



2020 NAN YA PLASTICS CORPORATION

ESG INSIGHT

Environmental

The Company has always been equally committed to environmental protection and industrial development, and also adheres to the goal of "zero accidents in environmental safety and health and ensuring perpetual business operation". Besides pledging to protect the environment and maintain community safety, all employees are required to enrich their professional skills and to treat safety, health, and environmental protection as their priority. Everyone should lead by example and regard safety, health, and environmental protection as a part of their responsibility. The Company's 2020 environmental accounting metrics account for 57% of consolidated revenues, NPC is committed to increasing this metric and improve transparency of disclosure.

Environmental Strategies



Promote Circular Economy

Circular use of raw materials energies, resources, and waste.

Mitigate Climate Change Risks

Promote energy conservation and carbon reduction improvement projects, reduce greenhouse gas (GHG) emissions, and respond to energy transformation policies. Strictly Comply with Environmental Laws and Regulations

Manage controlled chemical substances and air pollutants and achieve zero environmental legal violations.

	Environmental Certification	ns	
Certification	Site/Product	Verification Authority	Valid Until
ISO 14001: 2015 Environmental Management System	Shulin, Linkou, Kung San, Jinxing, Mailiao, Haifeng, Hsinkang, Chiayi, Renwu, and Linyuan sites	SGS	2023/01/26
ISO 50001 Energy Management System	Shulin Site II, Hsinkang CCL Site I, Hsinkang CCL Site III	SGS	2024/11/30
Green Factory Label	Shulin Site II, Hsinkang CCL Site I, Hsinkang CCL Site III	Industrial Development Bureau / Foundation of Taiwan Industry Service Foundation	2023/10/31
Green Building Label	Linkou Film Site II (Silver Grade); Shulin Site II, Hsinkang CCL Site I, Hsinkang CCL Site III	Ministry of the Interior / Taiwan Architecture and Building Center	2022/08/03
Responsible Business Alliance (RBA)	Shulin Release Film Site	Responsible Business Alliance	2022/12/12
Water Footprint	The Company	SGS	2023/07/07

United Nations Sustainable Development Goals (SDGs)



Key Environmental Goals

In 2020, NPC continues its commitments to environmental goals in comparison with the previous years, and formulates rolling targets for subsequent years.

2020 Goals	2020 Achievement Rate	2021 Goals
Resource Management – NPC Mailiao Site		
Reduce water consumption per unit product by 2%	2.8% 🗸	2.0%
Reduce waste generation per unit product by 1%	13.0% 🗸	1.0%
Reduce energy consumption per unit product by 3%	3.7% 🗸	3.0%
Increase rainwater collection and wastewater reuse	1.3% 🗸	Annual increase at each business division
Air Pollution & GHG Management - Nan Ya Plastics		
Complete internal audit and external third-party verification on GHG inventories	July 2021 🔽	Commit to Carbon Disclosure Project (CDP)
Reduce Air pollutant emissions compared to 2019	SOx: 7.2% VOC: 7.0% NOx: 7.3% TSP: 13.5%	Continue reduction trend
Climate-related Risks – Nan Ya Plastics		
Complete identification and appraisal for risks and opportunities based on TCFD	2020 🗸	Continue identification
Regulatory Compliance – Nan Ya Plastics		
Response to the government's "Major Power Users Clause"	Thorough review on the feasibility of installing photovoltaic facilities at each site.	Plan to gradually install photovoltaic devices at sites in the South, which receive ample sun exposure.
Reduce the number of penalty for environmental violations to less than 50% of 2019 (less than 1)	3 🗙	≤1

Medium and Long-Term (2017-2022) Goals & Commitments

- Continue to promote water conservation, energy conservation, carbon reduction, and waste reduction as well as increase rainwater storage and utilization.
- Install wastewater recycling facility and improve rainwater collection progressively.
- Continue responses to CDP surveys to embrace international trends on climate change related issues.
- Air pollution and GHG management: NPC will implement complete documentation of production and preventive equipment parameters at each site and to be integrated into and managed by "real-time production management system (RTPMS)" by 2022.
- Regulatory compliance: set up renewable energy facility or energy storage device with 8% of contracted capacity of electricity by 2023, or purchase renewable energy and certificate (REC) in response to relevant policies; implement increasingly rigorous standard in the supervision and management of the plants' environment and install additional air pollution prevention equipment, with the end goal of no environmental violations.
- Maintain "leadership level" on the "climate change" and "water security" sectors in the Carbon Disclosure Project (CDP).

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G	HG Reduction Goals		
2020 Goals	2020 Achievement Rate	2022 Goals	2030 Goals
Reduction of greenhouse gas emissions by 2% in 2020 compared with 2019.	0.4% × Compared with 2019	3.0% Compared with 2015	6.0% Compared with 2015

Even though the 2% reduction was not met, the Company's GHG emissions shows a reduction of 6% in 2020 compared to 2015. Taking into consideration the continued expansion, the Company aims for a GHG reduction of 3% in 2022 compared to 2015. Additionally, Formosa Plastics Group has set group-level reduction goals of 20% by 2025, 35% by 2030 (with a base year of 2007).

Key Environmental Metrics				
Metric	Unit	2018	2019	2020
Major Energy Consumption – NPC Mailiao Site				
FPG internally purchased electricity		5,283,466	5,080,186	5,278,856
Fuel		1,316,687	1,041,369	1,056,974
Fuel gas	GJ	700,213	754,316	1,006,773
FPG internally purchased steam		10,770,567	8,799,334	8,945,913
Total		18,070,934	15,675,205	16,288,516
Major Energy Consumption – NPC Other Plants				
Coal		18,797,665	19,443,572	19,243,136
Fuel		1,959,407	2,177,467	2,334,944
Fuel gas	GJ	3,084,196	3,030,093	2,215,875
FPG internally purchased steam		2,782,733	2,441,806	2,271,843
Total		26,624,001	27,092,938	26,065,798
Energy Intensity - Mailiao & Other Plants	KJ / NT\$	236,594	276,280	295,346
Water Resource Management-Nan Ya Plastics				
Water Consumption	Thousand Tons / Year	20,318	19,790	19,841
Water Consumption Intensity	Tons/ NT\$	1.08*10-4	1.28*10-4	1.38*10-4
Wastewater Discharge	Million Liters / Year	6,895.3	6,765.9	6,667.5
Increase in 2020 effluents mainly attributed to production capacity from Nan Ya Printed Circuit Board Corp.				
Water Resource Management-Taiwan Subsidiaries				
Water Consumption	Thousand Tons / Year	6,052	6,284	6,367
Water Consumption Intensity	Tons/ NT\$	1.65*10-4	1.74*10-4	1.56*10-4
Wastewater Discharge	Million Liters / Year	3,052.6	3,294.6	3,407.2
Total Water Consumption	Thousand Tons / Year	26,370	26,074	26,208
GHG Emissions Management-Nan Ya Plastics				
Scope 1	tCOac	2,645,521	2,661,454	2,602,355
Scope 2	10028	3,564,754	3,283,571	3,318,694
GHG emission intensity	KTN of CO₂e/ NT\$100 million	3.29	3.84	4.13

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Key Environmental Metrics					
Metric	Unit	2018	2019	2020	
GHG Emissions Management-Taiwan Subsidiaries					
Scope 1	+CO c	169,175	144,782	111,069	
Scope 2	- ICO2e	823,121	840,449	814,727	
GHG emission intensity	KTN of CO2e/ NT\$100 million	2.71	2.72	2.26	
Total Scope 1 GHG Emissions	+60-0	2,814,696	2,806,236	2,713,423	
Total Scope 2 GHG Emissions	10020	4,387,875	4,124,020	4,133,421	
For NPC GHG intensity in 2020, the increase in 2020 is mos leading revenues to decrease by 7.36% and emission inter	tly attributable to the in nsity to increase.	npact of COVID-1	9 on the global e	economy,	
Air Pollutants - NPC and subsidiaries in Taiwan					
SOx Emissions		617.30	637.09	581.20	
NOx	Metric Ton	1,501.80	1,345.51	1,292.40	
VOC	Metheron	2,667.20	2,072.33	1,941.96	
TSP		194.40	94.51	79.26	
Waste - NPC and subsidiaries in Taiwan					
General Waste	_	128,752.1	126,504.8	129,171.3	
Hazardous Waste	Tons	15,125.4	17,045.8	21,057.7	
Total Waste		143,877.5	143,550.6	150,229	
Ratio for resource recovery	%	81%	82%	85%	
Effluents - NPC and subsidiaries in Taiwan					
Effluent Emissions	Million Liters / Year	9,947.9	10,060.5	10,074.7	
Effluent Intensity	Million Liters/ NT\$100 million	4.4	5.3	5.5	
Green Procurement					
Nan Ya Plastics	NT\$ million	71.54	22.37	91.36	
Subsidiaries in Taiwan	NTŞ IIIIIIOII	1.27	3.15	7.94	
Environmental Accounting - Nan Ya Plastics					
Revenue	NT\$ 100 million	1,889.09	1,547.80	1,434.06	
Environmental Costs	1415 TOO HIIMOH	16.39	15.07	15.52	

Identifying Risks and Opportunities Associated with Climate Change

NPC has been identifying and managing risks and opportunities associated with climate change based on the Task Force on Climate-related Financial Disclosures (TCFD) framework from the Financial Stability Board (FSB) since 2020.

Industrial Development Bureau.

Governance	Strategies	Risk Management	Indicators and Targets
Management Strategies	and Action Plan		
The Board of Directors regularly reviews risks and opportunities related to climate change, and 3 teams that evaluate climate change, energy risks, and opportunities have been set up: Environmental(E) Risk Management Team and Promotion Team Social(S) Risk Management Team Governance(G) Risk Management Team.	Climate-related risks and opportunities are discussed and identified through cross- functional teams. The impacts from risks and opportunities related to climate risk on sales, strategies, and financial planning. Implement scenario analysis and evaluate Science Based Targets (SBT).	Build the Company's climate risk identification process by using the TCFD framework. Identify and rank climate risks based on the ISO 14001 Risk Management Procedure, and propose response measures accordingly.	Formulate climate change management indicators. Promote GHG inventories based on "ISO 14064-1 standard". Draft climate change management goals and review the implementation status.
Implementation Statu	IS		
The Company has formulated the ESG Task and Risk Management Promotional Team in 2020. 13 water-saving and energy- saving projects were executed, and an additional 366 energy-saving improvement measures were implemented in 2020. EG plant heat exchanger improvement project was awarded the "Low-carbon Application Technology Grant" from the	After discussing climate risks and opportunities among members of the cross-functional teams, a total of 3 opportunities and 3 risks were identified. Promote execution of energy conservation and carbon reduction activities by using carbon pricing mechanism. Analyze climate risks during operating processes and draft relevant mitigation measures by using the global	The risk management teams will identify and rank climate- related risks and opportunities and evaluate their financial impacts. Report results of climate-related risks and opportunities and financial impacts to the convener of the ESG Task and Risk Management Promotional Team and implement response measures.	Reduce GHG emissions by 3% in 2022 compared to 2015 standard in 2022, and reduce emissions by 6% in 2030 compared to the base year 2015. Use carbon pricing as a tool for managing operating costs and carbon risks to respond to opportunities and risks under future legal environment or carbon trading framework.

Cliniale Risk Identification and Management Frocess	Climate Risl	k Identification	and Manag	ement Process
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2°C temperature rise scenario

Climate Change (IPCC).

from Intergovernmental Panel on



		Climate Change Risk and Opportu	nities
Type of Risk /Opportunity	Identification Range	Management Method	Risk/Opportunity Issues
Material Risk /Opportunity	15-25 points	Propose corresponding management measures to mitigate losses from risk	 Develop and/or expand low-carbon products and services Reuse by-products
Moderate risk /opportunity	5-14 points	No action is required, but continuous monitoring on possible changes is needed	 Increased operational costs due to statutory requirements Changes in rain patterns and extreme weather Participation in the carbon market
Low risk /opportunity	1-4 points	Tolerable risk	 Customers request for low- carbon reduction due to climate change impacts

	Financial Impacts from Risks and Opportunities					
Туре /Оррс	of Risk ortunity	Description of Risk	Level of Impact	Description of Major Potential Financial Impact	Response Strategy/Example	
	Risk 1	Increased operational due to from statutory requirements	Moderate	In response to the enactment of the "Renewable Energy Development Act", major power users need to install renewable energy generation devices or energy storage devices amounting to 8~10% of their contracted capacity or purchase renewable energy certificates by 2023-2025, otherwise they will have to pay a surcharge.	Besides planning to build a solar power generation facility at Hsinkang rigid film plant, the Company has also set up the "Renewable Energy Promotions Team" in 2020 to thoroughly take inventories, plan, and promote internal energy transformation with the goal of complying with relevant laws and regulations.	
Risk	Risk 2	Changes in rain patterns and extreme weather	Moderate	Existing rainfall patterns have changed due to the effect of global climate change in recent years, resulting in increased production costs.	According to scientific report on climate change in Taiwan, rainfall is predicted to decrease by approximately 2% under the RCP2.6 scenario, and based on the dry season water consumption of 4,650,247M ³ at the Mailiao site, it is estimated that there will be a shortage of 93,004M ³ . Water will need to be transported from other areas with abundant water resources, leading to increased water purchase and transportation expenses.	
	Risk 3	Customers' request for low-carbon reduction due to climate change impacts	Low	In recent years, due to the influence of the Paris Agreement and CDP, customers have begun to request for GHG emissions inventory and to reduce product carbon emissions. The Company may lose customers and orders if product carbon emissions cannot be reduced.	In the case of polyester fiber products, if 10% of the customer orders are requesting low-carbon products, it is estimated that there will be a corresponding loss in revenues.	

	Financial Impacts from Risks and Opportunities				
T /0	ype of Risk opportunity	Description of Risk	Level of Impact	Description of Major Potential Financial Impact	Response Strategy/Example
	Opportunity 1	Develop and/or expand low-carbon products and services	High	Countries in Europe and the USA have set timelines between 2020~2040 to ban the sale of fossil fuels, and consumers from these coun- tries can only choose to purchase electric vehicles or cars that run on hydrogen fuel cells. Copper foil can be used in the electrodes of the lithium batteries for electric vehicles, so its market demand will continue to rise.	If the electronics division can develop high heat- resistant and high-power copper foil to meet the need of lithium batteries, we can increase market share as well as the Company's revenues.
Opportunities	Opportunity 2	Participa- tion in the carbon market	Moderate	In case NPC wishes to par- ticipate in the carbon market, the coal-fired boilers in Shulin site will need to be shut down and replaced with gas-fired boilers. This will reduce GHG emissions and help the Company to apply for carbon rights, which may be traded in the carbon market.	Shulin site intends to replace the existing 120T/H coal-fired boiler and 35T/H heavy oil boiler with 50T/H gas boilers, which should reduce the GHG emissions. The carbon rights received may be either used toward plant expan- sion, future cumulative controlled emissions volume, or traded in the carbon market.
	Opportunity 3	Reuse by- products	High	In response to the resource shortage due to climate change, the Company upholds the 3R principles of circular economy (reuse, recycle, reduction), and seizes opportunities brought about by climate change.	The by-product from the ethylene glycol plant and 2EH plant, "carbon dioxide (CO ₂)", is sold to FPC's butanol plant, Simosa Oil, Chang Chun Petro- chemical, and FCFC's acetic acid plant Besides reducing carbon emissions, these transactions can also boost the Company's revenues.



Scenario Analysis and Strategic Goals

	BAU scenario	Nationally Determined Contributions (NDC 2015)	Positive mitigation scenario		
Description of Scenario	RCP8.5	 RCP4.5 RCP6.0 Expected to reach 20% of 2005 emissions by 2030 Expected to reach 50% of 2005 emissions by 2050 	RCP2.6		
Analysis Results	 Impacts of global climate change has altered existing rainfall patterns, causing an increase in production costs. 				
Risk	 The amended "Renewable Energy Development Act" was enacted on January 1, 2021 in Taiwan. Therefore, the Company is either required to set up renewable energy device or energy storage device with 10% of the contracted capacity within five years, or to purchase renewable energy certificate (RECs), or to pay a surcharge. In recent years, customers have begun to request for GHG emissions inventories and to reduce product carbon emissions due to effects from the Paris Agreement and CDP. The Company risks losing customers and orders if carbon emissions from products cannot be reduced. 				
Action Plan	 To participate in carbon market, the Company's coal-fired boilers (major emissions source) need to cease operation. The Company can reduce GHG emissions by replacing them with gas boilers, or apply for carbon rights, which can be traded in the carbon market. Since copper foil can be used in electrodes of lithium batteries of electric vehicles, its market demand will rapidly increase. Additional market share can be acquired if NPC can develop high heat-resistant and high-strength copper foil for lithium batteries, thereby increasing our revenues. In response to resource shortage from climate change, NPC will seize the opportunities brought about by climate change by upholding the 3R principles (reuse, recycle, reduce) of circular economy. 				

Energy Conservation, Carbon Reduction and Pollution Control Organization

Formosa Plastics Group established the "Energy Conservation, Carbon Reduction and Pollution Control Organization" in 2006 to integrate and promote water and energy conservation, as well as pollution prevention at each company.



En	ergy Management Improvement Incentive Program
Rewarding Project Improvements	 Implementing reward system for project improvements; NT\$300~NT\$20,000 bonus will be given based on merits.
Encouraging Creativity	• Implementing a reward system for proposing IE improvements; NT\$300~ NT\$20,000 bonus and administrative incentives will be given based on merits.
Publicizing Outstanding Improvements	 Submit outstanding improvement projects for internal evaluations on an annual basis. Organize ceremonies to applaud outstanding environmental protection, energy/water conservation projects.
Evaluations for Environmentally Friendly Enterprises	• Encourage all divisions/plants to participate in enterprise environmental protection, water/energy conservation evaluations/competitions organized by the government and to provide incentives for participation.

In recent years, the Company has continuously reviewed and strengthened the integration of resources across production sites and companies and actively promoted circular economy. As a result, the overall energy efficiency has been greatly improved.

In 2020, the Company and its subsidiaries in Taiwan completed a total of 521 energy-saving improvement projects with an investment of NT\$660 million and an annual benefit of NT\$420 million.

The Company's efforts are expected to reduce greenhouse gas emissions (CO₂e) by 177,000 tons/year. In addition, 272 energy-saving improvement projects are being promoted with an estimated investment of NT\$1.8 billion. This will further reduce greenhouse gas emissions (CO₂e) by approximately 368,000 tons/year.



GHG Emissions Management

The Company commissions a third-party agency to conduct and verify greenhouse gas (GHG) inventories according to ISO 14064-1 standard each year. The GHG emissions in 2020 are still being verified. Additionally, internal audit results have indicated that the Company's Scope 1 emissions amounted to approximately 2.45 million mt-CO₂e, while Scope 2 emissions amounted to approximately 3.33 million mt-CO₂e. Though Scope 3 (supply chain) emissions are not compulsory; nevertheless, the Company has carried out both internal and third-party GHG inventories according to the emission standards, and have disclosed relevant metrics in the 2021 Climate Disclosure Project (CDP) survey.

Air Pollution Prevention

To reduce the environmental impact caused by coal burning, the Company adopts a closed coal bunker design (as shown in the figure below) for the coal storage, adopts low-nitrogen burners for the coal- fired boiler, and adopts electrostatic precipitators, flue gas desulfurization equipment (FGD) and selective catalytic reduction equipment (SCR) for the prevention equipment. These measures effectively reduce the emission concentration of sulfur oxides (SOx), nitrogen oxides (NOx), and total suspended particulate (TSP). In addition, the Company has successively set up wet EPs to reduce TSP emissions and limit the concentration to be below 10ug/m³.



Other than coal-fired boilers, fuel for other combustion equipment has been replaced with natural gas, processing residual gas, or low-sulfur fuel oil.



2020-2021 Expected Reduction of Air Pollution from Coal-fired Boilers



To present VOC effusion and to reduce complaints from the public regarding odors, the Company has: optimized processes (VOC exclusion for raw materials, reduced number of components); Implemented management improvements (maintenance reminders in computer systems); and introduced detection systems (GasFind IR infrared leak detectors).

019 2020 In progress Total (B) (C) (D=A+B+C)
5 75 55 1,146
6 1,107 2,605 36,838
0.50 2.05 8.2
0.06 0.05 2.13
6

Source: FPG Water and Energy Conservation Project Database; in-progress projects are counted as ongoing improvement cases for January 2021 statistics.

Water-saving Projects and Performance in 2020					
	Description of Project	Water-saving Performance			
Project 1	Installed two sets of Acme Intelligent Conveyer High Pressure Constant Speed Dyeing Machines at dyeing plant at Shulin.	189 tons/day			
Project 2	Reclaimed high-temperature steamed cooling water in ethylene glycol 3/4 plant to replace pure water as feeding water for boilers at maleic anhydride plant at Mailiao site.	156 tons/day			
Project 3	Introduction of 50-ton LPG boiler to replace 120-ton fuel-fired boiler at Shulin utility site.	130 tons/day			

Responding to Water Resource Risks

In addition to the seawater desalination plant FPG has built at the Mailiao Industrial Complex, the Company's Jinxing site has also obtained the first "Agreement for Self-Withdrawal of Effluents" in Taiwan.

NPC is expected to invest NT\$150 million to set up a 2.4-kilometer water pipeline and relevant water withdrawal facility, and will apply to withdraw 15,000 tons of effluents from Taoyuan North Region Water Recycling Center on a daily basis as cooling processing water.

The Company will recycle rainwater and wastewater to reduce waste and to enhance water conservation through the undertaking of resource recycling and reuse of cooling water, processing water, and domestic water supply.

Effluent Management and Sewage Prevention

Effluent Control Process				
Treatment Stage	The engineer and construction department and the safety, health, and environment unit collect and assign treatment facilities (including physical, biological, and chemical treatment methods) based on the characteristics of processing effluents to reduce the impact on the discharged water body.			
Management Stage	Dedicated processing departments and personnel are assigned to effectively manage effluent through regular education and water quality inspections to ensure compliance with regulatory standards prior to discharge.			
Reduction Stage	The improvement plans are regularly evaluated and implemented by each plant based on the effluent quality and quantity.			

Specifications for Effluent Testing

Each site regularly commissions sampling and testing every quarter, and the processing department conducts testing at least once a day. The results all meet the national control standards.

Shulin, Mailiao, Hsinkang, and Chiayi sites have installed automatic continuous monitoring systems for water discharge (8 sets in total).

The systems have real-time connections to the local competent authorities to monitor discharge volume, temperature, pH value, and conductivity (COD and SS are also measured for the Mailiao site) on a 24-hour basis.

Soil and Groundwater Management

Groundwater monitoring operations have been carried out quarterly since the construction of the plant. After consulting the Soil and Groundwater Remediation Process of the Industrial Bureau of the Ministry of Economic Affairs as well as US experts, the Company has set up "Soil and Groundwater Pollution Remediation and Inspection Management Plan" to manage known pollution and potential pollution.

Groundwater monitoring results of the plants in 2020 all met the standards.



Implementation Frequency				
Site	Frequency			
Shulin, Kung San, Linkou, and Jinxing sites	Biennially			
Mailiao site	Quarterly			
Hsinkang site	Every six months			

Green Procurement

We prioritize purchases from products with environmental protection labels signifying that they are made from renewable materials, recyclable, pose low pollution, and conserve energy, as well as Type II environmentally preferable products. We also prefer to purchase products that add social value, reduce social costs with the same or similar performance (e.g. energy saving label, water saving label, and Energy Star label).



Environmental Compliance

The Company and its subsidiaries in Taiwan did not experience any significant spills in 2020. However, 3 environmental protection tickets were received. The main reasons were:

(1) Leaks in equipment components were not instantly found and fixed.

(2) The operating personnel did not confirm the accuracy of the reporting information.

The short-term goal of reducing the number of tickets to 50% or less wasn't achieved, and it is obvious that the personnel's vigilance regarding the discovery of abnormalities should be strengthened. Besides using the abnormal incidents aseducational materials, the Company will further require all plants to continue to implement self-monitoring, immediately notify relevant personnel for review upon detection of abnormality, and complete all necessary improvements on a timely basis.

Туре 2018		2019	2020
Air Pollution	6 cases / NT\$600,000	2 cases / NT\$200,000	2 cases / NT\$200,000
Water Pollution	1 case / NT\$105,000	0 cases / NT\$0	0 cases / NT\$0
Waste Pollution	1 case / NT\$6,000	0 cases / NT\$0	1 case / NT\$6,000
Others	0 cases / NT\$0	0 cases / NT\$0	0 cases / NT\$0
Total	8 cases / NT\$711,000	2 cases / NT\$200,000	3 case / NT\$206,000

Note: An additional 2 penalty cases are being appealed.



Social

Employees are critical to a company's sustainable development. NPC strives to provide a safe and secure workplace environment and uses diverse channels to care for our employees' physical and mental well-being. We are committed to enhancing employees' safety awareness and to building a company that our employees would be proud of.



Workforce Structure - NPC and Subsidiaries in Taiwan

Туре	2018	2019	2020
Full-time staff	17,766 (93%)	17,707 (93%)	17,573 (93%)
Contractors	1,336 (7%)	1,368 (7%)	1,391 (7%)
Total Employees	19,102 (100%)	19,075 (100%)	18,964 (100%)
Male: Female Ratio	4:1	4:1	4:1
Disability Representation	196 (1%)	189 (1%)	183 (1%)
Average Age (years old)	44.7	44.9	45.0
Average years of service (years)	19.7	20.0	20.1
Outsourced Workforce	484	480	405

For 2020, the full-time workforce ratio of male to female is approximately 4:1, the average age is 45.0 years old, and the average years of service is 20.1 years, including 183 persons with disabilities, accounting for 1.3% of the total full-time employees.

Human Rights Policy

The Company supports and abides by the fundamental principles on human rights, including the "United Nations' Universal Declaration of Human Rights," the "International Covenant on Civil and Political Rights" (ICCPR), and the "International Covenant on Economic, Social and Cultural Rights" (ICESCR), along with the local laws and regulations where we operation. Additionally, to protect current employees (including contractual and part-time workers), the Company has also formulated "NPC Human Rights Policy".



Employee Communicaton Channels

The Company's employer representatives regularly communicate with employee representatives during council or board of supervisors' meetings held by the union, as well as during labor-management meetings; all employees are protected by the mutual agreement between employers and employees.

37 Union Meetings Were Held in 2020 Across Different Factories

Education and Training - NPC and Subsidiaries in Taiwan					
	Primary supervisor	Secondary supervisor	Junior level supervisor	Junior staff	Training hour per employee
2017	12,866	37,703	170,062	555,819	51 hours
2018	13,985	45,516	216,500	741,168	60 hours
2019	15,857	53,287	208,639	689,878	57 hours
2020	13,630	41,340	206,621	665,511	49 hours

Note: Statistics for 2017-2020 include the Company's information and those of its subsidiaries in Taiwan.

The Company will continue its commitment towards training and education in 2021, with the promotion of training on topics such as: "prevention of insider trading", "information security", "integrity management", and "human rights policy". Relevant information will be disclosed in the 2021 report.

Employee Turnover - NPC and Subsidiaries in Taiwan						
Item	2017	2018	2019	2020		
Voluntary turnover rate (For the company and its subsidiaries - in Taiwan)	0.08%	0.13%	0.14%	0.06%		
Turnover rate (The number of resignations include retirees and employee who dismissals with severance pay)	▲ F:2.6% ♦ M:4.8%	▲ F:2.2% ♦ M:3.9%	▲ F:3.4% ♦ M:4.3%	▲ F:4.9% ◆ M:5.1%		

Occupational Health and Safety

Implementation and Certification						
Implementation	Site/Product	Verification Authority	Valid Until			
ISO 45001 Occupational Safety and Health Management System	All Sites	SGS	2024/01/22			
TOSHMS Taiwan Occupational Safety and Health Management System	All Sites	SGS	2024/01/22			
Established Occupational Safety Committee	All Sites (Committee Members: 181, Labor Rep.: 70)	N/A	N/A			

Above and beyond regulations,

Labor Representatives account for 39% of Occupational Safety Committee.

Occupational Disaster Indicators						
	The Compa	any and subsidiarie	s in Taiwan	Plasti	c products manufac	turers
Year	Disabling Injuries Frequency Rate (FR)	Disabling Injuries Severity Rate (SR)	Frequency- severity Indicator (FSI)	Disabling Injuries Frequency Rate (FR)	Disabling Injuries Severity Rate (SR)	Frequency- Severity Indicator (FSI)
2017	0.28	7	0.04	1.87	293	0.74
2018	0.33	6	0.04	1.46	185	0.52
2019	0.43	59	0.15	1.42	94	0.37
2020	0.27	170	0.21	1.54	209	0.57

The Company had 1 occupational fatality incident in 2020. The Company immediately formed an "incident investigation team" after the accident to collectively review and clarify the cause of the accident with relevant departments. Substantive improvement measure was proposed, and all departments are requested to inspect and review the adequacy of protective measures in place. Those with inadequate protection are requested to make improvement, while education and training has also been reinforced across all departments. All employees are requested to comply with NPC's rules to stop any future recurrence.

(1) Disabling Injuries Frequency Rate (FR) = number of disabling injuries x 10⁶ / total working hours

(2) Disabling Injuries Severity Rate (SR) = working days lost to disabling injuries $x 10^6$ / total working hours

(3) Frequency-severity Indicator (FSI) = (FR \times SR / 1,000) ^{1/2}

Contractors' Occupational Disaster Indicators							
	Total Working H	Fotal Working Hours and Days		Total Days	Disabling	Disabling	Frequency-
Year	Total Working Days	Total Working Hours	Accidents	Lost	Frequency Rate (FR)	Severity Rate (SR)	Severity Indicator (FSI)
2020	667,906	5,343,250	1	6,000	0.18	1,122	0.44

Process Safety Management

A total of 159 PSM personnel (93 in Taiwan, 55 in China, and 11 in Vietnam) have been assigned to various ranks throughout the Company to promote and manage the PSM operations.

Monthly	Conduct monthly audits based on the 14 PSM key items to ensure that all plants meet the requirements in following the standard procedures and work practices Safety management's KPIs are reported monthly to effectively control PSM risks (Taiwan only).
Every 6 months	Organize "PSM exchanges and seminar" to enhance the quality of PSM operations across all departments.
Annually	Select departments with high-performing safety culture (awards: PHA, MOC, Implementation of SOP - full participation) to attend FPG awards ceremony on behalf of the Company and to enhance the overall safety culture.

Process Hazards Analysis, PHA	Management of Change, MOC	Job Safety Analysis, JSA	Standard Operating Procedure, SOP
A total of 20 employees have been certified (14 in Taiwan, 6 in China) to perform PHA each month.	Designated personnel of the Safety and Health Department and the MOC personnel of the business division will perform monthly onsite confirmation.	Personnel of the Safety and Health Department perform on-site checks monthly to confirm the integrity of the work safety analysis.	Each unit regularly holds SOP review and revision seminars, SOP amendments and training, SOP case studies and feedback surveys, SOP audit, plant inspections, and KPI reviews.
Inspected 30 & 39 plants (offices) In China & Taiwan	Inspected 69 & 41 plants (offices) In China & Taiwan	Inspected 23 & 41 plants (offices) In China & Taiwan	Inspected 75 plants (offices) Total
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Supply Chain Management

Local Procurement					
Ratio of Local Procurement of the Company in the Past Four Years					
Year	2017	2018	2019	2020	
Ratio of domestic procurement (%)	85	85	85	84	
Ratio of overseas procurement (%)	15	15	15	16	

Ratio of Local Procurement of Subsidiaries in Taiwan in 2020					
Company	NPCB	PFG	NCPC		
Ratio of domestic procurement (%)	38	46	100		
Ratio of overseas procurement (%)	62	54	-		

Sustainable Supply Chain -NPC Procurement Process



Sustainable regulations

Check the following delivery conditions based on procurement needs:

- RoHS Compliance
- Labeling or marks for hazardous substance are included
- Prioritize the procurement of products manufactured by the disabled
- Used containers or loading equipment should be properly recycled
- Non-radioactive certificates are included
- Obtained ISO certificate

• National industry safety standards

2020 Supply Chain Management Practices

Starting from October 1, 2019, the "Supplier/Contractor CSR Commitment" and "Supplier/Contractor CSR Survey" have been formulated one by one, and are sent to the vendors once they log into the Formosa Technology E-Market Place or complete an order.

	2019	2020
CSR Commitment Response Rate	77%	81%
Vendor CSR Questionnaire	54%	72%

Target to Increase "CSR Commitment" response rate to 85% and "CSR Survey" response rate to 75% for 2021 ⋞╋



Board of Directors						
	Name/title	Gender		Name/title	Gender	
1	Chia-Chau Wu Chairman	М	9	Fong-Chin Lin Director	М	
2	Wen-Yuan Wong Managing Director	М	10	Sin-Yi Huang Director	Μ	
3	Wen-Chiao Wang Managing Director Note1	М	11	Cheng-Chung Lee Director	М	
4	Ruey-Yu Wang Managing Director	F	12	Ching-Cheng Chang Director ^{Note1}	М	
5	Ming-Jen Tzou Director	М	13	Chih-Kang Wang Managing Director (Independent Director)	М	
6	Shen-Yi Lee Director ^{Note1}	М	14	Yi-Fu Lin Independent Director	М	
7	Zo-Chun Jen Director ^{Note1}	М	15	Yun-Peng Chu Independent Director	М	
8	Kuei-Yung Wang Director	F	Not	e1: Representative Director.		

Board Attendance					
	2017	2018	2019	2020	
Number of meetings	6	6	7	6	
Average Attendance rate	95.6%	95.6%	92.38%	96.67%	

Functional Committees

	Audit Committee				
Title	Board Title	Name	Attendance		
Convener	Managing Director (Independent Director)	Chih-Kang Wang	100%		
Member	Independent Director	Yi-Fu Lin	100%		
Member	Independent Director	Yun-Peng Chu	100%		
There were 5 n	neetings of the audit committee convened in 2020.				

Remuneration Committee Board Title Title Name Attendance Convener Managing Director (Independent Director) Chih-Kang Wang 100% Member Independent Director Yi-Fu Lin 100% Member Independent Director Yun-Peng Chu 100% There were 2 meetings of the remuneration committee convened in 2020.

ESG Task and Risk Management Promotional Team

The ESG Task and Risk Management Promotional Team is in charge of identifying and evaluating relevant risks, drafting preventive measures, supervising the implementation of such measures by dedicated personnel at each site, reducing possible risks from climate change, and formulating the Company's carbon reduction goals.

Convener: Chairman

Deputy-Convener: President

Social Sustainability

Promotion Team

Responsible units: Safety &

Health Department (Work Safety),

Personnel Section, Taipei

Administration Department.

Environmental Sustainability Promotion Team

Responsible Units: Safety and Health Department, Resource Recycling Department.

> Water and Energy Conservation Group

Sustainable Governance (G) Promotion Team

Responsible Units: Business Analysis Section, Management Team I, Management Team II, R&D Center, Finance Department, IT Department.

Each respective business division

Internal Control

The Company has established an efficient and complete internal control mechanism with automated digital notifications for operation abnormalities. Additionally, the Company has also established an Audit Office under the Board of Directors. Dedicated internal auditors adhere to tasks based on the annual audit plan, as well as participate in audit-related courses organized by professional training institutions every year to continuously improve their professional capabilities.

	2017	2018	2019	2020
Number of audit items performed	48	48	48	51
Number of abnormalities found	12	10	10	11
Abnormality improvement rate	100%	100%	100%	100%

Integrity Management and Anti-corruption

The Company enhance employees' awareness for "anti-corruption, malpractice prevention, and strict discipline" through three major aspects of "setting of institution and norm", "self-discipline document signing" and "educational training implementation" and have computerized the management of various operations and uses technology to achieve management purposes. Furthermore, the Company implements audit operations as an aid to eliminate fraud and reduce relevant risks. The Company has formulated 17 important standards and rules including "Corporate Governance Best Practice Principles" and "Ethical Corporate Management Best Practice Principles", all of which are disclosed in the "Investor" section on NPC's website.

Whistleblowing Channels

The Company provides 24-hour internal whistleblowing channels for reporting illegal activities through the systematic "Employee Grievance Procedure". When the Company and the designated investigators are handling the reported incidents, principles of fairness and impartiality shall be upheld during investigations and case reporting.

The whistleblower shall not receive retaliation, and the process shall remain confidential to avoid potential punishment.

Incidents and Controversies

FPC Gets Hacked: Security Alert on Petrochemical Data

Attack on the Company's email system on May 5, rendering it unusable. Taiwan Microsoft and Symantec Corporation are invited to the Company for assistance in tracing the source of the malicious program and removal. A company-wide e-mail announcement at 3:30 pm that day informed that computers could be booted up and service resumed.

The northern sites returned to normal at 8 am on May 6, and the central and southern sites returned to normal at 8 am on May 7.

Company Response: Future preventive mechanisms

The information department has once again reiterated the e-mail usage norms to all Company employees, and required all units to strictly review the rationality of their colleagues' application for e-mail accounts. To strengthen the prevention mechanism against malicious external mail attacks, an advanced continuous e-mail threat defense system was also introduced in September to work in line with the existing e-mail anti-virus system.

Major Power Users Clause - Concerns from Environmental Protection Groups

The amendment to the "Renewable Energy Development Act" (also referred to as "Major Power Users Clause") was enacted on January 1, 2021. Pursuant to its regulations, users that have signed power consumption contracts with public power businesses of capacities over 5,000 kW, shall set up renewable energy generation devices or storage devices that reaches 10% of the contracted power capacity within 5 years (or 8% capacity if it can be achieved in 3 years), or to purchase renewable energy power and certificates (RECs). Failure to comply will result in additional fees. In addition, Taiwan Renewable Energy Alliance (TRENA) has cited this law to question the Company's lack of efforts toward promoting renewable energies in October 2020.

Company Response

The Company has not only planned to build a set of solar power generation device at the Rigid Film Site at Hsinkang, but we have also set up the "Renewable Energy Promotional Taskforce" in 2020 to comprehensively take inventory of, plan, and promote internal energy transformation. The Company sees "set up renewable energy device or storage device amounting to 8% of contracted power capacity by 2023, or to purchase renewable energies and certificates (RECs)" as its goal, and continues to stay on top of international carbon reduction trends as well as the demand of low-carbon market.

In addition, the Company is committed to long-term promotions of improvement measures aimed at energy conservation and carbon reduction, and has completed 4,391 energy conservation projects, which cumulatively saved 74,028 kWh/hour of power and reduced CO₂ emissions by 519,345 tons/year since 2006. In 2020, NPC implemented 394 energy-saving and carbon reduction improvement projects, which cumulatively saved 3,368 kWh/hour of power. Going forward, we will continue to actively promote various energy-saving and carbon-reduction activities to contribute toward environmental sustainability.