

A large, stylized green footprint graphic is the central focus of the page. The footprint is composed of several shades of green, with the main body being a darker green and the toes being a lighter green. The text is overlaid on the footprint.

ESG

Sustainability Report ESG Report 2022

1 Ethical management, Quality, Innovation and Respect

Grand Pacific Petrochemical Corporation

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About the "GRAND PACIFIC PETROCHEMICAL 2022 CSR Report"

This report references the Global Reporting Initiative (GRI) Sustainability Reporting Standards (GRI Standards) and the SASB Standards for the Chemicals industry and the Taiwan Stock Exchange's disclosure indicators for the Chemical industry as supplementary information, adopting the referencing option as the disclosure principle.



Grand Pacific Petrochemical Corporation (Public Issuance Code 1312, TW) has released an "ESG Report" with the primary purpose of transparently and publicly presenting the company's practices, achievements, strategies, and goals in corporate social responsibility to the general public. The ESG Report is published annually with regular updates.

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Grand Pacific Petrochemical Corporation (Public Issuance Code 1312, TW) has released an "ESG Report" with the primary purpose of transparently and publicly presenting the company's practices, achievements, strategies, and goals in corporate social responsibility to the general public. The ESG Report is published annually with regular updates. This "ESG Report" was published in June 2023 and primarily presents the actions, performance data, and achievements of Nan Ya Plastics' Taipei/Taichung offices and Kaohsiung plant in environmental protection, corporate governance, and social engagement for the period from January 1, 2022, to December 31, 2022, with some performance data also reflecting 2021.

Considering the entities that have an impact on the operation of the group, the scope of this report mainly focuses on Nan Ya Plastics' Taipei office and Kaohsiung plant. The company's main customers include chemical material manufacturers, with ABS/Nylon product sales covering regions such as China, Europe, America, and Japan. For SM products, the focus is on domestic sales, and the application scope of the products includes industries such as electronics, chemicals, and automobiles. This report does not cover other subsidiaries or joint venture companies; any exceptions will be specifically noted in the report.

This report references the Global Reporting Initiative (GRI) Sustainability Reporting Standards (GRI Standards) and the SASB Standards for the Chemicals industry and the Taiwan Stock Exchange's disclosure indicators for the Chemical industry as supplementary information, adopting the referencing option as the disclosure principle. To provide reliable public information, this report has been independently verified by TUV Nord in accordance with the AA1000 Assurance Standard. The carbon inventory data in this report includes the Kaohsiung plant and has been independently verified by SGS, a third-party.

During the reporting period of this year's report, there were no significant changes in the company's operational activities, products, services (including sales market regions), entities, and activities in the value chain compared to the previous period. Financial statement figures in the report are presented in New Taiwan Dollars, while environmental, safety, and health-related performance are expressed using internationally accepted indicators. Any estimations or assumptions will be noted in the relevant chapters.

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The report is scheduled to be issued annually on an ongoing basis

Current version: Issued in June 2023

Last version: Issued in June 2022

Next version: Expected to be issued in June 2024

In response to environmental protection, we promote paperless initiatives; hence, this report is published in electronic version on the Company's website.

For any comments on this report, please feel free to contact us. Contact information:

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CHAPTER 01

Looking ahead, with the gradual improvement of our hardware and software facilities and the unity and concerted efforts of our corporate team, the company will continue to reach new heights, maximize operational efficiency, and lay the foundation for the company to expand into a more promising future.

Strategy and Vision

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Looking ahead, with the gradual improvement of our hardware and software facilities and the unity and concerted efforts of our corporate team, the company will continue to reach new heights, maximize operational efficiency, and lay the foundation for the company to expand into a more promising future.



1. Operator's Words

Senior Management's Expectations

Facing the new year, the company is determined to fearlessly face challenges. In addition to focusing on our current core businesses such as SM, ABS, hydrogen, and nylon 66, we actively seek to develop low-carbon and carbon-three industries. We aim to optimize costs, efficiency, quality, and processes, and explore sales channels for niche products such as energy-saving and emission-reducing products. We strive for steady growth in both quality and quantity and seize business opportunities to pursue profitability. The investment in the Quangang Petrochemical Park in Quanzhou City, Fujian Province includes a project with a capacity of 660,000 tons/year of propane dehydrogenation and 450,000 tons/year of polypropylene. We aim to achieve full-load production and commercialization by the end of 2023 or early 2024. Additionally, the company continues to invest in developing research and development center to actively explore the diversified development of high-value products such as high-function nylon fibers and PP engineering plastics.

Furthermore, in response to the complex and ever-changing internal and external environments, the company continues to commit to achieving the set targets and benefits. To meet the high standards of benchmarking companies in terms of safety production and energy conservation and emission reduction, the company has been allocating significant capital expenditures in recent years, such as implementing optimization improvements with the best available control technology. We constantly strive to uphold our commitment to environmental friendliness as a fundamental requirement for our operations, demonstrating our dedication to fulfilling the sacred mission of being an exemplary corporate citizen. Looking ahead, with the gradual improvement of our hardware and software facilities and the unity and concerted efforts of our corporate team, the company will continue to reach new heights, maximize operational efficiency, and lay the foundation for the company to expand into a more promising future.

The company' s ESG policy vision is to implement risk control mechanisms, shape a low-carbon value system, respect human rights, and fulfill social responsibilities in order to achieve sustainable operations, and the efforts in three dimensions of economic, environmental, and social aspects of corporate social responsibility are as following:

01
Economic Aspect

Grand Pacific Petrochemical complies with the "Company Act," "Securities and Exchange Act," and "Corporate Governance Best Practice Principles for Listed and OTC Companies" to regulate the ethical conduct of all employees, directors, and executives. The company regularly reviews its "Corporate Mission, Vision, Values," as well as "Core Functions" and "Management Functions," and requires relevant personnel to adhere to them. In addition to disclosing important corporate social responsibility issues in the annual report, Grand Pacific Petrochemical also enhances operational transparency through the regular publication of ESG reports.

02
Environmental Aspect

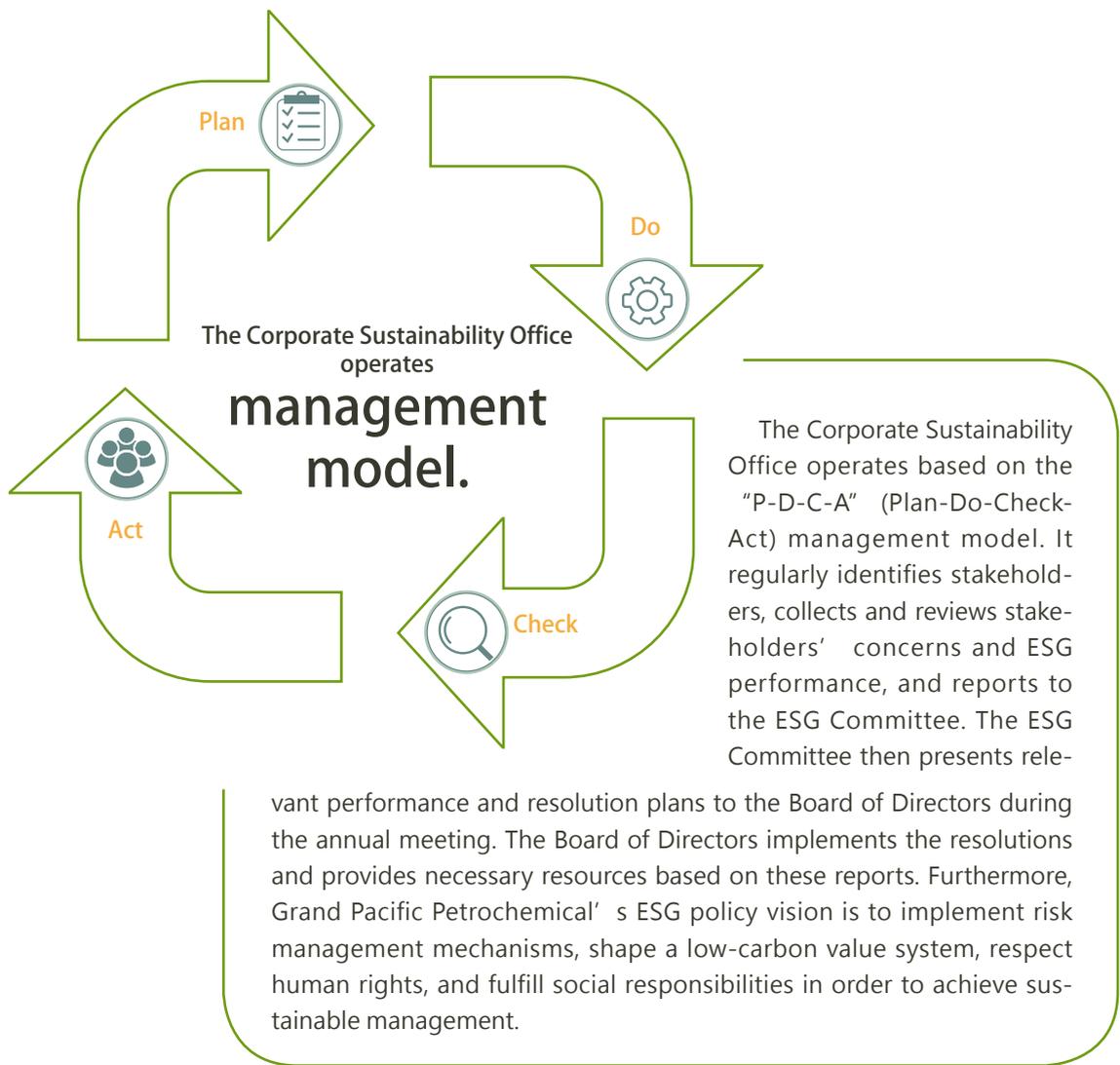
To meet the challenges posed by internal and external environmental factors, the company is committed to achieving the benefits of various goals. In order to meet high standards of occupational safety, production safety, energy conservation, and carbon reduction, Grand Pacific Petrochemical has consistently allocated capital expenditures over the past two decades to introduce advanced improvements such as the best available control technology. Establishing environmentally friendly production methods is a fundamental requirement for the company's operations, demonstrating its commitment to fulfilling its role as a corporate citizen. Looking ahead, with continuous improvement in various hardware and software infrastructure and the dedicated efforts of the corporate team, the company hopes to live up to the trust of its shareholders and continue to achieve higher levels of operational efficiency.

03
Social Aspect

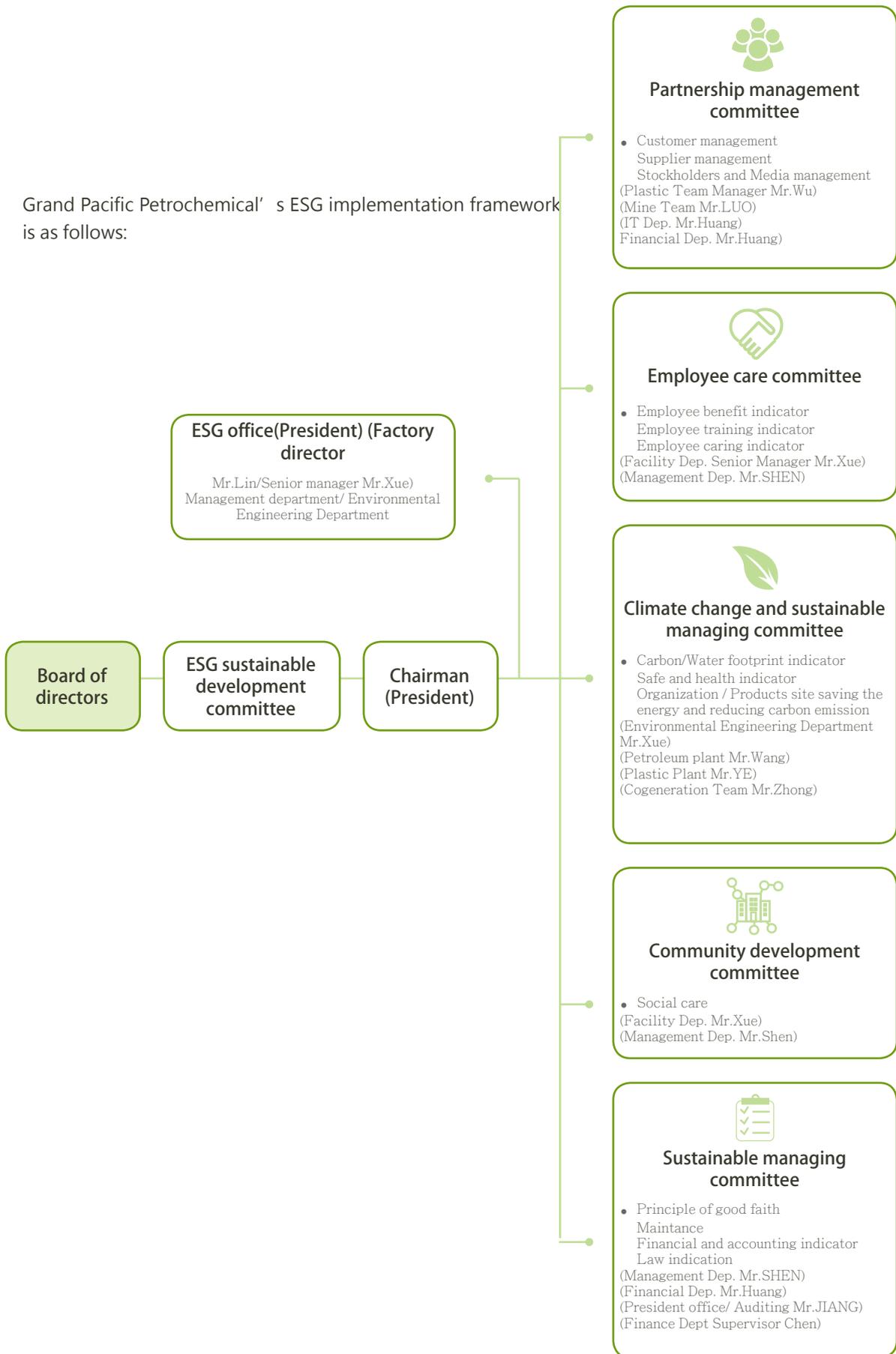
Grand Pacific Petrochemical emphasis on sustainable business practices. The concept of "sustainability" or "corporate social responsibility" is not just a single issue but a core value integrated into every initiative. In addition to addressing stakeholders' concerns through this report, as a member of Grand Pacific Petrochemical and a lifelong pursuit, I am willing to double my efforts and fearlessly shoulder the mission, seize opportunities to guide a warm and positive corporate culture, establish environmentally friendly organizational goals, and rally everyone's commitment and dedication to create the best team efficiency. With a spirit of continuous improvement and active management, I am committed to making the greatest contribution to the company's growth and sustainable development and fulfilling our social responsibility, making the company an outstanding corporate citizen.

2. Corporate Social Responsibility Commitment and Organizational Structure

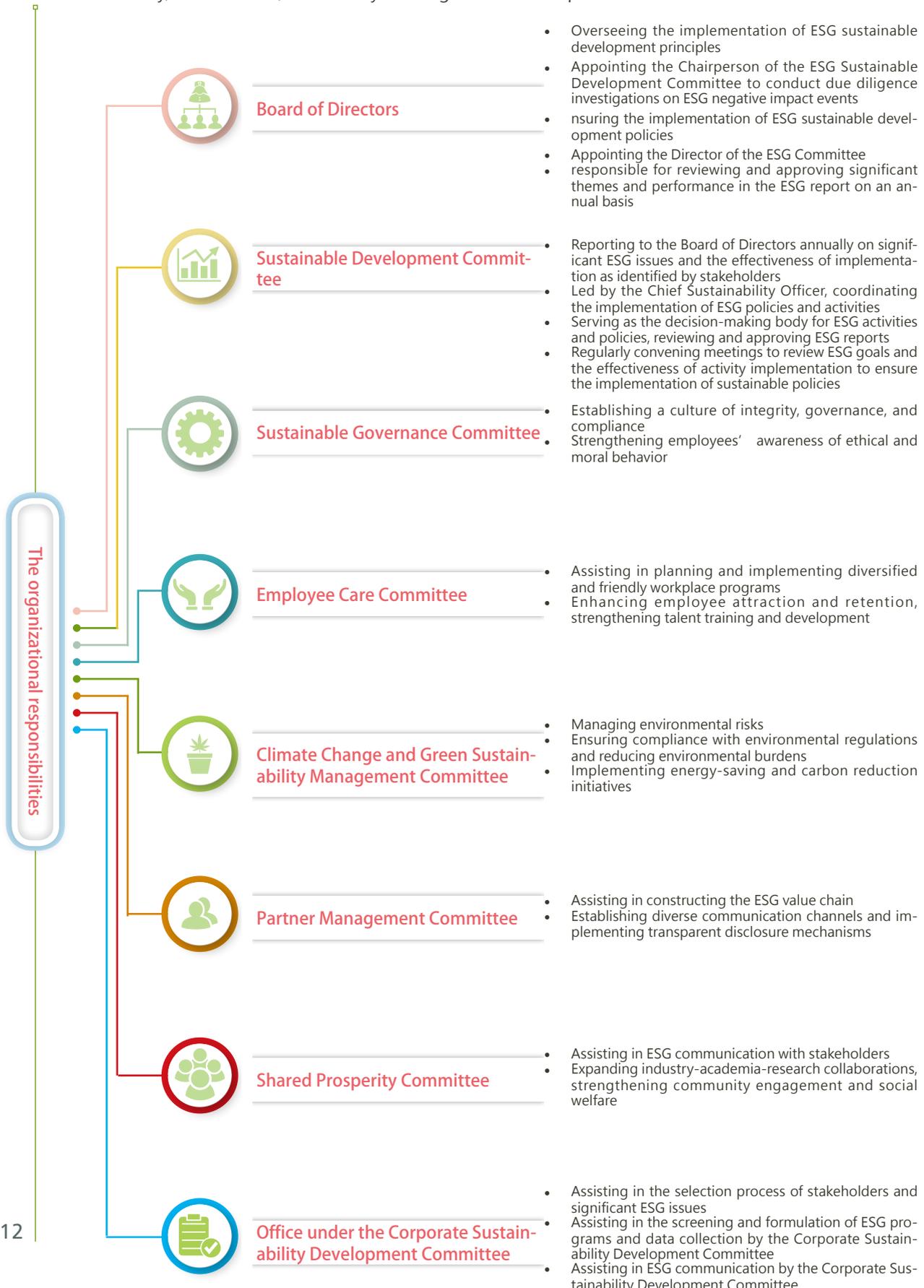
The ESG project organizational structure of Grand Pacific Petrochemical consists of the ESG Sustainable Business Committee, led by the Chief Sustainability Officer, which regularly holds meetings to review and evaluate the effectiveness of ESG initiatives. Under the ESG Sustainable Business Committee, there are five subcommittees: Sustainable Governance Committee, Employee Care Committee, Climate Change and Green Sustainability Management Committee, Partner Management Committee, and Social Prosperity Committee. These committees guide the management indicators for the economic, environmental, and social dimensions of corporate social responsibility and supervise the implementation of performance management indicators for the Economic, Environmental, and Social aspects by the Corporate Sustainability Office.



Grand Pacific Petrochemical's ESG implementation framework is as follows:



Grand Pacific Petrochemical has established the ESG Sustainable Business Committee as the highest governing body responsible for decision-making and oversight of the organization's impacts on the economy, environment, and society. The organizational responsibilities are as follows:



3. Stakeholder Negotiation and Sustainable Issue Management

Analysis procedure of major consideration aspects

This report uses the material consideration analysis process to identify the sustainability issues of concern to stakeholders as a reference basis for information disclosure, to achieve the goal of effective communication, and to serve as an important basis for future planning of corporate social responsibility.

Communication and selection of stakeholders and significant issues in corporate social responsibility are of utmost importance. Understanding the issues of concern to relevant stakeholders and disclosing them through the ESG report allows stakeholders to comprehend the efforts and achievements of our company in corporate social responsibility in 2022.

Stakeholders and Issues of Concern



The ESG Committee, based on the daily operations of relevant departments and external business communications, follows the substantial issue selection mechanism. The ESG Secretariat convenes members of the ESG Committee's subcommittees (executive committees) to facilitate organizational operations and stakeholder inclusiveness. Through stakeholder identification, priority communication targets are selected, and responses are provided regarding the issues they care about (stakeholder communication management policy). This process helps identify key stakeholders and their areas of concern. The identified stakeholders include customers, employees/unions, investors, media, suppliers, communities, and government, totaling seven categories of stakeholders. The ESG Committee's subcommittees (executive committees) distribute questionnaires to stakeholders and collect survey responses, which are then compiled by the ESG Secretariat to identify significant indicators and carry out disclosures.

Recognizing that stakeholder engagement is an integral part of our sustainable issue management, we maintain interaction with stakeholders through various means, including daily business interactions, telephone communication, meetings, satisfaction surveys, site visits, and participation in associations. The concerns raised by stakeholders are addressed in this report as identified significant considerations.

Grand Pacific Petrochemical's Source of Sustainability Issues

The process for identifying significant considerations in our company is based on the reporting principles and content guidelines of the GRI (Global Reporting Initiative) Standards framework. Due to the wide range of sustainability issues, we collect and organize relevant topics from the following sources.



Stakeholders of GRAND PACIFIC PETROCHEMICAL

Stakeholders	Concerned issues	Communication methods of GRAND PACIFIC PETROCHEMICAL	Communication frequency	Sections of Response in the Report
 Employee	<ul style="list-style-type: none"> Occupational health and safety Educational training Labor relations Labor-employer relations 	<ul style="list-style-type: none"> Employee Welfare Committee (quarterly) Union representative conference Employee handbook Labor-Management Council meetings 	<ul style="list-style-type: none"> Quarterly Annually On-demand Quarterly 	CH4. Labor Human Rights and Social Care
 Government (including FSC/environmental agencies)	<ul style="list-style-type: none"> Emissions Water and waste Materials and energy Supplier sustainability management Labor rights and occupational health and safety 	<ul style="list-style-type: none"> ESG report Declaration and inspection of waste/wastewater/air pollution Government regulations and advocacy ESG mailbox set up on the company's website Labor condition inspections 	<ul style="list-style-type: none"> Annually Random Annually On-demand Random 	CH1. Strategy and Vision CH2. Operational Review CH3. Environment Sustainability
 Community/local people	<ul style="list-style-type: none"> Local community Water and waste Occupational health and safety training 	<ul style="list-style-type: none"> Meetings/discussions Industrial Park Service Center Industrial zone business association/industry association 	<ul style="list-style-type: none"> Random Random Annually 	CH3. Environment Sustainability CH4. Labor Human Rights and Social Care
 Customer	<ul style="list-style-type: none"> Private management and safety Child labor Product services and labeling Anti-corruption 	<ul style="list-style-type: none"> Annual customer satisfaction survey Customer ESG audit Material Safety Data Sheets ESG report 	<ul style="list-style-type: none"> Annually Random On-demand On-demand 	CH2. Operational Review CH3. Environment Sustainability CH4. Labor Human Rights and Social Care
 Shareholders/Investors	<ul style="list-style-type: none"> Economic performance Water Waste Emissions Anti-corruption 	<ul style="list-style-type: none"> Mailbox for Investors Market Observation Post System Dedicated phone number for the spokesperson ESG report ESG section on the website 	<ul style="list-style-type: none"> Random Annually Random Annually Random 	CH1. Strategy and Vision CH2. Operational Review CH3. Environment Sustainability CH4. Labor Human Rights and Social Care
 Supplier	<ul style="list-style-type: none"> Supplier environmental assessment Customer health and safety Product service and labeling 	<ul style="list-style-type: none"> Supplier ESG promotion Supplier ESG assessment Material Safety Data Sheets 	<ul style="list-style-type: none"> Annually Annually On-demand 	CH1. Strategy and Vision CH2. Operational Review CH4. Labor Human Rights and Social Care
 Media	<ul style="list-style-type: none"> Economic performance Occupational health and safety Customer health and safety 	<ul style="list-style-type: none"> Market Observation Post System Random telephone communication ESG report website information disclosure 	<ul style="list-style-type: none"> Annually Random Annually 	CH2. Operational Review CH3. Environment Sustainability CH4. Labor Human Rights and Social Care

15 Note: In response to the initiation of sustainable management within the organization in 2022, we have established an "Corporate Social Responsibility Mailbox" (ESG@gppc.com.tw) for communication and feedback from various stakeholders. A dedicated person is assigned to handle communication and responses. Additionally, there were no significant changes in the supply chain in 2022.

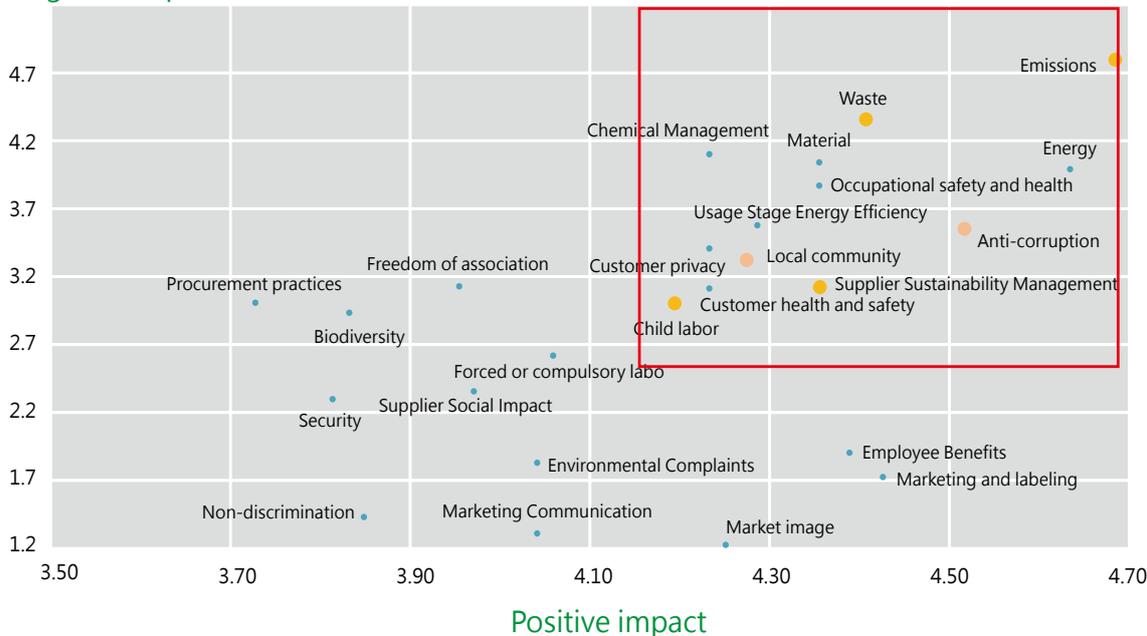
Ranking of materiality issues

Based on the results of the 2022 substantial issue selection, our company utilizes the following process to assess the degree of stakeholder engagement with the company based on the AA 1000 principles. We calculate the weighted average of the attention scores and engagement levels for each issue to understand the stakeholders' concerns. For each issue, after confirmation by our company's ESG Steering Committee and input from internal and external experts, we incorporate the SASB (Sustainability Accounting Standards Board) criteria for the Chemicals industry and the FSC (Financial Supervisory Commission) disclosure indicators for the chemical industry in Taiwan to supplement our assessment of the company's economic, environmental, and social impacts in 2022. We disclose ESG issues of high concern and high impact in relevant sections of this report. The following are the steps involved in this process:

Understanding Organizational Background	 Step1 Organizational Context	Identify industry themes and set boundaries	Based on the SASB (Sustainability Accounting Standards Board) standards for the chemical industry and the FSC (Financial Supervisory Commission) disclosure indicators for sustainability, identify the relevant themes within the chemical industry applicable to our company, and determine the boundaries.
	Identifying Actual and Potential Impacts	 Step2 Identify positive and negative impacts	Evaluate the positive and negative impacts of ESG issues
Evaluating the Degree of Impact		Step3 Attention Level	112 Questionnaires
	Sort and disclose in the report	 Step4 Degree of Impact	7 ESG Steering Committee reports
		Step5 Priority	Top 10 annual significant themes
		 Step6 Disclosure	Set 16 topics for disclosure
		 Step7 Reporting	Report issuance Before June 30th

Analysis of major consideration aspects (negative impact)

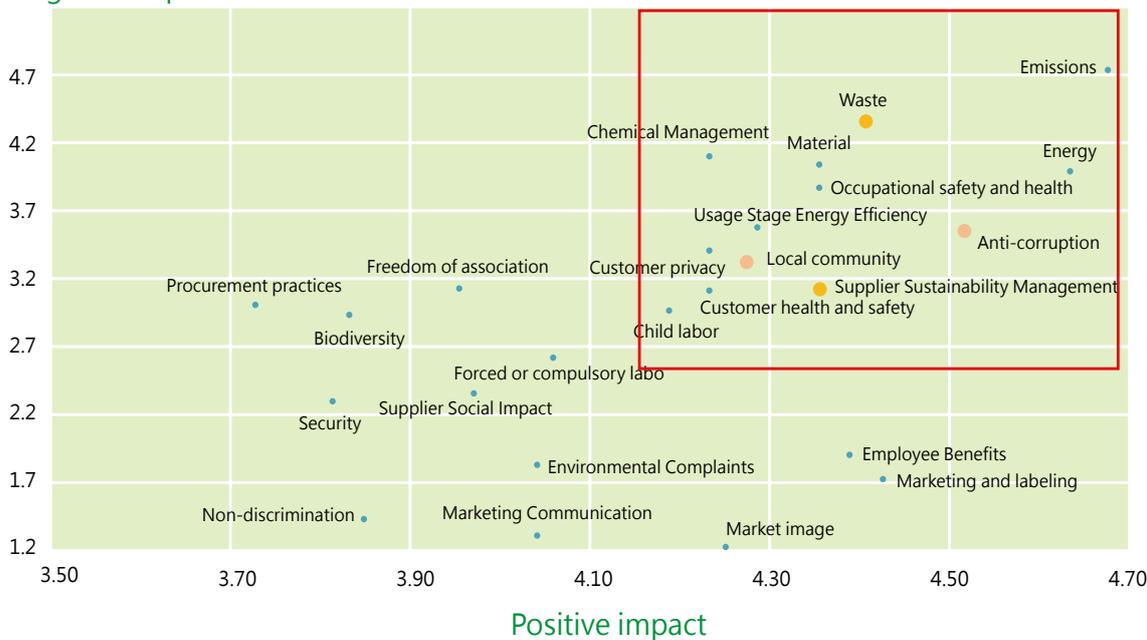
Negative impact



Blue points represent actual negative impacts, and orange points represent potential negative impacts.

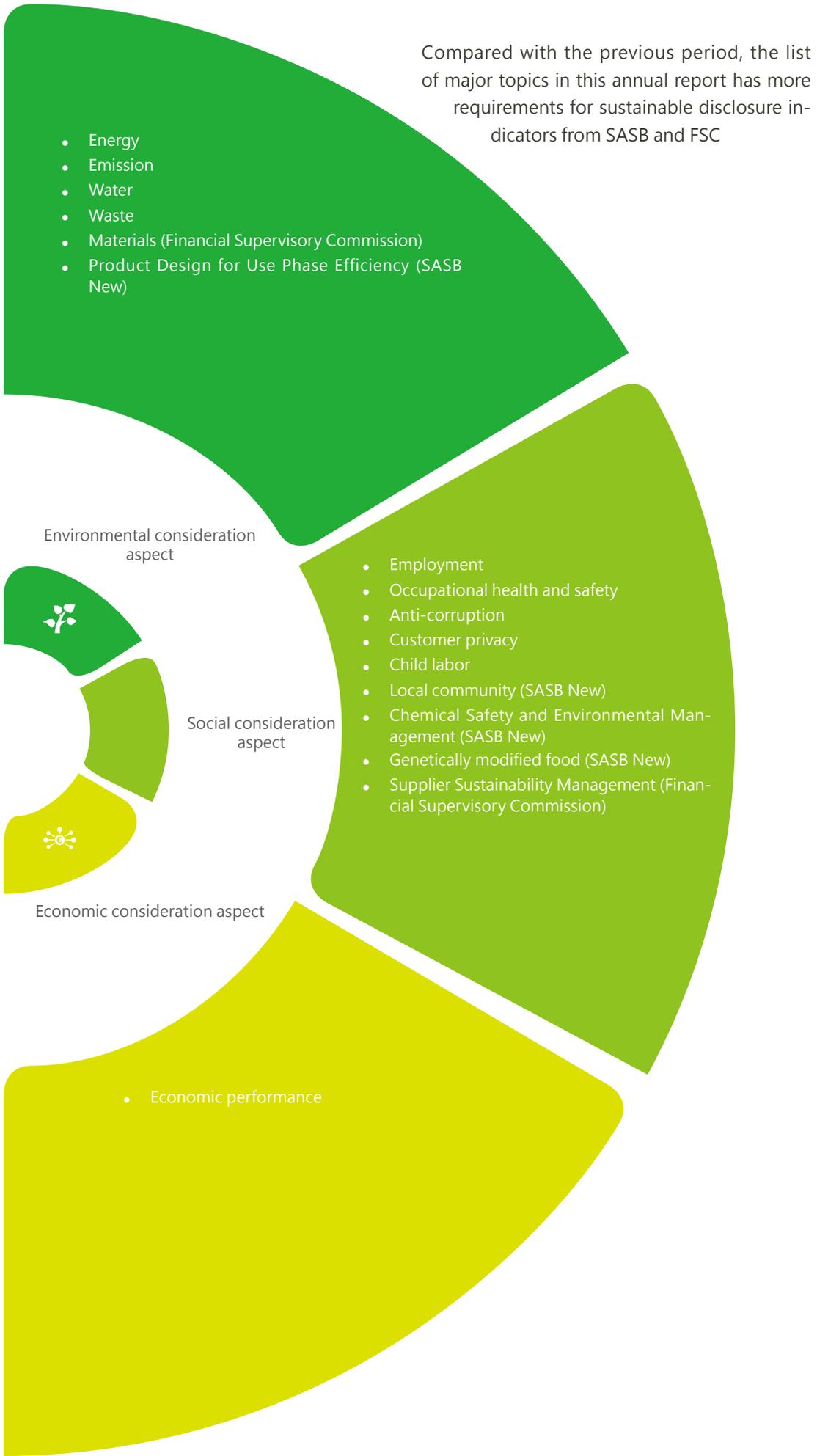
Analysis of major consideration aspects (positive impact)

Negative impact



Blue points represent actual positive impacts, and orange points represent potential positive impacts.

The 16 significant consideration aspects responded to in this Report



Material Topic Boundary

For each identified material topic, we assess its impact and determine whether the topic has an impact on key stakeholders within or outside the organization.

Annual Material Topic		GRI/SASB/FSC	Grand Pacific Petrochemical Value Chain					SDGs	
			upstream		Grand Pacific Petrochemical		down-stream		Impact on major stakeholders
			Supplier	Contractor	Kaoh-siung Factory	Taipei Office	client		
Energy saving and emission reducing	Energy	GRI 302	--	---	●	●	--	Government	
	Product Design for Improving Efficiency	SASB	●	---	●	●	--	Government, society and investors	
	Emissions	GRI 305	●	---	●	●	--	Government, society and investors	
Green production	Water	GRI 303	--	---	●	●	--	Government, media, society	 
	Materials	FSC	●	---	●		--	Government, supplier	
	Waste	GRI 306	●	---	●	●	--	Media, society	
Sustainable environmental protection	Supplier sustainability management	FSC	--	---	●	●	--	Government, Supplier	
	Local communities	SASB	--	---	●	●	--	Community	
Ethical management	Economic Performance	GRI 201	--	---	●	●	--	Investors, employees	
	Anti-corruption	GRI 205	●	●	●	●	●	Customers, investors, employees	
Equal right of labors	Employment	GRI 401	●	●	●	●	--	Employee	
	Child labor	GRI 408	●	●	●	●	--	Investors, employees	
Safe manufacturing	Occupational Health and Safety	GRI 403	●	●	●	●	--	Government, employees	
	Chemical safety management	SASB	●	--	●	●	--	Supplier, employees	
Customer-oriented	Customer privacy	GRI 418	--	--	●	●	●	Government, customers	

Note: Genetically modified products are not applicable to our company, so they are not included in the above table

Diagram	Illustration
NA	Not applicable
●	The following is fully disclosed in the Report
--	Information unavailable

The company reduces negative impacts on the environment or society in accordance with the "Code of Compliance" and "Supplier Assessment Procedures".

4. Grand Pacific's Material Topic and the Response to United Nation Sustainable Development Goals

In 2015, the United Nations announced the SDGs, which have become the common language of international sustainable development. SDGs are not only a global trend, but also an important business opportunity for companies in the future. The Company identifies the most important contributions to the SDGs based on the GRI criteria for evaluating significant themes, in terms of risks to people and the environment and the provision of effective products, services or investments, to identify the sustainability objectives linked to the SDGs.

Grand Pacific strengthens its sustainability strategy to promote economic growth, social equality and progress, and environmental protection in a holistic manner, thereby demonstrating the company's long-term value. Starting in 2022, Grand Pacific defines and prioritizes the Sustainable Development Goals (SDGs), and we will transform our sustainability performance from echoing the SDGs to realistic action plans through the product lifecycle and value chain stages. By integrating these goals into our daily activities, we will continue to review and revise the priorities of our sustainability goals to win the recognition of our investors and stakeholders and to create sustainable value. Topics and sustainability practices and goals are disclosed in each chapter.



Topics of the Company	Response to SDGs Item	United Nation SDGs Notes	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Energy saving and emission reducing		<p>Ensure affordable, stable and sustainable modern energy for all people.</p> <p>7.3_Double the rate of improvement in global energy efficiency by 2030.</p>	<p>Continuously promote ISO 50001 energy management system to produce products in a more energy-efficient way and reduce energy-intensity rate.</p> <p>[Target] Average annual energy saving percentage of 1% or more.</p>
		<p>Take emergency measures to address climate change and impacts.</p> <p>13.2_Integrate climate change measures into policies, strategies and plans.</p>	<p>Continue to implement greenhouse gas management and reduction, in accordance with the national greenhouse gas reduction policy.</p> <p>[Goal] Achieve the national policy of net-zero greenhouse gas emissions by 2050.</p>
Green production		<p>Ensure that all people have access to water resources and sanitation facilities with sustainable management.</p> <p>6.3_Improve water quality through various means and significantly increase global waste recycling and safe reuse by 2030.</p>	<p>We are actively promoting water conservation measures by increasing the process wastewater recovery rate and production capacity deployment, and regularly discussing water conservation and wastewater reduction targets at ISO14001 management review meetings to achieve continuous improvement goals.</p>
Sustainable environmental protection		<p>Ensure the implementation of sustainable consumption and production models</p> <p>12.5_ Reduce waste generation significantly through prevention, reduction, recycling and reuse by 2030.</p>	<p>We managed waste reduction and resource recycling to ensure environmental sustainability through the ISO 14001 environmental management system.</p>
Ethical management		<p>Promote inclusive and sustainable economic growth, achieve full employment, and create productive and quality jobs.</p> <p>8.2_Increase the productivity of the economy through diversification, technological upgrading and innovation.</p> <p>We created peaceful, inclusive societies, promoted sustainable development, provided access to justice for all, and built effective, accountable, and inclusive institutions at all levels.</p>	<p>We continue to increase our revenue and economic our economy' s productivity through proprietary R&D and innovation.</p> <p>Exercise sound corporate governance and risk management mechanisms.</p>
Equal right of labors		<p>Promote inclusive and sustainable economic growth, achieve full employment, and create productive and quality jobs.</p> <p>8.7_ Eradicate forced labor, modern slavery and human trafficking, prohibit and eliminate the worst forms of child labor, and end all forms of child labor by 2025.</p> <p>8.8 Protect labor rights and promote a safe and secure work environment for all workers, including immigrant workers, especially female immigrants and those without stable employment</p>	<p>Through the ISO 45001 occupational safety and health management system and the ILO requirements, we are able to control emerging issues such as psychosocial hazards in the workplace and forced labor, and promote collective bargaining to protect labor rights.</p> <p>We promote inclusive and sustainable economic growth, full and productive employment, such as employee care and the prohibition of child labor. Each production site is committed to not taking on child labor.</p>

Topics of the Company	Response to SDGs Item	United Nation SDGs Notes	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Safe manufacturing		<p>Promote inclusive and sustainable economic growth, achieve full employment, and create productive and quality jobs.</p> <p>8.8_Protect labor rights and create a safe and secure working environment for all workers.</p>	<p>We formulated the “Safety and Health Policy” through the ISO 45001 Occupational Safety and Health Management System, in which we disclose our core values as people-oriented, and we pursue the goal of zero disasters and zero injuries through the principles of “technology” , “safety and health culture” , “responsibility” and “communication” .</p>
Customer-oriented		<p>Ensure the implementation of sustainable consumption and production models.</p> <p>12.6_ Encourage companies to adopt sustainable practices (publish sustainability reports), especially for large and multinational companies.</p>	<p>Based on the information security policy to ensure that customer information is not leaked.</p>



CHAPTER 02

The management team of Grand Pacific Petro-chemical Company has been implementing the transparency of operation and financial information for a long time, with the goal of good corporate governance with ethical corporate standards and commitments, and the business philosophy of "modesty and harmony, integrity and trust"

Operational Review

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2023





1. Company History and Financial Performance

Company Profile

Date of Incorporation: September 25, 1973

In addition to the head office, each operating base :

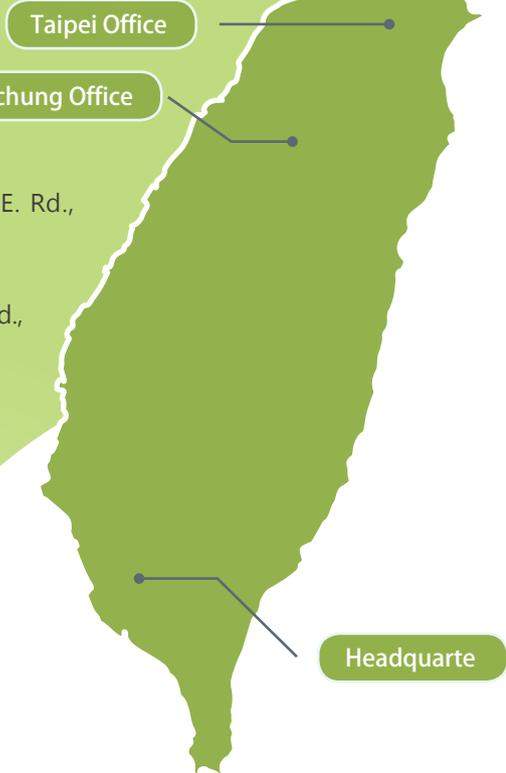
Taipei Office Address: 1F., No. 10, Sec. 4, Nanjing E. Rd.,
 Songshan Dist., Taipei City

Taichung Office Address: 10F.-3, No. 1055, Guanqian Rd.,
 West Dist., Taichung City

Tel.: (02) 8770-4567

Total Employees: 376 persons

Total number of temporary workers: 2
 persons



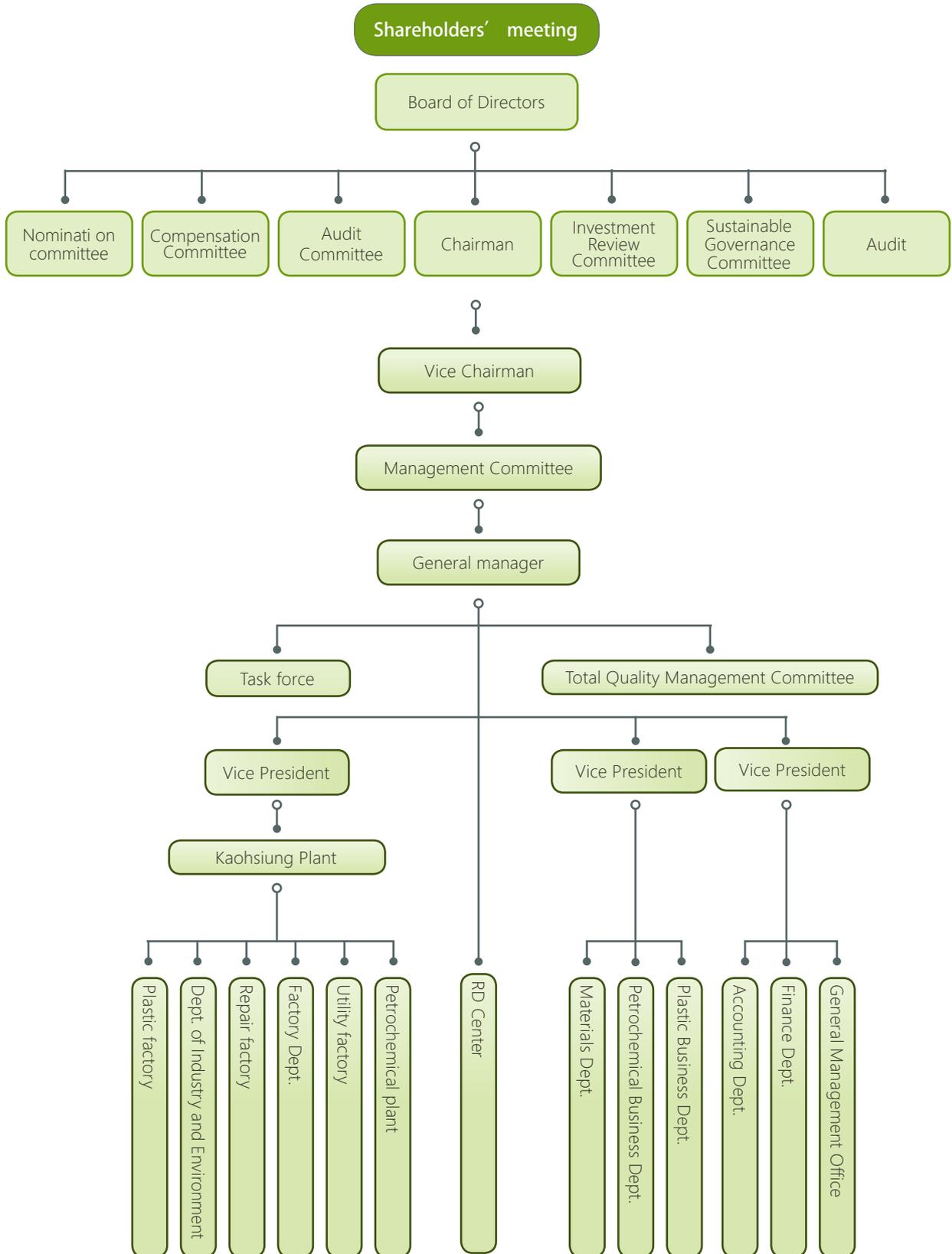
The Company' s governance structure consists of a shareholders' meeting with all shareholders as the highest governing body. The directors elected by the shareholders shall constitute the Board of Directors as the executive body of the Company. Independent directors are elected to form an Audit Committee to supervise the execution of the Company' s business. The Chairman of the Board is the chairperson of the Board of Directors and represents the Company externally as the top of the Company and does not work concurrently in any other administrative positions.

Our directors participate in relevant corporate governance and ESG education trainings from time to time, which are held by the Securities and Futures Institute and the TCGA Taiwan Corporate Governance Association.



The corporate governance structure of the Company is as follows :

Grand Pacific Petrochemical Organizational Chart



Company History

- 1973 ○ Grand Pacific was first established as Da Dechang Petrochemical Co., Ltd.
- 1974 ○ The Styrene Plant I was officially completed, which was the first company in Taiwan to produce styrene monomer.
- 1981 ○ The Styrene Plant II was completed.
- 1984 ○ Dadechang Petrochemical Co., Ltd. was reorganized and renamed as Grand Pacific Petrochemical Co., Ltd.
Completed the first ABS/SAN plant, which is the first step towards diversified products and vertical integration.
- 1987 ○ ABS/SAN Plant was expanded to increase annual production capacity.
- 1988 ○ Grand Pacific Petrochemical Corporation was officially listed. (Public Issuance Code 1312, TW) ◦
- 1990 ○ HIPS manufacturing company GPPC DEVELOPMENT CORP. was being merged to Grand Pacific.
- 1991 ○ HIPS/GPPS manufacturing company FORMOSA VIVATEX CO., LTD. was merged to Grand Pacific.
Established Grand Pacific (Thailand) and acquired a local ABS plant in Thailand.
- 1992 ○ ABS/SAN production capacity was expanded.
Established Key Crown Technology in Malaysia to engage in the plastic dyeing and processing industry.
- 1994 ○ ABS/SAN production capacity was expanded.
Modified the second SM plant process.
- 1995 ○ Acquired the hydrogen business of Dedechang Gas Co.
- 1996 ○ Established Zhenjiang Guoheng Company in Jiangsu Province.
Expanded ABS annual production capacity at Grand Pacific (Thailand).
- 1997 ○ Received ISO9002 and ISO14001 from the Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs.
Actively diversified our investments outside of our business.
- 1999 ○ SM-3 Plant was built.
- 2000 ○ Extended HIPS annual production capacity of Formosa Vivatex Co., Ltd.
Expanded SAN/ABS annual production capacity of Zhenjiang Guoheng Company.
- 2001 ○ Received ISO 9001 2000 certification from the Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs.
- 2002 ○ Expanded SAN/ABS annual production capacity in Zhenjiang Guoheng Company.
- 2003 ○ Obtained Sony "Green Partner" certification and SGS OHSAS 18001 accreditation registration.
- 2004 ○ Officially dismantled the first styrene plant and held a grand ceremony to mark the end of the first Styrene Plant in Taiwan.
- 2005 ○ Obtained ASUS "Green Environment Management System" certification.

- 2006 Formosa Vivatex Co., Ltd. converted the original GPS production line was converted to SAN; Grand Pacific expanded its annual ABS production capacity and added ABS R&D grades for customer needs.
- 2007 Promoted the integration of ISO system, ISO-9001:2000 and ISO-14001:2004 to SGS Taiwan Limited for certification. Expanded SAN/ABS annual production capacity of Zhenjiang Guoheng Company. Began construction of a steam and power co-generation plant.
- 2008 Completed the integration into the German SAP information system operation. In April, the Company entered into a merger agreement with CHIMEI Corporation to merge its subsidiary, Zhenjiang Company, and the Company held 30.4% shareholding of the surviving company after the merger. The Specialty Chemicals Division was established in August.
- 2009 Grand Pacific (Thailand) was dissolved in August by the Ministry of Commerce of Thailand. Trial production was successfully conducted for the steam production facility of the cogeneration plant in October.
- 2010 Completed the construction of a steam and power co-generation plant, which was officially put into operation in May. Zhenjiang Guoheng Company and Zhenjiang CHIMEI Company were officially merged on July 1. SM-3 Plant completed debottlenecking expansion project in December and increased annual SM production.
- 2011 Strengthened corporate governance by adding more than two independent directors. Establishment of the Remuneration Committee.
- 2012 Established Nylon Business Office in January and began production in July. Completed ABS capacity expansion and increased annual production. Our subsidiaries, Guoheng Chemical and Vivatex Chemical, were merged with Guoheng Chemical as the surviving company.
- 2013 An Audit Committee was established to replace the functions of Supervisors in order to strengthen corporate governance.
- 2014 Our nylon 66 products have passed UL's high temperature RTI certification.
- 2016 The second production line of Nylon 66 started production smoothly, making the Company entering the engineering plastics and industrial silk industry.
- 2018 Established Zhangzhou CHIMEI Chemical Co., Ltd. as a joint venture with CHIMEI Corporation whose main business is the production of ABS products, in which the Company held 30.4% shareholding.
- 2020 Established Quanzhou Guoheng Chemical Co., Ltd. as a wholly-owned subsidiary in Fujian Province, mainly engaged in the manufacture of propylene, polypropylene and hydrogen products through propane dehydrogenation.

2. Major Brands/Products/Service Market

Grand Pacific has sales offices in Taipei, Taichung and Kaohsiung. Our plant is located in the Dashe Shih Industrial Park in the Dashe District of Kaohsiung City. The environmental impact assessment has been considered during the construction of the plant, so the operation has not caused any environmental impact to the area. In order to achieve sustainable operation, Grand Pacific is actively moving toward the goals of increasing production capacity, reducing production costs, increasing sales competitiveness and expanding market share, seeking corporate alliances, improving industrial structure and developing new products with high added value. We will continue to develop new products, new customers, and adjust our production and sales mix to meet the needs of our customers in both sides of the Taiwan Strait and in the three regions to enhance the added value of our products. There have been no major changes in related services and value chains in recent years. The follow-up will continue with styrene as the Company's core niche, we extend our reach upward to nylon 66, a crystalline engineering plastic, and downward from the fundamentals to optimize the quality of ABS as our annual working strategies. The following tasks will be carried out on an ongoing basis:

(Economic Performance Management Approach)

01

We will actively optimize the attachment of PBL large particle latex, and further improve ABS dyeing, actively develop high temperature nylon engineering plastics, and working towards energy saving and waste reduction as the three major indicators.

02

Since the PBL rubber attached to the large particle latex, we are able to further improve ABS dyeing quality, the plating grade, tube grade, flame retardant grade and automotive battery materials and high impact high rigidity ABS products.

03

The development of post-consumer recycled plastic PCR ABS can reduce plastic waste, reduce energy consumption, reduce carbon emissions and implement circular economy.

04

We will expand the market of nylon industrial yarn and develop the derivative high temperature nylon, develop engineering plastics such as super nylon, heat resistant super nylon, soft, water transparent grade and PPO doped compound, in order to create high performance, high quality and high price nylon 66 plastic products.

05

In line with our long-term diversification strategy, we will invest in a new propane dehydrogenation and polypropylene project in Quanzhou, China and expand our reach from SM (styrene) series to propylene series. (administrative completion)

To enhance the value of our customers and meet their needs as well as our competitive role in the international market, our technical service team selects experienced and talented engineers to provide technical and product application services to our customers at all times. In the future, Grand Pacific will continue to seek other better opportunities to make our competitiveness strong and firm.



Grand Pacific's products comply with the government regulations of various products and services, and comply with the EU RoHS/REACH regulations, without any hazardous substances. We provide customers with stable product quality through strict quality management. In order to ensure the quality of customer service and enhance customer satisfaction, we have set up a customer service hotline and a communication website, and regularly take the initiative to conduct customer service satisfaction surveys every year to strengthen the cooperative relationship with customers. The mutually beneficial relationship with our customers is the cornerstone of our corporate sustainable development.

3. The company participates in environmental and social issues

Grand Pacific participated in the public hearings on environmental laws and regulations related to the chemical industry and the co-production industry of steam and electricity, and also participated in the following associations to share management technology and practical experience; the information on joining the association is as follows:



The company simply participates in the above association, and there are no external public affairs initiatives.



4. Financial Performance

Topics of the Company	Material Topic	Response to SDGs	United Nation SDGs Notes	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Ethical management	Economic performance		Promote inclusive and sustainable economic growth, achieve full employment, and create productive and quality jobs. 8.2_Increase the productivity of the economy through diversification, technological upgrading and innovation.	We continue to increase our revenue and enhance our economy' s productivity through proprietary r&d and innovation. We aim to drive significant overall revenue growth and continue to improve existing profit margins.
	Anti-corruption		We created peaceful, inclusive societies, promoted sustainable development, provided access to justice for all, and built effective, accountable, and inclusive institutions at all levels.	Exercise sound corporate governance and risk management mechanism to unsecure nocorruption incidents

Grand Pacific Group' s consolidated revenue for fiscal 2022 was NT\$18.18 billion, a decrease of NT\$4.37 billion from fiscal 2021, and consolidated net loss before income taxes was NT\$16 million, a decrease of NT\$7.37 billion from fiscal 2021. The consolidated net loss after tax was NT\$450 million, and consolidated net loss after tax attributable to the Company' s owners was NT\$490 million.

Grand Pacific Petrochemical Corporation

Consolidated Statements of Comprehensive Income

For the Years Ended December 31, 2022 and 2021

Unit: NT\$1,000

Item	2022	2021	Increase or decrease
Operating revenue	18,176,626	22,547,353	-4,370,727
Operating costs	-17,305,359	-17,904,667	599,308
Operating gross profit	871,267	4,642,676	-3,771,409
Operating gain or loss	-787,086	2,912,804	-3,699,890
Non-operating income and expenses	771,476	4,444,495	-3,673,019
Income before tax	-15,610	7,357,299	-7,372,909
Current net income from continuing operations	-454,388	6,076,588	-6,530,976
Current income (loss)	-454,388	6,076,588	-6,530,976
Other current net comprehensive income after tax	-678,117	2,179,533	-2,857,650
Total comprehensive income	-1,132,505	8,256,121	-9,388,626
Net profit attributable to owners of the parent company	-493,812	5,881,161	-6,374,973
Net profit attributable to non-controlling equity	39,424	195,427	-156,003
	<u>-454,388</u>	<u>6,076,588</u>	<u>-6,530,976</u>
Total comprehensive income attributable to owners of the parent company	-843,371	7,377,146	-8,220,517
Total comprehensive income attributable to non-controlling equity	-289,134	878,975	-1,168,109
	<u>-1,132,505</u>	<u>8,256,121</u>	<u>-9,388,626</u>
Earnings per share	-\$0.56	\$6.47	-\$7.03

Grand Pacific Petrochemical Corporation

Parent Company Only Statements of Comprehensive Income

For the Years Ended December 31, 2022 and 2021

Unit: NT\$1,000

	2022	2021	Increase or decrease	Increasing or decreasing percentage %
Operating revenue	14,723,385	\$18,163,272	-3,439,87	-18.94
Operating costs	-15,018,771	1,216,125	197,354	-1.30
Operating gross profit	-29 86	2,947,147	-3,242,533	-110.02
Operating gain or loss	-704,944	2,212,016	-2,916,960	-131.87
Non-operating income and expenses	409,179	4,304,458	-3,895,279	-90.49
Income before tax	-295765	6,516,474	-6,812,239	-104.54
Current net income from continuing operations	-493,812	5,881,161	6,374,973	-108.40
Current income (loss)	-493,812	881,161	-6,374,973	-108.40
Other current net comprehensive income after tax	-349,559	1,495,985	-1,845,544	(123.37)
Total comprehensive income	-843,371	7,377,146	-8,220,517	-111.43
Net income from reinvestment	285.424	\$4,271,075	-\$398,565	-93.32
Earnings per share	-\$0.56	\$64	-\$7.03	-108.66

Grand Pacific Petrochemical Corporation

Product Comparison Table

Unit: NT\$ 1000, thousand metric tons/SM·ABS, steam
 NT\$ 1000, 10³M³ / H₂
 NT\$ 1000, GWh / electricity

Sales year	2022		2021		Increasing or decreasing percentage %	
Main products	Sales volume	Sales figures	Sales volume	Sales figures	Sales volume	Sales figures
SM	242	8,744,587	297	9,579,384	(18.35)	(8.71)
ABS	74	4,253,490	99	6,733,748	(25.25)	(36.83)
H2	10,708	173,453	11,860	141,869	(9.72)	22.26
Electricity	41	86,477	119	235,545	(65.29)	(63.29)
Steam	92	124,016	153	131,014	(39.73)	(5.34)
Nylon	13	1,341,362	11	1,341,712	18.18	(0.03)
Total	-	14,723,386	-	18,163,272	-	(18.94)

Production year	2022		2021		Increasing or decreasing percentage %	
Main products	Yield	Output value	Yield	Output value	Yield	Output value
SM	277	10,576,248	342	10,470,277	-19.01	1.01
ABS	72	3,947,726	102	4,812,748	-29.41	(17.97)
H2	10,713	75,741	11,850	73,850	-9.59	2.56
Electricity	106	298,003	262	364,866	(59.54)	(18.33)
Steam	814	698,267	1001	556,723	(18.68)	25.42
Nylon	13	1,278,723	12	898,333	8.33	42.34
Total	-	16,874,708	-	17,176,797	-	(1.76)

Ratio of each product
(1) Grand Pacific Group

Unit: NT\$1,000; %

2022 Business Revenue



Note: Other sales revenues, including revenues from steam and power, copyrights and retransmission, are summarized as they account for less than 5% of sales.

Ratio of each product

(2) The Company (Parent Only Financial Statement)

Unit: NT\$1,000; %

2022 Business Revenue

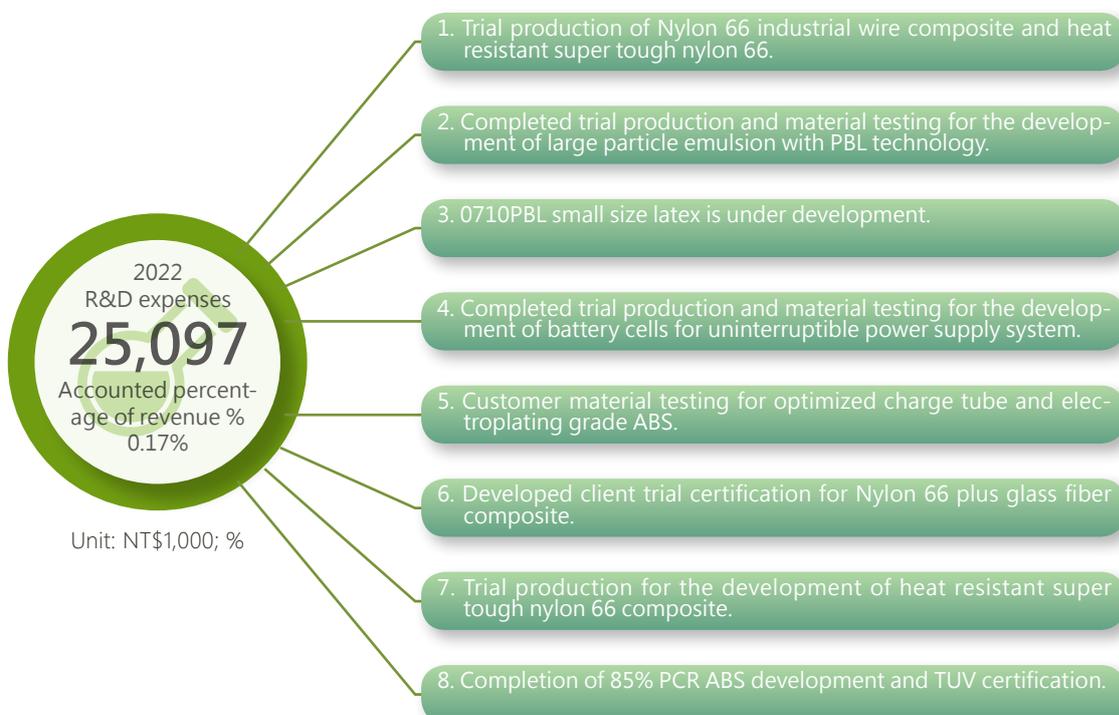


Main sales areas:

Main products	Major markets	Distribution method
Main products	Major markets	Distribution method
Styrene Monomer (SM)	Domestic	Direct marketing
Acrylonitrile-butadiene-styrene copolymer resin (ABS)	Taiwan (domestic), Mainland China, Hong Kong, USA, South Africa, Southeast Asia, etc.	Direct marketing, distributing
Hydrogen (H2)	Domestic	Direct marketing, distributing
Steam and power	Domestic	Direct marketing
Nylon 66	Taiwan (domestic), Mainland China, Hong Kong, USA, South Africa, Southeast Asia, India, etc.	Direct marketing

Research and development expenses for the most recent year and up to the publication date of the annual report

Technology or products developed in the most recent year and up to the publication date of the annual report are as follows:



5. Corporate Governance

The management team of Grand Pacific Petrochemical Company has been implementing the transparency of operation and financial information for a long time, with the goal of good corporate governance with ethical corporate standards and commitments, and the business philosophy of “modesty and harmony, integrity and trust” : modesty is the key; honesty is the inside to create business opportunities; give back to the public, continue to develop the manufacturing technology of our products; be absolutely stringent on quality; provide timely and thoughtful after-sales service; be in harmony with colleagues; trust and believe in the Company; and full of vigorous ambition in any position. Grand Pacific has been striving to win the confidence of investors with its steady pace and active vigor, and to build up the image of the company with the spirit of integrity and public welfare. We abide by the laws and regulations, and attach importance to the openness and transparency of information in order to gain the recognition of relevant stakeholders and the public. Articles of Incorporation of the Company require consideration of diversity and independence and ensuring no conflict of interest, and regularly submit nominations of candidates for directors to the board of directors and elect the chairman based on the candidates; The names/positions of the directors and key managerial officers of the Company are listed below. There are no representatives of socially vulnerable groups and stakeholders, and a female senior executive is included in the board of directors.



The directors and supervisors are listed below

Title	Name	Major academic background and work experience
Chairman	Jing Guan Investment Co., Ltd. Representative: Yang, Pin-Zheng	M.S. In Chemical Engineering, National Cheng Kung University
Vice Chairman	Zhong Guan Investment Co., Ltd. Representative: Qiu, De-Xin	M.S. in Accounting, Case Western Reserve University
Director	Hong Wen Investment Co., Ltd. Representative: Tian, Zhen-Qing	Department of Law, Fu Jen Catholic University
Director	Hong Wen Investment Co., Ltd. Representative: Lin, Jin-Zhu	Department of Chemical Engineering, Feng Chia University
Independent Director	Chen, Wen-Zong	MBA, Rider University, USA M.L., Graduate School of Law, Soochow University
Independent Director	Chen, Mu-Xian	M.A., California State University
Independent Director	Xie, Zhi-Hong	J.D., National Chengchi University M.L., Waseda University

Major managers are listed below

Title	Name	Major academic background and work experience
Chairman	Yang, Pin-Zheng	M.S. In Chemical Engineering, National Cheng Kung University
General Manager	Zeng, Jia-Xiong	M.S. in Chemical Engineering, National Taiwan University
Deputy General Manager	Zhou, Zhen-Ming	M.S. in Chemical Engineering, National Taiwan University
Chen, Jing-Fu	B.A., Soochow University	Chen, Jing-Fu
Factory Director	Lin, Wen-Hui	M.S. in Safety, Health and Environmental Engineering, National Kaohsiung First University of Science and Technology
Assistant Manager and Deputy Factory Director	Xue, Hong-Min	M.S. in Environmental Engineering, National Cheng Kung University
Assistant Manager	Zhang, Cong-Ming	M.S. In Chemical Engineering, National Cheng Kung University
Manager	Wu, Zu-Rong	Graduated from Secretarial Science, Tamsui Institute of Business Administration
Manager	Lin, Quan-Yi	B.S. in Systems and Naval Mechatronic Engineering, National Cheng Kung University
Director	Chen, Ling-Zhu	B.S. in Accounting, Department of Business, College of Liberal arts and Science, Providence University
Director	Chen, Hui-Ping	B.S. in Accounting, College of Liberal arts and Science, Providence University
Director	Shen, Mei-You	MBA, GOLDEY-BEACOMCOLLEGE, USA
Director	Wang, Jun-Jie	B.S. in Chemical Engineering, College of Medicine and Engineering, Chang Gung University
Director	Su, Wei-Da	M.S. in Fiber and Polymer, National Taiwan University of Science and Technology
Director	Huang, Se-Qin	B.S. in Banking, National Chengchi University
Director	Luo, Xiu-Can	B.S. in Chemical Engineering, Tamkang University
Acting Head	Yeh, Chong-Min	Department of Chemical Engineering, Lunghwa University of Science and Technology
Acting Director	Huang, Jin-Ji	MBA, National Kaohsiung First University of Science and Technology



Ethical management, Quality, Innovation and Respect

In addition, to implement the equality of remuneration, the Company has established the Remuneration Committee Chapter and elected the Remuneration Committee Members to perform their duties and responsibilities. The members of the Committee shall faithfully exercise due care of a good administrator and be accountable to the Board of Directors, and submit their proposals to the Board of Directors for discussion:



In accordance with the Company's Articles of Incorporation, the remuneration of directors and supervisors shall be based on the Company's annual net income after tax and distributable earnings and shall be prepared annually by the Board of Directors and submitted to the shareholders' meeting for resolution. For details of the remuneration ratio of directors and supervisors, please refer to the section on remuneration of directors and supervisors in the description of dividend policy in the annual report. In 2022, the members of the board of directors and the management have not issued resignation pay or happened any reclaim circumstances.

For the ratio of the annual total compensation per board member to the median annual total compensation of all employees and the ratio of the ratio of the percentage increase in total compensation to the median percentage increase in total annual compensation of all employees; please refer to annual report and Market Observation Post System (MOPS).



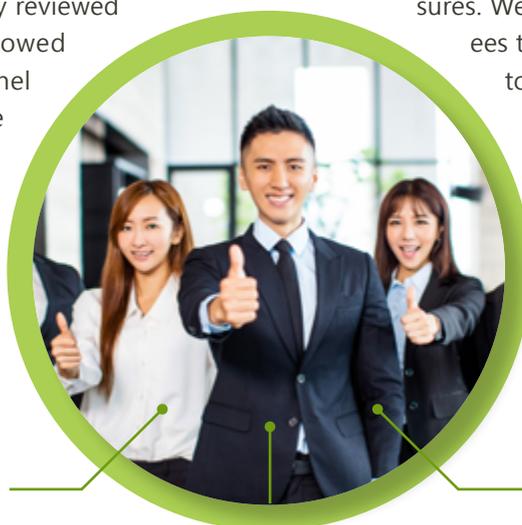
Moreover, the “Compliance Management Code” and “Measures for the Report on Illegal and Immoral Behaviour” have relevant procedures for reporting, disciplinary, and appeals. The grievance mechanism for employees/communities/suppliers/investors are as follows.

6. Internal Audit and Internal Control System

In order to implement a quality corporate culture and maintain the company’s image and corporate ethics, the Company has established “Ethical Corporate Management Best Practice Principles” and “Compliance Management Code” in accordance with the Company Act, the Securities and Exchange Act and the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and promises to conduct due diligence on violations and promises to protect named whistleblowers. In the conduct of business and procedural standards, we avoid using our position to obtain improper benefits for ourselves and our relatives and we strictly prohibit the disclosure of customer privacy. The “corporate mission, vision, and values” and “core functions” and “management functions” are regularly reviewed and required to be followed by the relevant personnel and implemented in the annual performance appraisal form for employees, and if there is any violation of the relevant regulations, the relevant disposi-

tion will be made according to the “Reward and Punishment Practice”.

The Company has also established the “Code of Conduct for Official Business Performance” and requires fair trade and anti-corruption clauses to integrate this code into the Company’s operating procedure, and through the advocacy and training to make ESG requirements can be run through the Company’s overall internal and external operations and business activities. The Company also implements the “Environmental, Safety and Health Communication Operation Procedures” to ensure that various stakeholders can provide ESG-related grievance communication and feedback mechanisms to confirm the effectiveness of remedial measures. We also encourage employees to submit opinions related to the company’s business activity through unions or labor-management meetings in the “Code of Conduct for Official Business Performance”.



Core functions



Management functions

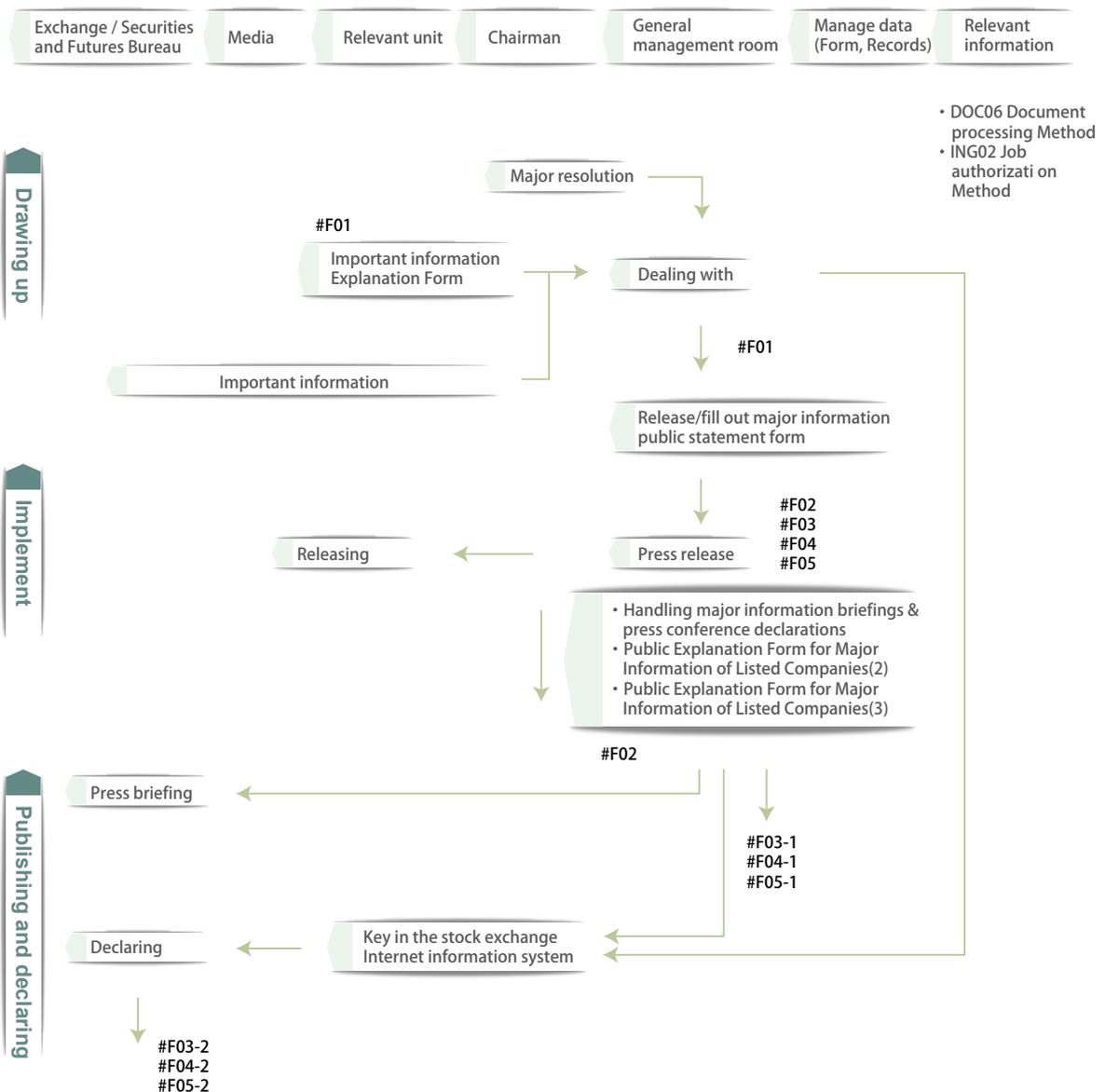


Corporate mission, vision, and values

In accordance with the “Regulations Governing Establishment of Internal Control Systems by Public Companies” and related laws and regulations, issued by the Financial Supervisory Commission, Executive Yuan, Grand Pacific Petrochemical has established an internal control system for the Company, which has been approved by the Board of Directors for implementation in all operating standards to promote sound operation of the Company and to ensure that the Compa-

ny' s policies and regulations are effectively implemented to achieve the three main objectives of operational effectiveness and efficiency, reliability of financial reporting, and compliance with laws and regulations. The scope of this internal control system covers all daily operational activities such as the eight transaction cycles, information management and other management controls, and is integrated with international standards such as ISO 9001, ISO 14001 and ISO 45001 in the daily operational processes.

Grand Pacific Petrochemical Company has set up an internal audit unit, which is directly under the Board of Directors, to assist the Board of Directors and the management in checking and reviewing the internal systems and processes and providing timely suggestions for improvement to ensure the continuous and effective implementation of the Company' s internal control system. In addition, the Board of Directors shall conduct due diligence on discovered violations in accordance with the timing specified in the Company' s "Compliance Management Code" to ensure compliance.



7. Overview on Services for Investors

Information disclosure is one of the most important aspects of our investor services. Over the years, we have invested many resources in meeting the principles of completeness, accuracy, timeliness and reliability of information disclosure. In addition to the immediate posting of announcements and material information on the Market Observation Post System, all financial reports, annual reports, dividends, material information and other information can be accessed on the Grand Pacific's website and the Market Observation Post System.

The screenshot displays the investor services page of Grand Pacific Petrochemical Corporation. At the top, there are navigation links for 'HOME', '繁體中文', and 'ENGLISH'. Below this is a horizontal menu with categories: '公司簡介', '產品介紹', '人力資源', '企業社會責任', and '投資人專區'. The left sidebar contains a vertical list of links: '投資人專區', '公司治理專區', '利害關係人', '財務報告', '財務資訊', '股東會董事會資訊', '法人說明會', '股東結構及股利資訊', and '聯絡資訊'. The main content area is titled '股東會董事會資訊' and features a dropdown menu for the year '2021'. Below the dropdown is a table listing various documents and their availability:

年份 (2021) 年	文件名稱	狀態
(a)	本公司股東會、董事會重要決議	PDF
(b)	開會通知	PDF
(c)	議事手冊	PDF
(d)	年報	PDF
(e)	議事錄	PDF

Below the table, there is a section for '股務代理機構' (Shareholder Service Agent) with the following details:

- 新基證券(股)公司 股務代理部
- 地址：10044台北市重慶南路一段2號5樓
- 電話：(02)2389-2999
- 網址：http://www.kgieworld.com.tw/index/

At the bottom of the page, there is a footer with the company logo and name, and another set of navigation links for 'HOME', '繁體中文', and 'ENGLISH'.

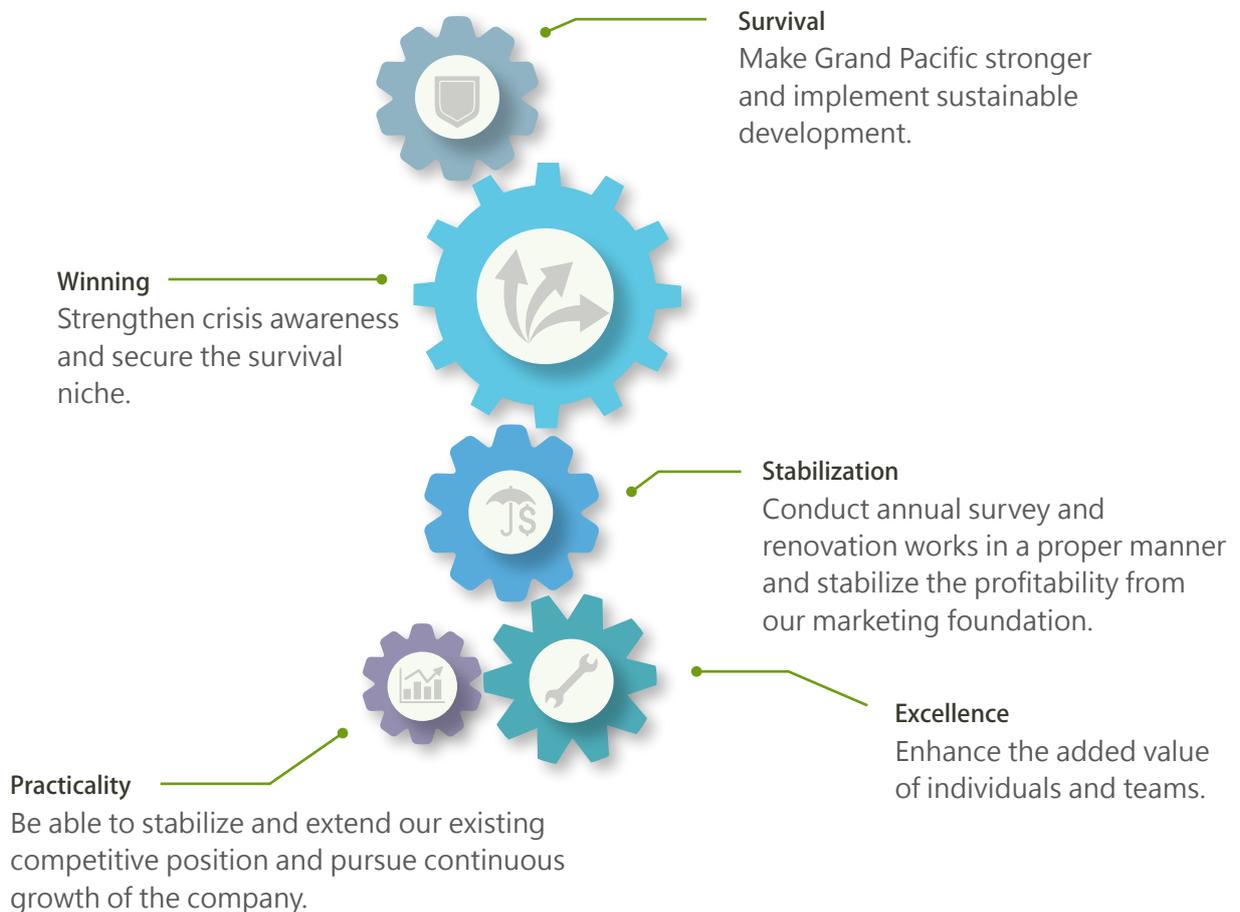
8. Operational Risk Management and Future

With reference to the results of the aforementioned stakeholder negotiations, most of the stakeholders are concerned about the Company's business performance/market image and even corporate governance. In this regard, the Company's management will consider more closely the impact of market risk, credit risk, important domestic and international policy and legal changes, and technological and industrial changes on the Company's financial operations and responses. In response to market risks, we collect information on changes in exchange

rates, interest rates and inflation, establish forward contracts to hedge exchange rate risks, maintain close contact with banks to obtain favorable borrowing rates and reduce capital costs through multiple funding sources. The Company's policies on high-risk, high-leverage investments, lending of funds to others, endorsement and guarantee, and derivative transactions are all conservative and implemented in accordance with the Company's regulations. In 2022, no funds were loaned to others and no derivatives were traded.

Future prospect

1. Management Approach



In the future, we will focus on the long-term prospect and sustainable development of financial performance. In terms of credit risk, we need to go through credit verification procedures before entering into transactions with customers, set up information system control, continuously evaluate the collection status of accounts receivable, and set up an allowance for doubtful accounts based on the collection status. We keep a close eye on domestic and international political and economic developments, legal changes and industry changes, and evaluate and discuss them in our management meetings as appropriate.



2. Mid-term and Long-term Business Development Blueprint

Grand Pacific continue to strengthen the competitiveness of our core business, such as focusing on our main base of SM, ABS, hydrogen and nylon 66, optimizing cost, efficiency and quality, and trying to develop sales channels for niche products and create profits by constantly pursuing steady growth in quality and quantity and grasping the opportunities of high boom spreads. In addition, we are in the process of starting up and designing the future project of our carbon III industry chain, including 660,000 tons/year propane dehydrogenation and 450,000 tons/year polypropylene, in Quanzhou City, Fujian Province, and will reach full capacity production and commercialization by the end of 2023 to early 2024. In addition, regarding the R&D center under development, we have been actively developing high value diversified products such as high functional nylon fibers and engineering plastics in advance, so as to lay the foundation for the company to move forward to a new potential territory.

CHAPTER 03

To achieve the environment policy of " Efficient use of resources, prevention of pollution

Environmental management strategy disclosure

1. Environmental management strategy disclosure 46
2. Climate-related Financial Disclosures (TCFD) and Governance 47
3. Environment Management and Environmental Protection Activities.....27



1. Environmental management strategy disclosure

Topics of the Company	Major issue	Response to SDGs Item	United Nation SDGs Notes	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Energy saving and emission reducing	<ul style="list-style-type: none"> Energy Improve the energy efficiency product design 		Ensure affordable, stable and sustainable modern energy for all people. 7.3_Double the rate of improvement in global energy efficiency by 2030.	<ul style="list-style-type: none"> Continuously promote ISO 50001 energy management system to produce products in a more energy-efficient way and reduce energy-intensity rate. [Target] Average annual energy saving percentage of 1% or more.
	Greenhouse Gas Emission		Take emergency measures to address climate change and impacts. 13.2_Integrate climate change measures into policies, strategies and plans.	Continue to implement greenhouse gas management and reduction, in accordance with the national greenhouse gas reduction policy. [Goal] Achieve the national policy of net-zero greenhouse gas emissions by 2050.

Implement “Efficient use of resources, prevention of pollution, and continuous improvement”

For the sustainable development spirit, Grand Pacific Petrochemical has continuously improved environmental pollution issues such as wastewater, air, noise, solid waste, and underground water pollution. To achieve the environment policy(Wastewater and waste management strategy) of “Efficient use of resources, prevention of pollution, and continuous improvement”, the company has continuously built the environmental protection facilities and actively operate CO2 inspection and operating the in-



dustry waste reduction procedure (Emissions and energy management policy). Besides, the company has also implement ISO-14064-1 Greenhouse emission inspection plan. The newly established cogeneration plant in 2011 has adopted the Best Available Control Technology (BACT) and equipment to mitigate pollution generated during production, transportation, and storage processes. Simultaneously, it enhanced equipment operation experience and operational skills to achieve environmental protection goals.

Building an environment management system and getting the certification

Kaohsiung plant has got the certification of ISO 14001. Besides operating with P.D.C.A principal and the company have implemented the 3-in-1 integrated ISO system here now. Whereas Grand Pacific Petrochemical Kaoshiung plant has got the ISO 14001 environment management system certification and it has also got the ISO9000, ISO45001, SONY GP(Sony green partnership), and Asus' green environment system certification to reward the company' s effort on efficient use of resources, prevention of pollution, and continuous improvement. In the long term, the company will produce environment, low-pollution, high-added value products in accordance with the government goals.

Implement environment management training

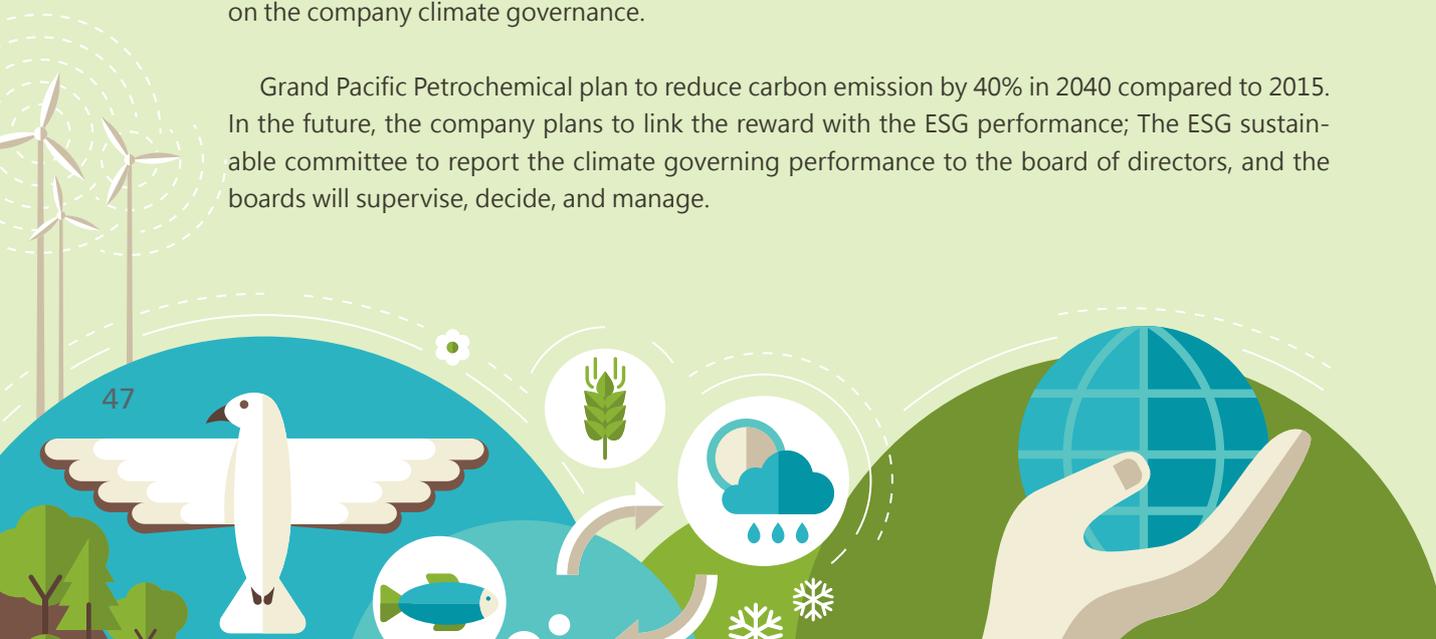
Environment management is complicated and has a variety of interactions. For the site and the environmental personnel, the only way to increase the working efficiency is continuously being trained to get new knowledge. Grand Pacific Petrochemical has operated lots of training courses in environmental protection for years. There are no major violations in 2022.

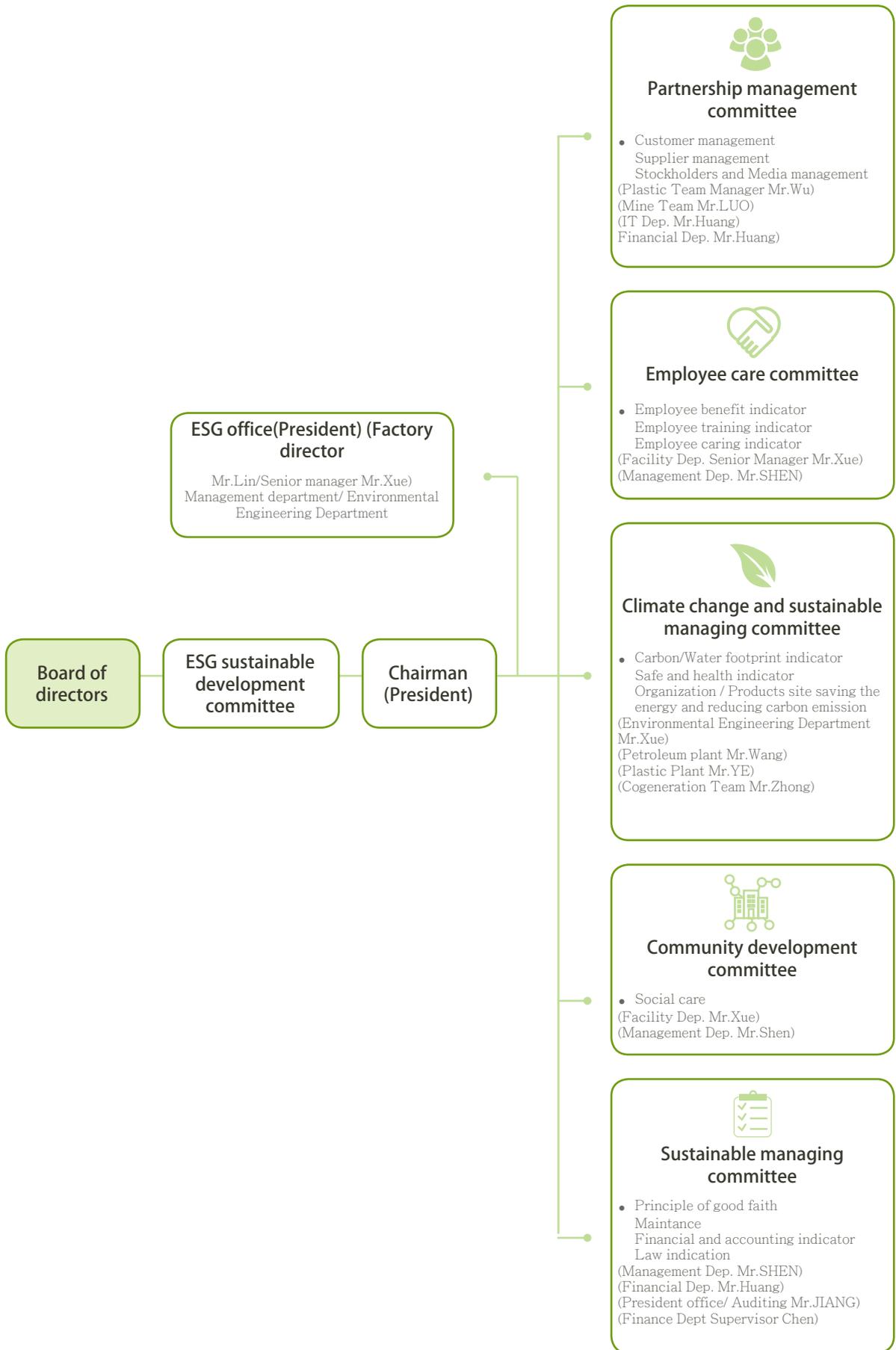
2. Climate-related Financial Disclosures (TCFD) and Governance

Grand Pacific Petrochemical focus on climate risk and follow the TCFD published by FSB in June 2017 to build a climate risk management procedure, following the TCFD structure to identify and manage climate-changing risk and physical risk and evaluate the financial impact of high-risk factors. The company has also included climate change in the risk management structure for long-term tracking to have better governance results.

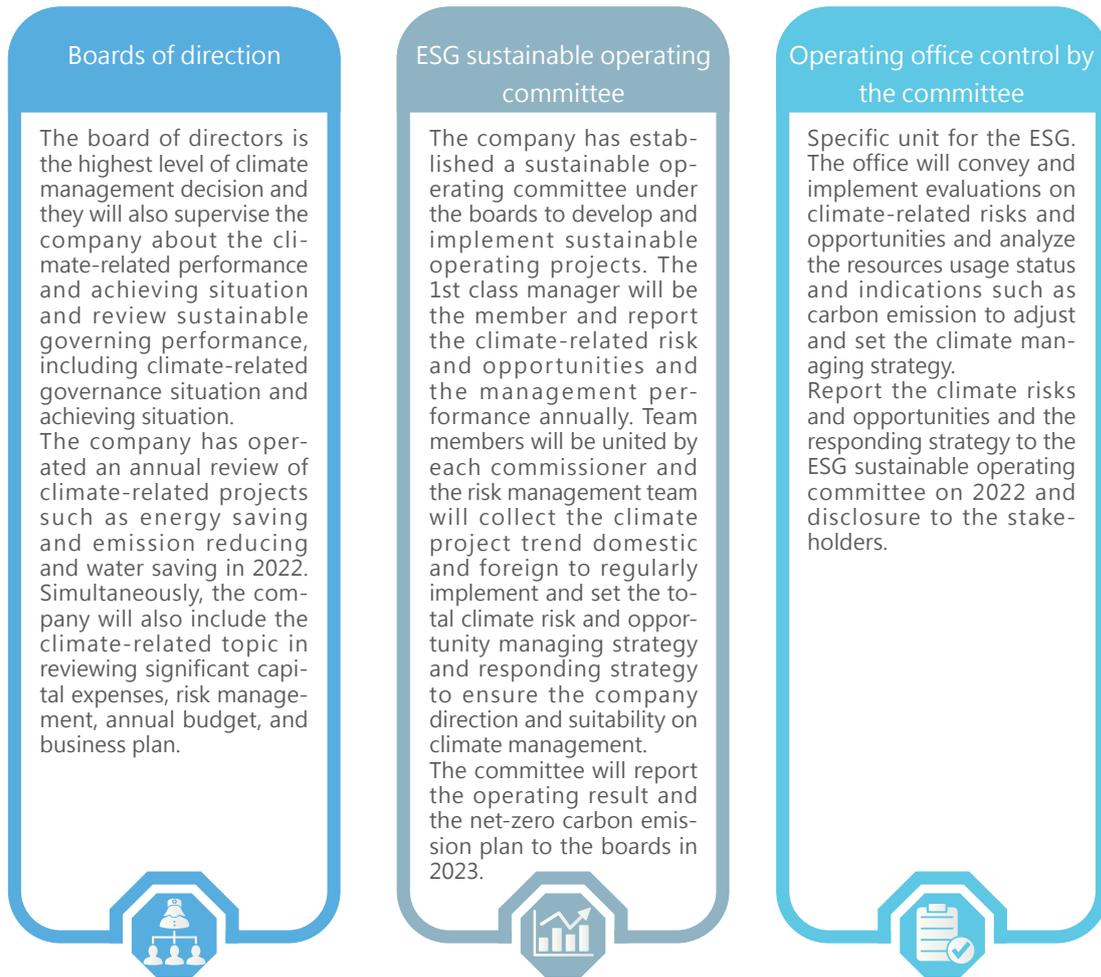
Grand Pacific Petrochemical takes ESG sustainable organization structure as a climate management organization and discloses the climate change impact information in accordance with the " climate risk management procedure" , making the company complete climate risk and opportunity management by climate-related risk and opportunity identified and setting the carbon reduction goal to continuously respond to the government and all the equity for attention and wish on the company climate governance.

Grand Pacific Petrochemical plan to reduce carbon emission by 40% in 2040 compared to 2015. In the future, the company plans to link the reward with the ESG performance; The ESG sustainable committee to report the climate governing performance to the board of directors, and the boards will supervise, decide, and manage.

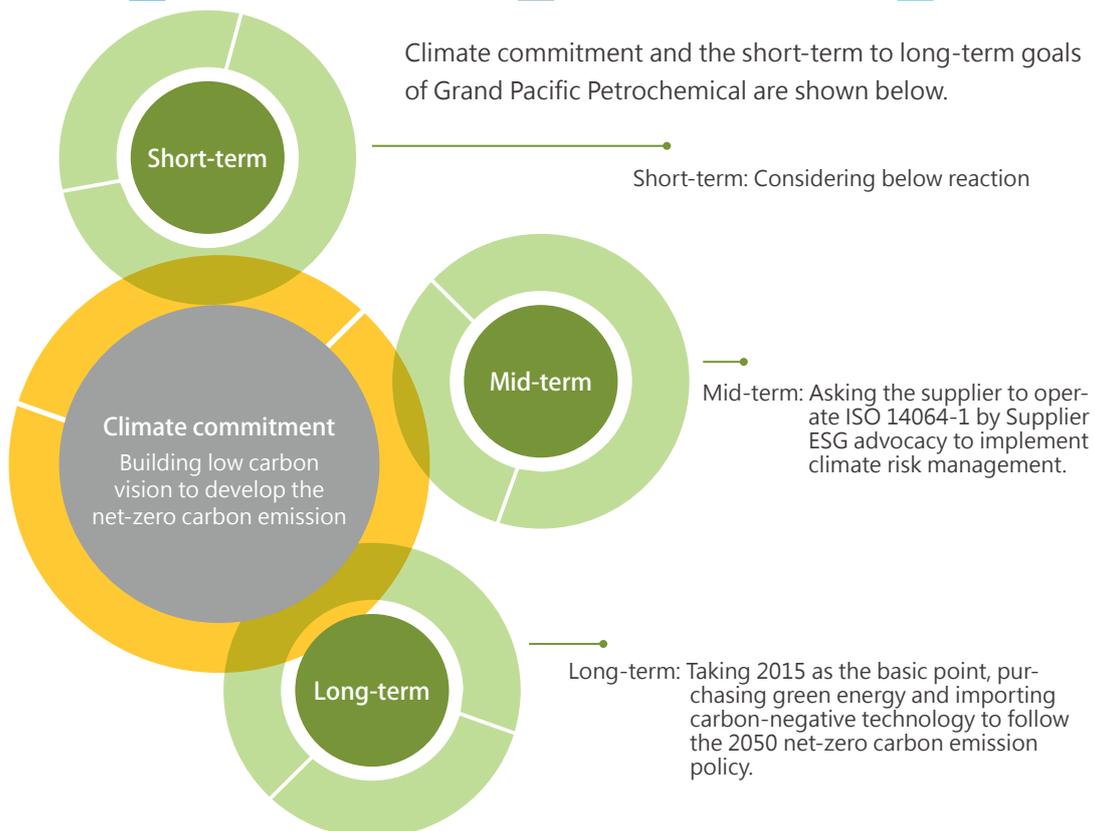




Grand Pacific Petrochemical's climate management organization responsibilities are shown below and the climate change and green sustainability committee is the TCFD operating team.



Climate commitment and the short-term to long-term goals of Grand Pacific Petrochemical are shown below.



Impact for Grand Pacific Petrochemical on different climate risk situation

Risk	Climate scenario/ 2040 temperature increase	Grand Pacific Petrochemical Influence	Financial influence	Countermeasures
Transfer risk	IPCC AR6 SSP1-1.9(Increase 1.2-1.7° C on 2040)	The company should transform at 1.7° C increasing trend. If the company can't transform then it will not be able to meet 2030 carbon neutral and 2050 zero carbon emission and need to pay additional carbon fees.	*Future carbon fee will charge at least USD 5,300,000 /year	Evaluate with more co-generation power or setting green energy equipment.
Physical risk	IPCC AR6 SSP5-8.5(Increase 1.3° C-1.9° C on 2040)	Climate abnormality will affect the styrene raw material storage quality and be interrupted the manufacturing process by heavy rain and drought.	The process will reduce by at least 70% by heavy rain and drought.	Implement emergency reaction and strength the disaster prevention facility and purchase property insurance.

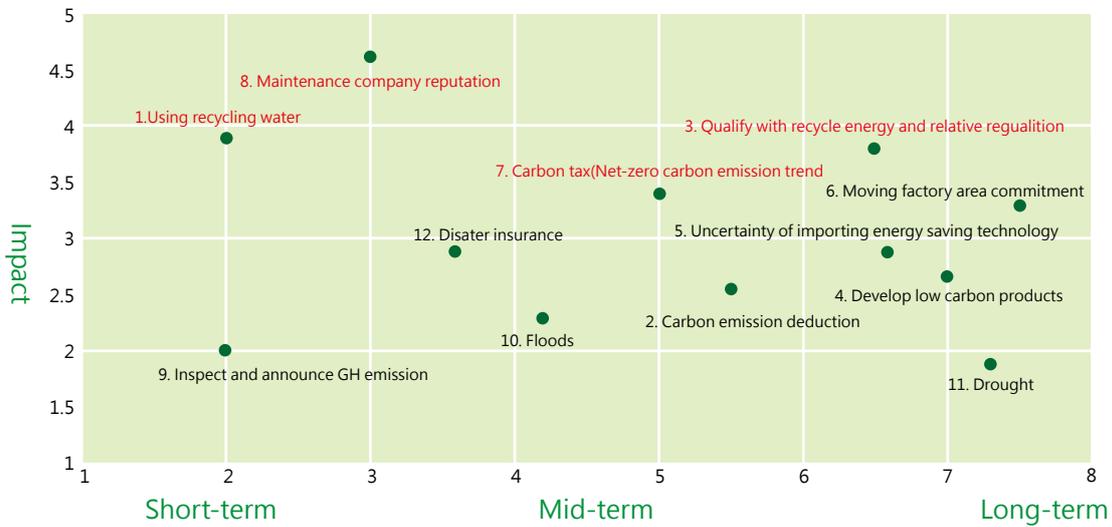
Note: *Analysis under the hypothesis of Carbon fee is USD10/Ton CO2e.

The climate risks and opportunities evaluation process of Grand Pacific Petrochemical are



The company has sorted the risk factors into 14 items from the climate risks and opportunities factors identified for its risk characters, influence to the petrochemical business, and relative researching function by ESG sustainable operating committee and ask the internal experts to identify the importance and top enterprise result to compare, review, and confirm to the supply chain for importance adjustment. According to the evaluation result, Grand Pacific Petrochemical has 4 high-priority climate factors and 1 is distributed in the short-term (2023 to 2025), 1 in the mid-term (2023 to 2030), and 2 in the long-term (2030 to 2050). The distribution detail is shown in the figure below.

Climate topic scatter plot



In response to climate issues and considering the risks and resilience of our company, including the supply chain and research and development functions, a resilience analysis was conducted. The assessment resulted in the identification of a list of 14 climate risk and opportunity factors. Subsequently, risk management strategies will be developed to address the high-risk issues:

NO	Grand Pacific Petrochemical Risk factors	Type	Duration	Priority
1	Uncertainty of importing energy saving technology	Transfer risk- Policy and Regulation/ Low Carbon trend	Long-term	
2	Moving factory area commitment	Transfer risk-Policy and Regulation/ Low Carbon trend	Long-term	
3	2050 Net-zero carbon emission policy	Transfer risk-Policy and Regulation/ Low Carbon trend	Long-term	Y
4	Maintenance company reputation	Transfer risk- Policy and Regulation	Mid-term	Y
5	Inspect and announce GH emission regularly	Transfer risk-Policy and Regulation/ Low Carbon trend	Short-term	
6	Grand Pacific Petrochemical Floods (The severity of short-term extreme weather events)	Physical Risk - Extreme climate shocks (acute)	Mid-term	
	Supplier Floods (The severity of short-term extreme weather events)-	Physical Risk - Extreme climate shocks (acute)	Mid-term	

NO	Grand Pacific Petrochemical Risk factors	Type	Duration	Priority
7	Grand Pacific Petrochemical Drought (The severity of long-term extreme weather events)	Physical Risk - Extreme climate shocks (acute)	Long-term	
	Supplier Drought (The severity of short-term extreme weather events)	Physical Risk - Extreme climate shocks (acute)	Long-term	
8	Disater insurance	Transfer risk-Client expetion	Mid-term	
9	Sea-level rise	Physical Risk - Extreme climate shocks (acute)	Long-term	
10	Recycling water resources	Transfer risk-Policy	Short-term	Y
11	Reward by the government for carbon emission reduction	Opporitunity-Technology	Long-term	
12	Reward by the government for renewable energy regulation	Opporitunity-Technology	Long-term	Y
13	Develop low-carbon products for green consumption trend	Opporitunity-Technology	Mid-term	
14	Supply stopped due to the climate issue	Physical Risk - Extreme climate shocks (Chronic)	Long-term	

Physical Risk: Floods/Drought risk caused by extreme weather.

Transfer risk: Financial risk by not qualifying with policy, regulation, or customer expectations of operating transform to influence the company' s investment and profit earning capacity.

Grand Pacific Petrochemical has followed the climate risk evaluation process. Below will take the high-priority climate factors for further describing the company' s risk meaning and impacting the finances and how the company taking responding:

Climatic factor	Type	Influence on Grand Pacific Petrochemical	Duration	Countermeasures	Target indicates/TCFD range
2050 net-zero carbon emission vision	Transfer risk-Low Carbon trend	Evaluation of the project to replace coal-fired boilers with natural gas boilers for combined heat and power generation.	Long	Cogeneration plant reducing carbon(Natural gas substitution) plans	Replacing all the coal-fired boilers with gas boilers, reduced 280 thousand tons of CO2-eq GHG emission(Regulation1)
Maintenance company reputation	Transfer risk- Policy and Regulation	Compliance with the EPA "VOC emission control regulation"	Mid	Adding mother burner for energy-efficient combustion project on combustion tower.	To reduce natural gas consumption by approximately 70,000 cubic meters and achieve a greenhouse gas emission reduction of 1,750 tons of CO2-eq per year. (Regulation 1)

Climatic factor	Type	Influence on Grand Pacific Petrochemical	Duration	Countermeasures	Target indicates/TCFD range
Recycling water resources	Transfer risk-Policy	Avoiding impacts of extremely drought caused by climate change	Short	Recycling water resources plans	Increase the recycle water amount from 100 CM3/day to 270 CM3/day (Regulation 1)
Reward by the government for renewable energy regulation	Opportunity	Maintenance of the existing cogeneration facility operating and not regulated by "Regulations for the Management of Setting up Renewable Energy Power Generation Equipment of Power Users above a Certain Contract Capacity"	Long	Supervising and developing cogeneration operating plans	Operating cogeneration equipment to avoid setting up new renewable energy equipment(Regulation 2)

To evaluate the potential impact of climate risk factors on the company more systematically, the company took the climate factor above to analyze the potential impact of different weather factors and the company. Below will describe the analysis result.



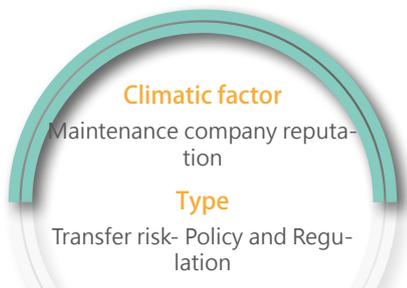
Financial influence on Grand Pacific Petrochemical

- Decreasing NTD 200 million direct costs in 2022.



Financial influence on Grand Pacific Petrochemical

- Saving a total of NTD65,000,000 by operating cogeneration equipment without building solar renewable energy equipment costs.



Financial influence on Grand Pacific Petrochemical

- Investing costs occupy less than 1 % of total operating revenue.
- Saving NTD 6,000,000/year of natural gas fees to compliance regulation.

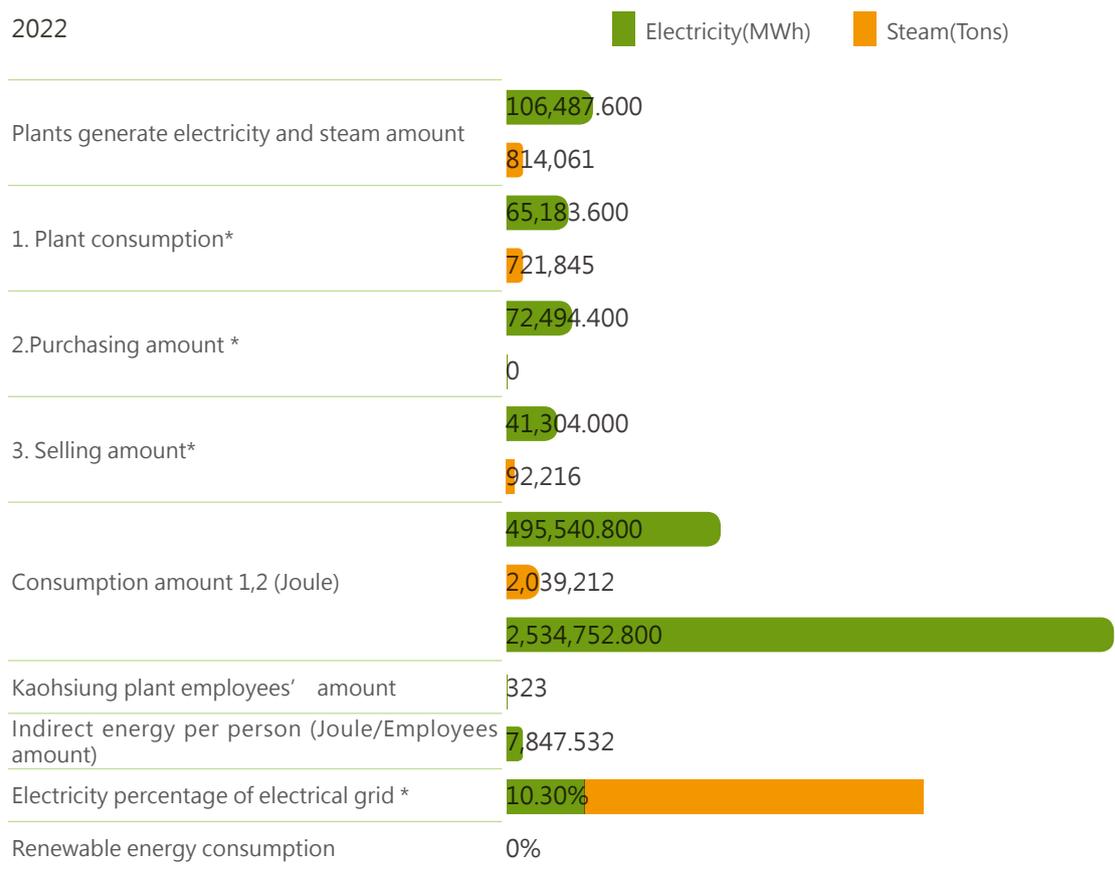


Financial influence on Grand Pacific Petrochemical

- Total investment are NTD 14,660,000(Direct costs)
- Operating and maintaing fee : NTD 840,000/year (Indirect costs) planning for using 20 years.

Taking regulations 1,2, and 3 by ISO 14064-1 to reduce GH gases, the company has also developed climate topic managing performance by GRI and SASB-related indicators including energy resources used for measuring climate change impact: To manage climate indicators and goals more effectively, the company plans to include the indicators above into one of the company compensation evaluations. The company plans to develop risk management to supplier management, dealing with carbon emission issues, GH gases emission, and carbon footprint investigations to improve supply chain management measures and set the sustainable company procurement standard by ESG sustainable operating committee.

Recently, the company has moved from the traditional petrochemical industry to low-carbon cycling economics to qualify the government policy of reducing carbon usage as the first carbon emissions strategy. To respond to the government transferring direction plan, the company has established 62 projects since 2017 and has saved 1.3 million kWh in 5 years, averaging a 1.5% reduction in electricity consumption. The company has also built a smart electrical grid to ensure supply stabilization and increase energy efficiency management by digitalization. The company will also work with the green energy company to build roof solar panels for increasing green energy generated, increase land usage, and develop green energy self-sufficiency.



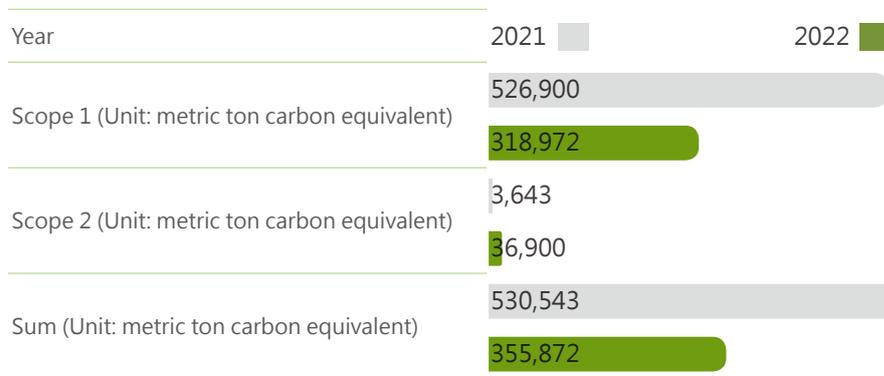
Note:

1. Investigating Grand Pacific Petrochemical Kaohsiung plant
2. 1kWh = 1kWh (KW/H) 1W=1 Joule /Second (J/S) 1=1000W*3600S/H=3,600,000J=3.6 MJ
3. 1MWh =3,600MJ =3.6GJ(GJ)
4. Heating value of 1 ton steam = 674,500 Kcal , 1 Kcal=4,187.6J
5. Heating value of 1 ton steam =2.825GJ (GJ)

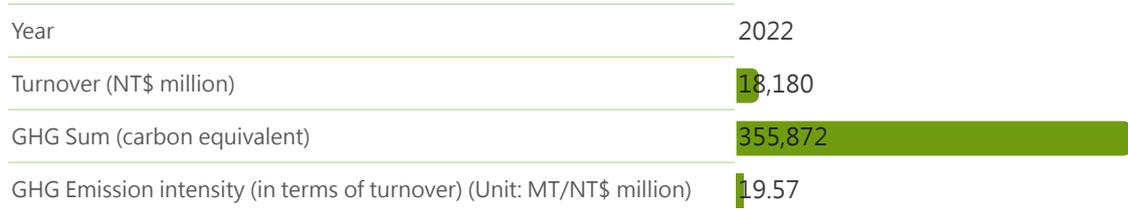
6. Electricity percentage of electrical grid = Energy consumption from purchased electricity / Total consumption of (Electricity+Steam)

To exert the power of the local petrochemical industry to assist the Country's 2050 net-zero carbon emission target, the Company joined the "Industry Net Zero League" last year, and plan to develop the green petrochemical symbiosis by combining upstream and downstream supply chains. Focus on the key performance of carbon reduction in research and development to develop high-quality, standardized, and scale products which are expected to focus on five aspects, including "Renewable Energy", "Low-carbon Energy", "Carbon Capture Storage and Utilization", "Biofuel Raw Material", and "Plastic Recycling" to conduct practical discussions, and at the same time to start the Carbon Footprint Verification and relevant industry experience sharing.

Total greenhouse gas emissions



Greenhouse gas emission intensity (in terms of turnover)



* The survey was conducted on Grand Pacific Kaohsiung factory

Energy saving performance in 2022



Replaced the machine host of air compressors with poor efficiency, replaced the old chillers with new ones, partially replaced old light bulbs into high-efficiency light bulbs and improved the process to stop the circulation pumps with the estimation that 1,700 kWh of electricity can be saved; From 2015 to 2022, we saved 16,695 kWh with an average annual electricity saving rate of 1.25%. The Company has started to conduct the Energy Saving and Carbon Reduction since 2015 and the programs with better results have been implemented first. Therefore, the actual energy saving rate is only 0.83%, but the average energy saving rate is still higher than the target of 1.0%.

2022 Energy Saving Program

2022	Implemented energy saving measures	Implementa-tion period (month)	Annual energy saving (KWH)	Energy Sav-ing (GJ)
Full factory	1. Phase I air-conditioning replace-ment for Grand Pacific Petrochemi-cal Kaohsiung Plant (6 units)	Jan. ~ Jun.	7,352	26.467
	2. Phase II air-conditioning replace-ment for Grand Pacific Petrochemi-cal Kaohsiung Plant (13 units)	Jul. ~ Dec.	9,087	32.713
Steam and Power Plant	3. Replace the old air compressor GB-620B with a new air compressor PC-351	Jan. ~ Nov.	166,320	598.752
	4. Replacement of the cold pipeline of the old boiler HB-301B air preheater	Sep. ~ Dec.	Natural gas saving 48,000 NM ³	1,969.920
Plastic Factory	5. Replacement of the Ice water ma-chine K-301C with a new one	Feb. ~ Dec.	87,395	314.622
	6. Aaddition of a steam recovery sys-tem to line II of the nylon factories	Nov. ~ Dec.	Steain saving 9,048 MT	25,560.600
Petrochemical Plant	7. Reduction of the amount of ben-zene feed for Benzene feed pump PP-103	Apr. ~ Dec.	72,091	259.528
	8. The motor of the High-pressure wa-ter supply pump PP-312S changed to frequency conversion control	Apr. ~ Dec.	115,448	415.613
	9. Replacement of energy-saving female musket head for the flare of plant SM-2	Dec.	Natural gas saving 5,950 NM ³	244.188
Total			457,693 KWH 53,950 NM ³ 9,048 MT	29,422.403

* Note

1. 1 kilodegree = 3.6 gigajoule (GJ)

2. Heating Value of 1 ton of steam = 3.6 gigajoule (GJ)

3. Heating Value of 1NM³ natural gas = 9,800 Kcal, 1 Kcal=4,187.6 joule

4. Heating Value of 1NM³ natural gas = 0.04104 gigajoule (GJ)

3. Environment Sustainability Management and Environmental Protection Activities

Topics of the Company	Material Topic	Response to SDGs	United Nation SDGs Notes and Indicators	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Green production	<ul style="list-style-type: none"> Water Waste Materials Supplier Sustainability Management 	 	Ensure that all people have access to water resources and sanitation facilities with sustainable management. 6.3_Improve water quality through various means and significantly increase global waste recycling and safe reuse by 2030.	We are actively promoting water conservation and waste reduction measures by increasing the process wastewater recovery rate and production capacity deployment, and regularly discussing water conservation and waste reduction targets at ISO14001 management review meetings to achieve continuous improvement goals and relevant requirements, and request manufacturers to cooperate through the green supply chain.

Environmental products

When marketing ABS/SM related products, Grand Pacific Petrochemicals also evaluated the competitive advantages and disadvantages of the products in terms of health and safety in the industry trend. Our products do not contain environmentally hazardous substances regulated by customers and regulations (e.g. RoHS). The product specifications and performance and precautions for use are listed in the COA and SDS so that customers can understand the safe use of the product. In addition, SM has completed registration with the European Chemicals Agency (ECHA) to meet the requirements of REACH registration in the EU.

Environmental protection costs and effectiveness

In order to reduce the environmental hazards caused by waste in the production process, Grand Pacific Petrochemicals strives to promote pollution prevention and industrial waste reduction. In addition to the establishment of the "Industrial Waste Reduction Implementation Procedures", the Company also strengthens the management of waste reduction and thermal energy recovery through the construction of a sludge incinerator with an hourly capacity of 390 kg. All other wastes that cannot be handled are entrusted to off-site qualified removal and treatment vendors for cleaning. A three-part form will be created to control the waste and comply with the regulations. The following table summarizes the amount of waste to be cleaned up and the amount of waste to be disposed of by Grand Pacific Kaohsiung Plant from 2021 to 2022. No waste leakage in 2022.



Outsourcing of Kaohsiung Plant (in tons):

Year	2021	2022
Waste plastic mixture	0	38.83
Waste insulation material	6.27	13.45
Mixtures of waste glass, ceramic, brick, tile and clay	57.97	81.46
Organic sludge	527.16	243.58
Inorganic sludge	715.16	317.14
Incinerator fly ash	8.44	12.05
Incinerator bottom slag	80.16	95.33
Non-hazardous waste catalysts or mixtures thereof	93.41	240.22
Domestic refuse	119.67	72.65
Waste sludge	10.7	0
Waste sponge	3.17	0
Activated carbon	0	0.61
Coal-fired fly ash	25318.75	12825.02
Coal-fired bottom ash	1275.77	772.72
Waste wood	2.73	0
Waste fiberglass	0	0

Our company conducts annual audits of waste removal and disposal companies by sending certificates.

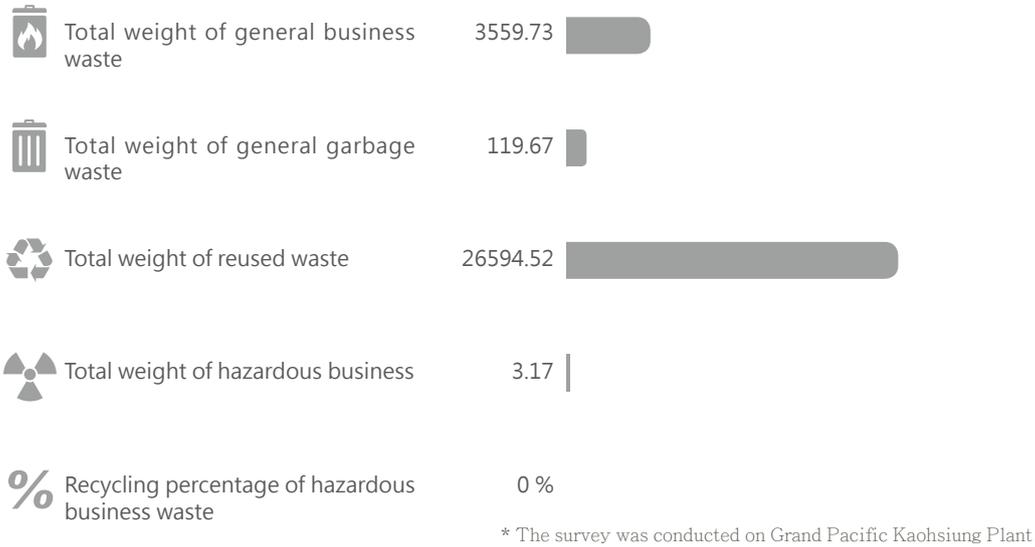
Self-handling of Kaohsiung Plant (in tons):

Year	2021	2022
Organic sludge	1637.79	1497.5
Waste plastic mixture	148.25	182.824
Non-hazardous organic wastes or waste solvents	271.69	230.407

The organic sludge is treated and recycled into compost by a professional manufacturer, while the inorganic sludge is thermally treated and used as a concrete blending material.

Weight of waste generated in recent year

2021 Weight of various types of waste products (unit: metric tons)



2022 Weight of various types of waste products (unit: metric tons)



The Company exerts enterprise influence and cooperates with manufacturers in the industry park to enhance environmental influence through investment in emission-reduction equipment and performance improvement. Meanwhile, we also seize the trend of circular economy and focus on the recycling of waste to make high-value applications of by-products such as hydrogen, sludge bacteria, and fly ash from steam power plants. Practice resource recycling, implement carbon reduction targets, and promote the transformation of petrochemical industries to low carbon to create sustainable development business opportunities. Taking the important by-product “hy-

drogen” as an example, which can directly supply high-purity hydrogen to electronics factories through the purification process, and directly participate in the supply chain of the S corridor of the semiconductor industry. Hydrogen is also an important clean and green energy in the world, which can be supplied to hydrogen fuel cell manufacturers as raw materials. In addition, the steam generated by the cogeneration plant can be supplied to other manufacturers in the nearby area to heat integration and reduce various pollutants produced by multiple combustion pollution sources, which acts as a typical example of the Company actively participating in the circular economy.

Air Pollution Control

In order to accelerate the realization of the sustainable vision, the Company particularly focuses on air governance. Since 2012, two units of fuel oil heater were removed successively and the fuel of coal-fired boilers has been changed from oil to natural gas in whole plant. Also, the Company invested NT\$100 million to expand RTO boilers with a removal efficiency of over 98%. At the same time, the Company also strengthens the monitoring of “invisible” and “inaudible” component emissions, invest a lot of manpower in exhaustive detection and maintenance every quarter, and connects with environmental protection units for audits to further protect the health of employees and residents around the plant. 29 emission reduction projects have been implemented in the past ten years, with a total investment of nearly NT\$200 million.

In order to maintain the safety and health of employees and residents around the plant, Grand Pacific Petrochemical has set up a gas monitoring system in the plant and connected it to the monitoring center to keep track of the emission situation in the plant and established continuous automatic monitoring facilities in the steam and power boiler chimney, connecting to the Department of Environmental Protection to maintain the ambient air quality around the plant. The other chimneys are regularly inspected to keep track of the source emissions. The condition of each discharge pipeline and the frequency of inspection at the Kaohsiung factory of Grand Pacific Petrochemical Corporation are listed below:

Area	Equipment name	Emission outlet no.	Outsourced analysis items and frequency	Approximate month of inspection
SM2 plant, Zone 300	BA-301 Heater	P402	Particulate matter. NOx. SOx/semi-annually	Apr., Oct.
Steam and Power Team	HB-301A/B and HB-302A/B	P701	RATA/quarterly	Jan., Apr., Jul., Oct.
SM3 field	HS-201/219 Heater	PB01	Particulate matter. Nox, SOx, THC /semi-annually	Apr., Oct.
Occupational Safety Office	Incinerator	PG01	Dioxin/biennial: Particulate matter, NOx, SOx, heavy metals, THC, hydrogen chloride, carbon monoxide/annually	Oct.
Cogeneration	Coal-fired boilers	PF01	RATA/quarterly: Particulate matters/semi-annually Dioxin/biennial	Jan., Apr., Jul., Oct.

* The survey was conducted on Grand Pacific Kaohsiung Plant

Air pollution emissions information is summarized in the following table:

SASB indicator	
Nitrogen Oxides (NOx)	128725.81
Sulfur Oxides (SOx)	33078.96
Volatile Organic Compounds (VOCs)	17204.68
Hazardous Air Pollutants (HAPs)	0.0028032
Particulate Matter (PM)	7774.38

* The survey was conducted on Grand Pacific Kaohsiung Plant

Calculation of Emissions Disclosure :

- (1) The calculation of air pollution emissions is based on the reporting and review of "Control Fees and Emissions Reporting Integrated Management System".
- (2) The calculation coefficient adopts the detection method, and the Company commission a third-party laboratory approved by the Environmental Protection Agency to conduct pipeline emission data.

Description of raw material use conditions

The amount of AN&BD&Benzene&Ethylene can be inquired from the declaration of air pollution fee with the following information:

Raw materials and energy usage in 2022

Benzene	ton/year	11,819.154
Ethylene	ton/year	7,059.661
Acrylonitrile	ton/year	4,937.780
Butadiene	ton/year	3,109.400
Electricity consumption	degree	137,697,200
Fuel oil	kilolitre/year	873.227
Coal	ton/year	4,710.000
Water	ton/year	1,894,152
Natural gas	M ³ /years	38173474.0

* The survey was conducted on Grand Pacific Kaohsiung Plant

Major product production

Ethylbenzene	ton/year	291,220.783
Styrene	ton/year	410,840.000
ABS plastic	ton/year	70,488.400
Nylon plastic	ton/year	9,378.52
Power generation	kWh	106,506,800

Waste water pollution prevention and control measures

Waste water from petrochemical plants contains organic pollutants. Therefore, the main focus of effluent monitoring is on chemical oxygen demand (COD) and suspended solids (SS). The focus of prevention and control is to implement waste water source reduction, to implement measures such as waste water reduction and recycling, storm water diversion treatment, installation of storm water interception facilities, effective maintenance of existing waste water treatment systems and implementation of waste water recycling and reuse. Grand Pacific Petrochemical Kaohsiung Factory is located in Dashe Industrial Park. There is a joint sewage treatment plant in the industrial area to collect the sewage of each factory for treatment. The current wastewater plant acceptance standards are COD: 400 ppm, SS: 240 ppm, PH: 5-9, and the wastewater discharge, COD discharge and SS discharge for the past three years are listed below.

Year	Waste water discharge (tons/year)	COD emissions (tons/year)	SS emissions (tons/year)
2020	1,142,098	147	58
2021	1,044,771	99	39
2022	821,398	76	29

* The survey was conducted on Grand Pacific Kaohsiung Plant

Water management measures (Water Management Approach)

In view of the rapid changes in the water environment caused by climate change in recent years and the increasing frequency of alternating floods and droughts, external stakeholders are increasingly concerned about water resources issues. The Company has identified and responded to water risk factors and implemented water recycling in accordance with the water resource Management Approach and commitments in order to respond to the complex water resource issues early and effectively integrate the management concepts of prevention and conservation. The Company's water comes from the surface water of Gaoping River, and the water source area is not a water volume sensitive area. Relevant wastewater effluents complied with the standards for industrial parks. Total water consumption volume is shown in the table below.

Total water consumption Unit: thousand tons

2021 Total water consumption volume

2,469 (thousand tons)



2022 Total water consumption volume

2,004 (thousand tons)



Recycled water volume (T/D)

A. Steam condensation recycle	1,646
B. Vaporizer condensation recycle	678
C.SM-3 Plant steam condensation recycle	193
D. GT-303 TO GT-302 recycle	241
E.GT-801 cooling water tower discharge to the absorption tower recycle	37
F. The recycling water from ultrapure water reclamation system was transferred to GT-601	97
G. The recycling water from old district pure water reclamation system was transferred to GT-601	0
H.GT-302 cooling water tower discharged water to the waste-water hydro extractor to clean the filter cloth	37
Total	2,929

Water resources management information is summarized in the following table:

The Company recycled water volume of 1,069,085 tons/year in 2022

34.79% (recycling rate)

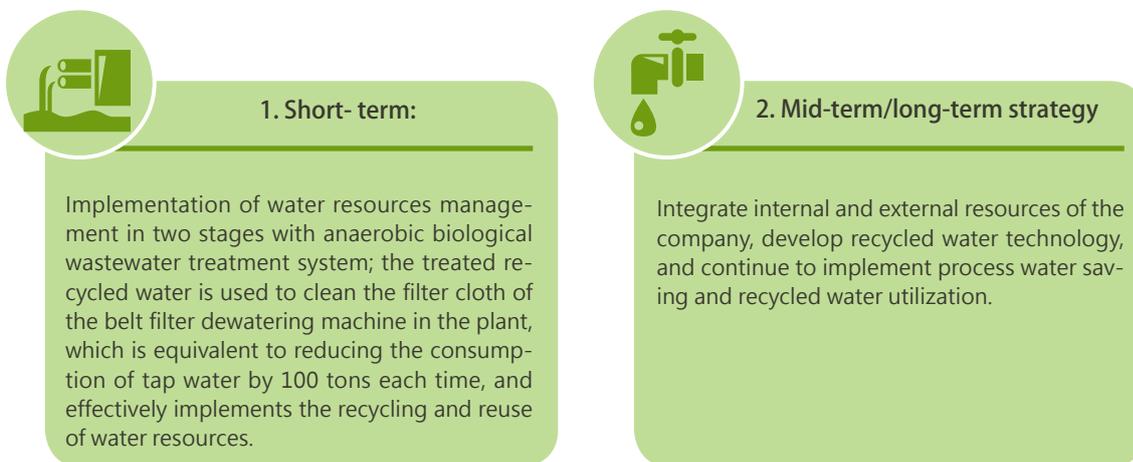
It is estimated that the Company recycled water volume of 1,095,000 tons/year in 20223



35.00% (recycling rate)

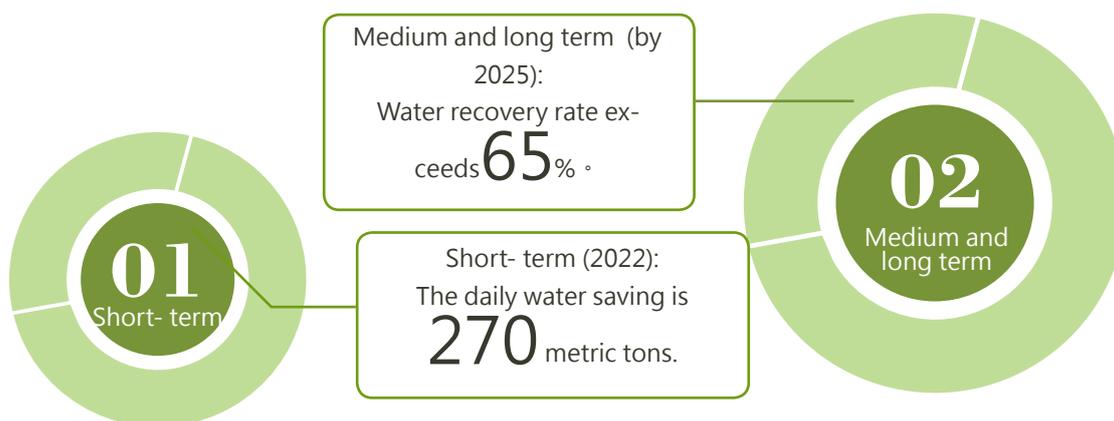
Indicator	Results in 2022	Percentage % taken from high water consumption stressed areas
Total water intake (based on water bill)	2,004 千立方公尺	0%
Total water consumption (deducted reclaimed water)	2,004 千立方公尺	0%
Water intake/ water consumption from water-stressed areas	0 千立方公尺	
Number of cases of violations of emission permits, standards, and regulations related to water quality		

The water source of Grand Pacific Petrochemical is all from the underflow water of Gaoping River, without taking from the water resource stress area. The water resources management plan and water saving measures are formulated as follows:



The Company use the GT-302 Blowdown for the reuse of dewatering machine in the wastewater area in 2022 to save water and wastewater discharge volume which can recycled 270 tons water per day for cooling tower and pure water processes. The total investment is NT\$ 14.66 million (direct cost), the trial run and performance test were completed in December 2022. In addition, the Company also implements recycled water planning for ultra-pure water systems in steam and power plants, and recycles backwash and forward wash regeneration water to GT-601 and GT-801 operating areas, which can provide water recovery ratios.

The aforementioned measures are expected to achieve the following water resource management objectives:



Soil and groundwater pollution prevention measures

In order to prevent and control soil and groundwater pollution, Grand Pacific Petrochemical has completed groundwater surveys and set up groundwater monitoring well systems in all process areas and tanks to provide early warning functions; various preventive measures are taken for underground pipelines, oil tanks and equipment that may cause soil and groundwater contamination, such as installing cathodic anti-corrosion systems, changing oil-water isolation ponds to stainless steel and underground pipelines to prevent organic liquid leakage due to corrosion of equipment;

and the delineation of responsibility areas and inspection of underground pipelines and related facilities and pipelines are carried out to achieve the purpose of soil and groundwater pollution prevention.

Legal compliance with environmental regulations

Topics of the Company	Material Topic	Response to SDGs	United Nation SDGs Notes and Indicators	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Sustainable environmental protection	Legal compliance related to environmental protection		Ensure the implementation of sustainable consumption and production models 12.5_ Reduce waste generation significantly through prevention, reduction, recycling and reuse by 2030.	We managed waste reduction and resource recycling to decrease the penalty cases by at least 1 case every year through the ISO 14001 environmental management system.

In the reporting period, Grand Pacific Petrochemical obtained six penalties (5 cases of air pollution and 1 case of waste) due to the foul odour and failure to submit the annual maintenance plan one month before the annual maintenance, with total amount of penalties was NT\$ 1.6 million, therefore, relevant pollution prevention investments (below) are implemented as following table. Currently, there is no environmental pollution affecting the organization's earnings and competitive position. Grand Pacific Petrochemical is actively dealing with various environmental protection issues, and is doing its best to protect the environment by following the laws and regulations to carry out improvement work. The following table shows the overall environmental protection spending and investment by Grand Pacific in 2022.

Environmental costs - pollution prevention and reutilization fees

Maintenance and repair costs for continuous automatic air pollutant monitoring facilities (instrumentation maintenance costs)	1,500,000
VOC detector maintenance and repair costs (Dept. of Industry and Environment)	66,322
Other air pollution prevention equipment maintenance and repair costs (incinerator/ABS/steam and power maintenance costs)	5,250,000
Maintenance and repair costs of wastewater treatment facilities (Dept. of Industry and Environment)	1,914,001
Soil and groundwater remediation costs (Dept. of Industry and Environment)	30,000,000
Planting and greening expenses (General HR)	450,000
Waste water separation pond submerged plastic recycling cost (Dept. of Industry and Environment)	155,000

Environmental costs - operating costs and upstream and downstream associated costs

ISO 14001, ISO 45001 audit fee	202,000
Stationary source operation permit review and certificate fee	83,500
Toxicological and chemical operation permit review and certificate fee	100,030
Tissue-type greenhouse gas inventory verification fee	300,000

Environmental costs - monitoring environmental impact fees

Effluent and process wastewater testing fee	220,000
Relative accuracy audit RATA testing fee	270,500
Stationary source emission pipeline testing fee	1,859,000
Expenses for the disposal of hazardous business waste	0
Expenses for the disposal of general business waste	9,460,857
Waste composition testing fee	86,500
Equipment component testing fee	3,430,000
Groundwater inspection fees	148,000

Environmental costs - processing fees and taxes

Third party liability insurance for toxic chemicals	850,000
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* The survey was conducted on Grand Pacific Kaohsiung Plant.

CHAPTER 04

While continuously striving to improve production efficiency, Grand Pacific Petrochemical also pays attention to promoting labor market employment, creating a quality working environment, and providing long-term stable employment. Our years of hard work have paid off.

Labor Human Rights and Social Care

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4. Social Care	89



1. Labor-employer Harmony and Employee Care

Topics of the Company	Material Topic	Response to SDGs	United Nation SDGs Notes and Indicators	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Equal right of labors	<ul style="list-style-type: none"> • Labor-employer relations • Labor/ employer relations 		<p>Promote inclusive and sustainable economic growth, achieve full employment, and create productive and quality jobs.</p> <p>8.7_ Eradicate forced labor, modern slavery and human trafficking, prohibit and eliminate the worst forms of child labor, and end all forms of child labor by 2025.</p> <p>8.8 Protect labor rights and promote a safe and secure work environment for all workers, including immigrant workers, especially female immigrants and those without stable employment</p>	<p>Through the ISO 45001 occupational safety and health management system and the ILO requirements, we are able to control emerging issues such as psychosocial hazards in the workplace and forced labor, and promote collective bargaining to protect labor rights.</p>

The protection of employees' labor rights and interests will help to retain talents and increase productivity.

In accordance with the R.O.C. government regulations regarding all human rights, the Company' s labor equity right policy is as follows:

Prohibit forced labor

Establish communication mechanism

Sound salary and benefits

Pursue continuous improvement

Employee Relations: Employment, Dedication, and Enjoyment

In 2022, Grand Pacific Petrochemical had 389 employees. The basic wages of both male and female employees meet the requirement of National Labor Laws. In addition, the Company provides long-term commitments to employees in order to provide stable care for their lives. In order to protect the working rights of local workers, the Company does not employ foreign workers and gives priority to local workers.

While continuously striving to improve production efficiency, Grand Pacific Petrochemical also pays attention to promoting labor market employment, creating a quality working environment, and providing long-term stable employment. Our years of hard work have paid off, with more than half of our colleagues having more than 10 years of experience. All employees are protected by the collective bargaining agreement through the union. We hope that they will recognize the Company's dedication and make Grand Pacific their lifelong ambition.

The Company offers employee benefit plan obligations and retirement plans

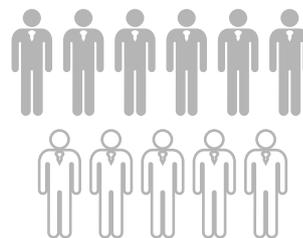
We provide insurance coverage superior than the regulations, such as group insurance / dependents' group insurance, to protect the work and life safety of our employees. The Company provides many benefits such as meal subsidies, year-end dinners, annual health checkups, annual trips, employee longevity awards, and wedding, childbirth, injury, illness, and funeral gift subsidies, etc. The Company also provides discretionary subsidies to employees in need during the New Year holidays. Employees are the most important asset of the company. Hence, we established recreation room in the production plant zone with built-in sports equipment. We also provided a complete entertainment facility to enhance interpersonal interaction among employees, so that they can develop interpersonal relationships and make a positive impact while working.

The Company's specific benefit plan obligations and retirement plans are as follows:

In 2022, Grand Pacific Petrochemical had

389

employees



01

Stable and long-term cooperation

Grand Pacific is committed to taking care of its employees and values its long-term commitment to them. The average length of service of our employees is about 14 years. Under the stable working environment, Grand Pacific pursues a long-term relationship with each of our colleagues.

02

Competitive salary

* Guaranteed annual salary for 15 months *
 Under the belief of "Taking from the Society and Giving Back to the Society", and taking good care of the employees' life, the Company also provides competitive salary, hoping that the employees can create value for the company without worrying about the support.

Grand Pacific Petrochemicals has more male employees due to more physical effort required for on-site work. However, in terms of executive positions, the number of women reaches

40 %



In accordance with the Labor Standards Act, the Labor Retirement Act and its implementing regulations, and the accounting standards for pensions, the Company makes monthly contributions to the personal accounts of employees at the Bank of Taiwan and the Labor Insurance Bureau, and establishes the Labor Pension Fund Supervisory Committee, which meets regularly to review the use of pension funds to protect the retirement rights of employees. The amount of employee pension recognition account can be referred to in the publicly issued annual report. The Company also regularly (monthly) contributes a certain amount to the Employee Benefit Committee based on the revenue status/trash return.

Gender Equality

Grand Pacific Petrochemicals has more male employees due to more physical effort required for on-site work. However, in terms of executive positions, the number of women reaches 40%, which shows that the Company selects talents based on ability rather than gender.

Basic Salary Ratio for Male/Female Employees

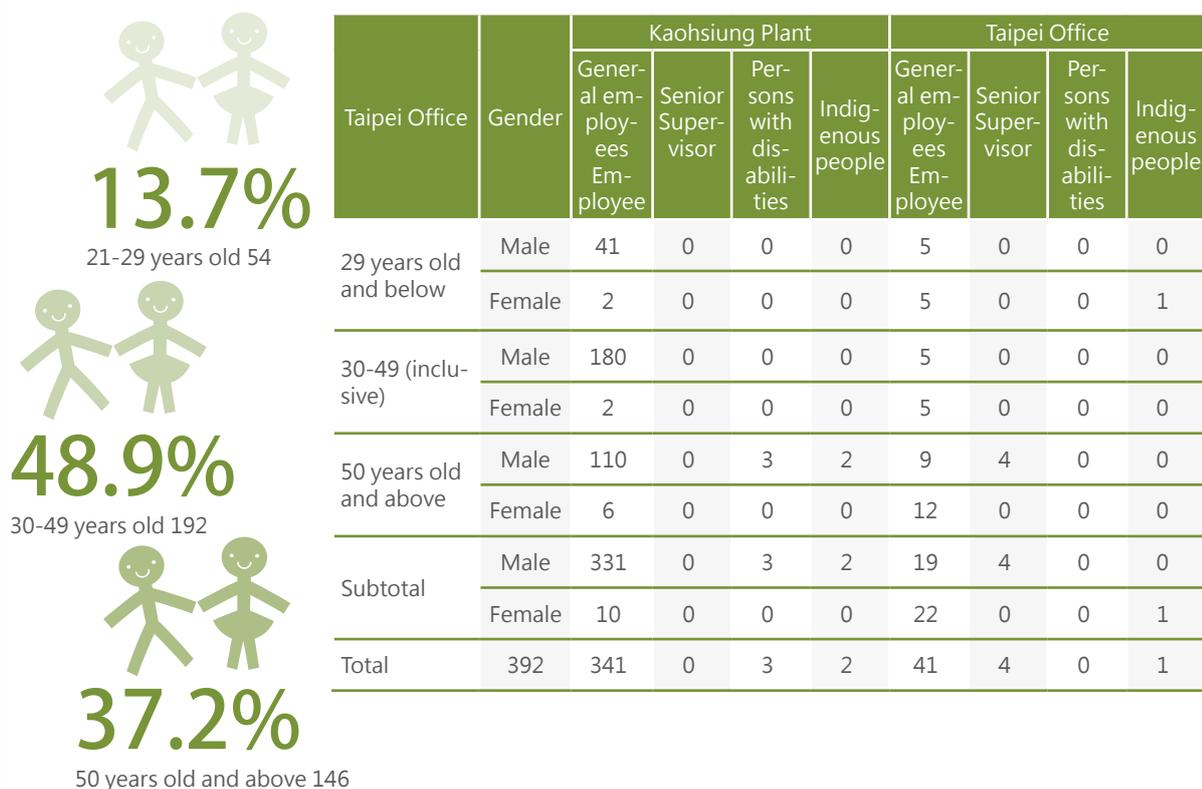
Grand Pacific insists on equality between men and women. Our salary is approved according to the individual's ability and job requirements. We uphold the principle of reasonableness and fairness without any differential treatment based on gender.

The following table shows the statistical salary status in 2022

	2021	2022
Number of full-time employees not in supervisory positions		360
Average salary of full-time employees not in supervisory positions	NT\$ 1,588 thousand	Please refer to the annual report publicly issued by the Company
Median salary for full-time employees not in supervisory positions	NT\$ 1,426 thousand	

For the age distribution of all Grand Pacific Petrochemical employees, we have 24 years old as the youngest, 65 years old as the oldest, and most employees fall between 30 to 39 years old, followed by 50 to 59 years old, which shows that Grand Pacific Petrochemical is in its young and strong age and has no record of child labor. The following table shows Grand Pacific Petrochemical's human resources status in 2022.

2022 Employee age, gender, and regional structure weighting



Age, gender, and regional structure weighting of the Company's new, resigned, and retired employees in 2022

Age categories		Retire			Resignation			New		
		Kaohsiung	Taipei	Di-verse	Kaohsiung	Taipei	Di-verse	Kaohsiung	Taipei	Di-verse
29 years old and below	Male	0	0	0	6	0	0	20	0	0
	Female	0	0	0	0	0	0	0	3	0
30-49 (inclusive)	Male	0	0	0	23	2	0	25	2	0
	Female	0	0	0	0	0	0	0	0	0
50 years old and above	Male	13	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0
Subtotal		13			31			50		
Total					44			50		
Turnover rates		Turnover rates 11.3%								



2022 Employee age, gender and regional composition table

	Security	Institutional Food	Cleaning	Engineering Contractors
Kaohsiung Plant	0	0	1	2
Taipei Office	0	0	0	0
Total	0	0	1	0

Note:

- Using FTE (Full-Time Equivalent) to convert the number of employees by dividing scheduled hours per year (220 person-day and 8 hours per day-person) by 8 hours per day-person.
- In 2022, contractors of Kaohsiung Plant have entered the plant for a total of 986 person-times. Since our company's database cannot make statistics of the working hours of each person who enters the factory, therefore, roughly estimated to be 4 hours per person-time.

Unpaid Parental Leave

During the reporting period of this report, there were 30 colleagues in the Company has children under the age of three at home, and three of them applied for unpaid parental leave, accounting for 10%. One of them has been reinstated (less than one year), and the reinstatement rate is 33.3%.

Colleague with children under the age of three			
Gender /Region	Kaohsiung	Taipei	Subtotal
Male	25	3	28
Female	1	1	2
Total			30

Application for unpaid parental leave			
Gender /Region	Kaohsiung	Taipei	Subtotal
Male	1	1	2
Female	0	1	1
Total			3

We bear the unshirkable responsibility of staff training

Grand Pacific Petrochemicals places great emphasis on employee education and training. In our Management Approach, we clearly stated that the key objective is to “enhance the added value of individuals and teams by continuously strengthening education and training”. In view of this, Grand Pacific Petrochemical has established the education and training regulations, specifying the categories of education and training, which are as follows:

Professional Courses

There are four categories: Statutory, General, SOP/ WI evaluation and Professional English, which are organized by the supervisor of each unit.

Environmental Safety and Health Course

refers to the course on basic environmental safety and health concepts and knowledge that Kaohsiung plant employees should be quipped, which is organized by the Dept. of Industry and Environment.

Seminars on special topics

refer to seminars aiming to enhance the efficiency, quality, and potential of our employees, which are organized by the Human Resources Team and the General Human Resources Team.

General skills test

We held two kinds of tests, English proficiency and computer application, which are organized by the Human Resources Team.

Grand Pacific also reinforces ethical awareness and emphasizes anti-corruption policies and procedures in its employee handbook and recruit training.

The training information for 2021 is compiled in the following table.

Course type	Internal training by the Company		Internal training by external parties		External training by external parties		Total		Hours
	training	people-time	training	people-time	training	people-time	training	people-time	
Professional Courses - General	56	790	10	98	58	71	124	1108	2573
Professional Courses - Statutory	0	0	6	375	30	50	36	396	2329
SOP/WI evaluation	3	6	0	0	0	0	3	6	38
Environmental Health and Safety Course	0	0	1	325	0	0	1	325	975
Environmental Health and Safety Training and Tests	0	0	1	315	0	0	1	315	630
Special lecture (Hours)	0	0	9	455	0	0	9	455	843
Proof of English Proficiency	7	43	0	0	2	2	9	45	43
Total	66	833	27	1568	90	123	183	2679	7431

The above-mentioned courses are conducted by the relevant units. The total number of courses conducted internally and externally in 2022 reached 183, with a total of 2,679 attendees, and a total of 7,431 hours, with an average of 2.78 hours of training per person.



Employee type	people-time	Total training hours	Hours %	Average number of hours trained per person
Senior supervisors	32	74	1.19%	2.3
First and second level supervisors	273	913	10.19%	3.3
Director labor	1331	3247	49.68%	2.4
Indirect labor	1094	3305	40.84%	3.0
All employees	2679	7431	100.00%	2.8

Grand Pacific Petrochemical focuses on the development of its own industry. The on-site production unit places more emphasis on education and training, accumulating 1,603 hours of education and training, accounting for 21.5% of the total training hours. We hope that through continuous learning, the Company can continue to move forward.

In addition to focusing on the development of the industry, the Company also attaches great importance to the environmental safety and health of the factory. Dept. of Industry and Environment has arranged 640 hours of environmental safety and health courses in 2022, demonstrating the spirit of Grand Pacific in pursuing safety and health first and giving priority to environmental protection, in order to continue to build a quality safety and health and environmental protection culture.

Education and training statistics for 2022 (by department)										
Department	Internal training by the Company		Internal training by external parties		External training by external parties		Total		Hours	Expenses
	training	people-time	training	people-time	training	people-time	training	people-time		
General Management Office	0	0	0	0	13	13	13	13	45	23,995
Human Resource Team (Project Management / Computer)	0	0	4	265	0	0	4	265	815	44,000
Human Resource Team (English)	7	43	0	0	2	2	9	45		
Human Resource Team (Newcomer Training/ Professional Course)	0	0	2	48	0	0	2	48		
Audits	0	0	0	0	4	4	4	4	36	19,000
Accounting Department	2	8	0	0	11	12	13	20	59	18,000
Finance Department	0	0	1	7	2	9	3	16	39	0
Procurement Department	0	0	3	10	2	2	5	12	235	189,847
Plastics/Petrochemical Business Department	1	14	1	3	0	0	2	17	46	0
Common Workshops	0	0	0	0	8	8	8	8	164	118,999
Nylon Factory	1	25	0	0	7	13	8	38	177	72,596
R&D Center, Enterprise Technology Team	0	0	0	0	0	0	0	0	0	0
R&D Center, R&D Team	0	0	3	30	2	3	5	33	113	13,733
Factory Department	3	39	0	0	6	7	9	46	191	37,482
General HR Team (Project Management)	0	0	5	190	3	3	8	193	328	14,171
General HR Team (English Proficiency Tests/ Professional English)	0	0	0	0	2	2	2	2	0	
Petrochemical Plant	16	225	0	0	10	21	26	246	571	89,783
Maintenance Workshop	18	312	0	0	5	7	23	319	723	164,589
Plastic Factory	3	87	0	0	7	8	10	95	432	164,667
Industrial Environment Department	3	43	6	375	5	8	14	426	3198	644,189
Industrial Environment Team, Environmental Health and Safety Course	0	0	2	640	0	0	2	640		
Hydrogen Workplace	12	192	0	0	1	1	13	193	259	19,342
Total	66	988	27	1,568	90	123	183	2,679	7,431	1,634,393

2. Occupational Health and Safety Management

Topics of the Company	Material Topic	Response to SDGs	United Nation SDGs Notes and Indicators	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Safe manufacturing	<ul style="list-style-type: none"> Occupational Safety and Health Chemical Safety Management 		Promote inclusive and sustainable economic growth, achieve full employment, and create productive and quality jobs. 8.8_Protect labor rights and create a safe and secure working environment for all workers.	We formulated the "Safety and Health Policy" through the ISO 45001 Occupational Safety and Health Management System, in which we disclose our core values as people-oriented, and we pursue the goal of zero disasters and zero injuries through the principles of "technology", "safety and health culture", "responsibility" and "communication".

Occupational Safety and Health Organization

Grand Pacific Petrochemicals constructed ISO45001 Occupational Safety and Health Management System. In addition to strengthening the concept of employee safety and health through education and training, a Labor Safety and Health Committee is formed according to the law, with a chairman and 13 representatives from the employer. And in accordance with Article 11, Paragraph 6 of the Labor Safety and Health Organization Management and Automatic Inspection Regulations, there are seven labor representatives, accounting for one-third of the total number of workers.

There are seven labor representatives



With a chairman and 13 representatives from the employer.



Occupational Safety and Health Policy and Promotion of Occupational Safety and Health Management System

Due to the process and product features, Grand Pacific Petrochemical uses and stores hazardous materials that meet the legal requirements. In order to provide a better working environment for our employees and contractors, Grand Pacific Petrochemical has formulated the Safety and Health Policy: "In order to protect the lives and health of the employees of the company and the contractors, the company will strive to eliminate and prevent injuries and illnesses by continuously improving the operating environment and facilities, installing equipment that meets the laws and engineering standards, strengthening the education and training of employees, requiring and caring for the safety of contractors, and establishing a perfect safety and health system and operating procedures that can be operated to improve the safety and health standards of the entire company and establish a quality safety and health culture." . We hope that the announcement of the safety and health policy will encourage all employees to improve occupational safety and health.

In order to improve the overall corporate safety and health standards, Grand Pacific Petrochemical began to implement the OHSAS 18001 system in 2006 and officially obtained the ISO 45001 standard in 2018. We have been creating and implementing various occupational safety and health systems, and control the hazardous factors in all operations, in hope that it will become a set of institutionalized safety and health management standards for employees to follow, so that we can continue to make progress and will not stop before reaching the best.

Coronavirus (COVID-19) prevention measures

Our measures for the prevention against coronavirus (COVID-19) pandemic in 2021 are as follows:

Establishment of an epidemic prevention response team

In response to the need for prevention and preparedness for COVID-19 outbreak, the Company established an epidemic preparedness team. With the CEO as the convener, each unit also set up an emergency response team to take measures to prevent the epidemic. We also cooperate with government authorities to develop epidemic prevention methods, assess and respond to epidemic impacts, purchase protective equipment, monitor and audit the effectiveness of implementation, conduct education, training and promotion, and keep abreast of the latest epidemic prevention information and review epidemic prevention measures to enable the company to continue its operations.

Purchased sufficient supplies for pandemic prevention

For example, medical-surgical masks, hand sanitizer, 75% alcohol for medical use, ear thermometers, forehead thermometers, goggles, bleach and non-contact garbage cans with lids are distributed to specific high-risk employees in accordance with the resolution of the Epidemic Prevention Conference.

Strengthened pandemic prevention and health education and promotion

- √ Posters are posted at the entrance of the factory or other obvious places to encourage employees to manage their health at home when they are sick, observe cough etiquette and maintain hand hygiene, teach employees to wear surgical masks and wash their hands properly, and update the epidemic information on the bulletin board and the company's intranet.
- √ Organized awareness seminars on pandemic prevention.



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Initiated employee health management care mechanism

- √ Employees are strictly controlled to go on business trips and travel to epidemic areas, and employees, visitors, and contractors who return to Taiwan from epidemic areas must make honest and independent notifications.
- √ Conducted access control measures, temperature monitoring and abnormality care.
- √ Emergency response mechanism for employees with suspected or confirmed cases of COVID-19

Strengthened advocacy to avoid group activities

- √ Reduced non-essential meetings and conducted meetings by video conferencing preferably.
- √ Splitted dining sessions to avoid clusters of diners.
- √ In the factory with a cafeteria, open-form food grabbing was no longer in place; the setting was changed to lunch boxes for the staff to take back to their seats to enjoy.

Work from home

- √ Work from home drill in batches for employees in factories and offices

Strengthened office environment cleaning

- √ Provision of alcohol disinfectant in common areas on each floor
- √ Cleaning and disinfecting all frequently touched surfaces in public areas with alcohol twice daily (morning/afternoon)
- √ Use disposable paper towels for staff to wipe surfaces after each disinfection of items, such as table and chair handles, computer equipment, elevator buttons, door handles and faucets

Highlights of occupational health and safety management

Manufacturing process safety management system

In order to implement the commitment of environmental safety and health policy, Grand Pacific Petrochemicals has evaluated the environmental safety and health aspects and critical operations resulting from production-related activities, products or services, and assessed their positive or negative impact on the environment, safety and health by collecting and checking regulations, evaluating environmental safety and health aspects of production processes, identifying hazards and risk assessment, and reviewing past incidents and fines. By taking into consideration the opinions of stakeholders, local requirements or industry conventions, we select the significant environmental safety and health considerations and critical operations for priority consideration in setting environmental safety and health objectives, targets and management plans.

Since the Kaohsiung August-first underground pipeline gas explosion incident, the Company has not only cooperated with the Industrial Development Bureau and the Kaohsiung City Economic Development Bureau in the joint investigation and inspection, but also continued to implement the "underground pipeline maintenance management plan" in 2022 to enforce the following control measures.



Health Promotion Systems and Disease Prevention

Our Company constructed the occupational safety hazard identification and risk assessment system in the ISO45001 Occupational Safety and Health Management System to perform major occupational safety and health risk assessment, and include the objectives and action plans for unacceptable risks and acceptable improvement opportunities to effectively control risks, and also construct the abnormal incident handling system to formulate the notification norms for different levels of safety and health events including false alarm events.



Pipeline risk assessment simulation

The Company attaches great importance to the physical and mental health of its employees, and the industrial and environmental unit follows the hazard identification and risk assessment management method to comprehensively assess the socially oriented occupational safety and health impacts such as workplace psychological discomfort, verbal violence, sex discrimination and sexual harassment, and take early countermeasures to protect the rights and interests of employees.

We are also committed to promoting tobacco prevention and health promotion in the workplace, actively implementing tobacco-free and health promotion measures in the workplace, and establishing an excellent and healthy work environment. In 2022, we carried out the following activities to promote worker health:



01

Health screening programs for different age groups (over/under 40 years old) are planned annually according to the age, gender, and needs of the work environment of our employees, in order to detect health hazards and potential disease causing factors at an early stage.



02

On-site visits by clinical service physicians once a month.



03

The “Post-Epidemic Era - Food Therapy” course is conducted based on the annual health examination report statistics and dietary survey analysis.



04

The “Workplace Illegal Violation Case Sharing Seminar” is held to let colleagues and supervisors understand more about the behaviors and words that have touched off bullying or aggression in the workplace through real-life case sharing.

In terms of specific occupational diseases, we instill correct safety and health concepts in our employees on a regular basis, effectively promote information about occupational safety and health in our company, provide professional training on occupational health for our employees to develop good work habits and reduce human error, and arrange for personnel engaged in special hazard operations to be tested in accordance with legal requirements. In accordance with ISO 45001, we have established the "Safety, Health and Environmental Protection Education and Training Method", and set up occupational safety and health business supervisors, occupational safety (health) managers and operators of dangerous machinery and equipment, and require all kinds of specialized personnel, managers and operators to retrain regularly during the in-service education and training period. For general employees in the transfer of operations or change of duties, the new supervisor of the unit of duty will decide whether to arrange appropriate occupational safety and health on-the-job training.

Issues for improving occupational safety and health in 2022 are as follows:

Factory

- Health examination and promotion
- Process and operation risk assessment
- Standardized management of safety production, in pursuit of zero disaster, zero injury planning activities and program safety
- Implementation of improvement measures for abnormal incidents

Work safety audit system

Grand Pacific Petrochemical attaches great importance to the safety and health of employees and contractors, and actively promotes work safety audits, such as: senior supervisors' mobile management, pre-start safety audits and work safety classification audits of supervisors at all levels, etc. Any deficiencies found are tracked until improvement is completed to prevent accidents. Dept. of Occupational Safety has also established the criteria for work safety audits, conducted occupational safety and environmental performance evaluations, and conducted occupational safety audit training for supervisors to guide employees with the concept of behavioral safety, safety observation procedures and items, and promote the establishment of safe behavioral work, with the aim of improving continuous improvement mechanisms and enhancing work safety performance.

Supplier

- Discussion on contractor safety management matters
- Occupational safety and health management" is included in the weighting of annual supplier management evaluation.



Intelligent tube detection process



Preparation before underground line inspection

Regularly hold labor safety committee and management review meetings

Grand Pacific Petrochemical has set up a Labor Safety and Health Committee, which is responsible for promoting work safety, preventing accidents, improving the working environment and maintaining the health of employees. The Committee meets quarterly and keeps track of the status of resolutions until they are completed.

In addition, Grand Pacific Petrochemical regularly holds management review meetings on a quarterly basis, with the expectation that all units will work together to improve and promote safety, environmental and health issues.

Contractor safety management

In order to improve the safety and health performance of the company and reduce the unpredictable risks, Grand Pacific Petrochemical has formulated the “Contractor Safety and Health Management Procedures” and the “Safety Work Permit Procedures”, and adopted the same standards for the safety management of the contractors as the employees of the company and strictly enforced them. In addition, we hold regular meetings of the mutual agreement organization to promote the concept of occupational safety and health to the contractor’s staff, and our staffs perform the concept of “everyone should be aware of occupational health and safety” by going to the construction site from time to time to carry out unannounced inspections and perform corrective actions to reduce the risk of unsafe behavior of the contractor’s staff.



Visited the Kaohsiung City Council to discuss pipeline safety measurement



Pipeline intelligent inspection instrument



Intelligent pipeline inspection



Night Pipeline emergency response exercise

Crisis and emergency response countermeasures

In order to control the accident situation, an “Emergency Response Plan” is formulated, and each unit then formulates crisis and emergency management organizations and countermeasures according to its own operation and environmental conditions, and regularly rehearses to familiarize itself with the response procedures in order to reduce the expansion of the disaster and minimize the loss of personnel and equipment in the event of an accident.

Incident investigation and handling

The following graph shows the trend of accidents of Grand Pacific Petrochemical in the past ten years. The number of accidents has been decreasing year by year. Since 2007, Grand Pacific Petrochemical has been encouraging its employees to report false alarms in the hope that they will become more aware of their own operational safety by reporting false alarms.

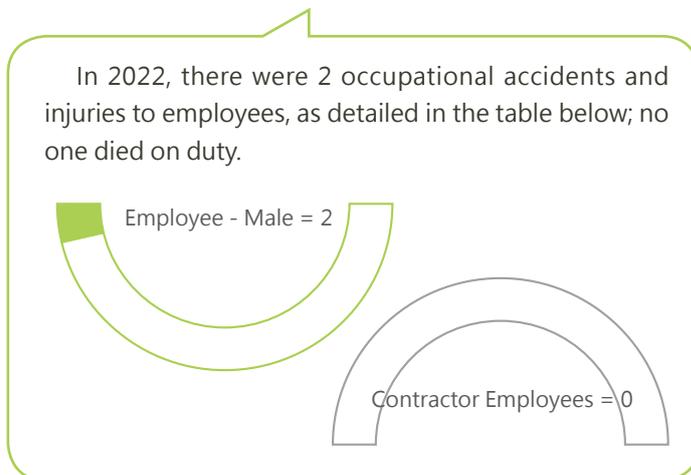
In the Accident Investigation section, Grand Pacific Petrochemical has established accident investigation procedures. In case of an accident, in addition to the incident unit, various professionals will also participate in the accident investigation and release the investigation results to the employees for their information, and conduct improvement tracking through various auditing and management review meetings to prevent recurrence.

Equipment and Fire Security Management

Due to the characteristics of the process, Grand Pacific Petrochemical has installed many dangerous machinery and equipment. In addition to regular primary maintenance, these process equipments are subject to non-destructive tests such as infrared inspection and ultrasonic inspection to predict the condition of rotating equipment. In addition to the regular inspection and reporting of fire safety equipment in accordance with fire safety regulations, Grand Pacific Petrochemical has established "Fire Safety Management Procedures" to ensure that all fire safety equipment is inspected regularly and kept in a state of readiness for use.



Number of accidents



In 2022, there were 2 occupational accidents and injuries to employees, as detailed in the table below; no one died on duty.



Emergency Response Drill Process

Note
 1. Includes traffic accidents when commuting to work
 2. Statistics on the Company according to Occupational Safety and Health Act

Total Recordable Incident Rate (TRIR) and mortality ratio of direct and contract employees

2022	
Total working hours	696,608
Number of recordable occupational injuries	2
Recordable occupational injury rate	0.57%
Occupational injury and death toll - Grand Pacific Petrochemical	0 人
Occupational injury and death toll/Number of people who has occupational disease - Contractor	0 人
Occupational injury and mortality ratio - Grand Pacific Petrochemical	0%
Occupational injury and mortality ratio / Number of people who has occupational disease - Contractor	0%
Near Miss Frequency Rate (NMFR) for direct & indirect employees	0%

Rate for loss of working time and occupational injury rate

2022	
Work Injury Rate FR	2.87
Occupational Disease Rate (ODR)	0
Severity Rate SR	47.37
Number of occupational fatal accidents	0

2022	
Works Incident Cases	XX
Work Injury Rate FR	2.87
Occupational Disease Rate (ODR)	0
Occupational Incident Cases	XX
Severity Rate SR	47.37
Number of occupational fatal accidents	0

Note:

1. Absence rate refers to actual days missed as a percentage of days that should have been worked in 2022. Absence: An employee's absence from work due to incapacity for labor, not limited to work-related injury or illness. Excludes approved leave, such as holidays, training, maternity/paternity leave and funeral leave.
2. Severity rate of incapacity (SR) = (days of lost work/total working hours)*1000000; Days of lost work: The "number of days" of time that a worker is unable to perform daily work "lost" due to an occupational accident or occupational disease. Days lost are not counted when workers are engaged in limited duties or alternative work in the same organization
3. Injury Rate (FR)=(Total number of injuries/total hours)*1000000
4. SR and FR statistics do not include traffic accidents and contractors.



Soil and pipeline thickness analysis



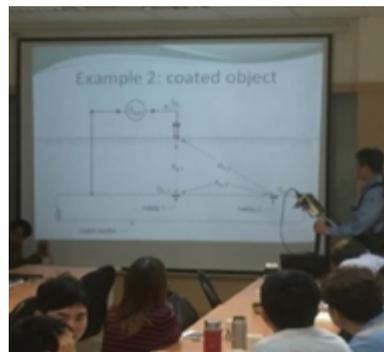
Intelligent tube detection process



Emergency Response Drill Process

Process Safety Incident Cases

2022	
Process Safety Incidents Cases (PSIC)	0
Process Safety Total Incident Rate (PSTIR)	0%
Process Safety Incident Severity Rate (PSISR)	0%



Training of pipeline operators

Our company is committed to providing a safe working environment for our employees. In addition to the industry-specific Responsible Care (RC) committee at the headquarters, there is a committee or special department in charge of occupational safety and health affairs, and regular meetings of occupational safety and health nature are held by the person in charge of the business operation or his agent. Labor representation >30%. We implemented the occupational safety system that requires communication and supervision between employers and employees, from the ignition characteristics of raw materials to the life safety of the working environment during operation activities.

According to the ISO45002 management system and operating environment monitoring, the Company conducts chemical substance concentration tests for butadiene and benzene workplaces, and noise measurement in compressor operating areas for styrene monomer plant No.3, in addition, the jobs that require special physical examination are summarized as follows:

Annual health examination for plastic factory workers (dimethylformamide)

01

Annual health examination for personnel engaged in special hazards at petrochemical plants (benzene)

02

Annual health examination for personnel engaged in special hazards in the petrochemical/plastic/automotive/nylon business units (noise)

03

In the past years, disease arising from the work was not found on the health examination results of the personnel engaged in the special hazard operation of the Company.

3. Customer Service and Supplier Management

Topics of the Company	Material Topic	Response to SDGs	United Nation SDGs Notes and Indicators	Grand Pacific Petrochemical Sustainable Development Practices and Targets
Customer-oriented	Customer privacy		Ensure the implementation of sustainable consumption and production models. 12.6_ Encourage companies to adopt sustainable practices (publish sustainability reports), especially for large and multi-national companies.	Ensure that customer information is not disclosed based on the information security policy

Customer Relationship: Protecting Customer Confidentiality and Improving Quality

As a petrochemical company and a plastic pellet manufacturer, Grand Pacific Petrochemical Company has made it its mission to provide safe and secure products and to improve customer satisfaction, in addition to promoting the importance of customer privacy in its employee code of conduct and preventing product quality and PL (product liability) issues before they occur. In 2021, there were no complaints of invasion of customer privacy or loss of customer information. The results of our satisfaction survey in recent years are as follows.

Summary of customer satisfaction performance of the Company' s Main Products for 2020-2021



Note: Full score is 5 points

Communication details of our products and services implemented through SDS are listed below.



Purchase method



Content



Safety instructions



Abandonment

- Information provided
- No information provided

It is clearly stated on our products that sustainability is taken into consideration in the following processes.



-  1. The SDS must be attached to each customer' s first shipment, clearly indicating information on banned substances, disposal methods, and conditions of use, and the SDS can be provided at any time upon request.
-  2. Conduct HSF quality satisfaction surveys on customers at any time. We communicate with our customers on our website, during visits to customers, or in public (e.g., seminars, product launches, etc.) to emphasize our management philosophy of sustainable products.
-  3. Currently, all of our products utilize the above-mentioned sustainable product descriptions, and no lawsuits have been filed in 2021 in which penalties were imposed for violations of product specifications, voluntary guidelines, or product labeling.

To ensure that our products reach our customers safely, we comply with the “Hazardous and Harmful Substances Labeling and Identification Regulations” of the Labor and Safety Bureau during the transportation of our chemicals, and perform 100% labeling according to the GHS (Global Harmonization System for Classification and Labeling of Chemicals).

In addition, our Company is increasingly required to properly manage and disclose information on substances contained in various products throughout the product life cycle in accordance with the requirements of the European ELV Directive, RoHS Directive, and REACH regulations, and we are evaluating all new and existing suppliers to avoid the transmission of environmentally controlled substances. Our products comply with government regulations for products and services. Grand Pacific Petrochemical' s plastic ABS products are tested annually by SGS for compliance with EU RoHS regulations and are free of the 10 environmental hazards.

Grand Pacific' s business philosophy is a win-win situation with suppliers and customers, ensuring ethical and environmentally friendly suppliers and production principles at all times. In addition to regular audits of suppliers, we also regularly communicate with them and offer incentives such as shorter ticket periods to suppliers with excellent cooperation results, with the goal of achieving a win-win situation for both parties. Recognize the significant risk of child labor through supply chain awareness and corporate ethical practices by our operating sites and suppliers. The Company will also make it a supplier management objective to include human right clauses in the contractual agreement.

According to the safety management operation of the contractor, the contractor who enters the plant must not only arrange the safety and health education and training, but also sign the joint operation agreement to ensure that no additional waste and wastewater pollution will be caused in the plant. For all suppliers, this is done through executive advocacy. Grand Pacific' s suppliers are 100% local manufacturers, such as SINOPEC/CPC/FPCC. In terms of environmental management of suppliers, we have incorporated environmental protection and corporate social principles into our supplier management mechanism, and in accordance with the spirit of ESG, we have established a “Code of Conduct for Partners” , which requires our partners to comply with

local laws and regulations and not to force/express labor, legal working hours and wages, environmental safety and health, and welfare, etc.

Currently, Grand Pacific’s management of all supplier selection indicators has included important indicators such as RoHS, ISO14001, ISO45001 and even corporate social responsibility. We require our suppliers to comply with norms such as freedom of association, prohibition of child labor, and even the elimination of labor-employer relations, in order to protect basic human rights. The aforementioned indicators are also included in the new supplier audit through the “New Supplier Evaluation Form” .

In addition, we are committed to ensuring that suppliers comply with the Principle of Impartiality from Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy of the International Labor Organization. Grand Pacific has implemented the management of suppliers and contractors (including security companies) through the procurement and general affairs units, and the overall management is summarized in the following table. The Company will gradually increase the proportion of suppliers that meet CSR-related requirements in the future.

2022 New Supplier	2022 New Supplier	Contractor / Secure the Company
		
<p>Implementation of CSR Review by signing the “Grand Pacific Petrochemical Partner Code of Conduct”</p>	<p>Completion of ESG evaluation through “Qualified Supplier Annual Evaluation Form</p>	<p>Execution of Human Rights Review by signing the “Grand Pacific Petrochemical Partner Code of Conduct”</p>
<p>Execution Ratio 100%</p> <p>Target Value 100%</p>	<p>Execution Ratio 100%</p> <p>Target Value 100%</p>	<p>Execution Ratio 75%</p> <p>Target Value 100%</p>
<p>Subsequent Management Objectives</p>	<p>Subsequent Management Objectives</p>	<p>Subsequent Management Objectives</p>
<p>Include the CSR clause in the commitment</p> <p>● ○ ○</p>	<p>Increase the proportion of on-site evaluation</p> <p>○ ● ○</p>	<p>The human rights clauses are set out in the contractual agreement</p> <p>○ ○ ●</p>

Grand Pacific expects its partners to comply with the Supplier ESG Code of Conduct, which includes categories such as environmental protection, occupational safety and health, and protection of labor rights and ethics, and ensure that the products and services they provide comply with all national and other applicable laws and regulations.

01  **Protecting Labor Rights**
Grand Pacific's suppliers are required to commit to establish appropriate grievance mechanisms, prohibit child labor, provide reasonable benefits, prohibit workplace bullying, avoid employment discrimination, protect freedom of association, and continuously improve employee functions.

02  **Health and Safety**
Suppliers are required to follow ISO 45001 occupational safety standards to control potential hazards in the workplace that employees are exposed to through proper design, engineering and management controls, preventive maintenance and safe operating procedures. When the source of the hazard cannot be fully controlled by the above methods, employees should be provided with appropriate personal protective equipment. No disciplinary action shall be taken to raise the safety awareness of employees.

03  **Environmental Protection**
Grand Pacific's suppliers required to take responsibility for environmental protection. The manufacturing process should minimize the negative impact on the environment and natural resources while protecting the health and safety of the public.

04  **Ethical Standards**
Grand Pacific's suppliers are held to the highest standards of integrity in their business dealings, and corruption, extortion and bribery of any kind are strictly prohibited and no improper benefits are offered.

Grand Pacific Petrochemical understands that enterprises are public instruments of society. In addition to its efforts to grow its business, it must also comply with social regulations such as fair competition and anti-corruption, and do its part to improve the society.

4. Social Care

With gratitude in mind, our staff members have formed a Loving Heart Society to visit charitable organizations and nursing homes during holidays, and give donations and supplies to express their sympathy. In addition, we also give priority to ordering mooncakes for charity organizations to show our support for the New Year.

“Taking from the society and giving back to the society” is not only a slogan or mission for Grand Pacific, we make it as one of our core values.

In view of the lack of educational resources for children from economically disadvantaged families, Grand Pacific assists social organizations in organizing academic counseling programs for disadvantaged children and subsidizing children from low- and middle-income families to attend international art performances, in order to enhance their academic achievement, expand their horizons in life, and improve the sound development of their personalities.



89 Order Mid-Autumn Festival gift box with Down Syndrome Association



Taisha Kyoraku Academy, Vulnerable children after school program, Mid-Autumn Festival concern

It is the responsibility of Grand Pacific to continue to care for the disadvantaged groups in society. We hope that we can use our modest efforts to care for the needy corners as much as possible.

Social feedback and sponsorship

“Taking from the society and giving back to the society” is not only a slogan or mission for Grand Pacific, we make it as one of our core values. As a testament to our commitment to giving back to the community, Grand Pacific continues to promote and support various social and community activities.



Sponsored Kaohsiung Nanzi Elementary School Music Banquet

Grand Pacific holds a regular blood donation event each year. Every employee is proud to donate blood and actively signs up for blood donation. The Loving Heart Society also gave out beautiful gifts to donors out of its own pocket to encourage colleagues to roll up their sleeves and contribute blood in times of blood shortage.

In order to promote the importance of environmental protection and the importance of not leaving garbage on the ground, Loving Heart Society organized a mountain cleaning activity to implement the corporate social responsibility of environmental protection

and love for the earth, attracting nearly 100 employees’ family members to participate. Our colleagues led family members to pick up, sort and pack by hand. This event poses educational meaning for the next generation and strengthens the concept of Go Green in the daily life of our employees. To implement the concept of giving back to the community, we actively sponsor and support the government and non-government organizations to deeply understand the needs of the society. For example, we participated in the agricultural products cultural tourism season and the seasonal fruit subscription to support Taiwan’s agricultural industry with practical actions. In addition, for the disaster prevention system, Grand Pacific sponsored the Renda Fire Department, the Renwu Volunteer Firefighters Association, and the Kaohsiung County Fire Department’s community CPR and disaster prevention tour to provide direct support to firefighting units and jointly build a safe community.



Participate in local folk festivals



The total amount of local public welfare expenditure in 2022 is about NT\$

63.9 million

of which the neighborly activity fund is about NT\$

6.55 million

Maintain neighborly relationship

With deeply roots in Taiwan, Grand Pacific has actively established a symbiotic concept with residents of Kaohsiung Taishe Community to reduce the stereotype of polluting industries, and has made every effort to co-organize various community activities and public welfare events to promote the development of the surrounding communities.

Grand Pacific provides scholarships to help encourage outstanding local students to continue their studies, local folk celebrations, festive events, local school recreation and cultural activities, local cultural and arts associations, community summer talent classes, local hiking activities, environmental volunteer training camps, orphanage winter activities, underprivileged and evergreen organizations sponsorship, local sports activities participation, and assistance to government agencies in health promotion activities.

Grand Pacific and other companies in the Dashe Industrial Park give back to our neighbors through Manufacture Association (Under the operation of the Dashe Neighborly Feedback Fund Review Team, the rebate is used to subsidize local residents' utility bills, scholarships for school children, nutritious lunches for the elderly living alone and low- and middle-income households, and to further subsidize the cost of books, insurance,

miscellaneous school fees, and classroom aids for elementary and middle schools in the region, as well as to enhance the teaching of American as a foreign language.). The total amount of local public welfare expenditure in 2022 is about NT\$ 63.9 million, of which the neighborly activity fund is about NT\$ 6.55 million.



Participate in local public welfare activities



Sponsor Renwu petrochemical industry Special Class

The shortage of talent is not only a crisis for the petrochemical industry but also a common predicament for Taiwanese industries at this stage. In order to expand talent recruitment channels, Grand Pacific continually recruits talent from universities and colleges such as Kaohsiung University of Science and Technology via special lectures since 2022 to recruit outstanding new employees.



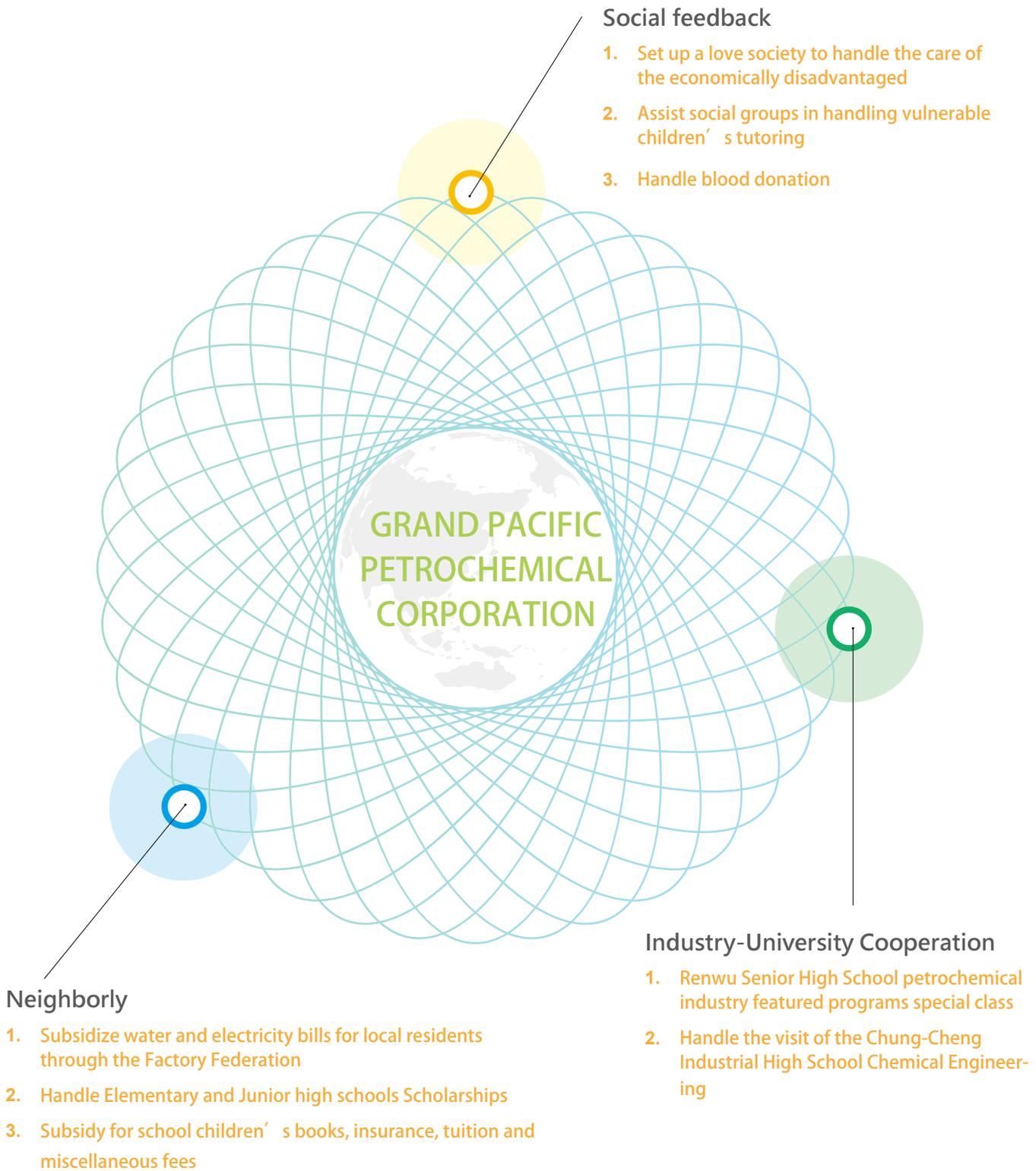
In 2014, Grand Pacific completed a memorandum of understanding with Renwu High School through the Dashe Industrial Park Manufacturers' Association and established the "Kaohsiung Petrochemical Industry Specialized Program Renwu University Class", which targets students from Renwu, Daisiang, Dashu, Tosong, and Nanzhi districts. A fixed number of new students are enrolled

each academic year. In addition to the general high school curriculum, the university also offers scholarships for the petrochemical industry, industrial safety and occupational ethics courses. Graduates with excellent grades will be given priority for future employment.



Note: Webpage for Kaohsiung City Dashe Community Office's Feedback Zone:
http://www.dsrtg.gov.tw/p06_07.aspx?type=5

Grand Pacific's social responsibility care promotion project and outcome



CHAPTER 05

Appendix

1. GRI Standard	95
2. Sustainability Accounting Standards Board, SASB	100
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4. Third-party Independent Verification	103

Table of GRI Standards

Statement of use	Grand Pacific reports the content from January 1 to December 31 2022 according to the GRID reference standard					
GRI used	GRI 1: Foundation 2021					
Applicable GRI Industry Standards	None					
GRI Standards / Source	Disclosure	Page	Remark			GRI Industry Standards No.
			Omit	Reason	Explanation	
General Disclosure						
	2-1 Organization details	6,24,25				N/A
	2-2 Entities Included in Organizational Sustainability Reports	5				N/A
	2-3 Reporting period, frequency and contact	6				N/A
	2-4 Restatements of information	NA	V		No change	N/A
	2-5 External assurance	6				N/A
	2-6 Activities, value chains and other business relationships	6,19,28				N/A
	2-7 Employee	24,37,71				N/A
	2-8 Non-employee workers	24,72				N/A
	2-9 Governance structure and composition	11,12				N/A
	2-10 Nomination and selection of the highest governance organization	37				N/A
	2-11 Chairman of the highest governance organization	37				N/A
GRI 2: General Disclosure 2021	2-12 The function of the highest governance organization in supervision impact	12,40,41				N/A
	2-13 Appointment responsibility	12				N/A
	2-14 The role of the highest governance organization in sustainable reporting	12				N/A
	2-15 Conflict of interest	40				N/A
	2-16 Material event for the key of communication	40				N/A
	2-17 Knowledge of the highest governance organization	24				N/A
	2-18 Performance evaluation organization of the highest governance unit	12				N/A
	2-19 Remuneration policy	39,47				N/A
	2-20 Process for determining remuneration	39				N/A
	2-21 Annual total remuneration percentage	39				N/A
	2-22 Statement of Sustainability Development Strategy	NA				N/A
	2-23 Policy commitment	9,40				N/A
2-24 Incorporation of policy commitment	40				N/A	

GRI Standards / Source	Disclosure	Page	Remark			GRI Industry Standards No.
			Omit	Reason	Explanation	
GRI 2: General Disclosure 2021	2-25 Procedures for remediating negative shocks	40,41				N/A
	2-26 Mechanisms for seeking advice and raising concerns	40,41			No ESG-related complaints were submitted by customers or suppliers during the reporting period	N/A
	2-27 Comply with laws and regulations	65				N/A
	2-28 Member association	30				N/A
	2-29 Approaches to stakeholder engagement	15				N/A
	2-30 Collective bargaining agreement	40			In 2022, the union did not agree with the management on additional group agreements	N/A
Material topic						
G3 : Material topic 2021	3-1 Process for determining material topic	16				N/A
	3-2 List of material topic	18				N/A
GRI 201: Economic performance 2016						
G3 : Material topic 2021	3-3 Material topic management	19,31				N/A
201-1	Direct economic value generated and distributed	31				N/A
201-2	Financial impacts and other risks caused by climate change	47,53				N/A
201-3	Definition of benefit plan obligations and other retirement plans	70				N/A
201-4	Financial subsidies from the government	NA			No related subsidies in 2022	
GRI 205: Anti-corruption 2016						
G3 : Material topic 2021	3-3 Material topic management	19				N/A
205-1	Operation offices that have performed a corruption risk assessment	NA			Conduct advocacy to 100% employees	N/A
205-2	Communication and training about anti-corruption policies	73				N/A
205-3	Confirmed incidents of corruption and actions taken	NA			No related circumstances in 2022	N/A

GRI Standards / Source	Disclosure	Page	Remark			GRI Industry Standards No.
			Omit	Reason	Explanation	
GRI 302: Energy 2016						
G3 : Material topic 2021	3-3 Material topic management	19,46				N/A
302-1	Energy consumption within the organization	54				N/A
302-2	Energy consumption outside the organization	NA	V	Unable to clearly define the upstream and downstream of <Scope 3>		
302-3	Energy intensity	54				N/A
302-4	Reduce energy consumption	56				
302-5	Reduce energy demand for products and services	NA				
GRI 303: Water 2018						
G3 : Material topic 2021	3-3 Material topic management	19,57				N/A
303-1	Interactions with water as a shared resource	62				N/A
303-2	Management of drainage-related shocks	NA	V	The value of water sources to local communities has not been assessed		N/A
303-3	Water intake	NA				N/A
303-4	Displacement	62				N/A
303-5	Water consumption	62				N/A

GRI Standards / Source	Disclosure	Page	Remark			GRI Industry Standards No.
			Omit	Reason	Explanation	
GRI 305: Emissions 2016						
G3 : Material topic 2021	3-3 Material topic management	19,46				N/A
305-1	Direct (Scope 1) GHG emissions	55				N/A
305-2	Energy indirect (Scope 2) GHG emissions	55				N/A
305-3	Other indirect (Scope 3) GHG emissions	NA	V	Reasonable Assurance Class has not been obtained		N/A
305-4	GHG emissions intensity	55				N/A
305-5	Reduce GHG emissions	NA	V	The reduction has not been independently verified by a third party		N/A
305-6	Emissions of ozone depleting substances	NA			No related emissions	N/A
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	60				N/A
GRI 306 G3 : Material topic 2021: Waste 2020						
G3 : Material topic 2021	3-3 Material topic management	19,57,65				N/A
306-1	Waste generation and significant waste-related impacts	57				N/A
306-2	Management of significant waste-related impacts	57,58				N/A
306-3	Serious leakage	57				N/A
GRI 401: Employment 2016						
G3 : Material topic 2021	3-3 Material topic management	19,68				N/A
401-1	New and resigned employees	NA				N/A
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	69,71				N/A
401-3	Parental leave	72				N/A

GRI Standards / Source	Disclosure	Page	Remark			GRI Industry Standards No.
			Omit	Reason	Explanation	
GRI 403: Occupational Health and Safety 2018						
G3 : Material topic 2021	3-3 Material topic management	19,75,76				N/A
403-1	Occupational health and safety management system	75,78,83				N/A
403-2	Hazard identification, risk assessment, and incident investigation	78				N/A
403-3	Occupational health services	78				N/A
403-4	Worker participation, consultation, and communication on occupational health and safety	75,81,84				N/A
403-5	Worker training on occupational health and safety	74,80				N/A
403-6	Promotion of worker health	78				N/A
403-7	Prevention and mitigation of occupational safety and health impacts directly related to business relationships	79				N/A
403-8	Workers covered by the occupational safety and health management system	NA			The staff under the control of the company's rights and responsibilities can implement safety and health work through training and safety and health meetings	N/A
403-9	Work-related injuries	82				N/A
403-10	Occupational disease	84				N/A
GRI 408: Child Labor 2016						
G3 : Material topic 2021	3-3 Material topic management	19,68,86				N/A
408-1	Significant risk for hiring child labor in operation office and suppliers	NA			No significant risks	N/A
GRI 418: Customer Privacy 2016						
G3 : Material topic 2021	3-3 Material topic management	19,85				
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	85				N/A

Appendix Sustainability Accounting Standards Board, SASB

Topic	Indicator Code	Property	Disclosure indicators	Page	Remark	External assurance
Greenhouse gas emission	RT-CH-110a.1	Quantitative	Scope 1 Greenhouse Gas Emissions;	55,56		●
		Quantitative	Percentage of Scope 1 greenhouse gas emissions subject to emission limitation regulations	55,56		●
	RT-CH-110a.2	Qualitative	Management of the long-term and short-term strategies or plans for Scope 1 emissions	56		●
		Qualitative	Discussion on reduction target	56		●
Air quality	RT-CH-120a.1	Quantitative	Nitrogen oxides (NOx)	61		●
		Quantitative	Sulfur oxides (SOx)	61		
		Quantitative	Volatile Organic Compounds (VOCs)	61		
		Quantitative	Hazardous Air Pollutants (HAPs)	61		
Energy management	RT-CH-130a.1	Quantitative	Total Energy Consumption	54		●
		Quantitative	Percentage of Grid Power	54		●
		Quantitative	Renewable Energy Consumption	54		●
Water resource management	RT-CH-140a.1	Quantitative	Percentage of total water intake and high-water consumption pressure area	63		●
		Quantitative	Percentage of total water consumption and high-water consumption pressure area	63		●
	RT-CH-140a.2	Quantitative	Cases of violations of water quality related discharge permits, standards and regulations	NA	No violation cases of wastewater regulations	●
	RT-CH-140a.3	Qualitative	Describe water resource management risks and strategies	64		●
		Qualitative	Practices to mitigate risk	64		●
Hazardous waste Management	RT-CH-150a.1	Quantitative	Hazardous waste generation	59		●
		Quantitative	Hazardous Waste Recycling Percentage	59	Hazardous Waste Recycling Percentage 0%	●

Topic	Indicator Code	Property	Disclosure indicators	Page	Remark	External assurance
Community relations	RT-CH-210a.1	Qualitative	Discuss the process of participating in the management of risks and opportunities related to community interests	15,91		●
Labor safety and health	RT-CH-320a.1	Quantitative	Total Recordable Incident Rate (TRIR) for direct and contract employees and the Near Miss Frequency Rate (NMFR) for direct & indirect employees.	83		●
	RT-CH-320a.2	Qualitative	Work instructions for assessing, monitoring, and reducing Long-term (chronic) health risk exposure of employees and contract workers	84		●
Product Design for Use-Phase Efficiency	RT-CH-410a.1	Quantitative	Revenue from products designed for use-phase resource efficiency	NA	Planning and evaluating product carbon footprint	●
Chemical Safety and Environmental Management	RT-CH-410b.1	Quantitative	Percentage of products containing Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Class 1 and Class 2 health and environmental hazard substances	NA	(1) Class 1: The Styrene Monomer products of Grand Pacific contains GHS health and environmental hazard substances, which account for the weight percentage of the whole product: 42% (2) No Class 2	●
		Quantitative	Percentage of such products that have conducted a hazard assessment	NA	Grand Pacific's products contain GHS health and environmental hazard substances, and the percentage of hazard assessment: 100%	●
	RT-CH-410b.2	Qualitative	1. Management of Concerned Chemical 2. Development strategies for developing alternative products that reduce human and environmental impacts	NA	The Kaohsiung plant has obtained SONY GP (Sony Green Partner) certificates, and implements the purpose of the environmental management mechanism with the aim of "making good use of resources, preventing pollution, and continuous improvement"	●
Genetically Modified Products	RT-CH-410c.1	Quantitative	Ratio of Genetically Modified Products (GMO) to Overall Revenue	NA	Grand Pacific has no genetically modified products	●
Management of Legal and Regulatory Environment	RT-CH-530a.1	Qualitative	On environmental and social issues, the company's position on government regulation and policy planning	30		●

Topic	Indicator Code	Property	Disclosure indicators	Page	Remark	External assurance
Operational Safety Emergency Preparations and Response	RT-CH-540a.1	Quantitative	Process Safety Incidents Cases (PSIC)	84		●
		Quantitative	Process Safety Total Incident Rate (PSTIR)	84		●
		Quantitative	Process Safety Incident Severity Rate (PSISR)	84		●
	RT-CH-540a.2	Quantitative	Traffic Incident Cases	NA	No related incident in 2022	●
Operating Activity Indicator	RT-CH-000.A	Quantitative	Production by department (expressed in m3/ metric ton)	61		●

Appendix FSC Sustainability Disclosure Indicators- Chemical Industry

Chemical Industry Disclosure Index Number	Description	Property	Unit	Page
I	Total energy consumption, percentage of purchased electricity, utilization rate of renewable energy and total self-generated and self-consumed energy	Quantitative	mega-joule	54
II	Total water intake, total water consumption, waste (sewage) discharge according to legal requirements or voluntary disclosure	Quantitative	m ³	62
III	The total amount of hazardous waste produced in the production process and the recycling percentage according to legal requirements or voluntary disclosure	Quantitative	%	59
IV	Description of the number and rate of occupational accidents	Quantitative	%	83
V	Operating activities that have significant actual or potential negative impacts on local communities.	Qualitative	NA	90,91,92
VI	Specific and effective mechanisms and actions taken by the enterprise itself and its suppliers to reduce negative impacts on the environment or society	Qualitative	NA	19,88
VII	Product productions by product category	Quantitative	metric ton	61



Assurance Statement

GRAND PACIFIC PETROCHEMICAL CORPORATION Sustainability Report

TUV NORD Taiwan Co., Ltd. (hereinafter referred to as TUV NORD) was commissioned by GRAND PACIFIC PETROCHEMICAL CORPORATION (hereinafter referred to as GPPC) to perform the 2022 Sustainability Report Verification (hereinafter referred to as Sustainability Report) in accordance with the AA1000 Assurance Standard Version 3 and the GRI Sustainability Reporting Standards (GRI Standards) and related assurance standards.

The Scope of Statement and Assurance Standards

- 1) The scope of assurance is consistent with the scope of disclosure in GPPC 2022 Sustainability Report, which covers the period from 1 January 2022 to 31 December 2022.
- 2) Verification of GPPC compliance with the AA1000 Principles of Accountability in accordance with the AA1000 Assurance Standard, Third Edition, Application Type I. This does not include verification of the reliability of the information/data disclosed in the report.
- 3) Sustainability Accounting Standards Board (SASB) Chemical sector sustainability accounting metrics.
- 4) The Taiwan Stock Exchange's "Act on the Preparation and Filing of Perpetual Reports by Listed Companies" Chemical sector disclosure sustainability metrics.
- 5) TCFD climate related financial disclosure recommendation

Intended Users

The intended users of this statement are the stakeholders of GPPC.

Assurance Type and Level

In accordance with the requirements of the AA1000 Assurance Standard Version 3, Type 1, Moderate of Assurance Level.

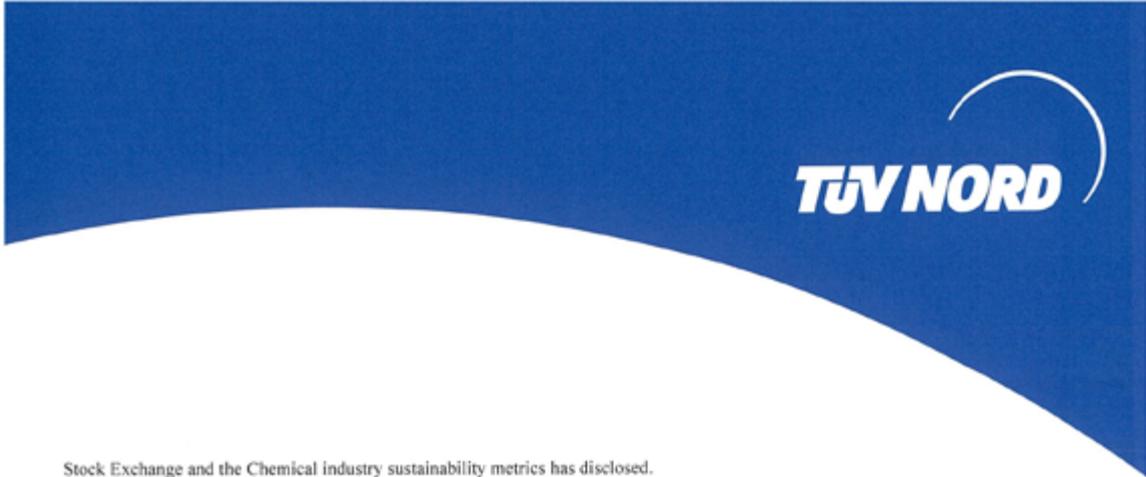
Opinion Statement

GPPC refers to the GRI sustainability reporting and AA1000 accountability principles of inclusivity, materiality, responsiveness and impact. The sustainability report presents the commitment of top management, the needs and expectations of stakeholders. To achieve sustainability performance indicators by stakeholders' engagement.

We assure that GPPC refers to the SASB Chemical sector industry sustainability accounting standards to disclose relevant metrics

We assure that GPPC refers to the "Act on the Preparation and Submission of Sustainability Reports by Listed Companies" of the Taiwan

Page 1 of 4



Stock Exchange and the Chemical industry sustainability metrics has disclosed.

We assure that GPPC refers to TCFD's climate-related financial disclosure recommendations and discloses relevant metrics.

Methodology

Our verification services are planned and performed in accordance with the above mentioned assurance standards and the TUV NORD Sustainability Report Verification Agreement for verification of sustainability reports.

Our verification includes the following activities.

- * Collect objective evidence of relevant performance metrics, as mentioned in the report.
- * Assurance of expectations of local or national regulations; international standards as set forth in public opinion and/or expert opinion are relevant to such general considerations.
- * Document review records and report content assessment in the context of GRI criteria application requirements.
- * Interviews with managers and related staff on issues of concern to the company's stakeholders.
- * Interviews with personnel involved in sustainability management, information gathering and report preparation.
- * Review significant organizational developments and review internal and external audit findings.
- * Review AA1000 (2018) Principles of Accountability and other compliance requirements.

Conclusion

The results of the AA 1000 accountability standard for inclusivity, materiality, responsiveness and impact in the report are set out below.

Inclusivity

GPPC well identified its 7 stakeholders through ESG reporting committee, and collected 35 effectiveness questionnaires for materiality from stakeholders, for 10 material topics in Economic, Environment and People aspect to be declared. GPPC discloses additional 6 topics which refers to SASB and FSC guidance.

Materiality

GPPC's report refers to the GRI Guidelines, SASB Chemical sector sustainability Indicators disclosure related metrics and the Taiwan Stock Exchange's "Guidelines for the Preparation and Filing of Continuing Reports by Listed Companies" Chemical sector disclosure sustainability indicators, and TCFD climate related financial disclosure proposed indicators) to fully disclose the company's material risks and opportunities, taking into account the degree of impact on the company and prioritize the materiality of the report.



Responsiveness

GPPC's Sustainability Report clearly describes the relationship between sustainability and organizational strategy and the performance metrics corresponding to the materiality and their achievement status, and adequately addresses the main issues of concern to stakeholders.

Impact

GPPC's sustainability report fully identifies materiality that reflect the significant economic, environmental, and social impacts on the organization. The company has established a robust process to monitor and measure the impact and establish short-, medium-, and long-term strategic planning through corporate governance.

GRI Sustainability Reporting Standards

GPPC's sustainability reports refers to the GRI 1 to GRI 3 universal Standards and the GRI 200 Series, GRI 300 Series and GRI 400 Series topic standards, and meet the requirements for disclosure.

Limitations

The financial report of GPPC were certified by Crowe Taiwan, the accounting firm appointed by the company.

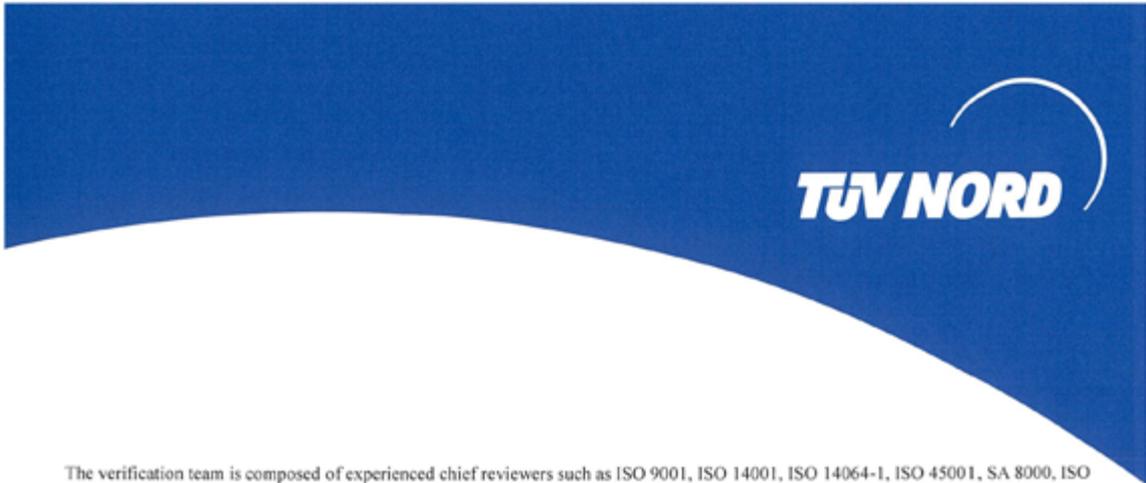
The boundary of carbon emission verification report only includes the Kaoshiung plant.

The data of carbon emission verification was verified by SGS third party.

Independent Statements and Competence

TUV NORD Group is a leader in the supervision, testing and certification. It operates businesses and provides services in more than 70 countries around the world. The services include management systems and product certification; quality, environmental safety, social and moral audits; corporate sustainability report assurance.

TUV NORD and GPPC are mutually independent organizations, and there is no conflict of interest with GPPC or any of its affiliates or interested parties when performing the verification of the sustainability report. Regarding the sustainability report of GPPC, TUV NORD is based on the GPPC verification agreement, and does not assume any legal or other responsibilities. GPPC is responsible for responding to any questions that intended users concerned.



The verification team is composed of experienced chief reviewers such as ISO 9001, ISO 14001, ISO 14064-1, ISO 45001, SA 8000, ISO 50001, ISO 27001, etc., and has received the CSAP verification practice qualification certification of AA1000 AS v3 accountability training. The verification team is based on his qualifications, extensive knowledge and experience in the industry provide professional advice in this assignment.

Jack Yeh
General Manager



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TUV NORD Taiwan Co., Ltd.
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