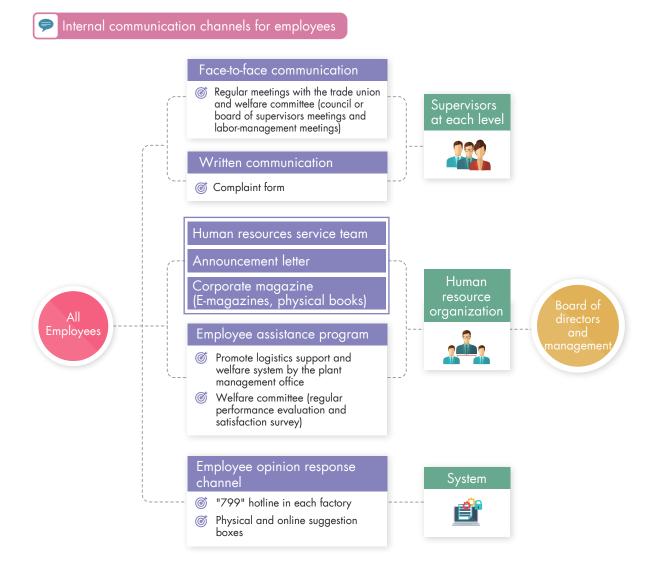


# 4.2.4 Valuing Employee Feedback

Employees drive the growth of the company. Therefore, the Company strives to pursue harmonious labor-management relations as well as attaching importance to employee feedback by providing diverse and smooth communication channels. The employees are also actively encouraged to propose innovative ideas. All employees are protected by the labor-management agreement and are free to join trade unions. Currently, 82% of the employees are members of the trade union.

At the same time, by joining organizations such as the trade union (labor union), welfare committee and so on, the employees can give recommendations and consultations through regular meetings. Department supervisors attend regular council or board of supervisors meetings and labor-management meetings held by the trade union to communicate with the labor representatives. In addition, on the major labor issues, priority is given to the opinions of the trade union. The senior executives will negotiate with the trade union to reach a consensus, in order to ensure the harmonious relationship between labor and management for the sustainable development of the Company.

In addition, employees can also give feedback about benefits through the proposal of the welfare committee. In the meantime, we also set up suggestion boxes in places where employees often pass by as well as an online suggestion box. The employees can also raise grievances by dialing the "799" hotline in each factory. Designated personnel will then file the case and reply.



# 4.3 Talent Training

The Company has developed a complete personnel training system. Through the online training management system, the training can be completed step by step. The current training system includes preemployment training, basic job training, professional job training, as well as personnel reserves program for trainee managers in order to train all-round employees.



Continuously

improve the manpower

quality

program

# 4.3.1 Staff Training and Assessment

In 2018, the average number of training hours per employee was about 60 hours. The average number of training hours for the primary supervisors was 16 hours, for secondary supervisors was 35 hours, for junior supervisors was 66 hours, and for junior personnel was 65 hours. The main courses and results are as follows:

- Obtain job-related professional licenses: depending on the operations and safety needs of each unit.
- Courses such as "Basic Training for Real Time Production Management System" "Statistical Quality Control and Experimental Design," and "Training for Visual Inspection Technique": enhance the professional and managerial skills for employees at work and in life.
- Announce laws and regulations such as the Occupational Safety and Health Act, Labor Standards Act, Sexual Harassment Prevention Act and Act of Gender Equality in Employment, as well as raising awareness through "10-minute On-site Training," "Communication Sessions" and "Formal Training": help employees become more aware of human rights and work safety.

# Training status for all employees in the past three years

Unit: hour

Rank Year	Primary supervisor	Secondary supervisor	Junior Level Supervisors	Junior staff
2016	12,029	37,422	144,997	409,958
201 <i>7</i>	12,866	37,703	170,062	555,819
2018	13,985	45,516	216,500	741,168

Note: Statistics for 2018 include the Company's information and those of its Taiwan subsidiaries.

ltem Year	Basic job training	Professional job training	Annual training program
2016	100	99.5	100
2017	100	99.6	100
2018	100	99.9	100

Note: 1. The completion rate refers to the ratio of the assigned training programs that were completed in the same year.

2. Statistics for 2018 include the Company's information and those of its Taiwan subsidiaries.

Training completion rate in all stages for the past three years

In addition, in order to improve the quality of work and cultivate a serious and responsible work attitude, the regular work assessment is specified in the "Performance Review Procedures". All employees are reviewed every 1~3 months depending on their duties. Regular work assessments motivate employees to pursue growth and create a challenging work environment.

The evaluated officer	Regular work evaluation process				
Junior staff	Direct assessment by the supervisor	Those who perform well are informed and encouraged accordingly. Those who perform poorly are warned, assisted, and guided.			
Others	The evaluated officer submits a report about the progress on the annual target and KPIs.	The direct supervisor reviews and communicates with the evaluated officer.			

# 4.3.2 E-learning Knowledge Management System

In order to provide employees with diversified channels for self-learning, an e-learning system has been built with the following channels:

- "Employee Learning Website": Provide various online courses, articles, new books, talks, and other learning resources to facilitate flexible learning among employees.
- "E-Learning Newsletter": Published every month to remind employees to take courses online, obtain the latest learning information, and to expand their knowledge.
- "Knowledge Base Management System": All kinds of in-house systems, knowledge and technical experience of each unit that are inspiring or valuable as reference are available on the shared platform to facilitate employee sharing and inquiries.



## 4.3.3 Security Personnel Training

All security personnel of the Company must receive comprehensive professional training courses, including:

- 👌 Industrial safety: firefighting, first aid, safety and health
- 💧 Security personnel work regulations, entry and exit management rules and relevant regulations
- 👌 Basic knowledge about laws and regulations: criminal law, civil law, etc.
- Physical training, fire truck driving training

At the same time, regular tests of rules and physical fitness tests are conducted every month to ensure excellent professional standards and physical fitness. In addition, on-site examples and case studies are shared, including emergency response, telephone etiquette, and duty etiquette to avoid overstepping service codes or human rights violations.

## 4.4 Workplace Safety





Management Approach (Corresponding GRI Standard 403 - Occupational Health and Safety)				
Policy	Reduce the frequency of occupational disasters and ensure employees' health.			
Responsibilities	Occupational Safety & Health Committee			
Resources	<ul> <li>The President's Office, Business Division, and plants are all equipped with dedicated personnel for the work safety, who are responsible for the safety and health management as well as audits.</li> <li>Each plant's management office is equipped with medical staff, who are responsible for workplace health promotion activities.</li> </ul>			
Grievance Mechanism	<ul> <li>Bi-annual PSM exchange and seminars are held. The results of process risk management are presented each year.</li> <li>Coordination meetings with contractors are held regularly, and toolbox meetings are held on a daily basis.</li> </ul>			
Specific Actions	<ul> <li>Promote process safety management to strengthen work safety and lower risks for occupational incidents.</li> <li>Implementing contractor construction safety management, supervisor system, and contractor transportation safety assessment system.</li> </ul>			
Evaluation Method	<ul> <li>Obtain external certifications such as ISO certification and health workplace certification.</li> <li>Continuous monitoring of labor safety data and working hours.</li> </ul>			
Result	<ul> <li>Each plant has obtained certifications of the OHSAS 18001 Occupational Safety and Health Management System and the Taiwan Occupational Safety and Health Management System (TOSHMS).</li> <li>No work incident resulted in death in 2018. The disabling injury frequency rate was 0.33, the disabling injury severity rate was 6, and the disabling injury index was 0.04. All occupational hazard indicators were lower than those of our peers.</li> </ul>			

All personnel are required to participate in the security, health, and environmental management through review, audit, communication, education, and training. Appropriate measures are adopted to correct all abnormalities. Security, health, and environmental requirements are also strengthened in the procurement and contracting systems. The goal is creating a sustainable environment with zero work injury, zero hazards, and zero pollution.

The Company attaches great importance to employee feedback and prioritizes safety and employee care. All safety and health management proposals can be made by filling out the feedback form or attending regular seminars so that management could make immediate improvements accordingly. Moreover, a medical staff has been set up in all plants to provide professional medical guidance and consultation.

In recent years, we have also collaborated with government agencies to promote high-risk operation safety meetings and high-level executive seminars in the Mailiao Plant. High-risk hazards such as fire, explosion, and confined space are discussed in these meetings in order to improve related procedures. In addition, technicians from abroad are invited by the Company to conduct professional factory inspections. Different opinions and feedback are collected to improve the safety of various equipment and facilities. As a result, equipment facilities and management measures are more refined. Our goal is staying on par with the international community in terms of creating a safe workplace.

## 4.4.1 Workplace Safety Management

In order to ensure the safety of the workplace, the Company has established a clear occupational safety and health organization. Each plant has set up an Occupational Safety and Health Committee according to the laws and regulations, and obtained the certifications of OHSAS 18001 Occupational Safety and Health Management System (TOSHMS).

In addition, in order to improve the knowledge and technology of various professional fields, the Company has contacted various professional teams at home and abroad, for example, regular seminars and observation tour with labor inspection agencies; commissioned TÜV Rheinland and Lloyd's Register to conduct comprehensive inspection, verification, and recommendation; and inviting IHS from the US to guide the Company's process hazard analysis (PHA), so that the Company's safety and health operations, risk assessment and fire management can be in line with international standards, and can support each other with government agencies. All resources are used to maximize the benefits.

Number of committee members: 181

Occupational Safety Committee

Labor representatives: 70 people

Labor representatives account for 39%, which is superior to the regulations

Meetings are held quarterly. Topics discussed in 2018 are as follows:

- Review of the location of road bumps in the plant
- Discussion on the content of occupational disease prevention evaluation form
- Review of the implementation of the plant safety and health training program
- Traffic safety promotion proposal
- Research on occupational disaster investigation report
- Automated inspection and safety and health audits







Taiwan Occupational Safety and Health Management System (TOSHMS) Certificate

#### **Occupational Disaster Indicators**

The Company and its Taiwan subsidiaries did not experience any occupational incident that resulted in death in 2018. Various occupational disaster indicators, including 0.33 for disabling injury frequency rate, 6 for disabling injury severity rate and 0.04 for disabling injury index, they were all lower than that of the peers (plastic manufacturing). There were 12 injuries that led to disabilities, including 4 incidents each of "being trapped and hit by the equipment", 2 incidents of "contact with hazardous substances", and 1 incident each of "contact with high temperature" and "fall".

	The Company and its Taiwan subsidiaries			Plastic products manufacturing and processing		
Year	Disabling injury frequency rate	Disabling injury severity rate	Disabling injury index	Disabling injury frequency rate	Disabling injury severity rate	Disabling injury index
2016	0.24	23	0.07	1.90	237	0.67
2017	0.28	7	0.04	1.87	293	0.74
2018	0.33	6	0.04	1.46	185	0.52

- (1) Disabling injury frequency rate (DIFR) = number of disabling injury  $\times 10^6 \div$  total manhours worked
- (2) Disabling injury severity rate (DISR) = number of injured days off work  $\times 10^6 \div$  total manhours worked
- (3) Disabling injury index =  $(DIFR \times DISR \div 1000)^{-1/2}$

	Male			Female		
Year	Disabling injury frequency rate	Disabling injury severity rate	Disabling injury index	Disabling injury frequency rate	Disabling injury severity rate	Disabling injury index
Taipei	0	0	0	0	0	0
Shulin	0	0	0	0	0	0
Linkou	0.43	4	0.04	1.98	9	0.13
Kung San	0.71	5	0.05	0	0	0
Jinxing	0.17	1	0.01	0	0	0
Mailiao	1.29	29	0.19	0	0	0
Chiayi	0.35	1	0.01	0	0	0
Hsinkang	0.22	7	0.03	0	0	0
Renwu	0	0	0	0	0	0
Details	11 male employees were involved in occupational accidents, of which 4 cases were getting trapped by the equipment, 3 were getting crashed, 2 were hazardous substances contact, 1 were high temperature contact and 1 were falling.			1 female emplo accidents by ge	yee was involved tting crashed.	in occupational

## 4.4.2 Process Safety Management

14 PSM operations are promoted in accordance with the corporate regulations. A total of 149 PSM personnel (86 in Taiwan, 56 in China, and 7 in Vietnam) at different levels have been put in place to promote and control PSM management operations in different departments, as well as ensuring the quality of PSM operations. The details of the operation are as follows:

Per month	<ul> <li>Conducting monthly audits based on the PSM14 key items to ensure that all plants meet the corporate requirements in following the standard procedures and work practices.</li> <li>Safety management KPIs are reported monthly to effectively control process safety management risks (Taiwan only).</li> </ul>
Per 6 months	"PSM operation exchanges and personnel seminar" is held to improve the quality of PSM operations in all departments.
Per year	Presenting process risk management results to improve overall process risk analysis level and assessment level of work.

#### A.Process Hazards Analysis (PHA)

In order to understand and control the risks of plant operations, aside from conducting reviews of process and personnel's PHA operations, suggestions are also made for improvement and progress control.

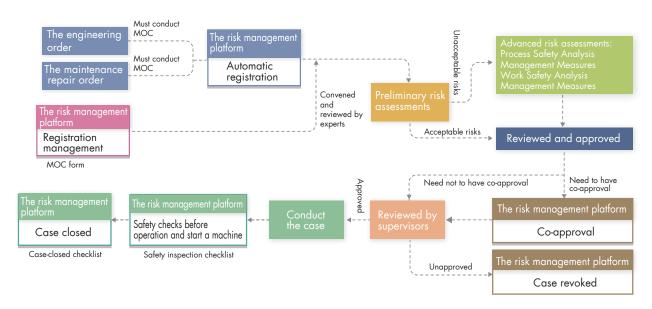
In terms of improving the quality of process hazard analysis, the Company has commissioned IHS to conduct training and certification for PHA facilitators. A total of 26 people have been certified in 2018 (18 in Taiwan, 8 in mainland China) to perform PHA monthly in order to comprehensively guide and promote the PHA operation of each plant. The goal is to identify the potential hazards in the workplace and effectively control process risks.

Plant	Internal auditor	Progress
Taiwan	Executed by PHA facilitators and	The quality inspection of 32 plants (offices) has been completed throughout the year.
Mainland China	completed through cross-auditing.	The quality inspection of 65 plants (offices) has been completed throughout the year.

#### B. Management of Change (MOC)

In order to ensure changes in all designs, equipment, raw materials or operating conditions do not have a negative impact on the process, a change management controller has been set up in each department to be in charge of change management procedures in accordance with corporate regulations.

# MOC process flow chart



In addition, the designated personnel of the Safety and Health Department and the MOC personnel of the business division perform monthly on-site checks to confirm the integrity of the hazard analysis.

Plant	Internal auditor	Progress	
Taiwan	Executed by PAM personnel in	The quality inspection of 71 plants (offices) has been completed throughout the year.	
Mainland China	each department and completed through cross-auditing.	The quality inspection of 85 plants (offices) has been completed throughout the year.	

#### C. Job Safety Analysis (JSA)

In order to ensure that the safety analysis procedures are followed, organizational and systematic analysis techniques are applied to assess various potential hazard risks for the personnel and operations. Appropriate precautions are then taken to ensure safety. The safety and health personnel perform monthly on-site checks to confirm the integrity of the work safety analysis.

#### D. Standard Operating Procedure (SOP)

In order to ensure the implementation and full participation of the SOP, each unit regularly hold the SOP review revision seminar, SOP amendment and training, SOP case presentation and survey, SOP audit, plant inspection, and KPI review. The safety and health personnel and department supervisors team up to perform monthly on-site checks to ensure the integrity of the implementation.

## 4.4.3 Disaster Prevention Training

#### A. Fire Management Operations

In order to strengthen the emergency response and firefighting and disaster relief capabilities of various plants, in the event of a major fire, the accident site can immediately notify the plants nearby for equipment and manpower support. In addition to sending for external training, the self-defense firefighting personnel set up at each plant also participate in emergency response drills which held every six months to enhance their ability to respond to disasters.



Self-defense fire brigade



#### Self-defense fire brigade in Mailiao Industrial Complex

424 people and 1,999 trainees organized from FPC, NPC, FCFC and FPCC

Self-defense fire brigade in other plants

530 people



#### Training

Cooperate with the FPCC fire brigade to conduct live-fire training in Mailiao Industrial Complex

#### Trainings

Send personnel to the Nantou Zhushan Training Center and the Hsinchu Minghu Training Base to receive fire-fighting training.





Live-fire training (Trainees are wearing protective equipment)



Live-fire training (Indoor fire fighting training)

#### **B.** Disaster Prevention Plan

In order to strengthen disaster relief and response capabilities, the plants participate in the joint drills conducted by the authorities in addition to the regular on-site drills. The drills simulate the rescue procedures and task assignment, so that the disaster response unit can understand the hazards and potential risks of each process. The drills include poisonous material accidents and complex disaster accidents in the plant. With the air quality worsening, this year the Company also collaborates with local environmental protection bureaus to conduct air pollution emergency response drills.

In 2018, the Company participated in 2 joint training and collaborative support sessions. The simulation drills enhanced the employees' emergency response and their ability to assist in disaster relief. Good practices of other units are also referenced as a self-improvement goal:

Drill Date	Plant	Drill Theme and Name
November 15th	Mailiao	2018 Safety promotion association joint drill
December 14th	Shulin	2018 Overall drill of toxic and concerned chemical substances' mutual aid groups of New Taipei City







Decontamination personnel putting on protective clothing

## 4.4.4 Transportation safety outside the plant

In order to ensure the safety of transportation operations and reduce the risk of operation, the Company follows the various systems and operating standards set by Formosa Plastics Group. These include the "Transport Safety Management Measures" and "Emergency Response Management Measures", which are implemented through evaluation, education, training and rescue drills.

Management Measures	Details	2018 Progress	
Evaluation	The Company's transportation contractor must first pass the evaluation of the "Safety Quality Assessment System (SQAS)" and obtain a certificate of conformity (every three years)	A total of 18 contractors were evaluated	
	Qualified contractors are required to receive annual assessments in accordance with the assessment level. (Grade A once every two years, grade B once every year)		
Education and training programs	Safety review meetings with all plants are regularly held.  Meetings with contractors are held from time to time to review and analyze traffic accidents.	At least once a month	
Rescue drills	Each plant regularly holds disaster prevention training and participates in joint drills held by the competent authorities from time to time.	According to the disaster prevention plan outlined in Chapter 4.4.3(B)	

## 4.4.5 Employee Healthcare

The Company systematically and continuously promotes health measures to provide a healthy and safe work environment and a good training program for employees. The employees know that there are clear goals for them to utilize their capacity and participate actively. The Company's regulations of health promotion measures are as follows:

Corporate management regulations	Health promotion category
	Health Management
	Dietary hygiene
Health management approach	Prevention and treatment of infectious disease
	Best people for the job
	Specific work hazard prevention
Englished welfers management management	Leisure activities
Employee welfare management measures	Leisure facilities
Personnel management rules	Zero violence in the workplace
Plant access/exit rules	Tobacco hazard prevention
Management performance review principles	Public welfare activities (blood donation, volunteer days, tree planting)
Sexual harassment prevention measures, grievances and disciplinary measures in the workplace	Gender equality
Safety observation and interview measures	Humanistic management
Work safety rewards and disciplines measures	Incentives for units and employees with excellent performance

#### A. Promoting a healthy diet

In order to promote healthy eating, we publish information on dietary nutrition every month. With the assistance of nutritionists from Chang Gung Memorial Hospital, we have improved the cooking methods, condiment usage, food selection and menu. The ratio of fried good is less than 6%. We inspected 4,000 dishes in the staff restaurant every month, and the number of fried dishes was all below 240 in 2018.

#### B. Continuously promoting employee health management

In addition to implementing the health checks stipulated in the Act, the Company has added additional inspection items such as high-density lipoprotein cholesterol, alpha-fetoprotein, cancer embryo antigen, oral mucosa and other metabolic syndrome screening, and cancer screening in order to take care of employees' health. For employees that are in the environment with high temperature, noise, free radiation, lead, tetrachloroethane, dimethylformamide, n-hexane, benzene, TDI compounds, arsenic and its compounds, dust, or chromium, etc., special health checks and health grading management are implemented. In 2018, no abnormality was detected in special health check results. In addition, in order to comply with the regulations, the Company implemented maternal protection, the prevention of musculoskeletal diseases triggered by repetitive work, etc., the prevention of illegal infringement while on duty, and the prevention of diseases triggered by abnormal workload.

Occupational disease prevention project	Details	
Maternal protection	During pregnancy till one year after child birth, female employees are protected from maternal health hazards through hazard assessment and control, physician counseling guidance, graded-risk management, and adaptive job arrangement.	
Prevention of musculoskeletal diseases triggered by repetitive work	Preventing musculoskeletal diseases caused by poor posture, excessive exertion, repetitive movements, etc. by adopting relevant human factors engineering improvement measures.	
Prevention of illegal infringement while on duty	Preventing employees from being threatened or attacked in the work-related environment by adopting measures such as hazard identification and assessment, adaptive job arrangement, hazard prevention and communication skills training to ensure zero violence in the workplace.	
Preventing diseases triggered by abnormal workload	Preventing brain and cardiovascular diseases caused by irregular working hours, long working hours, frequent business trips and shifts, etc. Health advice, working hour adjustment, and job content change will be given to the employees for better health management.	

In addition, the plant has medical staff to provide personal health guidance and consultation. The employees can enjoy health management measures such as weight management, tobacco hazard prevention, health presentations, preventive healthcare and injury treatment. Moreover, medical and health services provided by Chang Gung Memorial Hospital have been integrated to further raise employees' health awareness. On-site doctors study the work environment, employees' work habits and safety protection operations to provide suggestions for improvement and related medical consultation services.



Chang Gung Biotechnology assists in performing health tests



Chang Gung Biotechnology assists in guiding stretching activities

#### C. Sharing the experience of creating a healthy workplace

In order to share the results of the healthy work environment and obtain suggestions from experts and scholars, the Company actively participates in healthy workplace activities organized by the competent authorities. In 2018, Linkou and Kung San plants won the "Health Promotion Label."











# The Pursuit of Co-Prosperity and a Better Homeland

5.1	Local Participation	122
5 2	Social Contribution	141

## **Chapter Summary**

In addition to constantly strengthen the strength of its own operations, the Company has followed the two founders' vision of "what is taken from the society is used interests of the society." This is achieved by promoting environmental protection, community outreach, and social welfare in order to realize the goals of "perpetual business operation," and "dedication to the society." As an example, we strive to contribute to neighborhood development by improving the environment, caring for the residents' health, and promoting local industries. We have also increased communication and interaction with the residents through traditional culture activities, charity service, and caring for disadvantaged groups. In addition, we engage in charitable activities along with FPG to fulfill our responsibilities as corporate citizen.

## **United Nations Sustainable Development Goals (SDGs)**



**Material Issues** 

Community Engagement and Social Welfare

## Short-, Medium-, and Long-term Goals for Material Issues

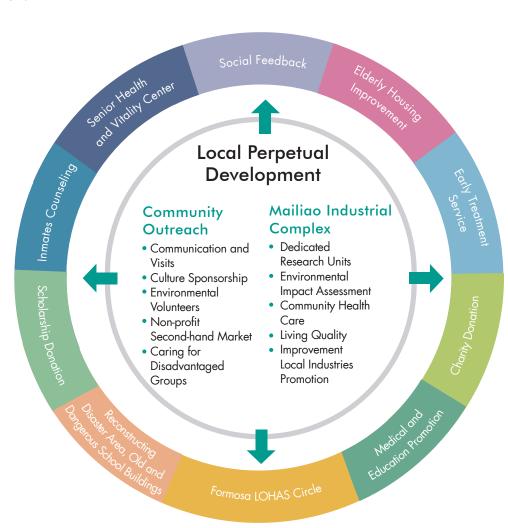
Sustainable Commitment	Medium and Long-term Goals (2020-2025)	Short-term Goals (2019 Goals)	2018 Progress
Pay attention to various social issues and actively participate in social welfare undertakings in order to show the society that we care  Maximize benefits and efficiency in public welfare with the spirit of "to aim at the sovereign good"	Continue to promote various charity and social welfare activities Expand the scale of traditional art promotion	<ul> <li>Continue to organize a voluntary cleaning team. Schedule one day per week to clean the roads around the factory to maintain cleanliness in the community before work</li> <li>★ Actively promote corporate volunteers to care for the disadvantaged</li> <li>★ In June and September, community outreach activities have been scheduled to bring Apple Theater and Ming Hwa Yuan Arts and Culture Group to Wenhua Elementary School in Guishan District of Taoyuan City and the Taishan District Comprehensive Gymnasium in New Taipei City to promote traditional art.</li> </ul>	In the 2018, a total of 47 sessions of environmental protection volunteer activities were held with 1,556 participants.  Each plant organized a corporate volunteer team to assist disadvantaged groups (orphanage, nursing home). 41 sessions were held in 2018 with 1,238 participants.  In 2018, the community outreach activity (Apple Theatre performance)" was hosted by plant of Jinxing on May 5th with a participation around 4,000 people. On July 14th, it was hosted by plant of Shulin with about 1,000 participants.

#### **CSR Achievements at a Glance**

- Amount invested in social welfare: a total of NT\$55.42 billion
- More than 4,969,300 fish fry were released. (2008-2018)
- Welfare for the physically and mentally challenged: 22 early treatment centers as well as a pioneering online exchange platform were set up.
- Sports promotion: invested NT\$240 million to support athletes.
- Elderly Welfare: donated 1.16 million doses of pneumococcal vaccines. (2007-2018)
- Women and children's welfare: invested more than NT\$0.09 billion in scholarship for low income student.

The Company has long played the role of a corporate citizen that fulfills its corporate social responsibility by investing in the community. We hope to create a vision of co-prosperity and a better homeland through the influence of FPG.

Besides planning occasional visits, traditional culture promotion, charity service, and caring for disadvantaged groups, the management team of each plant encourages the employees to volunteer for local activities such as cleaning and non-profit second-hand market in order to strengthen communication and interaction with the local community. In the meantime, the Company gives back to the society along with the plans of FPG. Take environmental protection of Mailiao Industrial Complex for example, besides setting up dedicated research units to conduct environmental monitoring and impact assessment, FPG provides free health care and environmental knowledge promotion for the residents.



# 5.1 Local Participation Material Issue





	Management Approach (Corresponding GRI Standard 413 - Local Communities)
Policy	We strive to contribute to neighborhood development by improving the environment, caring for the residents' health, and promoting local industries. We have also increased communication and interaction with the residents through traditional culture activities, charity service, and caring for disadvantaged groups. In addition, we engage in charitable activities along with FPG to fulfill our responsibilities as corporate citizen.
Responsibilities	Management Office of each plant.
Resources	<ol> <li>Encourages the employees to volunteer for local activities such as cleaning and non-profit second-hand market in order to strengthen communication and interaction with the local community.</li> <li>FPG established the "Evaluation and Advisory Committee on Mailiao Industrial Complex's Impact on Air Quality" and the "Evaluation and Advisory Committee on the Impact of Effluent of Mailiao Industrial Complex on Marine Biology" for environmental assessment and recommendations.</li> <li>FPG commissioned National Cheng Kung University to carry out a "Health Risk Assessment of Certain Hazardous Air Pollutants" in the neighboring areas of Mailiao Industrial Complex.</li> </ol>
Grievance Mechanism	Please refer to CH 1.3.2.(2) Communication with Stakeholders
Specific Actions	<ol> <li>Neighborhood outreach: All district management departments set up neighborhood outreach and volunteer teams. Members are sent for visits from time to time as well as organizing neighborhood events such as traditional cultural promotion, charitable services, and caring for disadvantaged groups.</li> <li>Sustainable local development: Take Mailiao Industrial Complex for example, FPG set up a dedicated research unit to conduct local environmental monitoring and impact assessment, as well as providing local residents with free healthcare and promoting environmental knowledge.</li> <li>Social feedback: Promote medical care and education through establishing seven foundations and charitable trusts. Various public welfare projects are executed with the principle of being "comprehensive, holistic and systematic" in nature</li> </ol>
Evaluation Method	Corporate Social Responsibility Report
Result	<ol> <li>In 2018, 47 environmental volunteering sessions were held and the number of participants reached 1,556.</li> <li>In 2018, a total of 41 charity service events were held with 1,238 participants.</li> <li>In 2018, the community outreach activity (Apple Theatre performance) was hosted by plant of Jinxing on May 5th with a participation around 4,000 people. On July 14th, it was hosted by plant of Shulin with about 1,000 participants.</li> </ol>

## 5.1.1 Community Outreach

The management team of each plant sets up neighborhood outreach and volunteer teams for building mutual trust with the local residents through visits. Meanwhile, we contribute to the community and our planet through caring for the elderly, the youth, and other disadvantaged groups, assisting the local social welfare organization in organizing festive activities or non-profit second hand market, and encouraging employees to work as environmental protection volunteers. Through promoting various activities, we spread love and hope to our society and strengthen the relationship between the plants and local community.





All plants follow the planning of the local management team to promote community outreach. In the case of the plants in northern Taiwan, the actual community outreach work conducted in 2018 is as follows:

Item	Collaborative Unit	Promotion Method	2018 Progress
Visits	Local office     Local resident	Strengthening communication through occasional visits     The local residents are invited for plant activities to enhance the relationship	1. The plants have maintained great relationships with the local communities. There has been no complaints or feedback 2. Signed a memorandum of disaster prevention cooperation with the district office, carry out pre-disaster evacuation, and post-disaster material transportation, allow volunteers to provide logistics support services during disaster to improve the disaster prevention network in the region and establish a disaster prevention partnership
Traditional Culture Promotion	Apple Theater (Plant of Shulin and Jinxing)	Sponsoring theater companies to perform at the plants	<ul> <li>Plant of Shulin: 1,000 people in the audience</li> <li>Plant of Jinxing: 4,000 people in the audience</li> </ul>
Community outreach	Township office     Village office     Community     development     association	Actively participate in activities held by township offices, village offices, and community development associations in order to strengthen relationships	The amount of sponsorship is NT\$3,028,012
Environmental Volunteer	Employees and their families of each plant	The employees and their families are invited to do environmental protection volunteer work in order to keep the plants as well as the surrounding areas clean	The plant holds monthly environmental protection volunteering activities. There were 47 sessions and 1,556 volunteers in total
Charity Service	1. Charity Service Club of Welfare Committee 2. Labor union 3. Local public welfare group	<ol> <li>Regular visits to orphanages and nursing homes are conducted. Goods are collected and donated to social welfare institutions</li> <li>Second-hand markets were held in conjunction with the Charity Service Club of the Welfare Committee and local public welfare groups. All proceeds were donated</li> <li>Disadvantaged groups were assisted in applying for emergency relief assistance from the FPG's "Qingbao Charitable Trust"</li> </ol>	1. A total of 41 charity service activities were organized with 1,238 participants, and the total amount of donation was NT\$1,564,618  2. NT\$635,000 of "Qingbao Charitable Trust's" emergency relief assistance were in application



Apple Theater interacts with the audience



Sponsored the installation cost of gas stove timer for the elderly living alone



Participate in the lantern festival activities hosted by the district office



Assist disadvantaged groups in applying for emergency assistance



Cooperate with local public welfare agencies for charity sales



Volunteers assist elderly people who live alone in organizing their homes



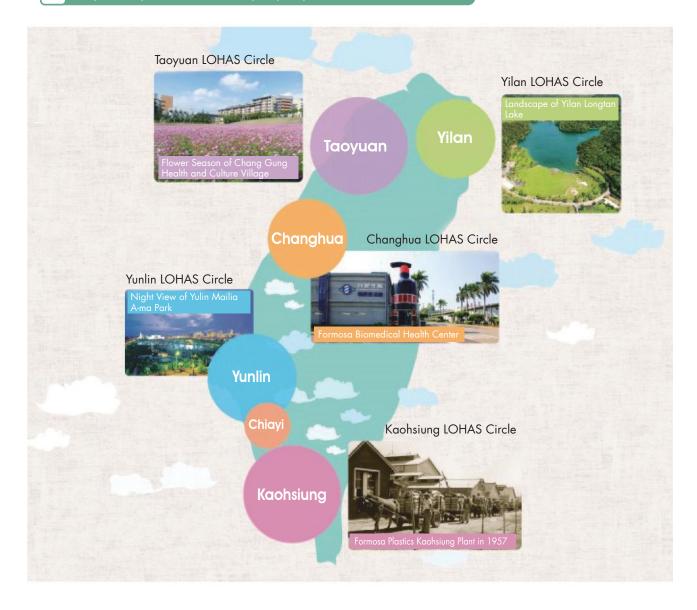
Employees volunteer to clean up the environment around the community



Send moon cake gift boxes to the social welfare agencies



#### Do your duty, achieve local co-prosperity - "Formosa LOHAS circle"



With the concept of "Circle", FPG hopes to integrate local resources around the plant, such as the communities, small farmers, businesses, and local governments. Forming a co-prosperity circle that promotes local economic development, local tourism, to create local prosperity and common good to bring more positive energy to the Taiwanese society.

"Formosa LOHAS Circle" started from Taoyuan and expanded to Yilan, Yunlin, and other areas in 2018. It organizes large-scale running events, promotes environmental education and parent-child interactive activities in the hopes of helping people see the beauty of local communities and contributing to local development. At present, there are five LOHAS circles located in Taoyuan, Yilan, Yunlin, Kaohsiung, and Changhua, all of which have developed different types of short trips. For details, please refer to the official website of "Formosa LOHAS Circle": (http://www .formosalohas.com.tw/index.htm).

#### The main progress in 2018 is as follows:

Region	Event	Total Participants
Taoyuan	<ul> <li>"Formosa LOHAS Cup - Taoyuan Health Road Run": Invite small farmers and merchants in Taoyuan to jointly boost local prosperity and promote the beauty of Taoyuan to the rest of Taiwan.</li> <li>"Family Dumpling-Making Event" and "Hand-cleansing Mousse DIY": Combine the concepts of festivals and health education to enhance knowledge about culture and health education through parent-child interaction.</li> </ul>	2,767
Yilan	<ul> <li>"Formosa Lohas Cup - Yilan Ecological Road Run": Combine the rich ecological and cultural resources of the Longtan Lake area with small local farmers, allow participants to know more about the local environment and culture.</li> <li>"Yilan LOHAS Environmental Education Promotion Campaign": Cooperate with local professional environmental education institutions, Jiaoxi Longtan Community, and surrounding primary and secondary schools to promote community travel, Longtan Lake eco-tourism, and local education activities at school.</li> </ul>	4,400
Kaohsiung	<ul> <li>"FPC Kaohsiung Factory Industrial Site Time Travel": A guided tour of the Kaohsiung Plant where FPC was founded. Invite people in the neighborhood to return to the era where industries in Kaohsiung started taking off to understand the founding story of the FPC.</li> </ul>	60



Mayor Wen-Tsan Cheng of Taoyuan City and managers of the Company participated in the Formosa LOHAS Cup - Taoyuan Health Road Run



Acting County Magistrate Chin-Te Chen of Yilan County, President of the Company Ming-Ren Tsou, and the managers of the Company fired the starting pistol for the Formosa LOHAS Cup - Yilan Ecological Road Run



The parent-child hand-cleansing mousse DIY event promotes the correct concept of washing hands



## 5.1.2 Perpetual Development of Mailao Area

The Company has long promoted various environmental protection management tasks. Preserving the local environmental quality is seen as an important goal and social responsibility. Before the establishment or expansion of a factory, stringent environmental assessments are conducted to measure water, air, and community impacts. The development plans are all carried out according to the EIA commitments. Meanwhile, we cooperate with the Yunlin County Government's "Environmentally-Friendly Project" to engage in environmental protection, health care, and industrial promotion. Our goal is promoting local development through finding the reasons and solutions to the problems and allowing Sixth Naphtha Cracking Plant to achieve co-prosperity with the local community. We want to fulfill our social responsibility while achieving sustainable economic development.

#### 1. Dedicated Research Unit Set-Up

As Mailiao Industrial Complex's impact on air quality causes public concern, the FPG has set up special research units for air quality and marine ecology assessments to understand whether the quality of factory effluent affects marine ecology. Through rigorous scientific research, we hope to correctly analyze this issue and continuously engage in environmental and ecological protection around the Mailiao Industrial Complex according to the findings and recommendations:

Committee Name	Evaluation and Advisory Committee on Mailiao Industrial Complex Impact on Air Quality	Marine Ecological Impact Assessment and Advisory Committee
Time of Establishment	2011	2010
Results	<ul> <li>The research found that the air quality in the towns near the plant was better than in other cities in western Taiwan, indicating that the plant had limited impact on the local air quality.</li> <li>Chiayi, Lunbei and other inland areas have suffered from severely polluted air for a long period of time. After analyzing the data, it shows that the impact on the west coast of the Mailiao Industrial Complex is minimal.</li> <li>The government research results further confirmed that lowering the industrial base load has a negligible impact on the reduction of PM2.5. Instead, the government is urged to face the impact of open burning, vehicle and restaurant emissions, etc.</li> </ul>	<ul> <li>The committee helps FPG to integrate plans of monitoring water quality and ecology, fishery resources, fishery economic activities, biological toxicity of effluent and beach drift.</li> <li>The committee assists FPG effectively uses scientific arguments to further clarify the impact of the Mailiao Industrial Complex's effluent on the nearby waters.</li> <li>The survey result determined that the Mailiao Industrial Complex had no detectable effects on the water quality, ecology, fish culture period, fishery resources, and beach drift in the nearby water.</li> </ul>

#### 2. Environmental Impact Assessment

#### (1) Air Quality

#### A. Network for Close Monitoring

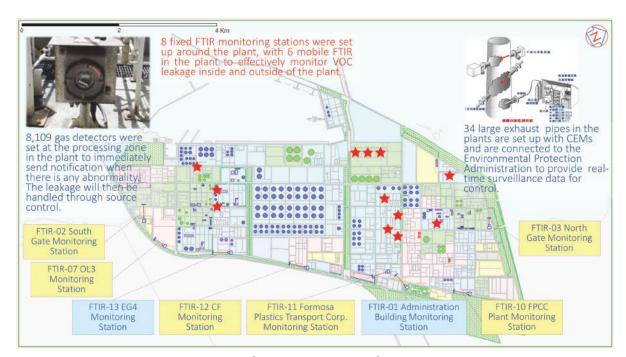
To immediately take various environmental indicators under control, we built a sound environmental monitoring network. Taking the prevailing wind direction in Mailiao into consideration. Through 8 layers of intensive monitoring and control operations, we could track the emission sources as soon as possible to ensure the local air quality.





Location map of the Sixth Naphtha Cracking Plant's eight-layer environment monitoring network

Location of automatic odor sampling station



Plant monitoring equipment location

#### (2) Water Issues

According to the monthly "Jiji Dam Industrial and Public Water Supply Report" of the Industrial Development Bureau of , Ministry of Economic Affairs, the annual water supply of Jiji Dam in in the past three years (2016-2018) ranges from 307,946 to 572,887 megatons. The average of industrial water consumption accounted for 2.2% of the total water supply, and the water transferred from agricultural water usage only accounted for 1.7% during the past 3 years. Water consumption is shown in the table below.

#### Water Supply Statistics from Jiji Dam for 2016-2018

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Unit: Megaton

	Jiji Dam Inflow	Agricultural Irrigation		Indus	strial	
Year	(A)	Average Water Consumption (B)	Average Water Consumption (C)	Percentage of the Water Source Proportion (C)/(A)	Transfer of Agricultural Water (D)	Proportion of Total Agricultural Water Consumption (D)/(B)
2016	510,257	227,234	9,976	2.0%	3,31 <i>7</i>	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 during the Past 3 Years	463,697	198,616	10,123	2.2%	3,421	1.7%

Although the water consumption of Mailiao Industrial Complex does not affect other industries and farmers, FPG has made additional efforts to preserve the precious water resource by improving process, equipment efficiency, operating conditions, and water reuse. In addition, the recycling of waste water and recovery of rainwater have also been promoted.

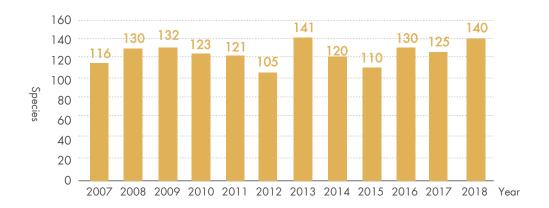
#### (3) Ecological Impact

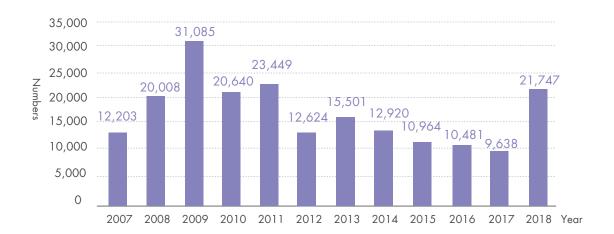
#### A. Land Ecological Survey

To better understand the extent of Mailiao Industrial Complex's ecological and environmental impacts on nearby areas, professional agencies have been commissioned to investigate bird species, mammals, amphibians, reptiles, butterflies, and plants since 2007. The species composition, population dynamics, and quantitative changes are then analyzed to understand the current status in order to assess the degree of impact on the local environment after the Sixth Naphtha Cracking Plant starts operating. According to the annual survey results, the number of plant species is stable, and the number of animals changes predictably with season. Mailiao Industrial Complex's establishment brings no significant change in this area.

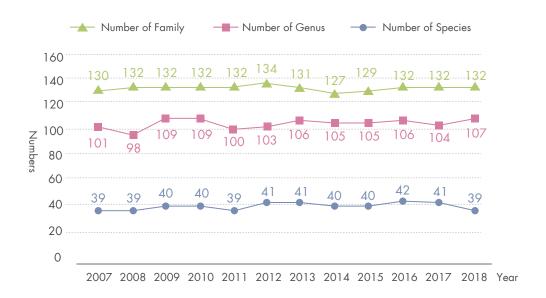


Statistics on Animal Species in the Vicinity of Mailiao Industrial Complex from 2007 to 2018





## Change in the Number of Plant Species from 2008 to 2018



#### B. Marine Ecology

Mailiao Industrial Complex's average daily wastewater discharge in 2018 is 80,977 tons, which is significantly lower than the 187,638 tons of EPA quantification. FPG strictly controls the wastewater treatment sites so that all wastewater is processed to meet the standards before discharge. In addition to automatically monitoring the temperature, conductivity, and pH, water samples are also collected at regular intervals. The monitoring results over the years are consistent with the discharge standards.

#### C. Indo-Pacific Humpback Dolphin Research

To better understand the Indo-Pacific Humpback Dolphin's natural habitat, FPG has commissioned professional agencies to implement the research project since 2008. So far, 256 trips to the sea have been conducted. 286 schools of a total of 1,421 Indo-Pacific Humpback Dolphins were spotted.

According to historical data, 6 schools were observed close to the wastewater outlet of Mailiao Industrial Complex. The distance was merely 500 meters. Two other schools were observed in the north of the wastewater discharge outlet close to estuary of Zhuoshui River. This shows that Mailiao Industrial Complex's discharge has not affected the dolphins or their behavior.



#### 3. Healthcare for Mailiao Residents

#### (1) Health Risk Assessment

Since 2009, National Cheng Kung University has been commissioned to conduct Health Risk Assessment for Certain Hazardous Air Pollutants. As of 2018, health risk assessments for 64 specific hazardous air pollutants have been completed. The scope of assessment covers an area of 30km×30km in the Six Naphtha Cracker; includes Mailiao, Taixi, Dongshi, Lunbei, Baozhong, Tuku, Sihu, and Changhua Dacheng. The simulated results of carcinogenic risk  $5.07 \times 10^{-7}$ , and the maximum carcinogenic risk was  $6.38 \times 10^{6}$ . The figures are between 1 in a million ( $10^{6}$ ) to 1 in 10,000 (10<sup>4</sup>). The maximum total non-carcinogenic risk value is less than one, which is an acceptable risk for human health.



#### (2) Healthcare

In order to care for the health of local residents, Yunlin Chang Gung Memorial Hospital was set up in December 2009 to provide local residents with comprehensive medical services. Moreover, Chang Gung's medical education resources were combined to promote health and health education in the hopes of making Mailiao the model of a healthy community.



## A Beautiful New World

Vision of Health Communities along Yunlin Coast

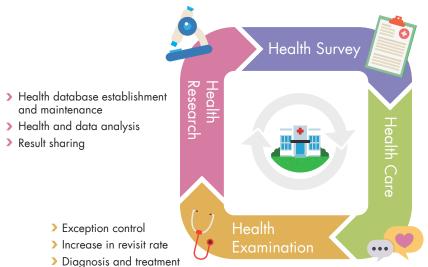




Health Promotion Plans for Pregnant Women, Children, Teenagers, Adults, and Seniors

- Increasing the balance diet ration
- Increasing the stress handling ration
- Reducing the obesity ratio
- Increasing the regular exercise ratio
- Reducing the tabaco/ alcohol/betel nut ratio
- Increasing the quality of life

Health



- Residents' health trends
- Health issues of resident and social concerns
- Care promotion measures
- Improvement in medical quality
- Improvement in residents'
- Public-private group cooperation

#### A. Medical Quality Improvement of Mailiao Area

> Annual follow-up

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, and 14,704 emergency patients. 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.

#### B. Free Health Checkups for the Residents of Mailiao Area

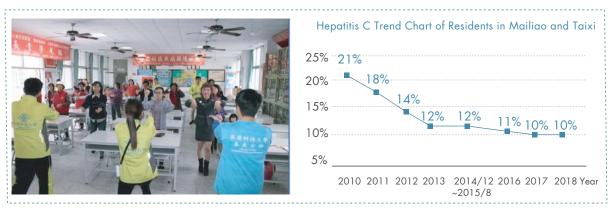
For FPG's Mailiao Industrial Complex to provide the most practical and considerate medical assistance and healthcare, the Yunlin Chang Gung Memorial Hospital has been entrusted to provide free health examinations for residents living in Mailiao and Taixi Townships since 2010. In 2018, a total of 10,090 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 can be discovered and cured in their early stages before getting worse.



Health examinations for residents living in Mailiao and Taixi Townships has been provided since 2010 to 2018. A total of 74,466 residents received health examinations. Over 50 percent of residents of the population of the two townships have participated the health examinations and they value and affirm this activity.

#### C. Health Promotion

FPG's Mailiao Industrial Complex has co-promoted residents' health with Chang Gung University of Science and Technology and Chang Gung Memorial Hospital since 2010. In 2018, we held community health education activities with 10,590 participants; assisted 454 hepatitis C patients received medical care and arranged tobacco hazards prevention courses with 1,372 junior high school students participated. Local residents expand their participation and improve their bad habits through practical actions and the data of health examination showed that the residents' health continued to improve.



In 2018, we held community health education activities with 10,590 participants to promote health behavior and actively improve heath.

#### 4. Living Quality Improvement

#### (1) Traffic Improvement

Since the construction of the Mailiao Industrial Complex in 1997, traffic monitoring was carried out on the main roads of the factory area every quarter according to the environmental review of EPA. The development unit actively arranged for the staff and contractors to start working and getting off work at different hours, offering shuttle bus service, asking the staff and contractors to use the dump car lane and Yunlin Expressway No. 1, as well as cooperating with police officers to direct traffic at important intersections. In addition, to ensure the safety of school children, volunteers are asked to guide them across the road before school hours.

#### (2) Noise Management

To manage noise in the vicinity of Mailiao Industrial Complex, qualified inspection agencies are regularly appointed to conduct monitoring operations near the north bank, south bank, Mailiao dormitory, Xiebin Bridge, the Qiaotou Elementary School, Xucou Campus (former site), Fengan Elementary School, Qiaotou and Haifeng. The monitoring results showed that there were occasionally higher value caused by human activities such as night markets, temple fairs, school bells, as well as natural sources like frogs. Otherwise, the level of noise meets regulatory standards. It is clear that the operation of Mailiao Industrial Complex has not created significant noise.



Location Map of Noise Monitoring Establishment in the Vicinity of Mailiao Industrial Complex

#### (3) Air Quality

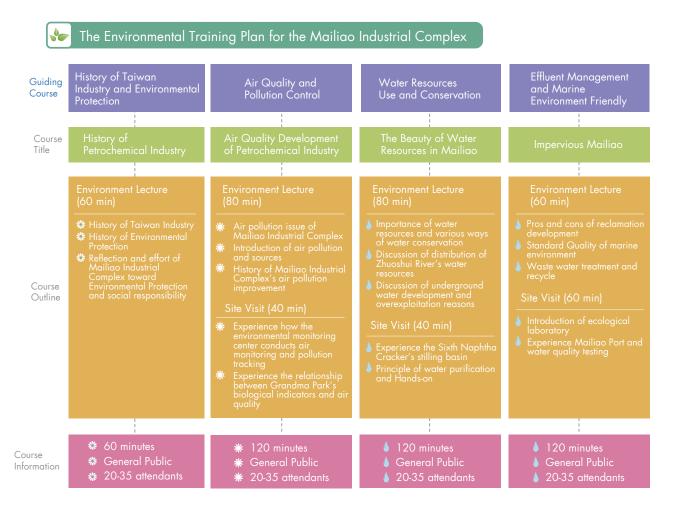
In order to maintain the air quality in Yunlin County, diesel vehicles are required to submit emission certificate when applying for Mailiao Industrial Complex's entry permit. If the diesel vehicle are deemed to be unqualified by the competent authority, the contractor must obtain a new certificate before it is allowed to enter again. According to the statistics of diesel vehicle exhaust detection conducted by the Environmental Protection Bureau of Yunlin County in 2018, 223 inspections were carried out on the roads entering and exiting Mailiao Industrial Complex. All of them passed the inspection. The results of vehicle stop in past three years are as follows:

Year	Traffic Quantity (A)	Number of Inspections (B)	Number of Cars Checked (C)	Unqualified Number (D)	Checked Unqualified Rate (D)/(C)	Inspection Unqualified Rate (D)/(B)	Traffic Unqualified Rate (D)/(A)
2016	1,875	375	126	2	1.6%	0.5%	0.1%
2017	1,850	393	156	0	0.0%	0.0%	0.0%
2018	3,240	223	108	0	0.0%	0.0%	0.0%

#### 5. Environmental Education Promotion

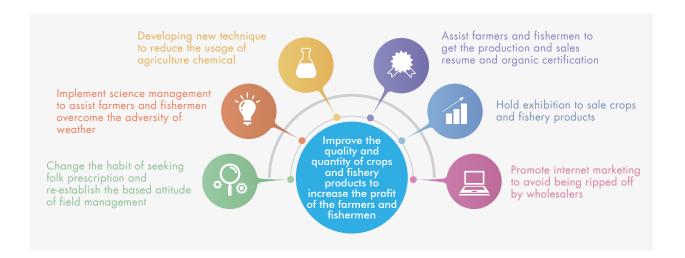
Environmental protection has become a part of public's concern due to the risen environmental awareness in recent year. Nowadays, environmental education has become an emerging sport for all. However, it is widely believed that the main source of environmental pollution is factories or enterprises. In order to let the public know that FPG is committed to promoting the circular economy, water and energy conservation and the effectiveness of environmental protection efforts of FPG, FPG actively opens and widely invites people in different parts of the country to visit Mailiao Industrial Complex. Through first-hand experience, people can share with relatives and friends and Implement environmental protection, water and energy conservation and ecological conservation in their daily life. Furthermore, they can also understand Mailiao Industrial Complex attaches importance to both environmental protection and industrial development.

To make people better understand, Mailiao Industrial Complex designed an environmental training course in a lively, experience, interactive and storytelling way based on above focus. The relevant syllabus is as follows:



#### 6. Community Industry Promotion

In order to take care of the local residents' livelihood and implement the determination of co-prosperity, FPG commissioned experts to counsel residents who engage in agricultural and fishery industries in Mailiao, Taixie, Dongshi, Sihu, and Kohou. The goal is to increase the economic value of the crops and fishery products.



#### (1) Agricultural Counseling



Guidance and assistance in agricultural production, crops quality improvement, and farm management

Cooperate Unit

Execution Plan

And Scope

A total of 219 households were guided and assisted in Mailiao, Taishi, Shihu, Dongshi, Dacheng and Baozhong township

Soil fertility inspection

- Healthy cultivation management
  Climate date report
  Pesticide residue inspection

- Agricultural economic

Result

- The qualified rate of pesticide residue was
- The yield of peanuts, rice and garlic are 1.09~2.02 times higher than the average of Yunlin County



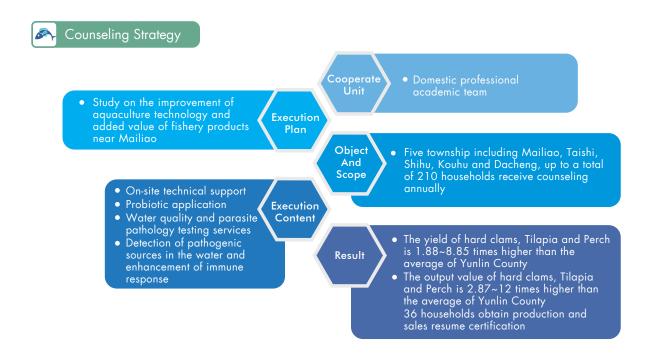


## Counseling Result

The qualified rate of pesticide residue inspection in Taiwan is about 90%. However, the abuse of underground pesticides in the south-central coastal areas in the past has given this area a bad reputation. This is consistent with the test results of pesticide residue qualified rate in the first year of the FPG Counseling Program. . In recent years, the qualified rate has reached 100% with FPG's effort in educating the farmers with correct planting concepts and reducing pesticide use. After the farmers received counseling, the output has been better than the average of Yunlin County, especially for rice, which is a large-scale crop.



#### (2) Fishery Counseling



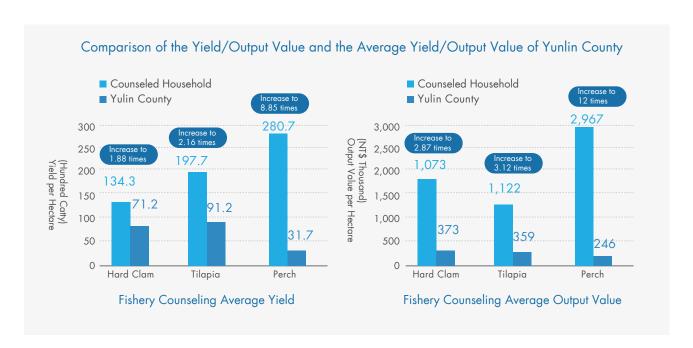


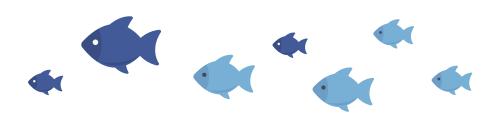


FPG combined with Fisherman Association in Yunlin District co-held Hard Clam Festival to Promote Local Fishery

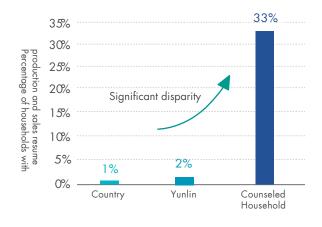
## Counseling Result

According to the statistics of the Fisheries Agency, there are 32,687 inland aquaculture projects in the country, of which 265 fishermen have obtained production and sales resume certification, with a percentage of 1%. In addition, there are 4,429 aquaculture project owners in Yunlin County, of which 77 have obtained production and sales resume certification with a percentage of 2%. FPG gave counseling to 110 owners, of which 36 have obtained production and sales resume certification, with the percentage as high as 33%. This helps promote safe and quality non-toxic fisheries in Yunlin County.





#### Comparison of the Percentage of Households with Production and Sales Resume



Production and Sales Resume	Country	Yunlin	Counseled Household
Number of household with production and Sales Resume	265	77	36
Number of household	32,687	4,429	110
Percentage	1%	2%	33%



#### Fry Release Plan

Since 2008, FPG has entrusted the Yunlin District Fisherman Association to continue to execute the marine resuscitation fish fry release plan every year. By the end of 2018, the total number of fish fry that has been released has reached 4,969,300. It is hoped that this will promote the sustainable operation and vision of local fisheries, allowing the Sixth Naphtha Cracking Plant and the local community to coexist in common prosperity.

#### 5.1.3 Social Concerned Issues

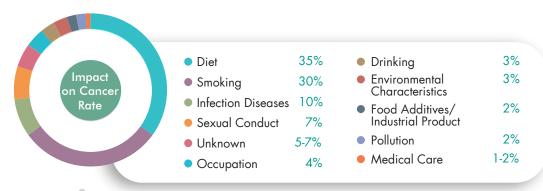
#### Taixi Township Litigation

The coastal area of southwestern Taiwan has always been a region with a higher cancer incidence. According to the domestic research reporting a high incidence of cancer near the Sixth Naphtha Cracker Plant in Taixi Township, few local residents filed a civil lawsuit against five companies in the Sixth Naphtha Cracker 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.

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. Therefore, there is no exact causal relationship between the residents' suffering from cancer and the operation of the Sixth Naphtha Cracker Project.







#### Reference:

- 1. Doll R,Peto. The causes of cancer. Oxford: Oxford University Press. 1981.
- Colditz GA, Sellers YA, Trapido E. Epidemiology-identifying the causes and preventability of Cancer? Nat Rev Cancer . 2006; 6: 75-83.
- 3. Harvard Report on Cancer Prevention. Volume 1: Causes of Human Cancer. Cancer Causes & Control (Supplement 1) 1996; 7: s3-s59.

## 5.2 Social Contribution

In order to implement the philosophy of the two founders, FPG has actively engaged with the government and various civil society organizations to gain a deeper understanding of social needs as well as caring for disadvantaged groups. Over the years, NT \$55.42 billion dollars have been invested. We will continue to lend a helping hand to those in need in our society. Large-scale public welfare activities are planned by the Group Administration, which the company will cooperate and promote.



### FPG Social Charity Contribution Summary

Unit: NT\$100 million

Year	Туре	Charitable Event	Donation Amount	
1960   Today	Education  Medical	Establishment of Ming Chi University of Technology and subsequent donations		
		Establishment of Chang Gung University and subsequent donations	279.5	
		Establishment of Chang Gung University of Science and Technology and subsequent donations		
		Establishment of Chang Gung Memorial Hospital	20.4	
		* Assisting low-income patients to seek medical treatment	28.4	

Year	Туре	Charitable Event	Donation Amount
1990		*Assisting indigenous students receive education (job hunting) and other sponsorships	
 Today		The founder donated 361 sets of cochlear; Chang Gung Memorial Hospital continued donated 580 sets of cochlear. A total of 941 people were benefited.	24.5
	Caring for Disadvantaged Groups	Improving the service quality of disability organizations and other social welfare organizations	
	·	Children's and women's welfare	
		Donations to Taipei, Kaohsiung, and Yunlin Second Prisons for AIDS inmates of Rainbow Project; Donations to Kaohsiung, Tainan, Hualien, Kaohsiung women and Yunlin Second Prisons for addition inmates of Xiangyang Project	
		Recycling kitchen waste	
	Environmental Care	Planting organic crops	
		Afforestation	
	Caring for the Elderly	*Establishment of Chang Gung Health and Culture Village	
2000   Today		Donations of 1,160 thousands doses of pneumococcal vaccines to the elderly and other welfare for the elderly	7.2
	Disaster Relief	<ol> <li>Reconstructing stricken region and old and dangerous school buildings (76 buildings in total)</li> <li>Donations for reconstruction from typhoon and earthquake</li> </ol>	48.4
	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
	Local Contribution	Subsidies to neighbor of various plants and nation	135.7
	Others	Chang Gung Social Welfare Fund and other donations	11.3
		Total	554.2

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

Note 2: The table only records donations made in Taiwan.

#### 5.1.3 Promotion of Medical Care and Education

#### 1. Chang Gung Medical Care System

Alerted to the lack of medical resources in Taiwan during the 1970s, the two founders of FPG dedicated themselves to promoting social welfare donations and decided to establish a non-profit medical center level teaching hospital. Through 40 years of effort, Taipei, Linkou, Keelung, Kaohsiung, Chiayi, Taoyuan, and Yunlin Chang Gung Memorial Hospitals were formed one after another. These hospitals provide integrated health care from preventive medicine, acute medical care, chronic medical care, traditional Chinese medicine, long-term care, and health villages.

#### 2. Founding Three Schools

In order to cultivate the professionals in the industrial field, FPG established Ming Chi Technical College (now Ming Chi University of Technology) in 1963, and established Chang-Gung College of Medicine (now Chang-Gung University) and Chang-Gung Institute of Nursing (now Chang-Gung University of Science and Technology) in 1987 and 1988 successively along the establishment of Chang-Gung Memorial Hospital in 1976 in order to cultivate the outstanding medical talents. All three schools adhere to the philosophy of "Diligence, perseverance, frugality and trustworthiness". Professional training programs were implemented to train the students to be independent and hardworking. They are required to achieve both theoretical and practical excellence in order to become professionals with outstanding knowledge and skills.



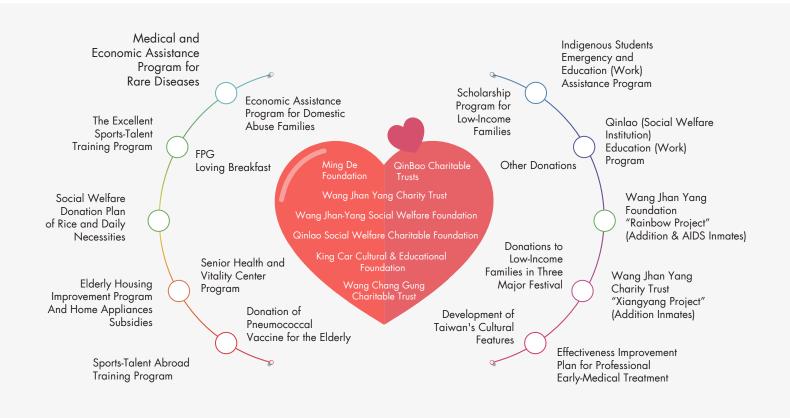




#### 5.2.2 Social Assistance

The two founders of FPG actively engaged in social welfare promotion by establishing seven foundations and charitable trusts. In order to concentrate the donations to underprivileged groups and social welfare agencies, FPG saves the personnel and administration cost as much as possible. In addition, FPG works with professional groups, scholars and experts; continuously promote various charity plan based on the principle of "Comprehensive, Holistic and Systematic".

## Seven Foundations, Charity Trusts and their Plans







#### Social Responsibility Performance

- A total of nearly NT\$92 million in scholarship for low-income students have been given out, benefiting nearly
   7,000 students.
  - Nearly NT\$15 million has been invested in the Qinlao (Social Welfare Institution) Education (Work) Program,
- benefiting over 400 students
   Nearly NT\$94 million has been invested in the rare disease medical and economic assistance program, benefiting 6,400 people

- Between 2007 and 2018, 1.16 million doses of vaccines were donated to the "Pneumococcal Vaccination Program for the Elderly"
- The vaccination program saved the government NT\$13.6 billion dollars in medical expenses
- Promoted "Elderly Housing Improvement Program and Home Appliances Subsidies" in 19 counties and cities. 983 houses have been repaired to date



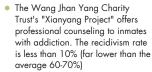
Welfare for the Elderly



Social Responsibility Performance



The Wang Jhan Yang Foundation's "Rainbow Project" offers counseling to inmates with addiction and AIDS in Yunlin, Taipei, and Kaohsiung. The recidivism rate is less than 10% (far lower than the average 70-80%)







- Created the first online "Early Treatment Forum" with more than 7,000 professional members. The materials developed by the Company have been downloaded for more than 120,000 times.
- Promote "Early Treatment Community Support" with 22 early treatment facilities to balance the resources in remote areas

- Donated more than NT\$90 million to the Taiwanese cultural theater group with more than 330,000 viewers
- Over NT\$240 million have been invested in sponsoring exceptional talents in tennis, table tennis, billiards, badminton, and golf. Chang Gung Memorial Hospital also provides medical assistance to prevent and treat sports injuries



FPG Loving Breakfast Distribution



The part-time worker of Chengzhong Development Center was telling stories and acting puppet show



我是就讀於一一高中三年級的學生 過去的三年皆有幸獲得貴基金會的勤勞清 寒獎學金,感謝貴基金會每年提供本獎學 金,不僅減輕家中經濟負擔,更使我能專 心唸書維持成績與繼續升學。高中三年受 貴基金會照顧很多,如今要畢業了,在未 來我會繼續勸勉向學並發揮助人的精神, 在有機會有能力的時候,竭盡所能幫助有 困難的人,回饋於社會。謝謝^^

The winners showed their gratitude through Facebook







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Appendix 4 United Nations Global Compact	159
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## Appendix 1 Global Reporting Initiative (GRI) Comparison Table

The indexes mentioned below are cross-referenced with the GRI Standards: 2016. As presented by the Independent Assurance Opinion Statement, related information has been verified to meet the requirements of the GRI Standards:

GRI Standards		Disclosure Item	Referenced Section	Pages	Remark
	Organiz	ational profile			
	102-1	Name of the organization	1.1 About Nan Ya Plastics	P.9	
	102-2	Activities, brands, products, and services	2.1 Diversified Product Application	P.43	
	102-3	Location of headquarters	1.1 About Nan Ya Plastics	P.9	
	102-4	Location of operations	1.1 About Nan Ya Plastics	P.9	
	102-5	Ownership and legal form	1.1 About Nan Ya Plastics	P.9	
	102-6	Markets served	1.1 About Nan Ya Plastics	P.9	
	102-7	Scale of the organization	<ul><li>1.1 About Nan Ya Plastics</li><li>1.2 Corporate Governance</li></ul>	P.9 P.15	
	102-8	Information on employees and other workers	4.1 Human Rights Protection and Employment	P.97	
GRI 102: General	102-9	Supply chain	<ul><li>2.1 Diversified Product</li><li>Application</li><li>2.3 Supplier and Contractor</li><li>Management</li></ul>	P.43 P.61	
Disclosures 2016	102-10	Significant changes to the organization and its supply chain	1.1 About Nan Ya Plastics	P.9	
	102-11	Precautionary Principle or approach	1.2.6 Risk Management	P.22	
	102-12	External initiatives	3.1 Commitment to Environmental Protection 4.1.1 Human rights policy	P.67 P.97	
	102-13	Membership of associations		P.9	
	Strategy	·			
	102-14	Statement from senior decision-maker	From the Chairman	P.2	
	102-15	Key impacts, risks, and opportunities	From the Chairman 1.2.5 Internal Control Mechanism 1.2.6 Risk Management	P.2 P.20 P.22	
			5. The Pursuit of Co-Prosperity and a Better Homeland	P.119	

GRI Standards		Disclosure Item	Referenced Section	Pages	Remark	
	Ethics a	nd integrity				
	102-16	Values, principles, standards, and norms of behavior	<ul><li>1.1.2 Business philosophy</li><li>1.2 Corporate Governance</li></ul>	P.11 P.15		
	Governo	ance				
	102-18	Governance structure	1.2 Corporate Governance	P.15		
	102-22	Composition of the highest governance body and its committees	1.2 Corporate Governance	P.15		
	102-23	Chair of the highest governance body	1.2 Corporate Governance	P.15		
	102-24	Nominating and selecting the highest governance body	1.2 Corporate Governance	P.15		
	102-25	Conflicts of interest	1.2 Corporate Governance	P.15		
	102-35	Remuneration policies	1.2 Corporate Governance	P.15		
GRI 102:	102-36	Process for determining remuneration	1.2 Corporate Governance	P.15		
General	Stakeholder engagement					
Disclosures 2016	102-40	List of stakeholder groups	1.3 CSR Management	P.24		
	102-41	Collective bargaining agreements	4.2.4 Valuing Employee Feedback	P.105		
	102-42	Identifying and selecting stakeholders	1.3 CSR Management	P.24		
	102-43	Approach to stakeholder engagement	1.3 CSR Management	P.24		
	102-44	Key topics and concerns raised	1.3 CSR Management	P.24		
	Reportin	g practice				
	102-45	Entities included in the consolidated financial statements	1.1 About Nan Ya Plastics	P.9		
	102-46	Defining report content and topic Boundaries	About the Report	P.4		
	102-47	List of material topics	1.3 CSR Management	P.24		
	102-48	Restatements of information	About the Report 1.3.2 Stakeholders and Material Issues Identification	P.4 P.26		

endices

GRI Standards		Disclosure Item	Referenced Section	Pages	Remark
	102-49	Changes in reporting	1.3 CSR Management	P.24	
	102-50	Reporting period	About the Report	P.4	
	102-51	Date of most recent report	About the Report	P.4	
	102-52	Reporting cycle	About the Report	P.4	
GRI 102: General Disclosures 2016	102-53	Contact point for questions regarding the report	About the Report	P.4	
	102-54	Claims of reporting in accordance with the GRI Standards	Appendix1 Global Reporting Initiative (GRI) Comparison Table	P.148	
	102-55	GRI content index	Appendix1 Global Reporting Initiative (GRI) Comparison Table	P.148	
	102-56	External assurance	Appendix 5 Independent Assurance Opinion Statement	P.160	

GRI 200: Topic - Specific Standards Economic Series 2016					
GRI Standards		Disclosure Item	Referenced Section	Pages	Remark
Material Topic					
Economic Perfo	rmance				
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management 10 Approach 2016	103-2	The management approach and its components	1.1.5 Operating Performance	P.14	
	103-3	Evaluation of the management approach	1.1.5 Operating Performance	P.14	
GRI 201:	201-1	Direct economic value generated and distributed	1.1.5 Operating Performance	P.14	
Economic Performance 2016	201-3	Defined benefit plan obligations and other retirement plans	4.2 Employee Rights and Benefits	P.101	
Market Presence	9				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
	103-2	The management approach and its components	4 Creating a Happy and Safe Workplace	P.95	
	103-3	Evaluation of the management approach	1.3 CSR Management	P.24	



		GRI 200: Topic - Specific	Standards Economic Series 2016	5	
GRI Standards		Disclosure Item	Referenced Section	Pages	Remark
GRI 202: Market Presence 2016	202-2	Proportion of senior management hired from the local community	4.1.4 Local Supervisor Ratio	P.100	
Anti-Corruption					
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach	103-2	The management approach and its components	1.2.4 Integrity Management and Anti-corruption	P.18	
2016	103-3	Evaluation of the management approach	1.2.4 Integrity Management and Anti-corruption	P.18	
GRI 205: Anti- Corruption 2016	205-3	Confirmed incidents of corruption and actions taken	-	<u>-</u>	No corruption occurred in 2018
Water					
	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
GRI 103: Management Approach	103-2	The management approach and its components	3.4.2 Effluent Discharge Management and Sewage Prevention	P.86	
2016	103-3	Evaluation of the management approach	3.4.2 Effluent Discharge Management and Sewage Prevention	P.86	
GRI 303:	303-1	Water withdrawal by source	3.4 Water Resource Management	P.85	
Water 2016	303-3	Water recycled and reused	3.4 Water Resource Management	P.85	
Emissions					
	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
GRI 103: Management	103-2	The management approach and its components	3.2 Greenhouse Gas Emission Management 3.3.3 Air Pollution Prevention	P.72 P.82	
Approach 2016				P.72	
	103-3	Evaluation of the management approach	<ul><li>3.2 Greenhouse Gas Emission</li><li>Management</li><li>3.3.3 Air Pollution Prevention</li></ul>	P.82	

		GRI 200: Topic - Specific	Standards Economic Series 201	5	
GRI Standards		Disclosure Item	Referenced Section	Pages	Remark
	305-1	Direct (Scope 1) GHG emissions	3.2.3 Greenhouse Gas Emission Volume	P.76	
	305-2	Energy indirect (Scope 2) GHG emissions	3.2.3 Greenhouse Gas Emission Volume	P.76	
GRI 305: Emissions	305-4	GHG emissions intensity	3.2.3 Greenhouse Gas Emission Volume	P.76	
2016	305-5	Reduction of GHG emissions	3.2.3 Greenhouse Gas Emission Volume	P.76	
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	3.3.3 Air Pollution Prevention	P.82	
Effluents and W	aste				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
	103-2	The management approach and its components	3.3.1 Waste Management 3.4.2 Effluent Discharge Management and Sewage Prevention	P.79 P.86	
	103-3	Evaluation of the management approach	3.3.1 Waste Management 3.4.2 Effluent Discharge Management and Sewage Prevention	P.79 P.86	
	306-1	Water discharge by quality and destination	3.4 Water Resource Management	P.85	
GRI 306: Effluents and	306-2	Waste by type and disposal method	3.3.1 Waste Management	P.79	
Waste 2016	306-3	Significant spills	3.6 Environmental Violations	P.93	
2010	306-5	Water bodies affected by water discharges and/or runoff	3.4 Water Resource Management	P.85	
Environmental (	Complia	nce			
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach	103-2	The management approach and its components	3 Green Environment Management Promotion	P.65	
2016	103-3	Evaluation of the management approach	1.3 CSR Management	P.24	



	,	GRI 200: Topic - Specific	Standards Economic Series 2016	5	
GRI Standards		Disclosure Item	Referenced Section	Pages	Remark
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	3.6 Environmental Violations	P.93	
		GRI 400: Topic - Specif	ic Standards Social Series 2016		
Employment					
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach	103-2	The management approach and its components	4.2 Employee Rights and Benefits	P.101	
2016	103-3	Evaluation of the management approach	4.2 Employee Rights and Benefits	P.101	
001 (01	401-1	New employee hires and employee turnover	4.1.2 Employment 4.2.2 Good Job Security	P.98 P.102	
GRI 401: Employment 2016	401-2	Benefits provided to full- time employees that are not provided to temporary or part-time employees	4.2 Employee Rights and Benefits	P.101	
Occupational H	Health ar	nd Safety			
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach	103-2	The management approach and its components	4.4 Workplace Safety	P.108	
2016	103-3	Evaluation of the management approach	4.4 Workplace Safety	P.108	
GRI 403: Occupational	403-1	Workers representation in formal joint management— worker health and safety committees	4.4 Workplace Safety	P.108	
Health and Safety 2016	403-3	Workers with high incidence or high risk of diseases related to their occupation	4.4 Workplace Safety	P.108	
Diversity and Ed	qual Opp	portunity			
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach 2016	103-2	The management approach and its components	4 Creating a Happy and Safe Workplace	P.95	
	103-3	Evaluation of the management approach	1.3 CSR Management	P.24	

		GRI 400: Topic - Specifi	c Standards Social Series 2016		
GRI Standards		Disclosure Item	Referenced Section	Pages	Remark
GRI 405: Diversity	405-1	Diversity of governance bodies and employees	1.2 Corporate Governance 4.1 Human Rights Protection and Employment	P.15 P.97	
and Equal Opportunity 2016	405-2	Ratio of basic salary and remuneration of women to men	4.2.1 Employee Remuneration	P.102	
Local Commun	ities				
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach	103-2	The management approach and its components	5.1 Local Participation	P.122	
2016	103-3	Evaluation of the management approach	5.1 Local Participation	P.122	
GRI 413: Local	413-1	Operations with local community engagement, impact assessments, and development programs	5.1 Local Participation	P.122	
Communities 2016	413-2	Operations with significant actual and potential negative impacts on local communities	5.1 Local Participation	P.122	
Marketing and I	Labeling				
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach	103-2	The management approach and its components	2.2 Collaborative Business Model	P.58	
2016	103-3	Evaluation of the management approach	2.2 Collaborative Business Model	P.58	
GRI 417: Marketing and Labeling 2016	41 <i>7</i> -1	Requirements for product and service information and labeling	2.2.3 Compliance	P.60	
	417-2	Incidents of non-compliance concerning product and service information and labeling	2.2.3 Compliance	P.60	No incidents of non-compliance concerning product and service information and labeling occurred in 2018



		GRI 400: Topic - Specif	ic Standards Social Series 2016		
GRI Standards		Disclosure Item	Referenced Section	Pages	Remark
Customer Privac	СУ				
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach	103-2	The management approach and its components	2.2 Collaborative Business Model	P.58	
2016	103-3	Evaluation of the management approach	2.2 Collaborative Business Model	P.58	
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	2.2.3 Compliance	P.60	
Socioeconomic	Compli	ance			
GRI 103:	103-1	Explanation of the material topic and its Boundary	1.3 CSR Management	P.24	
Management Approach	103-2	The management approach and its components	2.2 Collaborative Business Model	P.58	
2016	103-3	Evaluation of the management approach	2.2 Collaborative Business Model	P.58	
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	2.2.3 Compliance	P.60	

# 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 This Report	
Chapter 2 Exercising Corporate Governance	Implementation of corporate governance practices	1.2 Corporate Governance	
Chapter 3 Fostering a Sustainable Environment	Development of a sustainable environment	3 Green Environment Management Promotion 5 The Pursuit of Co-Prosperity and a Better Homeland	
Chapter 4 Preserving Public Welfare	Preservation of public welfare	5 The Pursuit of Co-Prosperity and a Better Homeland	
Chapter 5 Enhancing Disclosure of Corporate Social Responsibility Information	Improvement in the disclosure of corporate social responsibility information	About This Report	
Chapter 6 Supplementary Provisions	Review and improvement in the corporate social responsibility system	About This Report	





# Appendix 3 ISO 26000 Guidance on Social Responsibility

	Material Issues	Referenced Section	Remark
Organizational Governance	Decision-making processes and structures	1.2 Corporate Governance	
	Complying with laws and regulations and avoiding the audit of the risk posed by human rights problems	4 Creating a Happy and Safe Workplace	
	Human rights risk situations	4 Creating a Happy and Safe Workplace	
	Avoidance of complicity - direct, beneficial, and silent complicity	4 Creating a Happy and Safe Workplace	
Human Rights	Resolving grievances	4 Creating a Happy and Safe Workplace	
	Discrimination and vulnerable groups	4 Creating a Happy and Safe Workplace	
	Civil and political rights	4 Creating a Happy and Safe Workplace	
	Economic, social, and cultural rights	4 Creating a Happy and Safe Workplace	
	Fundamental principles and rights at work	4 Creating a Happy and Safe Workplace	
	Employment and employment relationships	4 Creating a Happy and Safe Workplace	
	Conditions of work and social protection	4 Creating a Happy and Safe Workplace	
Labor Practices	Social dialogue	4 Creating a Happy and Safe Workplace	
	Health and safety at work	4.4 Workplace Safety	
	Human development and training in the workplace	4.3 Talent Training	
	Prevention of pollution	3 Green Environment Management Promotion	
	Sustainable resource use	3 Green Environment Management Promotion	
The Environment	Climate change mitigation and adaptation	3 Green Environment Management Promotion	
	Protection of the environment, biodiversity, and restoration of natural habitats	<ul><li>3 Green Environment Management Promotion</li><li>5 The Pursuit of Co-Prosperity and a Better Homeland</li></ul>	
	Anti-corruption	1.2 Corporate Governance	
Fair Operating Practices	Responsible political involvement	1.1.3 External Association Participation 1.1.5 Operating Performance 1.2.6 Risk Management	

	Material Issues	Referenced Section	Remark
Fair Operating Practices	Fair competition	<ul><li>2.2 Collaborative Business Model</li><li>2.3 Supplier and Contractor Management</li></ul>	
	Promoting social responsibility in the value chain	From the Chairman 1.1.2 Business philosophy	
	Respect for property rights	_	All employees are required to sign the Statement about Respect for Intellectual Property Rights to declare the Company's policy and position against the use of illegal software.  Those violating this policy are subject to legal sanctions and severe punishments according to the internal regulations.
	Fair marketing, factual and unbiased information, and fair contractual practices	2 Product Value Expansion	
	Protecting consumers' health and safety	2 Product Value Expansion	
	Sustainable consumption	2 Product Value Expansion	
Consumer Issues	Consumer services, support, and complaints and dispute resolutions	2 Product Value Expansion	
	Consumer data protection and privacy	2 Product Value Expansion	No violation of customer privacy or loss of customer data in 2018
	Access to essential services	2 Product Value Expansion	
	Education and awareness	2 Product Value Expansion	
	Community involvement	5 The Pursuit of Co-Prosperity and a Better Homeland	
	Education and culture	5 The Pursuit of Co-Prosperity and a Better Homeland	
	Employment creation and skill development	5 The Pursuit of Co-Prosperity and a Better Homeland	
	Technology development and access	5 The Pursuit of Co-Prosperity and a Better Homeland	
	Wealth and income creation	5 The Pursuit of Co-Prosperity and a Better Homeland	
	Health	5 The Pursuit of Co-Prosperity and a Better Homeland	
	Social investments	5 The Pursuit of Co-Prosperity and a Better Homeland	



# 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.	<ul><li>2.3 Supplier and Contractor Management</li><li>4 Creating a Happy and Safe Workplace</li></ul>	
	Business should make sure that they are not complicit in human rights abuses.	2.3 Supplier and Contractor Management	
Labor	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	4 Creating a Happy and Safe Workplace	
	Businesses should uphold the elimination of all forms of forced and compulsory labor.	4 Creating a Happy and Safe Workplace	
	Businesses should uphold the effective abolition of child labor.	4 Creating a Happy and Safe Workplace	
	Businesses should uphold the elimination of discrimination in respect of employment and occupation.	4 Creating a Happy and Safe Workplace	
Environment	Businesses should support a precautionary approach to environmental challenges.	2.1.6 Product Safety and Health Responsibility	
	Businesses should undertake initiatives to promote greater environmental responsibility.	3 Green Environment Management Promotion	
	Businesses should encourage the development and diffusion of environmentally friendly technologies.	2.1.6 Product Safety and Health Responsibility	
Anticorruption	Businesses should work against corruption in all its forms, including extortion and bribery.	1.2 Corporate Governance	

## **Appendix 5** Independent Assurance Opinion Statement

### INDEPENDENT ASSURANCE OPINION STATEMENT

#### Nan Ya Plastics Corporation 2018 Corporate Social Responsibility Report

The British Standards Institution is independent to Nan Ya Plastics Corporation (hereafter referred to as NPC in this statement) and has no financial interest in the operation of NPC 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 NPC 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 NPC. 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 NPC only.

#### Scope

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

- 1. The assurance scope is consistent with the description of Nan Ya Plastics Corporation 2018 Corporate Social Responsibility Report.
- 2. The evaluation of the nature and extent of the NPC'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 NPC 2018 Corporate Social Responsibility Report provides a fair view of the NPC 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 NPC 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 NPC's efforts recognized by its stakeholders.

Our work was carried out by a team of CSR report assurors 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 NPC'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 NPC'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.
- 12 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 NPC 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 NPC's inclusivity issues.

#### Materiality

NPC has established relative procedure in organization level, as the issues which were identified by all departments have been prioritized according to the extent of impact and applicable criterion for sustainable development of organization. Therefore, material issues were completely analyzed and the relative information of sustainable development was disclosed to enable its stakeholders to make informed judgments about the organization's management and performance. In our professional opinion the report covers the NPC's material issues.

#### Responsiveness

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

#### Impact

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

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

NPC provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that 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 NPC'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 NPC'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:

O o T le

Peter Pu Managing Director BSI Taiwan 2019-05-31



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