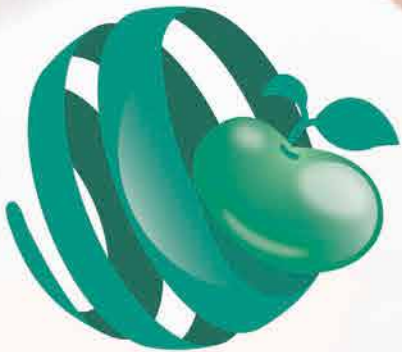


# 2014

FORMOSA  
PETROCHEMICAL CORPORATION

CORPORATE SOCIAL  
RESPONSIBILITY REPORT



台塑關係企業  
FORMOSA PLASTICS GROUP

## About This Report

### Report Principles

In order to ensure that the report meets both domestic and global regulations, Formosa Petrochemical Corporation has based its information disclosure and consideration of major issues in this report on the Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies of Taiwan, ISO 26000 Social Responsibility, and the Top 10 Principles of the UN Global Compact.

This report covers the sustainable performance of Formosa Petrochemical Corporation in three major aspects, Economic, Environmental, and Social, adheres to the G4.0 Core Option of the Global Reporting Initiative (GRI), and is composed in compliance with reference to the Oil and Gas Sector Supplement and the three major principles of materiality, inclusivity, and responsiveness of the AA1000 Accountability Principle Standard to demonstrate Formosa Petrochemical's commitment to sustainability in its corporate operation.

### Report Framework and Scope

This is the first Corporate Social Responsibility Report published by Formosa Petrochemical Corporation (FPCC). The period involved in information disclosure herein lasted from January 1, 2014 to December 31, 2014. Relevant information that exceeds this scope will be footnoted in the report. CSR Reports will be released periodically on a yearly basis in the future as an important means to disclose non-financial information.

According to the FPCC's consolidated financial report of 2014, affiliates of FPCC include Formosa Oil, Sixth Naphtha Cracker Forwarding, FPCC USA, Formosa Dredging Corporation, and Formosa Petrochemical Sea Freight, among others. The level

of impacts from individual affiliates, however, are minimal. As such, this report features primarily data of FPCC.

The data in this report were compiled by the General Manager's Office with materials provided by individual units, which were then collected and organized by the report composing group. Related data have been reviewed and confirmed by the CSR working group of FPCC to honor the integrity and transparency disclosure principles for this report.

### Independent Opinion Statement

In order to ensure the transparency and credibility of information disclosure, related information and data disclosed in this report have gone through the independent verification performed by the British Standards Institution (BSI), a third party international certification institution in accordance with the G4 core options of GRI and the verification statement is enclosed herein.



### Contact Information

To facilitate communication with our stakeholders, we welcome you to contact us and provide us with your valuable suggestions:

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## Message from the Chairman

This marks the very first year that FPCC has published its Corporate Social Responsibility Report. The hope is to share with the general public the accomplishments of FPCC in fulfilling its corporate social responsibilities through this report.

FPCC is positioned as an upstream component of the industrial supply chain, and was the first private refining business in Taiwan. We are deeply aware of the fact that our impact on industry, society, even the nation as a whole increases with our growing business scale. The refining and petrochemical industries are fundamental to a nation, and play indispensable roles in daily life. Many daily necessities and even the electronics industry and textile industry, among others, that Taiwan take pride in rely on the petrochemical industry; it can be said to be one of the important cornerstones of Taiwan's economy. Over the past few years, however, the petrochemical industry was often linked to environmental pollution and industrial accidents. The gas explosion in Kaohsiung last year and the increasing environmental protection awareness, in particular, have



provided the petrochemical industry with powerful challenges and restrictions in its development in Taiwan. Under these circumstances, enterprises shall play even more positive roles to thoroughly consolidate their corporate social responsibilities and fulfill their obligations, protect the environment and care for society, by maximizing the limited social and natural resources, and providing society with positive momentum for growth.

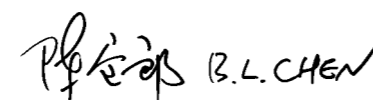
There is always room in business management when it comes to the pursuit of growth in a constantly changing external environment. Formosa enterprises adhere to their management philosophy of "get to the bottom of issues and aim at perfection." "Perfection" is an ideal state and also marks the idea to "become better and better." With an entrepreneurial spirit of constant improvement, the composition of management and the motive force are constantly enhanced to accomplish the goal of sustainable management. This underlying spirit also lays the groundwork for FPCC in the development of corporate social responsibilities. Since it was established, FPCC has been adhering to "pollution prevention and risk control" when it comes to planning and design and working for "factory safety, environmental protection, and economic

growth", the win-win-win goal. The commitment that FPCC has to respective stakeholders is as follows:

1. To strictly abide by corporate ethics and operate in a positive and beneficial way to society.
2. To provide stable and competitive salaries and establish a complete training and development system that helps enhance the professionalism of its employees and create a safe working place as well as substantial benefits that fully take care of the mental and spiritual health of its employees.
3. To bring about reasonable return on investment for all shareholders and become an enterprise that is trustworthy to its investors.
4. To provide customers with steady and good-quality products and services and create a partnership that facilitates joint growth with customers.
5. To emphasize corporate governance and accomplish balance of interests among individual stakeholders.
6. To adopt best-in-class processing technologies and constantly seek improvements to fulfill sustainable development of the environment.
7. To understand what is needed in society and provide long-term assistance to minorities and community care, bringing peace and harmony to society.

Looking into the future, in order to develop the refining and petrochemical industries on a sustainable basis, FPCC will continue to strengthen industrial safety and environmental protection and target zero disaster by providing its employees and the surrounding residents with a safe environment. In terms of environmental protection, the best control technology will be adopted to precisely protect against pollution and introduction of the latest process technologies will continue while decommissioning of existing equipment goes on to accordingly enhance safety and efficiency associated with the production process; this will not only reduce energy consumption, enhance production benefits, but also minimize impacts and influence on the environment. Research and development will also be promoted in the future. While the business scale will not be expanded, high value-added products will continue to be researched and developed with existing material supply applying the "external quantity and internal quality" strategy to enhance the industrial value as a whole. In addition, FPCC is deeply aware of the importance of communication. As such, while consolidating its corporate social responsibilities, it is also proactively seeking support from stakeholders and respecting the rights of the stakeholders. The hope is to co-exist friendly with the environment and society while seeking joint advancement among enterprises.

Formosa Petrochemical Corporation

 B.L. CHEN

Chairman  
2015

TOP 20%  
OUTSTANDING  
ENTERPRISE

### FORMOSA PETROCHEMICAL 2014

Largest Single producer of Ethylene in Asia  
Mailiao Harbor: the deepest port of Taiwan  
The largest co-generation plant  
Energy that is new and better - Formosa 95+ lead-free gasoline "steady, cost-effective, powerful, and clean"



FORMOSA  
95+



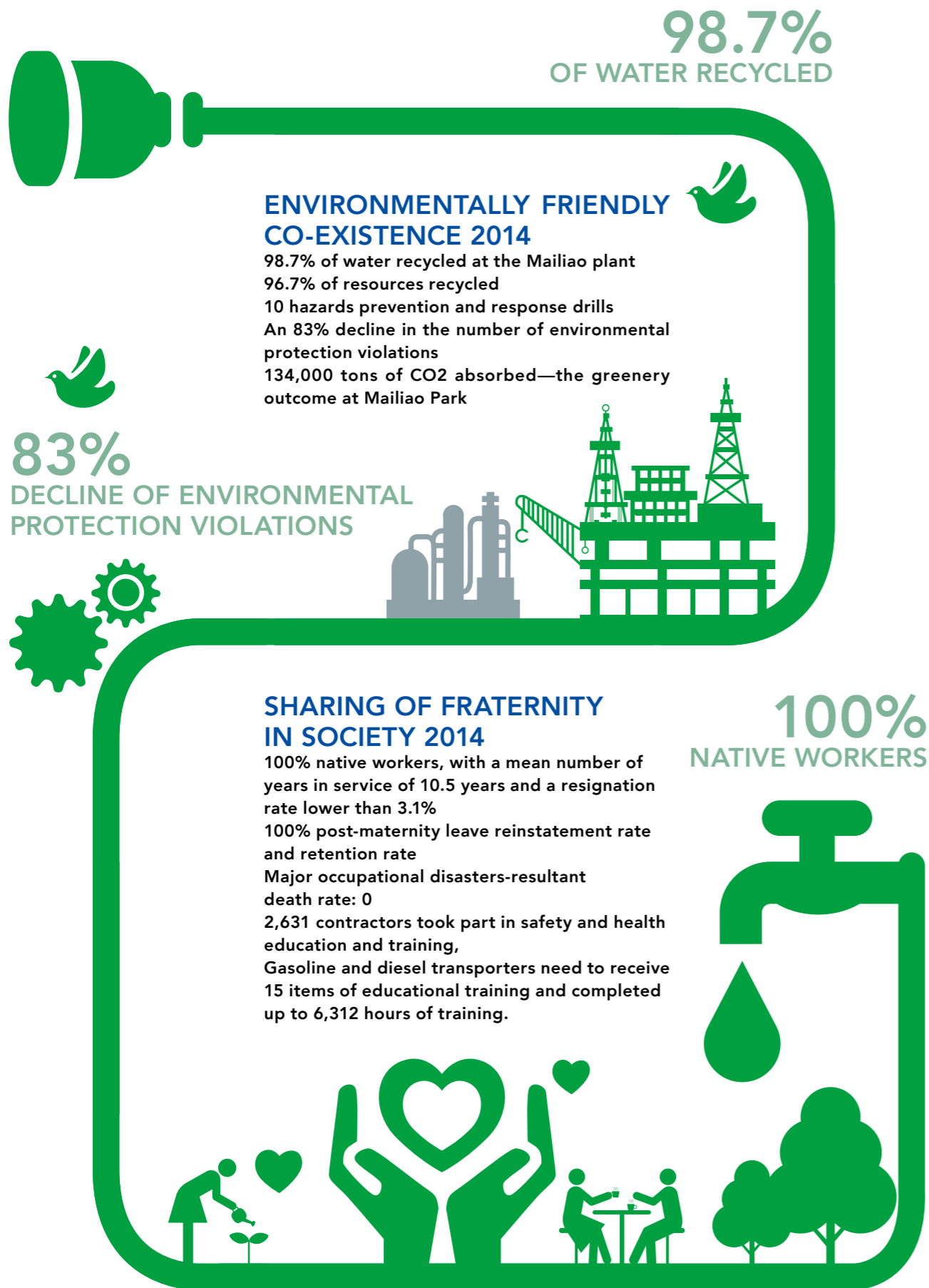
### ENTERPRISE FRATERNITY FOR JOINT ADVANCEMENT 2014

Information disclosure review of Grade A or higher for 10 consecutive sessions  
Top20% outstanding enterprise in the first corporate governance review  
Return on equity of 3.78  
Goods tax accounting for 10% of the overall goods tax in the nation  
Up to 83% of shareholding ratio among directors/supervisors  
94.4% of attendance rate among directors



UP TO 83%  
OF SHAREHOLDING RATIO





## Stakeholder Engagement

### Stakeholder Communication

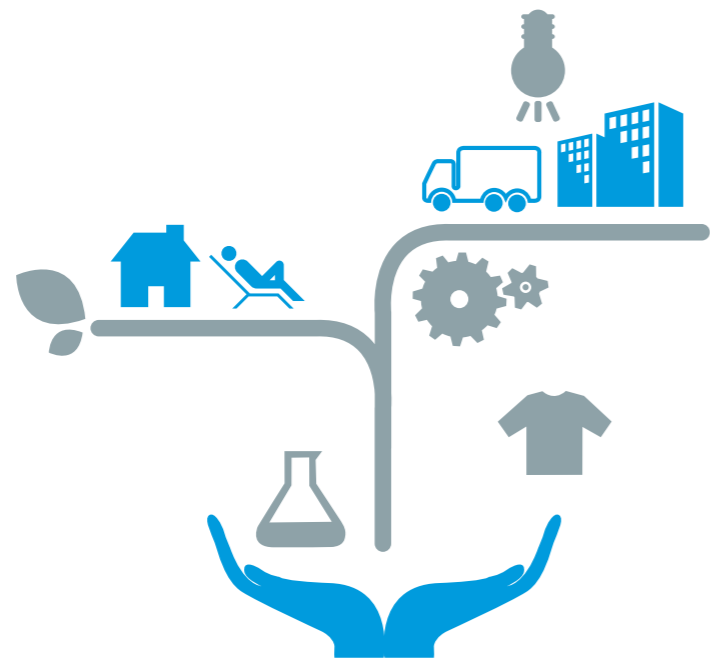
Stakeholders in all respects have an influence on the company's operation and governance, environmental protection, and public interest to a varied extent. By creating transparent, effective, and diversified communication channels with internal and external stakeholders, FPCC understands their expectations from us and the expectations become important reference for the company in its strategic planning for the future.

Applying the five major principles of AA1000 Stakeholder Engagement Standard (SES), management

of FPCC evaluates the extent of influence between individual stakeholders and FPCC and identifies the 8 major populations of direct stakeholders, including employees, customers, residents at the operation site, government agencies, investors/shareholders, suppliers and contractors, experts and scholars, environmental protection organizations to gain an advanced understanding of and engage in advanced communication with stakeholders in corresponding sectors and get back on related issues with regard to subsequent management.



Target of Communication	Communication Channel	Frequency of Communication	Major Corresponding Department	Highlights of Communication in 2014	Response Chapter
Employees	Employee-employer Coordination Meetings Welfare Committee Opinion Box/Email Release Letter	Monthly Monthly As Needed As Needed	General Manager's Office	Labor Relations Occupational Health and Safety Industrial and Public Safety	3.2 Employee Care and Management 3.3 Communication Channels, Compensation, and Benefits 3.4 Workplace Safety and Health Management
Customers	Satisfaction Survey Email/Phone Call Meeting	Annual As Needed As Needed	Various Business Departments Business Unit	Products and Services	1.7 Partnership
Residents at the Operation Site	Email/Phone Call Meeting	As Needed	Regional Management Department	Air Quality Living Environment	3.5 Sustainable Development at Mailiao Park
Government Agencies	Email/Official Letter	As Needed	General Manager's Office	Oil Products Storage Safety HSE Management	2.1 Environmental Protection Policy 3.4 Workplace Safety and Health Management
Investors/Shareholders	Shareholders' Meeting Legal Person Conference Email/phone call	Annual As needed As needed	General Manager's Office	Operational Performance and Corporate Prospects	1.5 Operational Performance and Prospects
Suppliers and Contractors	Meeting Contractor Audit Email/Phone Call	As Needed As Needed As Needed	Various Business Departments Office of Safety and Health	Promotion of Professional Certification Occupational Safety	1.7 Partnership 3.4 Workplace Safety and Health Management
Experts and Scholars	Email Meeting	As Needed	General Manager's Office	Ecological Conservation Oil Price Adjustment—Fair Trade	3.5 Sustainable Development at Mailiao Park 1.4 Key products and Throughput
Environmental Protection Organizations	Email/Phone call	As Needed	General Manager's Office	Ecological Conservation	3.5 Sustainable Development at Mailiao Park



## Materiality Analysis Process

FPCC compiles this report on the basis of suggestions from internal and external stakeholders and hopes to communicate with stakeholders, by means of information

disclosure, to convey the devotion of the company to business management, environmental protection, and public interest, among others.

01

### Stakeholder Identification

The CSR working group of the company lists 12 populations of stakeholders relevant to FPCC according to international trends, industrial characteristics, and actual business operation status and prioritize the stakeholders applying the five major principles of AA1000 Stakeholder Engagement Standard to identify the eight major populations of stakeholders for FPCC.

02

### Array of Sustainability Issues

Fifty-one sustainability issues were located to facilitate identification following discussions with the CSR working group over applicable issues facing domestic and international oil industries, the GRI G4 sustainability report guide, the Oil and Gas Sector Supplement, the Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies of Taiwan, ISO 26000 Social Responsibility, and the Top 10 principles of UN Global Compact that were referred to.

03

### Analysis of Level of Attention Paid to Issues

The post-evaluated 51 sustainability issues were sent to five high-ranking officials at FPCC and internal and external stakeholders, 105 in total, with both online and physical copies, to survey the level of attention paid to and extent of impacts of applicable issues and prioritize the issues in individual respects.

04

### Identification and Assessment

The questionnaires completed and recovered from the high-ranking officials and stakeholders were cross-analyzed and discussed by the CSR working group in accordance with the industrial characteristics and operational status of FPCC to determine 30 major issues to be taken into consideration by FPCC.

05

### Review and Discussion

Once published, non-financial information disclosed in this report will be used to examine the internal corporate behavior in an effort to meet the expectations from stakeholders of FPCC. In addition, while the report for the next year is being prepared, the matrix of major issues will be examined again and feedback on the report from stakeholders will be taken into consideration in order to ensure transparency, rationality, and balanced nature of the report content.

# Analytical Matrix of Significance and Boundaries

FPCC evaluated the Top 30 major issues prioritized by stakeholders and identified through the analytical matrix of significance and based the composition of this report on the 18 sustainability issues with a moderate and high levels of influence by disclosing their management and performance outcome in this report so that information disclosure meets the expectations of stakeholders.

## Results of Materiality Analysis:



## Boundaries in the Consideration of Significance:

The following table shows boundaries that were considered for significance at FPCC after data were tallied and analyzed. We collected related information and disclosed information in accordance with the GRI Disclosure on Management Approach (DMA).

The report boundaries and scopes are corresponding to the sustainability issues defined internally and externally and major considerations

per GRI G4 in order to ensure that the integrity and transparency involved in the disclosure of information through this report meet the requirements of GRI G4, the international standard for sustainability reports and help stakeholders have a comprehensive understanding of how FPCC establishes related management policies in related respects.

Facets of Category	Material Issues	Corresponding Consideration			Boundary					
					External					
					Customers	Residents at the Operation Site	Government Agencies	Investors/Shareholders		
Economy	Operational Performance	Economic Performance	EC1-EC4	p.13, p.25, p.76	●	●				●
	Energy Resource Management	Energy	EN3-EN7	p.57, p.63	●					●
Environment	Water Resource Protection and Conservation	Water	EN8-EN10	p.44	●		●	●		
	Greenhouse Gas Emissions	Emissions	EN15-EN21	p.44, p.57, p.63	●		●	●		
	Products and Services	Products and Services	EN27, EN28	p.13, p.63	●	●				
	Overall status	Overall Status	EN31	p.63	●					
	Environmental Complaint Mechanism	Environmental Grievance Mechanisms	EN34	p.86	●		●	●		
Society	Labor Relations	Labor Relations	LA1-LA3	p.89	●					
	Occupational Health and Safety	Occupational Health and Safety	LA5-LA8	p.76, p.81	●					
	Training and Education	Training and Education	LA9-LA11	p.76	●					
Industrial Side	Effluent and Waste Management	Including the Volume of Oil Contaminated Water and Oil Produced Water and Its management	OG5	p.44	●		●	●		
	Air Pollution Prevention and Treatment	* Burning and Fugitive Hydrocarbon Discharged * Benzene, Lead, Sulfur in Fuels	OG6 and OG8	p.44	●		●			
	Oil Products Storage Safety	Type and Value of Validated Storage and Production Estimates	Industrial Issues	p.17, p.21	●		●	●		
	Local Community Development and Communication	Quantity and Description of Valid Disputes with Local Communities and Residents	Industrial Issues	p.86	●		●			
	Industrial and Public Safety	Number and Type of Process Safety Events Having Occurred in Operational Activities	Industrial Issues	p.41, p.44	●		●	●		
	Enhanced Safety Awareness		Industrial Issues	p.81	●					
	Climate Change		Industrial Issues	p.41, p.44, p.57	●					
	Health and Safety of Local Residents			p.86	●		●			

Note: ● means that it is substantial and disclosed herein.



# 01


ENTERPRISE FRATERNITY FOR JOINT ADVANCEMENT  
 STRATEGIC ORGANIZATIONAL MANAGEMENT, ADHERENCE TO CORPORATE INNOVATION IN THE MIDST OF CHALLENGES

## 1.1 Company Overview and Management Beliefs

### Company Overview:

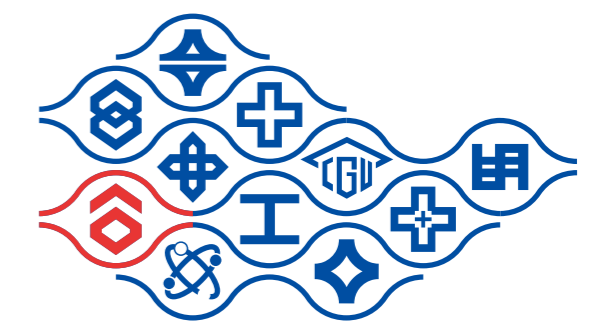
Formosa Petrochemical Corporation was founded in 1992 and deals mainly with the production and sales of oil products and fundamental petrochemical materials. It was the first private oil refining business in Taiwan to produce and sell various oil products such as gasoline and diesel. Its naphtha crackers, on

the other hand, produce fundamental petrochemical materials such as ethylene, propylene, and butadiene, with a throughput scale topping the domestic list. In addition, there is co-generation system to supply utilities fluids such as steam and power at its facilities in the Mailiao Complex.

Company Name	 <b>Formosa Petrochemical Corp.</b>
Date of Establishment	1992/4/6
Date of Listing	2003/12/26
Capital	NT\$ 95,260 million
Number of Employee	4,864
Operating Revenues	NT\$ 913,085,277
Company Address	<b>Headquarter:</b> 1-1, Formosa Plastics Group Industrial Zone, Mailiao  <b>Taipei Office:</b> 4F, 201 Tung-Hwa North Road, Taipei, Taiwan
Credit Rating	Taiwan Rating: twAA-/S&P: BBB+

Note: (As of December 31, 2014)

FPCC is a member of the Formosa Corporate Identification System. The corporate identification system features a stylized chain as its common symbol, indicating the horizontal and longitudinal connections, assistance and cooperation, harmony and smooth fusion among all members, and is symbolic of the consistency, sustainability, and continuous development power of the Formosa Plastics Group.



### Business Philosophy:

FPCC started construction on its sixth naphtha cracker project in the offshore industrial park in Mailiao Township, Yunlin County in 1994. In the beginning of the construction, the local environmental and weather conditions were quite challenging and made construction quite difficult. Under the joint effort of all colleagues, however, Stages 1 to 4 of the project and

market development, among other important tasks, were completed one after another. The accumulated investment in the park has reached around NT\$755.1 billion in total (including the industrial harbor and the power plant). We will continue with various improvements and innovative efforts in the future to bring operation performance to new heights.







The Formosa Plastics Group has now developed into a comprehensive industrial group, and is active in a variety of fields. The momentum that drives the organization to constantly expand itself, grow, and become strong is exactly the underlying spirit that its two founders, Mr. Yung-Ching Wang and Mr. Yung-Tsai Wang, have emphasized and lived up to: diligence and frugality, aiming at perfection, sustainable management, and giving back to society.



## 1.2 Operational Planning and Sustainable Governance Policy

### Operational Planning:

FPCC is located in Taiwan, which is geographically small and densely populated, where the environment has limited capacity to support industry, and where there

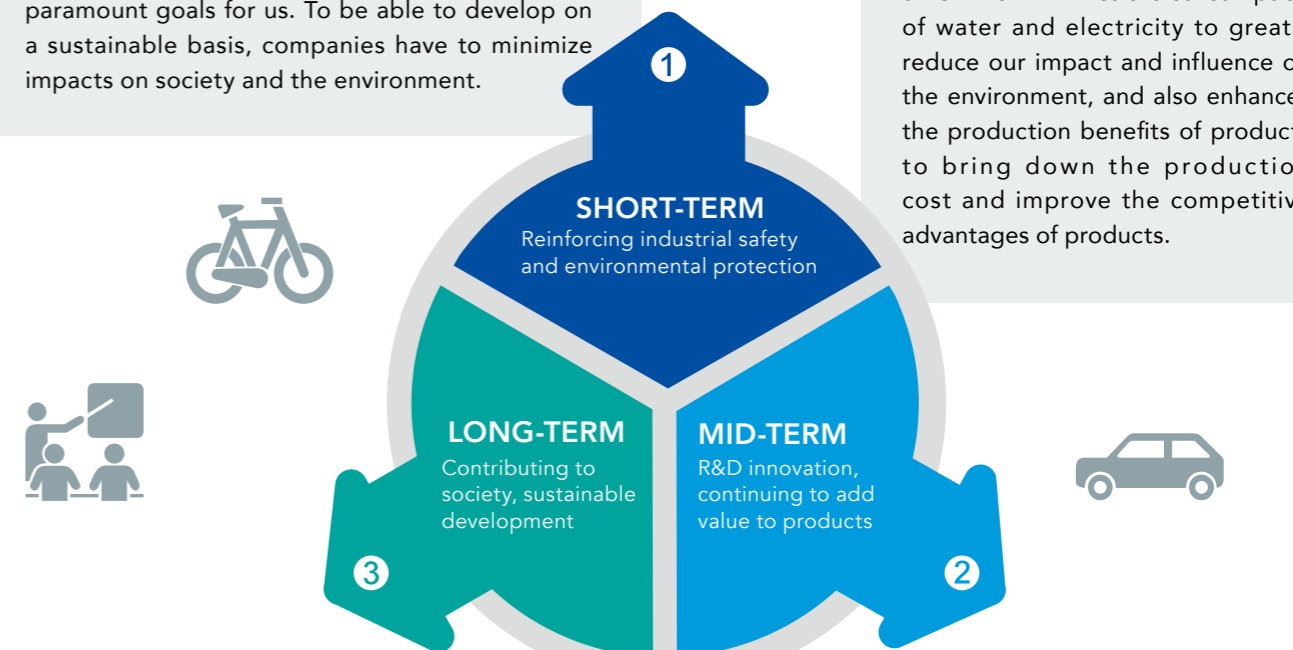
are no natural resources. As a result, FPCC plans its future developments on a short-term, mid-term, and long-term basis.

#### 1. Reinforcing Industrial Safety and Environmental Protection (Short-Term):

Reinforcing safety operations at the plants and accomplishing a target of zero disasters are the paramount goals for us. To be able to develop on a sustainable basis, companies have to minimize impacts on society and the environment.

#### 2. Continuing to Improve Plant Performance (Short-Term):

We proactively introduce new process technologies and eliminate existing old equipment at the same time. This minimizes the consumption of water and electricity to greatly reduce our impact and influence on the environment, and also enhances the production benefits of products to bring down the production cost and improve the competitive advantages of products.



#### 3. R&D Innovation, Continuing to Add Value to Products (Mid-Term):

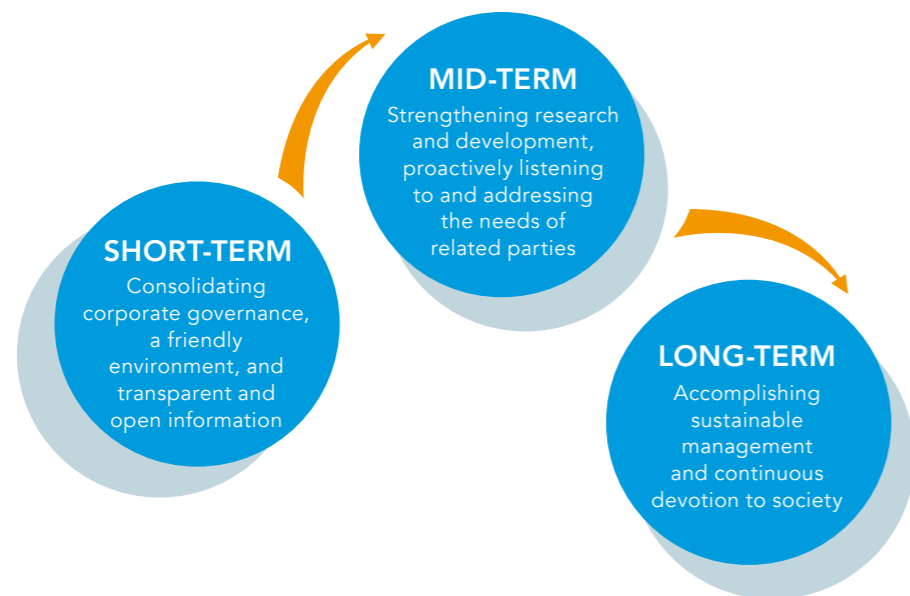
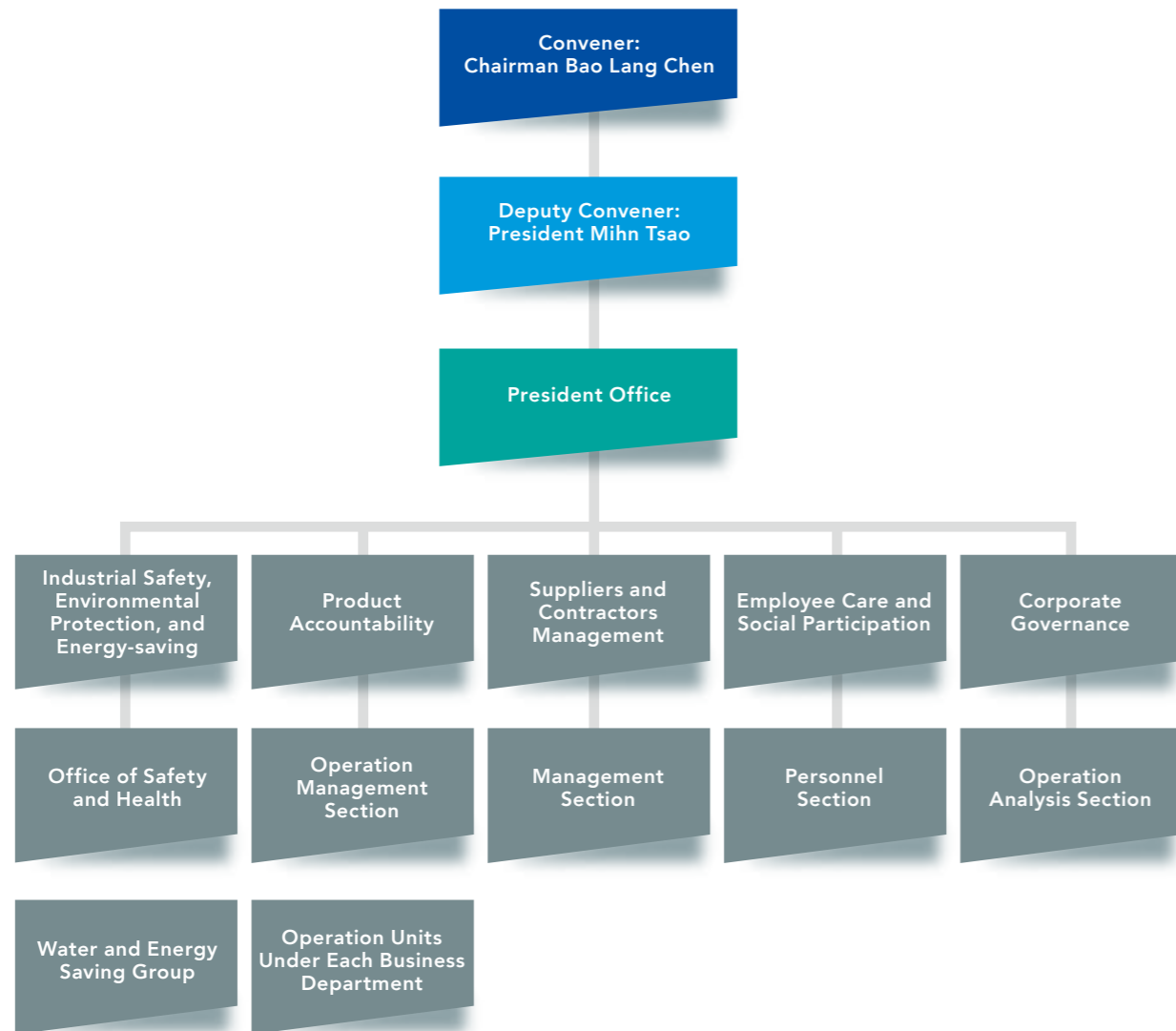
We will create even higher production values with limited resources by reinforcing the research and development of high value-added commodities. By doing this, we can increase profits and also march toward the long term goal of "sustainable development and contributing to society".

### Sustainable Governance Policy:

In order to effectively integrate its resources, the Formosa Plastics Group has been promoting its corporate social responsibilities through joint cooperation among all of its members. In 2008, the Main Management Office created the Social Responsibility Promotion Center, where the Vice President served as the chief convener and took charge of stipulating the social responsibility strategies at the Formosa Plastics Group and supervising the performance. The Center focuses on issues of concern for stakeholders and sustainability issues that

are important to the business operation environment. Under the Group's organizational framework, FPCC, with the Chairman as the chief convener and the General Manager as the deputy convener, takes care of corporate social responsibilities with joint efforts from the General Manager's office and all related units. It also seeks to understand what stakeholders are concerned about and their needs periodically, to serve as important references while the company establishes its sustainability policy.

# Organization of the FPCC Social Responsibility Task Force

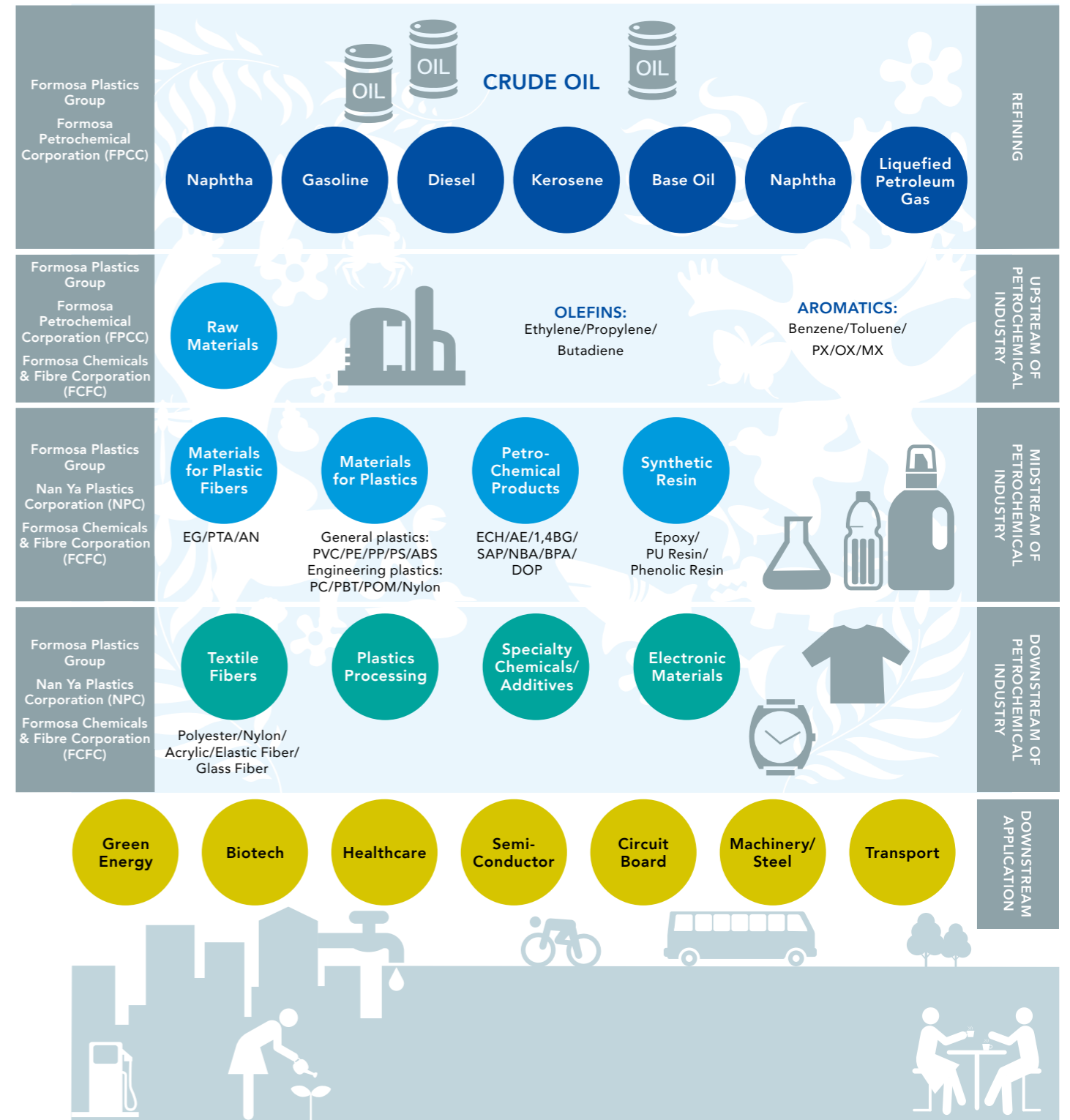


# 1.3 FPCC Business Model

## Relationship Diagram of FPG Products:

The petrochemical industry generally consists of fundamental materials, intermediate materials, and applied and processed products in the down-stream, which are quite closely related with one another. FPCC is located in the up-stream of the industrial

chain, and the fundamental materials it produces include olefins and aromatics, which are made with naphtha refined from crude oil and having gone through high-temperature and high-pressure cracking or recombination.



**Development of the Sixth Naphtha Cracker Project:**

- **Land Reclamation** Around 109.15 million cubic meters of sand were used for the reclamation. The volume of the sand is equivalent to that required for a 373 km-long freeway, that is, the distance between Keelung and Kaohsiung. The width was equivalent to eight lanes of road, and the height was equivalent to a three story building. The area of the land reclaimed was around 2255 hectares, which is about 8% the size of Taipei City and around 0.062% of the overall area of Taiwan.
- **Construction** Refineries, naphtha crackers, heat and power co-generation, power generation, heavy duty equipment, boilers, silicon wafer, and petro-chemistry-related facilities, 53 in total, have been established within the park. We replaced transportation with pipeline to minimize the risks associated with transportation and the resultant environmental impacts. The total length of pipelines within the plant alone is more than 3,000 km.
- **Equipment Infrastructure** Since the plant was first built, comparable attention has been paid to the safety and quality of its infrastructure. The total length of the foundation piles used is more than 4.70 million meters. The volume of reinforced concrete used reached 8.64 million cubic meters (requiring around 1.93 million tons of cement), laying a robust foundation for the Mailiao Park and the sixth naphtha cracker.
- **Area of the Complex** The complex is around 2,603 hectares in total; that is more than four times the combined area of Linyuan Petrochemical Industrial Park (403 hectares), Dashe Petrochemical Industrial Park (109 hectares), and Toufen Petrochemical Industrial Park (95 hectares).

**FPCC Competitive Advantages and Challenges**

By means of a vertically integrated business model that makes the most of the Formosa Plastics Group's economic scale and cost advantages, along with flexible material supply for the optimized production arrangement, the Formosa Plastics Group is known for having the No. 1 production capacity in Asia.

**COMPETITIVE ADVANTAGE**

• **Vertical Integration And Economic Scale**

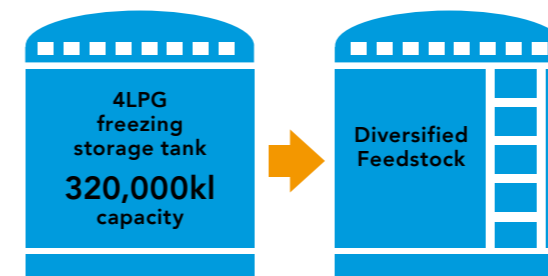
Located in the up-stream of the petrochemical industrial chain, FPCC supplies factories in the mid-stream and down-stream directly. It forms vertical integration with other mid-stream and down-stream manufacturers inside Mailiao Park of the Formosa Plastics Group. Production and distribution of products can be planned and coordinated effectively to accordingly bring down the production cost and the transaction cost, and avoid idleness and waste of resources, thus realizing an economic production scale that helps increase competitiveness in both domestic and international markets.

• **Close to a Deep-Water Harbor and Owns Fleets of Boats and Vehicles**

The Mailiao industrial port facilitates the import, export, and layover of bulky materials and final products, thus effectively controlling transportation costs. In addition, the boat trains and the tanker team are run by affiliates, which helps minimize the risk of material shortages and lower inventory costs.

• **Self-Owned Co-Generation Plant**

FPCC has its co-generation plant to steadily supply the needed resources such as steam and electricity for individual processes, and to help relieve the power supply burden of TaiPower. It can also minimize possible losses as a result of interruptions to the power supply. In addition, FPCC is in an electricity sale contract with TaiPower under which FPCC can sell excess power to TaiPower, to help realize sufficient utilization of energy.



• **Advanced and Flexible Process**

FPCC owns the latest technical equipment in the industry in Asia. Its refineries can process high sulfur crude oil and generate low-sulfur and high-price oil products that meet domestic and international high environmental protection criteria after desulfurization, adding value to the products. In addition, there are currently four LPG freezing storage tanks with a capacity of 80,000 kiloliters in place, to help realize optimal production and operation flexibility. The process can be evaluated according to cost benefits, and naphtha or LPG can be fed instead to render output combinations adjusted as per the market, in order to create optimal income.

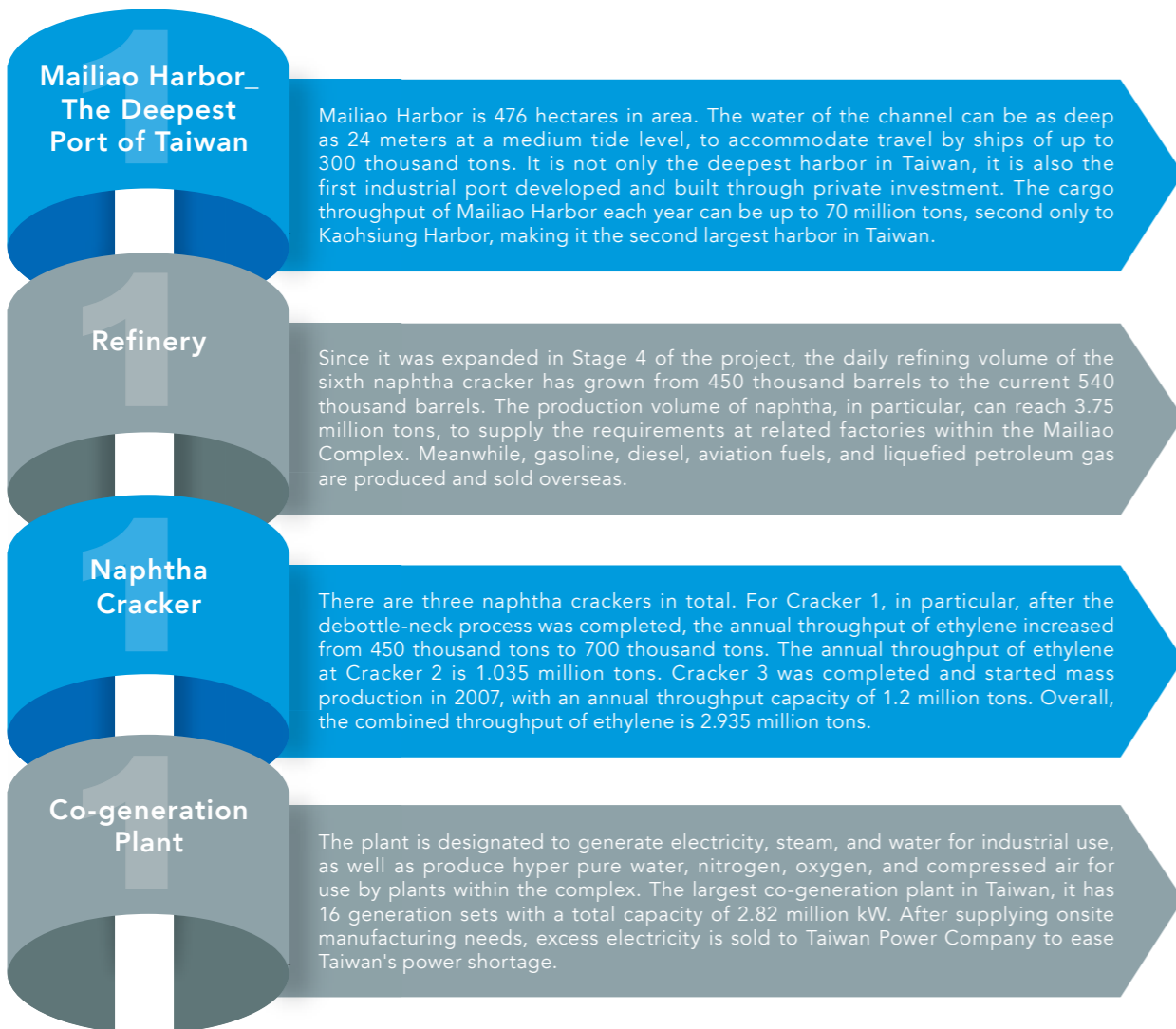
**CHALLENGES AND COUNTERMEASURES**

• **Material Supply and Price Fluctuation Issues**

The primary raw materials that FPCC uses include crude oil, naphtha, and coal, all of which have to be imported from overseas. As such, when wars, unrest, disasters, or political power struggles occur, or when sea freight prices rise, the then the stability of the material supply will be undermined.

**Response Strategy:**

FPCC, with its optimal refining techniques and sufficiently flexible processes, can purchase different types of crude oil from different oil producing countries, and has entered into long-term purchase agreements with overseas oil and coal suppliers to diversify risk. It has also developed diversified feed-in options to replace part of its naphtha operations with LPG and minimize the dependency on naphtha accordingly. This helps properly mitigate the effects of an unstable supply of raw materials and control the material purchase costs.





**Impacts of Shale Gas and Chemical Processing of Coal**

There have been breakthrough developments in shale gas extraction technology in the United States, which has significantly brought down the cost of raw materials for ethylene plants, impacting ethylene plants in Asia that use naphtha as their raw material. Advancing techniques in the chemical processing of coal and the cheap price of coal due to its huge reserves, on the other hand, add to the potential of its development.

**Response Strategy:**

If shale gas is used as the raw material, because of its different structure, products such as C4 and aromatics will not be produced. As such, C4 and aromatics will be in shortage, which makes it still possible for ethylene plants using naphtha as the raw material to make profits. Meanwhile, the company is improving its processes to adequately adjust the ratio of LPG and recycle C4 and C5 to add value to products and increase competitiveness.

**Exchange Rate Volatility**

All the raw materials are purchased in foreign currencies, so exchange rate volatility will affect the import cost of raw materials.

**Response Strategy:**

FPCC pays attention to exchange rate information at all times and applies currency swaps and foreign currency forward exchanges when the time is right for hedging purposes, in order to minimize exchange rate fluctuation that could impact the import cost of raw materials.

**Oil Price Adjustment—Fair Trade Survey:**

On July 17, 2014, the Fair Trade Commission indicated that they have begun to investigate the nearly concurrent adjustment of oil prices by the same amount between Formosa Petrochemical Corporation and CPC Corporation Taiwan, as covered by the media, and would apply punishments according to law if any violation of the Fair Trade Act was found. The truth is that gasoline and diesel are homogeneous products, for which differential pricing is not easy. Additionally, Taiwan is a typical oligopoly market. Although the cost structures of these two companies are not necessarily the same, on a highly overlapping geographical market, where products can be completely replaced, price adjustment information will be passed around and responded to quickly and hence oil price tends to be consistent; the market is highly transparent and reflective of the characteristics of an oligopoly. (Source: Website of Fair Trade Commission)

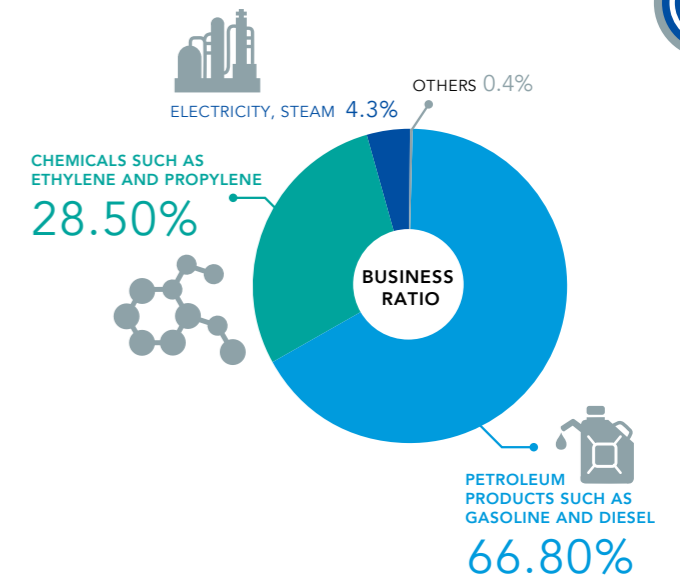
**1.4 Key Products and Throughput**

**Main Products and Services:**

The main products and services of our company include oil products, fundamental petrochemical materials, public utility fluids, storage and transport of oil products, and loading and unloading operations at Mailiao Harbor. Oil products accounted for 66.8% of the business revenue in 2014 and fundamental petrochemical materials accounted for 28.5%. These are the most important core business items.

**Descriptions of Products and Services: OIL PRODUCTS**

FPCC Imports crude oil from overseas that goes through refining and is made into various consumer oil products such as gasoline, diesel, and liquefied petroleum gas and naphtha to be used as raw material at olefins and aromatics plants, and to be further made into fundamental petrochemical materials such as ethylene, propylene, benzene, p-Xylene (PX), ortho xylene (OX), and m-xylene (MX) through cracking. These raw materials are further supplied to individual affiliates within the Group and turned into products for the mid-stream and down-stream companies of the petrochemical industry.



**Gasoline/Diesel**

The oil market in Taiwan is dominated primarily by FPCC and CPC Corporation Taiwan. Retailers belong to more than ten affiliate station systems and other independently run stations and establish their own marketing strategies. As of the end of 2014, there were 527 gas stations affiliated with FPCC. The oil dispatch volume accounted for about 19.6% of the market share.

**Formosa Petrochemical Products and Services**



**Fuel Oil**

Mainly used for the purposes of business operation, power generation, and aviation, etc. Because of the relatively low selling price of fuel oil in Taiwan and the restrictions related to the storage and transportation equipment, apart from FPCC and CPC Corporation Taiwan, no other company has entered the market since the fuel market was opened to competition.

**Aviation Fuel**

There are a total of 19 airports, small and large, throughout Taiwan. Passenger transport, however, is concentrated in three airports: Taoyuan Airport, Songshan Airport in Taipei, and Xiaogang Airport in Kaohsiung. FPCC currently offers oil supply services at the three major airports mentioned above. The sales of aviation fuel domestically of FPCC in 2014 increased by 10% compared to the 2013 level.

**Liquefied Petroleum Gas (LPG)**

Since the domestic market for liquefied petroleum gas was opened up in 1999, four companies, namely FPCC, CPC Corporation Taiwan, LCY Chemical Corp., and Qianhui have imported or produced liquefied petroleum gas to supply the domestic market. The selling price of LPG, however, has been impacted by the intervention from the government through its policies. Therefore, FPCC and CPC Corporation Taiwan are the only two companies currently supplying the domestic LPG market. The other companies discontinued their LPG business in light of the limited operation benefits.

**Base Oil**

There are still many new base oil plants to be completed in the future, which will impact the supply and demand of base oil around the world. The gap in the domestic production of base oil in China and India, however,





remains big. With the sales of automobiles continuing to grow in China and Southeast Asia, however, base oil plants in Northeast Asia will comparatively have an advantage.

**• Petrochemical Raw Materials**

Our petrochemical products are mainly supplied to petrochemical plants in the midstream and downstream within the Mailiao complex.

In order to satisfy the demand for petrochemical materials in Mailiao Complex, our company has modified of processes for transformation of olefins at Naphtha Cracker 3 and the refinery, which helps to significantly improve the production of these products. Propylene and butadiene, in particular, are produced in sufficient quantities support the domestic demand as well as the demand at the Ninpo plant of the Group.

**• Utility (electricity, steam, water, etc.)**

There are a total of 16 sets of machines available at the FPCC's co-generation plant, with a gross power generation capacity of 2.82 MkW. The generated electricity and steam are to be used at the facilities in the Mailiao complex with the excess to be sold back to TaiPower. In addition, there are multiple facilities for industrial water, ultra-pure water, compressed air and oxygen in place to address the demand for the whole complex.

**• Mailiao Harbor Loading/Unloading Services**

There are currently 20 piers available at Mailiao Harbor

for crude oil, finished oil products, chemicals, and bulks, featuring the most advanced automatic equipment to provide loading and unloading services for the import and export of various bulky raw materials. This will help significantly with the improvement of FPCC's transport efficiency and cost control.

Mailiao Harbor features the most advantageous geographical location at the pivot of the Taiwan Strait, further strengthening the competitive advantages of our company.

**Throughput and Organizational Scale:**

FPCC did not experience many changes in its annual production volume of 2014. Any variations that did appear were the results of differences in the periodic inspections performed every year. In terms of the production value, product prices were relatively lower compared to its 2013 level mainly because of the dropping international crude price. Fundamentally, however, we are still maintaining desirable throughput.

Business Department	Product	Throughput
Refining Business	Daily volume refined of crude oil (thousand barrels/day)	540
Olefins Business	Ethylene throughput (thousand tons/year)	2,935
Utility Business	Power generated (MW)	282

Product	Unit	2013		2014			
		Throughput	Production Volume	Throughput	Production Volume	Throughput	Production Volume
Naphtha	Thousand tons	4,000	3,611	100,302	4,000	3,518	93,796
Gasoline	Thousand kiloliters	6,000	5,267	118,825	6,000	5,402	116,333
Diesel	Thousand kiloliters	10,000	10,580	248,552	10,000	10,825	238,435
Aviation Fuel/ Kerosene	Thousand kiloliters	2,300	2,586	60,149	2,300	2,512	55,881
Fuel oil	Thousand kiloliters	1,030	616	11,804	1,030	655	11,438
Base Oil	Thousand kiloliters	758	753	19,955	758	856	22,374
Liquefied Petroleum Gas	Thousand tons	730	503	12,669	730	533	13,073
Petrochemical Products (Note 2)	Thousand tons	7,100	6,742	252,330	7,100	7,066	265,027
Electricity	Million kWh	22,563	15,836	35,732	22,563	15,622	36,171
Steam (Note 3)	Thousand tons	102,667	23,358	19,476	102,667	22,516	15,739

Note 1: Source: The company's annual report  
 Note 2: Petrochemicals are ethylene, propylene, butadiene, cracked gasoline, etc.  
 Note 3: Steam throughput is calculated based on the main steam throughput of the boiler, and refers to the steam used by each production plant. It does not include the steam supplied to support power generation.



**Energy that is New and Better—Formosa 95+ Lead-free Gasoline "Steady, Cost-effective, Powerful, and Clean"**

As a local brand of Taiwan, FPCC has been devoted to producing high-quality products to be sold domestically and internationally. On the international oil product market, FPCC's products are widely recognized for their good quality. With its refining techniques and experiences accumulated over the years, the new formula "95 Plus Lead-free Gasoline" has been

developed through improved processes and research studies in engine laboratories. It fulfills international standards and actual road tests and has taken root in the domestic oil product market, so that new products are equipped with more outstanding driving stability, fuel efficiency, and horsepower performance, among other characteristics.



Chairman Bao Lang Chen (right) and Vice Executive General Manager Keh-Yen Lin (left).



95 Plus Launch Conference: the chairman cheered for taxis.

**16** CO-GENERATION PLANTS

**2.82** MkW ELECTRICITY



Asian Speed Master Hohuang Chen Conducts Mileage Test at Vehicle Research Center.



Open and transparent oil tanks in the test.

**Quality Certified Products and Services:**

**• Authorized Economic Operator (AEO) Certification**

FPCC started the AEO certification process in June 2013 and completed all the items requiring certification in less than six months. It became a certified AEO on December 6, and also became the largest business to obtain the AEO certification in Taichung's customs history. The acquisition of the AEO certification enables goods imported and exported by FPCC to enjoy the lowest inspection ratio and other preferred arrangements, such as payment of the import/export taxes according to the monthly summary.



AEO Certificate on January 14, 2014, which was accepted by Chairman Bao Lang Chen on behalf of FPCC.

**• REACH Registration of Chemicals**

Ethylene, propylene, butadiene, Isoprene (IPM), m-pentadiene \*(PIPS), cyclopentadiene dimer (DCPD) produced by FPCC have been registered under REACH, which is a safety regulation of the European Union requiring registration, evaluation, authorization, and access control of chemicals. Starting from June 1, 2007, when importing materials of high concern or materials that require authorization into the European Union, registration under REACH will help distribution of our products to the European Union and facilitate promotion of business.



**• TAF (Taiwan Accreditation Foundation) Certification**

The Flow Calibration Laboratory at FPCC's Care Center obtained the Chinese National Laboratory Accreditation (CNLA) certification in 2003, and the Gasoline and Diesel Engine Laboratory under the Refining Department obtained it in 2004. CNLA is also the former of the Taiwan Accreditation Foundation—Department of Laboratory Accreditation (TAF), in order to enhance the skills and capabilities and quality levels of its laboratories to accordingly achieve certification in the international community and facilitate economic activities and trade. Once certified, test reports and calibration certificates issued by the laboratories can bear the certification symbol to prove applicable capabilities.



**• JHOSPA (Japan Hygienic Olefin and Styrene Plastics Association)**

FPCC is a member of the JHOSPA (Japan Hygienic Olefin and Styrene Plastics Association) and has food-grade white oil products 380N and 550N certified by the JHOSPA to be qualified additives.

1. Local food package and container producers or raw material producers in Japan
2. Food container producers or raw material producers located in other countries with final products sold to Japan
3. Other producers that intend to sell their products (e.g. diapers, hot glue, etc.) in Japan
4. Other white oil application industries that will reference industrial standards in advanced countries despite the fact that they do not sell to Japan

**1.5 Operational Performance and Prospects**  
**Operational performance:**

The year 2014 was a quite a challenging one for FPCC. The changes in raw materials and the international political and economic situation caused a wide variety of impacts. The consolidated revenue was NT\$913 billion in 2014, a decrease of 2% from the previous year and the consolidated net pre-tax profits significantly dropped by 71% from the previous year mainly because the internal conflict in Ukraine for the first half of the year; these geopolitical conflicts resulted in international volatility. Meanwhile, the surge in the production volume of shale oil for the second half of the year in the United States deepened

the plummet in international oil prices, and led to significant losses for us on our inventory.

Despite the impacts borne by the company, we responded to the external challenges immediately and appropriately, taking advantage of the international competitive advantages that we have secured over the years. In our operations, we controlled costs by diversifying the raw materials used, and we entered into long-term contracts to strengthen our collaboration with partners and to diversify the risk. As a result, we have been able to maintain slight profits so far this year.

Unit: Thousand NTD

Year	2012	2013	2014
Gross Revenue	894,377,721	931,333,890	913,085,277
Ratio of Revenue to GDP	6.09%	6.12%	5.68%
Net Profits Before Tax	2,440,844	31,015,874	9,099,539
Earnings Per Share	0.29	2.82	0.95
Return on Equity	1.27	12.03	3.78
Goods Tax	18,932,143	17,983,761	17,257,703
Ratio of Goods Tax to the National Level	11.82%	11.16%	10.02%

Note: Source of national data - Directorate-General of Budget, Accounting and Statistics, Executive Yuan

**Operational Prospects and Risk Assessment:**

**OPERATIONAL PROSPECTS**

**• New Raw Materials S**

hale gas is known for its low cost advantage, which results in petrochemical businesses increasing the ratio of natural gas in their materials and accordingly increases the competition among petrochemical businesses over the cost and product structural changes. The application of shale gas in large amounts is followed by low ethylene costs, which poses tremendous stress on those still using naphtha. The product structural change among crackers have impacted the down-stream.

**• Environmental Protection**

Apart from continuing to follow the government's policy "external quantity and internal quality" by constantly developing high value-added petrochemical products, FPCC has been working hard on industrial safety and

environmental protection by applying optimal and feasible technologies to further minimize the impacts on the environment.

**• International Trade**

The shifting trade environment brought about by international trade agreements is a common issue that all industries have to deal with. After other countries enter into FTAs and various trade agreements, Taiwan is left to deal with a relatively unfavorable trade environment. According to the Trans-Pacific Partnership (TPP) Impact Report completed by the Industrial Development Bureau, the average tariff for petrochemical products in Taiwan is 3.29% while that among the member states of TPP is 4.27%. In order to maintain a fair international competitive environment and avoid marginalization, expediting internationalization is something that must be done.



• **Operational Risk Assessment**

Sustainable business management has to take into account various potential risk issues and operational assessments. Individual organizations have their own

responsible unit for risk management, to plan and evaluate the influence and the extent of impacts of risk issues on corporate operation. The risk review unit also plans related response measures.

Risk Assessment Item	Risk Management Unit	Risk Review	Response Measure
<b>1. Fluctuating interest rates, exchange rates and inflation</b>	FPCC's General Manager's Office, Accounting Office, Finance Department, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office, Computer audits and periodic spontaneous inspections, meetings participated in by financial supervisors	<p><b>1. Interest rate:</b> For long-term debts associated with floating rates, the financial market's status should be carefully evaluated, and interest rate swap contracts should be established with well-known international banks while the interest rate is relatively low.</p> <p><b>2. Exchange rate volatility:</b> In response to shortages in daily operating foreign exchange funds, spot or forward exchanges should be purchased when the exchange rate on the market is favorable.</p> <p><b>3. Inflation:</b> According to the information released by the Directorate-General of Budget, Accounting and Statistics, Executive Yuan, the annual growth in consumer commodity prices was 1.2% and that in the core consumer commodity price was 1.26% in 2014. The risk of inflation is low and hence does not have significant impacts on FPCC's losses and gains.</p>
<b>2. High risk, high leveraged investing, loaning to others, endorsement, and derivative instrument transaction</b>	FPCC's General Manager's Office, Finance Department, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office, Computer audits and periodic spontaneous inspections, meetings participated in by financial supervisors	<p><b>1. High risk, high leveraged investing:</b> The petrochemical industry is a mature and stable one, with low risk, and FPCC has been known for its robust management and sound financial standing; it is not involved in high leveraged investing.</p> <p><b>2. Loaning to others:</b> Loaning to others is based on applicable laws and regulations. The recipient, value, duration, and interest calculation method have to be approved by the Board of Directors before they are enforced, and they are evaluated and reviewed periodically. Regarding the purposes of the loans, they are mostly short-term capital movement, and the recipient of the loan has to have a sound financial standing and robust management. No losses from bad debts have occurred to date.</p> <p><b>3. Endorsement:</b> The party to require endorsement is in principle a parent company, subsidiary, or an enterprise related to FPCC in business operation. The endorsement mostly deals with financing and imported tax donation guarantees. Since the affiliates all have sound financial standings and robust management, FPCC has never borne losses from endorsement.</p> <p><b>4. Derivative instrument transaction:</b> Transactions of derivative instruments are meant for mitigating market risk caused by the fluctuating exchange rates and interest rates, not for arbitrage and opportunistic purposes.</p>

<b>3. R&amp;D projects</b>	FPCC's General Manager's Office, Manager's Offices at Each Business Department, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office, production and distribution meetings, operation performance meetings	There is no such risk after evaluation.
<b>4. Changes in important domestic and international policies and laws</b>	FPCC's General Manager's Office, Formosa Plastics Groups Main Management Office, Legal Department	Board of Directors, Auditing Office	FPCC remains highly attentive to any changes to domestic and international political and economic situations, establishment of major policies, and regulatory changes and arranges staff to receive professional training if necessary.
<b>5. Technology change</b>	FPCC's General Manager's Office, Manager's Offices at Each Business Department, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office, production and distribution meetings, operation performance meetings	The petrochemical industry's technologies are generally mature. There have not been technical changes that have had significant impacts.
<b>6. Change in corporate image</b>	FPCC's General Manager's Office, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office	Adhering to its management belief of diligence and simplicity, aiming at perfection, sustainable management, and giving back to society, FPCC is known for its good corporate image and will continue to seek advancement applying the same belief in the future in order to contribute even more to society.
<b>7. Mergers or re-investments</b>	FPCC's General Manager's Office, Manager's Offices at Each Business Department, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office, production and distribution meetings, operation performance meetings	There is no such risk after evaluation.
<b>8. Expansion of facilities</b>	FPCC's General Manager's Office, Manager's Offices at Each Business Department, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office, production and distribution meetings, operation performance meetings	There is no such risk after evaluation.
<b>9. Centralized procurements or sales</b>	FPCC's General Manager's Office, Manager's Offices at Each Business Department, Formosa Plastics Groups Main Management Office, Procurement Department	Board of Directors, Auditing Office, production and distribution meetings, operation performance meetings	<p><b>1. Procurements:</b> The main suppliers for the refining plant and naphtha crackers are oil producing countries in the Middle East. The region, however, is known for its occasional instability, which is associated with the risk of interrupted supply, and will further impact the production volume in these countries. FPCC, with its optimal refining techniques and sufficiently flexible processes, can purchase different types of crude oil from different oil producing countries and has entered into long-term purchase agreements with overseas oil and coal suppliers to diverge the risk and properly prevent instability in the supply of raw materials and control purchase costs.</p> <p><b>2. Sales:</b> Oil products are sold to a variety of buyers and areas. The domestic and international sales of 2014 accounted for 54.53% and 45.47%, respectively. Major customers for the domestic sales have signed the sale contract and hence the sales are very steady. International sales, however, will have to depend on the production and distribution of the refining plant and prices of oil products on the international market; oil products are sold internationally to the Southeast Asia, Korea, Australia, Europe, and America. Petrochemical products are mainly sold to individual companies within the Mailiao Park and hence involve relatively minimal risk. For the electricity to be used at public utility plants, it is supported by the contract entered into with TaiPower and any surplus can be sold back to TaiPower; as such, the risk is minimal.</p>

<b>10. Transfer of shares held by directors, supervisors, and major shareholders</b>	FPCC's General Manager's Office, Finance Department, Shareholder Service Office, Legal Department, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office	There is no such risk after evaluation.
<b>11. Change in management</b>	FPCC's General Manager's Office, Finance Department, Shareholder Service Office, Legal Department, Formosa Plastics Groups Main Management Office	Board of Directors, Auditing Office	There is no such risk after evaluation.
<b>12. Litigation or non-litigation incidents</b>	FPCC's General Manager's Office, Manager's Offices at Each Business Department, Legal Department	Board of Directors, Auditing Office, production and distribution meetings, operation performance meetings	Ongoing proceedings involving FPCC are evaluated and determined to have no major impacts on shareholder equity or prices of securities.

**Creative Thinking and Integrated Research and Development:**

FPCC works together with the government in its policies to promote a high-quality petrochemical industry. It is devoted to developing the application of down-stream products, such as four-carbon and five-carbon, at the crackers in order to enhance the production value of cracking-related products and boost business income. After having acquired the technical authorization from Japan Synthetic Rubber Co., Ltd., FPCC initiated the expansion of C5 IPM in 2012, with plans to produce IPM (60 thousand tons/year), DCPD (67 thousand tons/year), and PIPS (50 thousand tons/year). The plant was completed in

April 2014 and trial operation began in June. Official operation and commissioning started on November 10. By constantly improving and seeking innovation in all respects, it helps further perfect the individual production processes.

Other ongoing efforts to add value to the industry include the joint venture with Kraton to produce 40 thousand tons of hydrogenated styrenic block copolymer (HSBC) a year and the joint venture with Idemitsu Kosan Co.,Ltd. to produce 43.8 thousand tons of hydrogenated hydrocarbon resin (HHCR) a year.



**Research and Development Expenditure Over the Past Five Years**

Unit: Thousand NTD

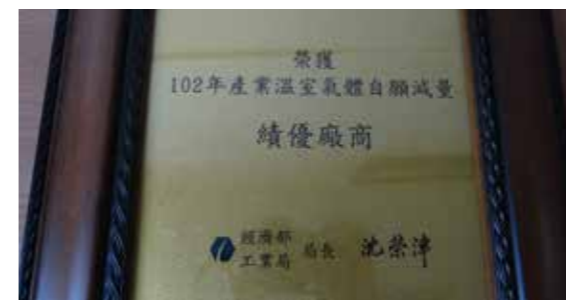
Year	2010	2011	2012	2013	2014
R&D Expenses	1,238,511	714,326	741,905	504,081	537,835

For FPCC, the hope for the future is to be internationally competitive in terms of its scale, to plan for sustainable development, to have stable production, to continue to emphasize industrial safety and environmental protection in order to increase its competitive advantages, to develop high value-added products, and to fulfill its corporate responsibilities in the protection of the production environment.



**Honors Received by FPCC in 2014**

**2013.11**  
FPCC's Olefins Plant 3 was recognized by the Industrial Development Bureau under the Ministry of Economic Affairs in 2013 for its outstanding performance in spontaneous reduction of greenhouse gases.



**2014.7**  
FPCC's SAR#2 new civil engineering project was recognized by the Environmental Protection Bureau of Yunlin County for the second place it won during 2013 land accreditation.



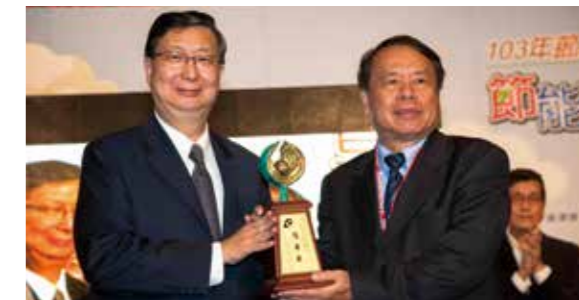
Outstanding Performance in Land Accreditation Award

**2014.7**  
FPCC was awarded first place for the Best Trade Contribution Prize and was recognized for its outstanding performance in exports and imports during the Award for International Trade by the Ministry of Economic Affairs in 2013.



President Tsao accepted the award in person.

**2014.11**  
Naphtha Cracker 2 was recognized by the Ministry of Economic Affairs in 2014 for its outstanding energy-saving performance in the industry category.



President Tsao accepted the trophy on behalf of the company.

**2014.12**  
The Refining Department was selected by the Water Resources Agency, Ministry of Economic Affairs in 2014 as an outstanding manufacturer in water conservation.



Associate Vice President Chih-Ching Lin (fifth from left) accepted the trophy on behalf of the company.



Outstanding Water Conservation Performance Cup

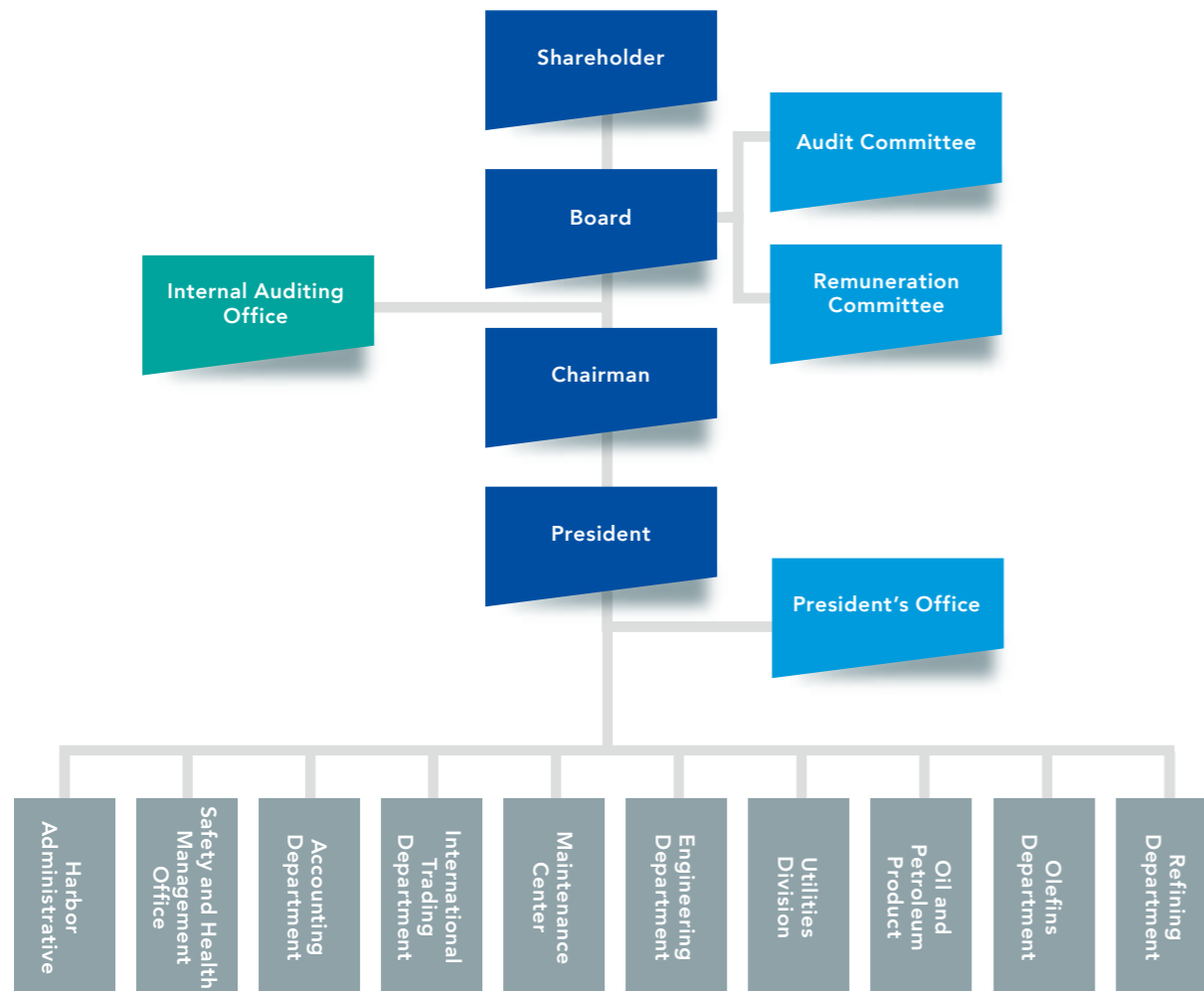


## 1.6 Corporate Governance

### Corporate Governance Framework:

The organizational framework of FPCC features specific responsibilities. The Chairman is not involved in any administrative affairs in order to ensure the independent operation of the company. The various business

departments operate under the General Manager, and engage in cross-departmental communication in addition to their own operations, supporting one another in order to accomplish their operational goals.



### GOVERNANCE BY THE BOARD OF DIRECTORS

Since 2015, FPCC has adopted a candidate nomination system for the election of its board directors. Once candidates on the list are approved through eligibility review, the list will be submitted for a decision to be made during the shareholders' meeting. Shareholders will choose an appropriate candidate to serve a term of three years.

In the Information Disclosure and Transparency

Ranking System of the Taiwan Stock Exchange, FPC has secured a Grade A or higher rating for ten consecutive years, starting from the 3rd session of the ranking system in 2006, and as of the 12th session in 2014. In addition, in the first corporate governance accreditation that started in 2014, FPC got 89.63 points, one of the Top 20% among 798 listed companies that took part in the rating; the score was much higher than the mean score of 74.23 points among all listed companies that were rated.

**GRADE A REVIEW**

Information disclosure review for 10 consecutive sessions

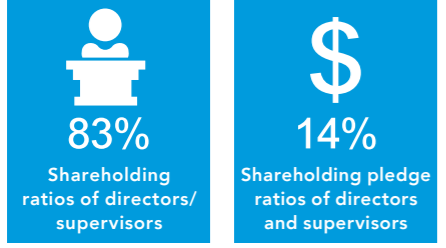
**TOP 20%**

First Corporate Governance Review

### Director and Supervisor Information

Title	Name	Education	Position Held at FPCC and Other Companies
Chairman	Bao Lang Chen	Department of Chemical Engineering, National Cheng Kung University	Chairman of Mailiao Industrial Harbor, Director of Mailiao Power Corporation
Executive Director	Representative of Formosa Chemicals and Fibre Corp.	-	-
	William Wong	Graduate School of Industrial Engineering, University of Houston, USA	Chairman of Formosa Plastics Group Executive Board, Chairman of Formosa Chemicals & Fibre Corporation, Formosa Taffeta Co., Ltd., and Fuke
Executive Director	Representative of Formosa Plastics Corp	-	-
	Susan Wang	Department of Economics, Barnard College, USA	Vice Chairman of Formosa Plastics Group Executive Board, Executive Director of Formosa Plastics Corporation, Director of Formosa Sumco Technology Corporation, Executive Director of Formosa Plastics Corporation USA, Chairman of Formosa Environmental Protection
Executive Director	Representative of Nan Ya Plastics Corp.	-	-
	Wilfred Wang	Department of Mechanical Engineering, University of London	Chairman of Nan Ya Photonics Incorporation, Formosa Plastics Marine Corp., Formosa Synthetic Rubber Corporation, and FormoLight Technologies, Inc. Executive Director of Formosa Plastics Corporation, Nan Ya, and Formosa Chemicals & Fibre Corporation
Executive/Independent Director	C.P. Chang	Graduate Institute of Law and Interdisciplinary Studies, National Chengchi University	Chief Executive Officer, Cross-strait Peaceful Development Foundation
Independent Director	Chi-Tang Lo	Department of Economics, National Taiwan University	None
Independent Director	Yu Cheng	Graduate Institute of Business Administration, National Chengchi University	Chief Editor at Commercial Times, Independent Director of Formosa Taffeta Co., Ltd., Formosa Advanced Technologies Co., Ltd., and Danen Technology Corporation
Director	Mihn Tsao	Executive Master of Business Administration, National Sun Yat-sen University	General Manager of the FPCC, Representative of directors at Kraton Formosa Polymers Corporation, General Manager of Mailiao Power Corporation
Director	Walter Wang	B.A., University of California, Berkeley, USA	J-M Manufacturing Co., Inc. President and CEO
Director	C.Y. Su	Department of Chemical Engineering, National Cheng Kung University	Chief Administrator at FPCC, Chairman of Formosa Oil, Director of National Petroleum Corporation
Director	Keh-Yen Lin	Department of Chemical Engineering, Tunghai University	Vice Executive General Manager of FPCC, Director of Whale World, Corporate Supervisor of Nan Ya Photonics Incorporation
Director	Hang-Ting Chen	Department of Mechanical Engineering, Feng Chia University	Senior Vice General Manager of FPCC
Director	Jui-Shih Chen	Department of Chemical Engineering, National Taiwan University	Senior Vice General Manager of FPCC, Director of Sixth Naphtha Automobile Corporation
Director	Tsai-Shan Kao	Department of Electrical Engineering, National Cheng Kung University	Consultant at FPCC
Director	Ja-Tao Huang	Department of Mechanical Engineering, Tatung Institute Of Technology	Consultant at FPCC
Supervisor	Ying-Hwang Yang	EMBA, National Taipei University of Technology	Director at Formosa Fairway Corporation and Formosa Plastics Maritime Corporation, Corporate Supervisor of Formosa Plastics Transport Corporation
Supervisor	Representative of Chang Gung Medical Foundation	-	-
	Ming-Long Huang	Graduate Institute of Business Administration, Chang Gung University	Chief Executive Officer of Chang Gung Memorial Hospital
Supervisor	S.K. Chen	Department of Industrial Administration, Ming Chi University of Technology	Chairman of Formosa Plastics Transport Corporation, Plastics and Chemicals Transport Corporation, Sixth Naphtha Cracker Forwarding

Note: Annual Report of Formosa Petrochemical Corporation 2014



The shareholding ratios of directors and supervisors at FPCC has been around 83% for the past five years, which is far greater than the FSC's requirement of 2% at minimum for public offering companies of the same size. Meanwhile, the shareholding pledge ratio of directors and supervisors is only around 14%.

**BRIEFING ON THE OPERATION OF THE BOARD OF DIRECTORS**



There are currently 15 members in total serving on the FPCC's Board of Directors. They are between 50 and 85 years old and are all educated, specialized people with abundant industrial experience. The Board met six times throughout 2014, with a mean attendance rate of 94.4%.

Company	Number of directors (including independent directors)	Independent Directors		Female directors		Average Age
		Number of seats	Percentage	Number of seats	Percentage	
FPCC	15	3	20%	1	7%	63.7



**In-Service Programs for and Hours Attended by Directors and Supervisors**

Title	Name	Date attended	Organizer	Course title	Number of hours involved
Chairman	Bao Lang Chen	2014.8.25	Securities & Futures Institute	Workshop on Ethical Corporate Management Best Practice Principles for and Corporate Social Responsibilities of TWSE/GTSM Listed Companies	3
Director	William Wong, Wilfred Wang, C.P. Chang, Chi-Tang Lo, Yu Cheng, Mihn Tsao, C.Y.Su, Hang-Ting Chen, Keh-Yen Lin, Tsai-Shan Kao, Jui-Shih Chen, Ja-Tao Huang	2014.11.21	Securities & Futures Institute	Risk Management Mechanism Required for Corporate Operation	3
Supervisor	Ying-Hwang Yang, Ming-Long Huang	2014.11.21	Securities & Futures Institute	Risk Management Mechanism Required for Corporate Operation	3

For the remunerations for directors and supervisors, FPCC approved at its shareholders' meeting on May 30, 2008 that the practice of appropriating remunerations from earnings would be canceled. At present, independent directors receive compensation and transportation subsidies on a monthly basis. For transportation, in particular, it is paid according to actual attendance in Board meetings. Other remunerations for directors

and supervisors are paid according to FPCC's Articles of Incorporation. The Board of Directors is authorized to establish the criteria based on the extent of involvement in corporate operation and value of contributions made by directors and supervisors with reference to the common standard of payment in the industry, while transportation will be paid according to the actual attendance in Board meetings.

**INDEPENDENT SUPERVISION MECHANISM**

We took the lead to set up the mechanism in 2003 and have proactively hired experts and scholars in all walks of life with professional background and experience ever since to serve its function. Supervisors are responsible mainly for independently supervising the implementation of the company's corporate tasks

and financial standing with integrity, discussing them with colleagues and shareholders, and inspecting corporate financial reports. They work to fulfill the responsibilities and obligations given to them under the Company Act and by shareholders. The Board met six times throughout 2014 and attendance by the supervisors was 100%.

FPCC followed the requirements of the competent securities authority by re-electing its directors at the shareholders' meeting in 2015. After that, it set up the Audit Committee to replace the functions of supervisors. The Audit Committee consists of members who are independent directors, and helps the Board of Director carry out supervisory and other duties as set forth in the Company Act, the Securities and Exchange Act, and other related laws.

Title	Name	Actual Attendance	Actual Attendance Rate (%)
Supervisor	Ying-Hwang Yang	6	100
Supervisor	Ming-Long Huang (Representative of Chang Gung Medical Foundation)	6	100
Supervisor	S.K. Chen	6	100

**OVERVIEW OF OPERATION OF THE COMPENSATION COMMITTEE**

FPCC set up the Compensation Committee in August 2011 to review compensation policies and systems for the corporate directors, supervisors, and managers and provide the Board of Directors with suggestions; this helped prevent compensation policies guiding directors and managers to be engaged in corporate risky appetite behavior. All the three members serving on the Compensation Committee are independent directors. Between January 1, 2014 and December 31, 2014, the Compensation Committee met twice, with a mean actual attendance rate of 83.3%.



**The Total Value of Compensation and Its Ratio in After-tax Net Income for Directors, Supervisors, and Managers at FPCC:**

Unit: Thousand NT dollars

	2010	2011	2012	2013	2014
Compensation for directors and managers	50,211	68,246	75,544	88,246	88,633
Ratio in after-tax net income	0.12%	0.25%	2.78%	0.33%	0.98%
Compensation for supervisors	100	160	160	190	180
Ratio in after-tax net income	0.00%	0.00%	0.00%	0.00%	0.00%

Note: Annual Report of Formosa Petrochemical Corporation 2014

PROTECTION OF INVESTOR RELATIONS

SHAREHOLDER SERVICE

FPCC to enhance services available for shareholders, has a dedicated shareholder service department to take care of shareholder affairs. In 2008, the company promoted non-physical shares to further improve its shareholder service and minimize the risk of physical shares being forged or lost.



INFORMATION TRANSPARENCY

FPCC has been set up on the company's website to provide investors with related information, answer frequently asked questions from shareholders, and disclose statements, reports, and information under the Public Information Observatory when necessary.



INVESTOR RELATIONS

FPCC has a spokesperson system in place. The spokesperson is the contact liaison with shareholders and institutional investors. At least two briefing sessions for institutional investors are held each year in order to maintain good relations with institutional investors.



Public Policy Engagement:

FPCC reflects its advice regarding the energy industry mainly through the annual advice white paper of the Chinese National Federation of Industries and expresses its opinions and viewpoints on applicable industrial regulations when consulted by government authorities to keep smooth communications with government authorities going.

DONATION AND POLITICAL CONTRIBUTION POLICY

All donations to affiliates or no-affiliates have to go through the Board of Directors. Donations to government authorities are based on the belief of giving back to society and meant to fulfill the company's social responsibilities. There are no political contributions for lobbying purposes.



Anti-corruption policy and internal audit:

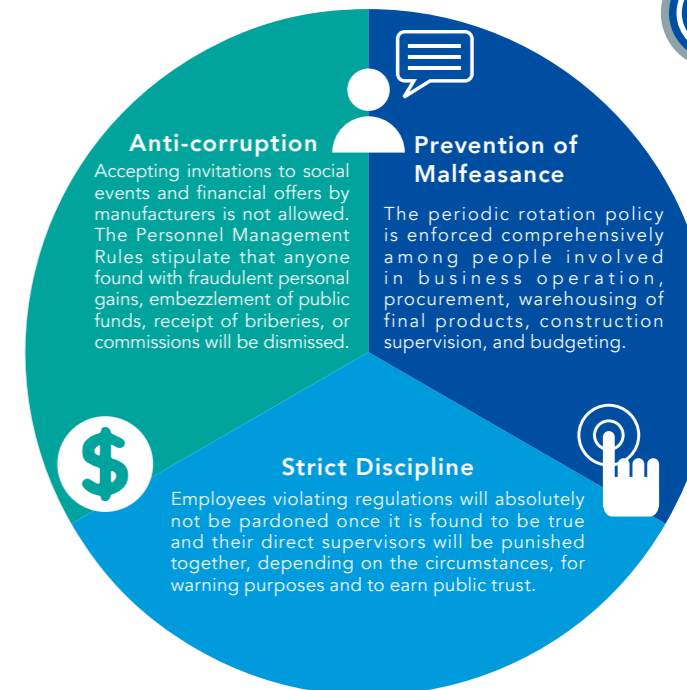
In honor of the spirit of diligence and simplicity, the Formosa Plastics Group has strict ethical guidelines in place, and it is hoped that all colleagues, whether at work or in their daily life, can behave properly and responsibly in compliance with behavioral regulations and ethical guidelines. We always follow a strict system that helps ensure that our colleagues are not disclosing business secrets or misreporting facts, behaving improperly or engaged in violence, shirking their responsibilities at work or leaving their post without authorization, operating fraudulent schemes or embezzling public funds, creating rumors or inciting sabotage, or violating gender equality at work, among others.

ANTI-CORRUPTION POLICY

For directors, supervisors, and managers at FPCC, there are the Work Ethics Guidelines; all directors, supervisors, managers, employees, or people with substantial control power are strictly prohibited to provide, promise, demand, or accept any improper interests or engage themselves in any behavior that is a violation of integrity, illegal, or violating their entrusted obligations directly or indirectly in order to prevent dishonest acts such as fraudulent personal gains, embezzlement of public funds, accepting bribes, disclosing secrets, or misreporting.

For colleagues, the ethical guidelines and policies to support honest operation and to guard against dishonest behavior are specified in the Ethical Corporate Management Principles, Guidelines of Corporate Governance Practices, Personnel Management Rules, and Work Rules. In addition, the Personnel Management Rules and Work Rules stipulate that people involved in business operation, procurement, outsourcing, construction supervision, and budgeting and those with conflicts of interest with manufacturers may not accept luncheon or other social activity invitations from manufacturers or properties or other interests offered by manufacturers. Violators will be dismissed and their supervisors will be punished, too.

We also have the systematic Employee Complaint Operating Guidelines and internal channels for reporting illegal acts. When colleagues become aware of any



illegal or inappropriate behavior likely to undermine personal or corporate rights occurring internally, or their colleague is trying to collect improper interests taking advantage of their job responsibilities, they can complete the "Complaint Form" and then submit it to the supervisor at the department where the appellee belongs. In addition, the periodic rotation policy is comprehensively enforced for related functions in order to prevent all types of fraud.

INTERNAL AUDIT

FPCC has established an effective sound internal control mechanism and comprehensively computerize all operations. The six major functions, namely personnel, finance, business operation, production, materials, and engineering, are interconnected and inter-articulated in their management through computers. Abnormalities are managed. In addition, an independent professional internal audit operation framework is in place and is under the charge of the Auditing Office of FPCC's Board of Directors. Meanwhile, departments at FPCC are asked to perform spontaneous business inspections periodically in order to consolidate internal control in every aspect throughout FPCC.

Our internal audit staff precisely implemented the plan. Results of the actual 2014 audit showed 11 areas with deficiency and most of them had to do with documentation or incomplete data; they were not major deficiencies. Internal control system deficiencies and abnormalities found in the inspection were already included in the produced audit report and have been followed up periodically, and have been completed corrected as of now. The improvement rate is 100%.





## 1.7 Partnership

### Partnership with Customers:

Building a good partnership has been an important issue that FPCC is highly concerned about. We constantly innovate to help customers get high-quality and competitive products and we maintain a relationship featuring mutual trust and reciprocity with our suppliers and contractors in a long-term value chain.

Installation of energy-saving illumination devices such as LED projectors and low bay lights is encouraged to make stations even cleaner and brighter.

Awards were presented to gas stations evaluated as having outstanding performance during the gas station service observation event

Officials and members of Taiwan Taxi visited the Mailiao Plant and listened to presentations.

Allied stations are encouraged to obtain the "Outstanding Oil Meter Autonomous Management Gas Station Symbol" to protect the rights of consumers.

### DESIRABLE INTERACTIVE MODEL

We are devoted to becoming a trustworthy business partner of our customers that grows together with them. In order to strengthen customer relations, representatives from our business operation department will periodically visit customers and exchange opinions with them and create interactive and timely communication channels that help include feedback from customers in corporate operation and will serve as important reference in the future.

### DISCLOSURE OF PRODUCT INFORMATION

On the FPCC's official website (<http://www.FPCC.com.tw/tc/>), descriptions of specifications and safety data sheets of various oil products and the latest oil price information are available in the "Products and Services" section.

### CUSTOMER FEEDBACK AND MANAGEMENT

Customers can express their opinions through the Customer Feedback Form. For complaints about products, on the other hand, sales representatives shall complete the "Complaint Handling Form" and keep records of the handling status in the computer.

To facilitate customers to express their opinions,

we offer the direct service line and email information on the website so that customers can express their opinions directly by means of diversified channels. After issues that customers care about are summarized periodically, they will be categorized and analyzed and prioritized depending on their importance and time effectiveness. Throughout 2014 no customers complained about privacy violation or data disclosure or other events.

### CUSTOMER RELATIONS MANAGEMENT AND SATISFACTION SURVEY

To fulfill the commitment to quality of ISO 9001 and to demonstrate our emphasis on customer satisfaction, we will perform customer satisfaction survey at least once a year at present targeting domestic and international customers. The survey covers eight major domains, namely, product characteristics, product quality, product lead time, product price, service attitude, technical service, brand image, and overall satisfaction. Questions included in the survey will be modified as per issues of concern for customers.

### Customer Satisfaction Survey Model

Year	Product Characteristics	Product Quality	Product Lead Time	Product Price	Service Attitude	Technical Service	Brand Image	Overall satisfaction	Mean
2013	4.4	4.3	4.4	4.0	4.6	4.4	4.4	4.4	4.3
2014	4.2	4.2	4.2	3.7	4.4	4.2	4.0	4.0	4.1

Note: 5 represents "very satisfied"; 4 indicates "satisfied"; 3 is "no comments"; 2 means "dissatisfied"; and 1 is "very dissatisfied."

The results of the 2014 Customer Satisfaction Survey show that most of the domains had a score higher than "satisfied". Only "product price" fell short of meeting the "satisfied" level; a main cause is that raw materials on the market are getting more and more expensive to result in multiple adjustments of product prices reflective of the cost. FPCC will include the suggestions provided by customers as part of its operational policy in order to live up to the expectations of the general public.

### Partnership with Suppliers and Contractors:

FPCC suppliers mainly include manufacturers, distributors, or dealers and engineering contractors (construction or outsourced design, etc.). Agreement organizational meetings are held periodically with contractors so that they can provide us with suggestions on how to seek improvements and staff can carry out tasks assuredly and safely in the workplace; this helps create a desirable exchange platform facilitating mutual communication and coordination.

#### • Suppliers And Contractors Management Policy

Policies fulfill quality and industrial safety requirements. In addition, efforts are made to require that manufacturers doing business with us meet environmental protection, industrial safety, and human right requirements in compliance with fair trade principles. If they do not meet requirements, they will be rejected and they will be rated for subsequent dispositions.

#### • Contractors Differential Management System

For contractors that have undertaken projects, the differential management system is established. Related information is collected on various professional engineering contractors. Facilities and construction sites, their safety management capabilities, technical capabilities, and underwriting records are investigated and evaluated. The differential control criteria are established according to their underwriting capability and records; there are Class A, Class B, and Class C.

In addition, safety and health management

is included as part of an required budget entry and it is required to list detailed contract terms and conditions concerning safety and health facilities that should be implemented. In order to prevent the budgeting department from missing out safety and health management, it will be automatically included by the computer during budget planning. It shall also be controlled that the final value of safety and health management may not be lower than the budget value during outsourcing price inquiries in order to avoid manufacturers neglecting safety and health management because of a low tender winning price.

#### • Manufacturer Rating

All the suppliers that deal with us have to go through written evaluation and also site evaluation if it is considered necessary. Once they are determined to be qualified and their data are archived, they can be included as partners. In cases of delayed deliveries (engineering), undesirable quality, and violations of industrial safety requirements, they will be included in the manufacturer rating mechanism directly; this will help screen quality partners suitable for long-term collaboration.

#### • Supplier Sustainability Issue

Formosa Plastics Group asks its upstream suppliers to meet criteria such as RoHS qualification, applicable industrial safety qualification as per national requirements, ISO qualification, indication of hazardous materials, and illustration. In addition, manufacturers need to properly recycle used containers, prioritize products made by people with physical or mental disabilities, and enclosure of no radiation pollution certificates, among others. Suppliers are asked to precisely follow the requirements in the Quotation and Order Notice. When purchased materials, parts, or products contain metals, suppliers are asked to truthfully investigate if the metals are conflict-free in order to ensure that all the raw materials purchased are obtained lawfully and the stance of the Group in sustainable management should be declared in forms.





### EDUCATIONAL TRAINING FOR AUDIT OF SUPPLIERS AND CONTRACTORS

In order to reinforce contractors' employees' knowledge of the possible hazards and precautions associated with the process environment and operation contents, before beginning each engineering effort each day, communication and

information should be done by means of the Operational Hazard Reminder Bulletin or the tool box meeting to remind operators of possible risks and hazards associated with their operation and to examine the psychiatric status of operators; it will help avoid industrial accidents as a result of negligence during operation.

#### • Contractor Construction Safety Management

Upon signing a contract, we will also ask contractors to abide by safety and health laws and have safety and health management staff in place. Contractors' employees have to complete safety and health education and hazard identification training provided by each business department within the Group or FPCC before they enter a plant. Only qualified employees will be allowed to enter the plant.

Vehicles, electrical, and machinery equipment, on the other hand, are strictly checked at the plant gate and only those qualified are released into the plant. It is particularly strictly prohibited that individuals bring fire source into the plant in order to keep off fire. Disqualified electrical and machinery equipment may not be brought inside the plant in order to keep potential risk factors outside the plant.

#### • Contractor Educational Training

Only employees of contractors qualified through the safety and health educational training provided by each business department are allowed to enter the plant for construction; this is meant to enhance contractors' safety and health knowledge and ideas and applicable safety and health precautions at each business department.

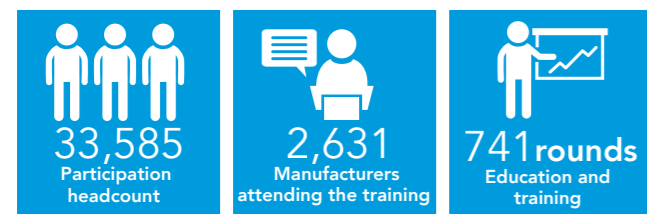
A headcount of 33,585 people in total were trained in 2014. In addition, autonomous management by contractors is promoted extensively. A mutual-trust and cross-supervisory approach is meant to accomplish the goal of zero disasters.

#### • Joint Inspection of Industrial Safety and Environmental Protection Performance

To protect employees' safety and health; to maintain equipment safety that helps ensure a quality safe operating environment and workplace; ; and to ensure process and operation safety that helps protect the workers and accomplish "zero disasters", individual units at FPCC precisely performs various spontaneous checks for their staff, machinery equipment, and operating environment.

#### • Transport Safety Guidance

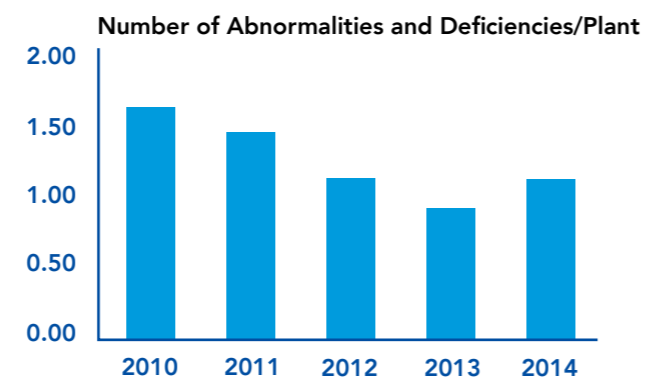
FPCC uses its subsidiary - Sixth Naphtha Cracker Forwarding as the main transport partner. The vehicle arrangement, driver schedule, and the management systems of Sixth Naphtha Cracker Forwarding are under control. Each vehicle is installed with the GPS system and alarm to facilitate scheduling and control. Meanwhile, external audits will be performed to ensure vehicle security on transport contractors of FPCC's partners periodically and drivers are asked to complete the alcohol test and have their blood pressure and heart rate measured before they go on a mission.



### CONTRACTOR AUDIT

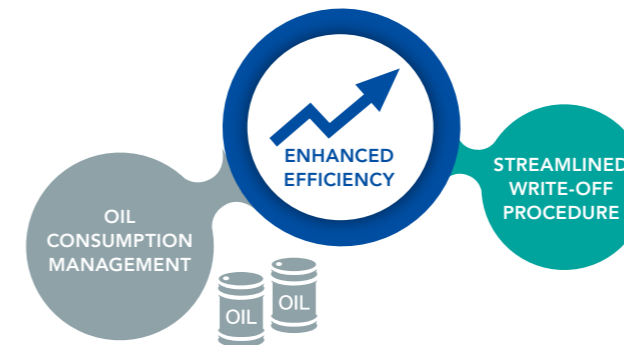
Safety and health practice at each department is rated by means of periodic inspections and observation tours.

Departments are urged to consolidate their own autonomous inspections. Abnormalities found in audits on average have gradually decreased; it was 1.53 incidents/plant in 2010 and 1.08 incidents/plant in 2014.



### Enhancing the Economic Value of Products and Services:

FPCC spontaneously install the point of sale (POS) intelligence software and hardware equipment for franchisees with long-term collaboration and help them reinforce management through the computer system to accordingly bring down the operation cost. Between FPCC and the franchisees, the information flow can



also be used to maximize the joint marketing effect and enhance the overall operational performance.

We also provide guidance to the franchisees on how to run gas stations with local characteristics. They can also extend service to business card and TAXI card holders and continue to develop the self-served system through joint collaborative marketing with banks, providing consumers with more options while they are to add gasoline.

#### TRANSPORT FLEET DEAL

In light of the hard work of taxi drivers, we issued the TAXI card to help them cut down gas expenditure. The card continues to be issued by the stations to

individual taxis so that more taxi drivers can benefit from preferred deals.

In addition, with joined effort from these gas stations, we issue the Formosa Business Card so that large forwarding fleets can enjoy more convenient gasoline adding service. The expenses are settled at the end of each month and an invoice will be issued. It is a relatively simple declaration/write-off process compared to the traditional way of issuing receipts car by car. In addition, inquiries and download of transaction details can be done through e-Commerce to facilitate gas mileage management by customers and improve gas-saving efficacy. After we secured long-term collaboration with forwarding fleets and vehicles belonging to public authorities adjacent to the gas stations, other large forwarding fleets of Goldsun Co.,Ltd. and Gold Logistics and public vehicles such as Chiayi County passenger buses have established long-term collaboration with us.



### Participation in Non-profit Organizations:

FPCC has been proactively participating in various industrial associations and societies by serving as chairman, director/supervisor, and representative at the said organizations. Apart from conducting exchanges with counterparts on operational experience through the said associations and organizations and jointly organizing various seminars and international conferences where the latest market intelligence, supply and demand changes, and technical information are shared, FPCC is also involved in various international talks and consultations to hopefully make contributions to the industry as a whole.

### The Following Shows the Non-profit Organizations that FPCC is Involved:

Name	FPCC Representative	Role
Petrochemical Industry Association of Taiwan	Chairman Bao Lang Chen	Chairman
Taiwan Institute of Chemical Engineers	Chairman Bao Lang Chen	Deputy Chairman
Chinese Chemical Society	Chairman Bao Lang Chen	Deputy Chairman
Chinese Petroleum Society	Chairman Bao Lang Chen	Standing Director
Chinese Institute of Engineers	Chairman Bao Lang Chen	Director
Sino-Arabian Cultural & Economic Association	Chairman Bao Lang Chen	Standing Director
Taiwan Responsible Care Association	Chi-Chang Chiang (Assistant Vice President)	Director
Marine Pollution Prevention Association of the ROC	-	-
Pressure Vessel Association of the ROC	-	-
The Society for Nondestructive Testing & Certification of Taiwan	-	-



# 02

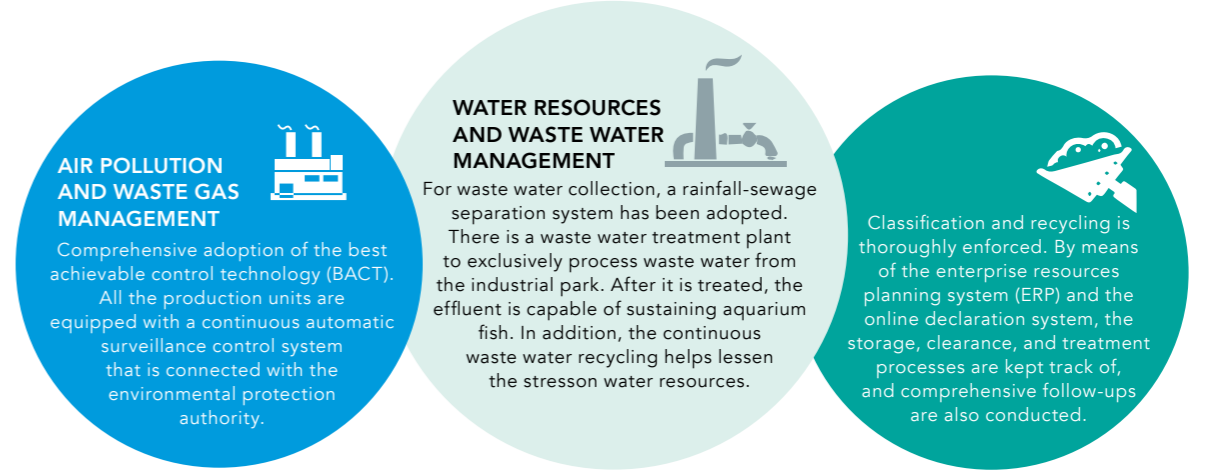
**ENVIRONMENTALLY FRIENDLY CO-EXISTENCE PERFORMANCE-BASED GOAL MANAGEMENT**  
**SPEARHEADING THE UPGRADE OF THE GREEN INDUSTRY**

## 2.1 Environmental Protection Policy

### Environmental Protection Operating Guidelines:

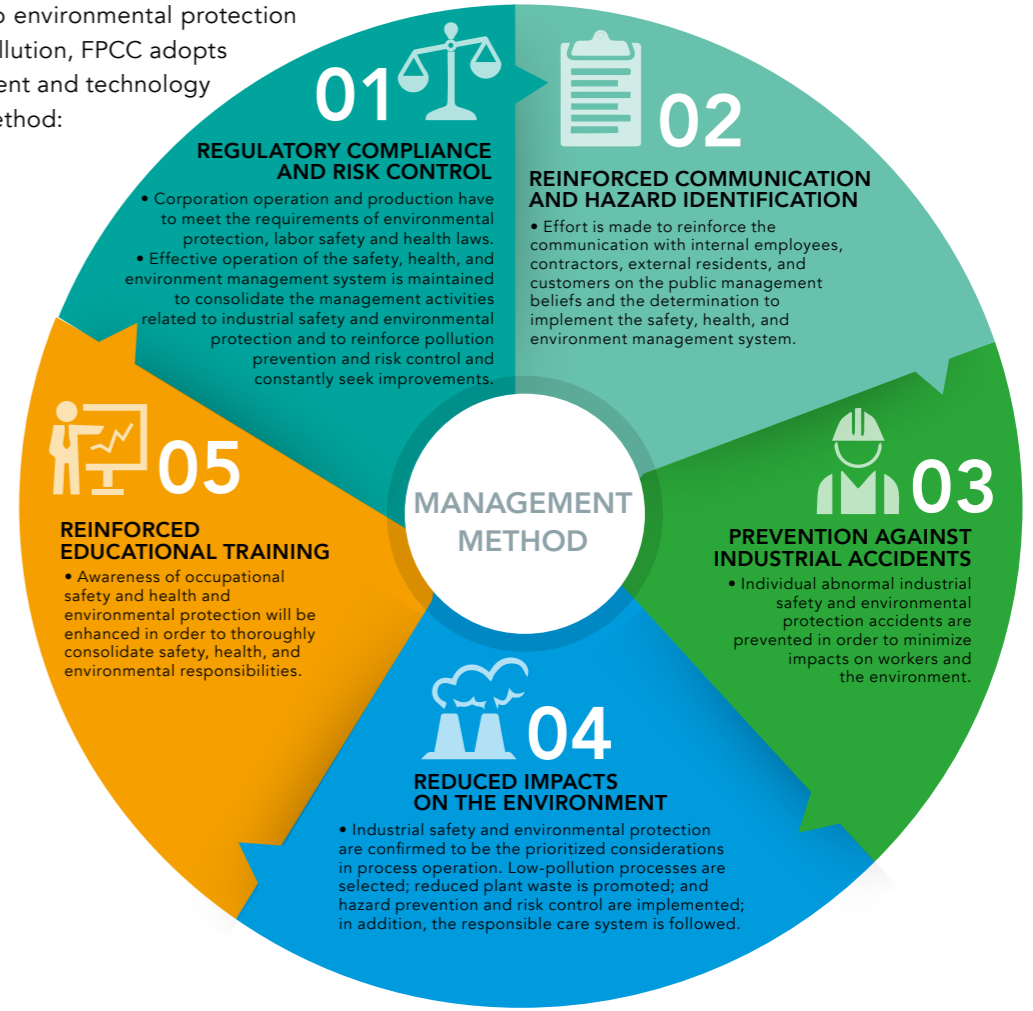
Aiming at a win-win goal in the pursuit of "industrial safety, environmental protection, and economy", FPCC creates and maintains a safety and health and environmental management system in order to get to the bottom of it and seek constant improvements. The FPCC safety, health, and environment policy was established

in 2003: strict compliance with regulatory requirements, reinforced communication, prevention against pollution, plant waste reduction, hazard identification, risk control, plenary participation, and constant improvement, 8 consistent principles in total in order to accomplish the goal of sustainable management.



### SAFETY, HEALTH, AND ENVIRONMENT POLICY

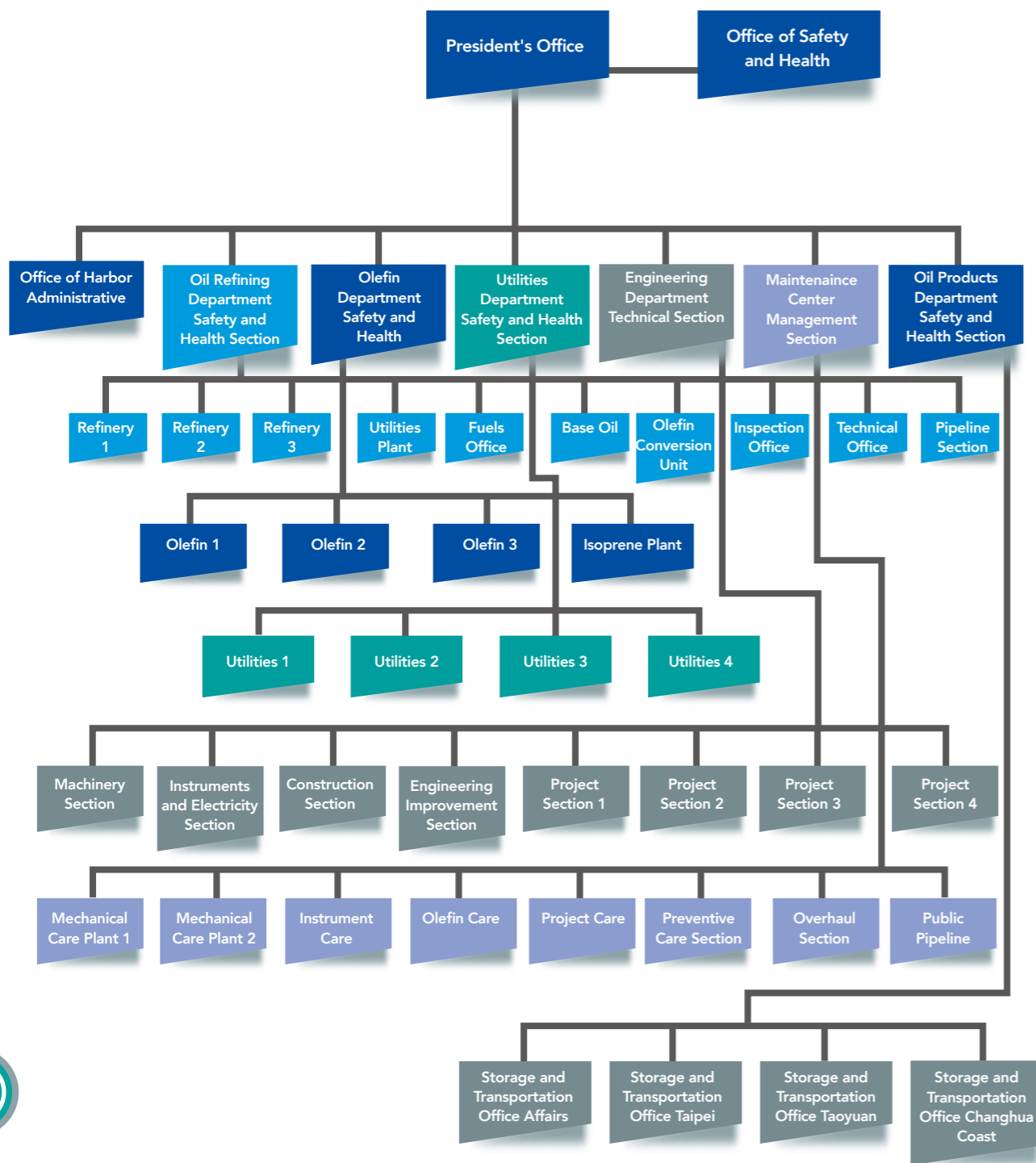
To fulfill its commitment to environmental protection and prevention against pollution, FPCC adopts the latest process equipment and technology as well as management method:



### Safety, Health, and Environment Organizational Framework and Responsibilities:

To strengthen the safety, health, and environment management and sustainable management goals of FPCC, the bottom up vertical integration management approach is adopted for the safety, health, and environment organization. The hope is that FPCC can fulfill its goals of safety and health, zero disasters, environmental protection, and zero pollution in the management of safety, health, and the environment.

### Plastics and Chemicals Safety and Health Organization



To consolidate management of safety, health, and the environment, FPCC standardized management requirements for safety, health, and the environment to be followed by colleagues and contractors. A total of 50 sets of safety, health, and environment management operating guidelines (31 for industrial safety, 11 for environmental protection, and 8 for fire prevention) and 1 set of the management information system are established. Internal audits are conducted once every six months to reinforce management of safety, health, and the environment through the sound system.



To work toward the goal of zero pollution, FPCC has continued to introduce related measures to help manage safety, health, and the environment and continues to optimize the efficiency at the management level. We have successfully obtained ISO 14001 certification for environmental protection management systems and OHSAS 18001 certification for occupational safety, health, and management systems.

Compared to 2012, the number of fines issues already dropped by 83%, indicating that we have accomplished quite a bit in terms of environmental protection.

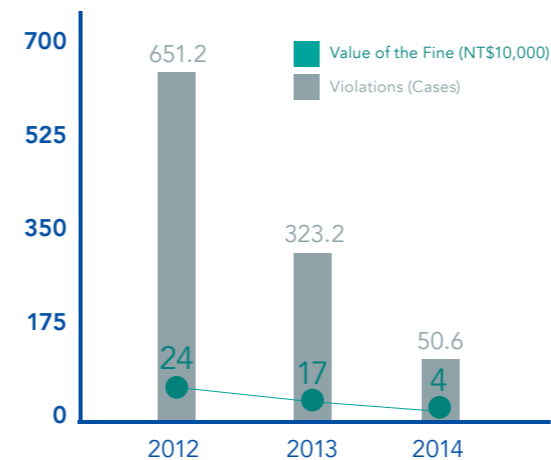
### ENVIRONMENTAL PROTECTION VIOLATIONS

No major abnormal environmental protection violations occurred throughout 2014 (those disclosed through the stock market Public Information Observatory and involving NT\$1 million or more).

There were four environmental protection-related fines in 2014, which was the result of mainly dysfunctional equipment, abnormal waste determination, failure to complete environmental assessment undertakings, and failure to consolidate construction matters.



### Environmental Protection Violations and Value of the Fine



### Losses and Punishments Associated with Environmental Pollution in Recent Years:

	2012	2013	2014
Air Pollution	21/NT\$5 million	12/NT\$1.7 million	2/NT\$200 thousand
Water Pollution	0/NT\$0	2/NT\$20 thousand	0/NT\$0
Waste	2/NT\$12 thousand	1/NT\$12 thousand	1/NT\$6 thousand
Others	1/NT\$1.5 million	1/NT\$1.5 million	1/NT\$6 thousand

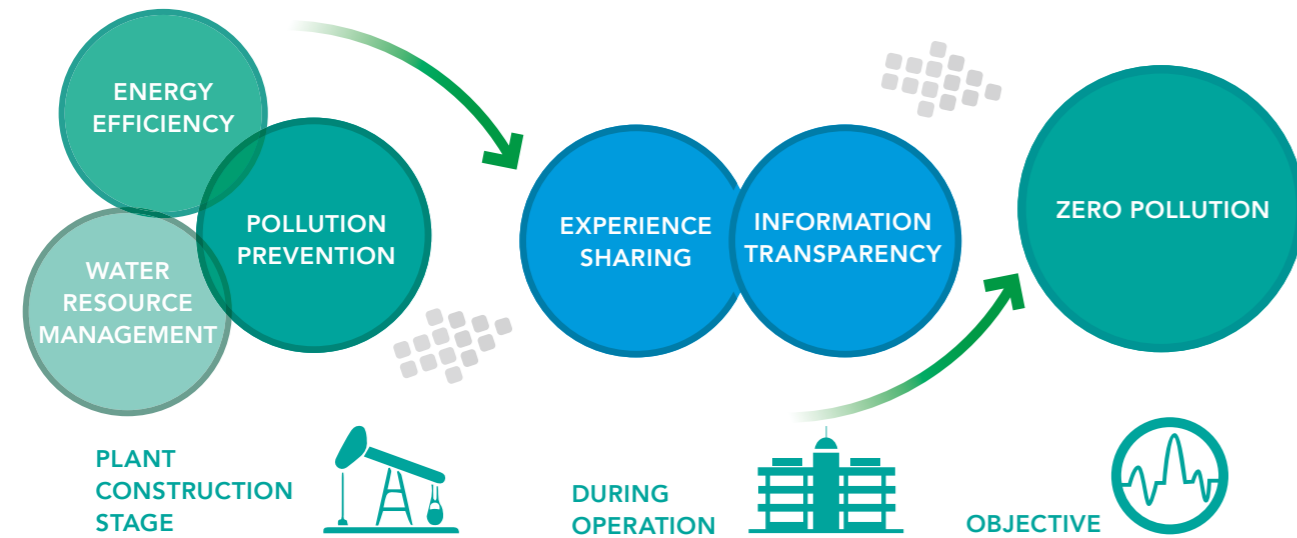


## 2.2 Green and Environmental Protection Policy at Mailiao Complex

Fundamental petrochemical materials in the upstream of the petrochemical industry in Taiwan were produced and provided by CPC Taiwan in the early days. Because the domestic demand could not be satisfied, the Formosa Plastics Group started its sixth naphtha cracker program in the region of Mailiao to help address the issue. The vertically integrated petrochemical industrial park was hence established.

### Plant Construction Stage:

FPCC applied the best available technology (BAT) and best available control technology (BACT) ideas during the design stage of the plant already by adopting the most advanced processes and pollution prevention and control equipment with best energy efficiency.



### During Operation:

FPCC has been proactively promoting various environmental protection efforts. The KPI and annual goals are established to periodically keep track of how individual indicators are implemented and the fulfillment of goals.

#### EXPERIENCE SHARING

- Believing in a global village, FPCC organizes seminars and observational tours to share its experience and accomplishments in energy-saving and carbon reduction as well as pollution prevention and treatment.

#### INFORMATION TRANSPARENCY

- For environmental issues that the general public is concerned about, FPCC continues to authorize impartial professional institutions to perform investigations and release the results in its social responsibility reports

in order to clarify and explain improvements in the implementation externally.

### Goal:

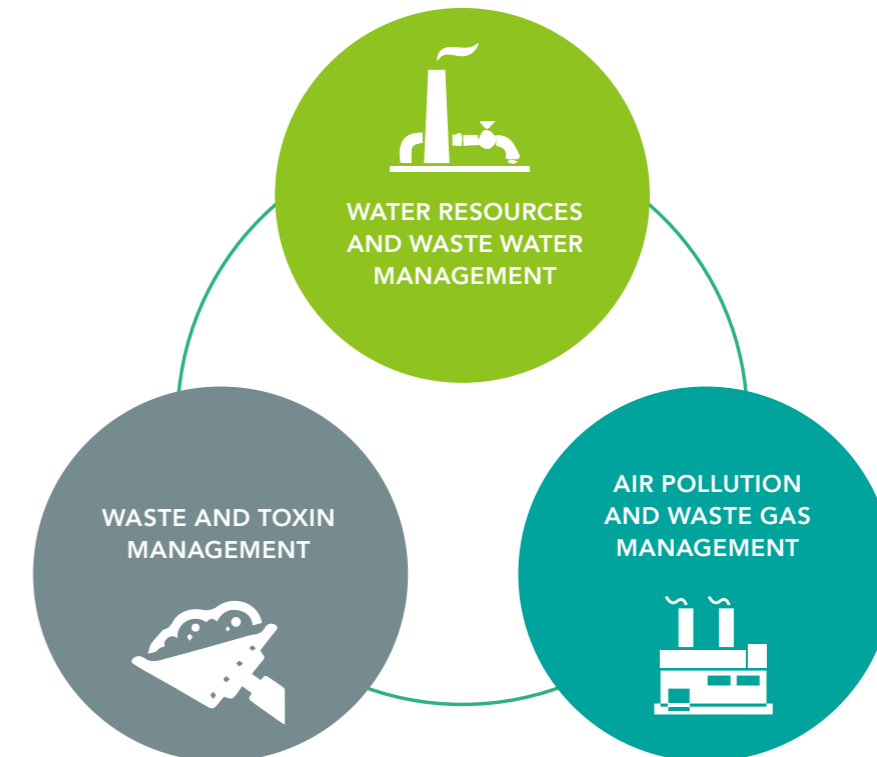
- FPCC cares about and is highly concerned about environmental issues such as the quality of the air, soil, ground water, and seawater in the locality of the plant, and health of the local residents; it is working toward the goal of zero pollution.



### Mailiao Park Sustainable Environmental Management Policy:

We believe that pollution prevention and treatment is also crucial to energy saving and carbon reduction and it is required to powerfully reduce waste from the source by managing water resources and waste water, managing air pollution and waste gases,

and managing waste and toxins as it helps not only ensure normal operation of the production equipment and quality of the surrounding environment but also reduce waste of resources and energies to accordingly bring down the overhead and accomplish multiple energy-saving and carbon reduction benefits.



### Mailiao Complex Management of Water Resources and Waste Water:

Water used in the premises of FPCC mainly consists of surface water and tap water. In order to effectively use water resources, we reduce the volume of water consumed by optimizing our process and enforcing related measures to conserve water and bring down evaporation losses; this helps minimize the demand for water on the one hand and boost the efficacy in utilization of water resources.

- Re-utilization of Water Resources in Mailiao Park**  
Water consumption in the Mailiao Park of FPCC has been dropping on a yearly basis. The volume of surface water used a day was 135 thousand tons on average and rainwater re-utilization was 1,058 tons in 2014. The volume of rainwater re-utilized, in particular, was equivalent to the volume required at a process plant.



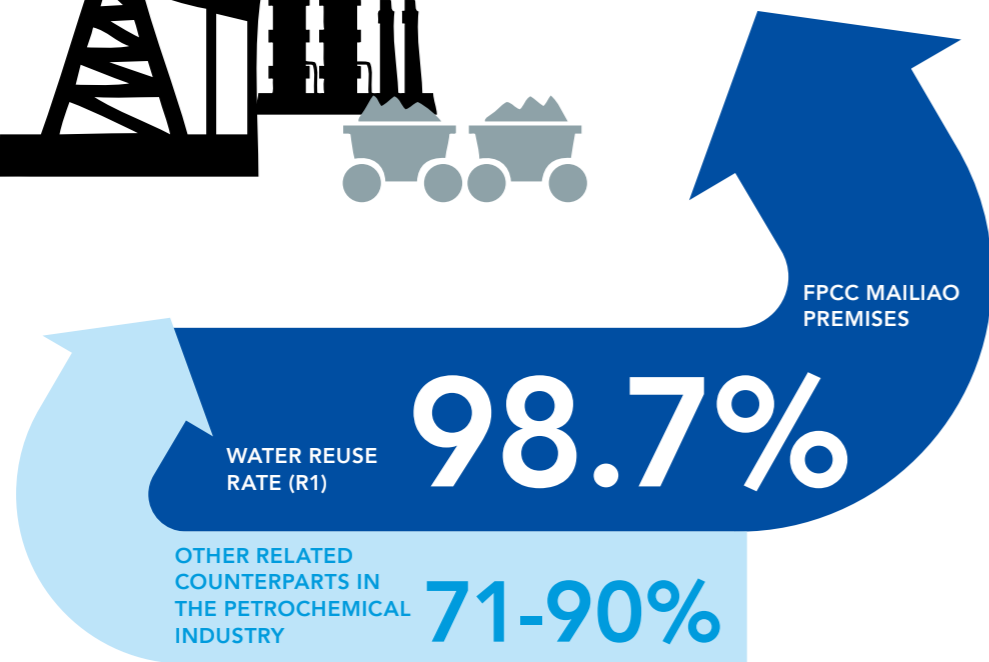
#### WATER RESOURCE MANAGEMENT

Apart from recycling waste water for re-utilization, we also collect rainwater on a comprehensive scale throughout the premises to enlarge the rainwater collection area and set up rainwater storage tanks to facilitate effective storage and utilization of rainwater for reutilization. Accumulatively, between 1999 and 2014, water conservation was improved in 247 cases in total, involving the investment value of NT\$857 million.





Thanks to the commissioning of processes with improved quality at the refining plant in 2014, the volume of water consumed was 102,290 tons a day on average, which was 0.06 ton/ton higher than last year; the volume consumed per product came to 1.14 ton/ton. When calculated by the water indicator in the "Water Consumption Protocol Review Operating Guidelines" announced by the Ministry of Economic Affairs, the water reuse rate (R1) is 98.7% in Mailiao Park. Compared to other related counterparts in the petrochemical industry, whose R1 values are mostly 71% to 90% according to the information collected by the Industrial Development Bureau under the Ministry of Economic Affairs, the reuse rate is already significantly superior.



Overview of Historical Water Conservation at FPC

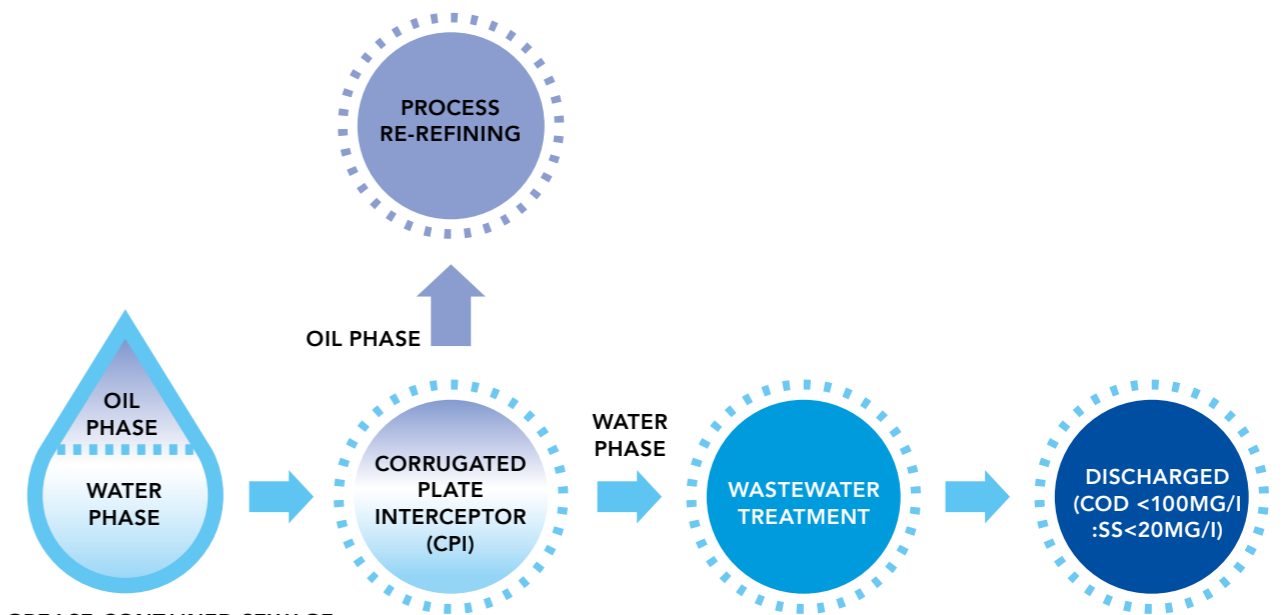
Item \ Year	1999-2013	2014	Accumulated volume (1999-2014)	Ongoing	Total
Number of cases improved	222	25	247	76	323
Volume of water conserved (ton/day)	70,006	3,611	73,616	4,506	78,122
Investment amount (NTD 100 million)	6.74	1.83	8.57	0.12	8.68
Improvement results (NTD 100 million/year)	3.13	0.14	3.26	0.03	3.30

Note 1: Source: Formosa Plastics Group water conservation and energy-saving improvements regulatory computer-based database

WATER POLLUTION PREVENTION AND TREATMENT GUIDELINES AND WASTE WATER MANAGEMENT

For grease-based sewage generated in the premises, FPCC first separates grease from water through the grease-water separation facility (Corrugated Plate Interceptor, CPI). Once separated, waste grease is introduced into the process at the refining department for re-processing. Waste water, on the other hand, is discharged into the waste water field to be processed

by the low-salt content treatment system. The treatment process includes water quality adjustment in the harmonic groove, removal of suspended solids by means of air flotation, and then decomposition of organic substances through the aerator. Chemical oxygen demand (COD) needs to be less than 100 mg/l, and suspended solids (SS) needs to be less than 20 mg/l. The water may only be discharged after the effluent criteria are fulfilled.

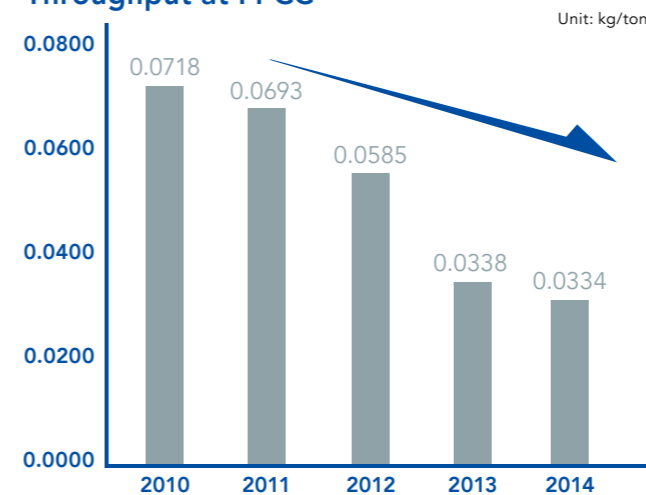


GREASE-CONTAINED SEWAGE

For deterioration caused by the introduction of substances, living things, or other factors to further undermine normal utilization of water, we perform the chemical oxygen demand (COD) assessment and our data show that discharge of water dissoluble suspended

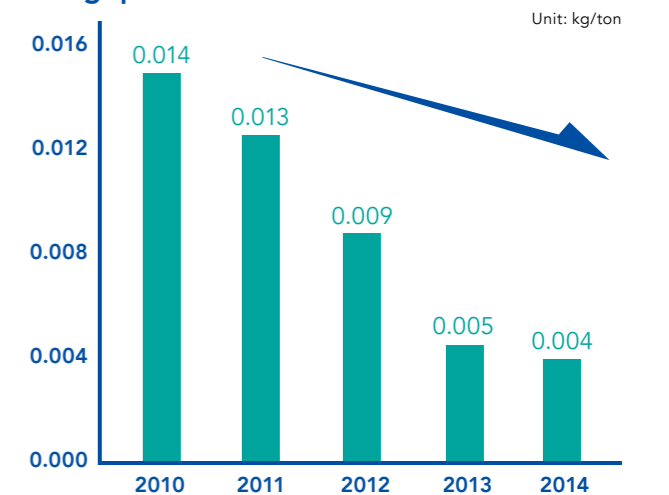
solids (SS) such as organic matter, sand, clay, and microorganisms has also been declining on a yearly basis. In 2014, COD was 0.0334 kg/ton and SS was 0.004 kg/ton, indicating that FPCC has made significant progress in the management of waste water in Mailiao premises.

COD Discharge Per Unit of Throughput at FPCC



Note: Source: The Formosa Plastics Group water pollution prevention and treatment management computer-based database

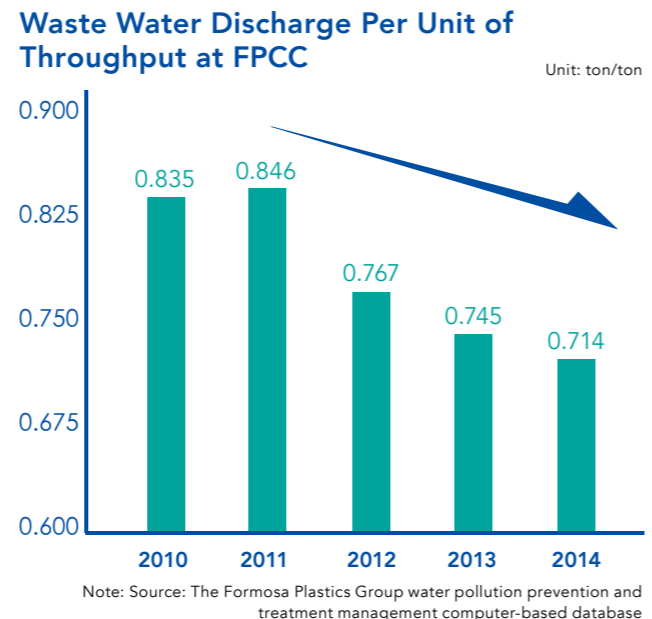
SS Discharge Per Unit of Throughput at FPCC



Note: Source: The Formosa Plastics Group water pollution prevention and treatment management computer-based database



The effluent volume generated by the Mailiao premises of FPCC throughout 2014 was 64.2 thousand tons per day. Quality of water eventually discharged into the Taiwan Strait seawaters met the effluent criteria. The volume of waste water discharged per unit of throughput from the Mailiao premises in 2014 reduced by 4.16%, that is, 0.714 ton/ton, from the previous year.



### Mailiao Complex Management of Air Pollution and Waste Gases:

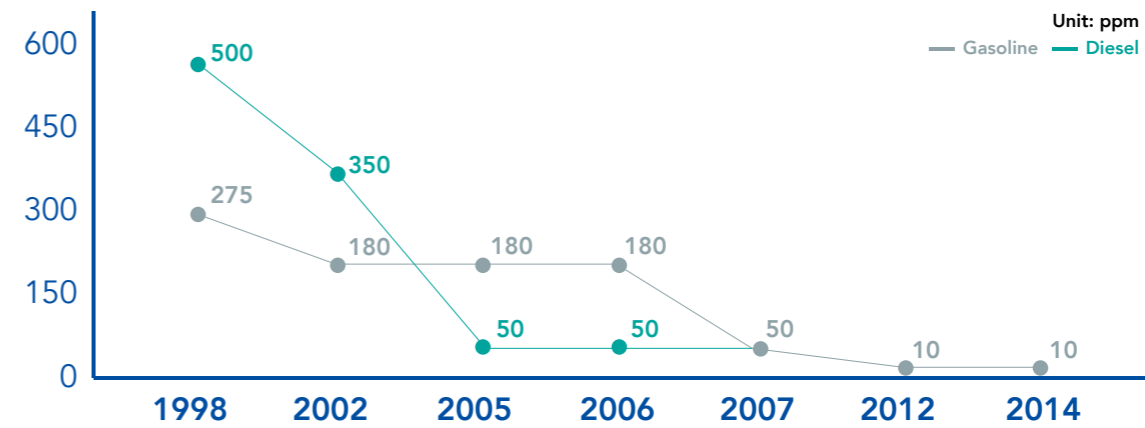
FPCC is on a par with international standards and follows the government's policy to implement the "Montreal Protocol". Materials that tend to destroy the ozone layer such as halons, CFC-11, and CFC-12 have been comprehensively banned since FPCC was established in 1992. Coolants

used now are mostly R-134a, R-401a, and R-410a and the contents of sulfur and benzene, among others, in gasoline or diesel products strictly follow the regulations of the European Union.

FPCC is devoted to reducing the impacts of its operation on its colleagues and the environment and ecology in the surroundings of its premises. Data as of 2014 show that the sulfur content in locally produced gasoline and diesel has been declining on a yearly basis.

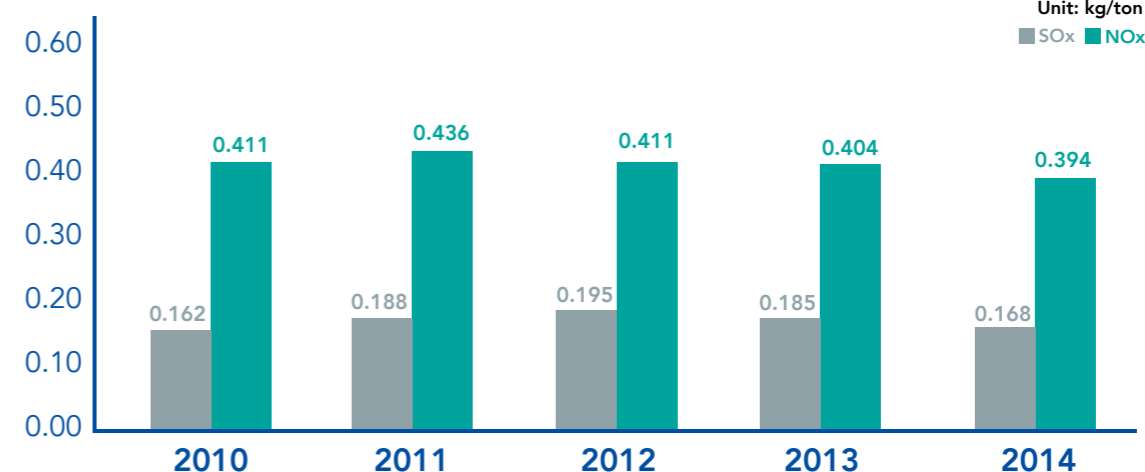


Category	Ingredient	Domestic Market		International Market	
		Guidelines	Actual Value	Guidelines	Actual Value
Gasoline	Benzene	1.0 vol%, max	0.68	1.5 vol%, max	1.13
	Lead	0.013 g/l, max	<0.003	0.01 g/l, max	<0.003
	Sulfur	10 ppm, max	222	250 ppm, max	108
Diesel	Sulfur	10 ppm, max	6.72	10 ppm, max	8
				500 ppm, max	430



In order to consolidate prevention against air pollution, the best treatment equipment has been adopted. In 2014, sulfur oxides (SOx) dropped to 0.168 kg/ton and nitrogen oxides (NOx) dropped to 0.394 kg/ton.

### SOx and NOx Discharge Per Unit of Product at FPCC



Note: Source: Quarterly summary reports from each department at FPCC to declare total volume of air pollutants discharged



### FOREIGN ODOR CONTROL AND VOCs REDUCTION

FPCC continues to proactively promote improvements by reducing the quantity of various volatile organic compounds (VOCs). VOCs are volatile at a normal pressure. Accumulatively, FPCC improved 34 cases throughout 2014, with accumulated investment value totaling NT\$820 million.

Elements of process equipment are checked on a weekly basis for their foreign odor and the effective use cycle (life span) of various types of elements is established. Control valve washers, for example, are changed to be made of low-emitting materials and small OD connectors are changed to be low-leakage ones and unnecessary equipment elements are removed to facilitate effective prevention and repairs prior to leakage and minimize the incidence of leakage.

In addition, the original open aerators that tend to give rise to VOCs and foreign odor emission in the waste water treatment area are now covered with lids and piping is configured to collect discharged gases for treatment at air pollution prevention equipment such as the cleansing tower and the waste gas incinerator in order to remove foreign odor associated with waste gases and prevent emission of VOCs.

**34 CASES**  
TOTAL IMPROVEMENT CASES

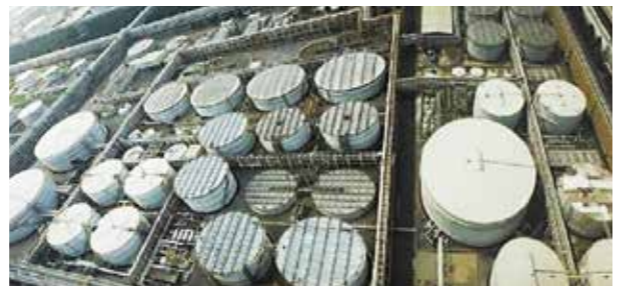
**820 MILLION**  
TOTAL INVESTMENT



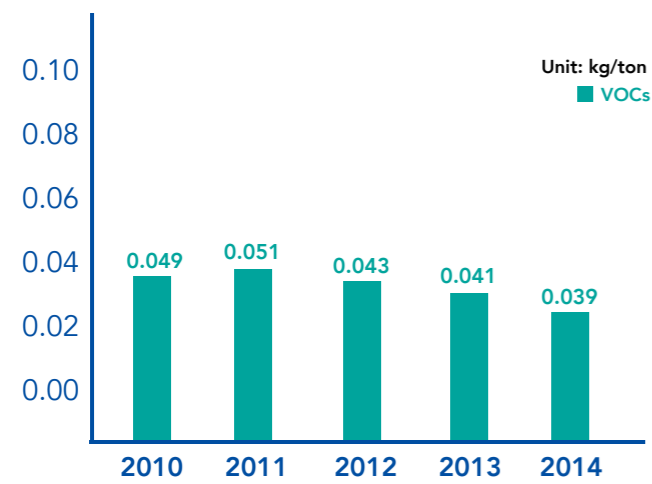
WASTE WATER TREATMENT PLANT (BEFORE)



WASTE WATER TREATMENT PLANT (AFTER)



VOCs Discharge Per Unit of Product at FPCC



Note: Source: Quarterly summary reports from each department at FPCC to declare total volume of air pollutants discharged

Discharge Management of VOCs:

FPCC continues to seek improvements in related environmental issues. VOCs mainly come from processes (discharge channels), storage tanks, loading operations, waste water treatment area, and grease-water separation pond, waste gas burning tower, and equipment elements. The VOC discharge per unit of product in 2014 already dropped to 0.039 kg/ton and the hydrocarbon discharge is dropping on a yearly basis.

In order to further prevent fugitive VOCs, to reduce leaks of raw materials and products, and to minimize petitions by neighboring communities due to foreign odors, FPCC spent huge monies and purchased 11 infrared gas imaging leak testers (GasFindIRs) and two Fourier-transform infrared spectrometer (FTIRs) to more quickly locate leak sources and seek immediate improvements to protect local air quality.

**Infrared Light Source**

**GFIR**  
GFIR is used to detect fugitive VOCs in each facility and pipeline, and address foreign odors and leakage in the premises.

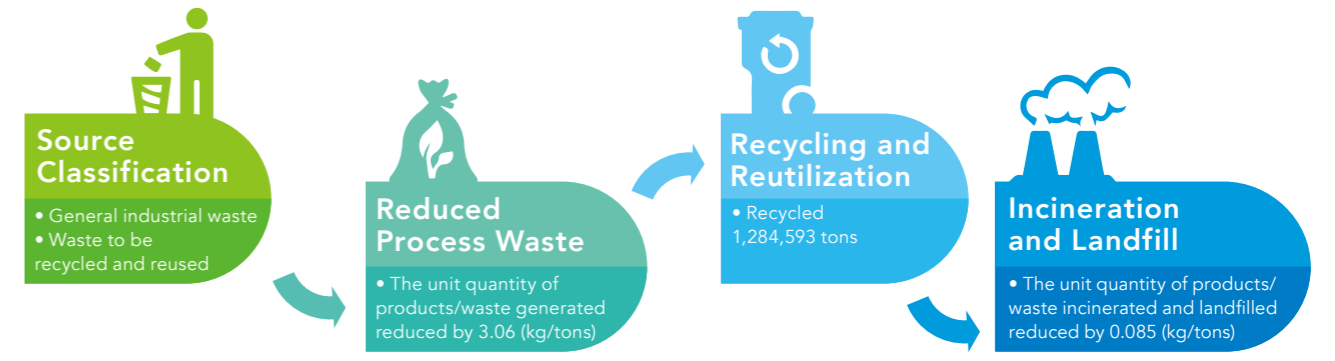
**FTIR Drive**  
OP-FTIR is used to monitor the composition and concentration of fugitive VOCs in the surroundings of the premises and correct the foreign odor and leakage.

Mailiao Complex Management of Waste and Toxins:

When clearing waste, we follow the waste codes announced by the Environmental Protection Administration of the Executive Yuan (e.g. D for general business waste and R for recyclable or reusable waste) in classification, declaration, and treatment to ensure effective management of waste.

WASTE MANAGEMENT

Waste management at our company is divided into four stages: Waste is classified at the source, reduced during process, and recycled for reuse in order to cut back on the volume of waste to be incinerated or land filled and to accomplish the proactive goal of zero waste and zero land fill.



In terms of outsourced treatment of waste, reuse will be prioritized, followed by incineration and land fill. Business waste generated by FPCC throughout 2014 totaled 1,327,670 tons, among which general business waste accounted for 1,327,171 tons and hazardous waste accounted for 499 tons. Process waste was reduced by 7% compared to the previous year and the volume of waste generated per unit of product declined by 3.06 kg/ton.

1,284,593 tons of the waste (including coal ash) were turned into resources again for reuse, accounting for 96.76%, while the remaining 43,077 tons were sent to registered legitimate processing institutions to be properly treated. Waste that was incinerated or land filled also dropped by 3.77% compared to the previous year and so did the incineration and land fill of waste per unit of product, which dropped 0.085 kg/ton.

Reduction and Correction of VOCs in the History of FPCC

Item \ Year	2011	2012	2013	2014	Accumulated Volume (1999~2014)
Number of cases improved	5	10	4	15	34
Discharge channels (ton/year)	6.89	0.1	7.09	7.64	21.72
Equipment elements (ton/year)	0	0	1.85	0	1.85
Storage tanks (ton/year)	1.27	2.61	2.16	20.48	26.52
Waste water treatment field/grease-water separators (ton/year)	0	0	0	0	0
	0	0	0	0.31	0.31
Total (ton/year)	8.16	2.71	11.1	28.43	50.4
Investment value (NTD thousand)	43,949	4,602	615,398	154,193	818,142

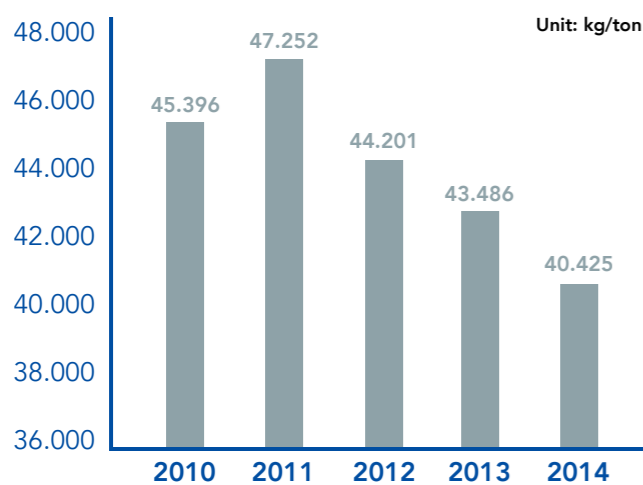
Note: Source: The Formosa Plastics Group computer-based database for environmental protection improvements

### Overview of Waste Management at FPCC

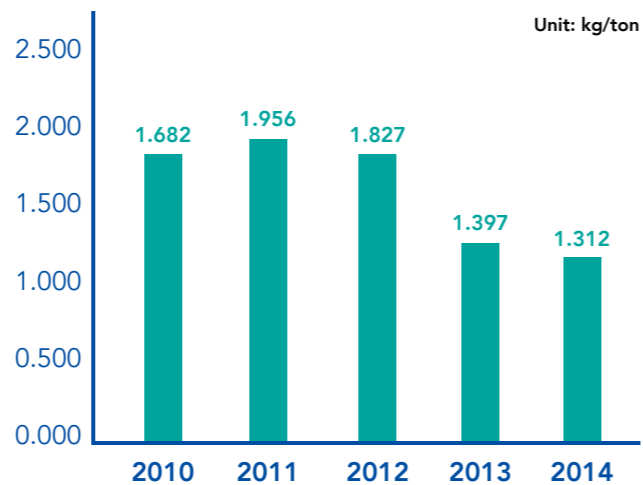
	2010	2011	2012	2013	2014
Volume of waste generated (ton)	1,360,432	1,294,809	1,337,788	1,393,628	1,327,670
Product (ton)	29,968,325	27,402,375	30,266,165	32,048,095	32,843,065
The volume of waste generated per unit of product (kg/ton)	45.39566	47.25171	44.20078	43.48552	40.42467
Incinerated or land filled (kg)	50,409,370	53,600,328	55,307,718	44,763,848	43,076,876
Product (ton)	29,968,325	27,402,375	30,266,165	32,048,095	32,843,065
The volume of waste incinerated or land filled per unit of product (kg/ton)	1.682088	1.956047	1.827378	1.396771	1.311597

Note : Source: The Formosa Plastics Group waste management computer-based database

### The Volume of Waste Generated Per Unit of Product



### The Volume of Waste Incinerated or Land Filled Per Unit of Product



### Description of How the Byproduct Lime Incident was Handled:

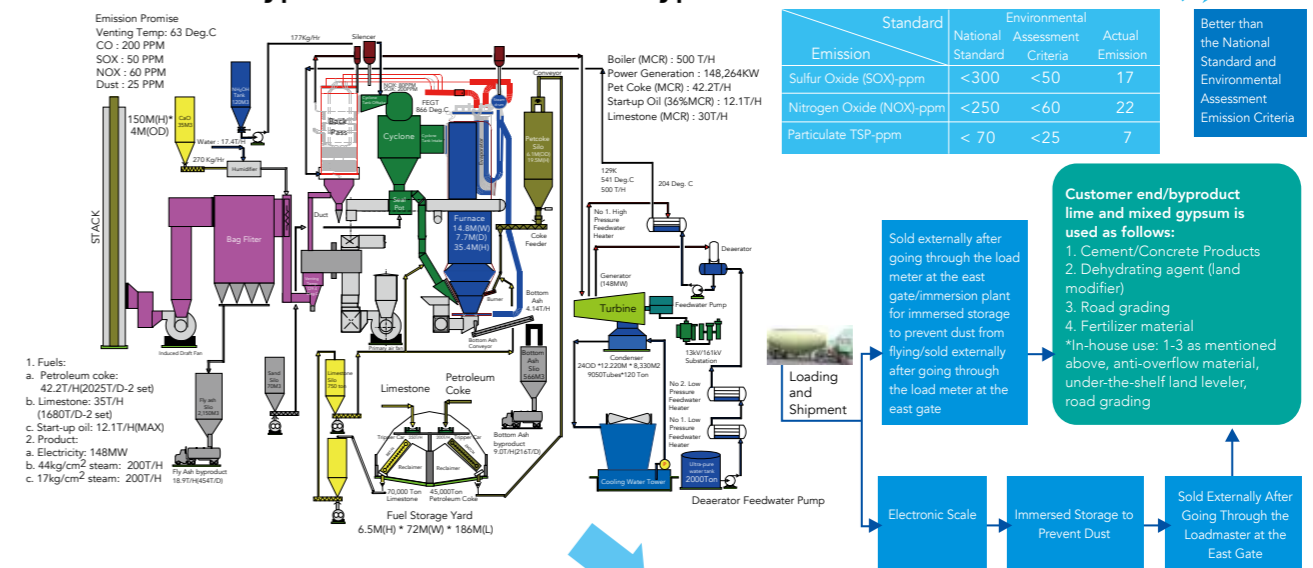
The CFB machine of FPCC, applying low temperature combustion and dry desulfurization, can reduce NOx and accomplish the goal of zero waste water discharge. The technology is advantageous in terms of environmental protection and has been greatly promoted in the United States since 22 years ago. After it was approved through environmental assessment review in November 2002, 2 sets of the machine have been set up in the Mailiao Industrial Park to effectively facilitate the reaction and solidification of sulfur and lime stones in the fuels (petroleum code) and turn them into byproduct lime. Byproduct lime was registered and is a legitimate and qualified product that can be used as engineering-grade, low-strength concrete material, land modifiers, dehydrating agent, or gypsum board material. It has been largely demanded on the US market since 1994, when it started to be used on a large scale for the said purposes.

Restricted by the local use habit, application of

the byproduct lime in Taiwan fell short of expectations and hence there was extensive stock in the premises. The Yunlin County Government determined unilaterally that the byproduct lime was waste on January 28, 2013 because of the high level of stock of the byproduct lime to make it no longer valuable. FPCC disagreed on the determination and filed an administrative lawsuit. Due to ongoing proceedings, the application of the byproduct lime inside and outside the premises was suspended comprehensively, starting on January 28, 2013.

As for subsequent management of the byproduct lime, FPCC explored on multiple fronts suitable applications on the market in Taiwan and in compliance with regulatory requirements through domestic academic institutions, in order to be environmentally friendly and to ensure a sustainable environment. It is used as the raw material for land modifiers and dihydrate gypsum products, auxiliary material to low-strength concrete, for example, to avoid controversial improper use by end business practitioners. The application will be resumed after a verdict is reached on the lawsuit.

### Management Process Flow for the Production and Sale of the Byproduct Lime and Mixed Gypsum Products

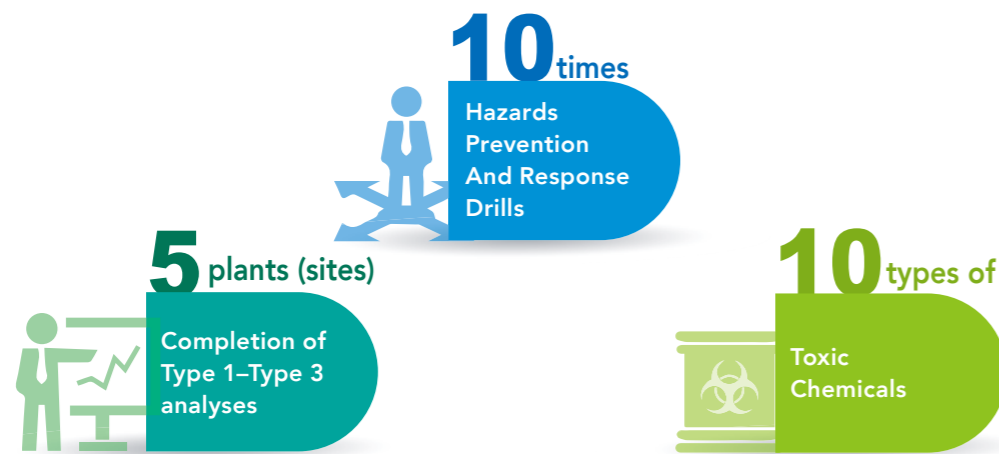




**TOXIN MANAGEMENT GUIDELINES AND EFFICACY**

The premises and facilities for toxic chemicals at individual plants of FPCC follow the requirements of Toxic Chemical Substances Control Act. Related documents issued by the competent authority are

obtained and there are hazardous prevention and response plan drills. Ten related drills were conducted throughout 2014 and autonomous management of toxins was further promoted to ensure that toxic chemicals function normally and minimize occurrence of hazards.



FPCC authorized professional institutions to implement the "Mailiao Premises Toxic Chemical Operation Consequence Analysis Plan". The toxic chemical consequence analysis reports for 10 types of chemicals at five plants (departments) in total have been produced for Class 1 to Class 3 that are being operated in the premises so far and are provided to fire prevention units at each plant and premises for reference when they revise their emergency response and risk management plans.



ses and facilities for toxic chemicals at individual plants of FPCC follow the requirements of Toxic Chemical Substances Control Act. Related documents issued by the competent authority are obtained and there are hazardous prevention and response plan drills. Ten related drills were conducted throughout 2014 and autonomous management of toxins was further promoted to ensure that toxic chemicals function normally and minimize occurrence of hazards.

**EMERGENCY RESPONSE DRILLS AT MAJOR PLANTS**



**Environmental Risk Management:**

FPCC has been monitoring ground water on a quarterly basis since the plants were completed. To ensure that accidents such as leaks and pollutions can be kept under control as soon as possible, FPCC referred to the soil and ground water restoration procedure adopted by the Industrial Development Bureau under the Ministry

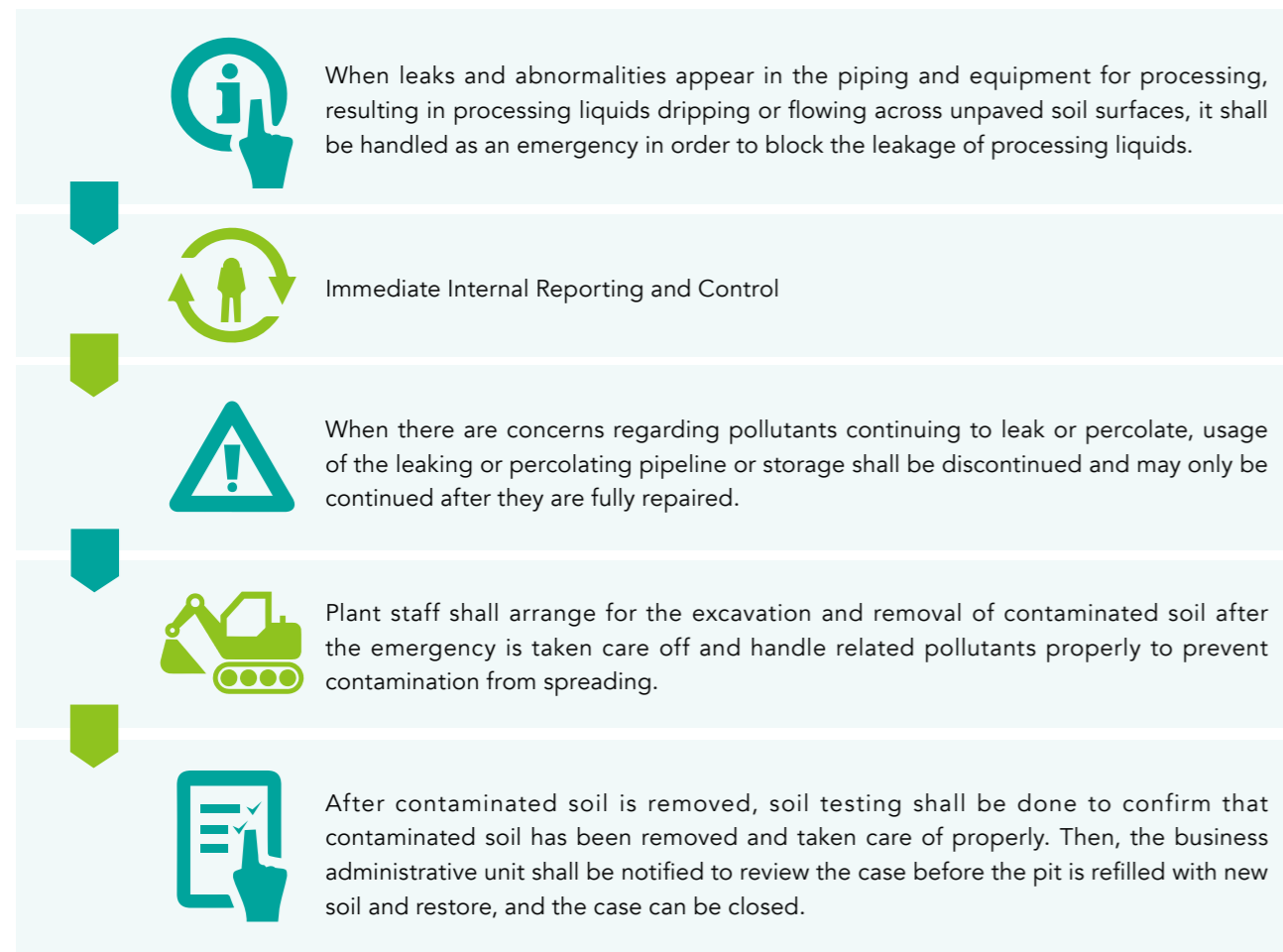
of Economic Affairs and consulted American experts and decided to divide discovered pollution and potential pollution into five levels to facilitate control in accordance with the Soil and Ground Water Pollution Restoration and Detection Management Plan.



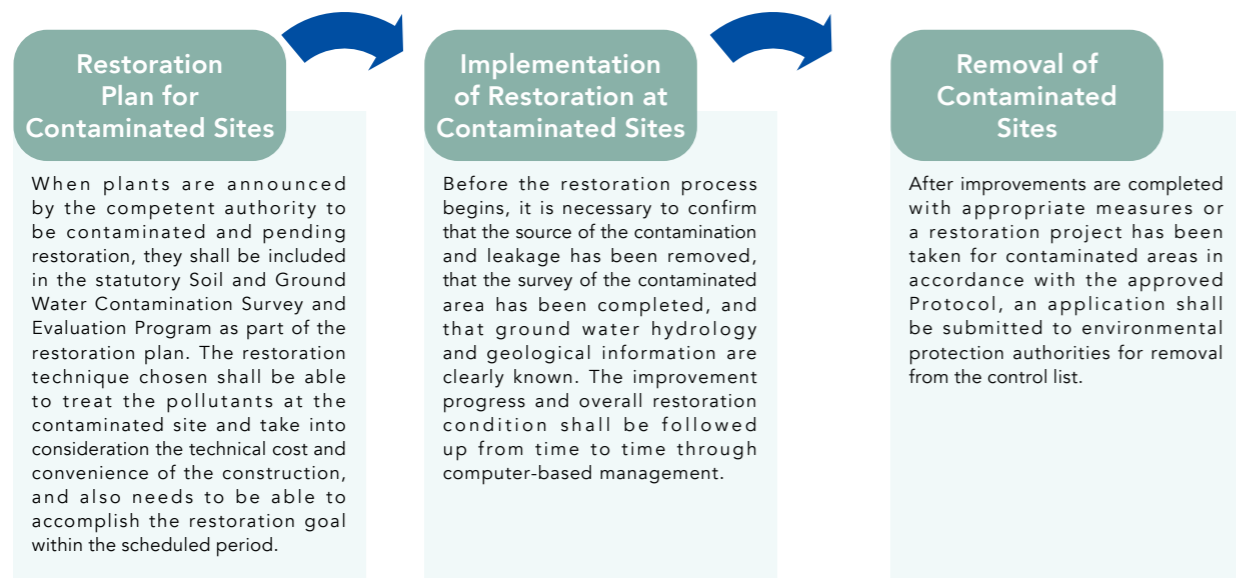
- Level 1**
  - When soil or ground water test results show non-compliance with regulatory control criteria, apart from when it is due to the geological environment, individual plants shall perform secondary tests and measurements for confirmation and then disconnect with and block the contamination source, organize restoration of contaminated sites, and check the trends of changes.
- Level 2**
  - When soil or ground water test results exceed 1/2 of the regulatory control standards or the monitoring standards (when only statutory monitoring standards are available), apart from when it is due to the geological environment, individual plants shall perform secondary tests and measurements for confirmation and then disconnect with and block the contamination source, organize contamination surveys and evaluations, and check the trends of changes.
- Level 3**
  - When soil or ground water test results exceed 1/10 of the regulatory control standards or 1/2 of the statutory monitoring standards (when only statutory monitoring standards are available), apart from when it is due to the geological environment, individual plants shall perform secondary tests and measurements for confirmation and then investigate areas with high potential of contamination, prevent leaks at areas with possible leaks, and check the trends of changes.
- Level 4**
  - When soil or ground water test results exceed 1/20 of the regulatory control standards or 1/3 of the statutory monitoring standards (when only statutory monitoring standards are available), apart from when it is due to the geological environment, individual plants shall investigate areas with high potential of contamination to determine possible leak source and discuss ways to prevent leakage.
- Level 5**
  - When three consecutive soil or ground water tests show increases, apart from when it is due to the geological environment, individual sites shall investigate areas with high potential of contamination to determine possible leak source and discuss ways to prevent leakage.



**Emergency Management Practice of Polluted Soil is as Follows:**



Once it is confirmed through pollution survey that soil or ground water has been polluted to reach the statutory soil and ground water control criteria, the plant/department shall plan response measures for the soil or ground water pollution:

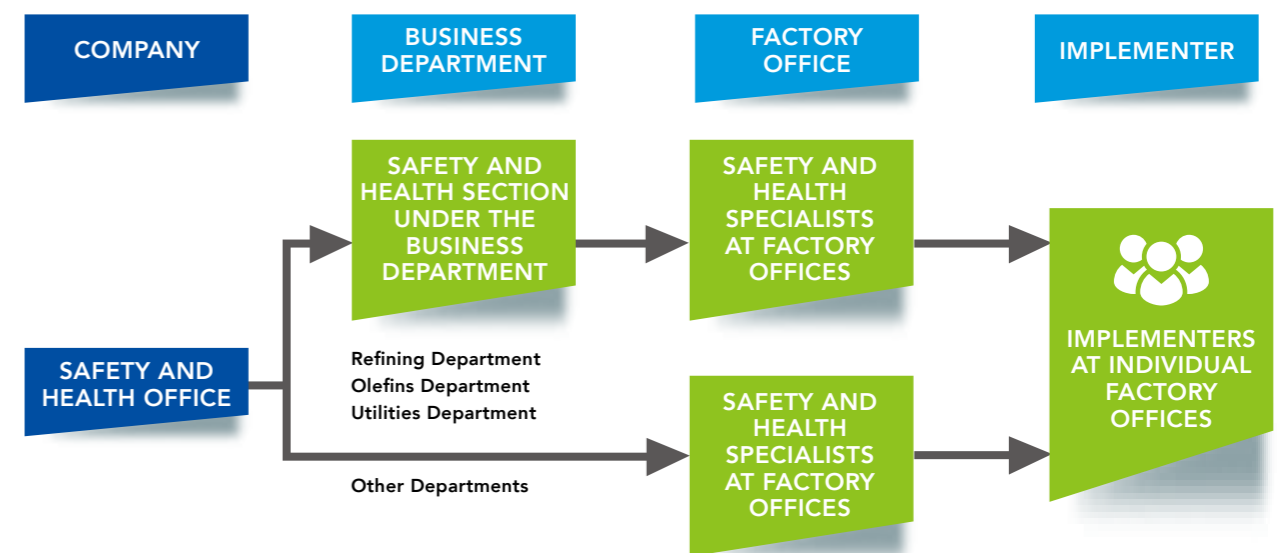


**2.3 Greenhouse Gas Emission and Energy Management**

**Climate Change-related Issues:**

As soon as the United Nations Kyoto Protocol came into effect on February 14, 2005, the Formosa Plastics Group established its own greenhouse gas examination promoting group to carry out tasks such as checking and proving greenhouse gas emissions

in compliance with ISO 14064-1 regulations and authorized British Standards Institution (BSI) Taiwan to perform investigations relating the six types of gases, namely CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>, in order to ensure correct volumes of greenhouse gases emitted.



**Greenhouse Gas Emissions**

Unit: ton CO<sub>2</sub>e

	2010	2011	2012	2013	2014
Scope 1 (Note 1)	29,581,892	27,272,088	28,028,092	30,039,781	29,766,908
Scope 2 (Note 2)	186,627	209,481	221,241	107,444	141,928
Gross Emissions (Scope 1 + Scope 2)	29,768,519	27,481,569	28,249,333	30,147,226	29,908,837

Note 1: Scope 1 means direct emissions of greenhouse gases.

Note 2: Scope 2 means indirect emissions of greenhouse gases.

Note 3: Global warming potential (GWP) is based on the announced version in the second assessment report (SAR) of IPCC in 1995.

The emission factors for electricity and steam are in-house factors that have been validated by investigational institutions.

Environmental monitoring and health risk assessments are performed regularly. In addition, attention is paid to the impacts of emissions on the environment and people's health from time to time. FPCC also introduces

advanced process improvement and pollution control technologies from around the world to minimize greenhouse gas emissions, to ensure maximum benefits in the prevention of climate change.



### Best Achievable Control Technology (BACT)

Low-contamination gases and fuels are used. Oil-gas recycling systems are established. Static dust collectors and bagged dust collectors are set up. Low nitrogen oxide burners and denitrification exhaust facilities as well as desulfurization exhaust facilities (FGD) are created. There is also other advanced equipment available to prevent air pollution, such as high-temperature oxidizers, active carbon absorption systems, and closed-end coal pocket and transmission systems. Along with precise prevention and care and training and operation, individual pieces of equipment can perform optimally in terms of the treatment efficacy to effectively prevent contamination.

### Monitoring (Inspection) Process Management

Continuous Emission Monitoring System (CEMS), factory-wide chimney monitoring and filming, Fourier Transform InfraRed (FTIR) surrounding surveillance, (GasFindIR) gas detection infrared camera, external air quality monitoring, weekly testing of elements of foreign odor joint (solo) inspection equipment, periodic testing of discharge channels, waste gas burning tower monitoring facilities.

### Volume Reduction Measures Management

The waste water site is covered and waste gases are collected and treated. Tail gases that contain sulfur from the manufacturing process are recycled, treated, and reused. Residual fuels from the manufacturing process are supplied to other plants to be reused. The amount of required equipment is reduced. Waste gases from the cleaning of storage tanks are collected and treated. Tail gases from storage tank nitrogen sealing and waste gas burning towers are all recycled and reused.

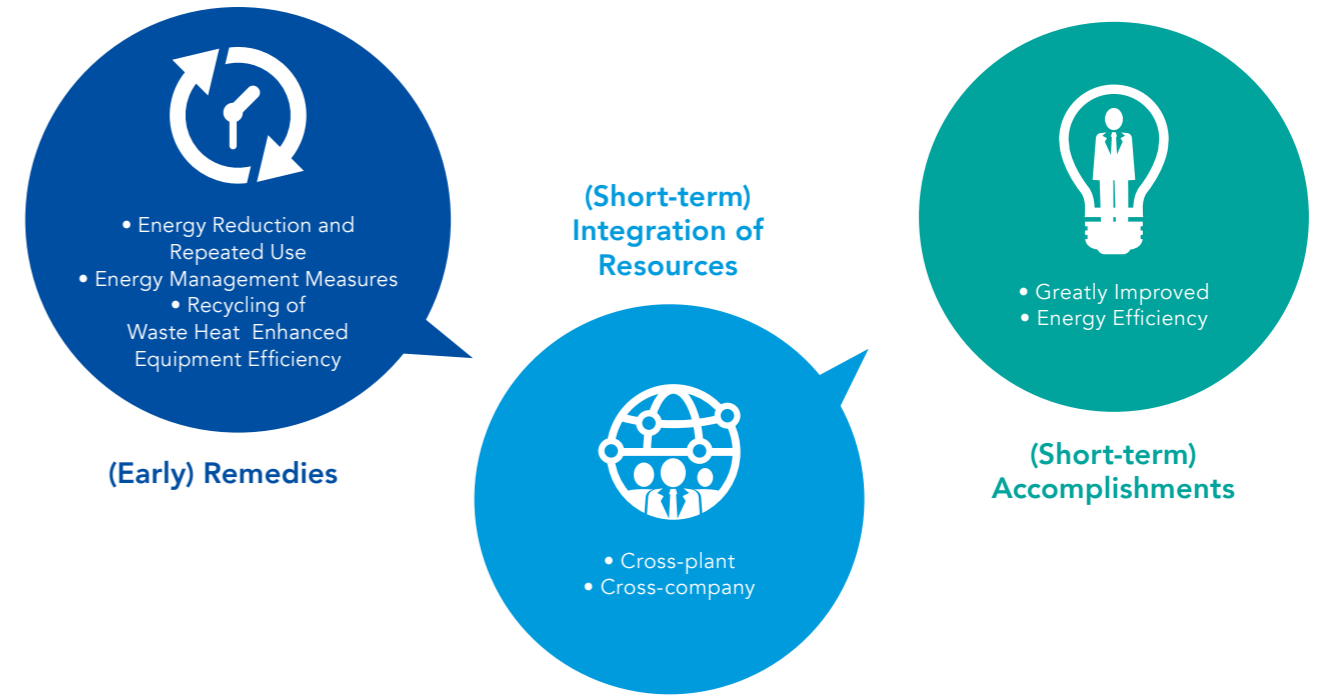
### Pollution Emission Control

Air pollutant emissions cap, fixed pollutant operation certificate control, environmental evaluation-based commitment to emission control.

Greenhouse Gas Emission Analysis Table

	2010 (A)	2011	2012	2013	2014 (B)	(A-B)/A
Greenhouse gas emissions (CO2e thousand tons)	29,769	27,482	28,249	30,147	29,909	—
Business Revenue (NTD million)	748,898	800,362	894,378	931,334	913,085	—
CO2e thousand tons/NTD million	0.040	0.034	0.032	0.032	0.033	17.50%

Further analysis of the greenhouse emissions CO2e per unit of business revenue, the emissions dropped by up to 17.5% from 0.04 thousand tons/NTD million in 2010 to 0.03 thousand tons/NTD million in 2014.

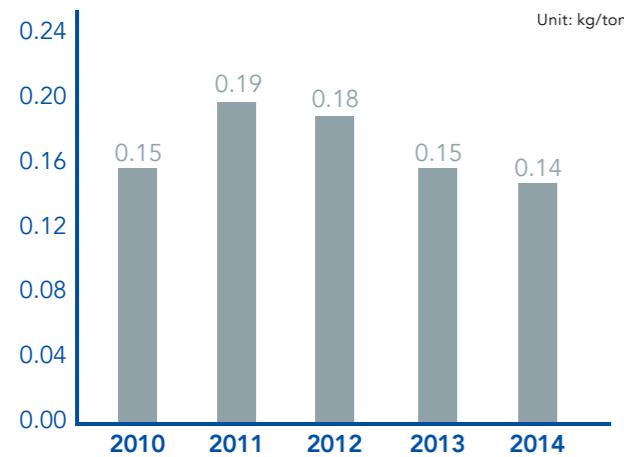


**Energy Management:**

Improvement measures in the early days were that individual plants reduced the volume of energy used for their processes, reused energy, recycled waste heat,

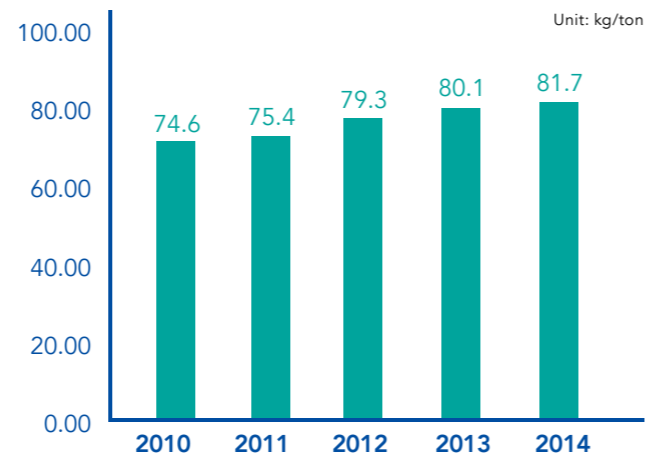
enhanced their equipment efficiency, and adopted energy management measures. Because of the lack of cross-plant integration, however, the maximum energy use efficiency could not be fulfilled.

### Historical Consumption of Steam Per Unit of Product at FPCC



Note: Source: The Formosa Plastics Group Business Intelligence system (BI) database

### Historical Consumption of Electricity Per Unit of Product at FPCC



Note: Source: The Formosa Plastics Group Business Intelligence system (BI) database

**661 CASES**  
TOTAL IMPROVEMENT CASES

**3.09 BILLION**  
TOTAL INVESTMENT

A total of 661 cases were improved throughout 2014, with the cumulative investment value reaching NTD3.09 billion. The volume of gases used per hour throughout the Mailiao Park was 515.7 tons on average, which is equivalent to 0.14 ton/ton per unit. The volume of electricity consumed per hour was 306,386kWh on average, which is equivalent to 81.7kWh/ton per unit. All were controlled within a reasonable range.

### Historical Energy-Saving Performance of FPCC

Item \ Year	1999~2013	2014	Accumulated Volume (1999~2014)	Ongoing	Total
Number of Cases Improved	572	89	661	210	871
Steam saved (ton/hour)	657.5	43.4	700.9	61.8	762.8
Electricity saved (Thousand kWh/hour)	66.8	15.4	82.2	26.7	108.9
Fuels saved (ton/hour)	74.0	4.3	78.4	8.5	86.8
CO <sub>2</sub> reduced (Ten thousand tons/year)	350.8	31.3	382.0	45.0	427.0
Investment amount (NTD 100 million)	22.9	8.0	30.9	19.2	50.1

Note: Source: The Formosa Plastics Group computer-based database for environmental protection improvements

## 2.4 Creating a Green Workplace

### Enhanced Awareness About Environmental Protection:

We proactively communicate with colleagues to help them change their habits in daily life. In light of the huge number of employees within the Group, as long as everyone has the said environmental protection awareness, they can help quite a bit protect the environment and reduce consumption of resources.

**27,280 TREES**  
VOLUME OF PAPER RECYCLED EACH MONTH

**100%**  
RECYCLED PRINTER CONSUMABLES

### TOXIN MANAGEMENT GUIDELINES AND EFFICACY ENERGY CONSERVATION IN THE OFFICE

In terms of the accomplishments in promoting environmentally-friendly offices, paper recycled per month reached 1,364 tons in 2014 (which is equivalent to 27,280 trees that are eight meters tall and have a diameter of 16 cm), exceeding the goal of 1,200 tons/month. Recycling of consumables for printers was also fulfilled 100%.

FPCC complies with the Group's paperless offices policy and has turned the signing process for multiple papers into electronic forms and tables. It is working gradually toward complete electronic operations. In addition, in order to realize sustainability of resources, there is also the internal "employee second-hand supplies exchange platform" website where employees can post their idle supplies at hand and trade off with other employees who need them; this gives second-hand items a new life.

Type of Improvement	Item Being Improved	Quantity Involved (Number of Lights)	Electricity Saved (Thousand kWh/year)	CO <sub>2</sub> Reduced (ton/year)
Improvement of Indoor Lights	Replaced by T5 and LED lamps	405	15.4	112.3
Improvement of Outdoor Lights	Replaced by high-intensity discharge lamps, Metal Halide lamps and LED lamps	36	1.9	13.8
Improvement of Process Lights	Replaced by high-intensity discharge lamps, Metal Halide lamps and LED lamps	50	2.6	18.3
Total		491	19.9	144.4

### ENERGY-SAVING EFFICIENCY WITH COMPACT LIGHTING

Relevant statistics show that around 20% of the overall electricity used in offices is for illumination. In light of the fact that traditional lights that are generally

used at present are of inferior illumination efficiency, FPCC is evaluating their replacement to answer to the government's policy on the one hand and to protect employees' eyes and keep them healthy with better lighting sources on the other hand.

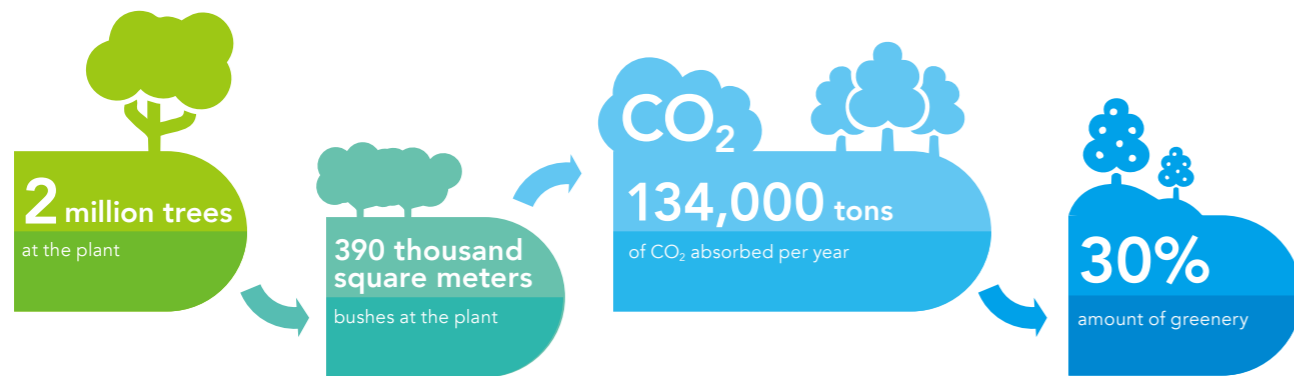




**Mailiao Park\_Greening of Workplace:**

We endeavor to balance industrial development and environmental protection. Up to 30% of the reclaimed land, that is more than 2,600 hectares in area, is filled with greenery, accounting for nearly one-third of the total area, where 1.41 million trees are growing.

There are currently nearly two million trees and 390 thousand square meters of bushes in Mailiao Park; some of them were planted as soon as the factory was first built. These green plants help absorb around 134 thousand tons of CO<sub>2</sub> each year, which is equivalent to the volume of carbon absorbed by 350 thousand Daan Forest Parks.



**MAILIAO LANDSCAPE PARK**

The landscape park in Mailiao Complex is located behind the administration building for the industrial park. The park occupies an area of around seven hectares. Throughout 2014, a total of 275 groups (including

domestic and international manufacturers, academic institutions, societal groups, government agencies, and business counterparts), consisting of up to 8,111 people, visited the park. Academic institutions and societal organizations accounted for 23% and 48%, respectively.



Visits by children under the guidance of the chief of Mailiao Township.



Picture taken in front of the administration building



Picture taken in front of the fountain



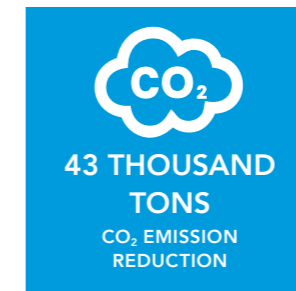
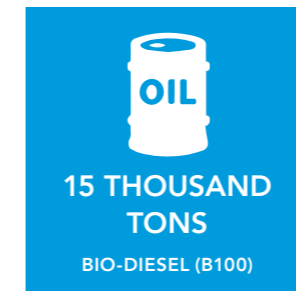
Walking in the park

**2.5 Green Production and Environmental Accounting**

**Green Production:**

Since July 2007, in response to the Green Township Program as part of the national energy policy, 1% biomass diesel (B1) has been supplied to Taoyuan City and Chiayi County/City, and supplies throughout Taiwan began in July 2008. The additives to domestic biomass diesel increased to 2% starting in June 2010. Around 15 thousand tons of biomass diesel (B100) is consumed each year, which can help lower CO<sub>2</sub> emissions by up to 43 thousand tons.

Some CPC gas stations and tour bus operators indicated that B2 diesel gave rise to certain issues, however. Therefore, the Ministry of Economic Affairs announced the modification to the "Implementation Timeline and Method for the Ratio of Ester Mixed in Diesel Sold by Oil Refining Businesses and Importers to Domestic Automobiles" on May 5, 2014. In response to the government's policy, FPCC discontinued B2 diesel in June 2014, and has been supplying automobile diesel without ester only.



**GREEN ENERGY PRACTICE**

FPCC is devoted to the development and realization of clean energy. With joint efforts from enterprises in Mailiao Park, NTD 30 million has been invested so far in four 660 KW wind power generators to generate around seven million kWh per year, to meet the demand on the premises; the carbon reduced is equivalent to that absorbed by 15 Daan Forest Parks.

Segment	Length	Type of oil product
Mailiao Plant to Changhua Coast Station	48km	Lead free gasoline Diesel Aviation fuels
Changhua Coastal Station to Taoyuan Station	146km	
Taoyuan Station to Taipei Station	35km	
<b>Total</b>	<b>229km</b>	
Branch to Taoyuan International Airport	5km	Aviation fuels

**GREEN TRANSPORTATION**

In terms of transportation, FPCC mainly adopts long-distance pipelines instead of oil tankers when a long distance is involved, to effectively fulfill the energy-saving and carbon reduction goals. There are a total of four 12" pipelines for long-distance storage and transportation. These pipelines are buried along the west coast highway from the Mailiao plant to the Taipei storage and shipping station at Taipei Harbor in Bali. They are 229 km long in total. The oil products being transported comprise lead free gasoline, aviation fuels, and diesel. The total length within Yunlin County is around 10.2 km. Transportation of oil began in June 2007. These pipelines travel through the most remote and least populated areas, and can support oil supplies for domestic use and related industries in the northern part of Taiwan while at the same time minimizing the

carbon emissions involved in transportation through oil tankers.

**LONG-DISTANCE PIPELINE SAFETY MANAGEMENT**

To ensure that transportation through long-distance pipelines outside the premises is safe, we inspect the pipelines on a daily basis. In addition, we perform cathodic protection potential tests on a quarterly basis to effectively protect the pipelines from corrosion-resultant leaks. We also authorize professional service providers to do pipeline current mapping (PCM) or close interval potential survey (CIPS) for the testing of the integrity of the enveloping layer of underground pipelines. We have also used intelligent PIG systems to measure the thickness of pipelines. Meanwhile, we have set up surveillance systems at important facilities in addition to transportation and storage monitoring systems to control the transportation operation.

Moreover, we hold periodic emergency response drills to familiarize our staff with how to use devices and consolidate joint protection mechanism among related units to enhance the overall response and management capabilities in case of a crisis and to protect public security.



Task assignment upon activation of the emergency response mechanism    Control over hazardous areas    Fire engines enter the premises to help curb disasters



The fire prevention squad sets up the water line to curb disasters    Internal prevention of contamination and monitoring    External containment of oil polluted rivers



Peripheral environmental safety testing and control    Repairs of external damaged pipelines    Recycling of contaminated greasy water



First aid squad transports the injured to seek medical attention    Abnormality is cleared and the team is summoned for a head count    Comments and reflections after the drill is over

The 2014 FPCC Oil Mobilization Preparation Drills (2014/08/20)

**Environmental Accounting:**

FPCC introduced in 2009 the environmental cost accounting system and started to implement it in 2010. Environmental benefits information is included

directly in the environmental accounting system to fully demonstrate FPCC's commitment and capability in environmental protection and management.



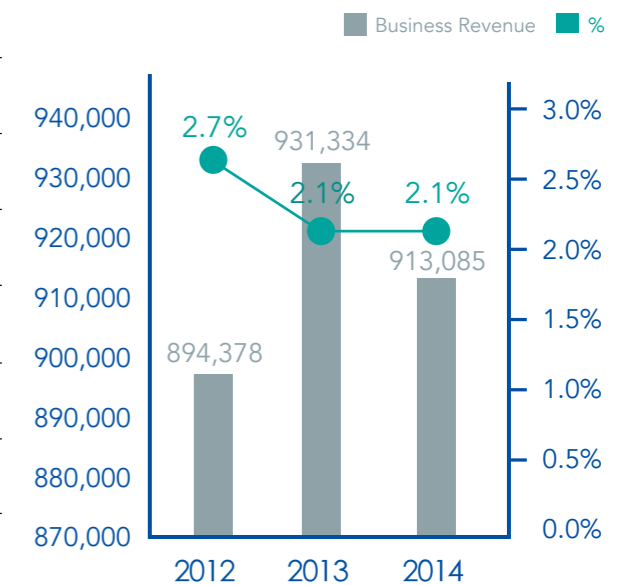
**Environmental Cost for the Past Three Years**

Unit: NTD million

Item	2012	2013	2014
Business Overhead	22,513	17,968	17,208
Related costs from the downstream and upstream of suppliers and customers	18	15	15
Activity management cost	353	349	302
R&D cost	28	22	6
Social events cost	114	3	2
Losses and compensation	7	3	1
Other expenses such as processing fees, taxes, and energy tax	989	1,326	1,609
<b>Total</b>	<b>24,022</b>	<b>19,686</b>	<b>19,143</b>

Note: Business overhead in the table includes costs derived from green purchases, recycling and reproduction of manufactured or sold products, and product services as part of the environmental protection effort.

**Ratio of Environmental Cost in Business Revenue**



The environmental accounting system ensures specific documentation of financial information concerning environmental activities such as the investment, maintenance of environmental equipment, research and development, and processing fees so that FPCC

can make decisions and perform analyses from the perspective of environmental protection. The total environmental cost throughout 2014 came to NTD19,143 million, accounting for around 2.1% of the business revenue of NTD 913,085 million.





# 03

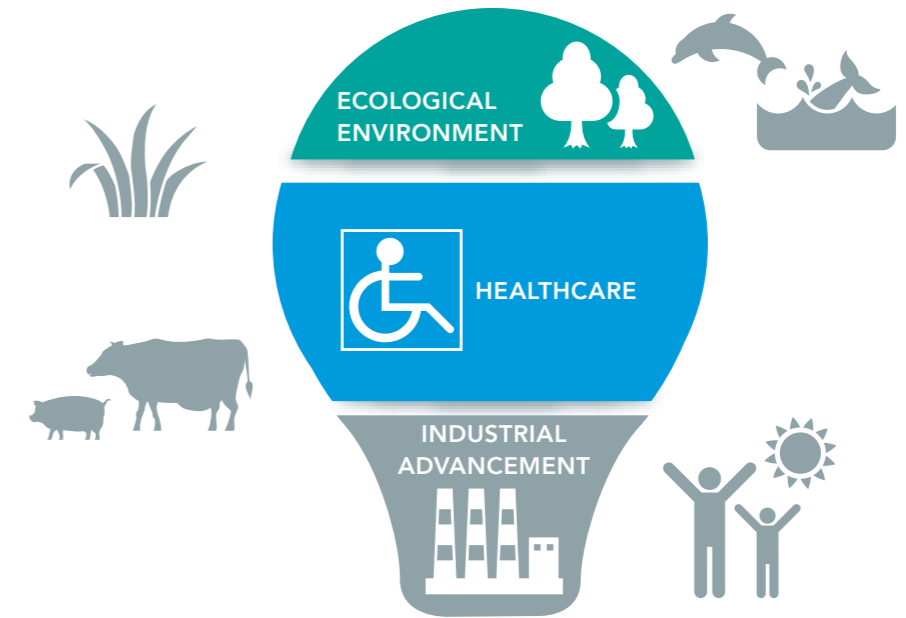
SHARING OF FRATERNITY IN SOCIETY  
DIGITAL HEALTH MANAGEMENT,  
INCLUSIVE ADVANCED CARE



## 3.1 Commitment to Society and Practice

FPCC answers to "Human-and Eco-Friendly Program" introduced by the Yunlin County Government in 2010 by proactively enhancing local developments and realizing the operational policy of sustainability

and shared prosperity with the local community in three aspects, namely the ecological environment, healthcare, and industrial advancement.



Human-and Eco-Friendly Program

### Exclusive Research Unit in Mailiao Complex:

For the marine ecology and air quality issues that the residents care about the most, FPCC officially established related research and consultation committees in 2010 and 2011, respectively, to engage in positive communication with the residents in the most direct way and as part of its implementation of the initial prospect to share love with local communities.



### MARINE ECOLOGY IMPACTS EVALUATION AND CONSULTATION COMMITTEE

With making individual operations on the premises a role model of best technology and best practice for

industrial counterparts as its goal, FPCC planned and established the Evaluation and Consultation Committee on Impacts of Water Discharge from Mailiao Park of Formosa Plastics Group on Marine Ecology in 2010.

CONVENER		COMMITTEE MEMBERS			
Meeting chair and resolution	To be filled by Senior Vice General Manager of Main Management Office	Exploring Integrity of Marine-related Protocols at Present	Providing improvement solutions according to the characteristics of effluent	Communication and discussion are done according to the similarities and differences in domestic and international environmental protection laws and regulations, pollution prevention technologies, and operation management that individuals specialize in.	Organizing symposiums on environmental protection for the industry, government, and academia



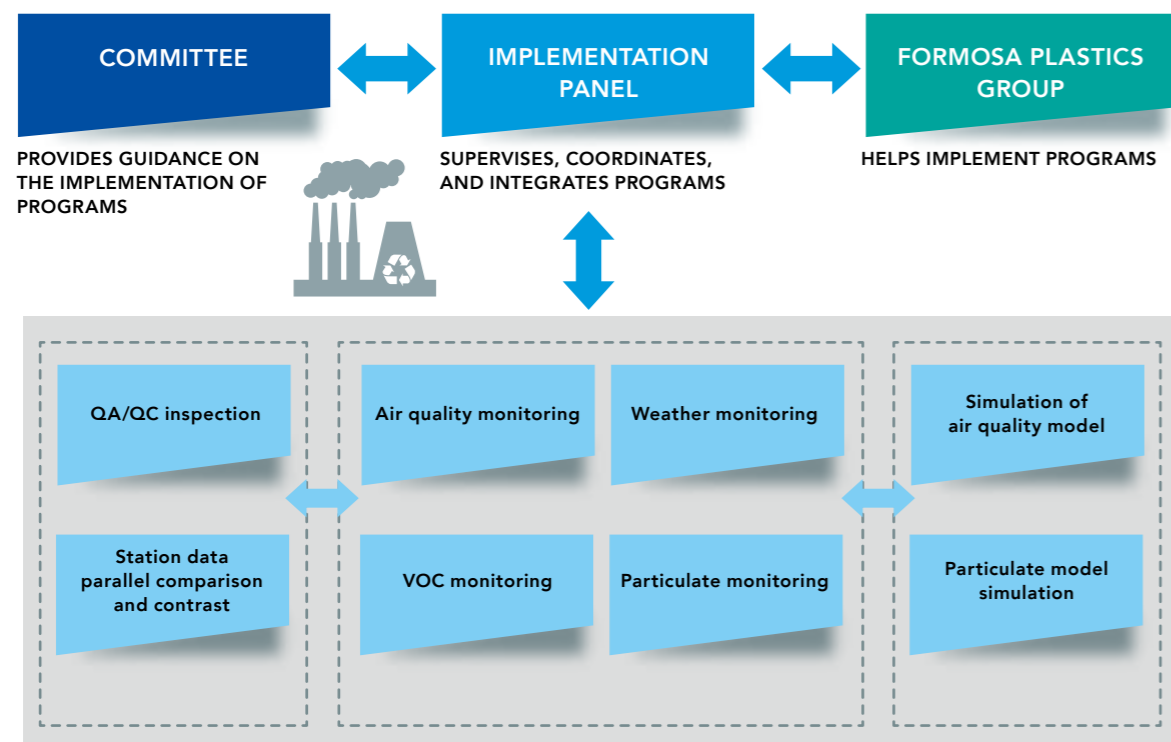
The Committee meets once every six months to provide accomplishments of related programs such as horizontal integration of marine water quality and ecology, economic activities of the fishing industry, and biological toxicity and help clarify the impacts of Mailiao Park on the surrounding waters by effectively applying scientific arguments. In addition, we continue to authorize objective and credible professional institutions to perform related surveys that help clarify the impacts of Mailiao Park on the surrounding environment.

Based on the survey results as of 2014, no noticeable impacts on the marine water quality, ecology, aquaculture period, fishery resources, and beach nourishment and slinging had been found. The surveys

and analyses will continue in order to ensure sustainability and stability of the quality of local residents' life and environment and the marine ecological environment.

**AIR QUALITY IMPACTS EVALUATION AND CONSULTATION COMMITTEE**

FPCC officially established the Evaluation and Consultation Committee for Impacts on Air Quality by Mailiao Park in September 2011, to perform comprehensive studies and analyses of air pollution-related issues on the one hand and proactively engage in positive communication with local residents on the other hand, thus avoiding social disputes as a result of inappropriate interpretation based on personal ideologies.



Our practice of analyzing monitored data regarding air quality has been recognized by world-famous scholars. Our research has found that air quality in the townships around the park in fact is better than all the other counties and cities in the western part of Taiwan, indicating that the impacts of the park on the local air quality are limited. Air pollutants from the northern part and the Yangtze River Delta impact 30% to 50% of the air quality when they are brought by the monsoon to Taiwan. This is also an important reason for the worsened air quality in

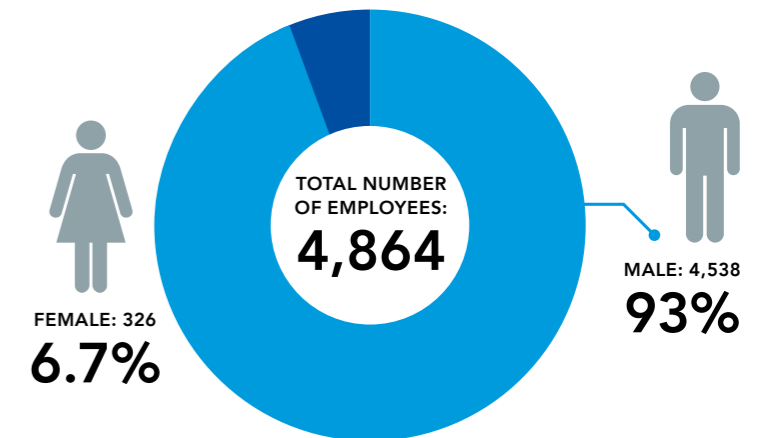
Taiwan over the past few years. Our research findings and analytical data were released in internationally famous journals, such as Atmospheric Environment, through six papers that were submitted for publication between 2014 and 2015. Related academic research will help serve as important reference for the Environmental Protection Administration when the latter establishes technical specifications on how to monitor air quality in industrial parks and analyze the data.

**3.2 Employee Care and Management**

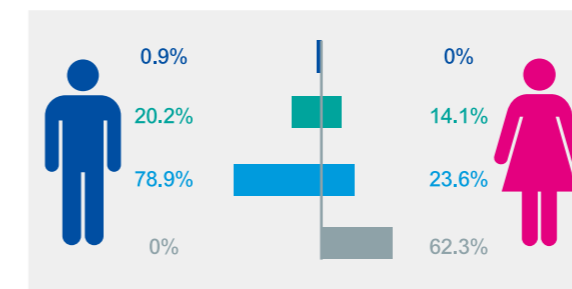
**Human Resources Structure:**

In light of the fact that human capital is the most important asset for an enterprise, FPCC has created a corporate environment featuring people-oriented management while at the same time promoting organizational reform and staff growth, offering competitive salaries and benefits, recruiting talent with different specializations who share the same beliefs as us, creating diversified communication channels, welcoming suggestions, and protecting related rights.

**Mean Seniority: 10.5 Years**

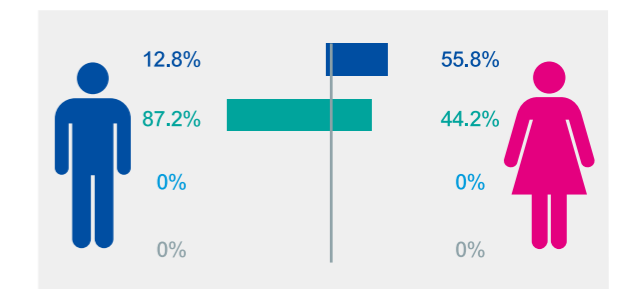


**By the Level and Responsibility**



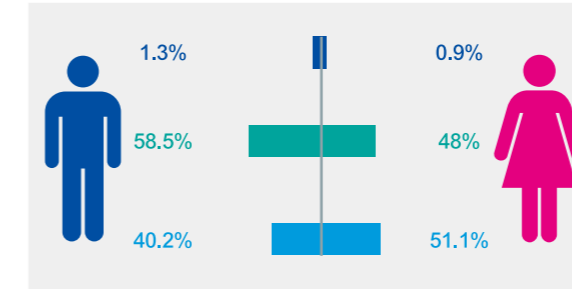
- 41 people at the management level and holding a position of supervisor
- 964 people holding a position of Class 1, 2 supervisor
- 3,656 people as entry-level supervisor and rank and file employees
- 203 assistants

**By the Work Location**



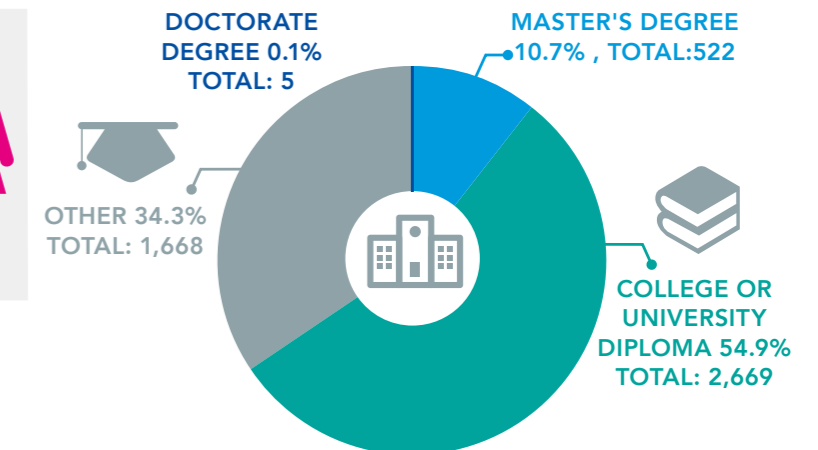
- 764 people in the northern Taiwan
- 0 people in the southern Taiwan
- 0 people in the eastern Taiwan

**By Seniority at Work**



- 62 people having worked for FPCC for 20-30 years
- 2,809 for 11-20 years
- 1,993 for ten years or shorter

**By Education**



In 2014, the total number of full-time employees at FPCC was 4,864 at an age of 39 on average; the men-women ratio was around 14: 1 and people aged 30 to 39 accounted for a majority. The ratio of employees holding a university or college diploma or a higher-level diploma

was around 65%, and working in the central part of Taiwan accounted for around 84%. The mean number of years having worked for FPCC among the employees was 10.5, indicating that employees trust FPCC and share the same belief to grow together with FPCC.

**CONFIGURATION OF HUMAN RESOURCES AND CONTRACTORS**

Official staff accounted for 95% in 2014 and non-official one (e.g. consultants, fixed-term contract employees,

work-study students, foreign laborers) accounted for 5%. The ratio of non-official staff has been dropping for the past three years and the ratio of official staff has been kept at 93% or higher and 100% of them are native people.

Unit: Person

Ratios of Official and Non-Official Staff Over the Past Five Years					
Type of Staff	2010	2011	2012	2013	2014
Consultant	1	3	8	8	11
Fixed-Term Contract Employees	129	269	334	235	198
Work-Study Students	42	22	27	28	24
Foreign Laborers	0	0	0	0	0
Non-Official Staff Subtotal A	172	294	369	271	233
Official Staff B	3,966	4,463	4,885	5,029	4,864
Non-Official + Official Total C	4,138	4,757	5,254	5,300	5,097
Ratio Of Non-Official Employees (A/C)	4%	6%	7%	5%	5%

FPCC's principle is to prioritize local residents when recruiting entry-level employees in order to give back to the locality. We also proactively develop local residents to become outstanding management staff. For the past five years,

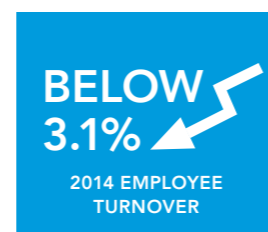
we have been able to keep our hires of local residents to serve entry-level supervisor or higher-level positions at 40% or higher, indicating our concern about the development in the locality and has taken substantial action accordingly.



Unit: Person

Ratio of Local Residents Hired Over the Past Five Years to Serve As Entry-level Supervisors or for Higher Positions					
Year	2010	2011	2012	2013	2014
Number of People	498	541	572	606	619
Ratio of Local Residents (%)	40.0%	40.4%	40.2%	40.5%	42.3%

In 2014, 42% of the employees who left FPCC were between the ages of 30 and 39 and those in the central part of Taiwan accounted for 65%. The employee resignation rate for the past five years has been kept below 3.1%, which is significantly lower when compared to our counterparts in the petrochemical industry.



Unit: %

Employee Turnover Rate Over the Past Five Years						
Industry	Year	2010	2011	2012	2013	2014
Petroleum and Coal Product Manufacturing Sector		3.8	7.2	8.0	10.1	8.5
Formosa Petrochemical Corporation	%	1.6	2.0	2.0	2.1	3.1
	Male	54	84	94	98	145
	Female	8	5	3	5	5

Note: Source: Directorate-General of Budget, Accounting and Statistics (time series data inquiry - exit rate)

FPCC has been fair, impartial, and open with its recruiting operation and has never hired child labor to do any work. We maximize our recruitment sources through multiple channels and hire according to the performance of each examinee. Our considerations are never based on factors such as age, ethnicity, gender, sexual orientation, religion, political party, nationality,

marital status, appearance, physical or mental disorders, or aboriginal origin.

A total of 151 people were newly hired in 2014. Among them, 122 were men, accounting for 2.5% of all staff; and 29 were women, accounting for 0.6% of all staff. Most, 74%, of the new hires aged 29 or younger and 59% of them work in the central part of Taiwan.

Distribution of New Hires by Age and Region							
Category	Sub-Committee	Male	Female	Category	Sub-Committee	Male	Female
Age	Under 29	87	24	Region	Northern Taiwan	34	28
	30-39 years	33	5		Central Taiwan	88	1
	40-49 years	2	-				

There are specific regulations in place for the promotion, rating, training, and reward or punishment systems for all employees so that everyone is treated fairly. As such, no discriminations or forced labor occurred in 2014. The

ratio of people with physical or mental disorders hired over the past five years meets the requirement of the Physically and Mentally Disabled Citizens Protection Act of no less than 1% of the total number of employees.

**UNPAID PARENTAL LEAVE**

We cooperate in the government policy and adhere to the principle of taking care of our colleagues by implementing the parental leave solution. Regardless of their gender, employees may apply for retention of position and suspension of salary to reflect the actual demand for a parental leave. Both the reinstatement rate and retention rate reached 100% in 2014.

In order to realize the idea of a happy workplace, FPCC set up the nursery room on the premises and created friendly offices to meet the needs of colleagues who need to breastfeed or collect their breast milk during business hours and offers child care leave; colleagues who meet the criteria may adjust their work hours to reflect their needs.

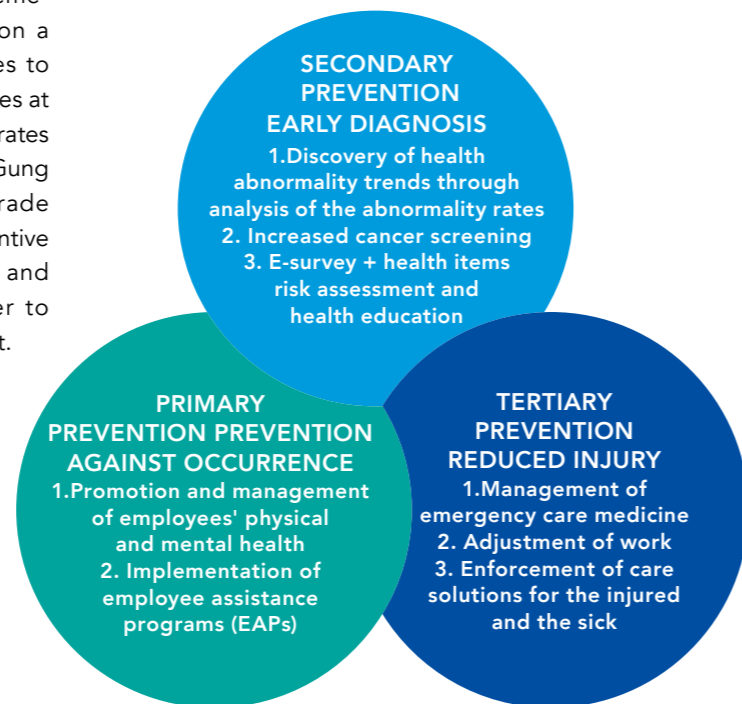
Status	2012			2013			2014		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
The Actual Number of Employees Who Applied for	1	2	3	1	3	4	0	1	1
Number of Employees Expected to Reinstatement Their Employment Status for the Year (A)	1	1	2	0	3	3	0	3	3
Number of Employees Applying for Reinstatement of Their Employment Status for the Year (B)	0	0	0	0	3	3	0	3	3
Reinstatement Rate % (B/A)	0%	0%	0%	0%	100%	100%	0%	100%	100%
Retention Rate	0%	0%	0%	0%	100%	100%	0%	100%	100%

Note: By "retention rate", it means the ratio of the employees who reinstated their employment status stayed with FPCC for a year or longer after that.

**COLLEAGUE HEALTH CARE**

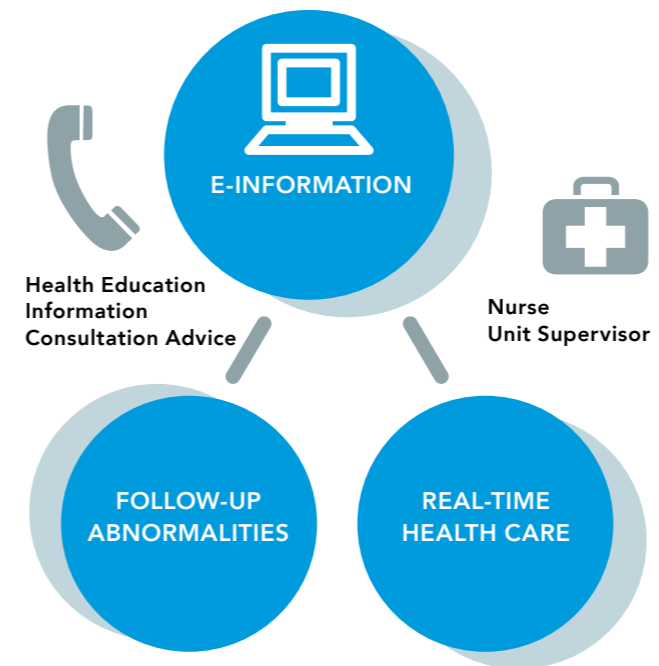
For health management, we divide it into three levels, namely primary prevention, secondary prevention, and tertiary prevention and analyze the abnormality rate and trend in a scientific way. We plan and organize theme-based health promotion events and workshops on a monthly basis, have doctors come to our premises to provide consultations, offer convenient medical services at the medical affairs office. In addition, we further integrates corporate resources; we work together with Chang Gung Memorial Hospital to facilitate medical center-grade medical care and health care services, promote preventive medicine and disease prevention and treatment, and reinforce employees' health awareness in order to accomplish the goal of a healthy life and advancement.

**FPCC Employee Health Management**



FPCC checks its personnel's health on a yearly basis and offers employees at all ages health examination opportunities that are better than those required by law on a yearly basis in order to care for its people, in light of the disease trends among Taiwanese people, and out of the belief that prevention is more important than treatment. FPCC also adds items such as α-fetoprotein, carcino-embryonic antigen, and oral cancer to screen for metabolism syndrome and cancer, strengthen health management as part of primary prevention for its people, and reimburse its people and their family members on expenses of medical care they receive at Chang Gung Memorial Hospital.

Age	Health Examination Frequency
< 30 years old	Once every five years
30-45 years	Once every three years
45-65	Once every two years
≥65	Once every year



**ABNORMALITY FOLLOW-UP**

FPCC looks at the health of its colleagues as the top priority. Nurses follow up on individuals found with abnormalities according to each colleagues' health examination report and provide them with health education information and consultations. In addition, health examination service providers and office automatic system e design for health care reminders and birth injury or sick leave care reminders are combined. Reminders are sent to supervisors of the colleagues on results of consultations and care so that the supervisors know how the colleagues are doing and can provide them with care in time accordingly.

**BALANCE BETWEEN WORK AND LIFE**

We have set up the activity center where employees can go to play basketball, badminton, volleyball, or work out. A total of 52 rounds of cultural and entertaining events were organized by the Mailiao Park Administration in 2014. These events included movies, concerts, chess, jogging, and various types of sports. More than 3,000 employees of FPCC participated in the events. To respect our colleagues and their right of association, there are 28 societies under the Employee Welfare Committee, with more than 800 members. These societies hold events on a weekly basis or every other week to offer diversified options that help balance work and life for colleagues.







**Family Club Events—**  
Care About Orphanage  
in Xinyi Yulin

**Soccer Club Events—**  
Routine Contests

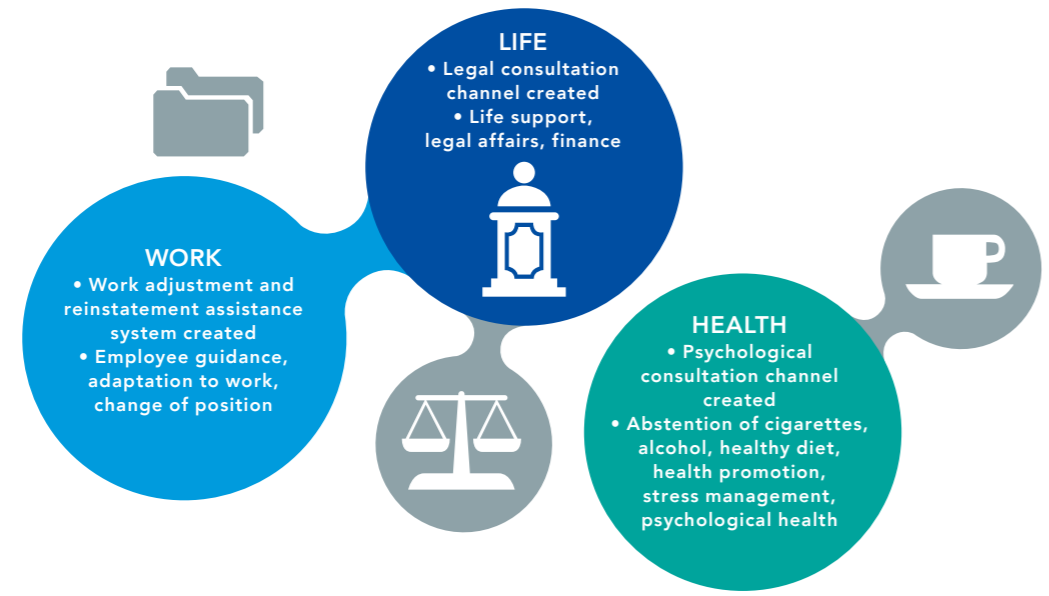
**Swimming  
Club Events—**  
Magistrate Cup  
Swimming

**Temple Cultural  
Club Events—**Matsu  
Goddess Procession  
Carnival at Sixth  
Naphtha Cracker

**EMPLOYEE ASSISTANCE PROGRAM**

FPCC started to promote the Employee Assistance Program in June 2014; the help platform was created to facilitate the reflection of, communication on, prevention and confirmation of the performance of related personal physical and mental issues that will affect the performance of colleagues at work.

Meanwhile, operations for the corporate employee assistance programs were gradually completed through promotion, after members for each layer of the organization were finalized, training was provided, the peripheral organization was formed, and the website and related management guidelines were implemented.



We also release health education information and organize health workshops from time to time, configure the medical affairs room and healthcare professionals to provide medical care services and consultations and arrange weight management, smoking cessation clinic, and preventive health care, among other health promotion campaigns from time to time and we jointly organize the "corporate pressure relief day" campaign with John Tung Foundation to help our colleagues reach a balance among the body,

the mind, and the soul. In order to understand the extent of support felt by its employees from the company, their supervisors, their family members, and colleagues as well as the extent of happiness felt by its employees with their life, FPCC started to hold the employee satisfaction survey in 2014 to serve as reference for the promotion of the Employee Assistance Program so that projects implemented by the company can better meet the actual demand of its employees.



**AED**  
**CPR+AED**  
First Aid Training

**Dietary Guidance**  
from Dietitians

**Betel Nut Quitting**  
Workshop and  
Oral Cavity  
Mucous Membrane  
Screening

**Healthy  
Weight-loss  
Education**

### 3.3 Communication Channels, Compensation, and Benefits

#### Employer-employee Communication and Negotiation Channels:

Adhering to the operation principle of integrity and transparency, FPCC has been able to keep its employees informed in a timely manner when there are major changes to its operation. Employees can provide FPCC with suggestions through the Employee Welfare Committee, employer-employee meetings, labor unions, Safety and Health Committee or meetings regularly held; they may also reflect issues through the complaint system.

There were no incidents of FPCC violating the human rights of local residents in 2014 and there were no cases of human right issues filed and registered through the internal official complaint mechanism, either. In addition, all employees are 100% protected by any agreement reached in employer-employee meetings or with labor unions on salary increase or year-end bonus, for example. Details are provided below.

Committee \ Item	Welfare Committee		Employee-Employer Meeting		Labor Union	Labor Safety and Health Committee	
	Management	Employee	Management	Employee	Member	Management	Employee
Tenets	To promote employee benefits		To strengthen employee-employer relations		To protect rights of employees	As per the requirements of the occupational safety and health management guidelines	
Member							
Number	4	9	9	9	3,293	26	13
Ratio	30.8%	69.2%	50%	50%	-	66.7%	33.3%
Number of Meetings Held in 2014	1/February		1/February		1/March	1/March	
Proposals in 2014	148		50		27	4	
Completed	144		48		23	3	
Ongoing	4		2		4	1	
Completion Rate	97%		96%		85%	75%	

#### WELFARE COMMITTEE

Colleagues can reflect their opinions about related benefits by submitting proposals to the Employee Welfare Committee. We also have physical opinion boxes set up at places frequented by our colleagues, on line, and we have the 799 hot line for colleagues to reflect issues they meet at work or in life and we have specialists to register and handle cases and get back to related colleagues; the communication channel with colleagues is smooth and clear.

#### EMPLOYEE-EMPLOYER MEETING

For employer-employee meetings at FPCC, they are attended by nine people representing the employer and another nine people representing the employees.

The employer representatives consist of supervisors from related departments (five supervisors from the management and four Class 1 supervisors). They sufficiently communicate opinions with employees' representatives, who are chosen by the labor union.

The meetings are held regularly once every two months. Issues discussed in employee-employer meetings throughout 2014 had to do with the planning of employee benefits, preferred changes to labor conditions, promotion of employee-employer collaboration, and enhancement of work efficiency, 50 in total and all of them were effectively addressed.

#### LABOR UNION

The FPCC labor union holds one directors/supervisors meeting every three months. A total of 27 proposals were introduced in 2014. Among them were six issues relating to health (e.g. Yunlin Chang Gung Memorial Hospital was asked to establish a burn center, employees not scheduled for a health examination can pay out of their own pocket, addition of breast milk collection rooms in the welfare building, etc.) and safety (e.g. uneven roads, road lights that do not turn on, crackdown on speeding and driving in the wrong direction on the premises), all were responded to and addressed.

#### LABOR SAFETY AND HEALTH COMMITTEE

FPCC's Labor Safety and Health Committee consists of 39 members in total. The Committee meets once every three months. A total of four proposals were introduced in 2014; among them, three are completed.

#### Compensation and Welfare:

FPCC is known for its medium-to-high salary level in the industry. Compensation criteria are established for new hires to reflect the required education and experience for the specific talent. They are not different between men and women. Once hired, salaries will be adjusted on a yearly basis, depending on their performance at work and whether they are promoted or not; comparable compensation is offered.

#### WELFARE SYSTEM

In order to serve and care for the needs of colleagues, there is an administration on the Mailiao premises to take charge of related tasks such as logistic support and welfare services. In addition, the administration performance rating and service satisfaction survey are conducted on a yearly basis to help enhance quality of services provided.

#### • A. Insurance

In addition to having its employees covered by Labor Insurance and National Health Insurance, the Employee Welfare Committee of FPCC also purchases group liability insurance and group life insurance for each employee to better protect its employees.

#### • B. Retirement

An amount of money will be set aside as part of the employee retirement fund and the retirement preparation fund on a monthly basis, and will be payable to the employee once he/she meets the statutory retirement criteria. In addition, there are retirement souvenirs available.

#### • C. Wedding and Child Birth

(A) When an employee or his/her relative gets married or dies, FPCC will give a red envelope or a white envelope (or gift) and subsidies supervisors at all levels to give a red envelope or a white envelope. For a wedding or child birth, the Employee Welfare Committee will give gift money, too.

(B) Nursery rooms are set up throughout the premises to address the needs of employees to breastfeed or collect breast milk during business hours.

(C) Child care leave is offered according to law; employees who qualify may adjust their work hours to

Grade	Female	Male
Class 2 supervisors (inclusive) or higher-ranking staff	100	138
Entry-level supervisors (inclusive) or lower-ranking staff	100	152

Note: Male employees had higher salaries than female employees in 2014 because of the difference in seniority for Class 2 supervisors (inclusive) or higher-ranking staff and of the fact that men rotated for field work and received increased allowances for the rotation for entry-level supervisors (inclusive) or lower-level staff.

accommodate their child care needs.

#### • D. Healthcare

(A) Periodic health examinations are provided to employees with more relaxed seniority requirements than the number of years required by law.

(B) Employees engaged in operations involving particular health hazards such as noise or specific chemical substance-related ones are scheduled for special health examinations and included in health classified management. For example, they will be screened for metabolism syndrome and cancer with additional test items such as high-density lipoprotein cholesterol, α-fetoprotein, carcino-embryonic antigen, and oral mucous membrane.

(C) Expenses of medical care provided by Chang Gung Memorial Hospital to employees and their family members will be reimbursed and they are entitled to a preferred discount on health examinations.

(D) Employee activity centers are set up, basketball, badminton, volleyball fields, table tennis rooms, fitness rooms, among others.

(E) Health education information is released from time to time and health workshops are organized.

(F) Medical affairs rooms and healthcare professionals are configured to provide medical care and consultations and organize weight management, smoking cessation clinic, preventive health care, among other health promotion events, from time to time. In addition, the "corporate pressure relief day" is organized jointly with John Tung Foundation.

#### • E. Leave

Employees are offered different kinds of days off, such as special leave, marital leave, funeral leave, business leave, paid injury leave, paternity leave, maternity leave, sick leave, menstruation leave, leave of absence, family care leave, transfer leave, disease prevention leave, and leave for visiting relatives in Taiwan for overseas-based staff. The paid leave criteria for sick leave and funeral leave for certain relatives, in particular, are better than those given in labor laws and regulations.



**• F. Life**

- (A) Gift monies are provided for Spring Festival, Dragon Boat Festival, and Mid-Autumn Festival.
- (B) Gifts (or gift certificates) are available for birthdays and the three major festivals.
- (C) Special overseas travels are planned and spring or fall outings and year-end communal meal are subsidized.
- (D) An employee cafeteria, dormitories for employees who are single and for those who have families, the welfare building, vending department, hair salons, library, guest house, and bowling alley are available on the premises.
- (E) Reward money for purchasing shares of listed companies within the Formosa Plastics Group.
- (F) Scholarship for employees' children
- (G) Shared resources with other affiliations and preferred deals at collaborative shops

**• G. Employee cafeteria**

- (A) Subsidies to cover daily meals for employees
- (B) Periodic inspection of pesticide residue in food materials at the cafeteria
- (C) The Catering Committee on the premises formed by members from the Employee Welfare Committee will select HACCP catering contractors and take part in the menu design as well as the supervision over quality of food served and environmental hygiene.
- (D) Foods symbolic of special holidays and additional dishes for employees who work during Spring Festival will be available to thank the employees for their hard work.

**• H. Employee relationship advancement**

- (A) A year-end dinner party and lot drawing event are planned each year.
- (B) Society campaigns are sponsored; a total of NTD 560 thousand was reimbursed to the 28 societies throughout 2014, for example.
- (C) Corporate sports events are organized to encourage exercise and awards and prizes are provided to

outstanding performers.  
 (D) For each five-year milestone that employees reach, a souvenir gold coin reflective of their seniority is given to show gratitude.  
 (E) Various travels and hiking events, sports and competitions, cultural and arts exhibitions, and life workshops are held to enrich the body, the mind, and the soul of the employees.

**• I. Personal safety and family care**

- (A) Flame-retardant overalls and safety leather shoes are provided to ensure personal safety.
- (B) For employees who die on duty, death compensation better than required by law is provided and is not written off by Labor Insurance coverage (the written-off is permitted by law). For employees who die while not on duty, consolation money equivalent to six months of mean wage at minimum is provided, which is also better than that required by law.
- (C) Not required by law, additional NTD 650 thousand to NTD 2.57 million as death benefits will be provided to employees who die (while on duty or not on duty).

**• J. Assignment**

For employees who go on a business trip or are sent to overseas offices, liability insurance and travel safety insurance will be purchased.

**• K. Labor Pension and Retirement Care Plan**

In order to thank retired employees for their outstanding contributions to FPCC, we established the "Retiree Network" in 2013 along with the Formosa Plastics Group and encourage retirees to join the network. They can take part in events organized by chapters that are close to them (there are a total of six chapters and one headquarters in Yilan, Taipei, Taoyuan, Changhua, Chiayi, and Kaohsiung). As of the end of 2014, there had been a total of 52 members. Through networking, it helps retired employees form closer ties with one another.



**Performance Management and Educational Training: PERFORMANCE MANAGEMENT**

FPCC's performance management system enables supervisors to review their annual performance at work with their colleagues together and plan personal career development path together in order to establish appropriate work objectives. Meanwhile, along with a comprehensive training system and the knowledge and skills required for their job responsibilities, a future career blueprint is planned for colleagues.

Through performance management, colleagues' goals are connected to the corporate objectives; colleagues' capability development is reviewed and evaluated to accordingly create a win-win situation for both the company and the individual. Their performance at work is evaluated regularly each month and will be the criterion for issuance of the efficiency prize. It will be summarized and submitted to supervisors at the end of a year for the latter to rate colleagues' overall performance throughout the year and ensure the objective nature of the rating. For the issuance of year-end bonuses and dividends, 40% to 130% will be approved for outstanding performance, depending on the performance rating. As for special outstanding or abnormal behaviors by colleagues over the course of their duties, appropriate rewards and punishments shall apply.



**Continuing to Enhance Manpower Quality**

**TRAINING SYSTEM**

FPCC has developed a complete set of training system for staff development. Through the e training and management system, the training for each stage is gradually completed. The training system at present can be divided to pre-service training for new hires, fundamental job training, professional job training, and reserve management training. All the training courses and completion deadlines needed for each colleague are controlled through the computer, too. The computer will remind each department to organize training by a given deadline in order to consolidate the goal of helping colleagues acquire comprehensive skills.

Type of training Items	Pre-Service Training For New Hires	Fundamental Job Training	Professional Job Training	Reserve Management Training
<b>Trainees</b>	New official practitioners	New general entry-level Type B staff and new task specialists, those for advanced business jobs	Practitioners below Class 1 supervisors	A. Reserve entry-level supervisor training B. Reserve Class 2 supervisor training C. Reserve Class 1 supervisor training
<b>Training Timing</b>	After new official practitioners report to their job	Within three months after new hires or the transferred employee reports to their job	When the equipment is updated and process is improved, among other changes to working conditions, individual units need to organize training to reflect the actual requirements	The organizer of the training schedules training shifts and dates according to the number of people recommended by individual departments to take part in the training.
<b>Organizer</b>	A. The main administration is to organize training for staff to engage in Type 1 and Type 2 tasks. B. The administration on the premises is to organize training for general rank and file employees.	The department where the new hires belong	A. The General Manager's Office at the main administration is to organize comprehensive corporate professional job training. B. The FPCC's General Manager's Office is to organize comprehensive Group-wide professional job training. C. The FPCC's General Manager's Office is to organize comprehensive company-wide professional job training. D. The individual factory affairs offices are to organize professional job training exclusively for their factory.	A. The General Manager's Office at each company is to organize reserve entry-level Class 1 and Class 2 supervisor training. B. The General Manager's Office at the main administration is to organize reserve Class 1 and Class 2 supervisor training.
<b>Training Method</b>	Classes will be offered after new hires report to their job where they will receive training.	Individual instructions or collective training are to be provided if they are needed during or besides work.	Training will be provided in the form of lecture or hands-on practice during or besides work.	Training will be divided to group-wide training class and company-wide training class in the form of lecture.
<b>Course Content</b>	The course content is to be established by the organizer and shall be based on personnel, salary, performance, welfare, and industrial safety.	The department supervisors determine training subjects, hours, and rating method in accordance with work regulations, enforcement rules, and job-related basic knowledge and skills, and they shall be implemented after they are approved by the Vice General Manager for the business department.	A. The system and practice for each function are set as the training courses by the function. B. Select related knowledge and skills related to individual job responsibilities, and schedule training accordingly.	A. Reserve entry-level supervisor training: Individual management concepts, practice, and work instructions B. Reserve Class 2 supervisor training: Individual management systems and practice C. Reserve Class 1 supervisor training: Individual examples of improved management and management concepts



**OVER 99%**  
FULFILLMENT  
OF ANNUAL  
TRAINING PLAN

**31.7 HRS**  
TRAINING HOURS  
FOR EACH COLLEAGUE

FPCC values the career planning and growth of employees and hence arranges various pre-service training, fundamental job training as soon as new hires report to their job and periodically arranges job rotations and various professional skills training. Each unit must also stipulate their annual training plan and organize workshops on individual major laws and regulations, new technologies, and systems so that colleagues keep track of the latest knowledge and skills at all times.

(Unit: Hours)

Job Level Year	Class 1 Supervisor	Class 2 Supervisor	Entry-level Supervisor	Rank and File Employees	Company-wide Mean Number of Hours
2012	17.7	30.6	55.4	46.1	44.2
2013	9.2	23.8	43.1	36.2	34.4
2014	19.5	17.4	35.3	35.0	31.7

Note: The number of hours of hours received by each male employee in 2014 was around 33.4 and it was around 8.7 for each female employee. Female employees, in particular, received relatively little professional training because 62.3% of them worked as assistants.

Each colleague received around 31.7 hours of training on average in 2014. Among them, Class 1 supervisors received 19.5 hours of training on average; Class 2 supervisors 17.4 hours; entry-level supervisors 35.3 hours; and rank and file employees 35.3 hours.

In order to accommodate operations and safety requirements at individual units, reinforced efforts were made to arrange and help employees to acquire related professional certificates. In addition, various theme-based seminars such as Business English Workshop, Visual Inspection Technical Training, and Safety Supervisor Training are organized from time to time. Meanwhile, in order to enhance employees' awareness of human rights and safety at work, courses on labor safety and health, the Labor Standards Act, sexual harassment prevention, and the Act of Gender Equality in Employment are held from time to time. Throughout 2014, FPCC organized a total of 2,544 professional training courses, attended by a headcount of 47,529 people in total and each person received up to 36.3 hours of training.

**• E-learning**  
The Formosa Plastics Group started to develop the e-learning system in 2000. There is the employee learning website to provide various learning information on online courses, articles, speeches, among others. In addition, the e-learning paper started to be released on a monthly basis in April 2005 to inform colleagues of online learning opportunities so that they can receive the latest learning information and enrich their knowledge in real time.

**• Knowledge Management System**  
FPCC also started to promote the knowledge bank management system in 2000 through the Formosa Plastics Group where documents on inspiring knowledge and technical experience on various systems by individual units of reference value are kept on a shared platform to facilitate sharing and retrieval by colleagues at any time to effectively pass down corporate knowledge management. So far, 14 categories have been created by the function to keep over 20,000 pieces of data.

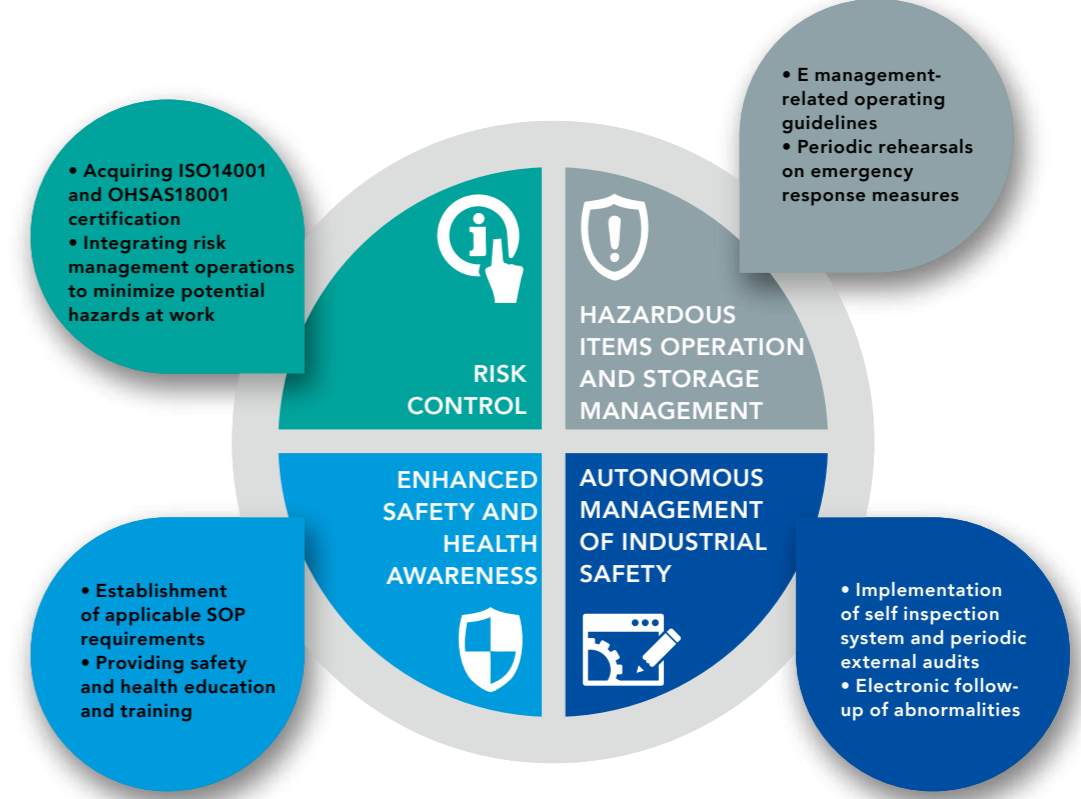
**• Security Guard Training**  
FPCC has its internal security guards to take care of access security management at its factories and the Formosa building. All of our security guards have to receive complete professional security guard training, including Industrial safety (fire prevention, first aid, safety and health), security guard code of conduct, access control rules and applicable requirements, knowledge of applicable laws and regulations (the Criminal Code, the Civil Code), human rights, physical performance and catch techniques, how to drive a fire engine, for example. Meanwhile, they have to take a test on rules and systems and physical performance test on a monthly basis in order to keep their optimal professional levels and physical performance. In addition, real situations that have occurred during work are shared and discussed, including emergency responses, phone protocol, on-duty protocol, among others, in order to avoid violating the code of conduct or infringing upon human rights.

### 3.4 Workplace Safety and Health Management

#### Workplace Safety Management:

FPCC values feedback from colleagues and has "safety and care" as its management guidelines. Besides risk control, chemical-based operation, storage, and management according to law, FPCC also plans and

promotes proactive management and safety interviews with colleagues to enhance their awareness of hazards and to minimize possible hazards in the operating environment from the bottom up.



#### RISK CONTROL

Besides acquiring ISO-14001 certification, FPCC has obtained the occupational safety and health management OHSAS-18001 certification, established operating hazard identification and risk assessment systems, among other management systems, and promoted the high hazardous process risk management along with the Formosa Corporation, integration of risk management and equipment reliability assessment operations (RBMI Reliability Based Mechanical Integrity), and public pipeline risk assessment to try its best to ensure risk management integrity, improve work, and reduce potential hazards.

#### HAZARDOUS ITEMS OPERATION AND STORAGE MANAGEMENT

The operation, storage, and management of public hazardous items are based on the laws and regulations promulgated by the competent authority for industrial safety, environmental protection, and fire prevention. Related hazardous items and harmful substances general

management guidelines are established and managed electronically through the computer. Emergency response drills are implemented periodically to strengthen fire prevention and autonomous protection.

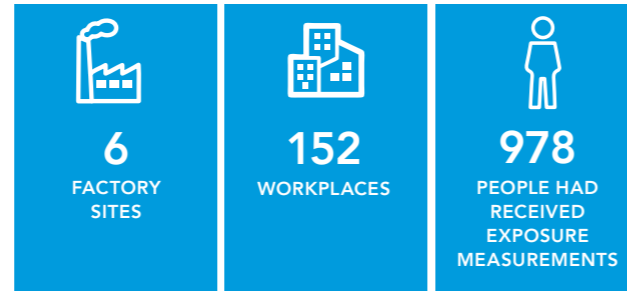
#### AUTONOMOUS MANAGEMENT OF INDUSTRIAL SAFETY

Each factory department is responsible for performing their own inspections and audits according to their assigned responsibility. The Safety, Health, and Environment Center at the main administration, the General Manager's Office at FPCC, and the Safety and Health Section under the General Manager's Office at each business group shall perform regular, irregular, or project-based external audits. Information of abnormalities found during inspections is entered for management (Management Information System, MIS). Control and improvement items and progress follow-up and abnormality communication and training are registered in the computer to ensure operational safety of the process and the equipment.

### Occupational Hazards Prevention and Management:

In order to keep track of the workplace status and to evaluate exposure to hazard factors to be the criteria for improving the workplace, FPCC authorized professional occupational health team to perform operating environment monitoring as required by the American Industrial Hygiene Association (AIHA) regulations, starting in 2012, besides fulfilling the requirements of domestic laws and regulations.

As of 2013, a total of 6 factory sites, 152 workplaces, and a headcount of 978 people in total had received exposure measurements.



of chemicals appeared to be lower than domestic and international occupational exposure limits and the results were released to colleagues while occupational health management continued to be reinforced.

### 2014 OCCUPATIONAL DISASTER MANAGEMENT

#### There Were No Major Occupational Disasters Throughout 2014 Death Rate Per Thousand People



The death rate per thousand people because of major occupational disasters among our colleagues in 2014 was 0; the injury frequency rate was 0.50; injury severity

rate was 17; and comprehensive injury index was 0.09. Compared to last year, the injury frequency rate, severity rate, and comprehensive injury index all dropped.

Historical Ratios of Injuries at Work										
	Mean Number of Workers Throughout the Year			Total Hours Worked and Days Elapsed		Number of Cases	Total Days Lost	Frequency of Disabling Injuries	Severity of Disabling Injuries	Comprehensive Injury Index
	Male	Female	Total	Total Work Days	Total Hours Worked					
2012	4,448	280	4,728	1,263,916	9,589,784	9	256	0.94	27	0.16
2012	4,662	298	4,960	1,303,844	9,947,640	8	12,078	0.80	1,214	0.99
2012	4,664	313	4,977	1,248,790	9,947,928	5	165	0.50	17	0.09

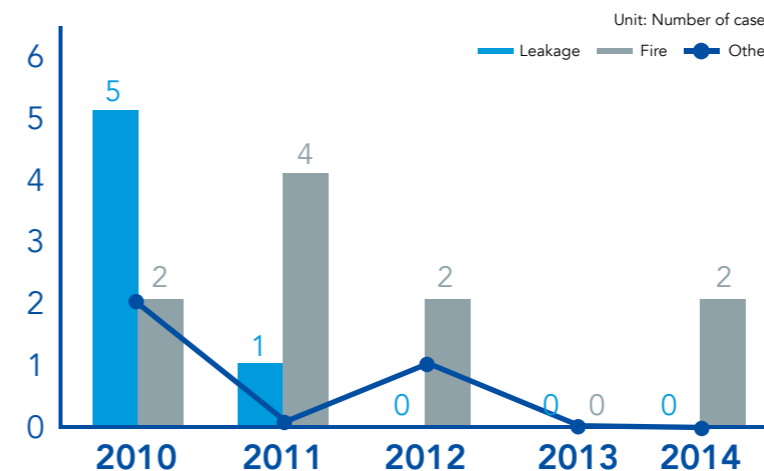
• Severity of disabling injuries (SR)= (Total number of days lost ×106)/Total hours worked  
 • Frequency of disabling injuries (FR)= (Number of disabling injuries ×106)/Total hours worked  
 • Comprehensive injury index= (FR\*SR)/1000  
 • For the past three years, accidents at work have happened only to men and all of them happened in Yunlin County.

### PROCESS SAFETY MANAGEMENT

Since 2010, accumulatively 19 process safety events have occurred during operation. When each process safety event occurs, experts in relevant fields would form an investigation group to begin investigating the events in order to confirm the facts and causes and

reflect upon them before introducing improvement measures in all respects, hardware (equipment, care and maintenance, etc.) and software (personnel training, technical enhancement, etc.) while at the same time embarking on measures in parallel to all factory sites and to follow up until all improvements are completed.

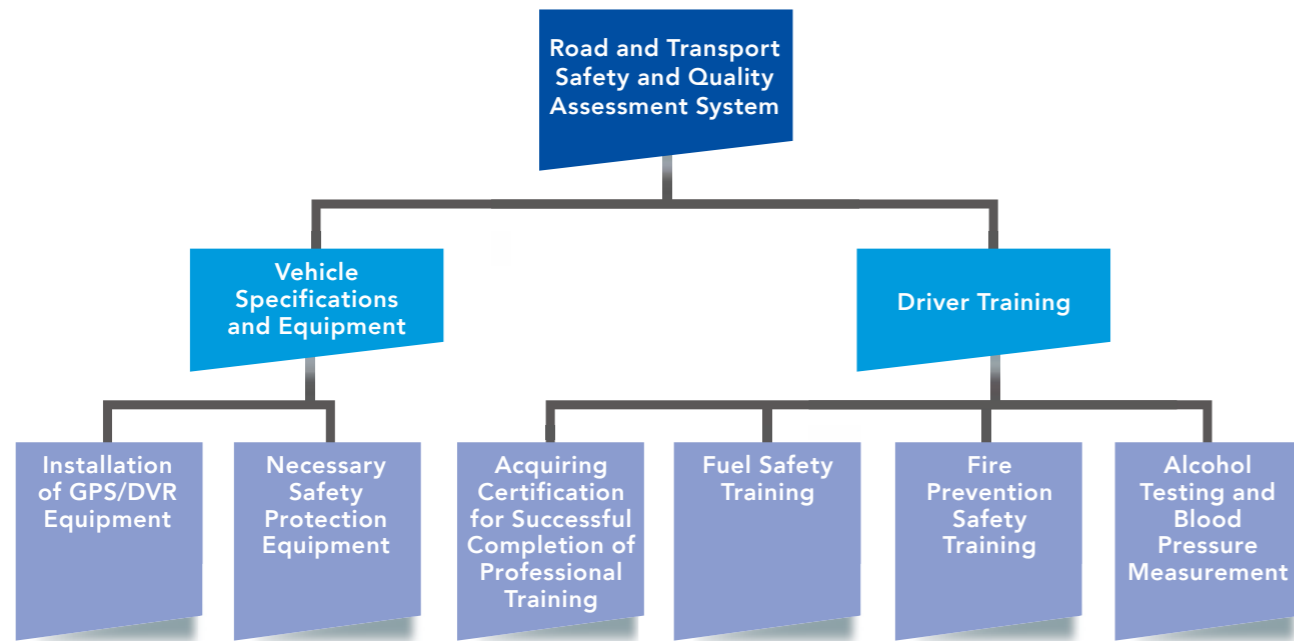
### Statistics of Process Accidents



**EXTERNAL TRANSPORTATION SAFETY:**

In order to ensure safety of various oil products during transportation, all contractors (including those proposed internally) need to be evaluated by the Safety and Quality Assessment System (SQAS), which includes

the management SOP, driver experience and training completed, vehicle safety facilities and care, emergency response, among others. Contractors having failed to obtain qualification certificates may not undertake or pick up any oil product.



For contractors who have qualified through accreditation, their vehicles have to be installed with GPS/DVR as well as required safety protection equipment such as the brake interlock, emergency shut valve, leak-proof device, fire extinguisher, signboard, among others. They have to be checked, approved, and bear the qualification certificate in order to be eligible to access FPCC's individual factories. In addition, 100% of the drivers have to hold professional licenses as required and receive educational training on how to load and unload safely, fire prevention, first aid, and labor safety.

A headcount of 263 people in total from gasoline and diesel transportation contractors received educational training on 15 items in 2014. The training hours totaled 6,312. Meanwhile, alcohol detectors and blood pressure meters are configured comprehensively to test the alcohol content and blood pressure of drivers picking up the cargo each time. If a driver has an alcohol measurement of greater than 0 mg/l or a blood pressure measurement of greater than 180 mmHg, he/she is prohibited from entering the factory for the loading operation.



Contractor vehicle check before setting off for a mission



Safety check of transport vehicles after they enter the plant

In addition, to ensure the overall transportation safety and quality between the shipping point to the customer end, before a transportation vehicle enters each factory for the loading operation, it will be checked for safety at each factory. If it is disqualified (e.g. the tire tread is not as deep as 1.6 mm), the vehicle is prohibited from accessing the factory for the loading operation and the contractor is asked to establish a operation control center that can monitor travel safety through the GPS system. In case of speeding, stopping overtime, disconnection of communication, deviation from the path, among other abnormalities, the system will send an alarm signal in response in real time so that the operation control center can keep track of vehicle condition to minimize impacts of transportation on external roads on the surrounding environment and other road users.

**Occupational Health and Disease Prevention:**

Special operation sites at FPCC include those involving a high temperature, noise, ionizing radiation, carbon disulfide, dimethyl formamide, hexane, 11 in total. Specialized doctors will visit our sites on a monthly basis to evaluate with supervisors, colleagues, nurses, and safety and health staff the health of special operation colleagues and its association with the field work and

adjust their work as a preventive measure accordingly. Physical examinations are offered to colleagues engaged in special operations and classified management is adopted in accordance with examination results. No related occupational disease has occurred so far.

**SCIENTIFIC HEALTH MANAGEMENT AND EFFICACY**

We provide them with their health information face to face, over the phone, or through the automatic office system according to the examination results and analysis and put up posters promoting health, remind our colleagues of paying attention to their health by means of comics and slogans, and systematically plan a series of theme-based communication efforts, workshops, and events. All are meant to effectively enhance awareness of their health among our colleagues through scientific data analysis.

Meanwhile, to take advantage of the golden time for first aid, we set up 26 automated external defibrillators (AEDs) in total according to the emergency rescue distance. Meanwhile, we organized all-staff educational training on CPR+AED and have prepared hydrogen sulfide antidotes on site and at nearby hospitals responsible for chemical disaster rescue.

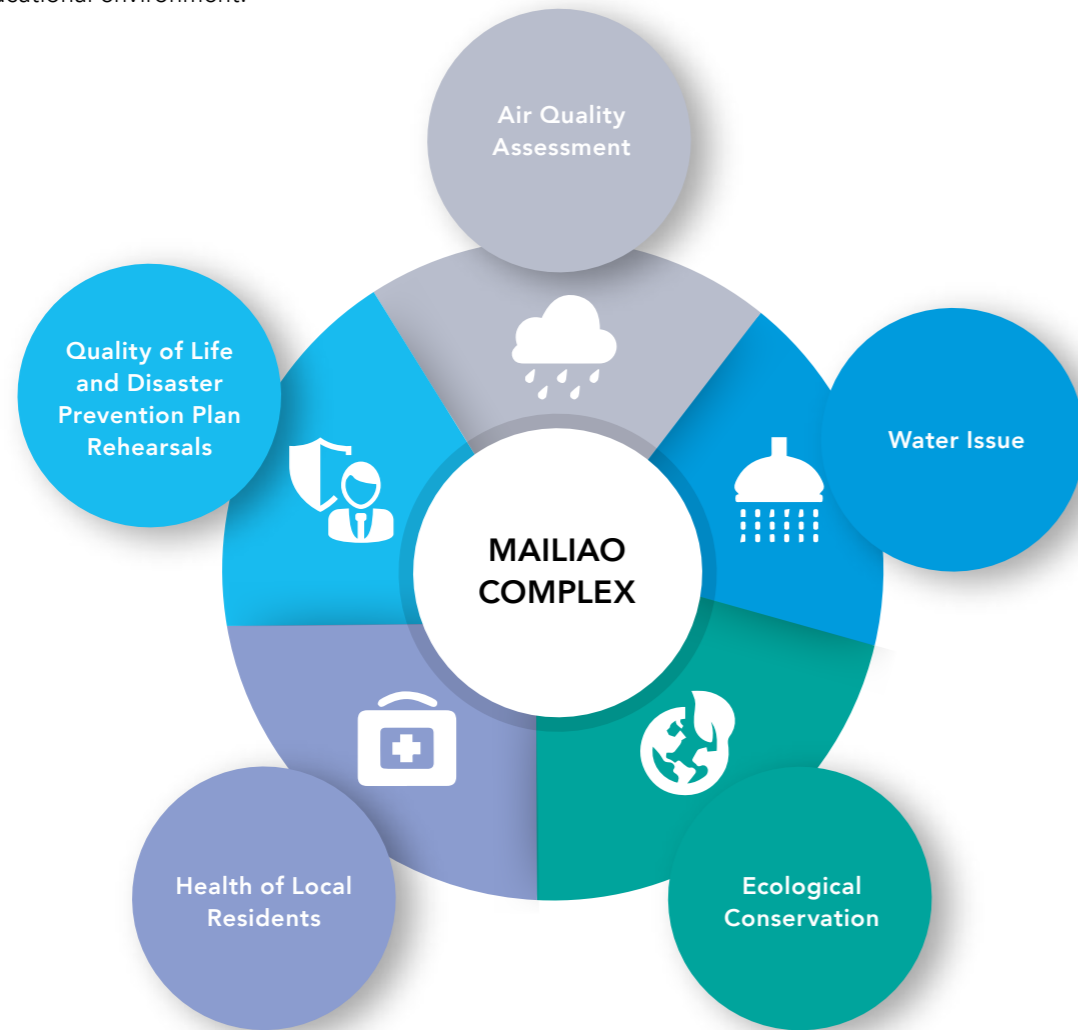
FPCC started to help its colleagues quit smoking in 2005 and promoted weight loss in 2011, among other health care management measures, with outstanding accomplishments. Besides receiving the Best Contribution Award in health and weight management from the Yunlin

County Government in 2014, FPCC has also been honored with the National Workplace Weight Loss Outstanding Performance Award from the Ministry of Health and Welfare. Accumulatively, 1,451 people have participated in the campaign and lost up to 2,772 kg of weight.



### 3.5 Sustainable Development at Mailiao Complex

We devote excessive resources to scientific research and proactively communicate with the local government and communities on important issues concerning air quality, water, ecological conservation, resident health, and educational environment.



#### Mailiao Complex\_Air Quality Assessment:

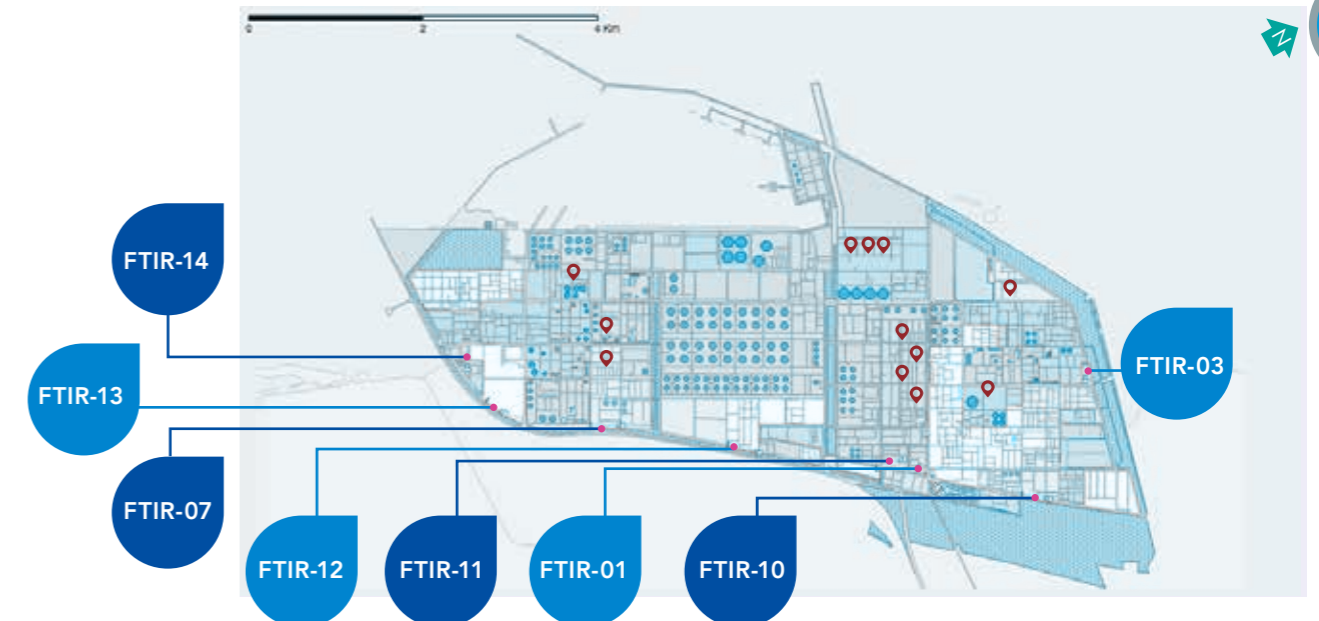
In the Mailiao area, the grid consists of eight layers from inside out for intensive monitoring and control, including a total of 8,109 fixed gas detectors, 39 gas leak detection imaging instruments (GasFindIRs) used by the US military, 33 fixed pollution source continuous monitoring systems (CEMS), 39 fixed pollution source monitoring systems (FLARE), six mobile FTIRs, and eight fixed FTIRs throughout the Mailiao premises.

One VOC monitoring station, ten optic chemical monitoring stations, 12 foreign odor automatic sampling stations, ten fixed air quality monitoring stations, and one air quality monitoring vehicle are set up in adjacent townships of the premises to facilitate investigation of the discharge source as

soon as possible to ensure local air quality. Once abnormalities are found, related staff will be informed right away and take care of them to control issue issues from the source in real time. In addition, there are 8 fixed FTIRs set up on the borders of the premises. Along with six mobile FTIRs within the premises, they can effectively monitor fugitive VOC inside and outside the premises.

Moreover, there are 33 large chimneys and 39 FLARE continuous automatic monitoring facilities and real-time connection for control purpose with the Environmental Protection Bureau within factories. As soon as any abnormal phenomena are found, we will apply the synchronized information to know what's going on in real time and address the issue.

#### Locations of Monitoring Equipment Inside the Premises



- FTIR-14 MONITORING STATION AT THE SOUTH GATE
- FTIR-13 OL-3 MONITORING STATION
- FTIR-07 EG-3 MONITORING STATION
- FTIR-12 MONITORING STATION
- FTIR-11 MONITORING STATION
- FTIR-01 MONITORING STATION AT THE ADMINISTRATION BUILDING
- FTIR-10 MONITORING STATION
- FTIR-03 NORTH MONITORING STATION

We did valid analysis of more than 3.4 million pieces of monitoring data and then summarized data from the four air quality monitoring stations of the Environmental Protection Administration in Tucheng Taipei County, Xianxi Changhua County, Taixi Yunlin County, and Xiaogang Kaohsiung City. We found that air quality changes in individual areas in the western part of Taiwan were generally identical. There were no particular abnormalities in air quality in Yunlin, Chiayi, and Tainan to prove that control over air quality while

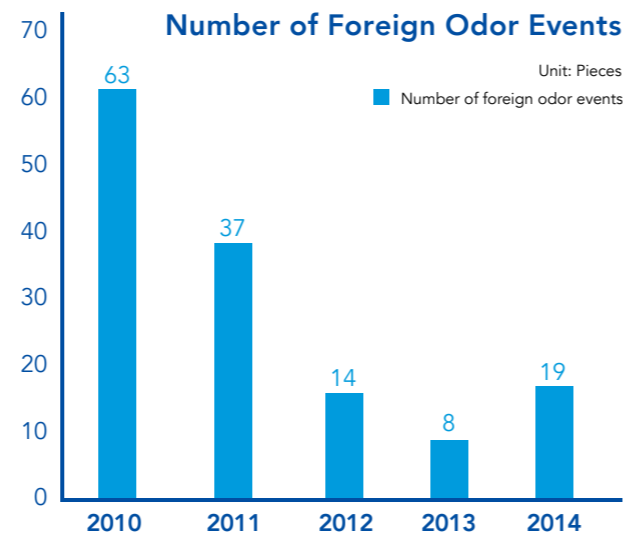
Mailiao Park is operating has been successful.

The foreign odor prevention group was formed on September 17, 2010. The main administration and the four major companies formed the foreign odor joint inspection group that checks processes and the surroundings of the premises on a daily basis for foreign odors and report daily inspection reports to the vice general manager and associate manager based on the premises at 4:00 pm every day.

#### Locations of Automatic Foreign Odor Sensor Sampling Stations Analyses Done Using the Niew715.13b Approach



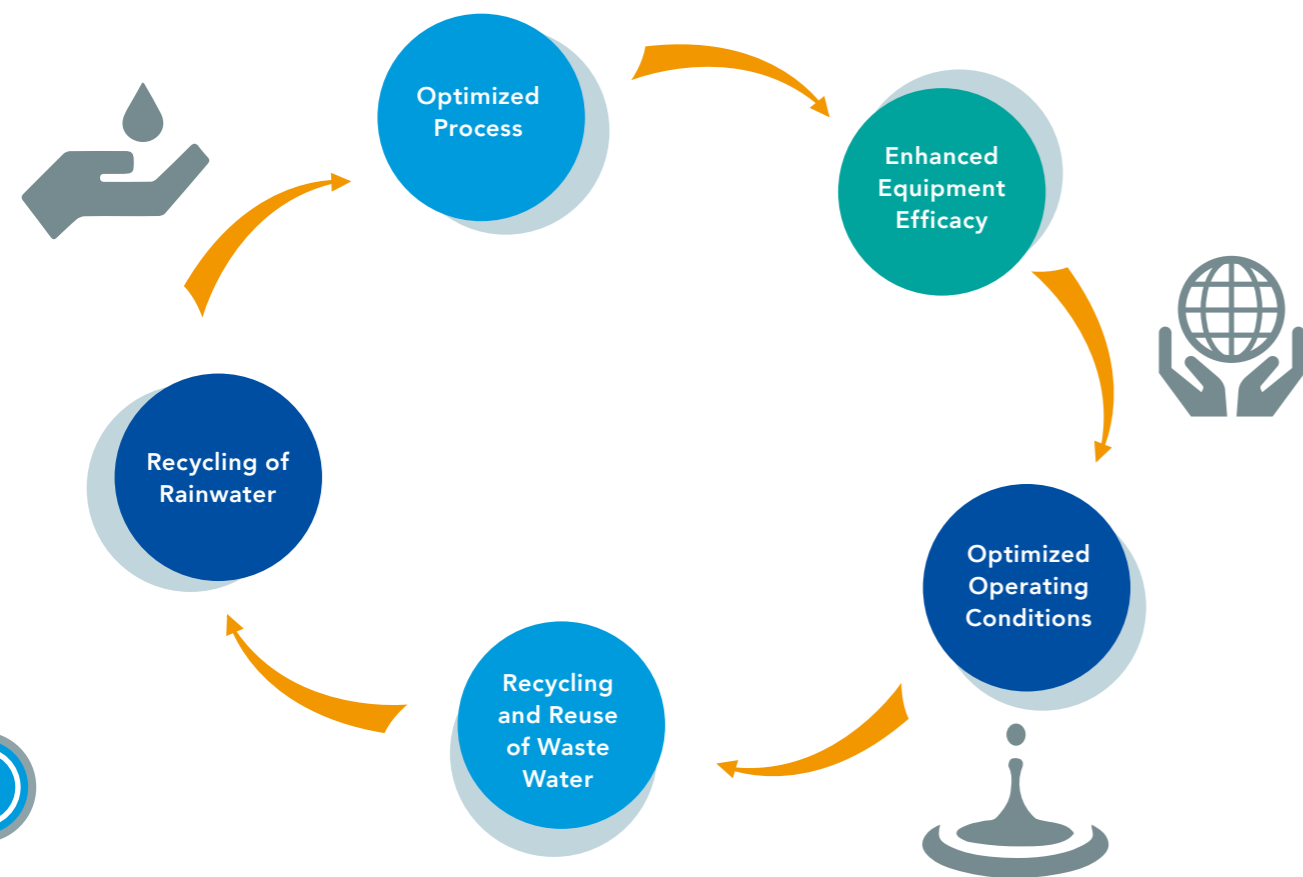
The incidence of foreign odor originating from inside the premises has been on the decline each year. Between 2010 and 2014, there were a total of 141 related events. Among them, 138 have been improved, that is, 97% of the improvement progress has been fulfilled. There are still three being improved now. The project for tracing sources of foreign odors by accessing processes started in 2014 to result in the significantly increased number of foreign odor events found through joint inspection. Overall, however, the control over foreign odors has been proven to be significantly effective.



**Mailiao Complex\_Water Issue:**

Jiji River Weir has been supplying 2,454.01 to 6,969.42 millions of water each year for the past five years. The annual volume of industrial water used on average,

in particular, accounted for 2.4% of the overall water supply. The allocation from agricultural water on average a year only accounted for 1.8% of the overall agricultural water consumption.



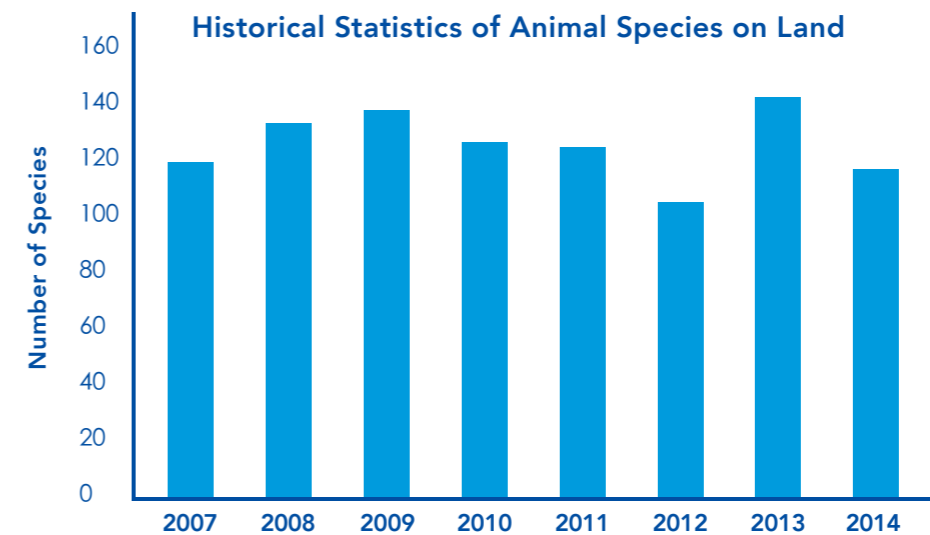
**Mailiao Complex\_Ecological Conservation:**

In order to understand the impacts Mailiao Park has caused on fauna and flora in the surrounding areas, we authorized professional institutions to investigate the ecologies of animals, birds, mammals, amphibians, reptiles, butterflies, and plants by analyzing the changes in the species composition, population dynamics, and quantity, among others, in order to understand the current fauna and flora status in these areas and evaluate the impacts on the local environment following commissioning of the Sixth Naphtha Cracker.

**ECOLOGICAL SURVEY ON LAND**

According to the survey results of the fourth quarter of 2014, the East Asia House Bat is the superior species among mammals; most of the amphibians are active and propagate during spring and summer and their activities changes with the season; there are more butterflies that feed on honey-source plants during spring and summer and hence more species and number of butterflies are observed during these seasons; and reptiles, on the other hand, are affected by the temperature difference between day and night in their activities.

**Historical Statistics of Animal Species on Land**



Among the birds, the summer migratory species cattle egrets and swallows, and the winter migratory species Ardea alba and black-winged stilts are the four largest populations, and they are considered large birds. The

species and quantities observed mostly meet seasonal and local habitat changes. They change with the season. Local species appear to be diverse, and are not significantly impacted in a negative way.





**ECOLOGICAL SURVEY AT SEA**

Water quality monitoring is done in adjacent seas near Mailiao on a quarterly basis by Mailiao Park. The scope of monitoring begins with the mouth of Zhuoshui River on the north side of the premises and ends with the Haifeng area in Taixi on the south side. A total of 17 monitoring points are set up. The park currently produces around 90 to 150 thousand tons of waste water every day and strictly requires individual waste water treatment sites to only discharge the water after it has been treated to be compliant with criteria. The results of past monitoring of the pH value of effluent have been compliant with

the effluent requirements. All the pH values obtained at individual monitoring stations in adjacent seas of Mailiao in 2014 fell in the range of 7.5 to 8.5 for Grade A sea water quality.

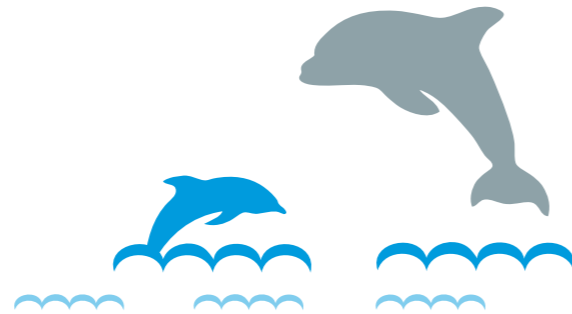
**CHINESE WHITE DOLPHINS RESEARCH**

In August 2008, Chinese white dolphins were announced in the red paper of the International Union for Conservation of Nature to be critically endangered. Domestic research shows that they are active along the coast of Taiwan; the area three kilometers off the shore of Miaoli to Tainan is their habitat.



In order to protect these Chinese white dolphins, we started to authorize professional institutions in 2008 to begin a six-year project that investigates the ecology of Chinese white dolphins. The research team went out to the sea 174 times and sighted schools of Chinese white dolphins 188 times and individual Chinese white dolphins 923 times. Based on the identification results, accumulatively 54

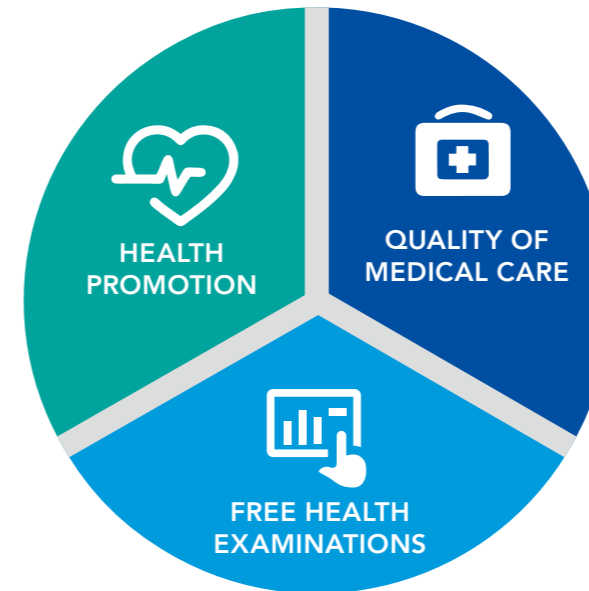
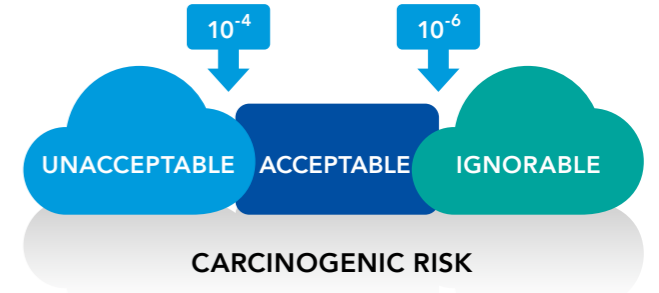
adults were found in the Yunlin waters. Thirty-three to 42 individuals are sighted each year and the annual sightings rate is highly repetitive (60-90%). These dolphins are active mainly within the narrow and long coast line of Yunlin (offshore <3 km, with a water depth of <15 m) and they move north to south and backward. Most of the populations still consist of teenagers; they account for 87%.



**Mailiao Area\_Resident Health:**

FPCC started to authorize National Cheng Kung University to evaluate health hazards caused by harmful air pollutants since 2009. The includes a radius of 20 km x 20 km of Mailiao Industrial Park and townships such as Mailiao, Taixi, Dongshi, Lunbei, and Baozhong. All the total carcinogenic risk value were between 10-6 and 10-4 and every maximum total non-carcinogenic risk values were below 1. In other words, the impacts on human health in the category of acceptable risk.

Starting from 2013, we have been conducting health hazard assessment targeting 30 kinds of selected specific harmful air pollutants and extended the scope of evaluation. The assessment is expected to be completed by the end of 2015.



**COMMUNITY RESIDENT HEALTH CARE**

FPCC focuses on the three aspects - enhanced quality of medical care, free health examinations, and health promotion in the Mailiao area to build Mailiao into a model community of health promotion.

**Quality of Medical Care**

Since December 2009, we have set up Yunlin Chang Gung Memorial Hospital to provide local people with sound medical care service. It has been responsible for emergency care around the clock for the coastal area. In 2010, it combined with the medical care education resources under the Chang Gung system to take hold in these communities. Yunling Chang Gung Memorial Hospital had a medical team of 296 members in 2014 and 522 beds available to the public, offering 25 specialized western medicine and Chinese traditional medicine clinic services. We continue to expand both the scope and scale of our medical care services by introducing advanced medical care resources and instruments.



Undertaking 24-hour emergency care and improving quality of local medical care in the coastal area



128-slice CT scanner



Digital mammography X-ray machine



• **Free Health Examinations**

In order to provide the most substantial and considerate medical assistance, Mailiao Park has been authorizing Yunlin Chang Gung Memorial Hospital to perform free health examinations for residents in Mailiao and

Taixi Townships since 2010. Throughout 2014, 10,496 residents completed health examinations. Mailiao Park of Formosa Plastics Group also afforded the registration fees 487 people who went back for follow-up visits because of their abnormal health examination results.

**2014 MAILIAO COMMUNITY\_GIVE BACK TO LOCAL COMMUNITY\_FREE HEALTH EXAMINATIONS**

• **Health Promotion**

We have been combining medical education resources of Chang Gung since 2010 to jointly promote health of local residents. For the community health education, the headcount of participants increased from 2,223 in 2010 to 3,523 in 2014. For the number of schools practicing



**10,496 PEOPLE**  
TOOK PART  
IN HEALTH  
EXAMINATIONS.

health promotion, it increased from 1 in 2010 to 12 in 2014. These events have been received well among local residents.

Up to 380 people were screened for Hepatitis B in 2014 and 488 people received vaccination; 81 have been followed up and found to carry antibodies. We also continued to hold health weight loss classes in elementary school students, improving the awareness of health among elementary school students; in 2014, 239 students took part in the classes and 478 centimeters waist circumference reduction in total.

Participated in  
Community Health  
Education Events

**3,523 PEOPLE**



Hepatitis B  
Vaccination

**488 PEOPLE**



Held Student  
Weight Loss Classes

**239 PEOPLE**



**Mailiao Area\_Life Quality and Disaster Prevention Plan Rehearsals: INITIATION OF DISASTER PREVENTION PLAN**

The Formosa Plastics Group quarterly joins the applicable disaster rescue units under the Yunlin County government in organizing joint rehearsals to strengthen its capability to respond in cases of disasters and help each units understand possible causes of disaster factors and potential hazards at individual process plants. Throughout 2014, FPCC cooperated and jointly

organized two rounds of the joint rehearsals, including the toxic chemical disaster, marine pollution disaster response, and composite disaster response rehearsals.

The fire prevention inspection and technique rehearsal was held on the premises on September 18, 2014. Various firefighting vehicles, specialized firefighters, voluntary firefighters, and nurses on the premises were assigned to take part in the rehearsal. FPCC has been replacing old firefighting vehicles with new ones.

Date of Rehearsal	Company	Factory Involved	Theme of the Rehearsal
2014.06.24	FPCC	Fuels Office	Emergency response rehearsal at the fuels office: T-8454D storage tank (methyl tert-butyl ether) water-cut pipeline leak to cause fires.
2014.09.18	FPCC	Office of Dock Storage	2014 marine pollution emergency response rehearsal
	Harbours Corporation	Formosa Fairway Corporation	

Note 1: "Fire response rehearsal"—The T-8454D storage tank leaks and results in fire at the fuels office. The fire prevention squad of FPCC joins efforts with the Mailiao squad of the Fire Department under Yunlin County Government in putting out the fire and begins the rescue operation.  
Note 2: "Marine pollution disaster response rehearsal" - The ship catches fire because of the flash burn as a result of the leaking diesel and falling parts from the fuel transmission pipe to hit the deck of the ship. The firefighting boat is sent right away to put out the fire with jets of water.

**NOISE IMPROVEMENT AND PERFORMANCE**

In order to measure the noise changes in the surrounding areas of Mailiao Park, FPCC periodically has service providers certified by the competent authority to set up noise monitoring stations and perform monitoring operations at the north and south

embankment. Monitoring results show that, except for artificial reasons and biological sources that resulted in occasionally higher measurements at certain monitoring stations, all the noises have been meeting regulatory standards, indicating that Mailiao Park has taken great care in controlling the local noise level.



Chairman Bao Lang Chen of Formosa Petrochemical Corporation (center) inspected the fire prevention accomplishments.



Fire brigade at the factory demonstrating the water-jet performance of novel fire engines known for their enhanced performance, and showing the results of their training.

**DISASTER PREVENTION PLAN REHEARSALS\_ IMPROVED EDUCATIONAL ENVIRONMENT**

In order to prevent accidental leaks of chemicals, we have tried with the two elementary schools Lun Feng and Qiao Tou—Xucuo Branch by changing the doors and windows in their student centers to be air-tight ones, providing them with daily necessities such as drinking water. The whole rehearsal process was videotaped and made into a film that has been sent to other adjacent schools to Mailiao Park for their reference.

**TRAFFIC IMPROVEMENT AND PERFORMANCE**

In order to relieve the large crowd and vehicles traveling into and out of Mailiao Park during peak hours every

day, FPCC has been proactively practicing the shift-system for employees and contractors. There are also shuttle buses for colleagues and voluntary police at important nearby intersections. All are meant to keep traffic under control and effectively reduce vehicles traveling all together.

**ENVIRONMENT AND ROAD CARE**

to ensure and improve the quality of roads in the surroundings of the premises, FPCC has cooperated with Yunlin County Government to establish the "environment and road care fund" and outsourced sweeping of the three access roads of Mailiao Township as an effort to keep the peripheral environment and roads clean.

Name of Road	Start/End	Length (km)	Sweeping and Washing (trips)	Length Cleaned and Washed (km)
Access Road 1	Mailiao Plant to Tai Route 61	6.0	16	96
Road 154	Mailiao Plant to Sansheng Forest Station	0.7	16	28.8
	Xucuo Bridge to Neighborhood 16 of Sansheng Village	1.8		
Sand Truck Road Along the North Embankment	Mailiao Plant to Tai Route 17	6.4	16	102.4
Total	-	-	-	238.4

**Government Partnership in Industrial Promotion:**

In order to put policy of shared prosperity with the locality into practice, we have been cooperating with Yunlin County Government in agriculture and fishery aquaculture in areas including Mailiao, Taixi, Dongshi, Sihui, and Kouhu. We authorized professional teams to offer project-based assistance in order to increase the economic values of crops and breeding living things.

**AGRICULTURAL GUIDANCE**

FPCC started to provide the agricultural production, crop quality improvement and farm management policy assistance July 2011. Based on the five themes—soil fertility survey, health development management, meteorological data evaluation and analysis, pesticide residue testing, and agricultural economics, FPCC assisted a total of 100 farmers in Mailiao, Taixi, Dongshi, and Sihui.



**• Crop Quality Improvement and Farm Management Policy Guidance**

Our counselors communicated with these farmers to gradually help them form the habit of cutting back on applying fertilizers and pesticide, develop correct ideas of safe agricultural production and verify pesticide residue testing. So far this year, the pesticide residue qualification rate has been 100%, indicating that farmers have come to accept and apply the recommended practice. It will help improve quality of agricultural products in the future, heading toward the goal of creating a brand for poison-free agricultural products.

**• Forestation Subsidies**

To answer to Yunlin County Government's forestation and carbon reduction campaign, FPCC started the 10 year subsidies program for forestation and carbon reduction in 2011. As of 2014, the area involved in the application for the forestation incentive within Yunlin County totaled 1,103.9 hectares. FPCC has provided NTD 582 million to subsidize forestation applicants.

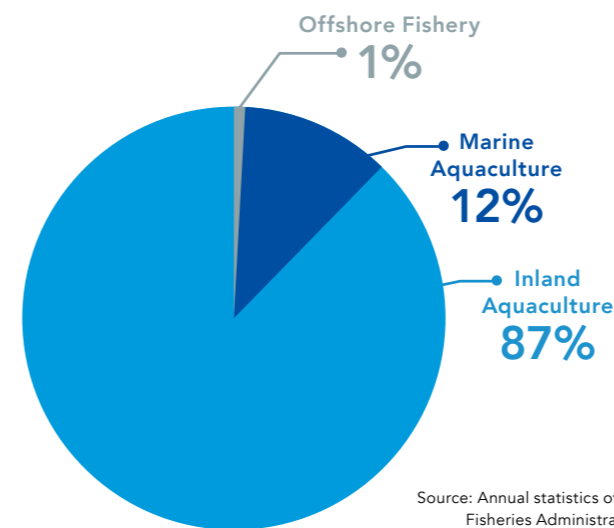
**• Sustainable Fishery Development**

In light of the fact that fishery resources are becoming scarce as a result of over-harvesting along the coast of Taiwan, FPCC has been devoted to releasing and conserving fish fries in the waters near Mailiao Industrial Park in order to enrich local fishery resources and increase the fisherman's catch. Between 2008 and 2014, more than 2.23 million fries have been released.

The annual mean catch is around 53,325 tons in Yunlin County, offshore fisheries only account for 0.62% (331 tons), marine aquaculture for 12.20% (6,506 tons), and inland aquaculture 87.18% (46,488 tons), indicating that fisheries still primarily consist of inland aquaculture. The factories constructions and operations in Mailiao Park didn't have a significant impact on fishing activities in the neighborhood.

In order to further enhance peoples' ideas about marine ecology conservation, FPCC has been proactively promoting conservation communication courses, teaching the teenagers in local fishery villages and school teachers which facilitated sustainable development of local fisheries.

**Ratios of Total Catch**



The mean catch is around 53,325 tons in Yunlin County.





### Protests–Zhuoshui River SOS: ORIGIN

Between July 1994 and October 1995, the Formosa Plastics Group pumped sand at the marine outfall of Zhuoshui River as an effort to dredge the River and to prevent floods during the rainy season. The whole process was under the strict supervision of the Water Resources Agency. The Agency already evaluated and determined that the scope of operation would not affect nearby fish ponds. They monitored the whole process, and evaluated the results after completion. It was confirmed that the fish ponds were not affected at all. On July 31, 1996, Typhoon Herb brought about heavy rains that flooded a thousand acres of arable land. The earth-embanked fish ponds on the travel path of Zhuoshui River collapsed because the river was blocked and by the heavy rains unable to be discharged.

### DEVELOPMENTS

The SOS asked the Tainan Hydraulics Laboratory of National Cheng Kung University to determine the cause of the collapse of fish ponds on December 27, 1996 as an impartial third party. It was determined that the collapse was the result of the unprecedented floods brought about by Typhoon Herb and had nothing to do with the dredging operation of the Formosa Plastics Group. In addition, according to the survey, because most of the increased fish ponds were expanded toward the centerline of the river path. These fish ponds blocked around three-fifths of the river path. Plus the floods caused by the typhoon, the fish ponds collapsed.

### WHAT WE DO

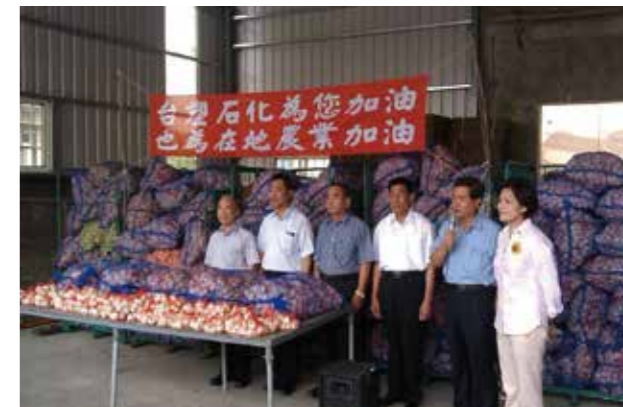
The Formosa Plastics Group met with the head of the SOS on January 4, 2012 to understand the difficulties of fish pond operators and agreed that they would have Nation Taiwan Ocean University and Chaoyang University of Technology to help the 34 aquaculture operators and 12 farmers of the SOS improve their aquaculture and cultivation skills to accordingly improve their economic life.

## 3.6 Social Care and Feedback

### FPCC Social Care: GIVE BACK TO THE LOCAL COMMUNITY AND COMBINE LOCAL CHARACTERISTICS:

In order to help local farmers of Yunlin County promote their agricultural products, FPCC has included marketing of these products at gas stations. This is meant to make contributions to the development of local agriculture.

FPCC also promote differential marketing. For examples, gas stations are encouraged to take part in the Green Expo, and International Children Folklore & Folkgame Festival organized by Yilan County Government and the Tung Blossom Festivals throughout the nation organized by the Hakka Affairs Council of Executive Yuan.



### TRADITIONAL ARTS PROMOTION

FPCC has jointly organized public performances of the Paperwindmill Theatre and the Ming Hwa Yuan Arts & Cultural Group bringing national theater-level visual feats into neighborhoods to boost aesthetic education.

### WARMTH IN COLD WINTER

Colleagues of FPCC voluntarily form caring societies to care for elders, children, minorities, and local residents and providing assistance. They often visit schools, nurseries to engage in different caring events

throughout the county. These kind gestures have been well received. Participating colleagues also get a great sense of satisfaction and fulfillment.

In addition, FPCC began to register volunteer hours in 2011. For every 15 hours of volunteer service, colleagues can exchange the hours for a gift. Meanwhile, employees' family members or children who take part in volunteer events organized by FPCC can apply for a certificate showing the number of hours they have devoted to volunteer work. It is our hope to create a legacy of warmth in society.



Paperwindmill Theatre to the village and neighborhood.



Min Hwa Yuan traditional drama and cultural feast.



Unit: 100 million NTD

Summary of Corporate Social Care and Public Interest Donations				
Year	Category	Public Interest Involved	Donated Value	
1960   1980	Education	Organization and continuous donations to Ming Chi University of Technology	278.1	
		Organization and continuous donations to Chang Gung University		
		Organization and continuous donations to Chang Gung University of Science and Technology		
	Medical Care	Organization of Chang Gung Memorial Hospital	28.4	
*Helping poor patients seek medical attention				
1990	Care for the Minorities	Helping aboriginal students attend schools (get jobs) and sponsorships	26.3	
		*Donating artificial electronic ears		
		Promoting quality of service provided at welfare institutions for the physically and mentally disabled and other social welfare units		
		Welfare for children, teenagers, and women		
2000– present	Care for the Environment	Donations to the second prison in Yunlin County, prisons in Taipei and Kaohsiung for the AIDS inmate rainbow program and drug cessation program	12.2	
		Recycling and treatment of kitchen leftover		
		Cultivation of organic vegetables		
	Care for the Elderly	Planting trees for reforestation	4.2	
		*Building Chang Gung Health and Culture Village		
	After-math Reconstruction	Cultural Promotion	Donating the pneumococcal conjugate vaccine for old people	46.5
			**Donations during the 921 earthquake and Typhoon Morakot and to other counties and cities to help reconstructions (68)	
			Donations to symbolic cultural theaters of Taiwan	
			Promoting sports and human capacity building	
			Promoting sports and human capacity building	
Devotion to various health promotion research and academic research				
Contributions to areas in the surroundings of individual premises of the Formosa Plastics Group				
Chang Gung Social Welfare Fund and other donations				
Other			5.9	
<b>Total</b>			<b>504.2</b>	

Note: 1. Items marked "\*" are donations provided with the revenue of Chang Gung Memorial Hospital and hence are not included in total value of donations.  
 2. Items marked "\*\*" show the value of the reconstruction of old and dangerous buildings, including ongoing ones.  
 3. This table shows only donations within the region of Taiwan.

**TOUR AROUND TAIWAN FOR LOVE AND PUBLIC INTEREST**

Quanfeng, FPCC's lubricant provider and distributor was invited to take part in the 2014 "Tour around Taiwan for Love" campaign organized by the Classic Benz Association. All car owners were provided Formosa's premium Auto+ lubricant and road rescue service during the tour around Taiwan.

The tour around Taiwan lasted four days, starting on December 12, 2014, and included major sightseeing spots along the way to promote tourism in Taiwan. On the tour, they also visited nurseries to give their love and care for society, making

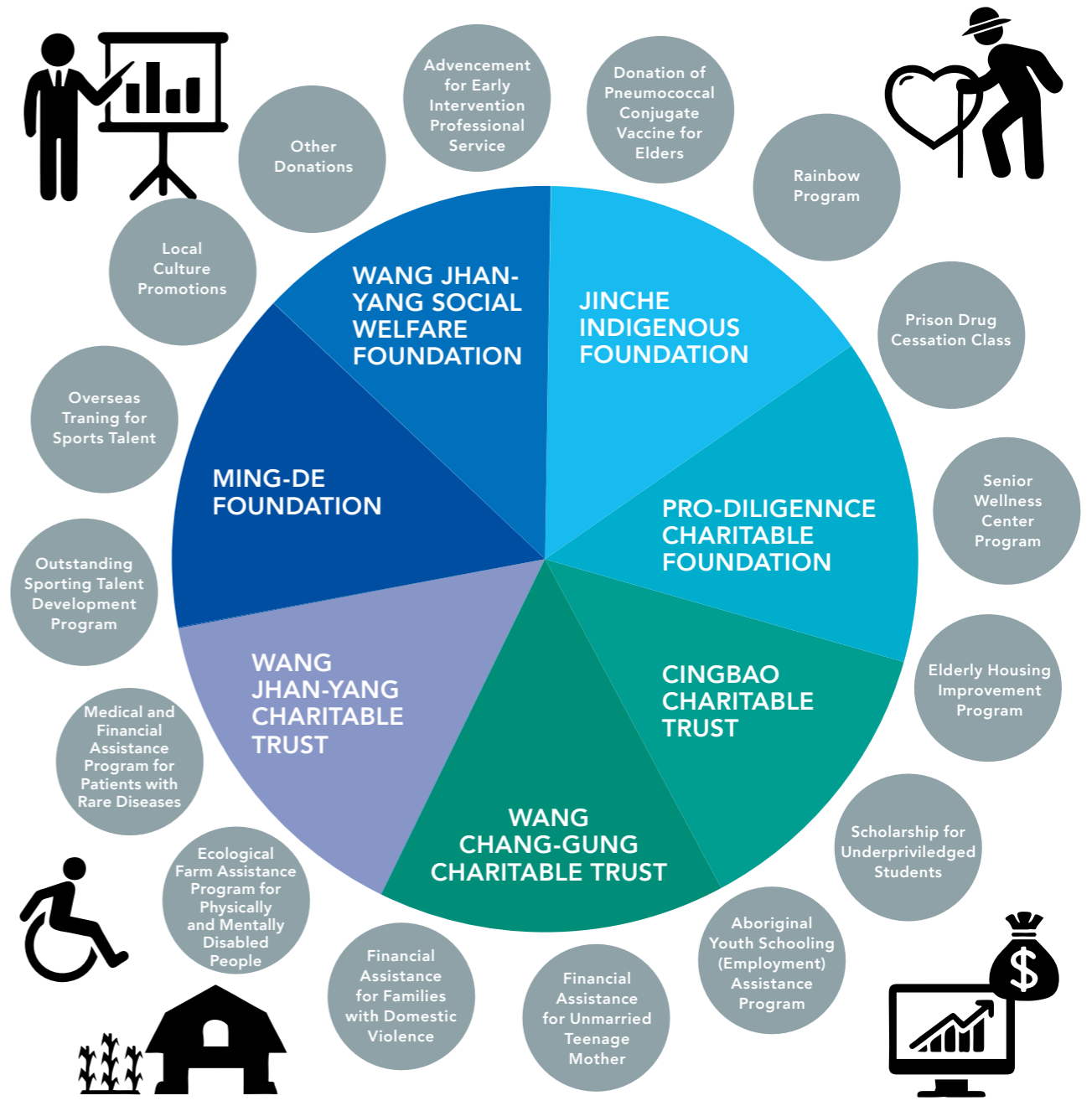
the tour even more meaningful.

**JOINT EFFORT THROUGHOUT FORMOSA CORPORATION**

After more than 60 years of development, the Formosa Plastics Group has deepened different fields to understand the needs in different aspects of society. It has also proactively worked with the government and private organizations to have an even deeper understanding of the society. Over the years, the Group has continuously devoted nearly NTD 50.42 billion in social public interest business such as education, medical care, and social welfare.

**Social Aid:**

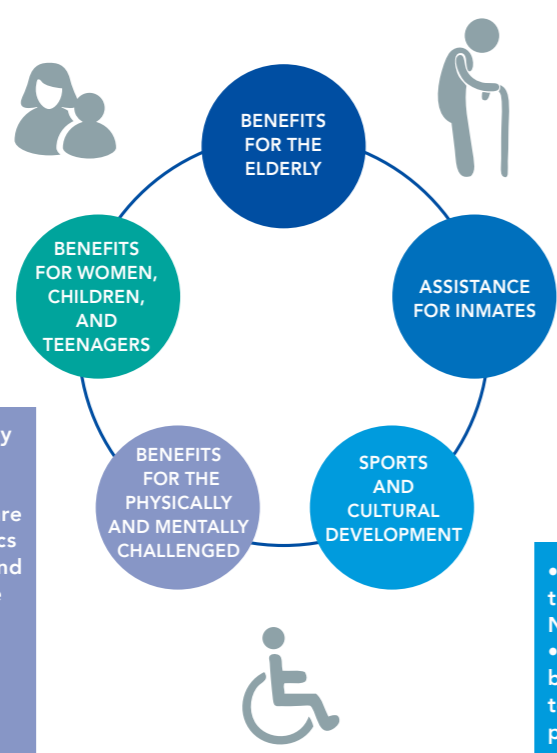
The Formosa Plastics Group has established seven foundations and public interest trusts in total, so that funds can be focused and invested in minorities and social welfare institutions. In addition, with joint efforts from private professional experts, individual public interest programs in compliance with the principles of being "comprehensive, general, and systematic" are continued to be promoted. Each program is not only the first of its kind in the nation but also fulfill the goal of sustainable management.



Seven Foundations, Charitable Trusts, and Their Implementation Programs:

- A total of 935 thousand shots of the vaccine were donated between 2007 and 2014 for the pneumococcal vaccination program for people aged 75 or above; the number is expected to reach one million in 2015.
- The vaccination program helped save at least NTD 10.16 billion for the government on medical care expenditure.
- Elderly housing renovation program throughout six counties and cities in Taiwan: 418 houses have been repaired so far.

- Up to NTD 55 million has been invested as scholarships for the poor and a total of 3,998 students have benefited.
- Nearly NTD 1.3 billion has been devoted to help female aboriginals become professional nurses.
- More than NTD 400 million has been invested in helping young aboriginal men more capable in landing a job.



- Through the "rainbow program", the recidivism rate among the HIV-positive and drug-addict inmates in Yunlin, Taipei, and Kaohsiung is only one-fourth, which is far lower than the average of 70% to 80%.
- For the drug cessation program, where inmates receive professional assistance, the recurrence rate is only 4.7%, which is far lower than the average of 60% to 70%.

- The first of its kind online "early intervention exchange platform" has 3,000 professional members now; professional materials that are developed by the Formosa Plastics Group have exceeded ten thousand and have been downloaded more than 60 thousand times.
- The first of its kind "early community-based subsidies" program has 20 sites throughout Taiwan

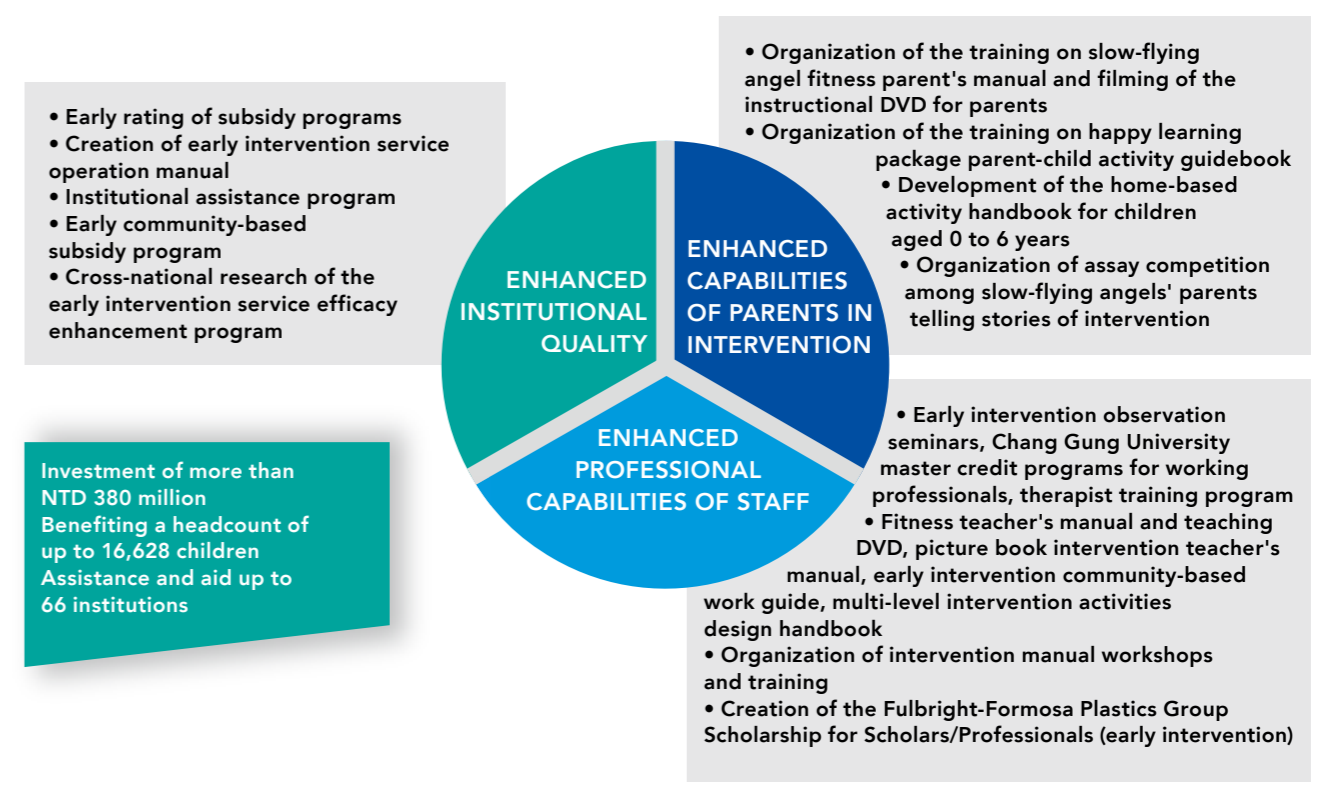
- Donations to symbolic cultural theaters of Taiwan totaled NTD 47 million
- More than NTD 110 million has been invested in outstanding tennis, table tennis, and pool talent.

Benefits for the Physically and Mentally Challenged:

EARLY INTERVENTION PROFESSIONAL SERVICE EFFICACY ENHANCEMENT PROGRAM

In light of the fact that receiving good intervention can even help one return to normal education to further cut back on the burden for the family and society, it is hoped that through various planned personal involvement in planning and devotion, it helps more children get to receive quality intervention services. Between 2006 and 2014, more than NTD 380 million has been invested to benefit a headcount of up to 16,628 children and 66 assistance and aid institutions.

Three Major Dimensions of the Professional Early Intervention Service Promoted by the Formosa Plastics Group:



- Early rating of subsidy programs
- Creation of early intervention service operation manual
- Institutional assistance program
- Early community-based subsidy program
- Cross-national research of the early intervention service efficacy enhancement program

- Organization of the training on slow-flying angel fitness parent's manual and filming of the instructional DVD for parents
- Organization of the training on happy learning package parent-child activity guidebook
- Development of the home-based activity handbook for children aged 0 to 6 years
- Organization of essay competition among slow-flying angels' parents telling stories of intervention

Investment of more than NTD 380 million Benefiting a headcount of up to 16,628 children Assistance and aid up to 66 institutions

- Early intervention observation seminars, Chang Gung University master credit programs for working professionals, therapist training program
- Fitness teacher's manual and teaching DVD, picture book intervention teacher's manual, early intervention community-based work guide, multi-level intervention activities design handbook
- Organization of intervention manual workshops and training
- Creation of the Fulbright-Formosa Plastics Group Scholarship for Scholars/Professionals (early intervention)

BENEFITS FOR THE ELDERLY

• Donating the Pneumococcal Conjugate Vaccine

The Formosa Plastics Group has been highly concerned about the health of old people in Taiwan. Since 2007, the founder of the Group decided to donate the pneumococcal conjugate vaccine to the Centers for Disease Control under the Ministry of Health and Welfare, jointly promoting the free pneumococcal vaccination program for people aged 75 or above. As of the end of 2014, up to 935 thousand shots had been donated. They are expected to have saved at least NTD 10.16 billion for the government on its expenditure on pneumonia health care and can help significantly improve old people's health and quality of life. The Group decided to donate the vaccine each year, and the quantity donated by the end of 2015 is expected to reach around one million doses.

• Housing Improvement

The Diligence Foundation and Qingbao Charitable Trust have been collaborating with the Federation for the

Welfare of the Elderly and Yunlin County Association for Protecting the Welfare of the Elderly since 2011 in improving houses for the elderly in Pingtung County, Taitung County, Taoyuan County, Yunlin County, Chiayi County, Hualien County, Hsinchu County, and Yilan County to enhance their safety at home. By the end of 2014, repairs of 418 houses in total had been completed while a total of 29 houses were under repairs and review.

INMATE SUPPORT

• Rainbow Program and Drug Cessation Class

The rainbow program is subsidized by the Wang Jhan-Yang Social Welfare Foundation and is devoted to helping HIV-positive and drug-addict inmates at Prison 2 of Yunlin, and prisons in Taipei and Kaohsiung acquire a skill and return to society, thus resuming their family life as normal. The drug cessation class is available at Prison 2 of Yunlin and the prison in Kaohsiung with subsidies from the Wang Jhan-Yang Charitable Trust, and is meant to help general drug offenses inmates resume their normal life.

Number of Inmates Having Participated in the Rainbow Program and Drug Cessation Class and Follow-Up Status after They are Released from Prisons					
Program	Item	Yunlin Prison 2	Taipei Prison	Kaohsiung Prison	Total
Rainbow Program	Number of inmates assisted by the end of 2014	337	159	222	718
	Inmates still receiving assistance or pending assistance	25	120	101	246
	Recurrence/released	86/255	8/70	13/146	107/471
	Ratio	33.7%	8.9%	11.4%	22.7%
Drug Cessation Class	Number of inmates assisted by the end of 2014	254	-	148	402
	Inmates still receiving assistance or pending assistance	275	-	250	525
	Recurrence/released	7/115	-	1/57	8/172
	Ratio	6.1%	-	1.1%	4.7%

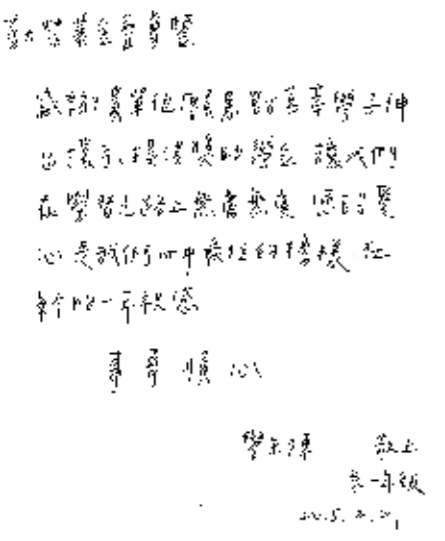
① The general recidivism rate among HIV-positive and drug-addict inmates is 70% to 80%.  
 ② The recurrence rate among general drug offenses inmates is 60% to 70%.

**BENEFITS FOR WOMEN, CHILDREN, AND TEENAGERS**

• **Scholarship for Underprivileged**

The Pro-Diligence Foundation has been sponsoring senior high school and college/university students with financial difficulties (from low-income households) and outstanding academic performance since 2011

by offering them scholarships. The scholarship is prioritized for students who have met individual application criteria and are not recipients of other scholarships so that the sponsored students can continue to receive assistance and complete their studies successfully. A total of 3,998 poor students were sponsored in 2014.



Thank-you card from sponsored student



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• **Helping Aboriginal Teenagers with Studies and Employment**

The Formosa Plastics Group started to spare no efforts to help aboriginal students go to school and learn skills since 1995. Chang Gung University of Science and Technology recruits aboriginal teenage girls into nursing division to help them become professional nurses. Ming Chi University of Technology offers the aboriginal technical training program and occupational

skill class for aboriginal teenagers who do not want to continue with higher-level studies acquire skills, providing those wishing to study the opportunity and all the miscellaneous expenses are supported by the two founders. Meanwhile, they are given the opportunity to work while they study to help lessen the financial burden from home. So far, more than 5,000 students have benefited from this practice and the sponsorship has exceeded NTD 1.67 billion.

School	Type of Class	Beneficiaries	Sponsorship Value
Chang Gung University of Science and Technology	Nursing program for aboriginals	Around 3,490 people	Around NTD 1.26 billion
Ming Chi University of Technology	Aboriginal technical training program	Around 1,770 people	Around NTD 414 million
	Aboriginal program at five-year junior college		
	Aboriginal program at senior high schools		
	Aboriginal program at four-year technical college		

**EDUCATION**

• **Beliefs and Current Status of the Three Educational Institutions Established**

In light of the fact that industries and the economy were taking off in the 1960s and the demand for technical talent increasing, the founder of the Formosa Plastics Group established Ming Chi Engineering College (now Ming Chi University of Technology)

in 1963 to proactively cultivate talent to support industrial developments. After Chang Gung Memorial Hospital was established in 1976, to cultivate outstanding medical care and nursing talent, the founder established Chang Gung Medical College (now Chang Gung University) and Chang Gung Nursing College (now Chang Gung University of Science and Technology) in 1987 and 1988.



# Appendix

## GRI G4 Index

● Full Disclosure ◎ Partial Disclosure

Indicator	Description	Disclosure	Report Contents	Remarks
<b>Strategy and Analysis</b>				
G4-1	Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability	●	Message from the Chairman	
G4-2	Provide a description of key impacts, risks, and opportunities	●	Message from the Chairman 1.5 Operational Performance and Prospects	
<b>Organization Profile</b>				
G4-3	Report the name of the organization	●	1.1 Company Overview and Management Beliefs	
G4-4	Report the primary brands, products, and services	●	1.1 Company Overview and Management Beliefs	
G4-5	Report the location of the organization's headquarters	●	1.1 Company Overview and Management Beliefs	
G4-6	Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	●	1.1 Company Overview and Management Beliefs	
G4-7	Report the nature of ownership and legal form	●	1.1 Company Overview and Management Beliefs	
G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	●	1.1 Company Overview and Management Beliefs	
G4-9	Report the scale of the organization	●	1.1 Company Overview and Management Beliefs	
G4-10	Report the total number of employees by various categories	●	3.2 Employee Care and Management	
G4-11	Report the percentage of total employees covered by collective bargaining agreements	●	3.3 Communication Channels, Compensation, and Benefits	
G4-12	Describe the organization's supply chain	◎	1.3 FPCC Business Model	
G4-13	Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	●	1.1 Company Overview and Management Beliefs 1.3 FPCC Business Model	There were no significant change in 2014
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization	●	1.1 Company Overview and Management Beliefs	
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	●	1.5 Operational Performance and Prospects	
G4-16	List memberships of associations (such as industry associations) and national or international advocacy organizations	●	1.7 Partnership	

Indicator	Description	Disclosure	Report Contents	Remarks
<b>Identified Material Aspects and Boundaries</b>				
G4-17	List all entities included in the organization's consolidated financial statements or equivalent documents.	●	About this Report	
G4-18	Explain the process for defining the report content and the Aspect Boundaries. Explain how the organization has implemented the Reporting Principles for Defining Report Content	●	Stakeholder Engagement	
G4-19	List all the material Aspects identified in the process for defining report content	●	Stakeholder Engagement	
G4-20	For each material Aspect, report the Aspect Boundary within the organization, as follows: Report whether the Aspect is material within the organization	●	Stakeholder Engagement	
G4-21	For each material Aspect, report the Aspect Boundary outside the organization	●	Stakeholder Engagement	
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements	●	About this Report	
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries	●	About this Report	

### Stakeholder Engagement

G4-24	Provide a list of stakeholder groups engaged by the organization	●	Stakeholder Engagement	
G4-25	Report the basis for identification and selection of stakeholders with whom to engage	●	Stakeholder Engagement	
G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	●	Stakeholder Engagement	
G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns	●	Stakeholder Engagement	

Indicator	Description	Disclosure	Report Contents	Remarks
<b>Report Profile</b>				
G4-28	Reporting period (such as fiscal or calendar year) for information provided	●	About this Report	
G4-29	Date of most recent previous report	●	About this Report	
G4-30	Reporting cycle	●	About this Report	
G4-31	Provide the contact point for questions regarding the report or its contents	●	About this Report	
G4-32	Report the in accordance option the organization has chosen, the GRI Content Index for the chosen option, the reference to the External Assurance Report, if the report has been externally assured	●	About this Report	
G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report	●	About this Report	

#### Governance

G4-34	Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts	●	1.1 Company Overview and Management Beliefs	
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#### Arhics and Integrity

G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	●	1.1 Company Overview and Management Beliefs	
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#### Category: Economic

##### Aspect: Economic Performance

Generic Disclosures on Management Approach (DMA)		●	1.5 Operational Performance and Prospects	
G4-EC1	Direct economic value generated and distributed	●	1.5 Operational Performance and Prospects	
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	●	1.1 Company Overview and Management Beliefs 1.5 Operational Performance and Prospects	
G4-EC3	Coverage of the organization's defined benefit plan obligations	●	3.3 Communication Channels, Compensation, and Benefits	

Indicator	Description	Disclosure	Report Contents	Remarks
<b>Aspect: Market Presence</b>				
G4-EC5	Ratios of atandard entry level wage by gender compared to local minimum wage at significant locations of operation	●	3.3 Communication Channels, Compensation, and Benefits	
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	●	3.2 Employee Care and Management	

##### Aspect: Indirect Economic Impacts

G4-EC7	Development and impact of infrastructure investments and service supported	●	1.3 FPCC Business Model	
G4-EC8	Significant indirect economic impacts, including the extent of impacts	●	1.3 FPCC Business Model	

#### Category: Environmental

##### Aspect: Materials

G4-EC2	Percentage of materials used that are recycled input materials	●	2.2 Green and Environmental Protection Policy at Mailiao Park 2.5 Green Production and Environmental Accounting	
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##### Aspect: Energy

Generic Disclosures on Management Approach (DMA)		●	2.3 Greenhouse Gas Emission and Energy Management	
G4-EN3	Energy consumption within the organization	●	2.3 Greenhouse Gas Emission and Energy Management 2.5 Green Production and Environmental Accounting	
G4-EN5	Energy intensity	●	2.3 Greenhouse Gas Emission and Energy Management	
G4-EN6	Reduction of energy consumption	●	2.3 Greenhouse Gas Emission and Energy Management	
G4-EN7	Reductions in energy requirements of products and services	●	2.3 Greenhouse Gas Emission and Energy Management	

##### Aspect: Water

Generic Disclosures on Management Approach (DMA)		●	2.2 Green and Environmental Protection Policy at Mailiao Park	
G4-EN8	Total water withdrawal by source	●	2.2 Green and Environmental Protection Policy at Mailiao Park	
G4-EN9	Water sources significantly affected by withdrawal of water	●	2.2 Green and Environmental Protection Policy at Mailiao Park	
G4-EN10	Percentage and total volume of water recycled and reused	●	2.2 Green and Environmental Protection Policy at Mailiao Park	

Indicator	Description	Disclosure	Report Contents	Remarks
<b>Aspect: Biodiversity</b>				
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	●	3.1 Commitment to Society and Practice 3.5 Sustainable Development at Mailiao Park	
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	●	3.5 Sustainable Development at Mailiao Park	
G4-EN13	Habitats protected or restored	●	3.5 Sustainable Development at Mailiao Park	
G4-EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	●	3.5 Sustainable Development at Mailiao Park	

#### Aspect: Emissions

Generic Disclosures on Management Approach (DMA)				
		●	2.3 Greenhouse Gas Emission and Energy Management	
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	●	2.3 Greenhouse Gas Emission and Energy Management	
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	●	2.3 Greenhouse Gas Emission and Energy Management	
G4-EN18	Greenhouse gas (GHG) emissions intensity	●	2.3 Greenhouse Gas Emission and Energy Management	
G4-EN19	Reduction of greenhouse gas (GHG) emissions	●	2.3 Greenhouse Gas Emission and Energy Management 2.5 Green Production and Environmental Accounting	
G4-EN20	Emissions of ozone-depleting substances (ODS)	●	2.2 Green and Environmental Protection Policy at Mailiao Park	
G4-EN21	NOX, SOX, and other significant air emissions	●	2.2 Green and Environmental Protection Policy at Mailiao Park	

#### Aspect: Effluents and Waste

G4-EN22	Total water discharge by quality and destination	●	2.2 Green and Environmental Protection Policy at Mailiao Park	
G4-EN23	Total weight of waste by type and disposal method	●	2.2 Green and Environmental Protection Policy at Mailiao Park	
G4-EN24	Total number and volume of significant spills	●	2.1 Environmental Protection Policy	
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII, and percentage of transported waste shipped internationally	●		FPCC does not transported, imported, exported, or treated waste in 2014
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	●	3.5 Sustainable Development at Mailiao Park	

Indicator	Description	Disclosure	Report Contents	Remarks
<b>Aspect: Products and Services</b>				
Generic Disclosures on Management Approach (DMA)		●	1.1 Company Overview and Management Beliefs	
G4-EN27	Extent of impact mitigation of environmental impacts of products and service	●	1.1 Company Overview and Management Beliefs	

#### Aspect: Compliance

G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	●	2.1 Environmental Protection Policy	
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#### Aspect: Transport

G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting	●	2.5 Green Production and Environmental Accounting	
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#### Aspect: Overall

Generic Disclosures on Management Approach (DMA)		●	2.5 Green Production and Environmental Accounting	
G4-EN31	Total environmental protection expenditures and investments by type	●	2.5 Green Production and Environmental Accounting	

#### Aspect: Supplier Environmental Assessment

G4-EN32	Percentage of new suppliers that were screened using environmental criteria	◎	1.7 Partnership	Requires all new suppliers to 100% comply with FPCC's criteria for banned substances
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	●	1.7 Partnership	

#### Aspect: Environmental Grievance Mechanisms

Generic Disclosures on Management Approach (DMA)		●	3.5 Sustainable Development at Mailiao Park	
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	●	3.5 Sustainable Development at Mailiao Park	



Indicator	Description	Disclosure	Report Contents	Remarks
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Category: Social

Sub-category: Labor Practices and Decent Work

Aspect: Employment

	Generic Disclosures on Management Approach (DMA)	●	3.2 Employee Care and Management	
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	◎	3.2 Employee Care and Management	
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	●	3.3 Communication Channels, Compensation, and Benefits	
G4-LA3	Return to work and retention rates after parental leave, by gender	●	3.2 Employee Care and Management	

Aspect: Labor/Management Relations

G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	●	3.3 Communication Channels, Compensation, and Benefits	
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Aspect: Occupational Health and Safety

	Generic Disclosures on Management Approach (DMA)	●	3.4 Workplace Safety and Health Management	
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	●	3.3 Communication Channels, Compensation, and Benefits	
G4-LA6	Type of injury and rates injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	●	3.4 Workplace Safety and Health Management	
G4-LA7	Works with high incidence or high risk of diseases related to their occupation	●	3.4 Workplace Safety and Health Management	
G4-LA8	Health and safety topics covered in formal agreement with trade unions	●	3.3 Communication Channels, Compensation, and Benefits	

Aspect: Training and Education

	Generic Disclosures on Management Approach (DMA)	●	3.3 Communication Channels, Compensation, and Benefits	
G4-LA9	Average hours of training per year per employee by gender, and by employee category	●	3.3 Communication Channels, Compensation, and Benefits	
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	●	3.3 Communication Channels, Compensation, and Benefits	
G4-LA11	Percentage of employees receiving regular performance and career development reviews by gender and by employee category	◎	3.3 Communication Channels, Compensation, and Benefits	

Indicator	Description	Disclosure	Report Contents	Remarks
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Aspect: Diversity and Equal Opportunity

G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	●	3.2 Employee Care and Management	
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Aspect: Equal Remuneration for Women and Men

G4-LA13	Ratio of basic salary remuneration of women to men by employee category, by significant locations of operation	●	3.2 Employee Care and Management 3.3 Communication Channels, Compensation, and Benefits	
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Aspect: Supplier Assessment for Labor Practices

G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	◎	1.7 Partnership	Requires all new suppliers to 100% comply with FPCC's criteria for labor policy
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	●	1.7 Partnership	

Aspect: Labor Practices Grievance Mechanisms

G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	●	3.3 Communication Channels, Compensation, and Benefits	
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Sub-category: Human Rights

Aspect: Investment

G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	●		In 2014, FPCC don't have the related screening in investment agreements and contracts
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	◎	3.3 Communication Channels, Compensation, and Benefits	

Aspect: Non-discrimination

G4-HR3	Total number of incidents of discrimination and corrective action taken	●	3.2 Employee Care and Management	
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Aspect: Freedom of Association and Collective Bargaining

G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	●	3.2 Employee Care and Management	
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Indicator	Description	Disclosure	Report Contents	Remarks
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#### Aspect: Child Labor

G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	●	3.2 Employee Care and Management	
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#### Aspect: Forced or Compulsory Labor

G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	●	3.2 Employee Care and Management	
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#### Aspect: Security Practices

G4-HR7	Percentage of security personal trained in the organization's human rights policies or procedures that are relevant to operation	●	3.3 Communication Channels, Compensation, and Benefits	
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#### Aspect: Indigenous Rights

G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	●	3.2 Employee Care and Management	
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#### Aspect: Assessment

G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	●	3.2 Employee Care and Management	
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#### Aspect: Supplier Human Right Assessment

G4-HR10	Percentage of new suppliers that were screened using human rights criteria	◎	1.7 Partnership	Requires all new suppliers to 100% comply with FPCC's criteria for labor policy
G4-HR11	Significant actual potential negative human rights impacts in the supply chain and actions taken	●	1.7 Partnership	

#### Aspect: Human Right Grievance Mechanisms

G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	●	3.3 Communication Channels, Compensation, and Benefits	
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Indicator	Description	Disclosure	Report Contents	Remarks
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#### Sub-category: Society

#### Aspect: Local Communities

G4-SO1	Percentage of operation with implemented local community engagement, impact assessments, and development programs	●	3.5 Sustainable Development at Mailiao Park 3.6 Societal Care and Feedback	
G4-SO2	Operations with significant actual and potential negative impacts on local communities	●	3.5 Sustainable Development at Mailiao Park	

#### Aspect: Anti-corruption

G4-SO3	Total number and percentage of operations assessed for risks to corruption and the significant risks identified	●	1.6 Corporate Governance	
G4-SO4	Communication and training on anti-corruption policies and procedures	●	1.6 Corporate Governance	
G4-SO5	Confirmed incidents of corruption and actions taken	●	1.6 Corporate Governance	

#### Aspect: Public Policy

G4-SO6	Total value of political contributions by country and recipient/beneficiary	●	1.6 Corporate Governance	
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#### Aspect: Anti-competitive Behavior

G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	●		In 2014, FPCC had no legal actions pending or completed during the reporting period regarding anti-competitive behavior and violations of anti-trust and monopoly legislation
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#### Aspect: Compliance

G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	●	2.1 Environmental Protection Policy	
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#### Aspect: Supplier Assessment for Impacts on Society

G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	◎	1.7 Partnership	
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and action taken	●	1.7 Partnership	

Indicator	Description	Disclosure	Report Contents	Remarks
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#### Aspect: Grievance Mechanisms for Impacts on Society

G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	●	3.5 Sustainable Development at Mailiao Park	
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#### Sub-category: Product Responsibility

##### Aspect: Customer Health and Safety

G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	●	1.1 Company Overview and Management Beliefs	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	●	1.1 Company Overview and Management Beliefs	

##### Aspect: Product and Service Labeling

G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	●	1.7 Partnership	
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	●		This is not a material aspect, and is not disclosed in this report
G4-PR5	Results of surveys measuring customer satisfaction	●	1.7 Partnership	

##### Aspect: Marketing Communications

G4-PR6	Sale of banned or disputed products	●		We don't have any sale of banned or disputed products in 2014
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	●	1.1 Company Overview and Management Beliefs	

##### Aspect: Customer Privacy

G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	●	1.7 Partnership	
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Indicator	Description	Disclosure	Report Contents	Remarks
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#### Aspect: Compliance

G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	●	1.1 Company Overview and Management Beliefs	
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#### Category: Oil and Gas Sector Supplement

##### Aspect: Oil and Gas

Generic Disclosures on Management Approach (DMA)		●	2.2 Green and Environmental Protection Policy at Mailiao Park 3.5 Sustainable Development at Mailiao Park	
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##### Aspect: Reserves

G4-OG1	Volume and type of estimated proved reserves and production	●		This is not a material aspect, and is not disclosed in this report
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##### Aspect: Energy

G4-OG2	Total amount invested in renewable energy	●	2.5 Green Production and Environmental Accounting	
G4-OG3	Total amount of renewable energy generated by source	●	2.5 Green Production and Environmental Accounting	

##### Aspect: Ecosystem Services Including Biodiversity

G4-OG4	Number and percentage of significant operating sites in which biodiversity risk has been assessed and monitored	●	3.5 Sustainable Development at Mailiao Park	
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##### Aspect: Effluents and Waste

G4-OG5	Volume and disposal of formation or produced water	●	2.2 Green and Environmental Protection Policy at Mailiao Park	
G4-OG6	Volume of flared and vented hydrocarbon	●	2.2 Green and Environmental Protection Policy at Mailiao Park	
G4-OG7	Amount of drilling waste (drill mud and cuttings) and strategies for treatment and disposal	●		This is not a material aspect, and is not disclosed in this report

##### Aspect: Products and Services

G4-OG8	Benzene, lead and sulfur content in fuels	●	2.2 Green and Environmental Protection Policy at Mailiao Park	
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Indicator	Description	Disclosure	Report Contents	Remarks
G4-OG9	Operations where indigenous communities are present or affected by activities and where specific engagement strategies are in place	●		This is not a material aspect, and is not disclosed in this report

### Aspect: Local Communities

G4-OG10		●	3.5 Sustainable Development at Mailiao Park	
G4-OG11	Number sites that have been decommissioned and sites that are in the process of being decommissioned	●		This is not a material aspect, and is not disclosed in this report

### Sector specific Aspect: Involuntary Resettlement

G4-OG12	Operations where involuntary resettlement took place, the number of households resettled in each and how their livelihoods were affected in the process	●		This is not a material aspect, and is not disclosed in this report
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### Sector specific Aspect: Asset Integrity and Process Safety

G4-OG13	Number of process safety event, by business activity	●	3.4 Workplace Safety and Health Management	
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### Sector specific Aspect: Fossil Fuel Substitutes

G4-OG14	Volume biofuels produced and purchased meeting sustainability criteria	●	2.5 Green Production and Environmental Accounting	
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## Independent Opinion Statement





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