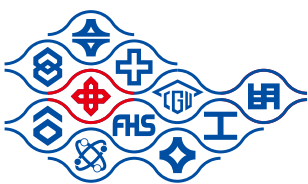


# 2019 CSR Report

## NAN YA PLASTICS CORPORATION

Corporate Social Responsibility Report



**台塑企業**  
FORMOSA PLASTICS GROUP

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## About This Report

This is the 6<sup>th</sup> Corporate Social Responsibility (CSR) report of Nan Ya Plastics Corp. (hereafter referred to as "the Company"). The information is disclosed based on the editorial principle of presenting the data of recent 4 years. And it is expected to be published once a year to communicate with our stakeholders through the report.

### Publication Overview

Publication date of the first edition:  
December 2015

Publication date of the previous  
edition: June 2019

Publication date of the current  
edition: June 2020

Publication date of the next  
edition: June 2021



2016 CSR report



2017 CSR report



2018 CSR report

### Boundaries of the Report

- The boundaries that the report disclose, center on the Company and the data of the Taiwan subsidiaries such as Nan Chung Petrochemical Corp., Nan Ya Printed Circuit Board Corp. and PFG Fiber Glass Corp. (hereafter referred to as "subsidiaries in Taiwan". Among the subsidiaries, 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 also not included. The boundaries of the report have not changed from the previous year.
- The financial data is mainly based on publicly disclosed financial reports. In the future, the boundary of the report will be gradually expanded to be consistent with that of the financial reports.

### Preparing Principles

The Company prepares the report in accordance with "Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies". The content and 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)
- Materiality, Inclusivity, Responsiveness and Impact of AA1000 Accountability Principles Standard (2018 version)
- Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies
- ISO 26000 Social Responsibility Guidance
- United Nations Global Compact Cross Reference List

## Disclosing Period

The information disclosed in the report shows the specific actions and performance of the Company in environmental protection (E), social welfare (S), and corporate governance (G) from January 1, 2019 to December 31, 2019.

## 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

Thanks for reading the report. 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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Website: [https://www.npc.com.tw/j2npc/zhtw/csr\\_report.jsp](https://www.npc.com.tw/j2npc/zhtw/csr_report.jsp)



NPC "Download for CSR Report"

## From the Chairman


The Company has always adhered to the business philosophy of "diligence, perseverance, frugality and trustworthiness" as well as "to aim at the sovereign good" to deepen corporate governance, implement corporate social responsibility, and create a safe and happy working environment. In 2019, while facing the severe external environment, the Company worked together with all colleagues to continue improving various management operations, and was awarded the top 20 happy companies in the manufacturing industry, and was also selected as a constituent of the "FTSE4 Good TIP Taiwan ESG index". In addition, the Company scored "Leadership Level (A-)" in both the climate change sector and the water security sector in Carbon Disclosure Project (CDP). In the future, we will continue to move towards the goal of "perpetual business operation", and "dedication to the society".

In the face of the ever-changing operating environment, we continue to promote the Company's four management strategies, including "actively expand the market and increase production capacity utilization rate", "strengthen research and development, develop high-value and differentiated products", "fully promote process optimization and enhance product competitiveness", and "implement circular economy and realize the economic benefits of low-energy consumption, low-emission and high-utilization" to create the Company's operating value and improve the overall operating performance.

At the same time, in order to response to global climate change and achieve the goal of energy conservation and carbon reduction, the Company has been promoting environmental protection work for a long time. In addition to continuing to implement operations such as energy conservation, emission reduction, waste reduction and recycling, we have made more efforts to promote waste reuse and resource utilization in recent years. To create maximum economic benefits, we reduce resource consumption through multiple recycling of waste and other resources. In 2019, the Company scored "Leadership Level (A-)" in CDP. Moreover, Kung San site was awarded as the Industrial Greenhouse Gas Voluntary Reduction Manufacturers by the Ministry of Economic Affairs. These all demonstrated the effectiveness of various specific actions and efforts.

We are also actively research and develop high-value green products to provide consumers with multiple choices of environmentally friendly products. Some of these products have obtained the Green Mark, Green Building Materials label, or the Global Recycle Standard certification. Take the production and sales of bottle-recycling products in 2019 as an example, approximately 125 kilotons of greenhouse gas emissions can be reduced, which is equivalent to the amount of carbon sequestration of 320 Daan Forest Parks.

In terms of creating a safe and happy working environment, "all-round security" is our constant core value. Only a safe and happy working environment can attract outstanding talents, enhance the Company's core competitiveness, and become a good foundation for sustainable development. Therefore, we build a positive work safety culture by continuously improving standard operating procedures, implementing safety actions, equipping safety tools, educating safety awareness and cultivating safety attitudes. Moreover, we provide employees with excellent salary and benefits, solid training and good promotion channels, and care about their physical and mental health and workplace environment. In 2019, in addition to no major work safety incidents, rigid sheet plant of Hsinkang was also awarded the "excellent fire management location" by National Fire Agency of Ministry of the Interior. In the future, we will continue to implement OHSAS 18001 and TOSHMS occupational safety and health management systems through the promotion of full participation in industrial safety activities, and strive to provide employees with a safe and secure working environment.



In terms of social care, 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 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 hope to every corner of society.

As an excellent corporate citizen, the Company has integrated sustainable development with the operational strategy. In 2019, we continued to deepen the "Sustainable Development Goals (SDGs)" issued by United Nations, identify 6 SDGs based on our core business, and enable them to correspond to each other. 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.

Chairman

**Chia-Chau Wu**

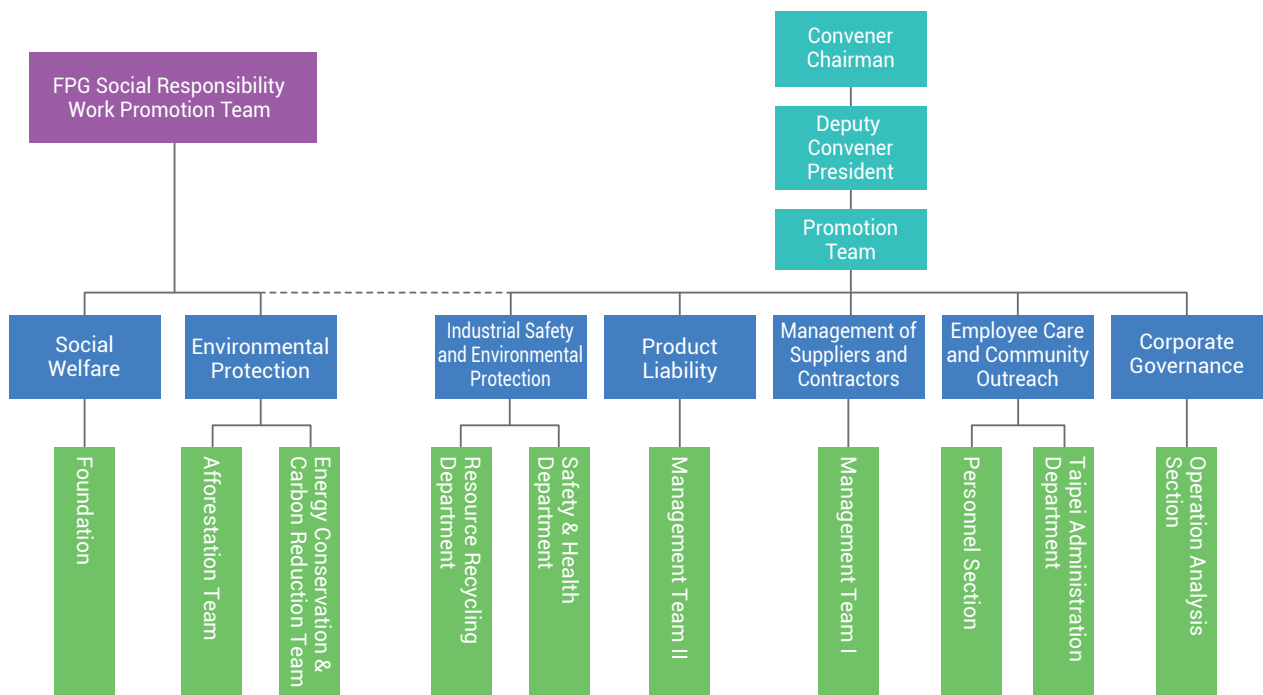
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# The Report and Management of Sustainable Issues

## The Structure of CSR Organization and Report Preparing Process

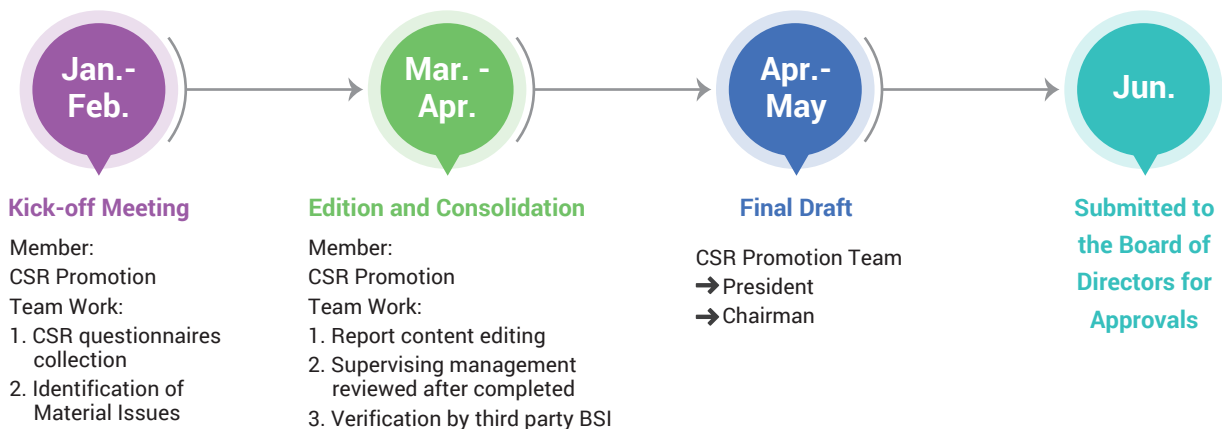
In order to effectively integrate and promote social responsibility work, the Company has set up a "Social Responsibility Work Promotion Organization", which is responsible for formulating company-wide strategies for environmental protection (E), social welfare (S), and corporate governance (G). The organization promotes the execution of various businesses, conducts regular performance monitoring, and timely adjusts related strategies and promoted goals through continuous communication with stakeholders. We hope to create a win-win situation with stakeholders, and achieve the long-term goal of sustainable development of the Company and contribution to society.

### Organizational Chart of NPC Social Responsibility Work Promotion Team



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

### CSR Report Preparing Process



## Stakeholders Identification

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.



## Communication with Stakeholders

The Significance toward NPC	Communication Channels	Frequency	Main Concern Topics	Response and Engagement
<b>Stakeholders: Residents in Operating Area</b>				
The vision of co-prosperity with the community is the continuous operation focus attention of the Company	<ol style="list-style-type: none"> <li>Meeting [Village meeting, Factory construction (expansion) briefing, Symposium, Observation meeting, Contact meeting, etc.]</li> <li>Special Visit</li> <li>Email/Telephone</li> </ol>	<p>Irregular</p> <p>Monthly</p> <p>Irregular</p>	<ul style="list-style-type: none"> <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>	<ol style="list-style-type: none"> <li>Corporate Governance</li> <li>Collaborative Business Model</li> <li>Supplier and Contractor Management</li> <li>Green Environment Management Promotion</li> <li>Creating a Happy and Safe Workplace</li> <li>The Pursuit of Co-Prosperity and a Better Homeland</li> </ol>
<b>Stakeholders: Government Agencies</b>				
Government Agencies formulate relevant policies, therefore, besides complying with relevant regulations, we also communicate with the government to promote the sustainable development of the industry	<ol style="list-style-type: none"> <li>Meeting (Public hearings, Seminars, etc.)</li> <li>Official Document</li> <li>Special Visit</li> <li>Email/Telephone</li> </ol>	<p>Irregular</p> <p>Irregular</p> <p>Irregular</p> <p>Irregular</p>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Corporate Governance</li> <li>Collaborative Business Model</li> <li>Supplier and Contractor Management</li> <li>Green Environment Management Promotion</li> <li>Creating a Happy and Safe Workplace</li> <li>The Pursuit of Co-Prosperity and a Better Homeland</li> </ol>



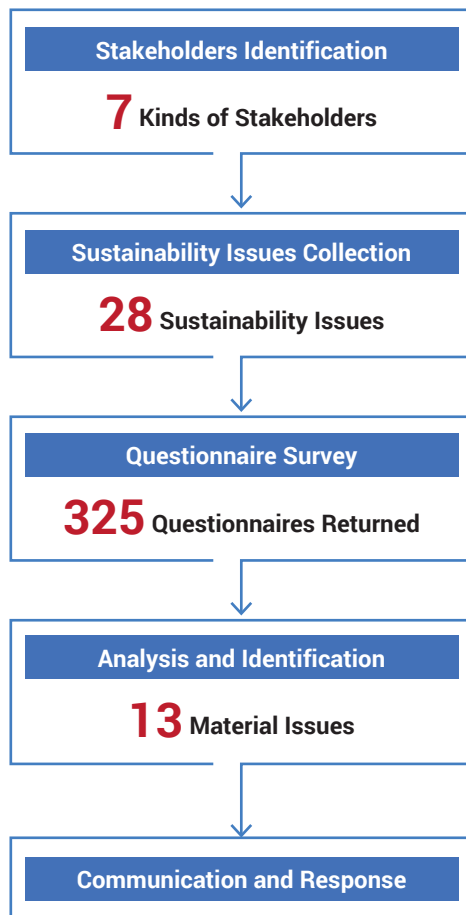
The Significance toward NPC	Communication Channels	Frequency	Main Concern Topics	Response and Engagement
<b>Stakeholders: Experts, Scholars and Environmental Groups</b>				
In addition to attaching importance to academic theories on sustainability issues, we also attach the same importance to environmental sustainability as environmental groups. We looking forward to applying the theory to jointly enhance Taiwan's industrial competitiveness and environmental sustainability efforts	<ol style="list-style-type: none"> <li>1. Meeting (New expansion project EIA review meeting and EIA conclusion implementation supervision meeting)</li> <li>2. Email/Telephone</li> </ol>	<p>Irregular</p> <p>Irregular</p>	<ul style="list-style-type: none"> <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>	<p>3 Green Environment Management Promotion</p> <p>4 Creating a Happy and Safe Workplace</p>
<b>Stakeholders: Shareholders and Investors</b>				
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.	<ol style="list-style-type: none"> <li>1. Shareholders' Meeting</li> <li>2. Board of Directors' Meeting</li> <li>3. Market Observation Post System</li> <li>4. "Investor Section" of the Company's Website</li> <li>5. Earnings Conference</li> <li>6. Email/Telephone</li> </ol>	<p>Yearly</p> <p>Quarterly</p> <p>Irregular</p> <p>Irregular</p> <p>Irregular</p> <p>Irregular</p>	<ul style="list-style-type: none"> <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>	<p>1.2 Corporate Governance</p> <p>2.2 Collaborative Business Model</p> <p>4 Creating a Happy and Safe Workplace</p>
<b>Stakeholders: Customers</b>				
Earning the customer's support is the value of the Company and the feedback of the customer is the driving force for our progress	<ol style="list-style-type: none"> <li>1. Dealer Meeting</li> <li>2. Product Exhibition</li> <li>3. Special Visit</li> <li>4. Customer Satisfaction Survey, Customer Complaint Form</li> <li>5. Customer Complaint Channel</li> <li>6. Email/Telephone</li> </ol>	<p>Yearly</p> <p>Irregular</p> <p>Irregular</p> <p>Irregular</p> <p>Irregular</p> <p>Irregular</p>	<ul style="list-style-type: none"> <li>■ Product Innovation and R&amp;D</li> <li>■ Ethical Operation</li> <li>■ Customer Relationship Management</li> <li>■ Occupational Health and Safety</li> </ul>	<p>1.2 Corporate Governance</p> <p>2.2 Collaborative Business Model</p> <p>4 Creating a Happy and Safe Workplace</p>

The Significance toward NPC	Communication Channels	Frequency	Main Concern Topics	Response and Engagement
<b>Stakeholders: Suppliers and Contractors</b>				
The coordination and support of our partners is one of the key factors for the Company to pursue success and sustainable development	<ol style="list-style-type: none"> <li>1. Vendor Briefing</li> <li>2. Customer Service of Formosa Technology E-market Place</li> <li>3. Complaint Channel of Suppliers/ Contractors</li> <li>4. Email/Telephone</li> <li>5. Consultative Organization Meeting of Contractor</li> </ol>	<p>Yearly 24 hour</p> <p>Irregular</p> <p>Irregular Irregular</p>	<ul style="list-style-type: none"> <li>■ Air Pollutant Management</li> <li>■ Occupational Health and Safety</li> <li>■ Industry and Public Safety</li> </ul>	<ol style="list-style-type: none"> <li>2.3 Supplier and Contractor Management</li> <li>3 Green Environment Management Promotion</li> <li>4 Creating a Happy and Safe Workplace</li> </ol>
<b>Stakeholders: Employees</b>				
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	<ol style="list-style-type: none"> <li>1. Morning Meeting</li> <li>2. Physical Suggestion Box/ Online Suggestion Box(Notes, Outlook)</li> <li>3. "799" hotline</li> <li>4. "FPG" Bimonthly Magazine</li> <li>5. Direct Communication between Union Representative and Senior Executive</li> <li>6. Union, Welfare Committee</li> <li>7. Employee Satisfaction Survey</li> <li>8. Management System Feedback Form</li> <li>9. Management System Feedback Form</li> </ol>	<p>Daily 24 hour</p> <p>24 hour Bimonthly</p> <p>Irregular</p> <p>Irregular</p> <p>Yearly</p> <p>Irregular</p> <p>Quarterly</p>	<ul style="list-style-type: none"> <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>	<ol style="list-style-type: none"> <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> </ol>



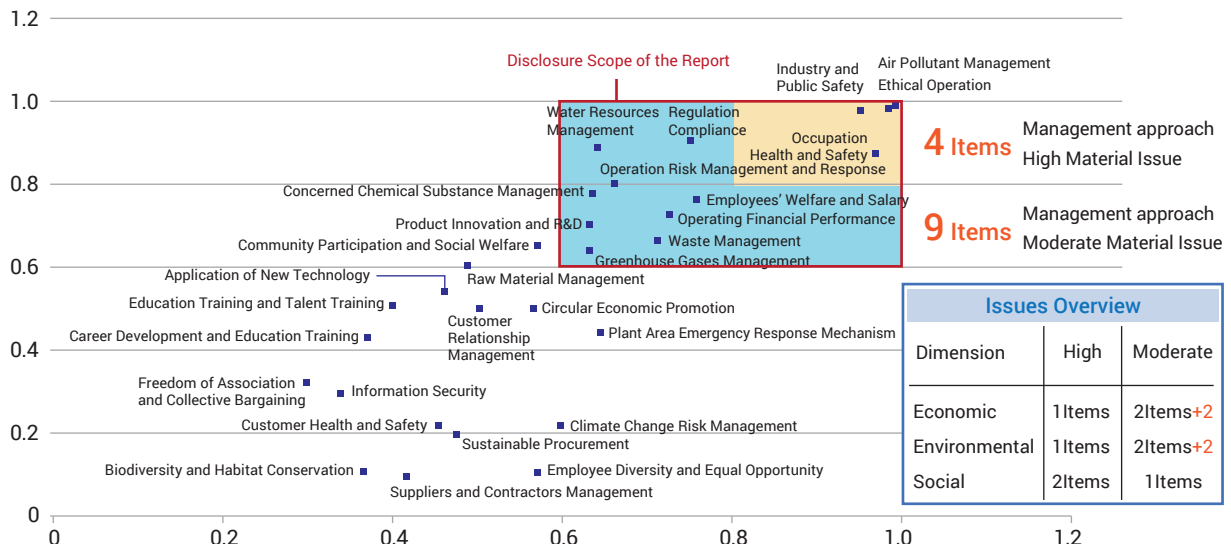
### Identification and Analysis of Material Issues

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 2019 materiality analysis process of the Company is as follows:



- STEP 1**  
 According to the 5 principles of AA1000 SES: 2011 Stakeholder Engagement Standard, 7 main stakeholders are determined, namely: residents in operating area, government agencies, experts, scholars and environmental groups, shareholders and investors, customers, suppliers and contractors, and employees.
- STEP 2**  
 After considering international trends, industry conditions, and daily operational practices etc., 28 sustainability issues were discussed and screened out to be identified.
- STEP 3**  
 Questionnaires were sent to internal and external stakeholders to understand the degree of concern of stakeholders on related issues. The questionnaires were sent to 22 senior executives and 303 stakeholders, retrospectively.
- STEP 4**  
 According to two aspects, namely "Stakeholders' Concern Level" and "Impact Level on Company's operation", the analysis of varying intensities (high, moderate, and low) was carried out to identify the importance of these issues. 13 material issues were identified.
- STEP 5**  
 With regard to 13 major issues, members of the "Social Responsibility Work Promotion Team" would measure each major consideration one by one, and communicate and respond to stakeholders.

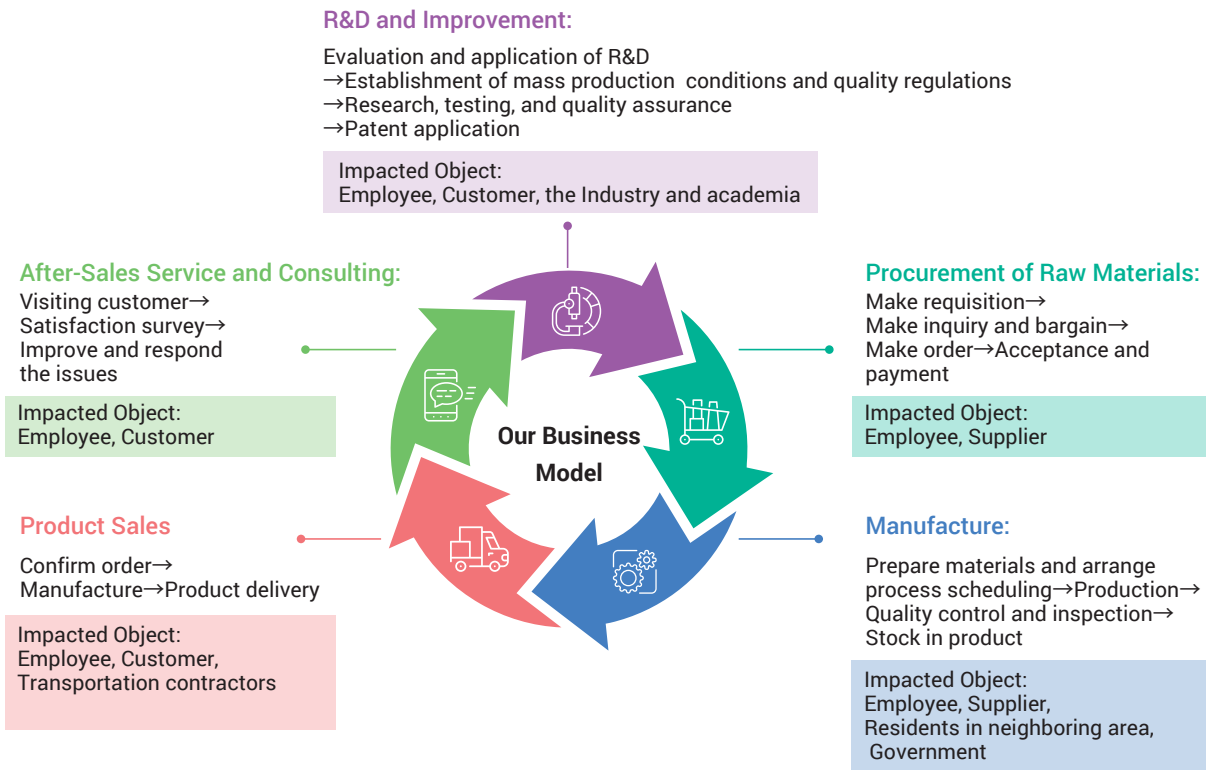
### Material Issues Matrix



	Level of Importance to 2019	Level of Importance to 2018	Changes in Rank	Reason for the Changes	Response
Regulation Compliance	Moderate Material Issue	High Material Issue	Go down	Policy compliance has always been our duty and an issue that the Company attaches great importance to. Stakeholders not only require the Company to abide by laws and regulations, but also to comply with the trend of international sustainability.	2.2, 3.6
Operation Risk Management and Response	Moderate Material Issue	Low Material Issue	Go up (New Issue)	In view of the occurrence of risks such as climate change and geopolitics in recent years, risk identification has become an imperative trend. Through risk identification, we reduce the possibility of the impact on operations that cause by the occurrence of risks.	1.3

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.

### ■ The Value Chain of NPC



Corresponding Topic-specific GRI Standard	Value Chain				
	R&D and Improvement	Procurement of Raw Materials	Manufacture	Product Sales	After-Sales Service and Consulting
<b>Economic</b>					
<b>Ethical Operation</b>					
GRI 102 - General Disclosure					
GRI 205 - Anti-corruption	✓	✓	✓	✓	✓
GRI 405 - Diversity and Equal Opportunity					
<b>Regulation Compliance</b>					
GRI 419 - Socioeconomic Compliance	✓	✓	✓	✓	
<b>Operating Financial Performance</b>					
GRI 201 - Economic Performance	✓	✓	✓	✓	✓
<b>Operation Risk Management and Response ●</b>					
-	✓	✓	✓	✓	
<b>Product Innovation and R&amp;D ●</b>					
-	✓		✓	✓	
<b>Environmental</b>					
<b>Greenhouse Gases Management</b>					
GRI 305 - Emissions	✓	✓	✓	✓	✓



Impact Description	Corresponding Measures	Response
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>	<p>1.2</p> <p>1.2</p> <p>4.1 ∙ 4.2</p>
<ul style="list-style-type: none"> <li>■ The promotion of various businesses is based on regulation compliance which can help the Company maintain stable and sound operation</li> </ul>	<ul style="list-style-type: none"> <li>■ Formulate internal control system and S.O.P of various operations</li> <li>■ Management operation computerization</li> <li>■ Implement audit operation</li> </ul>	<p>2.2 ∙ 3.6</p>
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>	<p>1.1 ∙ 4.2</p>
<ul style="list-style-type: none"> <li>■ Identify and manage internal and external risks can mitigate the impact caused by emergencies</li> <li>■ Reduce the impact of risks on operations</li> <li>■ Identify the potential opportunities that brought by risks</li> </ul>	<ul style="list-style-type: none"> <li>■ Conduct risk identification on annual basis</li> <li>■ Formulate corresponding measures and S.O.P. for potential risks in each units</li> </ul>	<p>1.3</p>
<ul style="list-style-type: none"> <li>■ Strengthen product competitiveness and enhance the growth momentum of the Company's operation</li> </ul>	<ul style="list-style-type: none"> <li>■ Continue to invest in R&amp;D</li> <li>■ Import knowledge management platform</li> <li>■ Attend "FPG Technology Application Seminar"</li> </ul>	<p>2.1</p>
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>■ 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>	<p>3.2</p>

Corresponding Topic-specific GRI Standard	Value Chain				
	R&D and Improvement	Procurement of Raw Materials	Manufacture	Product Sales	After-Sales Service and Consulting
<b>Air Pollutant Management</b>					
GRI 305 - Emissions	✓	✓	✓	✓	
<b>Water Resources Management</b>					
GRI 303 - Water and Effluents	✓		✓		
GRI 306 - Effluents and Waste					
<b>Waste Management</b>					
GRI 306 - Effluents and Waste	✓	✓	✓		
<b>Concerned Chemical Substance Management ●</b>					
-	✓	✓	✓	✓	



Impact Description	Corresponding Measures	Response
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 through conducting education training and water quality testing</li> <li>■ Promote circular economy</li> </ul>	3.4
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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
<ul style="list-style-type: none"> <li>■ 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</li> </ul>	<ul style="list-style-type: none"> <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 4.4




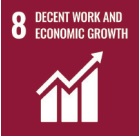

Corresponding Topic-specific GRI Standard	Value Chain				
	R&D and Improvement	Procurement of Raw Materials	Manufacture	Product Sales	After-Sales Service and Consulting
<b>Social</b>					
<b>Occupation Health and Safety</b>					
GRI 403 - Occupational Health and Safety		✓	✓	✓	
<b>Industry and Public Safety</b>					
GRI 403 - Occupational Health and Safety			✓	✓	
<b>Employees' Welfare and Salary</b>					
GRI 202 - Market Presence					
GRI 401 - Employment	✓	✓	✓	✓	✓
GRI 405 - Diversity and Equal Opportunity					

Note: Material issues marked with "●" mean that they cannot correspond to any of GRI Standards, but are still issues that the Company attaches importance to.






Impact Description	Corresponding Measures	Response
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>■ Formulate "Regulations for Safe Transportation" and "Regulations for Emergency Response"</li> <li>■ 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
<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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

**The Company's Sustainable Development Goals**

SDGs	The degree of connection between the target and NPC	Detailed goals and descriptions	Corresponding material issues
	Core	3.9 Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	Concerned Chemical Substance Management
			Air Pollutant Management
			Waste Management
	Core	8.1 Sustain per capita economic growth per annum	Operating Financial Performance
		8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	Employees' Welfare and Salary
		8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	Occupation Health and Safety Industry and Public Safety
	Core	12.2 Achieve the sustainable management and efficient use of natural resources	Water Resources Management
		12.4 Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	Concerned Chemical Substance Management Air Pollutant Management
		12.5 Substantially reduce waste generation through prevention, reduction, recycling and reuse	Waste Management

	Sustainable vision	Current Progress	2019 Progress
	Research and develop green chemicals	In progress	Develop environmentally friendly plasticizers
	Continue to promote air pollution reduction	In progress	Replace old oil-fired boilers Replace coal- fired boilers with gas-fired boilers
	Continue to promote waste reduction	In progress	Application for reuse of waste in Mailiao Industrial Complex
	and guide the industry to develop high value-added products	In progress	The Company continues to make profits and promotes investment projects at home and abroad
		In progress	Provide employees with a stable and secure life
		In progress	No major occupational injuries happened in the Company
		In progress	Promote public safety drills
	Increase efficient use of water resources	In progress	In 2019, a total of 101 water saving improvement projects were completed , some of which were the cases from subsidiaries. The investment amount is NT\$43 million, and the annual benefit is about NT\$4 million.
	Ensure the concerned chemical substance not be released into the environment	In progress	Regularly conducts emergency response drills to enhance the emergency response ability of personnels Regularly test and calibrate the alarm equipment that detects leaks
	Continue to promote air pollution reduction	In progress	Replace old oil-fired boilers Replace coal- fired boilers with gas-fired boilers
	Promote new practices of treating all kinds of buried wastes as individual cases and reusing them to significantly reduce waste generation	In progress	The waste soil is re-made into artificial pellets instead of burying into landfill

SDGs	The degree of connection between the target and NPC	Detailed goals and descriptions	Corresponding material issues
	Secondary	6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials	Water Resources Management Concerned Chemical Substance Management
	Secondary	6.5 Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	Water Resources Management
	Secondary	9.4 Upgrade infrastructure to increase resource-use efficiency	Product Innovation and R&D
		9.5 Enhance scientific research and upgrade the technological capabilities of industrial sectors in the country	
	Secondary	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	Greenhouse Gases Management

Sustainable vision	Current Progress	2019 Progress
Make sure wastewater treatment is indeed conducted to protect the water ecosystem	In progress	The Company's effluent volume was 18,536.5 tons/day in 2019, which is 1.5% lower than 18,823.4 tons/day in 2018
Ensure the concerned chemical substance not be released into the environment	In progress	Regularly conducts emergency response drills to enhance the emergency response ability of personnels Regularly test and calibrate the alarm equipment that detects leaks
Increase efficient use of water resources and make sure wastewater treatment is indeed conducted to protect the water ecosystem	In progress	In 2019, a total of 101 water saving improvement projects were completed, some of which were the cases from subsidiaries. The investment amount is NT\$43 million, and the annual benefit is about NT\$4 million.
Strengthen R&D, increase the proportion of differentiated and high-value products	In progress	R&D expenditure in 2019 exceeded NT\$1 billion, 4% higher than that in 2018 (4 consecutive years of growth)
Continue to promote energy conservation and carbon conservation and reduce greenhouse gas emissions by 3% in 2022 compared to 2015	In progress	557 improvement projects were completed in 2019, compared with that in 2018, the water consumption decreased by 4.5%, the steam consumption decreased by 14.4% and the electricity consumption decreased by 4.1%

# Sustainable Performance



## Financial Performance



The Company was selected as a constituent of the "FTSE4Good TIP Taiwan ESG index" "FTSE TWSE Taiwan 50 Index" and "TWSE CG 100 Index"



R&D expenditure in 2019 exceeded **NT\$1 billion**, **4%** higher than that in 2018 (4 consecutive years of growth)



The 2019 customer satisfaction survey:  
Overall satisfaction reached **4.3 points** accounting for **86%** of the total score ( same as the results in 2018, plus, the 2019 result is the highest score in recent 4 years)



No major violations occurred in 2019



## Non-financial Performance



The Company scored "Leadership Level (**A-**)" in both the climate change sector and the water security sector in 2019 Carbon Disclosure Project (CDP )



Kung San site was awarded as the Industrial Greenhouse Gas Voluntary Reduction Manufacturers



The greenhouse gas emissions in 2019 decreased by **3.9%**, compared with that in 2018



The air pollutant emissions in 2019 compared with that in 2018, NOx decreased by **6.7%**, VOC decreased by **23%** and TSP decreased by **50.3%**



Employees of the Company and subsidiaries in Taiwan: more than **93%** are full-time staff; **93%** are Taiwanese citizens



In 2019, the average monthly resignation rate for employees of the Company and its subsidiaries in Taiwan was **0.14%**



In 2019, no work incident resulted in death in the Company and its subsidiaries in Taiwan. The disabling injury frequency rate was **0.43**, the disabling injury severity rate was **59**, and the disabling injury index was **0.15**. All occupational hazard indicators were lower than those of our peers.



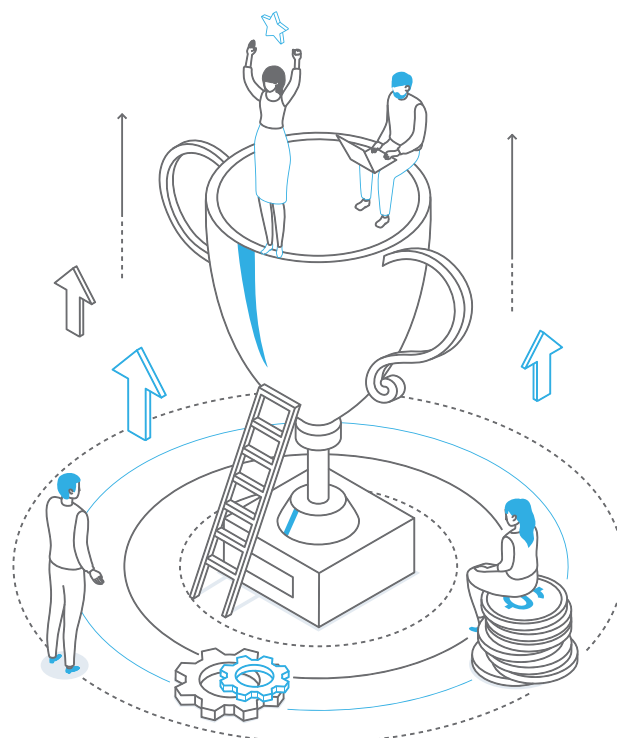
Amount invested in social welfare: a total of **NT\$57.78 billion**



Welfare for the physically and mentally challenged: **29** early treatment centers as well as a pioneering online exchange platform were set up.



Sports promotion: invested **NT\$250 million** to support athletes

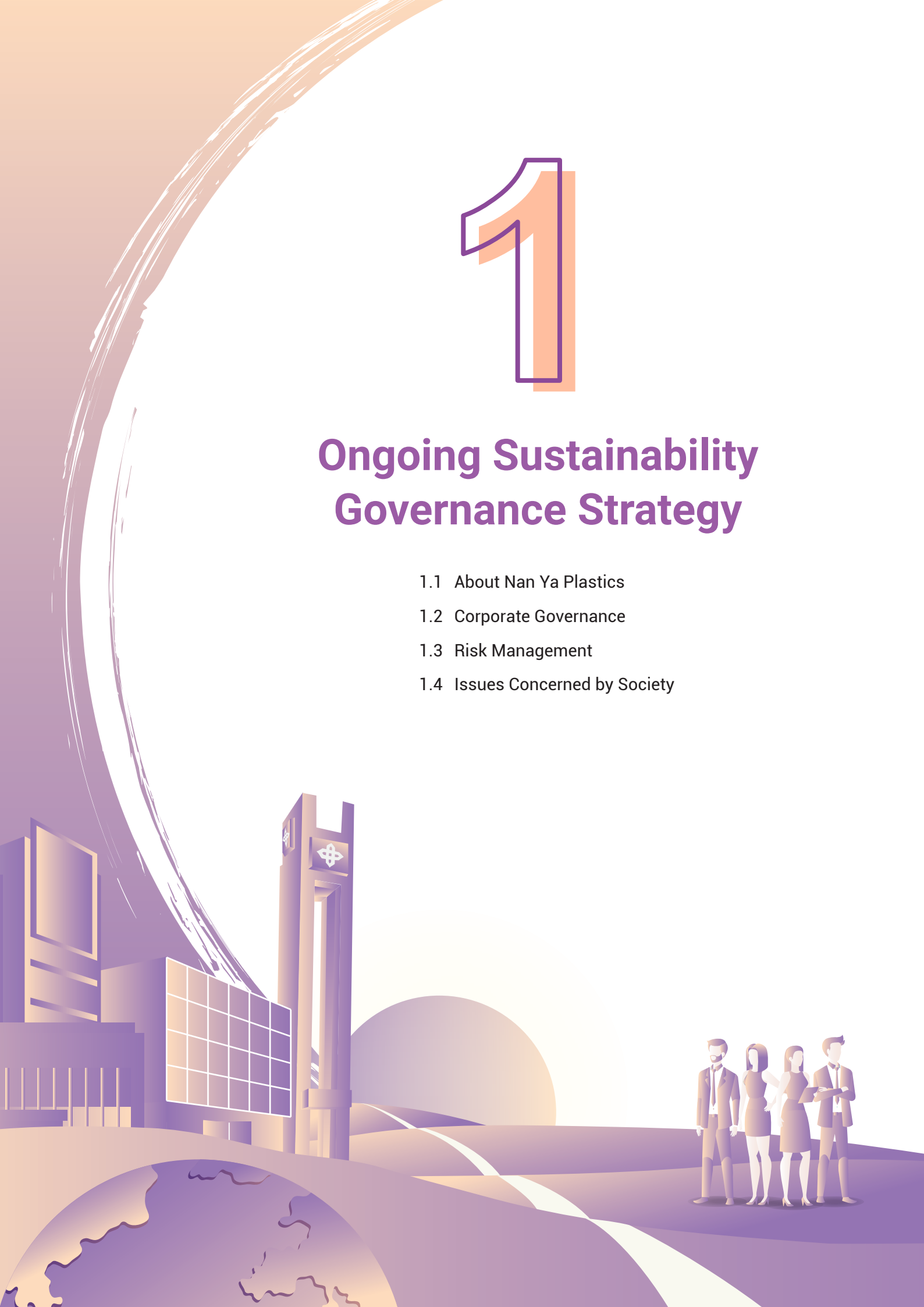




# 1

## Ongoing Sustainability Governance Strategy

- 1.1 About Nan Ya Plastics
- 1.2 Corporate Governance
- 1.3 Risk Management
- 1.4 Issues Concerned by Society






SDGs		Material Issues	<ol style="list-style-type: none"> <li>1. Integrity Management</li> <li>2. Financial Performance</li> </ol>
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Short-, Medium- and Long-term Goals for Material Issues

2019 Goals	2019 Progress
<ul style="list-style-type: none"> <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</li> <li>● By Reviewing and maintaining the internal control system to meet the requirements of laws and internal control needs in order to strengthen corporate governance</li> <li>● No major violations (with penalties exceeding NT\$1 million)</li> </ul>	<ul style="list-style-type: none"> <li>● The implementation of expansion plans at home and abroad: In progress</li> <li>● 7 Board of Directors meetings were convened with a 92.38% attendance rate</li> <li>● The corporate governance officer was set up by the Board of Directors in May, 2019</li> <li>● The English version of the annual report has been published since 2019</li> <li>● 48 items have been audited according to the yearly audit plan. Among of them, 10 cases of missing paperwork or incomplete data and other abnormalities were all tracked and improved. The completion rate is 100%</li> <li>● No major violations occurred in 2019</li> </ul>
Short-term Goals (2020 Goals)	
<ul style="list-style-type: none"> <li>● Continue to carry out the expansion plan: domestic high-value copper, polyester film, high-grade PEPA synthetic paper etc., overseas US EG plant and China copper clad laminate, glass fiber cloth plant</li> <li>● Publish information in both the Chinese and English version</li> <li>● To attend in the investor conference for more than 4 times, at least once every quarter</li> <li>● Continuously improve the internal control system to comply with law and practical needs</li> <li>● No major violations (with penalties exceeding NT\$1 million)</li> </ul>	
Medium and Long-term Goals (2021-2026)	
<ul style="list-style-type: none"> <li>● Continue to carry out the expansion plan: domestic high-value copper, polyester film, high-grade PEPA synthetic paper etc., overseas US EG plant and China copper clad laminate, glass fiber cloth plant</li> <li>● Strengthen the information disclosure on the official website to align with the international community</li> <li>● Continuously improve the internal control system to comply with law and practical needs</li> <li>● No major violations (with penalties exceeding NT\$1 million)</li> <li>● Provide stable compensation for shareholders</li> </ul>	



CSR Quick Review

 <p>The Company was selected as a constituent of the "FTSE4Good TIP Taiwan ESG index", "FTSE TWSE Taiwan 50 Index" and "TWSE CG 100 Index"</p>	 <p>6%~20% in the 6th Corporate Governance Evaluation</p>	 <p>No major violations occurred in 2019</p>
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# 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. As times passed by, 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: History).

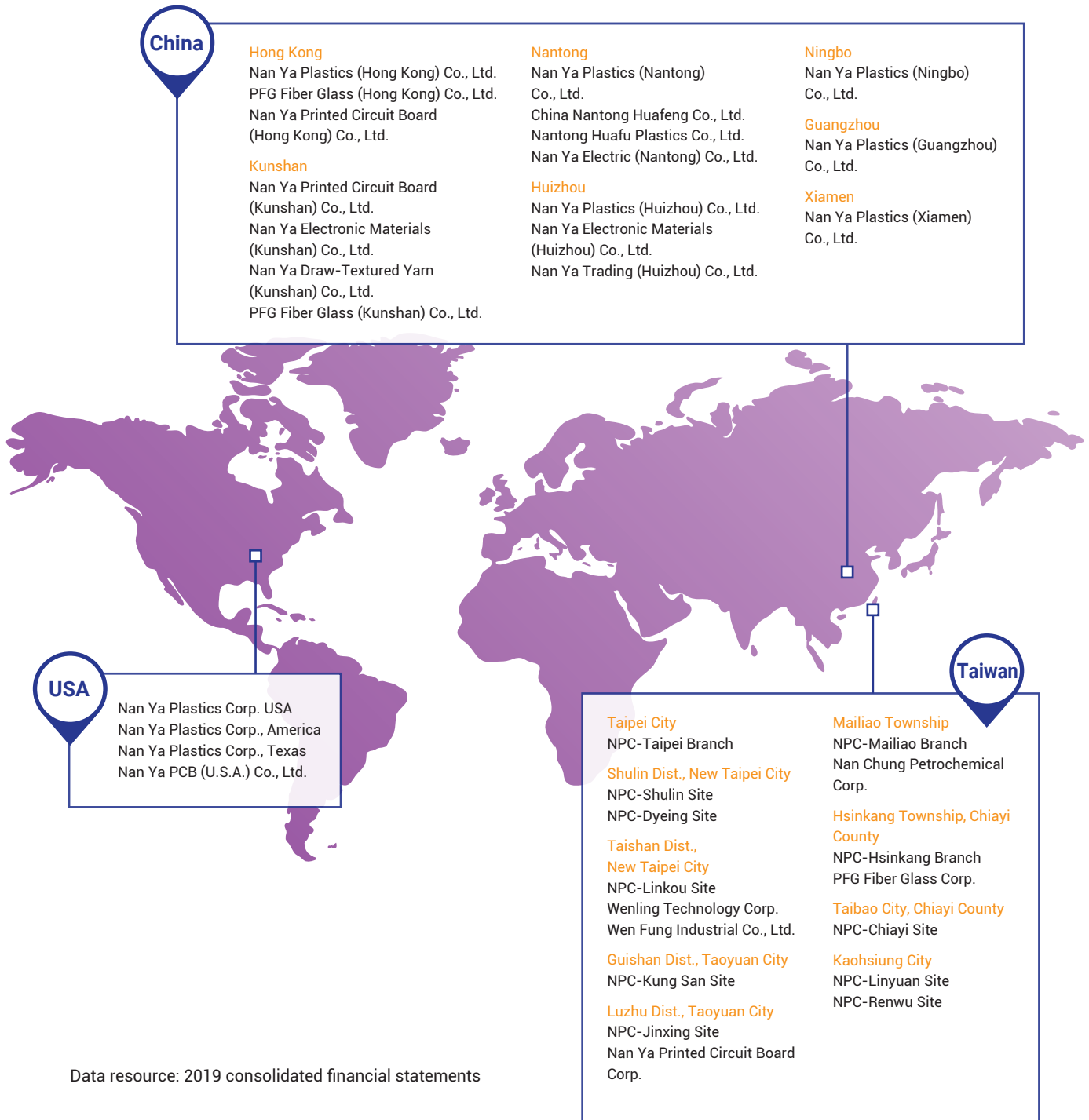
 <p>Company Name <b>Nan Ya Plastics Corporation</b></p> <hr/>  <p>Date of establishment <b>August 22nd, 1958</b></p>	<p><b>Main Operations</b> Plastics processing products, chemical engineering products, polyester products, electronic materials, and electromechanical engineering</p>
	<p><b>Capital</b> NT\$ 79,308,215,890</p>
	<p><b>Number of employee in 2019</b> 32,762 employees (for the purpose of the report, only 17,707 employees are taken into consideration, of which including Nan Ya PCB Corp., PFG Fiber Glass Corp. and Nan Chung Petrochemical Corp.. The number does not include domestic and overseas subsidiaries listed in the consolidated financial statements)</p>
	<p><b>Turnover in 2019</b> NT\$ 286.30306 billion</p>
	<p><b>Global Locations</b> Taiwan, China and the United States (6 of the subsidiaries listed in the consolidated financial statements are from Taiwan, and 23 are in overseas)</p>
	<p><b>Locations</b> Registration address: 101, Shuiguan Road, Renwu Dist., Kaohsiung City 814, Taiwan Taipei Branch: 3F, 201, Tung Hwa North Road, Taipei 105, Taiwan</p>

Note 1: The source of employee number comes from the 2019 Annual Report. (As of December 31st, 2019, including the subsidiaries in the consolidated financial statements)

Note 2: The turnover, global locations, and number of subsidiaries come from the 2019 consolidated financial statements

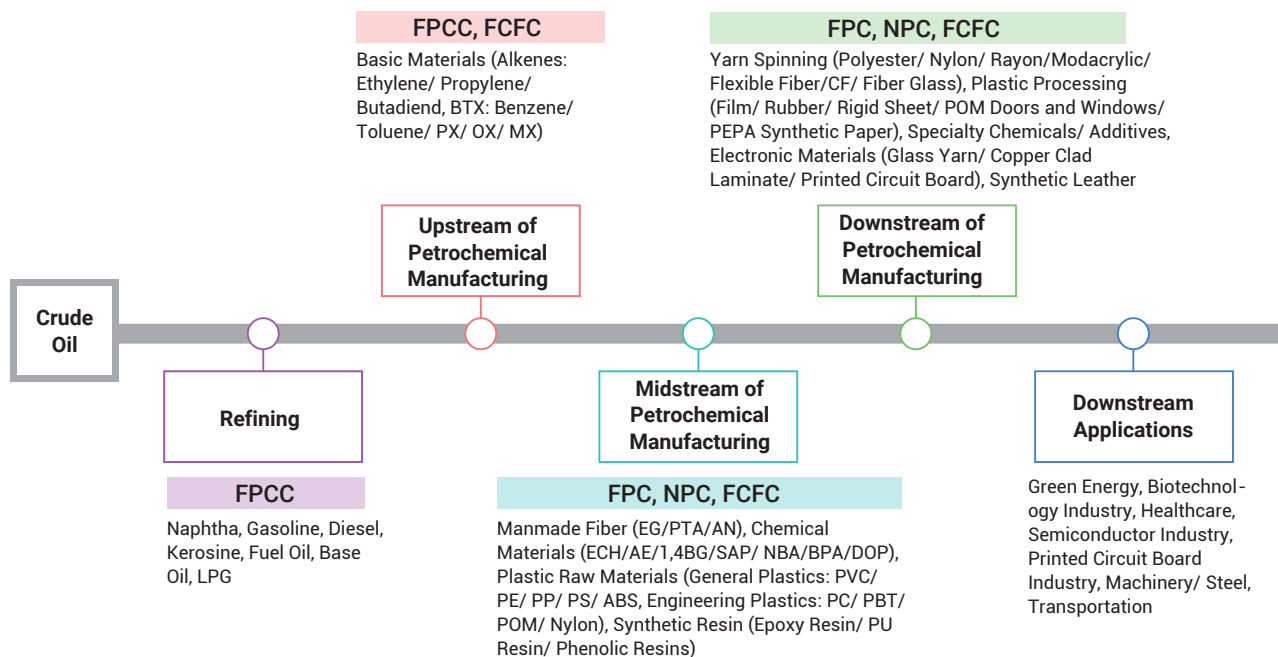


## Major Global Locations



### 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 2019 annual report.

### 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.

#### NPC's Business Philosophy

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.



Diligence, perseverance, frugality and trustworthiness

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.

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.



Perpetual business operation

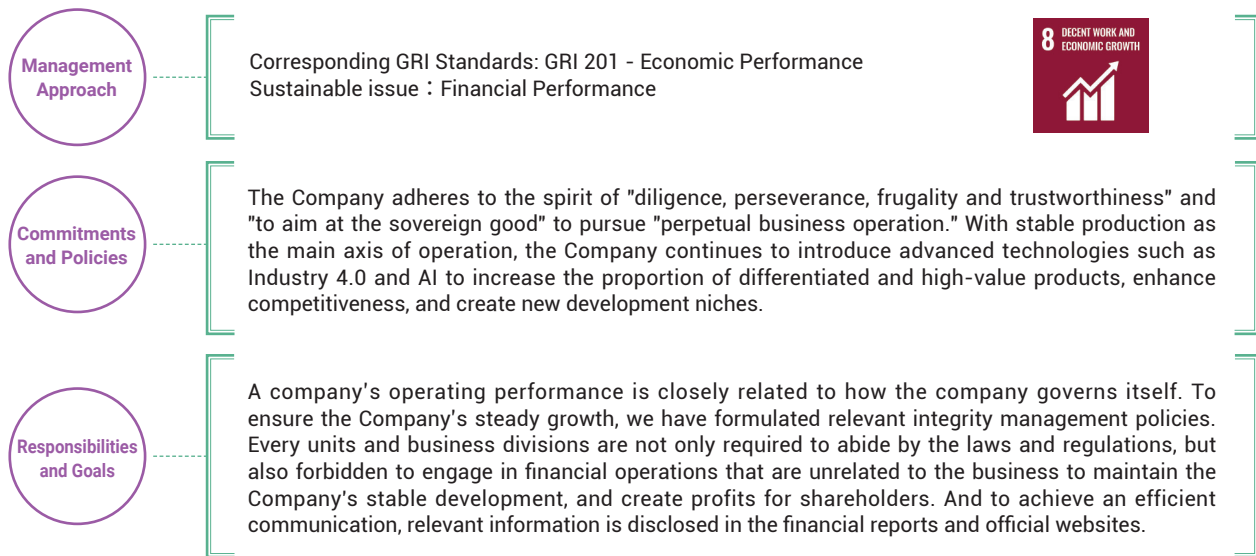
Dedication to the society



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.

**NPC's Business Philosophy**

### 1.1.3 Operating Performance Material Issue



The Company's 2019 consolidated revenue was NT\$286.303 billion, representing a decrease of 14% from 2018's NT\$333.062 billion. The consolidated profit before income tax was NT\$26.689 billion, representing a decrease of 57% from 2018's NT\$61.525 billion. The main reason is that the Company's industry is facing fierce competition. While the production capacity of peers and market supply continue to increase, the trade war has made a negative impact on the global economy. The market adopts a strong wait-and-see attitude, and the overall performance reflects the difficult situation of operating environment.

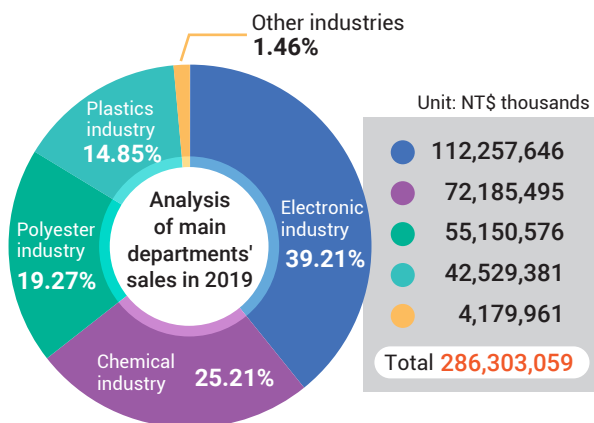
In the future, the Company will continue to actively promote "market expansion", "research and development", "circular economy" and "process optimization" etc. to keep an expectation of maintaining stable growth and profitability under the complex international situation.

#### ■ NPC's Financial Performance

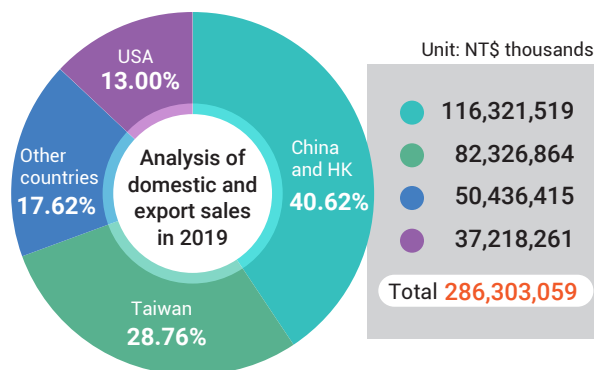
Unit: NT\$ thousands

Item	2016	2017	2018	2019
Net Sales	275,294,431	306,139,952	333,061,560	286,303,059
Cost of Sales	243,895,390	256,172,821	283,997,975	258,165,832
Profit before income tax	53,846,991	62,776,174	61,525,186	26,689,030
Retained earnings	191,296,477	208,480,444	220,788,020	204,105,146
Earnings per share(NT\$)	6.16	6.87	6.65	2.91
Return on total equity (%)	14.70	15.03	13.97%	6.25%
Total tax (excluding business tax)	1,010,915	2,240,766	2,817,655	2,781,360

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



Data resources: 2019 consolidated financial report



Data resources: 2019 consolidated financial report

### 1.1.4 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, we also share the latest market trends, changes in supply and demand, and technical information with the industry in order to contribute to the overall industry.

External Association Name	Position	Company Manager
New Taipei City Industrial Development Advisory Committee	Advisory Member	Chairman Chia-Chau Wu (Representative of Nanya Technology Corp.)
Petrochemical Industry Association of Taiwan	Director	Chairman Chia-Chau Wu
	Director	President Ming-Jen Tzou (Representative of Nan Chung Petrochemical Corp.)
Taiwan Man-Made Fiber Industries Association	Managing Director	Senior Vice President Sin-Yi Huang
	Director	Consultant Zo-Chun Jen
Taiwan Textile Printing, Dyeing & Finishing Association	Director	Senior Vice President Sin-Yi Huang
Taiwan Accreditation Foundation	Director	Senior Vice President Fong-Chin Lin

Other external association: Taiwan Synthetic Resins Manufacturers Association, Taiwan Responsible Care Association, Taiwan Printed Circuit Association, Taiwan Association of Machinery Industry etc.

Note: The Company has participated in external association, such as Institute of Antenna Engineers of Taiwan and Taiwan Association of Information and Communication Standards etc. in 2020.

### 1.1.5 Awards



2019 Carbon Disclosure Project (CDP) reached the leadership level for "Climate Change Project" and "Water Project"



FTSE4Good  
TIP Taiwan ESG Index



FTSE4Good Index Series  
FTSE4Good TIP Taiwan ESG index



TAIWAN  
STOCK EXCHANGE

6%~20% in the 6th Corporate Governance Evaluation FTSE TWSE Taiwan 50 Index  
TWSE CG 100 Index  
Taiwan HC100 Index



Online voting as top 20 "Happy Enterprise" from of 1111 Job Bank



2019 Industrial Greenhouse Gas Voluntary Reduction Manufacturers (Kung San site)



2019 excellent fire management location (Rigid Sheet Plant of Hsinkang)



2019 Health Promotion Label (Renwu site, Chiayi site)

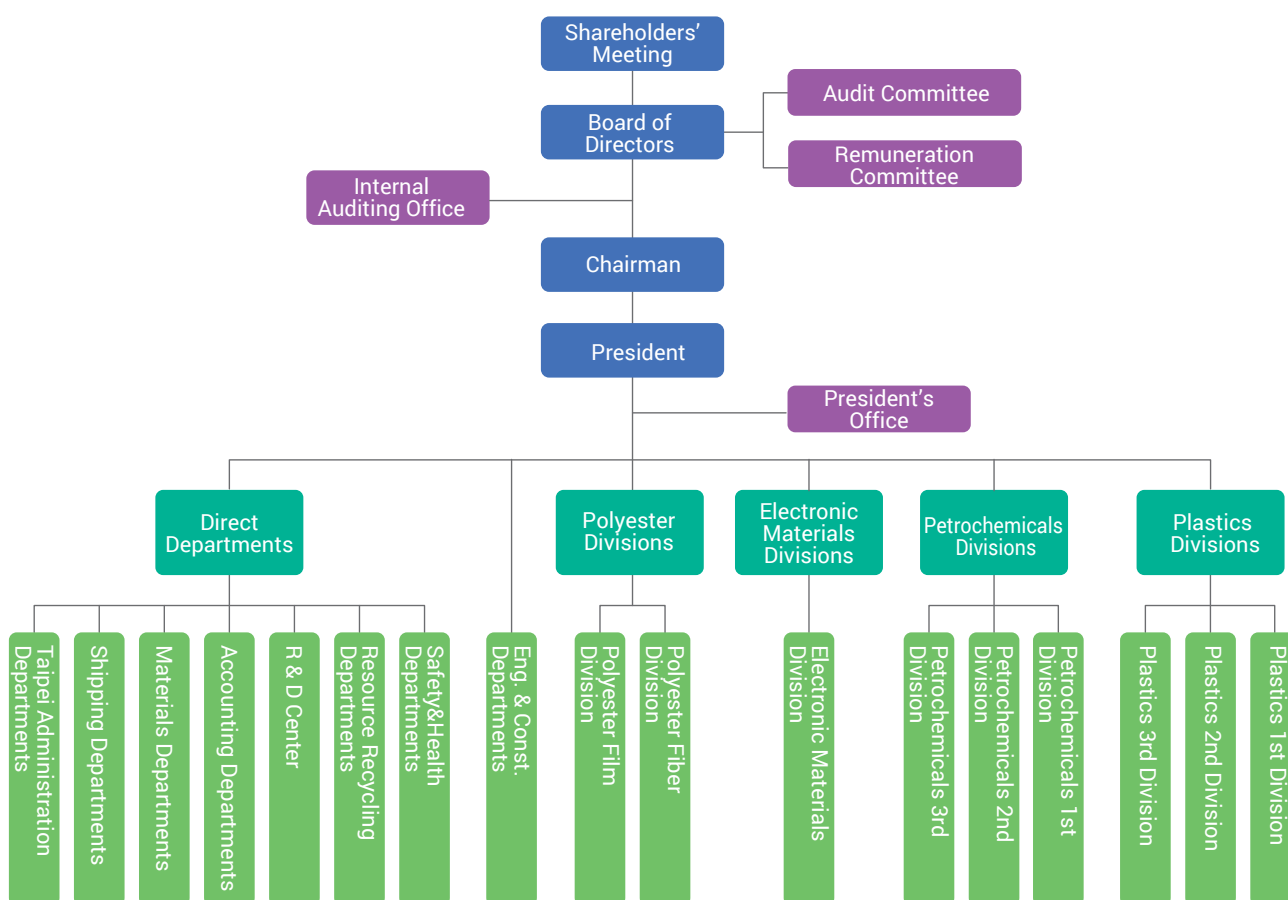




## 1.2 Corporate Governance

### 1.2.1 Organizational structure

The Company's organizational structure has clear division between rights and responsibilities; the current Chairman has not concurrently held the position of the Company's manager to ensure the independence of the Company's operation. In addition, the Company divides into 10 business divisions according to operating product categories, and indirect departments are set up according to different functions attributes, all business divisions and indirect departments are under the President's jurisdiction.

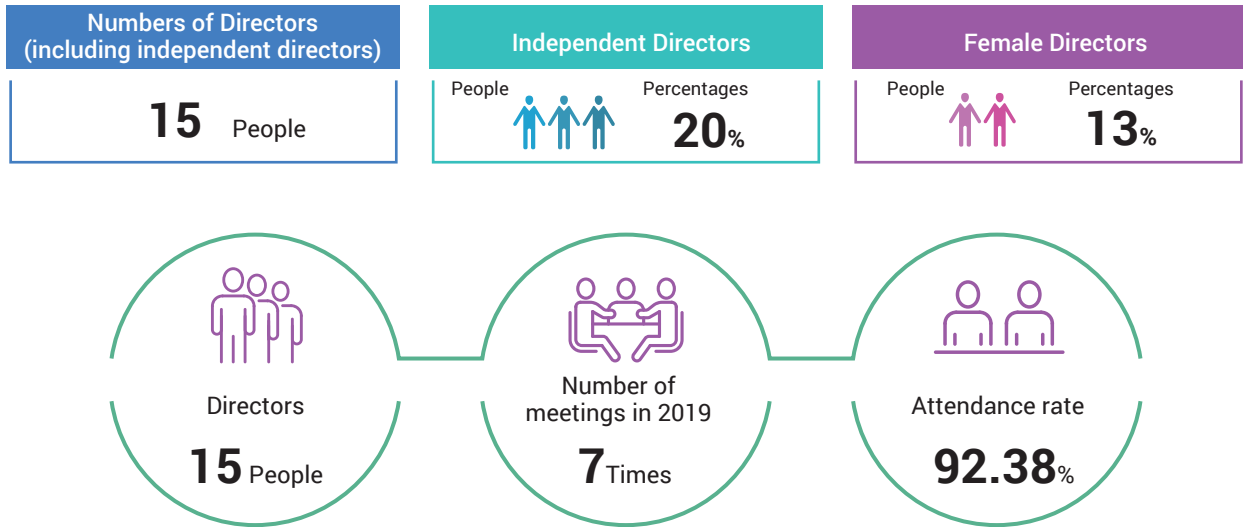


### 1.2.2 Board of Directors

#### (1) 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 three-year 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. 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 "Board of Directors" and the annual report.

## ■ Composition of Directors



## (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 2019 Net Income

Unit: NT\$ thousands

Item	2016	2017	2018	2019
Directors Compensation	22,742	23,909	24,233	24,759
Percentages %	0.05	0.04	0.05	0.11

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, and the Remuneration Committee convened 3 times in 2019. The main functions of the committees and the attendance of the members are as follows:

#### Audit Committee



##### Primary Functions

1. Ensure fair presentation of the Company's financial statements
2. The appointment (or dismissal) of Certified Public Accountant, evaluation of competency, independence, and performance
3. Ensure that the Company's internal controls are effectively implemented
4. Ensure that the Company follows the relevant laws and regulations to control existing or potential risks

#### Remuneration Committee



##### Primary Functions

Evaluate the Company's directors and managers' compensation policies and systems, make recommendations to the Board of Directors for decision-making

#### 2019 Attendance

Job Title	Name	Audit Committee			Remuneration Committee		
		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%	3	0	100%
Independent Director	Yi-Fu Lin	5	0	100%	3	0	100%
Independent Director	Yun-Peng Chu	5	0	100%	3	0	100%

Note: For matters regarding the communication between independent directors, accountants, and internal audit supervisors, please refer to the Corporate Governance section of NPC's website

### 1.2.4 Integrity Management and Anti-corruption



Material Issue

**Management Approach**

**Commitments and Policies**

**Responsibilities and Goals**

Corresponding GRI Standards: GRI 205 - Anti-corruption  
Sustainable issue : Integrity Management

"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.

The Company formulates relevant integrity management policies, the President's Office promotes related operations, computerizes the management operations of various businesses to reduce human error in intervention and judgment. The audit office audits according to the annual plan. External complaint channels are also provided to ensure that the Company implements integrity management and avoids the occurrence of personal frauds.

The Company formulates strict ethics principles and related standards. In addition, we behave in a responsible manner at work and in life to maintain high ethical standards, company reputation and compliance with laws and regulations.

### Strict disciplines

Employees who have been found to violate the rules will not be given lenient treatment. Their direct supervisors will also be punished accordingly to serve as a warning.



### Anti-corruption

Internal regulations expressly stipulate that contractors' invitations and gifts must be turned down. Those who engage in malpractices, misappropriation of public funds, bribery, and commissions shall be dismissed.

### Malpractice prevention

All those who hold positions in business, procurement, storage, supervision, and budgeting must be regularly rotated to avoid misconduct.

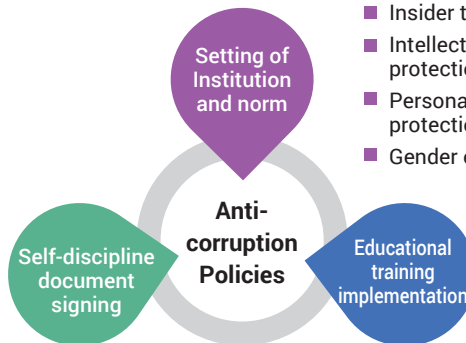
## (1) Code of Conduct and Avoidance of Conflict of Interests

The Company has formulated 17 important codes such as the "Corporate Governance Practice Principles" and the "Ethical Corporate Management Best Practice Principles," which all disclosed in the "Investor Section" of the official website. Besides, the recusals of the Board of Directors due to conflicts of interest please refer to 2019 annual report.

## (2) Anti-corruption Policies and Actions

### Self-discipline document

- Sign a "pledge"
- Abide by the "Trade Secrets Act"
- "Working Rules" manual
- "Ethical Corporate Management Best Practice Principles"
- "Corporate Governance Practice Principles"
- "Personnel Management Rules"
- "Self-discipline convention"
- "Ethical Code of Conduct" for directors and managers



### Professional ethics

- Anti-corruption
- Abide by the labor law
- Environmental protection
- Insider trading laws
- Intellectual property rights protection
- Personal data and privacy protection
- Gender equality

### Types of trainings

- Pre-employment trainings
- Professional job trainings
- Advanced supervisor training courses
- Face-to-face courses
- Online courses

## 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).






## The Implementation

The Company has conducted the corruption risk assessment at all operating locations in 2019, and the results showed there's no major corruption risk.

### 1.2.5 Internal Control Mechanism

The Company has established an efficient and complete internal control mechanism. Through interconnecting personnel, finance, business, production, materials, and engineering functions by technology, the Company has implemented overall computerization of operational management. The computer automatically checks the data and debugs through human-set logic. Once an abnormality is found, the relevant personnel are immediately prompted to deal with it. In addition, the Company has established an internal auditing office under the Board of Directors. The full-time internal auditors are appointed to audit according to the yearly audit plan and required to participate in training courses organized by professional institutions every year to continuously improve their professional capabilities.

#### ■ The Scope of Internal Audit

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

#### ■ The Statistics of Internal Audit

Item	2016	2017	2018	2019
Number of audit items	46	48	48	48
Number of abnormalities	13	12	10	10 <sup>Note</sup>
Abnormality improvement rate	100%	100%	100%	100%

Note: 10 abnormalities have been audited in 2019, in which 2 were production and sales abnormalities, 2 were material engineering abnormalities, 4 were personnel affairs abnormalities, 1 was financial abnormality and 1 was computer abnormality. There's no major abnormality and all aforementioned abnormalities have been improved.

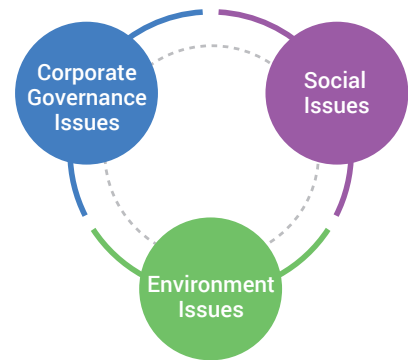
## 1.3 Risk Management Material Issue

<div style="border: 1px solid #8e44ad; border-radius: 50%; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="color: #8e44ad; font-weight: bold;">Management Approach</span> </div>	<div style="border-left: 2px solid #27ae60; border-right: 2px solid #27ae60; padding: 0 10px;">                 Corresponding GRI Standards: None                  Sustainable issue : Management and Corresponding Measures of Operating Risks             </div>
<div style="border: 1px solid #8e44ad; border-radius: 50%; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="color: #8e44ad; font-weight: bold;">Commitments and Policies</span> </div>	<div style="border-left: 2px solid #27ae60; border-right: 2px solid #27ae60; padding: 0 10px;">                 The Company sets system maintenance personnel in every operating function to take control of internal/ external operating risks and actual implementation of each function. The personnel timely report risks mitigation measures to ensure the operation stability and lower the potential risks.             </div>
<div style="border: 1px solid #8e44ad; border-radius: 50%; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="color: #8e44ad; font-weight: bold;">Responsibilities and Goals</span> </div>	<div style="border-left: 2px solid #27ae60; border-right: 2px solid #27ae60; padding: 0 10px;">                 The Company's assets have been insured against property and fire, etc., and emergency response measures are set in every plant. In addition, the President's Office and each function of each business division are all equipped with system maintenance personnel. They in charge of the projects by investing in manpower and material resources to cope with specific risks and implement mitigation measures.             </div>

### Risk Identification Process

The President's Office of the Company, together with the Group Administration, assesses the risks of the Company's that listed on right-hand side based on the degree of impact on the stakeholders, and formulates risk policies that can be effectively identified, measured, evaluated, supervised, and controlled to reduce the impact due to the risks.

The Company has a clear division between various businesses, which is promoted by each functional units of the President's Office according to the Company's rules and regulations. According to changes in the external environment, the functional units timely identify potential risks, report to their supervisors, and work together to discuss potential countermeasures through relevant meetings irregularly. In addition, the audit office is responsible for reviewing whether all kinds of risk management and perpetual risk management are operating in accordance with regulations. Independent directors also communicate with audit supervisors on audit deficiencies and anomalies irregularly and report to the Board of Directors.



### Operating Risks Assessments and Corresponding Measures

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
Financial Risks	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.
	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.
	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.

Risk Identification	Potential Risks	Corresponding Measures
Raw Material-Related Risks	Supply Interruption	<ol style="list-style-type: none"> <li>1. Actively exploring qualified suppliers to increase sources.</li> <li>2. 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>3. Stay informed of demand of production and sales and the supply situation of the market. Prepare the materials in advance if necessary.</li> </ol>
Market Risks (ex. Sino-us trade war, the termination of ECFA)	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.).
	Unbalanced Production and Sales	<ol style="list-style-type: none"> <li>1. When a product fails to be sold out, production utilization or schedule of annual repair and maintenance have to be adjusted accordingly.</li> <li>2. 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>
Equipment Maintenance Risks	Equipment Maintenance	<ol style="list-style-type: none"> <li>1. Establishing appropriate safety stocks for equipment components and implementing spare parts control through the information system.</li> <li>2. 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 style="list-style-type: none"> <li>1. Standardizing the operating procedures.</li> <li>2. Strengthening information security management, including equipment monitoring, notification mechanism, abnormality management and backup.</li> <li>3. Implementing education and training, and conducting drills from time to time.</li> </ol>
SHE Risks	Work Safety Incidents	<ol style="list-style-type: none"> <li>1. Conducting hazard identification and risk assessment in a timely manner as well as drills for risk reduction measures and emergency response.</li> <li>2. 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>
	Environmental Protection	<ol style="list-style-type: none"> <li>1. 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>2. 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>3. Promoting pollution reduction, waste recycling, and wastewater recycling.</li> </ol>
Climate Change Risks	Carbon Emission Management	<ol style="list-style-type: none"> <li>1. 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>2. 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>3. 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>

Risk Identification	Potential Risks	Corresponding Measures
Epidemic Risks	COVID-19	<ol style="list-style-type: none"> <li>1. Set up an emergency response team to keep abreast of each plants' employee turnover and relevant epidemic information at home and abroad, and report to the supervisors for making decisions</li> <li>2. Access control is implemented in each plant. Personnel entering the plant are required to measure body temperature and fill in the health declaration form. Those who do not meet the requirements will be asked to return home for independent isolation. In addition, disinfection and cleaning supplies are provided, and employees are encouraged to wear masks.</li> <li>3. In addition to requiring colleagues to avoid unnecessary domestic and foreign business trips, reduce meetings or switch to video conferencing, the meeting seats must be kept at a distance</li> <li>4. Provide employees with epidemic prevention leave and home quarantine leave in accordance with the law, and plan personnel to work in different areas</li> </ol>

## 1.4 Issues Concerned by Society

### News Report - New Site Industries Inc.'s fraud case

The beginning: Northern Mobile Team of Ministry of Justice Investigation Bureau investigated New Site Industries Inc.'s fraud case on November 1, 2019.

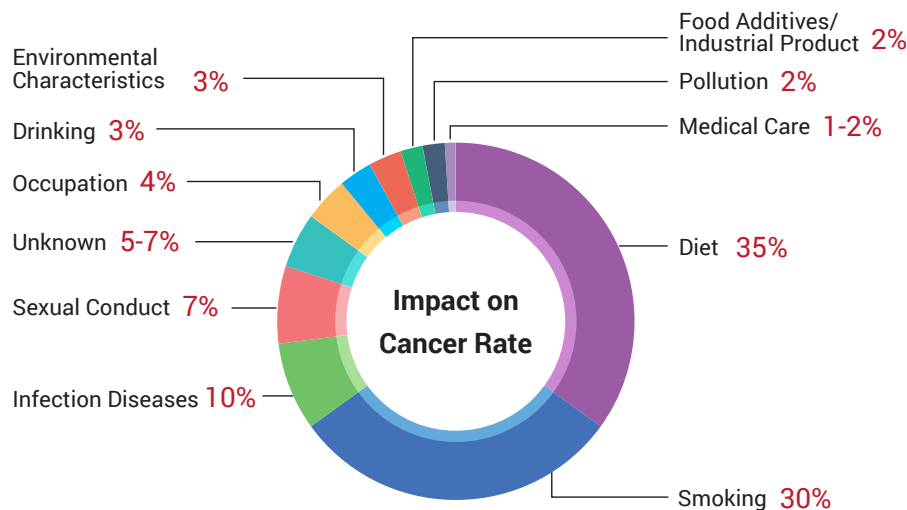
Response: One of the Company's employees Tsai was investigated and prosecuted for his personal conduct. The trial has been conducted by the Taipei District Court. During the investigation, the Company provided assistance and collaborated with relevant units on the investigation. After evaluation, the case had no impact on the Company's financial situation.

### 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. At the 19th court session on December 20, 2019, the plaintiff decided to raise a public nuisance dispute, and the Yunlin County Government would conduct subsequent mediation. However, as of the publication of this report, the plaintiff has not submitted a public nuisance dispute to the Yunlin County Government.

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. In addition, international literatures point out that there are many causes of cancer, and the incubation period of cancer is about 10 to 20 years. The plants in Sixth Naphtha Cracker Project have operated one after another since 1999, but large-scale operation only began since 2005. Therefore, there is no exact causal relationship between the fact that the residents are 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.
2. Colditz GA, Sellers YA, Trapido E. Epidemiology-identifying the causes and preventability of cancer? *Nat Cancer*. 2003; 6: 75-83.
3. Harvard Report on Cancer Prevention. Volume 1: Causes of human Cancer. *Cancer Causes & Control (Supplement 1)* 1996; 7: s3-s59.

#### Clarification for United Daily News – The air pollution in Yunlin, Chiayi and Tainan are the most serious area within Taiwan

Regarding the article "The air pollution in Yunlin, Chiayi and Tainan are the most serious area within Taiwan" published on July 12, the deputy chief executive officer of Citizen of the Earth, Taiwan pointed out that the high average  $PM_{2.5}$  in Yunlin is due to the pollution discharge of the Sixth Naphtha Cracker Plant, while the high average  $PM_{2.5}$  in Chiayi and Tainan is due to the fact that the two places are located in the leeward side. However, this is inconsistent with the results of the Environmental Protection Administration and professional organizations' research. Formosa Plastics Group clarified as follows:

1. According to the results of the Environmental Protection Administration's research "The Project of Consolidating the System of Air Quality Model (the Second Year)" in 2017, the proportion of  $PM_{2.5}$  concentration in Yunlin, Chiayi and Tainan area affected by overseas transmission was 36.6%, and the proportions affected by domestic fixed pollution sources, traffic sources and area sources (such as dust and oil fumes, etc.) were 19.3%, 20.0%, and 18.8% respectively, of which the impact of petrochemical and power industries related to the Sixth Naphtha Cracker Plant was only 5.94%.
2. Regarding the impact of the Sixth Naphtha Cracker Plant's emission on  $PM_{2.5}$  in Yunlin, Chiayi and Tainan area, according to the research of the "Project of impact of Sixth Naphtha Cracker Plant's plans on air quality" reviewed by the Environmental Protection Administration, it shows that the impact of emissions from the Sixth Naphtha Cracker Plant on  $PM_{2.5}$  throughout the year is only 0.44~2.34% in Yunlin, Chiayi and Tainan area. Other major pollution sources include diesel vehicles (13.3%~16.7%), gasoline vehicles (7.6%~11.5%) and dust (5.31%~8.82%), etc.
3. To sum up, there are multiple sources that affect the air quality of Yunlin, Chiayi and Tainan area. Similar to the explanation of the Yunlin Environmental Protection Bureau reported on 7/12, the Sixth Naphtha Cracker Plant is not the main impact source.

Formosa Plastics Group's Mailiao Industrial Complex has always adhered to the spirit of taking both economic development and environmental protection into consideration, and has made great efforts to manage air pollution emissions. All walks of life who are concerned about the current situation of the Mailiao Industrial Complex and environmental issues are welcome to have a visit for personal experience and give suggestions.

#### The Press Release

#### ■ Nan Ya Plastics Corporation was voted as top 20 "Happy Enterprise"

1111 Job Bank held an online voting activity for the "Happiness Survey of Manufacturing and Agency Sales of Construction Industries". Nearly 9,000 office workers voted for the happiest company in their minds. Nan Ya Plastics Corp. was voted as the top 20 happy companies in the manufacturing industry. 1111 Job Bank held an award ceremony at the Shangri-La Hotel. The vice president, Ming-Jong Yeh as the representative of Nan Ya Plastics Corp. attended the ceremony accepted the award. Besides, representatives from the sectors, the Office of the President, the Executive Yuan, the Ministry of the Interior, the Ministry of Economic Affairs, and the Ministry of Labor attended the ceremony.



The vice president, Ming-Jong Yeh as the representative of Nan Ya Plastics Corp. accepted the award

# 2

## Product Value Expansion

- 2.1 Diversified Product Application
- 2.2 Collaborative Business Model
- 2.3 Supplier and Contractor Management



SDGs		Material Issues	<ol style="list-style-type: none"> <li>1. Product innovation and R&amp;D</li> <li>2. Regulatory Compliance</li> </ol>
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**Short-, Medium- and Long-term Goals for Material Issues**

**2019 Goals**

- Strengthen research and development, increase the proportion of differentiated and high-value products
- Avoid excessive concentration of exports to China and expand emerging markets
- Formulate and require vendors to sign the "Supplier/ Contractor Corporate Social Responsibility Commitment" and "CSR Questionnaire for Vendors"
- No major violation regarding product labeling, customer privacy, etc. (with penalty exceeding NT\$1 million)

**2019 Progress**

- R&D expenditure in 2019 exceeded NT\$1 billion, 4% higher than that in 2018 (4 consecutive years of growth)
- Overall satisfaction reached 4.3 points in the 2019 customer satisfaction survey, accounting for 86% of the total score (same as the results in 2018, plus, the 2019 result is the highest score in recent 4 years)
- The reply rate of "CSR Commitment " was 77%; The reply rate of "CSR Questionnaire for Vendors" was 54% in 2019
- No major violation regarding product labeling, customer privacy, etc. occurred in 2019


**Short-term Goals (2020 Goals)**

- Strengthen research and development, increase the proportion of differentiated and high-value products
- Avoid excessive concentration of exports to China and expand emerging markets
- Raise the reply rate of "CSR Commitment " to 85%; and raise the reply rate of "CSR Questionnaire for Vendors" to 75%
- No major violation regarding product labeling, customer privacy, etc. (with penalty exceeding NT\$1 million)


**Medium and Long-term Goals (2021-2026)**

- Strengthen research and development, increase the proportion of differentiated and high-value products
- Continue to focus on customer needs, protect customer privacy and strengthen partnerships
- Raise both the reply rate of "CSR Commitment " and "CSR Questionnaire for Vendors" to 100%
- No major violation regarding product labeling, customer privacy, etc. (with penalty exceeding NT\$1 million)

**CSR Quick Review**



R&D expenditure in 2019 exceeded NT\$1 billion, 4% higher than that in 2018 (4 consecutive years of growth)



Overall satisfaction reached 4.3 points in the 2019 customer satisfaction survey, accounting for 86% of the total score (same as the results in 2018, plus, the 2019 result is the highest score in recent 4 years)

## 2.1 Diversified Product Application

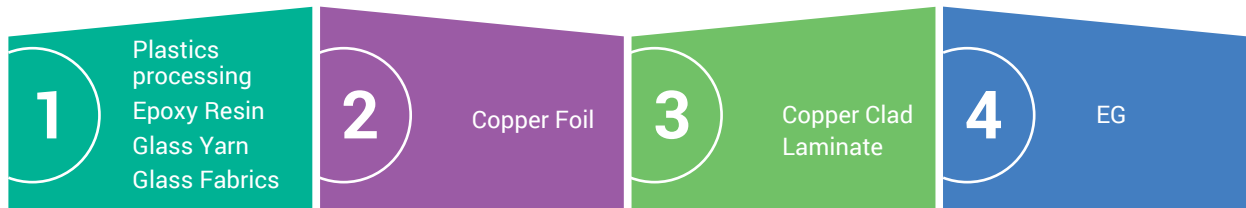
The Company produces plastics products, chemicals products, polyesters products, electronic materials, polyester products, mechanical equipment and switchgears. The main product market positions (global rankings) are as follows. For detailed product information, please refer to Nan Ya Plastics official website "Product Overview".



NPC "Product Overview"



Polyesters products rank no. 8 in the worldwide



### 2.1.1 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.


<p><b>Jiemei Film</b></p> <p>Brand</p> <p><b>南亞保鮮膜</b> NAN YA WRAP 南亞塑膠工業股份有限公司</p> <p>Picture</p>  <p>Product</p> <p>PVC cling film</p> <p>Application</p> <p>Packaging</p>	<p><b>TAIRILIN</b> (2007/12/1)</p> <p>Brand</p> <p><b>台麗綾 TAIRILIN</b></p> <p>Picture</p>  <p>Product</p> <p>Polyester</p> <p>Application</p> <p>Clothes</p>	<p><b>Neuma</b> (2000/12/16)</p> <p>Brand</p> <p><b>Neuma</b> 節能氣密窗</p> <p>Picture</p>  <p>Product</p> <p>Energy-saving airtight POM window, entrance fire door, SMC door</p> <p>Application</p> <p>Indoor and outdoor</p>	<p><b>Splendid PU leather</b> (2002/2/16)</p> <p>Brand</p> <p><b>舒麗</b> SPLendid</p> <p>Picture</p>  <p>Product</p> <p>PVC/PU artificial leather</p> <p>Application</p> <p>Sofa, office chair, car upholstery</p>
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**Pearlescent Paper (PEPA) (2010/5/1)**

Brand

**珠光 PEPA**

Picture



Product

PEPA synthetic paper

Application

Printing, tags

**ECO (2011/7/16)**

Brand

**南亞舒活**

Picture



Product

Panel and decking, decorative panel

Application

Indoor and outdoor building materials

**Deluxe (1997/11/16)**

Brand

**華麗**

Picture



Product

Hollow tiles, plastic flooring, hollow foamed plate

Application

Flooring, furniture board, door panel



For detailed product information, please refer to the official websites listing below.



NPC "Product Overview"



NPC PVC cling film website



NPC Energy-saving airtight POM window website

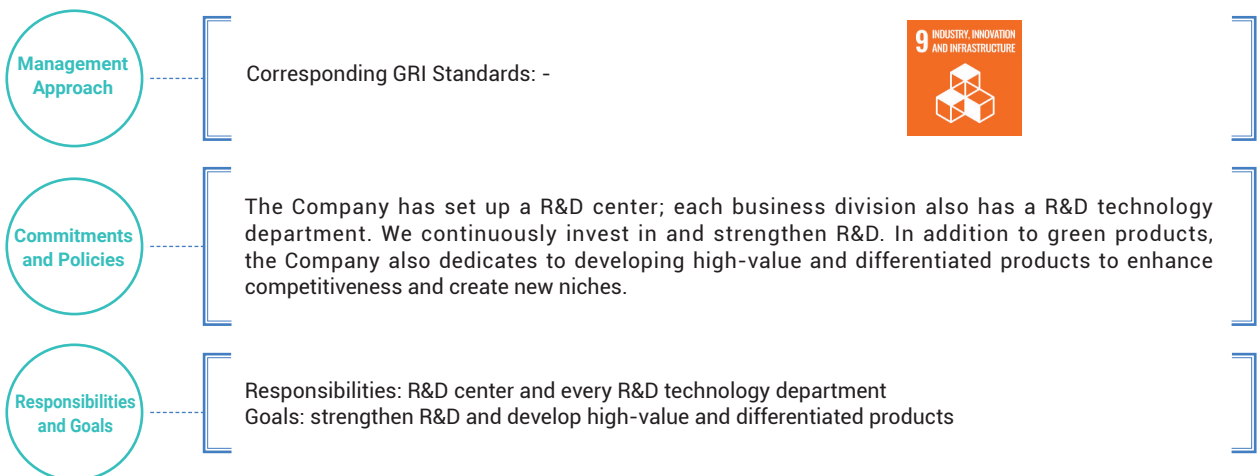


NPC PEPA, synthetic paper website

## 2.1.2 Product Development and Innovation



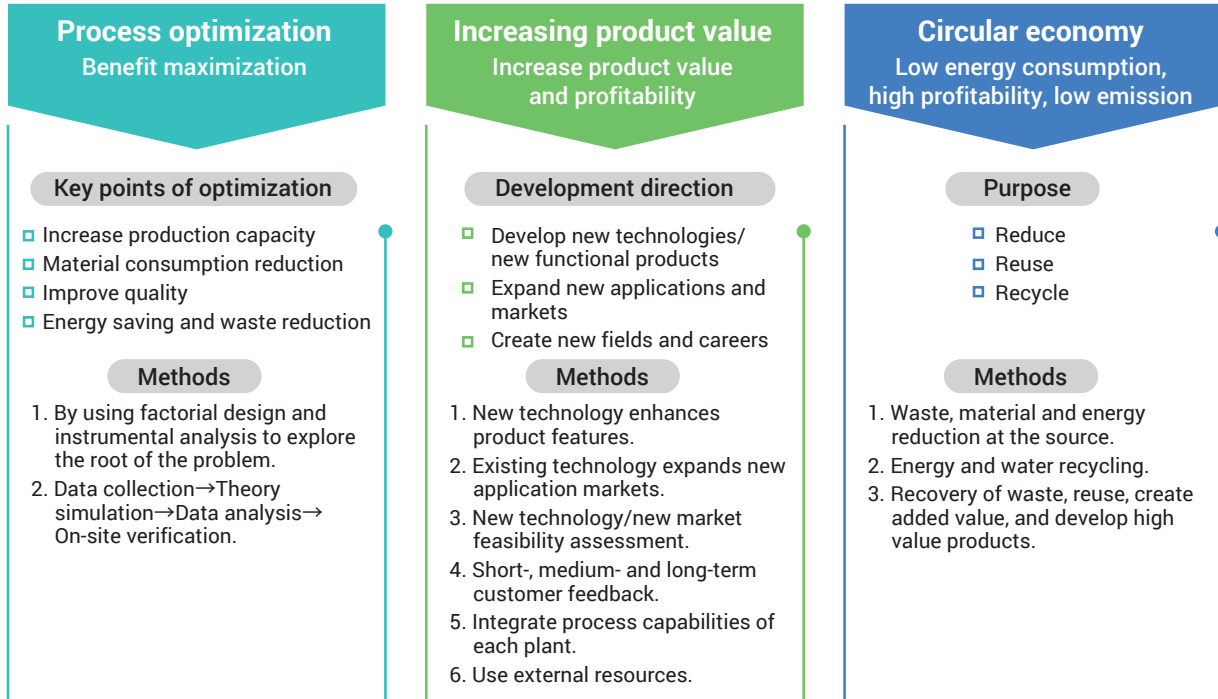
### Material Issue



### 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.

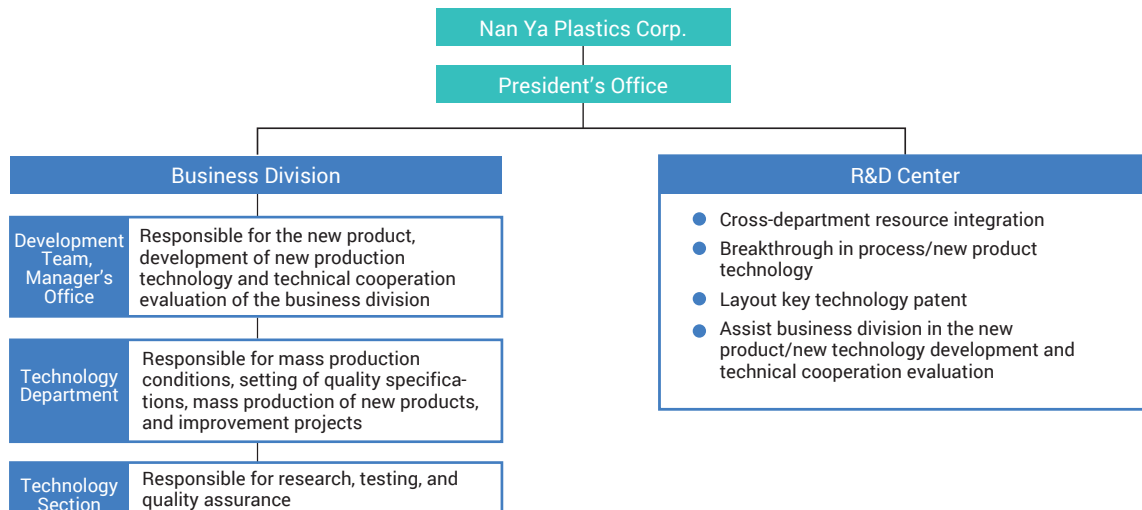
#### R&D Layout of Management Policy



### Management Processes for R&D and Innovation

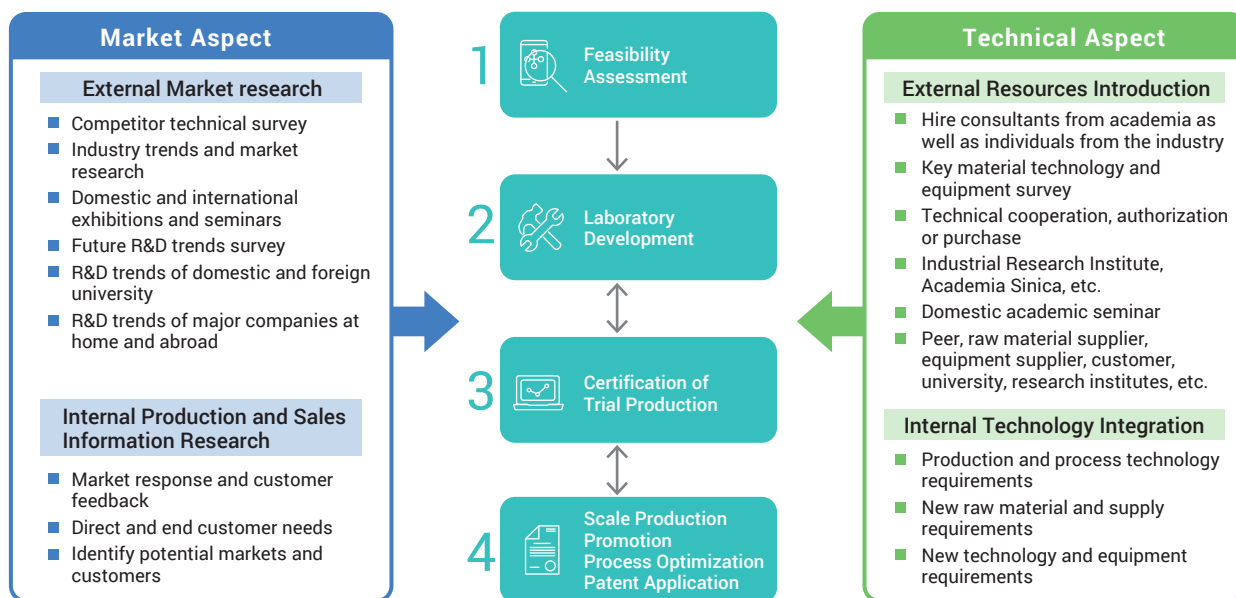
#### 1. R&D Organization

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.



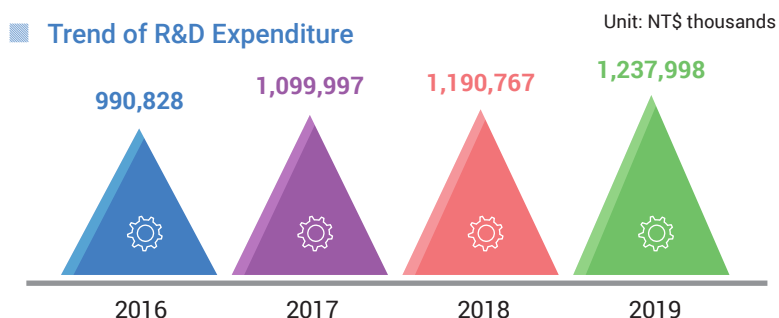
## 2. R&D Strategy

- (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.



### The R&D Expenditure

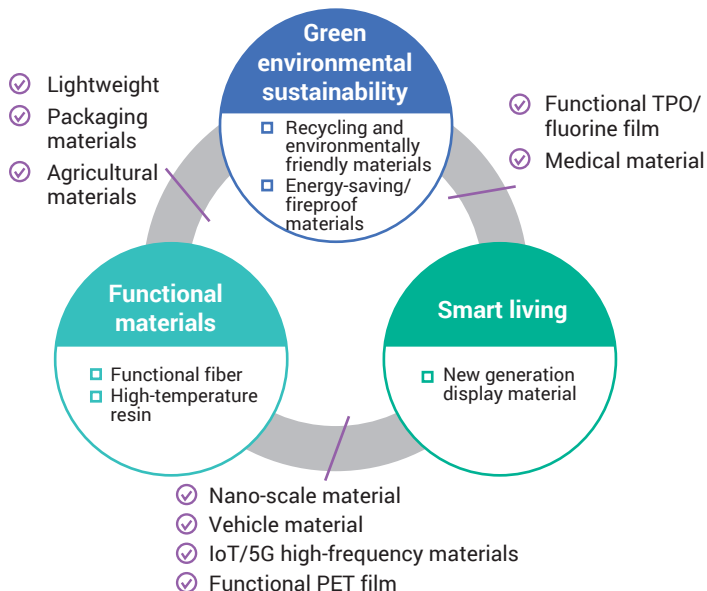
The Company purchased various trial production equipment and precision analytical instruments. In addition to reducing raw material costs for new products to be produced directly, the Company can also provide small-batch samples for customer evaluation and shorten the development schedule.



### 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. Besides, for future R&D projects which expected to be invested, please refer to the Company's annual report.

### Innovative R&D and Product Applications









### 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.





### 2.1.3 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.

#### Main Products which are Friendly to the Environment and Consumers

 <b>Non-toxic products</b>	 <b>Environmental friendly products</b>	 <b>Water-saving and energy-saving improvements</b>	 <b>Green Energy</b>
<p><b>Thermal insulation film</b></p> <p>By using nanometer pigment, it can be used for automotive window film and building window film.</p>	<p><b>Aluminum plastic film</b></p> <p>It can be used on packaging of pouch cells, which can applied to 3C products and electrical vehicles, etc.</p>	<p><b>POM doors and windows</b></p> <p>Replace doors and windows made of wood, aluminum and iron. Also, they can save electricity, and can be 100% recycled.</p>	<p><b>PVC tiles</b></p> <p>The products are resistant to abrasion, acid and alkali, pressure, flame, corrosion and non-conductivity, and have little environmental hazard.</p>
<p><b>Arsenic-free copper foil</b></p> <p>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.</p>	<p><b>Water-based epoxy resin</b></p> <p>Replacing organic solvent epoxy resin with water-based epoxy resin which produced from self-made emulsifier to reduce VOC dispersion and further environmental impact.</p>	<p><b>Halogen-free copper clad laminate</b></p> <p>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.</p>	<p><b>Epoxy resin for wind turbine blades</b></p> <p>With low viscosity, good operability and good mechanical strength, it can be applied to composite materials of green energy wind turbine blades.</p>
<p><b>Eco polyester film</b></p> <p>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.</p>	<p><b>Nan Ya Q-Box</b></p> <p>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.</p>	<p><b>Phosphorus-based epoxy resin</b></p> <p>By reducing the traditional bromine-based circuit board to be disposed by landfills, it could greatly reduce the impact on the environment.</p>	<p><b>Polyester and bottle-use pellets from biomass</b></p> <p>Replacing traditional methods of petroleum refining by converting sugar cane molasses can reduce the use of petrochemical raw materials.</p>
<p><b>Polyester from post-consumer recycled PET bottles</b></p> <p>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<sub>2</sub> and energy, and contributes to slowing global warming.</p>	<p><b>Cast resin transformer</b></p> <p>There are no poisons such as cadmium, lead, hexavalent chromium and mercury compounds added during the production or contained in the materials of this product. Take cast resin transformer (20kV 2500kVA) for example, each transformer can reduce 18.7 metric tons of carbon dioxide emissions per year compared with the average transformer. The average reduction of carbon dioxide emissions could reach 5,610 tons per year. And the product has obtained the "Environmental Mark" issued by the Ministry of the Interior.</p>	<p><b>Carbon nanofibers</b></p> <p>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</p>	<p><b>Industrial-grade glass fiber cloth</b></p> <p>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.</p>

■ The Company's Products which has Obtained Environmental Protection Marks

Marks		Corresponding Products
	<p>Green Mark</p>	<p><b>Environmental Mark:</b></p> <ul style="list-style-type: none"> <li>■ Plastic pallet</li> <li>■ PE pipe</li> <li>■ Recycled polyester cotton</li> <li>■ Polyester Partial Orientation Yarn (POY)</li> <li>■ Polyester Draw Texturing Yarn (DTY)</li> <li>■ Polyester Full Drawing Yarn (FDY)</li> </ul> <p><b>Executive Yuan Environmental Protection Administration's first class environmental protection transformer specifications:</b></p> <ul style="list-style-type: none"> <li>■ Resin type dry-type or distribution voltage regulator with single-phase and three-phase AC voltage levels below 36kV</li> </ul>
	<p>Green building materials</p> <ol style="list-style-type: none"> <li>1. High performance (sound insulation)</li> <li>2. Regeneration</li> </ol>	<p><b>Health:</b></p> <ul style="list-style-type: none"> <li>■ PU waterproof material</li> </ul> <p><b>High performance (sound insulation):</b></p> <ul style="list-style-type: none"> <li>■ POM window-W9S horizontal sliding window, W9K push out window, W9F fixed window</li> </ul> <p><b>Regeneration:</b></p> <ul style="list-style-type: none"> <li>■ 100% environmentally friendly recycled PVC plastic</li> <li>■ Water-based epoxy primer, epoxy topcoat</li> </ul>
	<p>Singapore Green Building Product, SGBC</p>	<ul style="list-style-type: none"> <li>■ Deluxe Vinyl Sheet (door panel)</li> <li>■ Celuka (door panel)</li> <li>■ PVC wall panel</li> <li>■ Deluxe Vinyl Tile</li> </ul>
	<p>Global Recycle Standard, GRS Version 3.0</p>	<ul style="list-style-type: none"> <li>■ Recycled environmentally friendly film</li> <li>■ Environmentally friendly fiber pellets (no heavy metals)</li> <li>■ Environmentally friendly recycled products (POY, DTY, FDY, cotton, pellet, film, polyester yarn)</li> <li>■ Environmentally friendly recycled products (Woven fabric, knitting)</li> </ul>



The Company's polyester fiber product catalog published in 2019

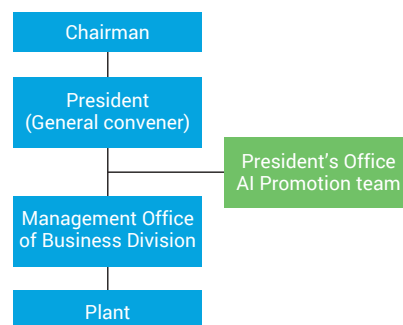


### 2.1.4 Artificial Intelligence (AI) Application

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

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.



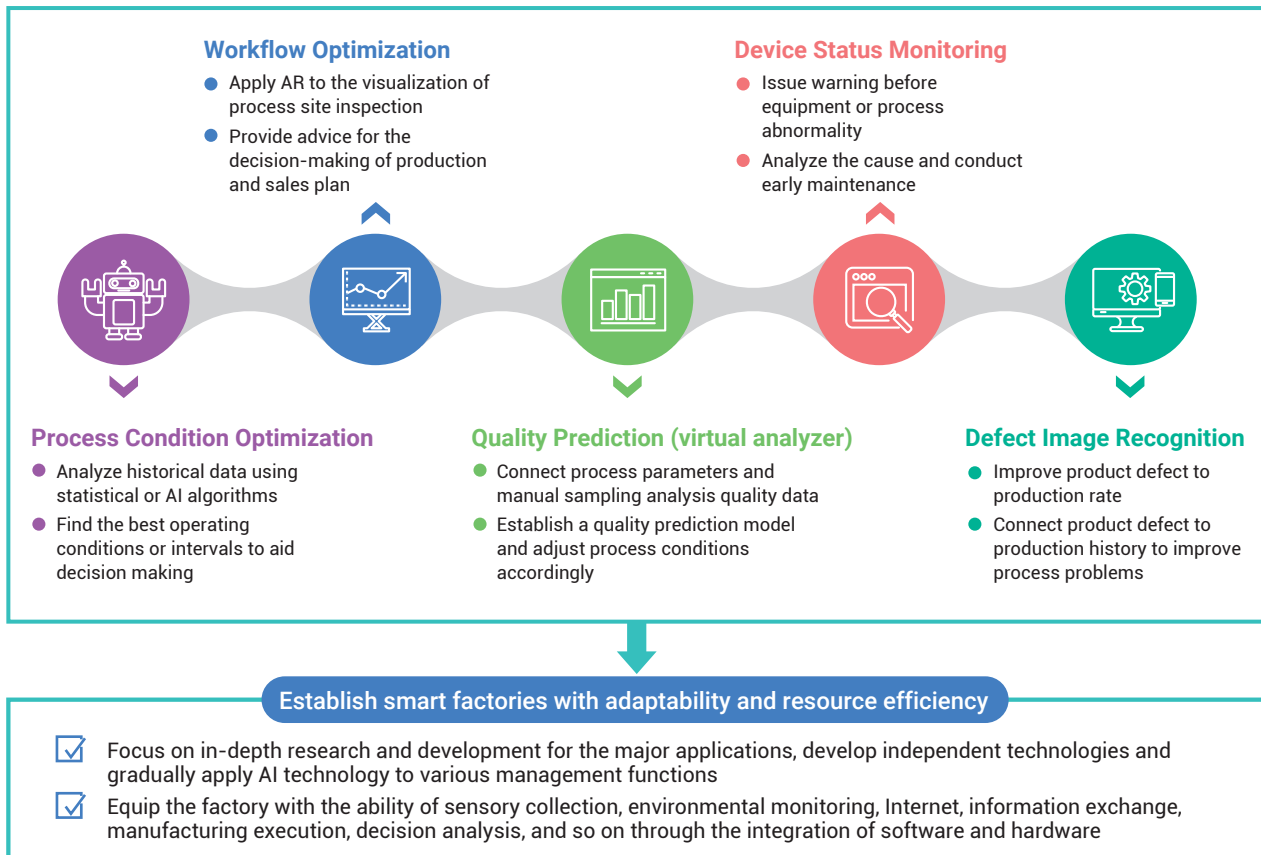
#### AI Professional Training

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:

 <b>Off-Site Training at Taiwan AI Academy</b>	 <b>Internal AI-Related Education and Training</b>	 <b>Collaboration between the industry and academia</b>
<ul style="list-style-type: none"> <li> Qualifications for personnel sent for training in batch from August 2017:               <ol style="list-style-type: none"> <li>1. New recruits with backgrounds in statistical analysis, neural networks, etc.</li> <li>2. Selection of supervisors or staff with expertise in programming from the business division</li> </ol> </li> <li> Develop key competencies such as problem definition, data processing, model training, problem solving, and site incorporation</li> <li> At present, 99 persons have finished training and 14 are being trained. More personnel will be assigned to participate in training</li> </ul>	<ul style="list-style-type: none"> <li> Training purposes:               <ol style="list-style-type: none"> <li>1. Form correct concepts of AI for supervisors at all levels</li> <li>2. Strengthen the ability of program language, data pre-processing, and model development for dedicated staff at each department</li> </ol> </li> <li> Course names:               <ol style="list-style-type: none"> <li>1. "Basic Statistical Quality Control"</li> <li>2. "Advanced Statistical Quality Control"</li> <li>3. "Introduction to Artificial Intelligence"</li> <li>4. "AI Academy Prerequisites"</li> <li>5. "Data pre-processing"</li> <li>6. "Image Recognition Practice"</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li> Technical exchange with professional companies:               <ol style="list-style-type: none"> <li>1. Companies: Microsoft, Amazon, and so on</li> <li>2. Objectives: Strengthen data pre-processing and model development capabilities</li> </ol> </li> <li> Industry-academy cooperation with academic institutions:               <ol style="list-style-type: none"> <li>1. Academic institutions: Yuan Ze University, Chang Gung University, and Ming Chi University of Technology</li> <li>2. Objectives: Transfer technology during the cooperation; develop independent technology to facilitate subsequent horizontal expansion</li> <li>3. Areas incorporated with AI application development:                   <ol style="list-style-type: none"> <li>(1) Defect image recognition</li> <li>(2) Smart farm</li> <li>(3) Rotating equipment life prediction</li> <li>(4) Power system reliability monitoring</li> </ol> </li> </ol> </li> </ul>

## AI Application Areas and Development Goals

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



## 2.2 Collaborative Business Model

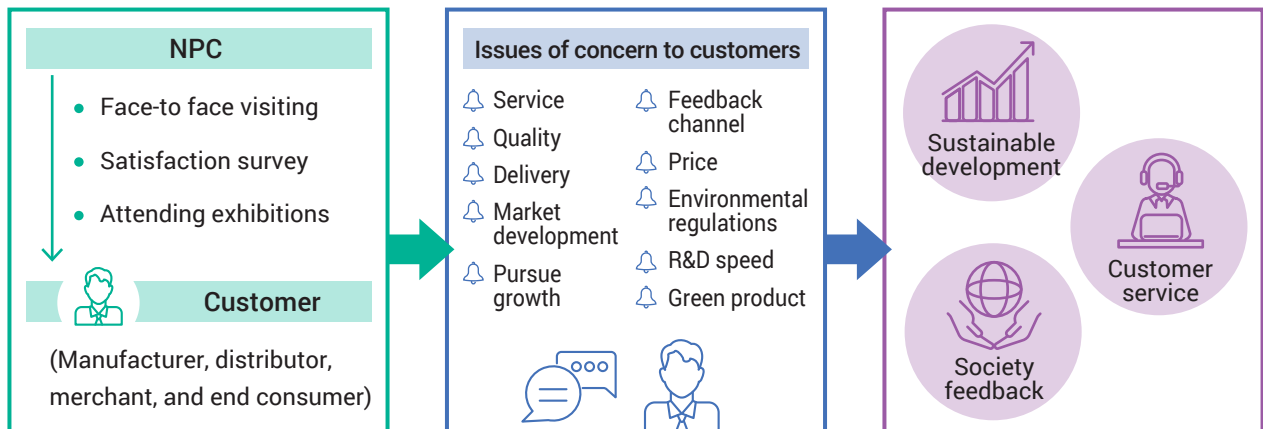
The Company puts great emphasis on customer rights and feedback. To improve the customer satisfaction is not only the responsibility of business department, it is also a goal for all staff members to put in great efforts. When the downstream customers' business is expanded, it is an affirmation and support for the Company. The Company hopes to form a virtuous circle to grow with customers and pursue a win-win situation.

### 2.2.1 Collaborative customer relationship

#### Good Interaction

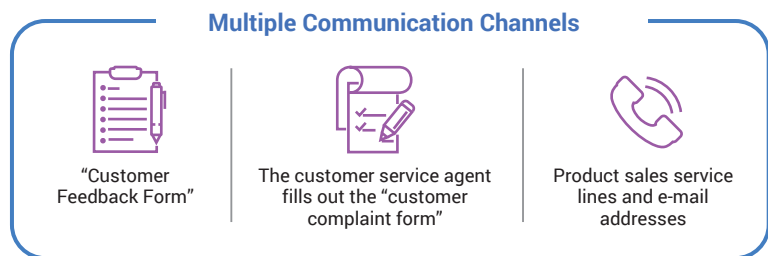
In order to strengthen customer relationships, the business department regularly visits customers, exchanges opinions on existing or new products, and establishes an interactive and timely communication channel. Through attending product exhibition, we can talk face-to-face with the customers about market 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.



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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 2019 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 customers perceived that the price of some products of the Company has not been adjusted as expected during the price decrease of the raw materials. The Company will continue to pursue cost reduction and share profits back to customers while maintaining the quality of products.



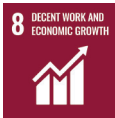
Year	Technology Research	Service Attitude	Brand Image	Product Delivery	Product Quality	Product Characteristics	Product Price	Overall Satisfaction
2016	4.2	4.3	4.2	4.0	4.1	4.1	3.5	4.1
2017	4.3	4.4	4.3	4.1	4.2	4.2	3.6	4.2
2018	4.3	4.5	4.4	4.2	4.3	4.3	3.7	4.3
2019	4.3	4.4	4.3	4.2	4.3	4.3	3.7	4.3

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

Management Approach

Corresponding GRI Standards: GRI 419 - Socioeconomic Compliance  
Sustainable Issue: Compliance Policy




Commitments and Policies

Compliance with regulations and standards is the Company's most basic principle, and it is also the foundation of the Company's philosophy of "to aim at the sovereign good, and perpetual business operation." We will strictly abide by the local laws and regulations of each operation location, and use this as the foundation to improve each business and reduce the occurrence of external risks.


Responsibilities and Goals

Compliance with laws and regulations is a basic requirement for stable operation of the Company. The President's Office keeps abreast of the changes in various laws and regulations, formulating corresponding countermeasures, which then implemented by each business division. Audit operations are also conducted as a supplement to ensure that no major violations of regulations occurred in the Company.




Environmental Regulations

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.



Product Information

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."



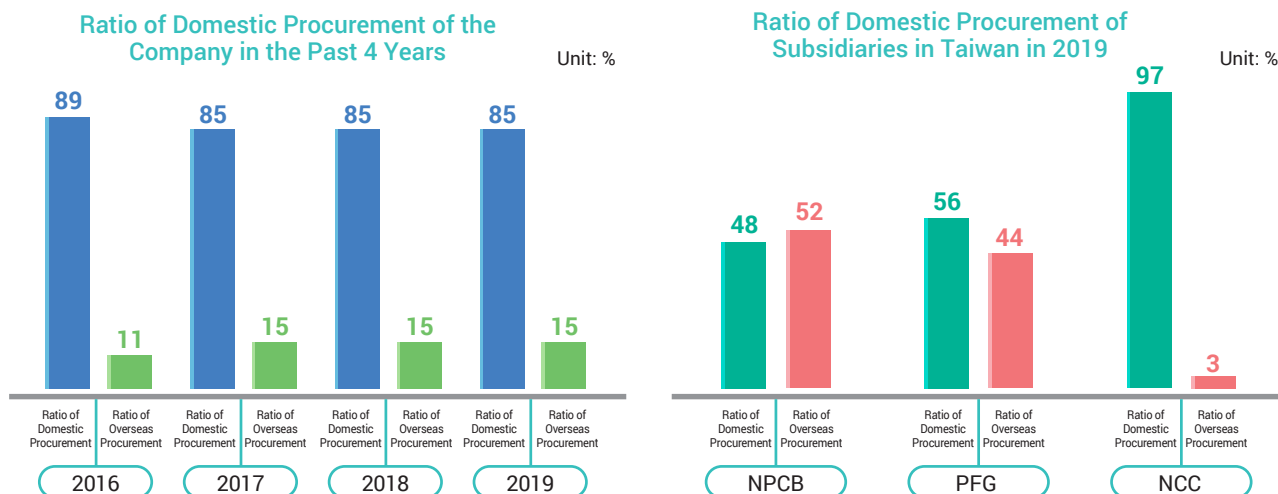
Personal Data Management

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

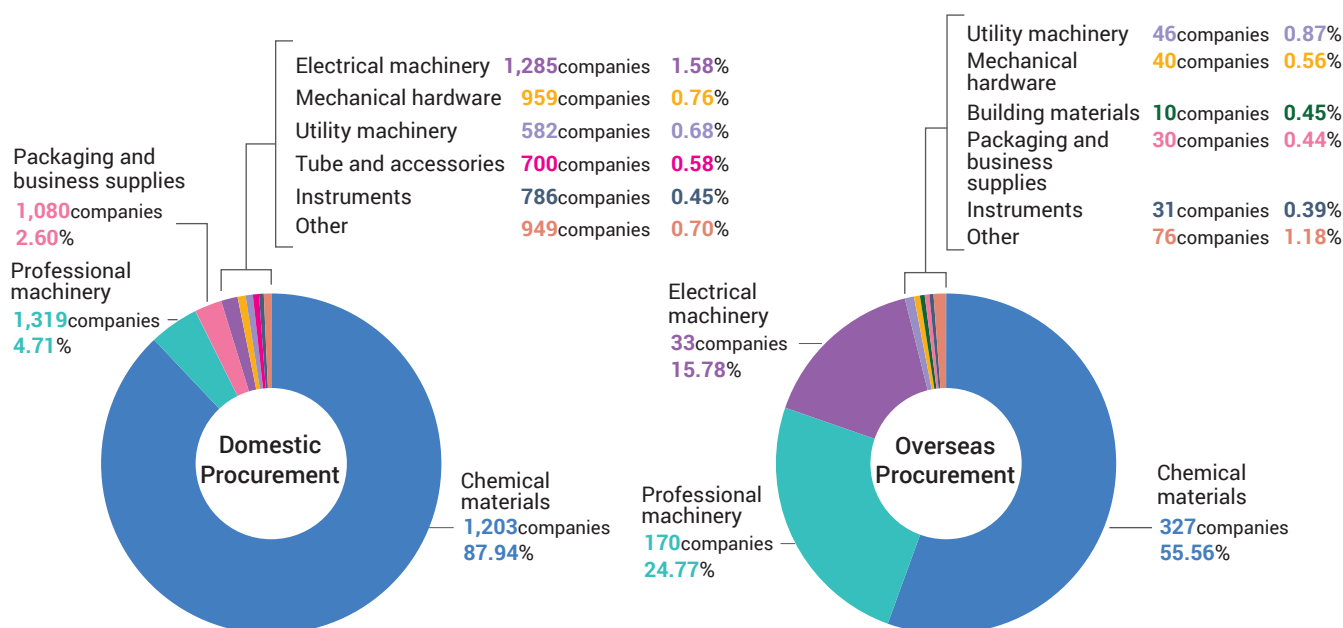
The Company's procurement and contracting policies prioritize local purchases and contracting. Procurement and bidding only happens abroad when there are no local options. The domestic procurement ratio during the past 4 years is as follows:



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 2019, including professional machinery, chemical materials, packaging and business supplies, and other items, the procurement ratio is as follows :

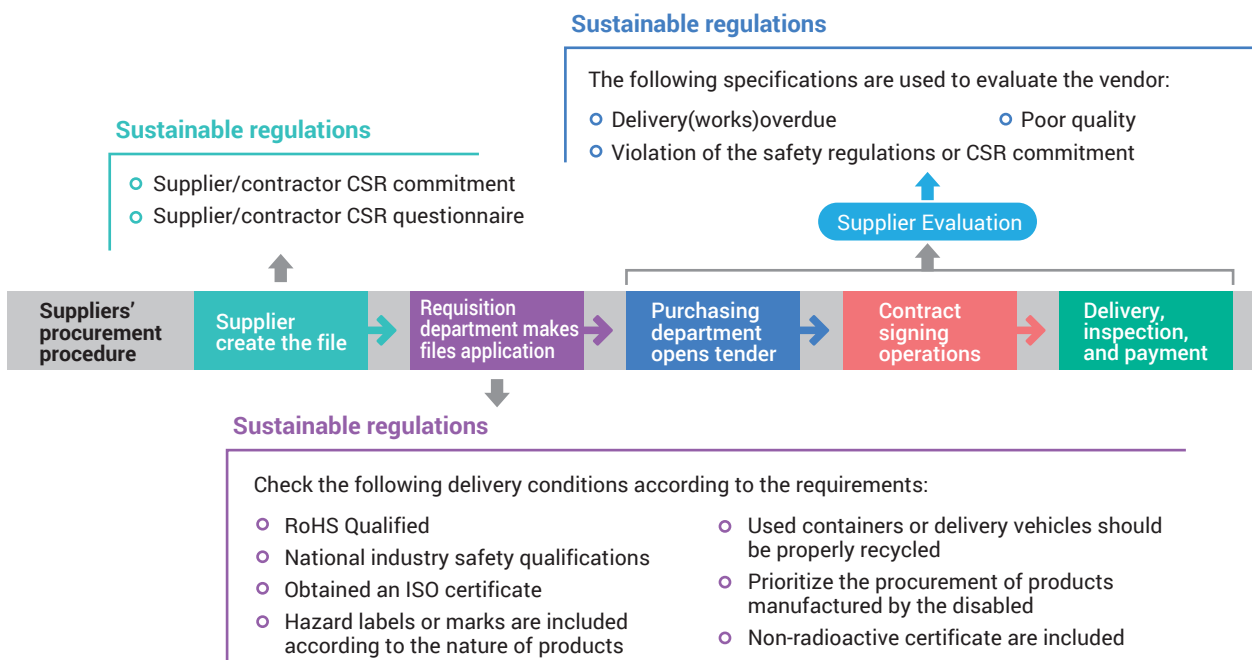
### The Proportion of Procurement in 2019



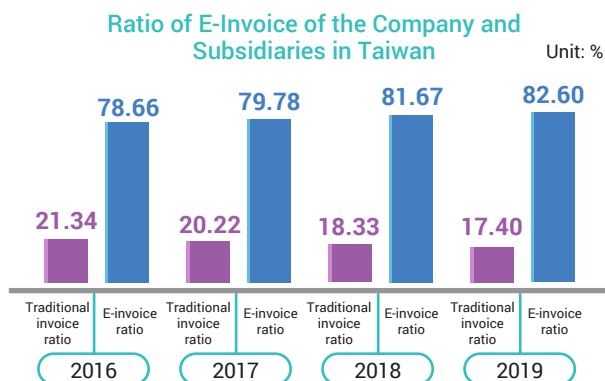
## 2.3.1 Vendor Management

### 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				Contractor Classification		
Factory, equipment	Safety management capability	Technical skills	Contract history	A	B	C



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.

### ■ Supply Chain Management in 2019

Starting from October 1, 2019, the "Supplier/Contractor CSR Commitment" and "Supplier/Contractor CSR Questionnaire" have been created, and will be sent to the vendors once they log into the Formosa Technology E-Market Place or complete an order. The vendors would be asked to sign the reply and follow the relevant regulations. The reply rate of the Company's vendors for the "CSR Commitment" in 2019 reached 77%, and the reply rate of the "CSR Questionnaire" was 54%. In 2020, we will review the replies and arrange for vendor assessments according to the needs to ensure that the vendors with whom we are dealing fulfill their corporate social responsibilities in accordance with the Company's 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.

#### Toolbox Meetings

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 are checked 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:

### Safety Supervisor

- ⚙ In addition to assigning a safety and health manpower superior to the regulations, the position of a safety supervisor has been added
- ⚙ Accompany the contractor for self-inspection before the operation
- ⚙ Review when appropriate during the operation
  - (1) Started in 2012
  - (2) Theoretical course about relevant national work safety laws and regulations, professional knowledge about various construction safety and occupational disaster examples
  - (3) Practical training

### Safety & Quality Assessment System (SQAS)

- ⚙ Promote SQAS management for transport contractors
- ⚙ Since April 2011, the transportation safety of merchants who picks up their own goods has also been included in the SQAS management
- ⚙ Management focus:
  - (1) Vendors that fail the SQAS evaluation may not undertake or pick up dangerous goods from the enterprise
  - (2) Each transport vehicle that passed the SQAS evaluation will be equipped with GPS or dash cam, It must equally be equipped with necessary protection equipment that passes regular inspection depending on the characteristics of dangerous goods

### Mailiao Industrial Complex Occupational Safety Joint Inspection

- ⚙ The Safety, Health and Environment Center and the four major companies formed a joint inspection team to check the start/end of the petrochemical process and regular maintenance at the Mailiao Industrial Complex and the preventive measures of regular fire incidents
- ⚙ Since September 2011, the Company has promoted joint work safety supervision and inspection
- ⚙ In September 2015, the focus of the work safety supervision was revised. Accidents prevention has focused on the types of accidents with high frequency and severity in the past
- ⚙ In 2019, the Company continued to conduct key audits, including safety management of hazardous machinery and equipment, and chemical sampling operations

# 3

## Green Environment Management Promotion

- 3.1 Commitment to Environmental Protection
- 3.2 Greenhouse Gas Emission Management
- 3.3 Waste and Air Pollution Management
- 3.4 Water Resource Management
- 3.5 Circular Economy Promotion
- 3.6 Environmental Violations



SDGs



Material  
Issues

1. Greenhouse gas emission management
2. Water management
3. Controlled chemical substance management
4. Air pollutant management
5. Waste management

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

2019 Goals

- Continue to promote energy conservation and water conservation as well as increasing rainwater storage to reduce the water and energy consumption of the Company
- Take Mailiao Industrial Complex with the largest consumption of water, steam, and electricity as example, and set targets for 2019 and 2018 for comparison: Reducing water consumption per unit of product by 2% and energy consumption per unit of product by 3%
- Increase rainwater collection rate
- Reduce the air pollutant emissions
- Continue to reduce greenhouse gas emissions and participate in the voluntary reduction assessment of the Industrial Development Bureau
- Maintain the "Leadership Level" in the climate change sector and the "Management Level" in the water security sector in the Carbon Disclosure Project (CDP)

2019 Progress

- 557 improvement projects were completed in 2019, compared with that in 2018, the water consumption decreased by 4.5%, the steam consumption decreased by 14.4% and the electricity consumption decreased by 4.1%
- Compared with 2018 results, the water consumption per unit of product increased by 0.6%, the steam consumption decreased by 10.0%, the electricity consumption increased by 4.1% and the energy consumption decreased by 2.3%
- The rainwater collection rate reached 100% in Mailiao plant
- The air pollutant emissions in 2019 compared with that in 2018, NOx decreased by 6.7%, VOC decreased by 23% and TSP decreased by 50.3%
- The greenhouse gas emissions in 2019 decreased by 3.9%, compared with that in 2018
- Kung San site was awarded as the Industrial Greenhouse Gas Voluntary Reduction Manufacturers
- To maintain "Leadership Level(A-)" in both the climate change sector and the water security sector in 2019 Carbon Disclosure Project (CDP)
- The turnover of green products and eco-friendly products in 2019 increased by 31.8%, compared with that in 2018

Short-term Goals (2020 Goals)

- Continue to promote energy conservation and water conservation improvement projects. The total emissions of water consumption, steam consumption, electricity consumption and greenhouse gas should lower than that in 2019
- Take Mailiao Industrial Complex with the largest consumption of water, steam, and electricity as example, and set targets for 2020 and 2019 for comparison: Reducing water consumption per unit of product by 2%, energy consumption per unit of product by 3% and waste by 1%
- Increase the rainwater collection rate and wastewater recovery rate in every units
- The air pollutant emissions in 2020 should lower than that in 2019
- Complete the internal audit and third-party external evaluation of greenhouse gas emissions, and setting a goal of reducing intensity of greenhouse gas emissions by 3%
- To maintain "Leadership Level" in both the climate change sector and the water security sector in 2020 Carbon Disclosure Project (CDP)
- Develop and produce green materials and eco-friendly products in order to be friendly to the environment and take care of human health. And set a goal of increasing the production value of green products, compared with that in 2019
- Reduce the number of environmental violations to less than 50% of that in 2019(i.e. less than 1 case)

Medium and Long-term Goals (2021-2026)

- Continue to promote water conservation, energy conservation, carbon conservation, and waste conservation operations. Besides, attend external evaluations to improve the technology and efficiency of energy conservation
- Establish wastewater recovery equipment and improve the rainwater collection system step by step
- Keep disclosing through the CDP Questionnaire to keep abreast of international climate changes
- Reduce greenhouse gas emissions by 3% in 2022 compared to 2015
- Continue to promote "Circular Economy", increase the production value of green products and the recovery rate of waste plastics
- Before 2022, finish recording the parameters of production and preventive equipment in every plants, and make all the data be included into the "Real-Time Production Management System(RTPMS)".
- Establish more air pollution control equipment to lower the emissions of pollution.
- Zero environmental violations.

CSR Quick Review



The greenhouse gas emissions in 2019 decreased by 3.9%, compared with that in 2018



Kung San site was awarded as the Industrial Greenhouse Gas Voluntary Reduction Manufacturers



The turnover of green products and eco-friendly products in 2019 increased by 31.8%, compared with that in 2018



The air pollutant emissions in 2019 compared with that in 2018, NOx decreased by 6.7%, VOC decreased by 23% and TSP decreased by 50.3%



The Company and Nan Ya PCB Corp. scored "Leadership Level(A-)" in both the climate change sector and the water security sector in 2019 Carbon Disclosure Project (CDP)

## 3.1 Commitment to Environmental Protection

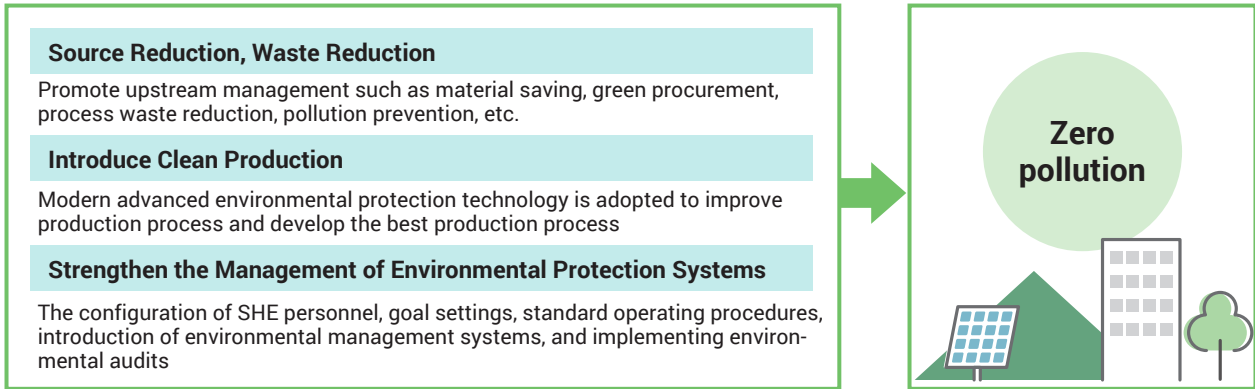
The Company has always adhered to the spirit of equal emphasis on environmental protection and industrial development, and also adhered to the goal of "zero accidents in environmental safety and health, and ensuring sustainable operation". Besides pledging to protect the environment and maintain community 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. For the Company's environmental protection policies, please refer to Nan Ya Plastics official website "Commitment to Environmental Protection".



NPC "Commitment to Environmental Protection"

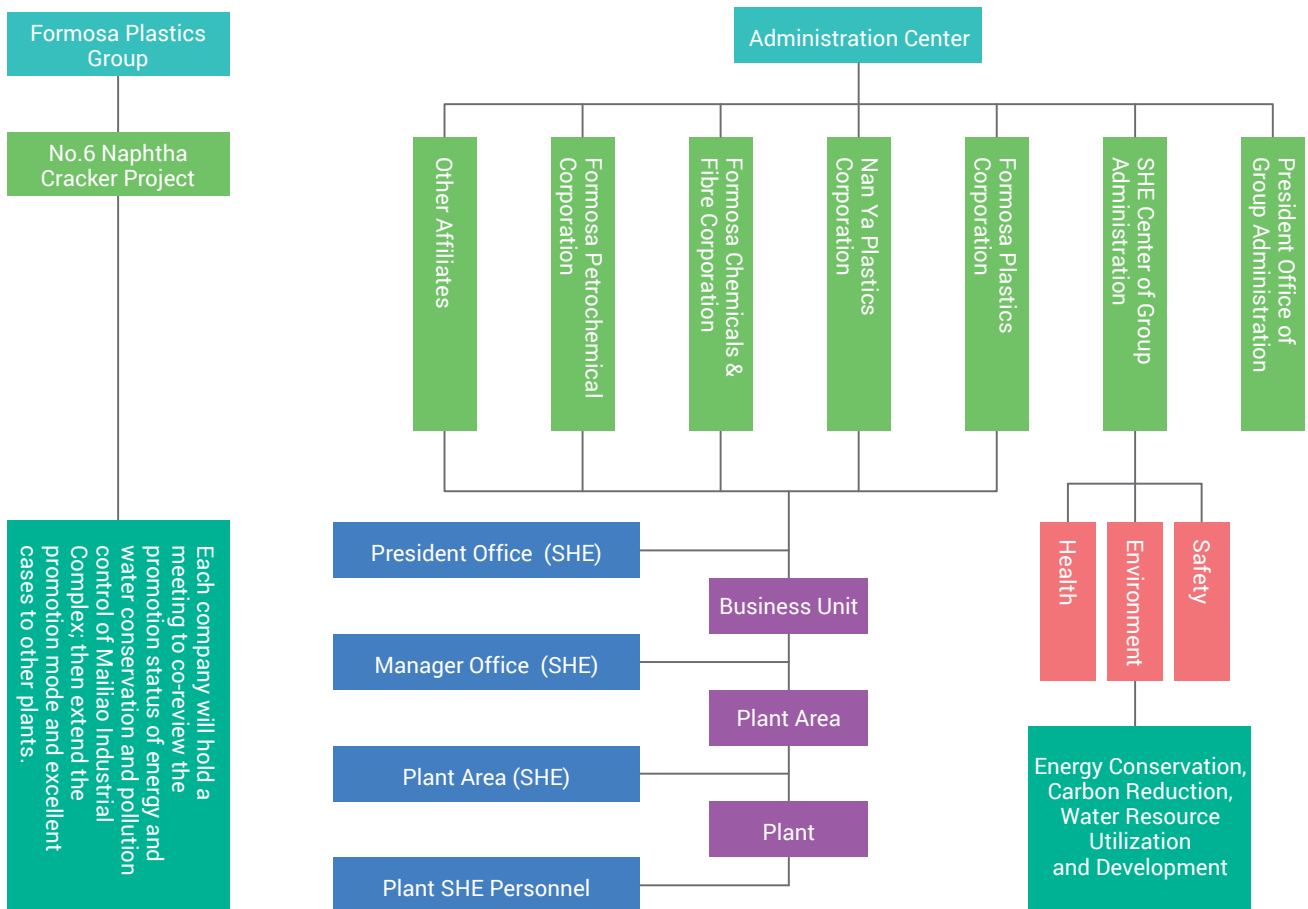
### 3.1.1 Safety, Health and Environmental Policy

The Company implements environmental protection policies and actively carried out measures such as "reduction at source and waste reduction", "introduction of cleaner production", and "strengthening environmental protection system management" to achieve the goal of zero pollution.



### 3.1.2 Promotion of Energy Conservation, Carbon Reduction and Pollution Control

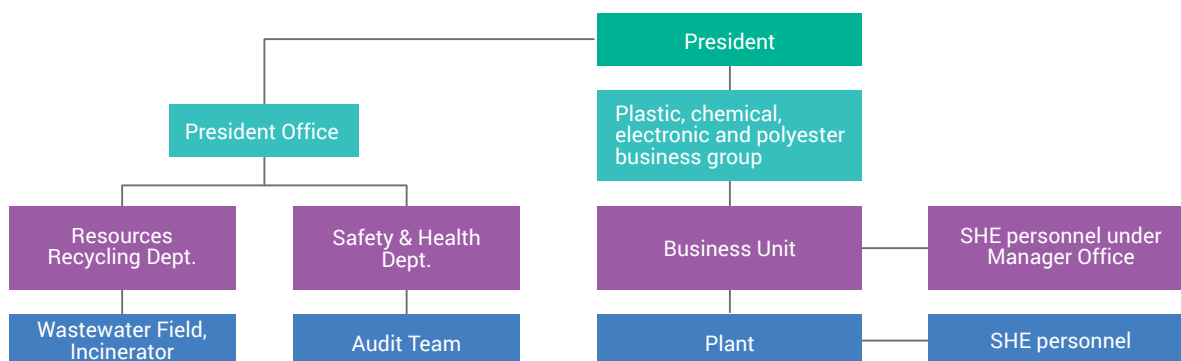
In response to the issues of water conservation and carbon reduction, FPG has strengthened the promotion of water conservation, energy conservation and other related operations. FPG also established “Energy Conservation, Carbon Reduction and Pollution Control Organization” in 2006 to integrate and promote water conservation, energy conservation, pollution prevention and improvement works in every companies.



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

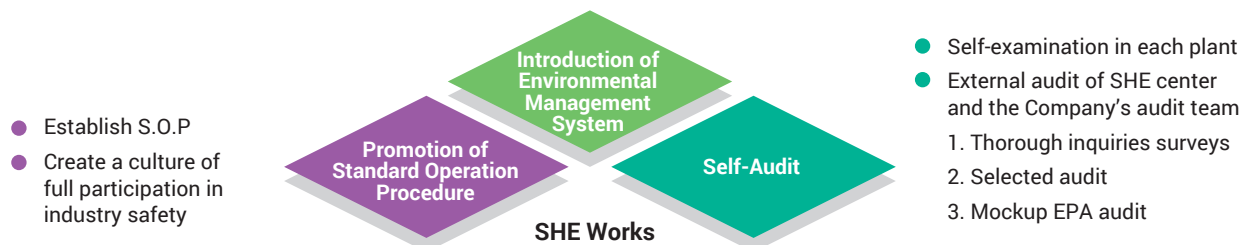
The president office of the Company has set up “Safety & Health Department” and “Resource Recycling Department” to integrate the safety, health and environmental protection affairs; meanwhile, we established audit team to be in charge of audit, tracking and improvement procedures in plant areas. Each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

#### ■ The Safety, Health and Environment Organization



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.

- 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



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 Linkou, Shulin, 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	Plant 2 of Shulin, CCL Plant 1 of Hsinkang, CCL Plant 3 of Hsinkang
Green Building Label	Film Plant 2 of Linkou (Silver Level), Plant 2 of Shulin, CCL Plant 1 of Hsinkang, CCL Plant 3 of Hsinkang
Responsible Business Alliance (RBA)	Release Film Plant of Shulin
Carbon Footprint	EG, BPA, EPOXY, etc.
Water Footprint	The Company


### 3.1.4 Environmental Accounting

#### Environmental Accounting

The total amount of environmental costs invested by the Company in 2019 is NT\$1.507 billion, of which pollution prevention and control expenses are about NT\$0.945 billion, accounting for 63% of environmental costs.

#### NPC's 2019 Environmental Costs Details

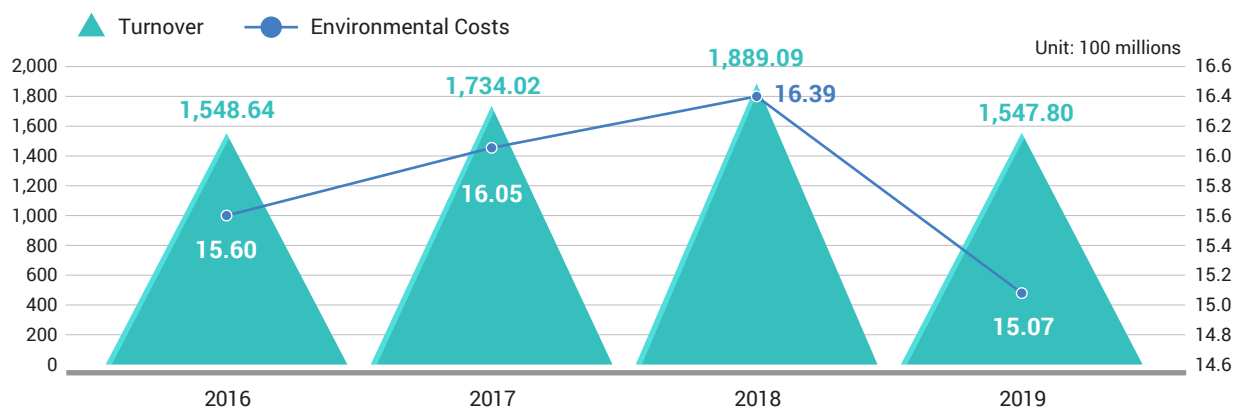
Unit: NT\$ thousands

Type	Item	2019
 Environmental Costs	Operating Costs	1,382,589
	Costs Associated with Suppliers and Customers	18,675
	Management Costs	41,565
	Research development Costs	280
	Social Event Costs	18,511
	Loss and Remediation Costs	100
	Fees, Tax, Energy Tax, and others	45,570
	<b>Total</b>	<b>1,507,290</b>

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.

#### NPC's Turnover and Environmental Costs



#### Prevention Expenses of Plant Pollution

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 2019, the total pollution prevention expense is around NT\$ 0.945 billion and the breakdown are listed on the right side:

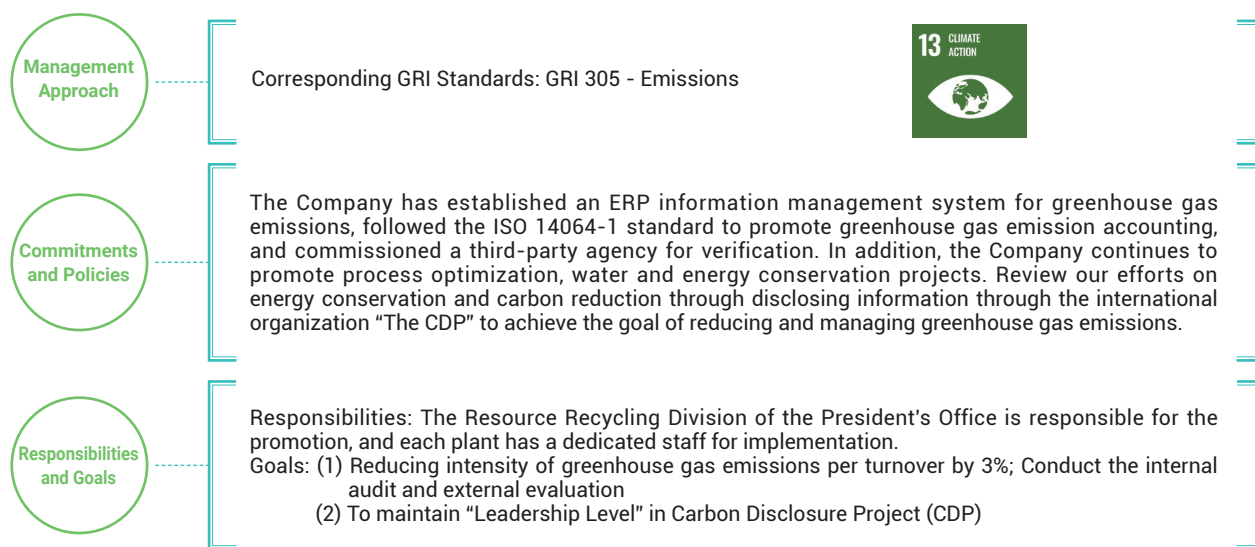
Item	Expenditure
Air Pollution Prevention Costs	231,890
Water Pollution Prevention Costs	688,940
Soil and Groundwater Pollution Prevention Costs	17,291
Noise and Vibration Prevention Costs	126
Toxic Waste Prevention Costs	2,181
Other Pollution Prevention Costs	4,166
<b>Total</b>	<b>944,594</b>



**Green Procurement**

We give priority to purchasing products of category I that have obtained the EPA's environmental mark, products of the category II that conform to recycled material, returnable product, low pollution, or energy-saving requirement, and have been approved by the EPA, or products of category III which increase social benefit or reduce social cost and remain the same or similar functions (i.e. energy-saving, water-saving, and Energy Star labels). According to statistics, the green procurement expenses of the Company and subsidiaries in Taiwan was NT\$ 22.37 million and NT\$ 3.15 million respectively in 2019.

## 3.2 Greenhouse Gas Emission Management Material Issue



### 3.2.1 Climate Change Management

#### (1) Strategies for Climate Change Management

The Company's specific strategies for climate change management include the promotion of low-carbon manufacturing technology, the enhancement of energy conservation and improvement benefits, the accounting and verification of greenhouse gas emissions, and the formulation of preventive measures in response to climate changes.

**Promote Low-Carbon Manufacturing Technology**

Continue to adopt the best available control technology and process optimization to reduce greenhouse gas emissions

**Account and Verify the Greenhouse Gas Emissions**

Establish an ERP information management system for greenhouse gas emissions. Third-party agencies are commissioned to conduct accounting and verification each year to keep greenhouse gas emissions under control



**Enhance the Energy Conservation and Improvement Benefits**

Continue to promote various water and energy conservation improvement projects, reduce the steam and electricity consumption, encourage all units to participate in internal and external appraisals and exchanges, give timely rewards, and provide excellent examples

**Formulate Preventive Measures in Response to Climate Changes**

Every functional organization, sales and production units of business divisions, would formulate response plans after identify risks and opportunities related to climate change

## (2) Identification and Response to Climate Change Risks

With reference to Task Force on Climate-related Financial Disclosures (TCFD) of Financial Stability Board (FSB), each unit in the Company identifies the risks and opportunities of climate change as follows:

Risk Consideration	Financial Impact	Opportunity Consideration	Financial Impact	2019 Progress
<b>Laws and Regulations</b>				
<ul style="list-style-type: none"> <li>Cap under the Greenhouse Gas Reduction and Management Act</li> </ul>	<ul style="list-style-type: none"> <li>Restrict high energy-consuming products, resulting in lower competitiveness</li> <li>Insufficient allocation of greenhouse gas emissions, resulting in increasing the cost of purchasing carbon rights</li> </ul>	<ul style="list-style-type: none"> <li>Participate in the cap-setting and allocation plan</li> </ul>	<ul style="list-style-type: none"> <li>Reduce the cost of purchasing renewable energy certificates</li> <li>Set up renewable energy power generation equipment in advance to reduce installation costs</li> </ul>	<ul style="list-style-type: none"> <li>The Company reached 100% in accounting the greenhouse gas emissions</li> <li>Add Scope 3 audits</li> <li>Voluntarily participate in the reduction plan of greenhouse gas emissions</li> <li>Participate in the cap-setting negotiation of the Industrial Development Bureau, and strive for a reasonable allocation</li> <li>EG plant uses "ORC power generation system" to apply for the offset project</li> </ul>
<ul style="list-style-type: none"> <li>Amendment to the Renewable Energy Development Act</li> </ul>	<ul style="list-style-type: none"> <li>Apply for renewable energy certificates and pay the deposit</li> <li>set up renewable energy power generation equipment</li> </ul>	<ul style="list-style-type: none"> <li>set up renewable energy equipment</li> </ul>	<ul style="list-style-type: none"> <li>It could lower related costs through Assisting in the planning and installation of renewable energy equipment by the photoelectric company in the same group</li> </ul>	<ul style="list-style-type: none"> <li>Complete the statistics of electricity consumption and contract capacity in whole company</li> <li>To plan the installation of renewable energy equipment in every plants with the photoelectric company in the same group</li> </ul>
<b>Markets</b>				
<ul style="list-style-type: none"> <li>The demand for low-carbon products has increased in the market</li> <li>Green products labels or environmental labels are required to obtain by customers</li> </ul>	<ul style="list-style-type: none"> <li>Increase in green procurement costs</li> <li>R&amp;D and investment in environmentally friendly products need to be increased</li> <li>Increase in certification costs such as environmental labels</li> </ul>	<ul style="list-style-type: none"> <li>The Company has obtained green product certification mark for many products</li> <li>Obtained GRS certification mark</li> </ul>	<ul style="list-style-type: none"> <li>Increase the market share of green products such as pallets, doors and windows, PET pellets, and green building materials; Increase the production value of green products</li> </ul>	<ul style="list-style-type: none"> <li>The Company's 2019 green procurement expenditure reached NT\$22.37 million</li> <li>Many products such as pallets, doors and windows have obtained environmental protection marks or green building materials marks</li> <li>PET pellets and PET film obtained GRS certification mark</li> <li>The production value of green and environmentally friendly products increased, compared to that in 2018</li> </ul>

Risk Consideration	Financial Impact	Opportunity Consideration	Financial Impact	2019 Progress
<b>Technologies</b>				
<ul style="list-style-type: none"> <li>Adopt energy-saving and carbon-reducing equipment</li> <li>Achieve the goal of energy conservation</li> <li>Energy transition</li> <li>Achieve the goal of water conservation</li> <li>Improve wastewater recovery rate</li> <li>Improve rainwater collection rate</li> </ul>	<ul style="list-style-type: none"> <li>Increase in investment costs for energy-saving and carbon-reduction improvement projects</li> <li>Increase in technical costs for obtaining low-carbon production technology</li> <li>Costs would increase because due to the use of low-carbon fuels</li> </ul>	<ul style="list-style-type: none"> <li>Improve performance through increasing R&amp;D and improvement experience</li> <li>Reduce operating costs through effective integration of energy resources</li> <li>Promote circular economy to increase competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>Reduce production costs by recycling low-level energy across plants</li> <li>Costs could be reduced by improving waste recycling technology</li> <li>The costs of raw materials could be reduced by improving wastewater treatment and waste solvent recovery technology</li> </ul>	<ul style="list-style-type: none"> <li>Publish and share excellent water-saving and energy saving cases, and learn with other companies or academic institutions</li> <li>557 energy-saving and water-saving improvement projects were completed this year to improve resource utilization efficiency</li> <li>The first phase of the wastewater recovery project of Haifong plant was completed: 600 tons/day, with a recovery rate of 50%. Besides, the equipment planning and purchase application in second phase of wastewater recovery project was also completed</li> </ul>
<b>Reputation</b>				
<ul style="list-style-type: none"> <li>Some chemical products belong to industries that grasp external concerns due to their high-energy consumption properties</li> </ul>	<ul style="list-style-type: none"> <li>Expansion case is not easy to promote</li> <li>Government agencies and environmental protection groups have high requirements for environmental protection and pay great attention to it</li> </ul>	<ul style="list-style-type: none"> <li>Achieved excellent score in carbon reduction appraisal held by CDP and government agencies to improve the Company's image</li> </ul>	<ul style="list-style-type: none"> <li>Reduce external costs such as environmental penalties</li> <li>Obtain approval from government agencies to increase investment opportunities such as domestic expansion projects</li> </ul>	<ul style="list-style-type: none"> <li>Score "Leadership Level(A-)" in both the climate change sector and the water security sector in CDP</li> <li>Kung San site was awarded as the Industrial Greenhouse Gas Voluntary Reduction Manufacturers</li> <li>Invite academic institutions such as National Central University to jointly organize the publication of excellent cases of energy conservation and carbon reduction to enhance the Company's image</li> <li>Participated in the circular economy award selection with the "DMF Solvent Recovery Project"</li> </ul>

Risk Consideration	Financial Impact	Opportunity Consideration	Financial Impact	2019 Progress
<b>Physical Risks</b>				
<ul style="list-style-type: none"> <li>■ Chronic risks:                             <ul style="list-style-type: none"> <li>● Temperature changes lead to increased consumption of production water and energy</li> <li>● Long-term insufficient water consumption</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Extreme weather has caused long-term water shortage in the plant area, unable to produce normally, and reduce the product sales</li> <li>■ Climate change and continuous high temperature result in increasing water consumption and production costs</li> </ul>	<ul style="list-style-type: none"> <li>■ All units adopt the best energy-saving technology and low-carbon production equipment to reduce the consumption of water, steam and electricity</li> <li>■ Promote circular economy to reduce water consumption and energy consumption</li> <li>■ Promote the plant environment to comply with green building standards and reduce energy consumption</li> <li>■ Afforest based on the environment conditions</li> </ul>	<ul style="list-style-type: none"> <li>■ The waste water recycling technology is mature, leading to the reduction of recycling cost. Besides, the increased amount of recycled water, resulting in lower production costs</li> <li>■ Promote the reduction of production costs through increasing the recycling rate of waste materials</li> <li>■ Research and develop environmentally friendly products to enhance competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>■ Promote the second phase of the wastewater recovery project of Haifong plant, with a recovery rate of 70%, and is expected to be completed in 2020</li> <li>■ In 2019, the application area for regulations on plain afforestation awards in Yunlin County reached 1,094.9 hectares. The Company provides NT\$1.206 billion as subsidies to afforestation applicants</li> </ul>
<ul style="list-style-type: none"> <li>■ Acute risk:                             <ul style="list-style-type: none"> <li>● Extreme weather causes production capacity to be reduced or interrupted</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ The rapid changes in temperature and the increase in disasters such as typhoons cause damage to the plant and affect production</li> <li>■ The frequency of showers increased, making it difficult to adjust the pool and causing flooding in the plant area, resulting in stagnation of production</li> </ul>	<ul style="list-style-type: none"> <li>■ Maintain perfect disaster response capabilities to respond to extreme climate changes</li> <li>■ Set up an "Energy-Saving, Carbo-Reduction and Circular Economy Promotion Team" to regularly review water consumption, energy consumption and changes in rainwater, and actively respond to potential risks arising from temperature changes</li> </ul>	<ul style="list-style-type: none"> <li>■ Continue to promote energy-saving and water-saving improvement projects to reduce energy consumption and water costs</li> <li>■ The waste water recycling technology is mature, leading to the reduction of recycling cost. Besides, the increased amount of recycled water, resulting in lower production costs</li> </ul>	<ul style="list-style-type: none"> <li>■ Set up an emergency response team to keep abreast of information of local climate change in the plant area and improve disaster response capabilities</li> <li>■ Each plant area reviewed the flood response plan, such as the completion of the catch basin and emergency pump at Hsingang plant</li> </ul>

### 3.2.2 Greenhouse Gas Emission Volume

The Company commissioned a third-party agency to conduct accounting and verification for annual greenhouse gas emissions according to ISO 14064-1. The greenhouse gas emissions in 2019 are still being verified. According to the results of internal audit, the Company's greenhouse gas volume was about 2.67 million metric tons of CO<sub>2e</sub> in Scope 1, 3.29 million metric tons of CO<sub>2e</sub> in Scope 2. For scope 3 (supply chain), although it is not necessary to be included in the above-mentioned emissions inspection according to the regulations, we still included it into the internal and third-party inspections in accordance with the accounting standards. Besides, the Company's total emissions in 2019 decreased by 3.9% compared with that in last year. However, due to the decrease in total turnover, the greenhouse gas emission intensity increased by 17% compared with that in last year; But, compared with the standard year of gas emission intensity, 2016 which was reported in CDP, the emission intensity decreased by 1.8%.

#### Greenhouse Gas Emission Status



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 2019 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"(version 6.0.3). (version 6.0.4 was adopted in 2019). 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.

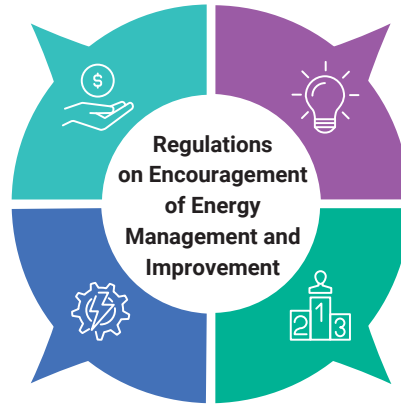
### 3.2.3 Energy Management Strategies

#### Improvement Project Award

Implement an improvement project reward 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



#### Personal Innovation Encouragement

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

#### 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

### Energy Conservation Improvement 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 2019, the Company and its subsidiaries in Taiwan completed a total of 532 energy-saving improvement projects with an investment of NT\$ 0.53 billion and an annual benefit of NT\$ 0.54 billion. It is expected to reduce greenhouse gas emissions (CO<sub>2e</sub>) by 165,000 tons/year. In addition, 253 energy-saving improvement projects are being promoted with an estimated investment of NT\$1.18 billion. This will further reduce greenhouse gas emissions (CO<sub>2e</sub>) by about 205,000 tons/year.

#### Energy-saving Implementation Status Summary of the Company and its Subsidiaries in Taiwan

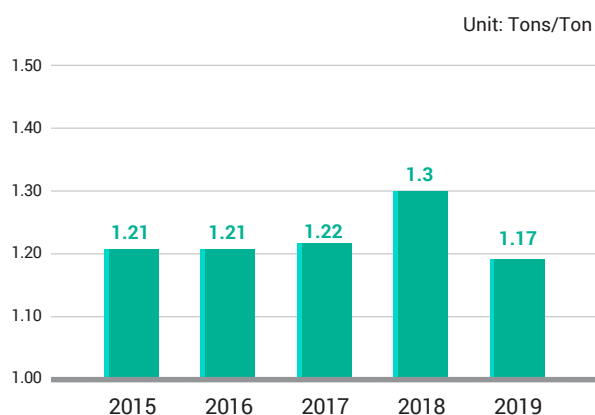
Item	Year	1999~2018 (A)	2019 (B)	In progress (C)	Total (D=A+B+C)
Improved Items		3,845	532	253	4,630
Steam Saved (Ton/Hour)		525.5	77.6	77.6	680.7
Electricity Saved (Megawatt/Hour)		71.9	3.0	2.9	77.8
Fuel Saved (Ton/Hour)		8.1	38.1	0.2	46.4
CO <sub>2e</sub> Reduction (10,000 Tons/Year)		196.8	16.5	20.5	233.8
Amount Invested (NT\$ 100 million)		53.4	5.3	11.8	70.5
Investment Benefit (NT\$100 million /Year)		51.7	5.4	6.0	63.1

Source: Formosa Plastics Corporation Database. The number of "In progress cases" is based on the statistics calculated until February 2020.

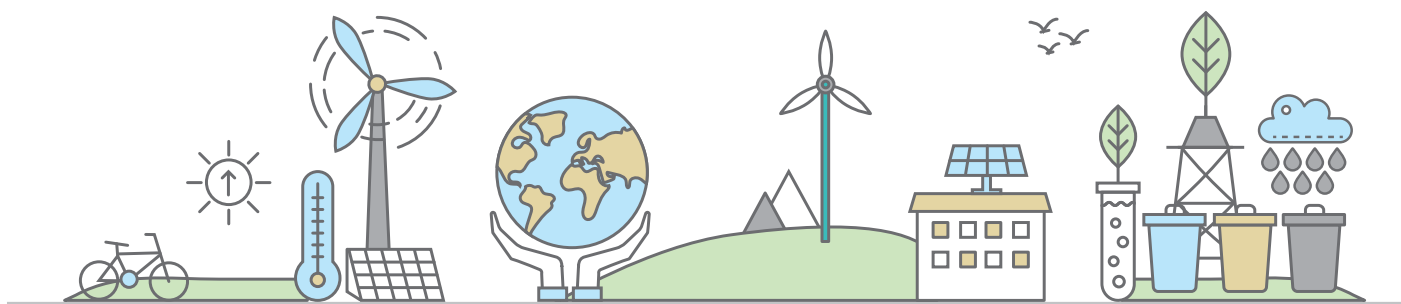
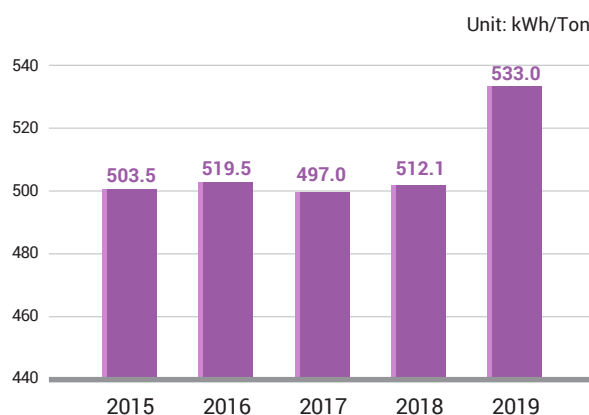
Each plant in the Company aim to reduce the energy consumption per unit product by 3% compared to the previous year. However, due to the wide variety of products and different units of measurement, we take the energy consumption of the Mailiao Industrial Complex, which is the largest amount of consumption, as an example for comparison.

In 2019, the steam consumption per unit product of the Mailiao Industrial Complex was 1.17 tons/ton, a decrease of 10% from 2018. This was mainly due to the cross-plant integration in the Mailiao Industrial Complex, such as the cross-plant integration of steam from the MA plant, 1,4BG plant and INA plant, as well as recycling EPOXY and 2EH, etc. In addition, the electricity consumption of Mailiao Industrial Complex 185.8 MWh/hour was also lower than that in 2018, but the electricity consumption per unit product was 533.0kWh/ton, which was higher than that of 2018. The main reason is that the MA plant used high-pressure motor to drive air compressors to reduce steam consumption, causing the electricity consumption per unit to increase.

Steam Consumption per Unit Product  
Trend of Mailiao Industrial Complex

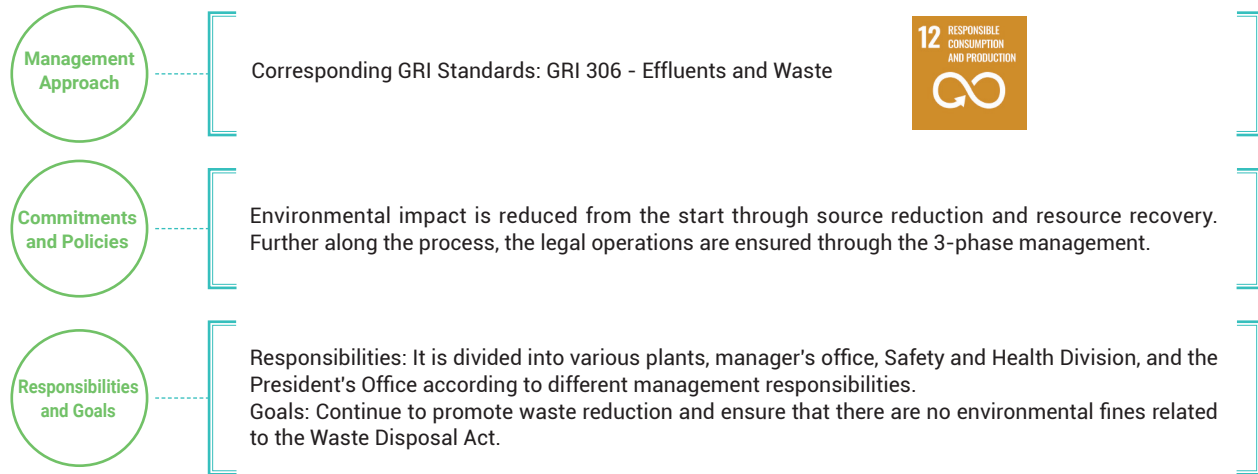


Electricity Consumption per Unit Product  
Trend of Mailiao Industrial Complex

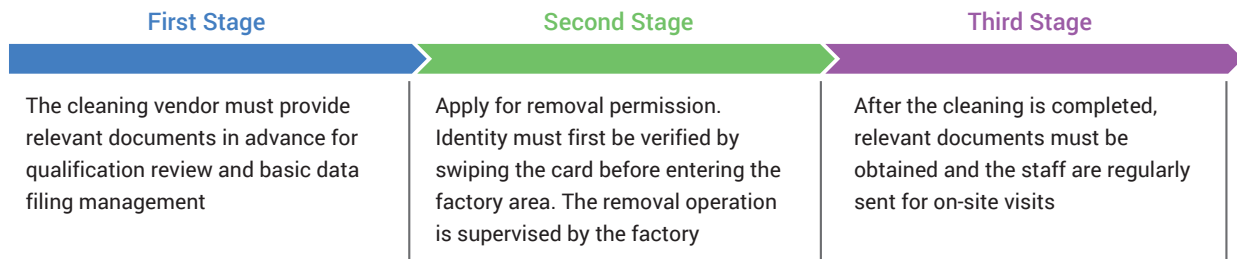


## 3.3 Waste and Air Pollution Management

### 3.3.1 Waste Management Material Issue



#### Waste Management Procedures



#### Waste Treatment Statistics

In 2019, the Company produced a total of 115,922.9 tons of waste (a decrease of 2,784.4 tons of waste compared with 2018), with an 82% ratio for resource recycling, followed by 10% for landfills, and the rest was for incineration. The categorizations for hazardous and general wastes are as follows:

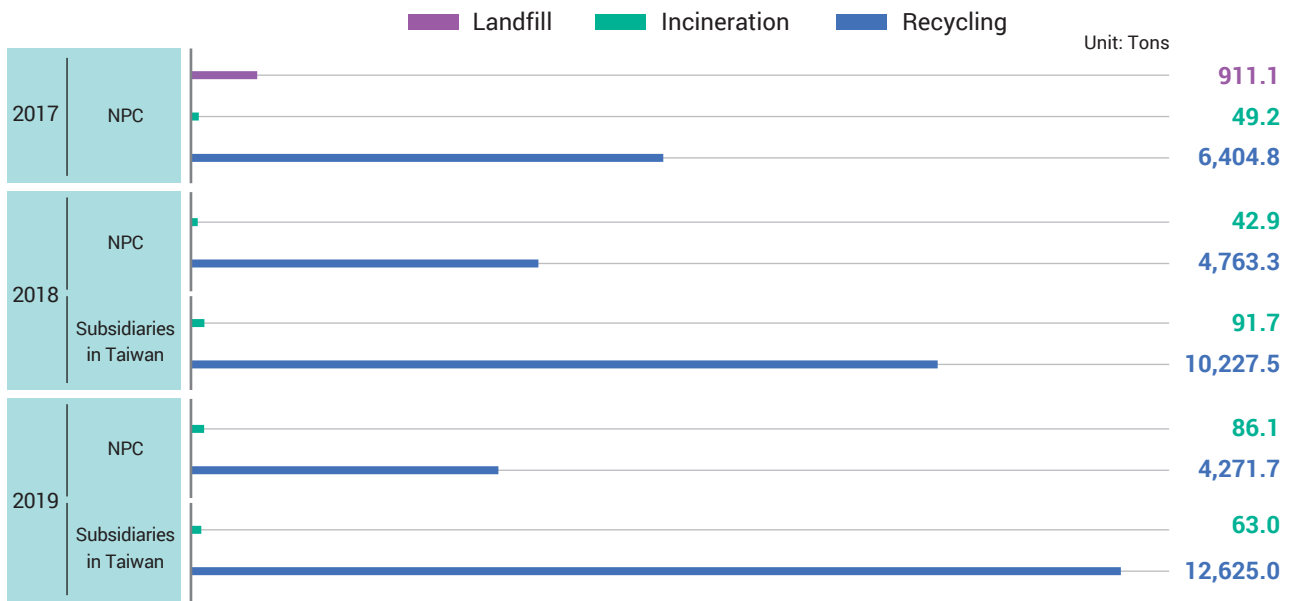
#### Summary of Disposal status of the Company

Unit: Tons

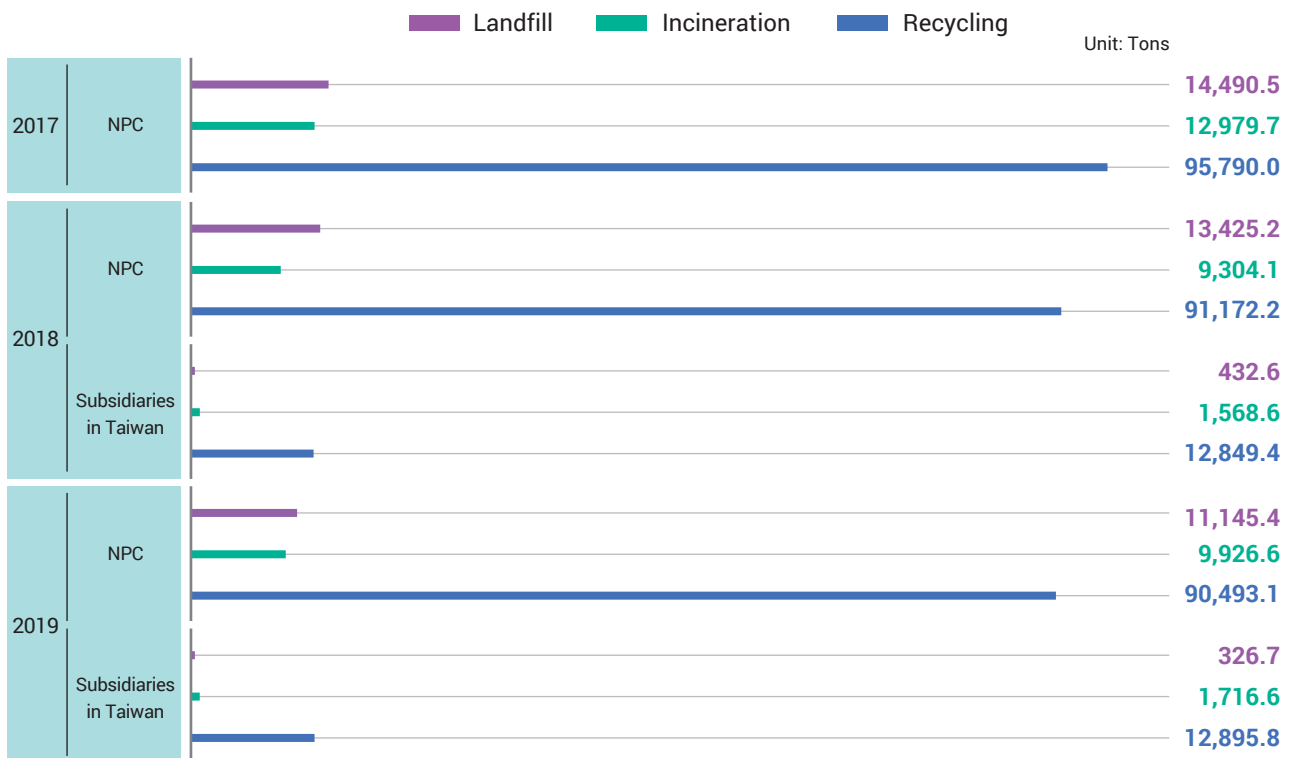
Item	Hazardous Waste			General Waste		
	Landfill	Incineration	Recycling	Landfill	Incineration	Recycling
Handling Capacity (Ton)	0.0	86.1	4,271.7	11,145.4	9,926.6	90,493.1
Subtotal		4,357.8			111,565.1	
<b>Total</b>	<b>115,922.9</b>					



Hazardous Waste



General Waste

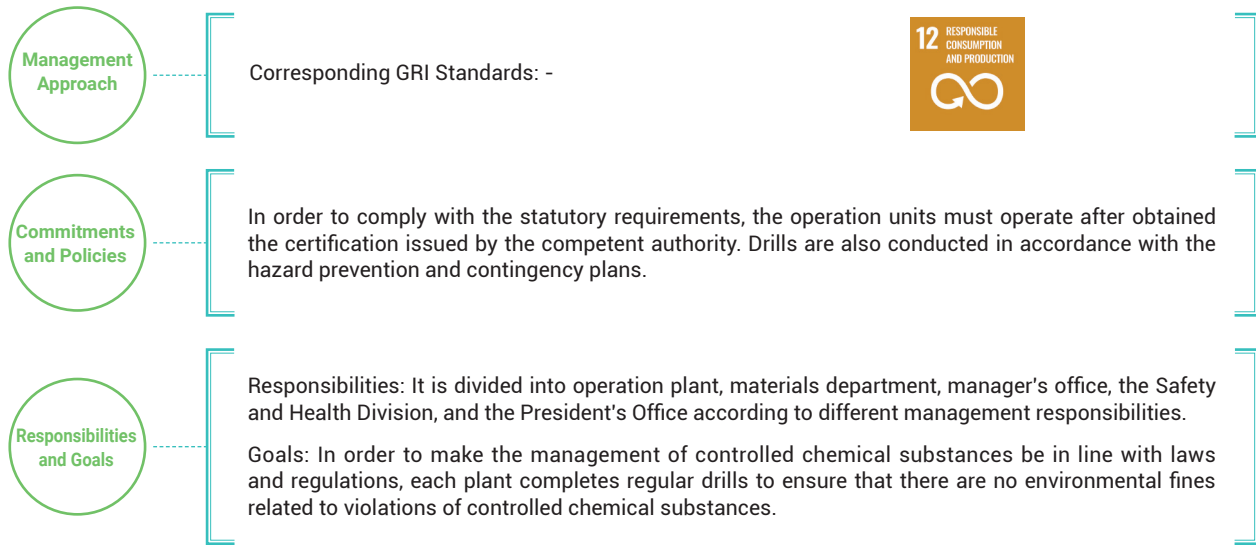


Note: The scope of disclosure has included the data of the subsidiaries in Taiwan since 2018(Nan Ya PCB Corp., Nan Chung Petrochemical Corp., and PFB Fiber Glass Corp. are included)

### 3.3.2 Controlled Chemical Substance Management



Material Issue



(1) A total of 50 emergency response drills on controlled chemical substances regulated by the Environmental Protection Administration have been conducted (excluding unwarned testing)

The content of the drills included simulated notification, evacuation, disposal and cleanup, to ensure that when an emergency occurs, appropriate treatment can be implemented in the shortest time and the risk of harm can be reduced. The results are as follows:

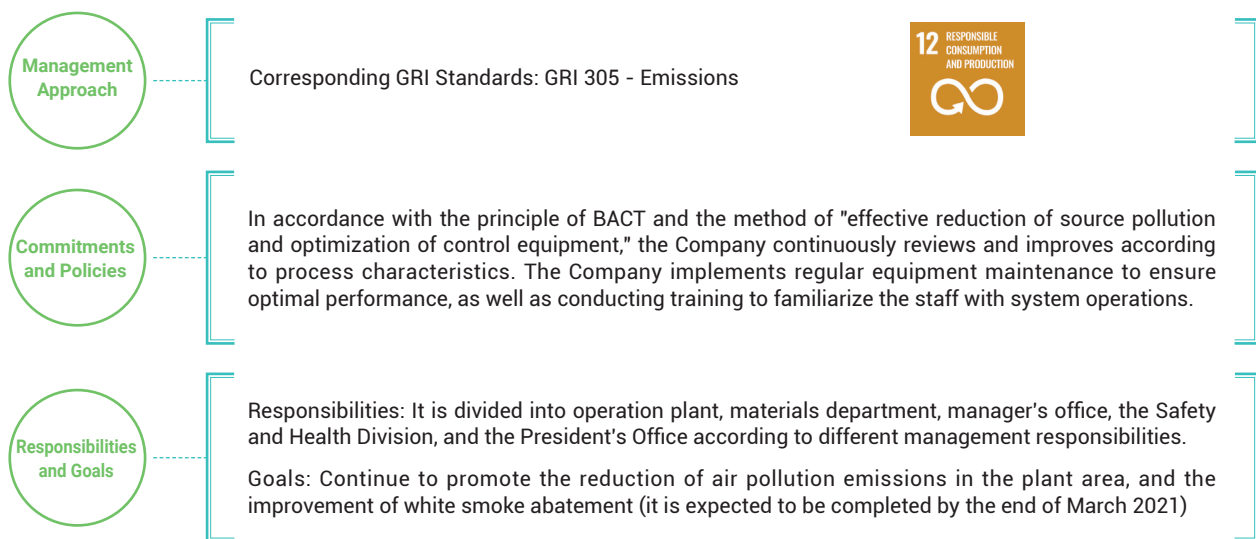
- Be familiar with the emergency response drill process
- Strengthen the familiarity of equipment and protective equipment used in emergency response

(2) Served as the leader of the emergency response team, assisting the competent authorities and other companies to improve their response capabilities and fulfill the corporate social responsibilities.

### 3.3.3 Air Pollution Prevention



Material Issue



### Air Pollution Prevention

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 burning, the Company adopts a closed coal bunker design (as shown in the figure below) for the coal storage, adopts low-nitrogen burners for the coal-fired boiler, and adopts electrostatic precipitators, flue gas desulfurization equipment (FGD) and selective catalytic reduction equipment (SCR) for the control equipment. These measures effectively reduce the emission concentration of sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>) and total suspended particulate (TSP). In addition, the Company has successively set up wet EPs to reduce TSP emissions and limit the concentration to be below 10ug/m<sup>3</sup>.



The Control Equipment



The Closed Coal Bunker

### Air Pollution Reduction

Other than coal-fired boilers, other combustion equipment has been replaced fuel with natural gas, processing residual gas or low-sulfur fuel oil. In addition, the Shulin plant and Linkou plant plan to replace the coal-fired boilers with gas-fired boilers. It is expected that there will be no more coal-fired boilers in the northern plant by 2022.

### 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, which shown as follows:

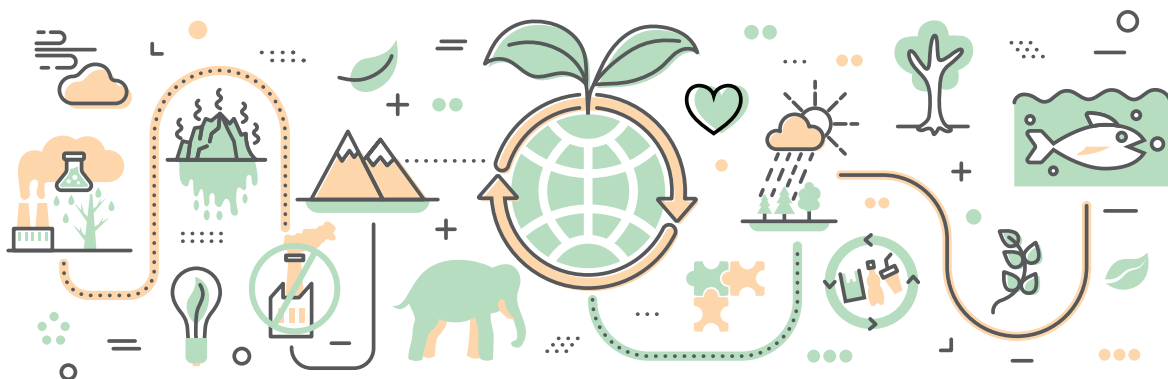
- Improve the manufacturing process, select raw materials that do not contain volatile organic compounds, and promote the reduction on number of equipment components.
- Maintain the computer system and establish a reminder function to remind personnel to perform equipment maintenance.
- Improve the detection technology, introduce the GasFind IR infrared leak detectors (GasFindIR) as an auxiliary.

### Air Pollution Emission Statistics

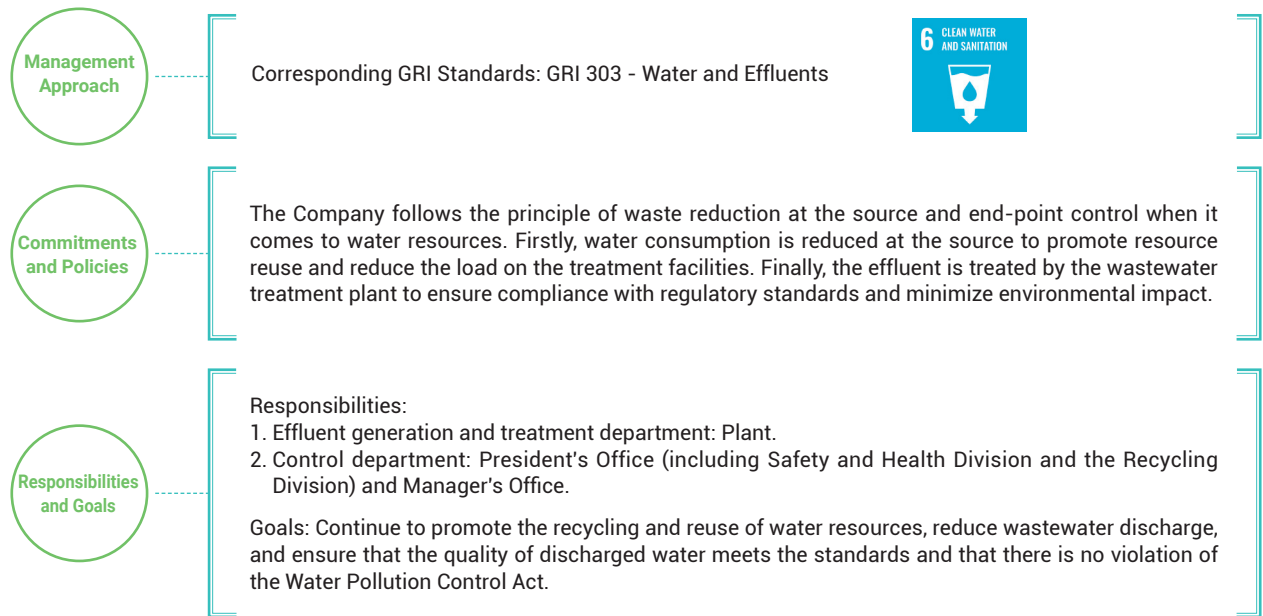


Note1: Data Resource: EPA Management System of Air Pollution Fee and Emissions Declaration of Fixed Pollution Source

Note2: The scope of disclosure has included the data of the subsidiaries in Taiwan since 2018(Nan Ya PCB Corp., Nan Chung Petrochemical Corp., and PFB Fiber Glass Corp. are included)



# 3.4 Water Resource Management



## 3.4.1 Water Consumption Statistics

### Water Management

In order to conserve water resources, the Company pays great attention to the water sources. The Company and its subsidiaries in Taiwan have 9 major plants all over the country. The main sources are surface water and groundwater. The total water consumption in 2019 was 26,194 kilotons/year, which increased by 76 kilotons compared with the 26,118 kilotons in 2018, mainly due to the increase in the production capacity of Jinxing plant. The water sources for each plant are from river, reservoir, tap water, and groundwater, etc.

Company	Plant	Water source
NPC	Shulin	Shimen Reservoir, Dahan River, Groundwater
	Linkou	Dahan River, Groundwater
	Kung San	Shimen Reservoir, Groundwater
	Jinxing	Taoyuan Irrigation
	Mailiao	Jiji Dam
	Chiayi	Lantan Reservoir, Zengwen Reservoir, Chianan Irrigation, Groundwater
	Hsinkang	Lantan Reservoir, Zengwen Reservoir, Chianan Irrigation
	Renwu	Fengshan Reservoir, Groundwater
	Linyuan	Fengshan Reservoir
NCC	Mailiao	Jiji Dam
NPCB	Jinxing	Taoyuan Irrigation
PFG	Hsinkang	Lantan Reservoir, Zengwen Reservoir, Chianan Irrigation

### Water Source Statistics in 2019

Unit: Kilotons/Year

Company \ Water Source	Surface water	Well water (Groundwater)	Third-party (Tap water)	Other	Total
NPC	14,294	1,295	2,726	1,595	19,910
NCC	1,611	0	0	44	1,655
NPCB	0	0	3,564	433	3,997
PFG	632	0	0	0	632
<b>Subtotal</b>	<b>16,537</b>	<b>1,295</b>	<b>6,290</b>	<b>2,072</b>	<b>26,194</b>

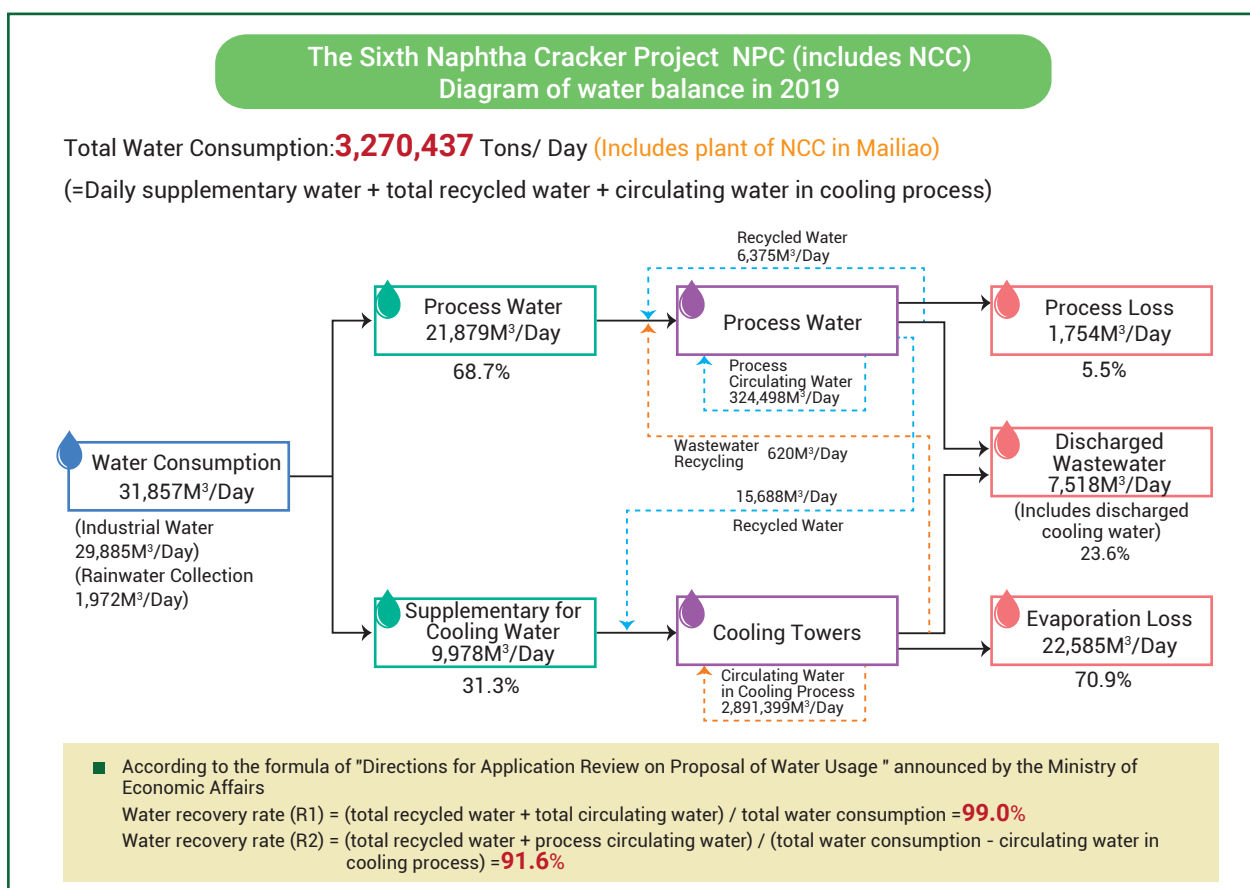
Note 1: The above data are internal audit statistics, the water consumption volumes of each plant is in audit.

Note 2: The "other water source" of NPC and NCC is water from rainwater recycling.

Note 3: The "other water source" of NPCB is transferred from Jinxing plant of NPC.

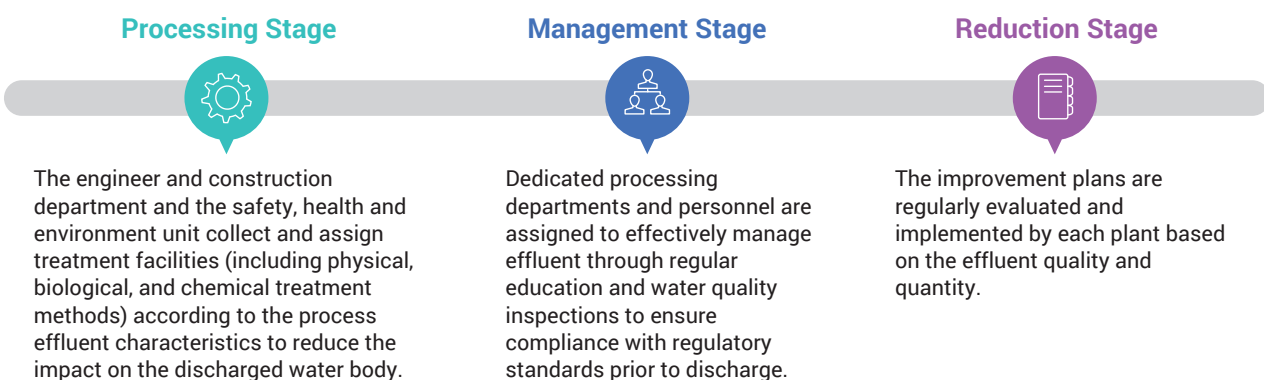
### Water Management in Plant Area

Water in the plant area are mainly used as industrial water, pure water and steam used in the production process, as supplementary water for cooling towers and for cleaning equipment. The purpose of using water and water recycling process both have been reasonably reviewed in each plant. In addition, the process water recycling, rainwater collection and wastewater recycling have been promoted actively. Take the Mailiao Industrial Complex as an example. In 2019, the average rainwater collection was 1,972 tons/day, and the whole year collection was about 720 kilotons; the wastewater recycling was 620 tons/day, and the whole year recycling was about 226 kilotons. After calculation, a total of 946 kilotons of water have been recycled, which accounting for 8.6% of the 29,885 tons/day of industrial water in the Mailiao Industrial Complex. If calculated based on the water recovery rate (R2) announced by the Ministry of Economic Affairs (plus the process water recycling, process recycling, and cooling water recycling), the water recovery rate of the Mailiao Industrial Complex can reach 91.6%.



## 3.4.2 Effluent Management and Sewage Prevention

### ■ Effluent Management Procedures



### ■ 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). For emissions in every plant, please refer to Nan Ya Plastics official website "The Effect upon Prevention and Energy Conservation".



NPC " The Effect upon Prevention and Energy Conservation "

### ■ Effluent Volume

The Company's total effluent in 2019 was 6,765.8 kilotons, a decrease of 104.7 kilotons compared to 2018. The trend of effluent volume in the past four years and the effluent volume of subsidiaries in 2018 and 2019 are as follows:

### ■ Annual Effluent Volume of the Company

Plant	The Receiving Water Body	Effluent Volume(Tons/ Day)			
		2016	2017	2018	2019
Shulin	Dahan River	2,267.5	2,044.8	2,069.6	2,175.1
Linkou	Tamsui River	3,237.3	3,778.0	3,179.7	3,482.0
Kung San	Industrial Zone	2,051.8	2,085.1	1,999.6	1,967.1
Jinxing	Nankan River	1,200.3	1,070.1	874.0	897.9
Mailiao	Taiwan Strait	7,548.9	8,179.4	8,452.8	8,039.4
Hsinkang	Niuchou River	1,516.8	1,379.9	1,188.4	1,056.2
Chiayi	Puzi River	729.5	946.8	984.0	853.8
Renwu	Houjin River	62.1	60.8	66.8	59.9
Linyuan	Industrial Zone	5.8	6.2	8.5	5.1
Total		18,620.0	19,551.1	18,823.4	18,536.5

Source: Formosa Plastics Corporation Database.

Note: The effluent volume of Linkou plant includes the 2,951.7 tons/day that are entrusted to Nanya Technology for treatment.

### ■ Annual Effluent Volume of the Subsidiaries in Taiwan in 2018 & 2019

Unit: Tons/Day

Plant		The Receiving Water Body	2018	2019
NPCB	Shulin	Dahan River	17.3	50.0
	Jinxing	Nankan River	7,159.9	7,852.0
PFG		Puzi River	1,186.0	1,124.3
Total			8,363.2	9,026.3

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 Conservation Performance

In order to ensure the water resources have been effectively used, the Company continued to implement measures such as process water reduction, water-saving management and reduction of evaporation losses, as well as wastewater recycling and reuse, and strengthening rainwater collection operations in each plant area. In 2019, a total of 101 water-saving improvement projects were completed, some of which were the cases from subsidiaries. The investment amount is NT\$43 million, and the annual benefit is about NT\$4 million. The water-saving performance is shown in the table below:

#### ■ Summary of Water-Saving Implementation Status of the Company and its Subsidiaries in Taiwan

Item	Year	1999~2018 (A)	2019 (B)	In Progress (C)	Total (D=A+B+C)
Improved Items		648	101	48	797
Water Saved (Tons/Day)		25,437	1,091	1,871	28,399
Amount Invested (NT\$ 100 million)		4.37	0.43	1.43	6.23
Improve Efficiency (NT\$ 100 million/Year)		1.64	0.04	0.03	1.71

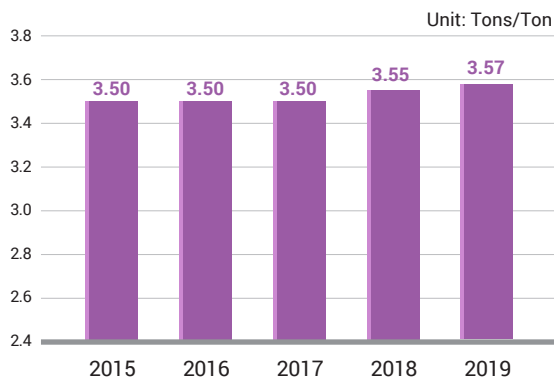
Source: Formosa Plastics Corporation Water and Energy Saving Case Database; the number of "In progress cases" is based on the statistics calculated until February 2020.

Each plant in the Company aim to reduce the water consumption per unit product by 2% compared to the previous year. However, due to the wide variety of products and different units of measurement, we take the energy consumption of the Mailiao Industrial Complex, which is the largest amount of consumption, as an example for comparison.

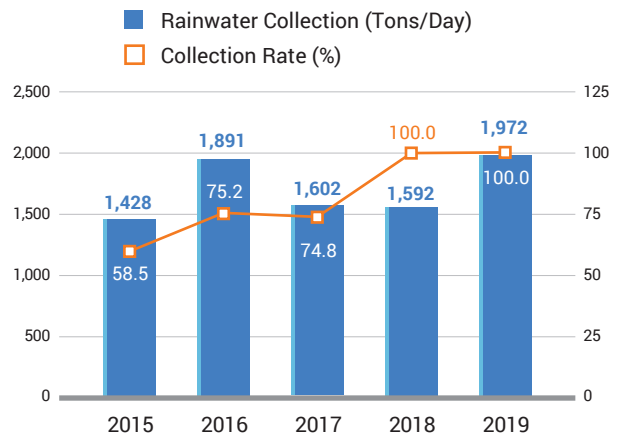
In 2019, the average water consumption of the Mailiao Industrial Complex was 29,885 tons/day, which was a decrease of 7.3% from 32,227 tons/day in 2018. The water consumption per unit product was 3.57 tons/ton. It increased by 0.6% in 2018, this was mainly due to the reduction in the production capacity of the BPA plant. In addition, the rainwater collection rate in the Mailiao Industrial Complex was 100%, and the average rainwater collection is 1,972 tons/day. The unit water consumption and rainwater collection of the Mailiao Industrial Complex are as follows:



Trends of Annual Water Consumption per Unit Product of Mailiao Industrial Complex



Trends of Annual Rainwater Collection rate per Unit Product of Mailiao Industrial Complex



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

Note 2: Collection rate = [rainwater collection] / [(monthly average rainfall mm/month from weather data) x (rainwater collection area of each plant) x coefficient of run-off]

Note 3: The coefficient of run-off = Strata, porous 0.2; Strata, impervious 0.8.

### 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.

The groundwater monitoring results of the plant in 2019 all met the standards, and the implementation frequency is as follows:

- It is carried out biennially in Shulin plant, Kung San plant, Linkou plant and Jinxing plant.
- It is carried out once a season in the Mailiao Industrial Complex.
- It is carried out semiannually in Hsinkang plant.

## 3.5 Circular Economy Promotion

The four major companies of Formosa Plastics Group work together to integrate resources, establish the energy-saving and carbon-reduction promotion group, and improve the effectiveness of water conservation and energy conservation. Besides, in order to encourage all units to implement the promotion of energy-saving and carbon-reduction improvement projects and the circular economy, we cooperate with domestic universities every year to hold presentations and mutual observation meetings on excellent cases of energy conservation, water conservation, and environmental protection.

### Promotion Method

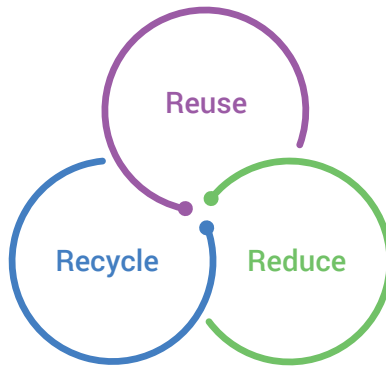
The Company adheres to the 3Rs of circular economy, and reviews the implementation based on the 4 dimensions of raw materials, water cycle, energy cycle, and resource recovery, and promotes kinds of improvement operations actively.

**Raw material cycle integration:**

Reduce the use of raw materials and increase conversion rate.

**Energy cycle integration:**

Reduce the use of steam and electricity, reuse energy.



**Water cycle integration:**

Reduce water use, water recycling, and wastewater recovery.

**Waste cycle integration:**

Reduce waste production and reuse waste.

**Results Published**

In order to encourage all units to strive to improve the effectiveness of energy saving, carbon reduction, and circular economy, the Company not only organizes its own commendation conferences for excellent factories, but also cooperates with domestic universities to hold excellent case presentations on energy saving, water saving and environmental protection.

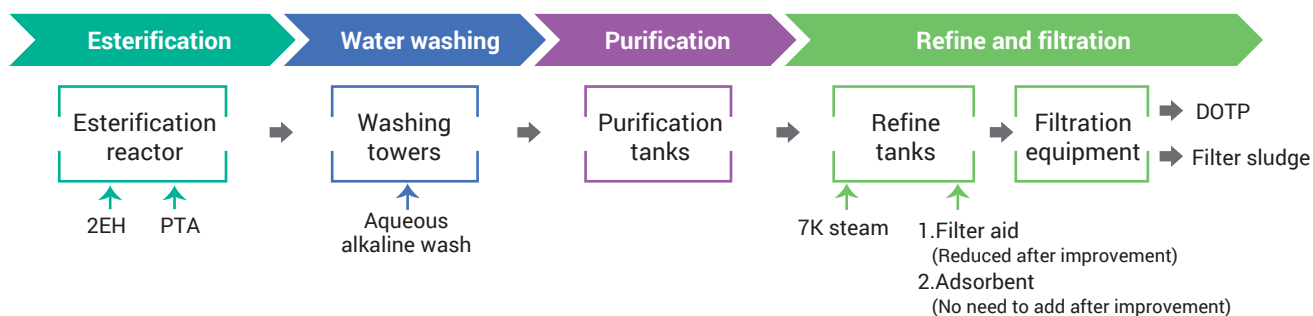
Date	Venue	Primary Results
May 31, 2019	“Mutual Observation Meetings and Presentations on Excellent Cases Selection of Excellent Environmental Management Plant of Formosa Plastics Group” at National Central University in Taoyuan	<ul style="list-style-type: none"> <li>The Company's plasticizer plant of petrochemicals 1<sup>st</sup> division won the Masterpiece Award for "Increase in production of eco-friendly plasticizer and reduction improvement on filter sludge", and the CCL Plant 3 of Hsinkang of electronic business division won the third prize for "Improvement on replacing kraft paper with cushions in substrate hot pressing process".</li> </ul>
September 11, 2019	Mailiao Industrial Complex held the "2019 Commendation Conference of Excellent Department on Conservation, Emission Reduction and Circular Economy Promotion in Mailiao Industrial Complex"	<ul style="list-style-type: none"> <li>The 2EH plant won the first prize in the "2019 Commendation Conference of Excellent Department on Conservation, Emission Reduction and Circular Economy Promotion in Mailiao Industrial Complex"</li> <li>The INA plant won the second prize in the "2019 Commendation Conference of Excellent Department on Conservation, Emission Reduction and Circular Economy Promotion in Mailiao Industrial Complex"</li> </ul>



May 31, 2019  
“Mutual Observation Meetings and Presentations on Excellent Cases Selection of Excellent Environmental Management Plant of Formosa Plastics Group”

### Examples of Circular Economy

#### Example of improvement on reduction of filter sludge in plasticizer plant of NPC



1. After the washing liquid used in the semi-finished products of the plasticizer plant been replaced with a strong alkali aqueous solution (PH-11), the aggregation and sedimentation of titanium dioxide is improved. The unreacted PTA/monoester and the strong alkali form sodium salt and dissolve in the water layer. Through the sedimentation, separation, and drainage, the residual impurities in the semi-finished products can be removed. The insulation value can reach more than  $50 \times 10^{11} \Omega \cdot \text{cm}$  and reduce the amount of filter sludge without adding any adsorbents.
2. After the improvement, the output per unit of filter sludge was reduced from 8.4 kg/ton to 0.6 kg/ton, a reduction of 93%; the amount of filter aid was reduced from 1.33 kg/ton to 0.12 kg/ton, a reduction of 91%; and the amount of adsorbent was reduced from 1.63 kg /ton to 0 kg/ton.

## 3.6 Environmental Violations

The Company and its subsidiaries in Taiwan did not experience any significant spills in 2019. However, 2 environmental protection tickets were received. The main reasons were:

1. Self-management of the expansion site has not been implemented, causing the emissions of fugitive dust.
2. The operating parameters of the washing towers do not meet to the approved conditions.

The number of fines was reduced by 4 compared to that in 2018, and the short-term goal of reducing the number of tickets to less than 50% was achieved. However, it is obvious that the personnel's vigilance on the discovery of abnormalities needs to be strengthened. In addition to turning the abnormalities into educational materials, the plants are required to continuously incorporate the operations of pollution prevention and control equipment into the "Real-time Production Management System (RTPMS)". Through controlled by the computer system to ensure that the operations do not exceed the permitted conditions.

#### The Summary of Environmental Protection Fines in the Past Four Years

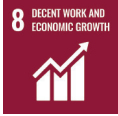
Type	2016	2017	2018	2019
Air Pollution	4 cases/ NT\$ 400,000	2 cases/ NT\$ 200,000	6 cases/ NT\$ 600,000	2 cases/ NT\$ 200,000
Water Pollution	0 case/ NT\$ 0	0 case/ NT\$ 0	1 case/ NT\$ 105,000	0 case/ NT\$ 0
Waste Pollution	0 case/ NT\$ 0	0 case/ NT\$ 0	1 case/ NT\$ 6,000	0 case/ NT\$ 0
Others	0 case/ NT\$ 0	1 case/ NT\$ 100,000	0 case/ NT\$ 0	0 case/ NT\$ 0
<b>Total</b>	<b>4 cases/ NT\$ 400,000</b>	<b>3 cases/ NT\$ 300,000</b>	<b>8 cases/ NT\$ 711,000</b>	<b>2 cases/ NT\$ 200,000</b>

# 4

## Creating a Happy and Safe Workplace

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







SDGs		Material Issues	<ol style="list-style-type: none"> <li>1. Occupational health and safety</li> <li>2. Industrial and public safety</li> <li>3. Employee benefits and remuneration</li> </ol>
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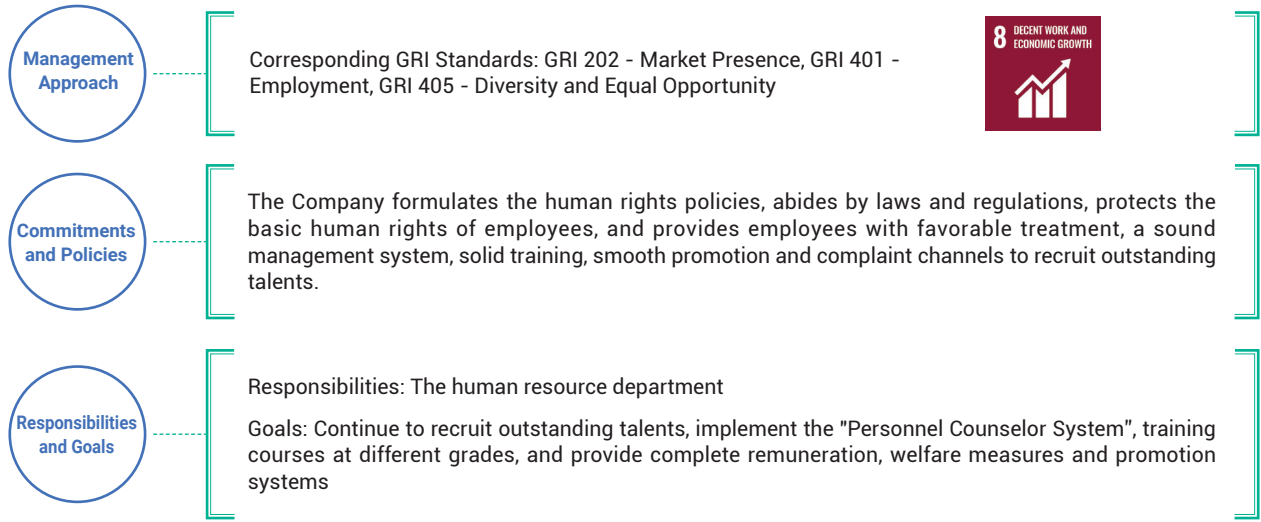
Short-, Medium- and Long-term Goals for Material Issues

<div style="background-color: #0056b3; color: white; text-align: center; padding: 5px; margin-bottom: 10px;">2019 Goals</div> <ul style="list-style-type: none"> <li>• Organize interviews and seminars for new recruits and help employees in need so as to retain talents</li> <li>• Zero occupational injury; Zero disaster</li> </ul>	<div style="background-color: #0056b3; color: white; text-align: center; padding: 5px; margin-bottom: 10px;">2019 Progress</div> <ul style="list-style-type: none"> <li>• The "Personnel Counselor System" has been implemented to conduct regular interviews with newly-recruited 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.</li> <li>• No work incident resulted in death in 2019. The disabling injury frequency rate was 0.43, the disabling injury severity rate was 59, and the disabling injury index was 0.15. All occupational hazard indicators were lower than those of our peers.</li> </ul>
<div style="background-color: #0056b3; color: white; text-align: center; padding: 5px; margin-bottom: 10px;">Short-term Goals (2020 Goals)</div> <ul style="list-style-type: none"> <li>• Organize interviews and seminars for new recruits and help employees in need so as to retain talents</li> <li>• Continuously provide employees with complete education and training, smooth promotion channels create a safe and secure working environment, and provide a great working place.</li> <li>• Compile a list of abnormal health cases in every unit to take control and manage high-risk cases</li> <li>• Continue to implement health promotion activities to improve the incidence of employee injury leave and sick leave, in order to achieve the goal of self-health management</li> <li>• Zero occupational injury; Zero disaster</li> </ul>	
<div style="background-color: #0056b3; color: white; text-align: center; padding: 5px; margin-bottom: 10px;">Medium and Long-term Goals (2021-2026)</div> <ul style="list-style-type: none"> <li>• Organize interviews and seminars for new recruits and help employees in need so as to retain talents</li> <li>• Continuously provide employees with complete education and training, smooth promotion channels create a safe and secure working environment, and provide a great working place.</li> <li>• Use new technology to achieve the goal of early warning and hierarchical management, and actively provide employees with health education training and health tracking</li> <li>• Personnel actively conduct self-health management</li> <li>• Zero occupational injury; Zero disaster</li> </ul>	

CSR Quick Review

 <p>NPC was voted as the top 20 happy companies in the "Happiness Survey of Manufacturing and Agency Sales of Construction Industries" held by 1111 Job Bank</p>	 <p>Employees of the Company and subsidiaries in Taiwan: more than 93% are full-time staff; 93% are Taiwanese citizens.</p>
 <p>In 2019, the average monthly resignation rate for employees of the Company and its subsidiaries in Taiwan was 0.14%.</p>	 <p>In 2019, no work incident resulted in death in the Company and its subsidiaries in Taiwan. The disabling injury frequency rate was 0.43, the disabling injury severity rate was 59, and the disabling injury index was 0.15. All occupational hazard indicators were lower than those of our peers.</p>

# 4.1 Human Rights Protection and Employment



## 4.1.1 Human Rights Policy

The Company supports and abides by basic human rights principles such as the "United Nations Universal Declaration of Human Rights" and the "International Human Rights Covenants", as well as the laws and regulations of the locations of every global operation. In addition, in order to protect current employees (including contract and temporary personnel), the "Human Rights Policy of Nan Ya Plastics Corporation" is set up. For details, please refer to Nan Ya Plastics official website "Human Rights Policy and Specific Practices".



NPC "Human Rights Policy and Specific Practices"

## 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 2019.

### Age and Regional Distribution of New Recruits of NPC and Subsidiaries in Taiwan in 2019

Unit: Person

Type	Division	Female	Male
Age	Under 29	84	479
	30~39	15	103
	40~49	1	2
	50~59	0	0
	Over 60	0	0

Type	Division	Female	Male
Region	Northern Taiwan	71	367
	Central Taiwan	2	50
	Southern Taiwan	27	167
Total		100	584
Proportion of New Recruits		2.8%	4.1%

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 2019, the Company and its subsidiaries in Taiwan employed a total of 19,075 employees, of which 93% were Taiwanese citizens. 93% were full-time staff, 7% were contractors. 480 come from outsourced companies, including 286 males and 194 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 44.9 years, and the average years of service is 20.0 years, including 189 persons with disabilities, accounting for 1.0%.

#### ■ Workforce Structure of NPC and Subsidiaries in Taiwan in 2019

Unit: Person

Type	Division	Female		Male		Total
		Number of People	Proportion of the group	Number of People	Proportion of the group	
Position	Executive and above	2	0.1%	61	0.4%	63
	Primary & Secondary Supervisor	75	2.1%	2,077	14.7%	2,152
	Junior supervisors and personnel	3,444	97.8%	12,048	84.9%	15,492
Location	Northern Taiwan	2,581	73.3%	7,948	56.0%	10,529
	Central Taiwan	61	1.7%	1,514	10.7%	1,575
	Southern Taiwan	879	25.0%	4,724	33.3%	5,603
Age	Under 29	280	8.0%	1,637	11.5%	1,917
	30-39	699	19.9%	2,339	16.5%	3,038
	40-49	1,738	49.3%	5,236	36.9%	6,974
	50~59	702	19.9%	4,029	28.4%	4,731
	Over 60	102	2.9%	945	6.7%	1,047
Length of Service	Less than 10 years	552	15.7%	3,563	25.1%	4,115
	11~20 years	814	23.1%	2,487	17.5%	3,301
	21~30 years	1,651	46.9%	5,911	41.7%	7,562
	Over 30 years	504	14.3%	2,225	15.7%	2,729

Type	Division	Female		Male		Total
		Number of People	Proportion of the group	Number of People	Proportion of the group	
Education	Ph.D.	0	0.0%	34	0.2%	34
	Master's Degree	96	2.7%	765	5.4%	861
	College	132	3.7%	1,890	13.3%	2,022
	Others	3,293	93.6%	11,497	81.1%	14,790
Gender subtotal		3,521		14,186		17,707

Note: The workforce structure is based on the number of employee' statistics on December 31, 2019.

### ■ Contractor Manpower Structure of NPC and Subsidiaries in Taiwan in 2019

Unit: Person

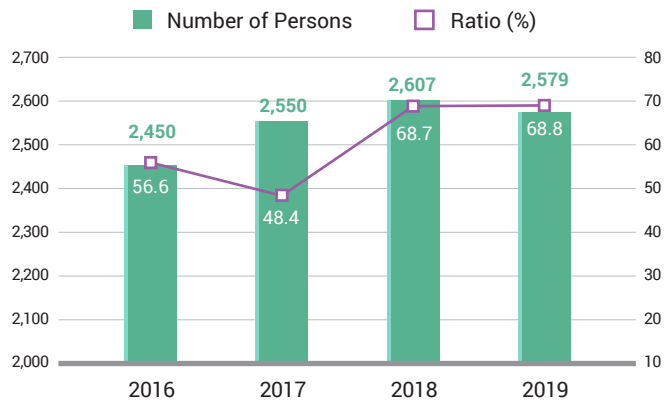
Job Title	Female	Male
Consultant	1	7
Contract workers	1	14
Foreign laborers	555	778
Interns	1	11
Gender subtotal	558	810
Total	1,368	

Note: This table is based on the number of contractors as of December 31, 2019.

## 4.1.4 Local Supervisor Ratio

In order to feedback to local communities, the Company and its subsidiaries in Taiwan 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 four years, the proportion of supervisors who are local residents has maintained at more than 50%.

Ratio of Supervisors who are Local Residents for the Company and its Subsidiaries in Taiwan over the Past 4 Years





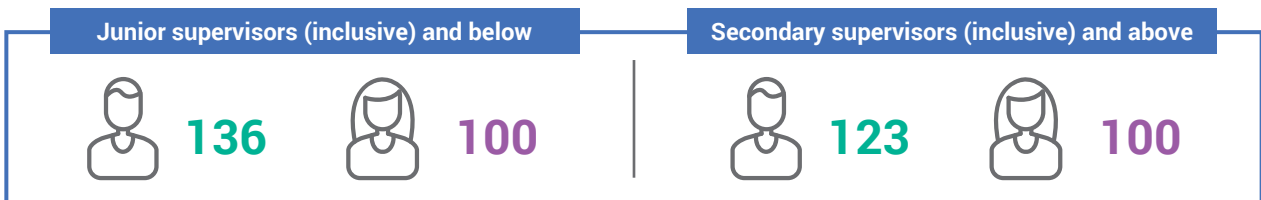
## 4.2 Employee Rights and Benefits

### 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

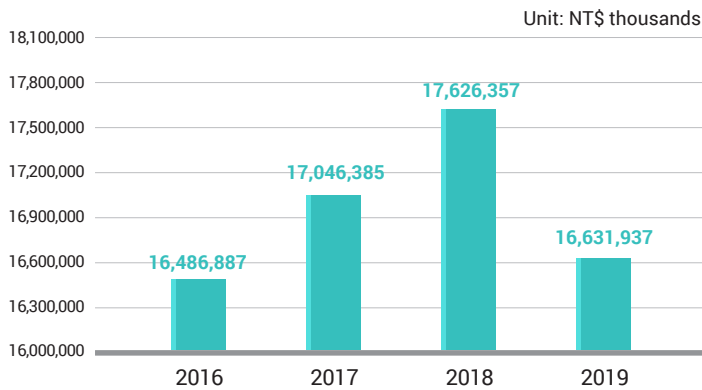
Proportion of salary for female and male employees of the same position and rank of the Company and its subsidiaries in Taiwan



Note: In 2019, 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 higher shift allowance.

#### ■ Salary and Welfare Expenses

Salary and welfare expenses of the Company



Data Source: Historical financial statements of the Company



#### ■ Average and Median Salary

In 2019, 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	2019
Number of employees who are not carrying out management duties (person)	11,446	11,672	12,439
Average salary of employees who are not carrying out management duties (NT\$ thousands/ year)	1,336	1,343	1,231
Median salary of employees who are not carrying out management duties (NT\$ thousands/ year)	1,250	1,274	1,219

## 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 Taiwan in 2019 was 0.14%. The absence rate was 0.14%. (The absence rate calculation takes sick leave, official leave, and work-related injury leave, of which male took up 0.40% and female 0.44%). Absence rate for outsourced employees was 0.1% (0.1% for male and 0.1% for female). This fully demonstrates the effectiveness of employee care and job security, as well as employees' trust and recognition of the Company.

### ■ Age and Regional Distribution for Resigned Employees of the Company and its Subsidiaries in Taiwan in 2019

Unit: Person

Type	Division	Female	Male
Age	Under 29	34	142
	30-39	29	93
	40-49	15	52
	50~59	23	137
	Over 60	9	86
	Retirement	11	101
Region	Northern Taiwan	90	370
	Central Taiwan	0	42
	Southern Taiwan	31	199
Total		121	611
Turnover Rate		3.4%	4.3%

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

Note 2: 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.

### 4.2.3 Employee Benefits and Care

In order to let all permanent employees work with ease and fully utilize his / her expertise, the Company continues to treat employees like family. During the construction of each plant, 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:(For details, please refer to Nan Ya Plastics official website "Employee Benefits")



NPC "Employee Benefits"



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 2019, a total of 22 employees applied (12 women and 10 men) applied. The reinstatement rate was 93.3%.

#### Application and Reinstatement Rate of Parental Leave of the Company and its subsidiaries in Taiwan

Unit: Person

Item	2016			2017			2018			2019		
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
Actual Number of Parental Leave Applications	6	6	12	9	5	14	9	5	14	12	10	22
Number of Employees Expected to be Reinstated during the Year (A)	7	2	9	10	8	18	10	8	18	12	3	15
Number of Applications for Reinstatement during the Year (B)	7	2	9	9	7	16	9	7	16	12	2	14
Reinstatement Rate % (B/A)	100	100	100	90	87.5	88.9	90	87.5	88.9	100	66.7	93.3
Retention Rate %	100	100	100	100	100	100	100	100	100	100	100	100

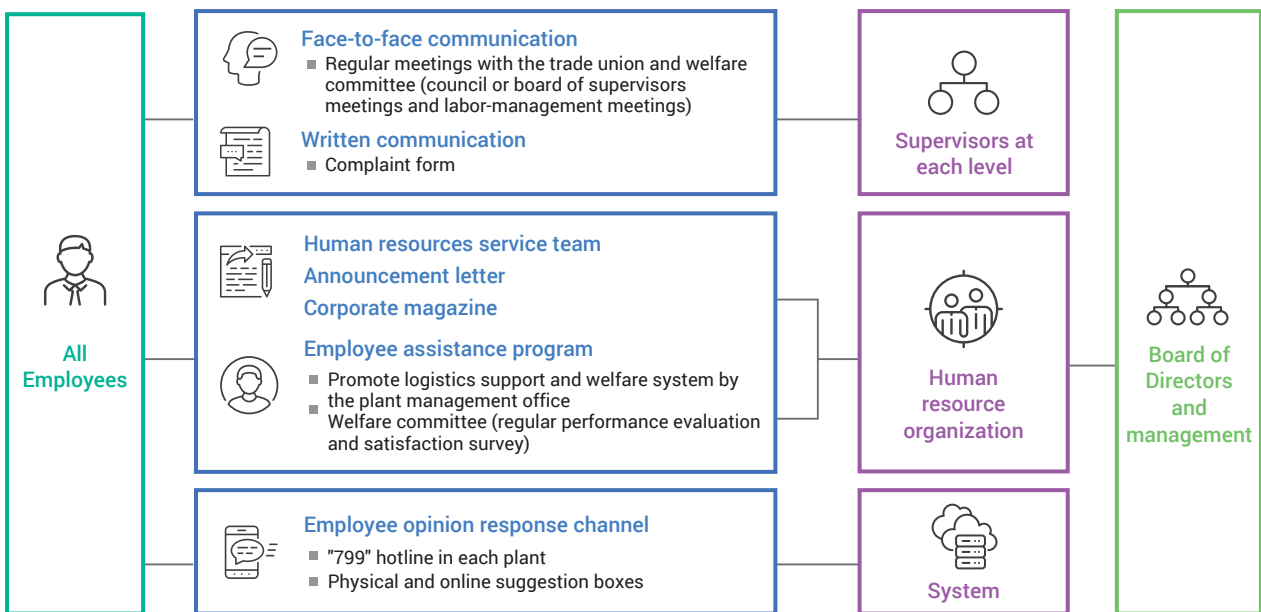
Note 1: Retention rate refers to the rate of reinstated employee staying for over 1 year after parental leave ends.

Note 2: Statistics for 2019 include the Company's information and those of its subsidiaries in Taiwan.

## 4.2.4 Valuing Employee Feedback

The Company strives to pursue harmonious labor-management relations as well as providing diverse and smooth communication channels. The employees are also actively encouraged to propose innovative ideas. All employees could give recommendations and consultations through joining organizations such as the trade union (labor union), welfare committee and so on. Currently, 81% of the employees are members of the trade union.

The employer representatives of the Company would communicate with the labor representatives in regular council or board of supervisors meetings and labor-management meetings held by the trade union. In addition, on the major labor issues, priority is given to the opinions of the trade union to make all employees be protected by mutual agreement between employers and employees. The Company's main communication channels are shown as follows:



## 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 pre-employment training, basic job training, professional job training, and personnel reserves program for trainee managers as well as job certification and cross-functional training courses in order to train all-round employees.

■ Employee Education System of the Company



4.3.1 Staff Training and Assessment

In 2019, the average number of training hours per employee was about 57 hours. The average number of training hours for the primary supervisors was 18 hours, for secondary supervisors was 41 hours, for junior supervisors was 63 hours, and for junior personnel was 60 hours. The main courses and results are as follows:

- Obtain job-related professional licenses: Depend on the operations and safety needs of each unit.
- Courses such as "Basic Training for RTPMS," "Statistical Quality Control and Experimental Design," "Training courses for AI" 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.

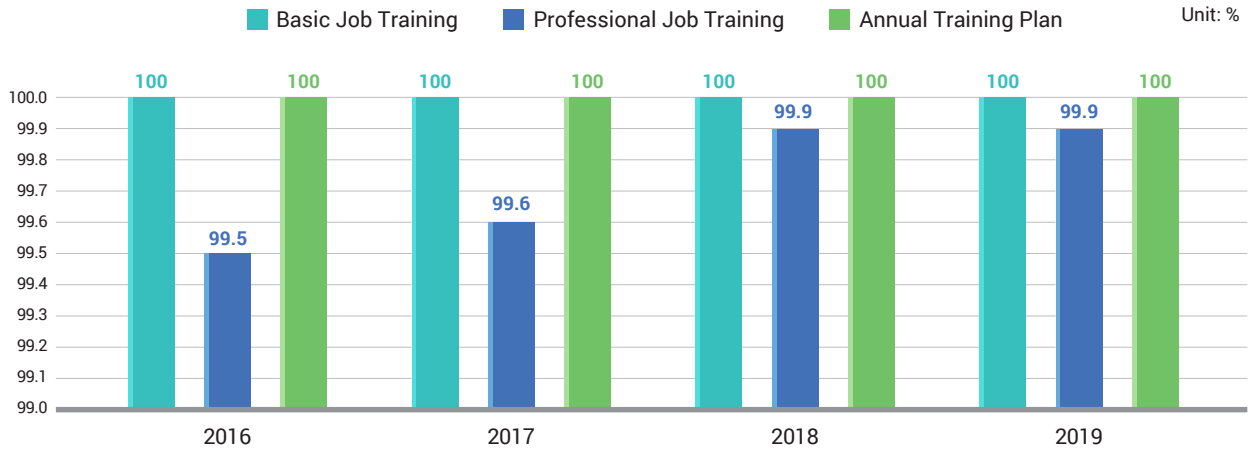
■ Training Status for All Employees in the Past Four Years

Unit: Hour

Year \ Rank	Primary supervisor	Secondary supervisor	Junior Level Supervisors	Junior staff
2016	12,029	37,422	144,997	409,958
2017	12,866	37,703	170,062	555,819
2018	13,985	45,516	216,500	741,168
2019	15,857	53,287	208,639	689,878

Note: Statistics for 2018 and 2019 include the Company's information and those of its subsidiaries in Taiwan.

### Completion Rate of Training courses in all Stages for the Past Four Years

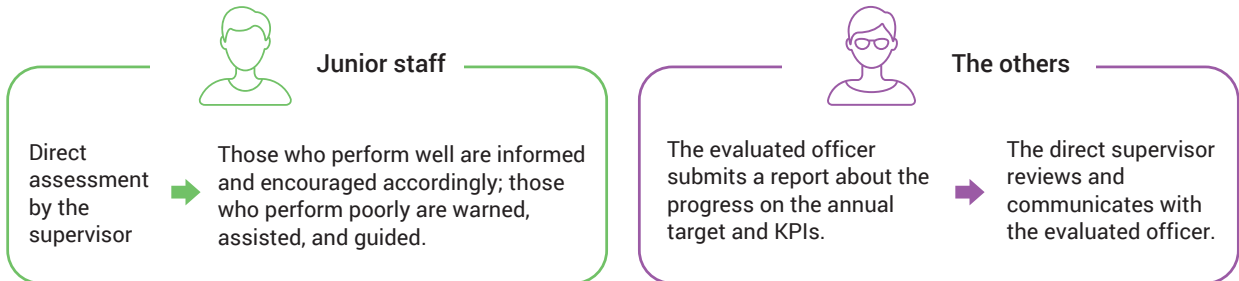


Note 1: The completion rate refers to the ratio of the assigned training programs that were completed in the same year.

Note 2: Statistics for 2018 and 2019 include the Company's information and those of its subsidiaries in Taiwan.

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.

#### Regular Work Evaluation Process

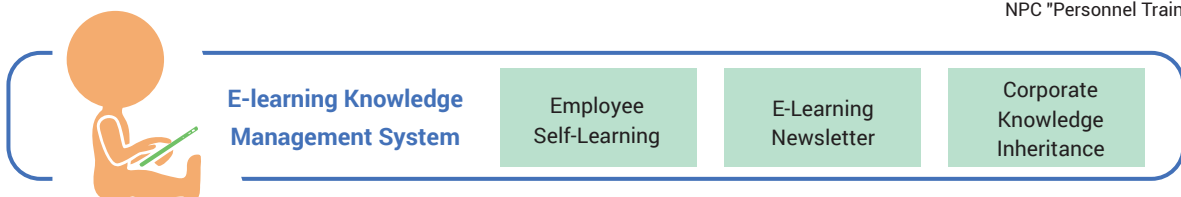


### 4.3.2 Security Personnel Training and E-learning Knowledge Management System

The Company provides complete security professional training courses for all security personnel to obtain necessary training certifications, including "industrial safety", "security work specifications" and "related laws and regulations", etc. In addition, in order to provide employees with diversified channels for self-learning, an e-learning system has been built. For details, please refer to Nan Ya Plastics official website "Personnel Training".



NPC "Personnel Training"



# 4.4 Workplace Safety

Management Approach

Commitments and Policies

Responsibilities and Goals

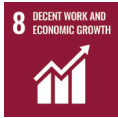
Corresponding GRI Standards: GRI 403 - Occupational Health and Safety

The Company sets up the Occupational Safety & Health Committee to promote “Process Safety Management”. We also hold PSM exchange and seminars biannually and assist all plants to get the certifications of the OHSAS 18001 Occupational Safety and Health Management System and the Taiwan Occupational Safety and Health Management System (TOSHMS) to cultivate a culture that all employee value work safety as well as reduce the frequency of occupational accidents and disasters, ensure physical and mental health of employee, and maintain the safety of the plant and the surrounding neighborhood.

Responsibilities:

- (1) The President's Office, business divisions, and plants are all equipped with dedicated personnel for the work safety to be responsible for the safety and health management as well as audits.
- (2) Each plant's management office is equipped with medical staff to be responsible for workplace health promotion activities.

Goals: Zero work injury, zero hazards.



## 4.4.1 Workplace Safety Management

To ensure workplace safety, the Company has established a specific occupational safety and health organization. Each plant has set up occupational safety and health committees in accordance with laws and regulations, and obtained certifications of the OHSAS 18001 Occupational Safety and Health Management System and the Taiwan Occupational Safety and Health Management System (TOSHMS).



OHSAS 18001 Occupational Health and Safety Management System Certificate



Taiwan Occupational Safety and Health Management System (TOSHMS) Certificate

Occupational Safety Committee

- Number of committee members: **273**
- Labor representatives: **99** people



Labor representatives account for 36%, which is superior to the regulations



**Meetings are held quarterly.**  
**Topics discussed in 2019 are as follows:**

- Research on occupational accident investigation report
- The implementation of health management and health promotion
- Review on the implementation of safety and health education training plans
- Traffic safety promotion proposal
- Automated inspection and safety and health audits

## Occupational Accident Indicators

The Company and its subsidiaries in Taiwan did not experience any occupational accident that resulted in death in 2019. Various occupational accident indicators, including 0.43 for disabling injury frequency rate, 59 for disabling injury severity rate and 0.15 for disabling injury index, they were all lower than that of the peers (plastic manufacturing). There were 16 injuries that led to disabilities, including 6 incidents of "being trapped by the equipment", 4 incidents each of "being hit" and "fall", and 2 incidents of "contact with high temperature". And there was 1 injury happened to contractor that led to disabilities occurred in the Mailiao Industrial Complex. The injury was "being hit".

Year	The Company and its subsidiaries in Taiwan				Plastic products manufacturing and processing		
	Disabling injury frequency rate	Disabling injury severity rate	Disabling injury index	Number of lost workdays	Disabling injury frequency rate	Disabling injury severity rate	Disabling injury index
2016	0.24	23	0.07	849	1.90	237	0.67
2017	0.28	7	0.04	256	1.87	293	0.74
2018	0.33	6	0.04	223	1.46	185	0.52
2019	0.43	59	0.15	2,180	1.42	94	0.37

Note 1: Disabling injury frequency rate (DIFR) = number of disabling injury  $\times 10^6 \div$  total manhours worked

Note 2: Disabling injury severity rate (DISR) = number of injured days off work  $\times 10^6 \div$  total manhours worked

Note 3: Disabling injury index = (DIFR  $\times$  DISR  $\div 1000$ )<sup>1/2</sup>

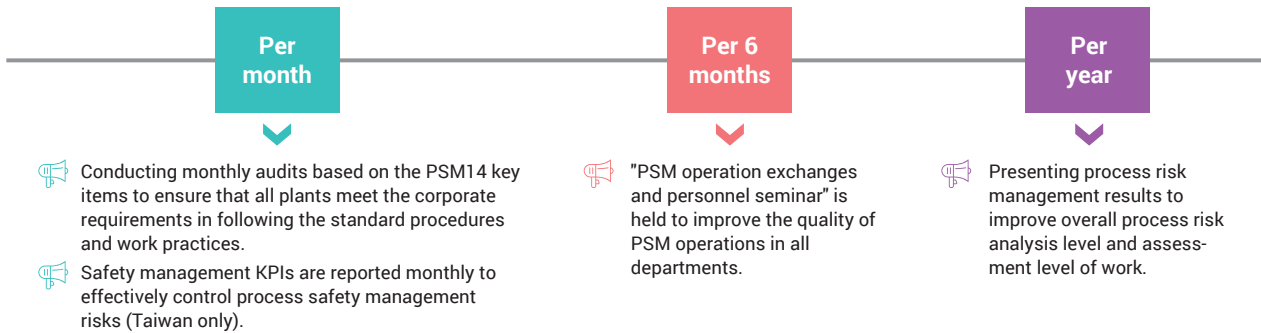
## Occupational Accident Data from All Plants of the Company and Its Subsidiaries in Taiwan in 2019

Plant \ Type	Male			Female		
	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	1.18	17	0.14	0	0	0
Linkou	0	0	0	0	0	0
Kung San	0.70	37	0.16	0	0	0
Jinxing	0.12	6	0.02	0	0	0
Mailiao	1.40	641	0.94	0	0	0
Chiayi	0.52	7	0.06	0	0	0
Hsinkang	0.68	20	0.11	0	0	0
Renwu	1.19	3	0.06	0	0	0
Details	16 male employees were involved in occupational accidents, of which 6 cases were being trapped by the equipment, 4 were being hit, 4 were falling, and 2 were high temperature contact.			No female employee was involved in occupational accidents.		



### 4.4.2 Process Safety Management

14 PSM operations are promoted in accordance with the corporate regulations. A total of 163 PSM personnel (92 in Taiwan, 60 in China, and 11 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:



#### ■ 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. There are 20 people who have obtained the certification (14 in Taiwan, 6 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.

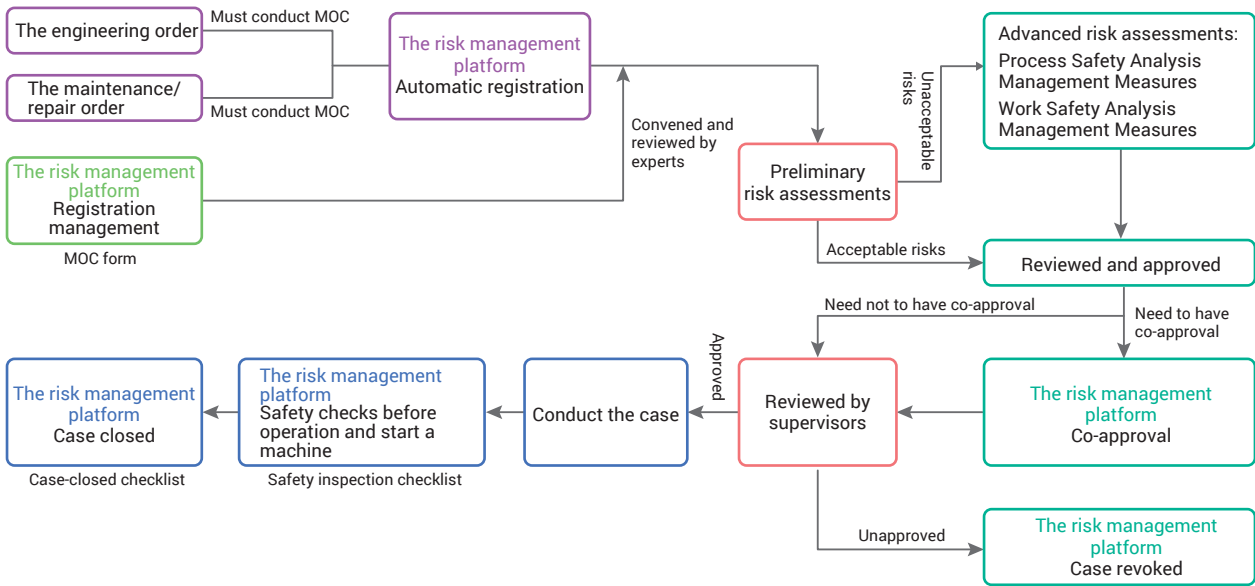
Plant	Internal auditor	Progress
Taiwan	Executed by PHA facilitators and completed through cross-auditing.	The quality inspection of <b>29</b> plants (offices) has been completed throughout the year.
Mainland China		The quality inspection of <b>60</b> plants (offices) has been completed throughout the year.

#### ■ 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 and make sure all the changes are in accordance with corporate regulations.

In 2019, the scope of MOC has been expanded to equipment installation manufacturers and trial production related units, and the audit has been strengthened to establish a more complete management.

### Flow chart of Management of Change



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 each department and completed through cross-auditing.	The quality inspection of <b>70</b> plants (offices) has been completed throughout the year.
Mainland China		The quality inspection of <b>82</b> plants (offices) has been completed throughout the year.

### 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.

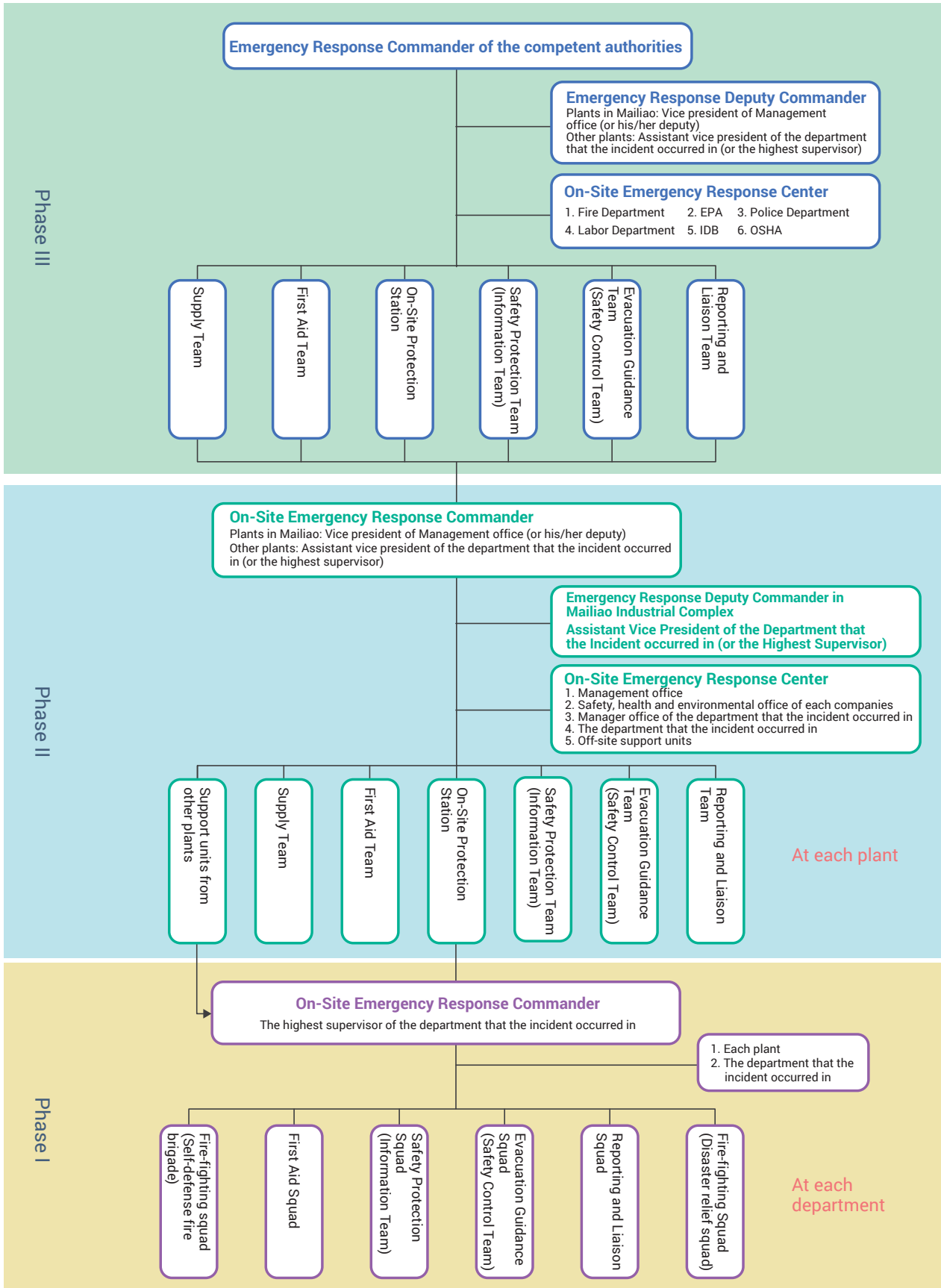
### Standard Operating Procedure (SOP)

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

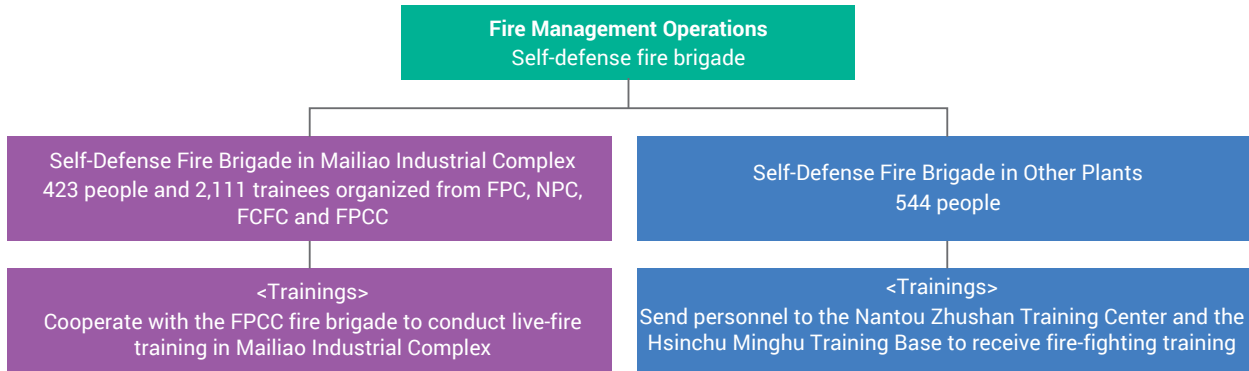
In order to let the emergency response units understand the disaster-causing factors and potential hazards of each process, each plant not only conducts regular disaster prevention training, but also cooperates with the competent authorities to participate in joint drills, grouped by nature of tasks, and simulates rescue procedures, including emergency response drills of fire, poisoning disasters, chemical disasters, and compound disasters. In response to poor air quality, the Company also cooperated with local environmental protection department to hold the emergency response drills of air pollution this year.

The Company's emergency response organization is divided into three phases in accordance with the scale of the disaster and practical needs:



### Self-Defense Fire Organization

To ensure in the event of a major fire, the accident site can immediately notify the plants nearby for equipment and manpower support, every plant not only organize the self-defense firefighting personnel, and send them for external training, but also participate in emergency response drills that held every six months to enhance their emergency response ability.



Live-fire training (Trainees are wearing protective equipment)



Live-fire training (Indoor fire fighting training)

### Poisoning Disaster Drills

In 2019, we have participated in 3 joint training drills and collaborative support sessions. Through simulation exercises, we enhanced the personnel's ability to respond to emergency rescue and coordinate disaster relief, and refer to the good practices of other units as self-improvement goals:

Date	Plant	Drill Theme
03/21	Shulin	2019 Overall drill of toxic and concerned chemical substances of local joint prevention organization of New Taipei City
04/16	Mailiao	2019 Drill of disaster prevention and protection
12/06	All plants	2019 Observation and sharing sessions of real-time emergency response of joint prevention organization

### 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	2019 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 11 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.	Please refer to Chapter 4.4.3 Disaster Prevention Training

### 4.4.5 Employee Healthcare

The Company systematically and continuously promotes health measures to provide a healthy and safe work environment and the good training programs for employees, in order to let employees know that there are clear goals for them to utilize their capacity and participate actively.

#### ■ Health Management and Health Promotion Measures

In order to take care of the health of employees, the Company implements health inspection items stipulated by laws and regulations and adds 4 more inspection items, which are superior to laws and regulations. In addition, for employees who engage in special health hazards, special health inspections and health grading management are implemented in accordance with the regulations. In 2019, there were no abnormal cases of occupational diseases in the results of special health inspections.

The plant has medical staff to provide personal health guidance and consultation. The employees could use 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.

<p><b>Health Inspection Items which are Superior to Laws and Regulations</b></p> <ul style="list-style-type: none"> <li>● Alpha-fetoprotein inspection</li> <li>● Screening for oral mucosal lesions</li> <li>● Cancer embryo antigen inspection</li> <li>● ECG Examination</li> </ul>	<p><b>Special Health Inspection Items</b></p> <p>High temperature, noise, free radiation, lead, tetrachloroethane, dimethylformamide, n-hexane, benzene, TDI compounds, arsenic and its compounds, dust, or chromium, etc.</p>	<p><b>2019 Health Inspection</b></p> <table border="0"> <tr> <td>■ Number of people had general health inspection <b>10,984</b></td> <td>■ Number of people had special health inspection <b>5,136</b></td> </tr> <tr> <td>■ Number of people been tracked with level two management or above in special health inspection <b>1,513</b></td> <td>■ Number of people participated in health promotion activities <b>6,675</b></td> </tr> </table>	■ Number of people had general health inspection <b>10,984</b>	■ Number of people had special health inspection <b>5,136</b>	■ Number of people been tracked with level two management or above in special health inspection <b>1,513</b>	■ Number of people participated in health promotion activities <b>6,675</b>
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## Occupational Disease Prevention Measures

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 Measures	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.

## Healthy Diet Promotion

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 2019.

## 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 2019, Chiayi and Renwu plants won the "Health Promotion Label."



# 5

## The Pursuit of Co-Prosperity and a Better Homeland

5.1 Local Participation

5.2 Social Contribution



SDGs



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

2019 Goals

- 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
- Actively promote corporate volunteers to care for the disadvantaged

2019 Progress

- In the 2019, a total of 48 sessions of environmental protection volunteer activities were held with 1,623 participants.
- Each plant organized a corporate volunteer team to assist disadvantaged groups (orphanage, nursing home). 50 sessions were held in 2019 with 3,261 participants and 8,129 hours of volunteer service.
- In 2019, the community outreach activity (Apple Theatre performance, Ming Hwa Yuan Arts and Cultural Group)" were hosted by Kung San plant and Linkou plant on June 21th and September 28th respectively, and we cooperated with the local health center for free anti-cancer screening. The number of participants was 2,000 and 3,000 people respectively.

Short-term Goals (2020 Goals)

- 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
- Actively promote corporate volunteers to care for the disadvantaged
- In the second half of the year 2020, community outreach activities have been scheduled to bring Apple Theater and Ming Hwa Yuan Arts and Culture Group to New Taipei Municipal Shulin Senior High School and the Taoyuan Nankan Wufu Night Market to promote traditional art.

Medium and Long-term Goals (2021-2026)

- Continue to promote more community outreach and social welfare activities
- To promote traditional art.

CSR Quick Review



Amount invested in social welfare: a total of NT\$57.78 billion



More than 5,572,300 fish fry were released. (2008-2019)



Welfare for the physically and mentally challenged: 29 early treatment centers as well as a pioneering online exchange platform were set up.

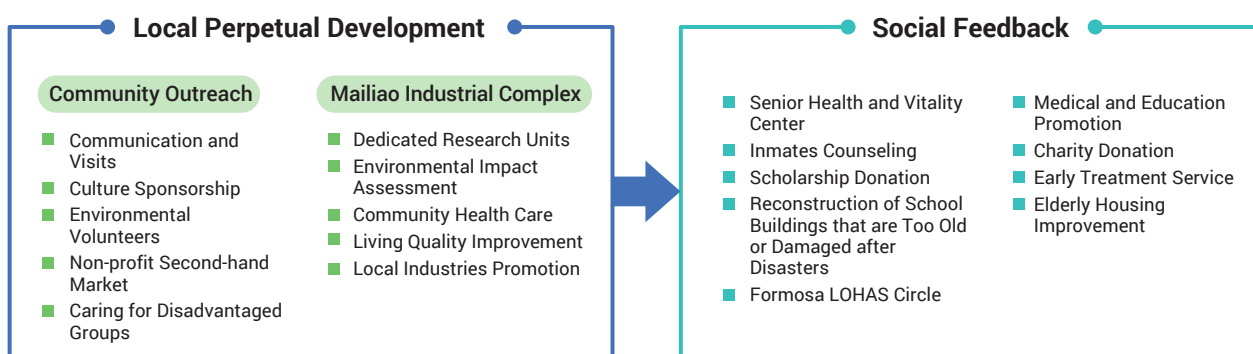


Sports promotion: invested NT\$250 million to support athletes



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

### 5.1.1 Community Outreach

The plants of the Company promote various community outreach activities according with the plans made by the management department. Through promoting various activities, we spread love and hope to our society and strengthen the relationship between the plants and local community. Take northern plants of the Company as an example, the practical participation and promotion of the community outreach activities in 2019 are as follows:

Item	Collaborative Unit	Promotion Method	2019 Progress
Visits	<ol style="list-style-type: none"> <li>Local offices</li> <li>Local residents</li> </ol>	<ol style="list-style-type: none"> <li>Strengthening communication through occasional visits</li> <li>The local residents are invited for plant activities to enhance the relationship</li> </ol>	<ol style="list-style-type: none"> <li>The plants have maintained great relationships with the local communities. There has been no complaints or feedback</li> <li>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</li> </ol>

Item	Collaborative Unit	Promotion Method	2019 Progress
Traditional Culture Promotion	Apple Theater (Kung San plant) Ming Hwa Yuan Arts and Cultural Group(Linkou plant)	Sponsoring theater companies to perform at the plants	Kung San plant: 2,000 people in the audience Linkou plant: 3,000 people in the audience
Community outreach	1. Township office 2. Village office 3. 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\$2,910,265
Environmental Volunteer	1. Employees and their families of each plant 2. The Society of Wilderness	1. 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 2. Participate in the 9/21 International Coastal Cleanup (Taipei session) to jointly maintain the marine environment	1. The plant holds monthly environmental protection volunteering activities. There were 48 sessions and 1,623 volunteers in total 2. A total of 65 people from the Company participated in the coastal cleanup activity at the northern breakwater of Wazihwei sandy beach, Bali District, New Taipei City on 9/21 (the number of participants had a limit)
Charity Service	1. Charity Service Club of Welfare Committee 2. Labor union 3. Local public welfare group	1. Regular visits to orphanages and nursing homes are conducted. Goods are collected and donated to social welfare institutions 2. 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 3. Disadvantaged groups were assisted in applying for emergency relief assistance from the FPG's "Qinlao Social Welfare Charitable Foundation"	1. A total of 50 charity service activities were organized with 3,261 participants, and the total amount of donation was NT\$1,692,438 2. NT\$670,159 of "Qinlao Social Welfare Charitable Foundation" emergency relief assistance were in application



More than 2,000 people from Guishan District attended the show to enjoy the performance of Apple Theater



Volunteers of the Company participated in charity sales activities held by local charity groups

Volunteers of the Company presented the elderly people living alone with the dishes prepared for the lunar year

### Protect the Marine Ecology to Respond to International Coastal Cleanup Activities

In order to protect the earth and the marine ecology, FPG decided to respond to the international coastal cleanup activities. In 2019, FPG cooperated with the Society of Wilderness and mobilized all employees in Taiwan for the first time to conduct joint coastal cleanup activities in Taipei, Yunlin, Yilan, Chiayi and Kaohsiung. The theme of the coastal cleanup activities was "Extremely Clean, Plastic Free".

The trainees were trained and taught by professional volunteers from the Society of Wilderness in every session, and complied with the "ICC International Coastal Cleanup Code of Conduct". In Taiwan, a total of 1,773 people participated in the activities and a total of 5,218 kg of marine debris were removed. Take the Taipei session that organized by the Company as an example, the coastal cleanup location is at Wazihwei sandy beach, Bali. And a total of 131 corporate volunteers and their family members participated in and a total of about 515 kg of garbage was collected.



Participate in the ICC activities to jointly protect the marine ecology



Together to clean-up the coastal, protect the ocean, and take a photo of achieving fruitful results

■ Strengthen Community Cooperation and Care for Disadvantaged Groups-"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. Currently there are five LOHAS circles located in Taoyuan, Yilan, Yunlin, Kaohsiung, and Changhua, all of which have developed different types and characteristics. For details, please refer to "Formosa LOHAS Circle official website" .



"Formosa LOHAS Circle  
official website"

The main progress in 2019 is as follows:

Location	Event	Total Participants
General events	<ul style="list-style-type: none"> <li>Training and education in Formosa LOHAS circles</li> <li>FPG joint coastal cleanup activities</li> <li>Yung-Ching Wang Run held by Chang Gung Memorial Hospital</li> <li>The Taiwan Healthcare + Expo</li> </ul>	2,342
Taoyuan	<ul style="list-style-type: none"> <li>Lantern festival- lantern-making and puzzle solving activity</li> <li>Promotion of ecological education and farming experience activity</li> <li>Parent-child rubbing painting DIY activity of marine ecology</li> <li>Developmentally delayed children family DIY activity of cooking spring rolls</li> </ul>	1,164
Changhua	<ul style="list-style-type: none"> <li>Eagle-viewing activity at Ba gua shan</li> <li>Tung blossom viewing activity</li> <li>Digital Collection of local cultural stories of Changhua plant</li> <li>Father's day DIY activity of making photo frame by second-hand toys</li> <li>Second-hand toys</li> <li>Local cultural trip</li> <li>Changhua parent-child run</li> </ul>	25,838
Kaohsiung	<ul style="list-style-type: none"> <li>Coastal Cleanup Activity at Linyuan</li> <li>Science popularization and education activity</li> <li>History-tracking tour of the industrial site of FPC Kaohsiung plant</li> </ul>	910



Chairman Chia-Chau Wu and president Ming-Jen Tzou of the Company led the executives and colleagues to participate in the Changhua parent-child run held by Formosa Lohas Circle

## 5.1.2 Perpetual Development of Mailiao 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.

### ■ Environmental Research and Assessment of Mailiao Area

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. In addition to establishing research units such as "Evaluation and Advisory Committee on Mailiao Industrial Complex Impact on Air Quality" and "Marine Ecological Impact Assessment and Advisory Committee", a sound environmental monitoring network is also established. 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. For details, please refer to Formosa Plastics Group official website "Beauty of Sixth Naphtha Cracking Plant" and "Environmental Protection and Safety".



FPG "Corporate Social Responsibility"

### ■ 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 (2017-2019) ranges from 3,079.46 to 5,728.87 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 1.8% during the past 3 years. Water consumption is shown in the table below.

### ■ Water Supply Statistics from Jiji Dam for 2017-2019

Unit: 10,000 tons

Year	Jiji Dam Inflow	Agricultural Irrigation	Industrial			
	(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)
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%
2019	510,006	189,778	9,840	1.9%	3,301	1.7%
Average during the Past 3 Years	463,613	186,130	10,078	2.2%	3,416	1.8%

Although the water consumption of Mailiao Industrial Complex does not affect other industries and farmers, FPG still actively deal with the water use problem during the dry season. The environmental impact prospectus submitted by the company was approved by the EPA on October 9, 2018, and it was approved by the Ministry of Economic Affairs on December 26 of the same year. As a result, the Company is going to set up a seawater desalination plant that can produce 100,000 tons of fresh water per day. The goal is to produce fresh water within 3 years after the start of construction.

**Ecological Preservation**

FPG is committed to understanding the how Mailiao Industrial Complex impacts the ecology and environment on nearby areas. 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.

Mailiao Industrial Complex's average daily wastewater discharge in 2019 is 81,496 tons, which is significantly lower than the 187,638 tons of EPA quantification. We strictly control the wastewater treatment sites so that all wastewater is processed to meet the standards before discharge. The monitoring results over the years are consistent with the discharge standards. In addition, during long-term observation of marine ecology, indo-pacific humpback dolphins have been observed to inhabit and forage in the area nearby, which shows that the operation of Mailiao Industrial Complex has no impact on the ecology of indo-pacific humpback dolphins.



Beauty of Sixth Naphtha Cracking Plant "Ecological Preservation"

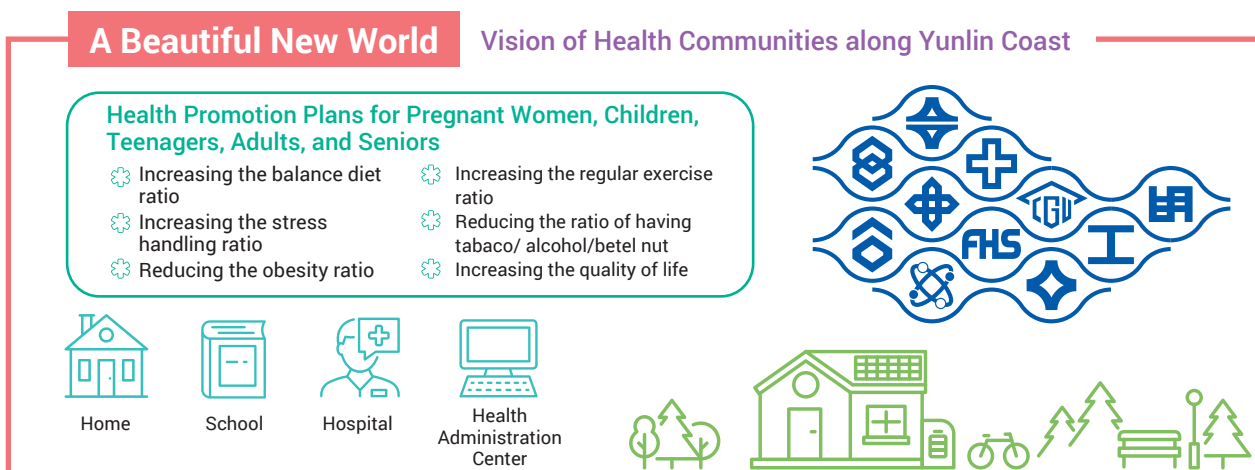


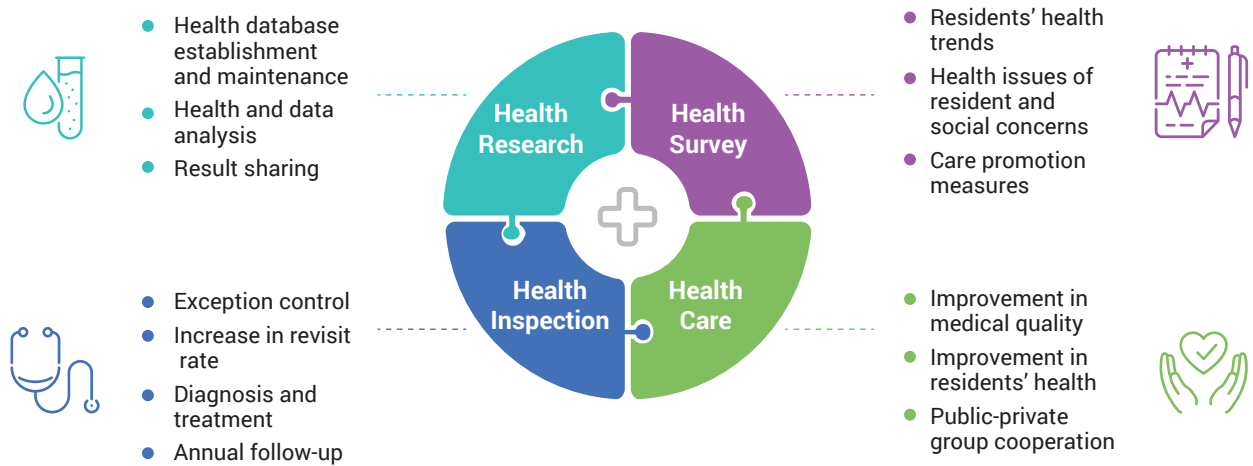
For details of ecological observation in Mailiao Industrial Complex, please refer to "Beauty of Sixth Naphtha Cracking Plant" official website "Ecological Preservation"

**Healthcare for Mailiao Residents**

In order to take care of the health of local residents, National Cheng Kung University has been commissioned to complete a health risk assessment of 64 specific harmful air pollutants since 2009. The maximum total non-carcinogenic risk value of the simulation results is less than 1, which indicates that the impact on human health is an acceptable risk. In addition, Yunlin Chang Gung Memorial Hospital was set up to improve the medical quality in the neighboring areas, and combined with the medical and education resources of the Chang Gung Memorial System. We hope to make Mailiao area the model of a healthy community by jointly promoting the health promotion and hygiene education for local residents.

**Frame Work of Health Promotion for Residents in Mailiao Area**





### 2019 Healthcare Progress



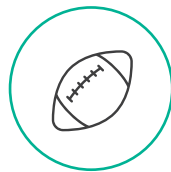
Number of outpatients of Yunlin Chang Gung Memorial Hospital  
**151,840** outpatients  
**15,657** emergency patients



Residents of Mailiao and Taihsi Township  
**12,860** people had health inspections  
**1,300** people had been tracked with the abnormalities in health inspection



The community health education activities were held in 7 township: Mailiao, Taihsi and Lunbei etc.  
**7,674** participants  
**644** hepatitis C patient received health care



**1,278** junior high school students participated in tobacco hazards prevention courses  
**921** teachers and students of Ciaotou elementary school and Mailiao elementary school participated in Happy-Running Project held by John Tung Foundation to advocate young people to develop exercise habits

For more healthcare for Mailiao residents, please refer to Nan Ya Plastics official website "Community Healthcare".



We held community health education activities with 7,674 participants to promote health behavior and actively improve health



Ciaotou elementary school and Mailiao elementary school participated in Happy-Running Project held by John Tung Foundation



NPC "Community Healthcare"



## Improved the Life Quality of Community Residents

	Purpose	Practices	Effectiveness
<b>Traffic Improvement</b>	To maintain the good traffic conditions in the communities near Mailiao Industrial Complex, and ensure the safety of school children	Implement a vehicle diversion system for access in Mailiao Industrial Complex, and arrange volunteers to help maintain traffic safety at adjacent intersections	Traffic is smooth near Mailiao Industrial Complex during commuting time, and the safety of school children is improved
<b>Noise Management</b>	To effectively manage the noise due to the production in Mailiao Industrial Complex	Perform regular noise monitoring operations in nearby areas	The monitoring results show that the operation of Mailiao Industrial Complex does not create significant noise
<b>Air Quality</b>	To maintain the air quality in Yunlin County	Diesel vehicles are required to submit emission certificate when applying for Mailiao Industrial Complex's access permit	In 2019, 438 diesel vehicles were intercepted and inspected, all of them qualified

According to the statistics of diesel vehicle exhaust inspection conducted by the EPA of Yunlin County in 2019, 438 diesel vehicles were intercepted and inspected, all of them qualified. The inspection results in the past 4 years are as follows:

Year	Traffic Quantity (A)	Number of Interceptions (B)	Number of Inspection (C)	Unqualified Number (D)	Checked Unqualified Rate (D/C)	Interception 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%
2019	1,245	438	80	0	0.0%	0.0%	0.0%

## Environmental Education Promotion

In order to let people understand the Sixth Naphtha Cracking Plant's effort in promoting circular economy, water-saving and energy-saving effects and environmental protection, Mailiao Industrial Complex uses the existing administrative building, environmental monitoring center, environmental protection and ecological laboratory, Mailiao harbor and other facilities, makes lesson plans, and invites environmental education professionals and volunteers to serves as a teacher. The environmental education activities in 2019 are as follows:

Activity	Purpose	Content	Participant
Parent-child camp of marine environment education	Let school children understand the problems faced by marine resources and further think about possible solutions	In the winter vacation of 2019, professional lecturers from the "Taiwan Association for Marine Environment Education" were invited to bring large-scale games "Fish Bank". Through simulating fishing and fish sales to understand the problems faced by the marine environment	A total of 32 people participated in the activity, including employees, their family members and children

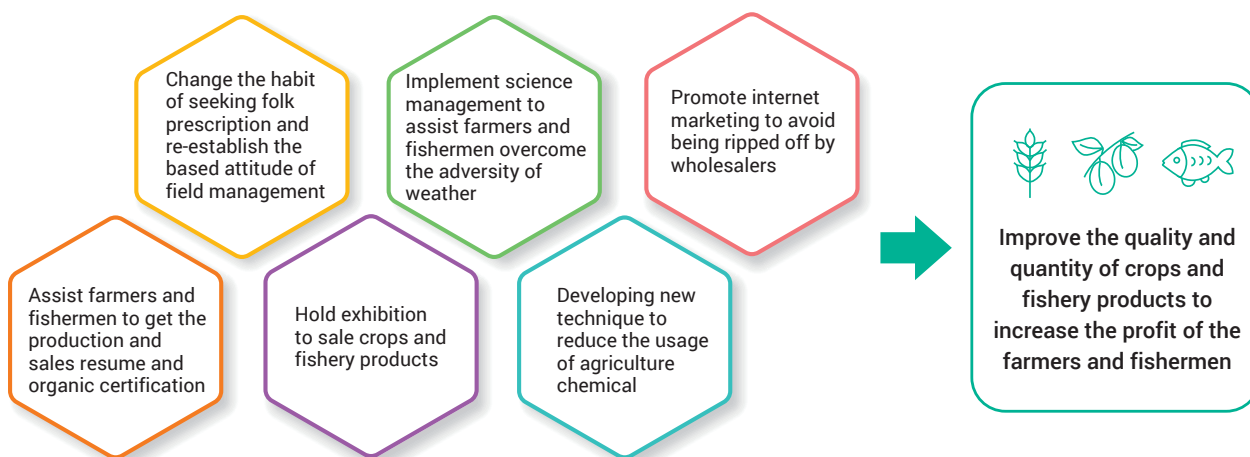
Activity	Purpose	Content	Participant
Scientific exploration and experience activity and curriculum expo of Mailiao Senior High School	To realize the importance and interest of science in life, establish scientific concepts, and cultivate the ability to solve problems through the scientific exploration and experience	Co-organized science fair and curriculum expo with National Formosa University and Mailiao Senior High School, activities on that day included scientific experience games such as electrostatic dust removal and water purification of environmental protection facilities in Sixth Naphtha Cracking Plant	A total of 1,200 students from 7 junior high schools in Mailiao Township and Taihsi Township of Yunlin County, and Tacheng Junior High School in Changhua County, participated in the activity
2019 Promotion lecture of fish fry release and fishery resources conservation	Make the concept of resource protection spread in campus schools	Organized fish fry release activities with the Yunlin Fishermen's Association at the Bo-tsu-liao fishing port, and invited marine experts to conduct promotion lectures of fishery resource conservation in the local campus schools	The industry, government, academia and elementary school children were invited to participate in the activities
2019 Yunlin Featured Hard Clam Festival	Teach local fishermen to conduct scientific breeding management, help improve product quality ,increase production, and further guide them to obtain organic certification and production and sales history	Organized activities such as Farming and Fishery Achievement Exhibition of Farming and Fishery that Counseled by FPG, Clam Quality Selection Competition, Farming and Fishery Technical Counseling Instructions, DIY Cooking and Interactive Teaching of Yunlin foods, and Tasting Activities of Quality Farming and Fishery Products in Yunlin County	About 2,000 people from Yunlin Fishermen's Association, Yunlin County Government, the National Fishermen's Association and the people of Mailiao and Taihsi Township participated on the day
2019 Mailiao "Happy Melon Feast"	Assist local farmers to improve product quality, increase production, and obtain organic certification and production and sales history to increase production value	Achievement display and promotion of counseling results of agriculture and fishery, display and interaction of health care results, environmental monitoring display of Mailiao Industrial Complex	About 1,500 people from Fourteen communities in Mailiao Township participated on the day
2019 Summer Environmental Experience Camp-Understanding Food and Agriculture Education and Experiencing Natural Farming	Inspire students' interest in natural farming and understanding the concept of circular economy and zero waste	Cooperated with Dongshih Township Library to manage summer camps	A total of 41 students participated in the activity
2019 National Professional Knowledge and Breakthrough Competition of Environmental Protection	Enhance young students' interest in learning and cultivate future environmental protection talents, and understand the spirit of equal emphasis on economic development and environmental protection	Assisted the Chinese Institute of Environmental Engineering in holding a fun competition on environmental protection knowledge in A-ma Park of FPGs' Mailiao Eco-Industrial Complex, and visiting the Environmental Monitoring Center, Environmental Protection and Ecological Laboratory, A-ma Park and Mailiao Port	Invite 600 people including environmental protection agencies, environmental engineering consultants and inspection companies, and university students from the Department of Environmental Engineering to participated in the activity

### 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, Taihsi, Dongshih, Sihhu, and Kouhu. The goal is to increase the economic value of the crops and fishery products. Moreover, by the end of 2019, the total number of fish fry that has been released has reached 5,572,300. 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.



NPC "Community Participation"



■ For details of other agricultural and fishery counseling, please refer to Nan Ya Plastics official website "Community Participation".

## 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 \$57.78 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. For details of the implementation, please refer to Nan Ya Plastics official website "Foundations and Charity Trusts".



NPC "Foundations and Charity Trusts"

### 5.2.1 Promotion of Medical Care and Education

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.

In order to cultivate the professionals in the industrial field, Ming Chi Technical College (now Ming Chi University of Technology) was established in 1963, and the Chang-Gung College of Medicine (now Chang-Gung University) and Chang-Gung Institute of Nursing (now Chang-Gung University of Science and Technology) were successively established to cultivate the outstanding medical and nursing talents.



Chang Gung Memorial Hospital  
"Corporate Social Responsibility"



Ming Chi University of Technology  
"Corporate Social Responsibility"



Chang-Gung University of Science and Technology  
official website



Chang-Gung University  
official website

## 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, Integrity and Systematic" .

### ■ Foundations and Charity Trusts

Wang Chang Gung Charitable Trust

Founder

Mr. Yung-Ching Wang



Wang Jhan Yang Charity Trust

Founder

Mr. Yung-Tsai Wang



QinBao Charitable Trusts

Founder

Ms. Po-Chu Lee



Wang Jhan-Yang Social Welfare Foundation

Founder

Mr. Yung-Ching Wang  
Mr. Yung-Tsai Wang



Qinlao Social Welfare Charitable Foundation

Founder

Mr. Yung-Ching Wang

Ming De Foundation

Founder

Mr. Yung-Ching Wang  
Mr. Tsung-Han Shen

King Car Cultural & Educational Foundation

Founder

Mr. Tian-Tsai Lee  
Mr. Chao-Lin Yang

Welfare for Women and Children

- ▶ The scholarship for low-income students have been given out for more than 0.1 billion, benefiting nearly 7,900 students.
- ▶ The investment in the Qinlao (Social Welfare Institution) Education (Work) Program has been over NT\$36 million, benefiting over 870 students
- ▶ Over NT\$106 million has been invested in the rare disease medical and economic assistance program, benefiting 7,100 people

Welfare for Physical and Mental Disabilities

- ▶ Created the first online "Early Treatment Forum" with more than 8,200 professional members. The materials developed by the Company have been downloaded for more than 140,000 times.
- ▶ Promote "Early Treatment Community Support" with 29 early treatment facilities to balance the resources in remote areas

Cultivation of Sports and Culture

- ▶ Donated more than NT\$98 million to the Taiwanese cultural theater group with more than 360,000 viewers
- ▶ Over NT\$250 million have been invested in sponsoring exceptional talents in tennis, table tennis, billiards, badminton, and golf. Chang Gung Memorial Hospital also provides medical assistance such as player health check, sports injury clinic and encouragements

Inmates Support

- ▶ 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%)
- ▶ The Wang Jhan Yang Charity Trust's "Xianyang Project" offers professional counseling to inmates with addiction. The recidivism rate is less than 10% (far lower than the average 60-70%)

Welfare for the Elderly

- ▶ Between 2007 and 2019, 1.15 million doses of vaccines were donated to the "Pneumococcal Vaccination Program for the Elderly", and saved the government NT\$14.3 billion dollars in medical expenses
- ▶ Promoted "Elderly Housing Improvement Program and Home Appliances Subsidies" in 19 counties and cities. 1,165 houses have been repaired to date



FPG "Foundations and Charity Trusts"



"Wang Jhan Yang Charity Trust"



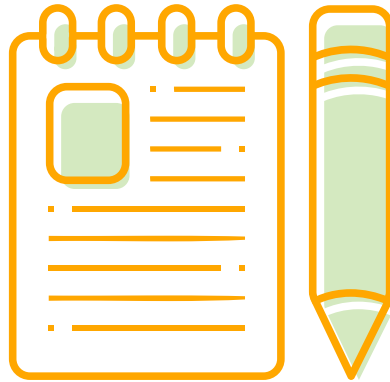
"QinBao Charitable Trusts"



"Wang Jhan-Yang Social Welfare Foundation"



"Qinlao Social Welfare Charitable Foundation"



# Appendix

Appendix 1 Global Reporting Initiative (GRI)  
Comparison Table

Appendix 2 Independent Assurance  
Opinion Statement



## 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, except for "GRI 303 - Water and Effluents" and "GRI 403 - Occupational Health and Safety" adopt the GRI Standards: 2018, related information has been verified to meet the requirements of the GRI Standards:

GRI Standards	Disclosure Item	Referenced Section	Pages	Remark
<b>Organizational profile</b>				
GRI 102: General Disclosures 2016	102-1	Name of the organization	1.1 About Nan Ya Plastics	P.26
	102-2	Activities, brands, products, and services	2.1 Diversified Product Application	P.44
	102-3	Location of headquarters	1.1 About Nan Ya Plastics	P.26
	102-4	Location of operations	1.1 About Nan Ya Plastics	P.26
	102-5	Ownership and legal form	1.1 About Nan Ya Plastics	P.26
	102-6	Markets served	1.1 About Nan Ya Plastics	P.26
	102-7	Scale of the organization	1.1 About Nan Ya Plastics 1.2 Corporate Governance	P.26 P.32
	102-8	Information on employees and other workers	4.1 Human Rights Protection and Employment	P.85
	102-9	Supply chain	2.1 Diversified Product Application 2.3 Supplier and Contractor Management	P.44 P.54
	102-10	Significant changes to the organization and its supply chain	1.1.1 Company Introduction	P.26
	102-11	Precautionary Principle or approach	1.3 Risk Management	P.36
	102-12	External initiatives	3.1 Commitment to Environmental Protection 4.1 Human Rights Protection and Employment	P.60 P.85
	102-13	Membership of associations	1.1.4 External Association Participation	P.30
	<b>Strategy</b>			
102-14	Statement from senior decision-maker	From the Chairman	P.4	

GRI Standards	Disclosure Item	Referenced Section	Pages	Remark	
GRI 102: General Disclosures 2016	102-15	Key impacts, risks, and opportunities	From the Chairman 1.2.5 Internal Control Mechanism 1.3 Risk Management 5. The Pursuit of Co-Prosperity and a Better Homeland	P.4 P.36 P.36 P.102	
	<b>Ethics and integrity</b>				
	102-16	Values, principles, standards, and norms of behavior	1.1.2 Business Philosophy 1.2 Corporate Governance	P.28 P.32	
	<b>Governance</b>				
	102-18	Governance structure	1.2 Corporate Governance	P.32	
	102-22	Composition of the highest governance body and its committees	1.2 Corporate Governance	P.32	
	102-23	Chair of the highest governance body	1.2 Corporate Governance	P.32	
	102-24	Nominating and selecting the highest governance body	1.2 Corporate Governance	P.32	
	102-25	Conflicts of interest	1.2 Corporate Governance	P.32	
	102-35	Remuneration policies	1.2 Corporate Governance	P.32	
	102-36	Process for determining remuneration	1.2 Corporate Governance	P.32	
	<b>Stakeholder engagement</b>				
	102-40	List of stakeholder groups	The Report and Management of Sustainable Issues	P.6	
	102-41	Collective bargaining agreements	4.2.4 Valuing Employee Feedback	P.91	Although the Company does not have a group agreement, we still listen to the opinions of employees through trade unions or labor unions to create harmony between labor and management.
102-42	Identifying and selecting stakeholders	The Report and Management of Sustainable Issues	P.6		
102-43	Approach to stakeholder engagement	The Report and Management of Sustainable Issues	P.6		
102-44	Key topics and concerns raised	The Report and Management of Sustainable Issues	P.6		



GRI Standards	Disclosure Item	Referenced Section	Pages	Remark	
<b>Reporting practice</b>					
GRI 102: General Disclosures 2016	102-45	Entities included in the consolidated financial statements	1.1 About Nan Ya Plastics	P.26	
	102-46	Defining report content and topic Boundaries	About This Report	P.2	
	102-47	List of material topics	The Report and Management of Sustainable Issues	P.6	
	102-48	Restatements of information	About This Report The Report and Management of Sustainable Issues	P.2 P.6	
	102-49	Changes in reporting	The Report and Management of Sustainable Issues	P.6	
	102-50	Reporting period	About This Report	P.2	
	102-51	Date of most recent report	About This Report	P.2	
	102-52	Reporting cycle	About This Report	P.2	
	102-53	Contact point for questions regarding the report	About This Report	P.2	
	102-54	Claims of reporting in accordance with the GRI Standards	Appendix 1 Global Reporting Initiative (GRI) Comparison Table	P.118	
	102-55	GRI content index	Appendix 1 Global Reporting Initiative (GRI) Comparison Table	P.118	
	102-56	External assurance	Appendix 2 Independent Assurance Opinion Statement	P.126	
<b>GRI 200: Topic - Specific Standards Economic Series 2016</b>					
<b>Economic Performance</b>					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6	
	103-2	The management approach and its components	1.1.3 Operating Performance	P.29	
			The Report and Management of Sustainable Issues- Communication with Stakeholders	P.7	
103-3	Evaluation of the management approach	1. Ongoing Sustainability Governance Strategy	P.24		
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	1.1.3 Operating Performance	P.29	
	201-3	Defined benefit plan obligations and other retirement plans	4.2 Employee Rights and Benefits	P.88	

GRI Standards	Disclosure Item	Referenced Section	Pages	Remark
<b>Market Presence</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6
	103-2	The management approach and its components	4.1 Human Rights Protection and Employment	P.85
			The Report and Management of Sustainable Issues- Communication with Stakeholders	P.7
103-3	Evaluation of the management approach	4. Creating a Happy and Safe Workplace	P.83	
GRI 202: Market Presence 2016	202-2	Proportion of senior management hired from the local community	4.1.4 Local Supervisor Ratio	P.87
<b>Anti-Corruption</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6
	103-2	The management approach and its components	1.2.4 Integrity Management and Anti-corruption	P.34
			The Report and Management of Sustainable Issues- Communication with Stakeholders	P.7
103-3	Evaluation of the management approach	1. Ongoing Sustainability Governance Strategy	P.24	
GRI 205: Anti-Corruption 2016	205-3	Confirmed incidents of corruption and actions taken	1.2.4 Integrity Management and Anti-corruption	P.34
1.4 Issues Concerned by Society			P.39	
<b>GRI 300: Topic - Specific Standards Environmental Series 2016</b>				
<b>Water</b>				
GRI 303: Management Approach 2018	303-1	Interactions with water as a shared resource	3.4 Water Resource Management	P.76
			3.4.4 Soil and Groundwater Management	P.80
303-2	Management of water discharge-related impacts	3.4 Water Resource Management	P.76	
		3.4.3 Water Conservation Performance	P.79	
GRI 303: Water and Effluents 2018	303-3	Water withdrawal	3.4.1 Water Consumption Statistics	P.76
	303-4	Water discharge	3.4.2 Effluent Management and Sewage Prevention	P.78

GRI Standards	Disclosure Item	Referenced Section	Pages	Remark
<b>Emissions</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6
	103-2	The management approach and its components	3.2 Greenhouse Gas Emission Management 3.3.3 Air Pollution Prevention The Report and Management of Sustainable Issues-Communication with Stakeholders	P.64 P.73 P.7
	103-3	Evaluation of the management approach	3. Green Environment Management Promotion	P.58
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	3.2.2 Greenhouse Gas Emission Volume	P.68
	305-2	Energy indirect (Scope 2) GHG emissions	3.2.2 Greenhouse Gas Emission Volume	P.68
	305-4	GHG emissions intensity	3.2.2 Greenhouse Gas Emission Volume	P.68
	305-5	Reduction of GHG emissions	3.2.2 Greenhouse Gas Emission Volume	P.68
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	3.3.3 Air Pollution Prevention	P.73
<b>Effluents and Waste</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6
	103-2	The management approach and its components	3.3.1 Waste Management 3.4 Water Resource Management The Report and Management of Sustainable Issues-Communication with Stakeholders	P.71 P.76 P.7
	103-3	Evaluation of the management approach	3. Green Environment Management Promotion	P.58
GRI 306: Effluents and Waste 2016	306-1	Water discharge by quality and destination	3.4 Water Resource Management	P.76
	306-2	Waste by type and disposal method	3.3.1 Waste Management	P.71
	306-3	Significant spills	3.6 Environmental Violations	P.82
	306-5	Water bodies affected by water discharges and/or runoff	3.4 Water Resource Management	P.76

GRI Standards	Disclosure Item	Referenced Section	Pages	Remark
<b>Environmental Compliance</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6
	103-2	The management approach and its components	3. Green Environment Management Promotion	P.58
			The Report and Management of Sustainable Issues-Communication with Stakeholders	P.7
103-3	Evaluation of the management approach	3. Green Environment Management Promotion	P.58	
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	3.6 Environmental Violations	P.82
<b>GRI 400: Topic - Specific Standards Social Series 2016</b>				
<b>Employment</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6
	103-2	The management approach and its components	4.1 Human Rights Protection and Employment	P.85
			The Report and Management of Sustainable Issues-Communication with Stakeholders	P.7
103-3	Evaluation of the management approach	4. Creating a Happy and Safe Workplace	P.83	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	4.1.2 Employment 4.2.2 Good Job Security	P.85 P.89
	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.88
<b>Occupational Health and Safety</b>				
GRI 403: Management Approach 2018	403-1	Occupational health and safety management system	4.4 Workplace Safety	P.94
			4.4.1 Workplace Safety Management	P.94
	403-2	Hazard identification, risk assessment, and incident investigation	4.4.2 Process Safety Management	P.96
	403-3	Occupational health services	4.4.5 Employee Healthcare	P.100

GRI Standards	Disclosure Item	Referenced Section	Pages	Remark
GRI 403: Management Approach 2018	403-4	Worker participation, consultation, and communication on occupational health and safety	4.4.1 Workplace Safety Management	P.94
	403-5	Worker training on occupational health and safety	4.4.3 Disaster Prevention Training	P.97
	403-6	Promotion of worker health	4.4.5 Employee Healthcare	P.100
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	4.4.4 Transportation Safety outside the Plant	P.99
GRI 403: Occupational Health and Safety 2018	403-8	Workers covered by an occupational health and safety management system	4.4.1 Workplace Safety Management	P.94
	403-9	Work-related injuries	4.4.1 Workplace Safety Management	P.94
	403-10	Work-related ill health	4.4.5 Employee Healthcare	P.100
<b>Diversity and Equal Opportunity</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6
	103-2	The management approach and its components	4.1 Human Rights Protection and Employment	P.85
			The Report and Management of Sustainable Issues-Communication with Stakeholders	P.7
103-3	Evaluation of the management approach	4. Creating a Happy and Safe Workplace	P.83	
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	1.2 Corporate Governance 4.1 Human Rights Protection and Employment	P.32 P.85
	405-2	Ratio of basic salary and remuneration of women to men	4.2.1 Employee Remuneration	P.88

GRI Standards	Disclosure Item	Referenced Section	Pages	Remark
<b>Socioeconomic Compliance</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	The Report and Management of Sustainable Issues	P.6
	103-2	The management approach and its components	2.2.3 Compliance	P.53
			The Report and Management of Sustainable Issues-Communication with Stakeholders	P.7
103-3	Evaluation of the management approach	2. Product Value Expansion	P.42	
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	2.2.3 Compliance	P.53

# Appendix 2 Independent Assurance Opinion Statement



## INDEPENDENT ASSURANCE OPINION STATEMENT

### Nan Ya Plastics Corporation 2019 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 2019 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 2019 Corporate Social Responsibility Report provides a fair view of the NPC CSR programmes and performances during 2019. 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 2019 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 assurers in accordance with the AA1000AS (2008) with 2018 Addendum. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that 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:



Peter Pu, Managing Director BSI Taiwan



...making excellence a habit.™

Statement No: SRA-TW-2019027  
2020-04-21

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