



# PORT OF ANPING

## ENVIRONMENTAL REPORT

TAIWAN  
INTERNATIONAL  
PORTS  
CORPORATION,  
LTD.







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# Environmental Policy



## Taiwan International Ports Corporation Environmental Policy

“Leverage innovation effectively to connect and communicate with global trade flows. Mature into a world-class port management group” is the vision of Taiwan International Ports Corporation(TIPC). TIPC manages and operates commercial ports in Taiwan and is engaged in maritime transport related services, free trade zones, and the development of relevant tourism and recreational projects.

While TIPC pursues business growth, we are well-aware of the importance of our social responsibility, which is to ensure both environmental and economic sustainability. With the goal to establish green and sustainable ports, we will proactively identify environmental risks that may be associated with our activities and manage the risks accordingly to minimize the environmental impacts.

We commit to:

1. Implement and follow through with the Green Port Policy to establish extraordinary world-class ports.
2. Comply with applicable environmental regulations to fulfill corporate environmental responsibility.
3. Execute pollution prevention, monitoring, and control mechanism to enhance environmental quality in and around port areas.
4. Reinforce environmental education to cultivate environmental awareness among employees.
5. Strengthen the communication with local communities, and pursue sustainable development for both the ports and the cities where we are operating.

*Hsien-Yi Lee*

Hsien-Yi Lee

Chairman of TIPC

Date: 2020/03/26

*Shao-Liang Chen*

Shao-Liang Chen

President of TIPC

Date: 2020/03/26





# Environmental Objectives

## Environmental Policies Port of Kaohsiung

The port of Kaohsiung is the lifeblood of Taiwan's economic development and plays an important role in the world trade. We are well aware of the need to balance the prosperity of the port with the ecological environment, so that the port and the environment can be developed in a harmonious manner to ensure the sustainable development of the port of Kaohsiung.

In order to express the importance, we attach to the environment, the Port of Kaohsiung, Taiwan International Ports Corporation, has established the following environmental policies, incorporating the concept of environmental friendliness into the focus of operation and development, and striving to make Kaohsiung port a model of green port.

- Fully apply the environmental management system; promote sustainable development of the green port.
- Follow environmental laws and regulations; endeavor to fulfill corporate social responsibility initiatives.
- Provide appropriate environmental education and training; enhance the environmental awareness and skills of our employees.
- Continue environmental monitoring and pollution control; reduce energy consumption, carbon emissions, and environmental load.
- Disclose environmental information regularly; establish a bridge of communication between the inner and outer port.
- Promote community participation ; co-create a friendly port-city environment.

President of Port of Kaohsiung, TIPC *Wang, Chin-Tung*  
Date *2023/06/09*

## Environmental Objectives Port of Anping

To implement the commitments of Kaohsiung Port environmental policy, the following environmental objectives are set based on the ten major environmental issues from the port.

- Improve the air quality of the port**  
Regularly monitor air quality and strengthen environmental inspections within the port area to supervise and control pollution sources.
- Prevent dust from scattering in the port**  
Gradually adopt enclosed machinery operations and water spraying in the port area to effectively control the scattering of dust.
- Monitor the marine ecology**  
Conduct marine biological monitoring and investigation analysis to understand the impact of development activities on the port's biological habitat and environment.
- Respond to climate change**  
Check greenhouse gas emissions to understand the emission sources within the port.
- Strengthen ship wastewater management**  
Implement in-port ship waste oil and wastewater management to effectively control waste treatment and disposal.
- Reduce port noise**  
Implement port noise monitoring and control to enhance port operation and transport noise control.
- Reduce ship exhaust emissions**  
Promote ship speed reduction and shore power systems to reduce ship exhaust emissions.
- Reduce ship waste**  
Promote ship garbage reduction and proper waste disposal, and implement resource recycling and reuse.
- Reduce cargo spills**  
Strengthen control and self-management of terminal area operations to prevent overloading or leakage.
- Reduce port waste**  
Implement resource recycling and improve the efficiency of port waste disposal.

The President, Port of Kaohsiung, TIPC is responsible for the implementation, maintenance and communication of the environmental objectives. To fulfil commitments, the objectives and corresponding action plans are reviewed and adjusted to the condition of the Port.

President of Port of Kaohsiung, TIPC *Wang, Chin-Tung*  
Date *2023/06/09*



# 01



## Message from Port of Kaohsiung, TIPC

As global harbors evolve, there's a unified understanding of the interconnection between port development and environmental stewardship. Around the globe, pioneering nations are seamlessly fusing the paradigms of "green ports" and "sustainable environment" into their harbor management strategies. In parallel, the world acknowledges the urgency of climate change and is actively sourcing strategies to address its implications. Within this framework, ports are not only engines of economic growth but also beacons of low-pollution, energy efficiency, and eco-friendliness. These holistic port models harmonize operations with the aspirations and welfare of neighboring communities.

The Port of Anping, esteemed as one of Taiwan's premier international commercial ports, stands as a testament to this progressive approach. Committed to the conservation and enhancement of both its aquatic and terrestrial environments, the port champions the preservation of its verdant expanses. Environmental protection isn't just an obligation—it's a cornerstone of our long-term vision and operational strategy.

At the Port of Anping, we don't just recognize the significance of an eco-friendly environment; we embody it. While our operational blueprint outlines an aggressive push towards greater economic milestones and invigorating our tourism sector, it also underscores the imperatives of environment-centric planning, robust community relationships, and pollution mitigation. We're resolute in minimizing any environmental footprints, ensuring that our port and the encompassing city thrive in tandem. Our goal is crystal clear: a paradigm of a green and congenial port that aligns with global benchmarks. Through strategic collaboration and learning, we're poised to elevate our port operations, all while ensuring the symbiosis of ecology, urban growth, and operational excellence.

*Wang, Chin-Jung*

President of Port of Kaohsiung  
Taiwan International Ports Corporation, Ltd





# 02



## **Port Profile**

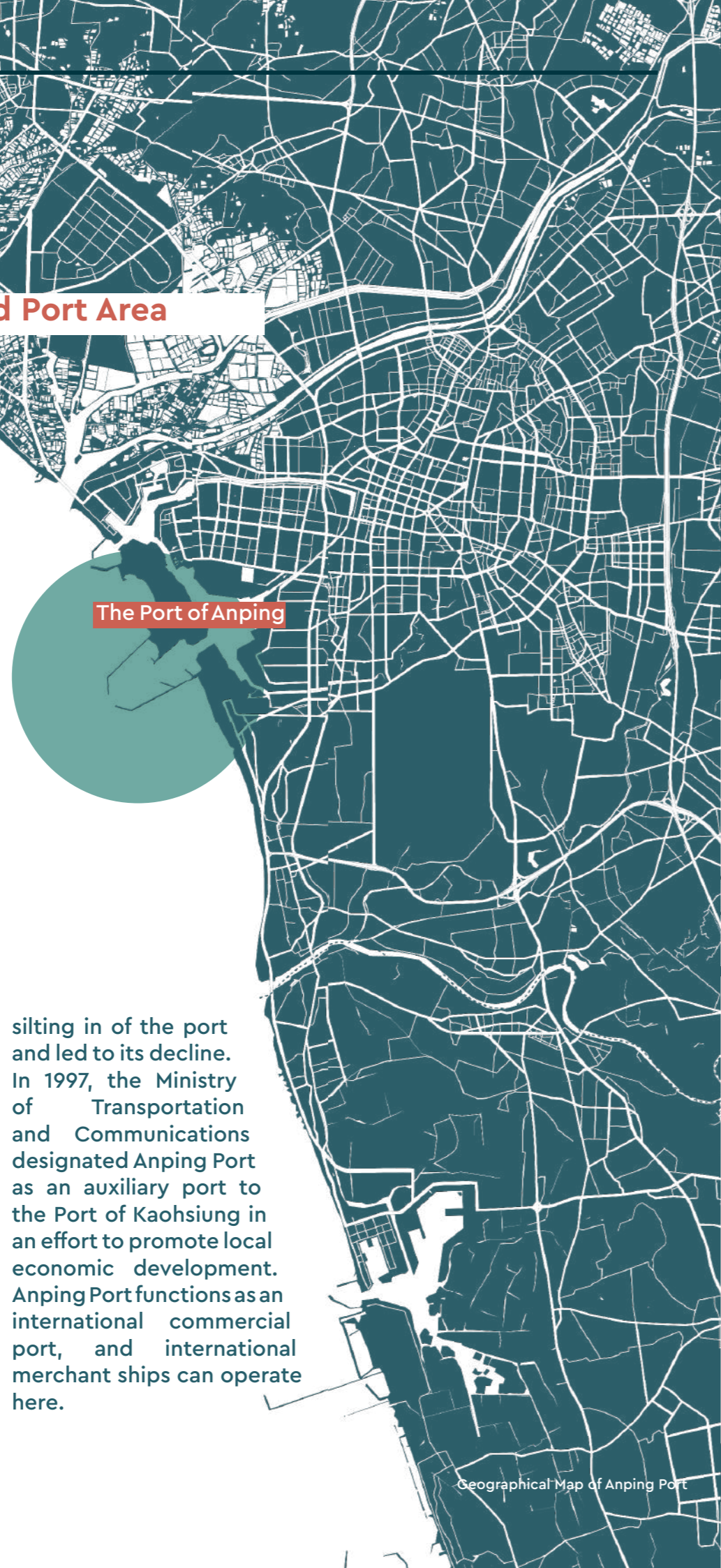


## 2.1 Port Location and Port Area

The Port of Anping is located on the southwest coast of Taiwan (22°59' north latitude and 120°09' East longitude). The total area of the port district is about 18.04 square kilometers. Its land area is 2.39 square kilometers, interior water area is 2.67 square kilometers and the water area outside the port is 12.98 square kilometers. The port is 180 meters wide, its main channel depth is 12 meters, and the mean tidal range is 0.57 meters.

Anping Port is located in Tainan on the southwest coast of Taiwan between the Erren and Yanshui Rivers, about 40 kilometers north of the Port of Kaohsiung and 140 kilometers south of Taichung Port. During the Qing dynasty, Anping Port was the gateway to Tainan Prefecture, then Taiwan's main urban center, and as such was the largest port in Taiwan at the time. However, longshore drift resulted in the

silting in of the port and led to its decline. In 1997, the Ministry of Transportation and Communications designated Anping Port as an auxiliary port to the Port of Kaohsiung in an effort to promote local economic development. Anping Port functions as an international commercial port, and international merchant ships can operate here.



The Port of Anping

Geographical Map of Anping Port

## 2.2 Legal Status and Port Operators

To promote modernized commercial port management system reforms, The Taiwan International Ports Corporation, Ltd. Establishment Act was promulgated on November 9, 2011, Taiwan amended the Commercial Port Law on December 28, 2011. It was then decided in March 2012 that the government should be separated from the enterprise for management of the ports. Public entities that used to manage the ports, including: Kaohsiung Harbor Bureau, Taichung Harbor Bureau, Keelung Harbor Bureau and Hualien Harbor Bureau, are integrated into a corporation (Taiwan

International Ports Corporation, TIPC) to reduce legal and institutional restrictions on commercial port operations, enhance the ability of ports to respond to market changes, and increase their competitiveness. After the transformation, management of the Port of Kaohsiung is now the responsibility of the Kaohsiung Branch of TIPC. The Southern Taiwan Service Center of Maritime and Port Bureau (MPB), Ministry of Transportation and Communications (MOTC) will be in charge of navigation and management of issues related to public authority.





## 2.3 Commercial Activities

The Port of Anping currently boasts 19 constructed docks. Among them, two are dedicated chemical docks exclusively for CHIMEI Corporation. The total length of the docks is 3,646 meters. The types of docks include those for general cargo, passenger and cargo, chemicals, and bulk cargo.

## 2.4 Main Cargoes

In 2022, the primary imports at the Port of Anping were chemicals, related industrial products, steel products, and machinery, accounting for 94.22%. The main exports consisted of chemicals, related industrial products, steel products, and machinery, making up 98.41%. In 2021, the main imports were chemicals, related industrial products, steel products, and machinery, representing 98.47%, while the chief exports were also in the categories of chemicals, related industrial products, steel products, and machinery, contributing to 99.62%.

Main Cargoes of Port of Anping	
Cement	Liquid Chemicals
Coal	Liquid Bulk (Non-Petroleum)
Ore	Other Bulk Goods
Gravel	Steel Products, Machinery

Source: Anping Port Branch Office

## 2.5 Port Business

Service Category		2021	2022	Difference between 2021 and 2022	
				Amount	%
Incoming and Outgoing Ships	Vessels	1,783	1,537	-246	-13.80%
	Gross ton	13,387,283	11,143,991	-2,243,292	-16.76%
Volume of Cargo Handled	Dry bulk and groceries (Revenue ton)	730,550	1,510,577	780,027	106.77%
	Pipeline cargo (Revenue ton)	1,446,467	1,183,936	-262,531	-18.14%
	Total (Revenue ton)	2,177,017	2,694,513	517,496	23.77%
Volume of Imports & Exports	Imports (ton)	841,209	894,310	53,101	6.31%
	Exports (ton)	102,207	87,174	-15,033	-14.71%
	Domestic(ton)	1,043,623	1,262,620	218,997	20.98%
	Total(ton)	1,987,039	2,244,104	257,065	12.94%
Incoming and Outgoing Passenger	Domestic line (number)	11,065	2,852	-8,213	-74.22%
	International line (number)	0	0	0	0
	Total(number)	11,065	2,852	-8,213	-74.22%

Source: Annual Statistical Report, TIPC, 2021-2022





# 03



## ***Environmental Management***







### 3.1 Organizational Structure

The environmental management of the Port of Anping is not solely executed by the Anping Port Branch Office of the Kaohsiung Port Company. Based on the responsibilities designated by the Commercial Port Act and the Marine Pollution Prevention Act, the Anping Port Branch Office is in charge of port operation and management-related environmental issues. The Southern Navigation Center - Anping Navigation Section handles environmental issues related to public authority. The Tainan City Government Environmental Protection Bureau specifically addresses environmental issues stipulated in the Marine Pollution Prevention Act.

for environmental management is the Port Affairs Division. This division's main duties include port safety management, disaster accident-related affairs, port pollution prevention, environmental laws and regulations, environmental impact assessment, environmental monitoring, oil pollution and toxic disaster emergency response, environmental education, and other related tasks. They also manage the conservation of the port's ecology, the nurturing of plantations, waste disposal, and resource recycling. Among them, there are three personnel dedicated to handling environmental tasks.

Within the organizational structure of the Anping Port Branch Office, the primary department responsible

Section /Office	Duty
Harbor Management Section	Harbor safety management; harbor craft operations and port environmental protection; pollution prevention and control; signal station facility maintenance and management; agency facility safety maintenance.
Port Business Section	Commercial port operations development planning and facility operations management.
Construction Section	Port engineering project design and management (below 10 million NT dollars); port district private sector construction license application; port district construction; construction specifications files setup and management.
Stevedoring and Warehousing Section	Loading and unloading operations management and coordination matters, pollution prevention and occupational safety and health in loading and unloading operations, inspection and maintenance management of wharf facilities, planning and maintenance management of warehouses, and passenger service operations.
Accounting Office	Budget revenue and expenditure auditing; accounting archives.
Secretariat	General affairs; property and real estate; research and evaluation; cashier; procurements.
Civil Service Ethics Office	The draft, promotion and execution, conflict of interest avoidance, and ethics guidelines of legal ethics and preventive measures.

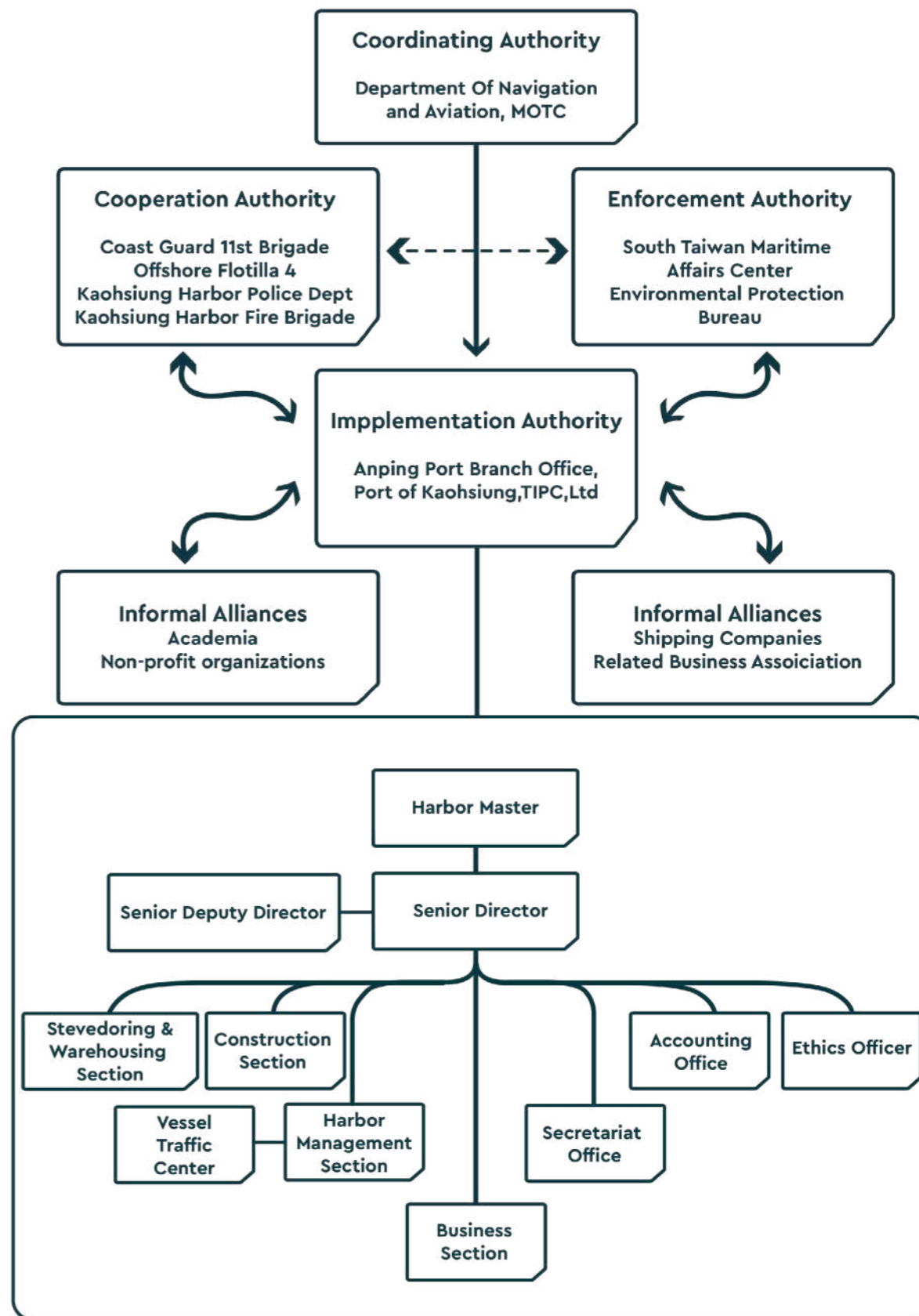


Figure of Organization chart of Anping Port



### 3.2 Environmental regulations

According to the environmental regulations that the Anping Port Branch office complies with, sources of pollution can be divided into pollution from ships at sea and discharge of pollutants during operation at port. The former is regulated by international conventions and norms, whereas the latter is mostly governed by domestic regulations. Anping Port Branch Office follows relevant international specifications, such as International Convention for the Prevention of Pollution From Ships (MARPOL73/78), International Convention for the Control and Management of Ships'

Ballast Water and Sediments, International Convention on the Control of Harmful Anti-fouling Systems on Ships etc. as shown in Table. In addition to the international environmental specifications and conventions, The Anping Port Branch Office collaborates with local authorities to manage the environment in the Port in compliance with relevant environmental laws and regulations in Taiwan.

Conventions	Objective	Corresponding to the domestic legislation
International Convention for the Prevention of Pollution From Ships(MARPOL73/78)	Prevent pollution from ships	The Law Of Ships(article 101) The Commercial Port Law(article 75) No. 10150137211, 10150138211, 10150138451, 10250048611, and 10798000011 Administrative Law of the Ministry of Transportation and Communications
London Dumping Convention	Regulate marine dumping	Marine Pollution Control Act(article 20, 25) Regulations Governing Permission and Management of Marine Disposal
International Convention on the Control of Harmful Anti-fouling Systems on Ships	Terminate the use of toxic hull paint	Prohibition of the use of tributyltin oxide in manufacturing marine antifouling paint, specified in the "List of Prohibited Toxic Chemical Substances" of the Toxic Chemical Substances Control Act
International Convention for the Control and Management of Ships' Ballast Water and Sediments	Prevent the invasion of alien species along with ballast water, and protect marine ecology and biodiversity	Regulations on Equipment of Ships (article 174, 215, 216) International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004" issued by the Ministry of Transportation and Communications "Prohibition of Ballast Water Exchange in the Territorial Waters of R.O.C. and Related Pollution Control Measures" announced by the Environmental Protection Administration

Organizations involved in coping with the environmental issues in the port area of the Port of Anping

Competent Authorities	Laws Title		Central Competent Authorities	Local Law Enforcement Agencies
Sectors in the Ministry of transportation and communications	The Commercial Port Law	2021/04/28	Ministry of Transportation and Communications	South Maritime affairs center-Anping MPD
	The Law Of Ships	2018/11/28		
	Act for the Establishment and Management of Free trade zones	2019/01/16		
Sectors in the Ministry of the Interior	Fire Services Act	2022/05/11	Ministry of the Interior	Fire Bureau, Tainan City Government
Sectors related to agricultural	Wildlife Conservation Act	2013/01/23	Council of Agriculture	Agriculture Bureau, Tainan City Government
Sectors related to environmental protection	Marine Pollution Control Act	2014/06/04	Protection Administration	Environment Protection Bureau of Tainan City, Government
	Basic Environment Act	2002/12/11		
	Air Pollution Control Act	2018/08/01		
	Water Pollution Control Act	2018/06/13		
	Waste Disposal Act	2017/06/14		
	Environmental Impact Assessment Act	2003/01/08		
	Environmental Education Act	2017/11/29		
	Noise Control Act	2021/01/20		
	Indoor Air Quality Act	2011/11/23		
	Toxic and Concerned Chemical Substances Control Act	2019/01/16		
	Soil and Groundwater Pollution Remediation Act	2010/02/03		
	Environmental Agent Control Act	2016/12/07		
	Climate Change Response Act	2023/02/15		
Tainan City Self-Government Ordinance for Environmental Cleaning	2018/08/14			
Tainan City Self-Government Ordinance for a Low-Carbon City	2020/03/17			
Public Nuisance Dispute Mediation Act	2009/06/17	Public Nuisance Disputes Mediation Committee, Tainan City Government		
Intersectoral	Disaster Prevention and Protection Act	2021/06/15	Ministry of the Interior	Tainan City Government

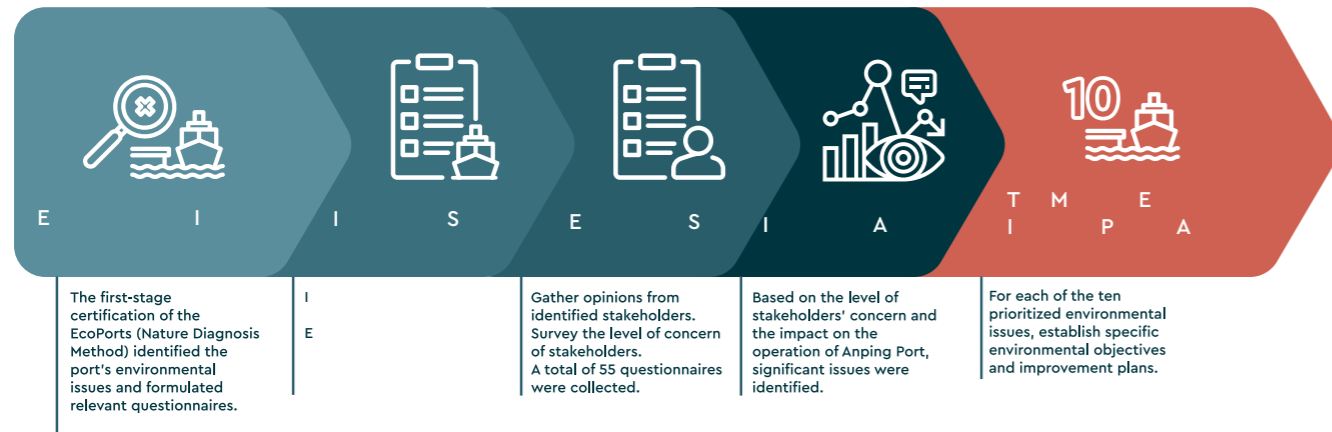
Table of Organization chart of Anping Port





## Analysis of major environmental issues

To fully understand the opinion of each stakeholder and adapt to the new EcoPort Certification, the Port of Anping distributed internal questionnaires as an opinion poll among relevant stakeholders, including employees, the government, clients, and the community. The information obtained was used to evaluate the level of concern each stakeholder held. The data are plotted on the table to the right.



## Stakeholder

To genuinely understand the perspectives of stakeholders, Anping Port conducted surveys using questionnaires targeted at employees, the government, customers, the community, and other stakeholders. This serves as the foundation for subsequent investigations into the level of concern among stakeholders.



## Responding to Stakeholders

For the issues and suggestions of concern to stakeholders, Anping Port has incorporated them as key points for port environmental improvement and continues to make enhancements in the port environment, aiming to maintain a green port with ecological sustainability

Issues	Situation in Anping Port
Dust	<ul style="list-style-type: none"> <li>Enhance inspection of the loading and unloading operational areas, and urge contractors to take dust prevention measures. Dust screens should be set up during operations, and the operational area should be regularly sprinkled with water and cleaned to prevent airborne dust.</li> <li>Use automated coal unloading machines and sealed coal storage to reduce airborne dust.</li> <li>Operational vehicles must go through a washing station before leaving the port area, ensuring road cleanliness and reducing dust pollution.</li> </ul>
Habitat/Ecosystem Loss (Aquatic)	<ul style="list-style-type: none"> <li>Continuously monitor the environmental conditions within the port area.</li> <li>Organize "Salute to the Sea" beach cleaning events to maintain the ecological environment.</li> </ul>
Noise Pollution	<ul style="list-style-type: none"> <li>Continuously monitor the environmental conditions within the port area.</li> </ul>
Climate Change	<ul style="list-style-type: none"> <li>Review the annual greenhouse gas emissions.</li> <li>The company is currently planning phase goals for the 2050 net zero carbon target to ensure effective implementation.</li> </ul>

## Anping Port

# Environmental Issues

### 1. Air Quality

Indicator

- Air quality pass rate (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>)
- The passing rate for diesel vehicles stopped and inspected inside the Clean Zone
- Promote transportation operator to use Automatic Gate Sentry Post Control System

### 2. Dust

Indicator

- Numbers of pollution prevention cargo handling Enclosed cargo handling and dust collection cargo handling equipments
- Proportion of bulk cargo (cement + coal + other miscellaneous goods) in the port area loaded and unloaded using en-closed storage.
- The usage of reclaimed water
- Inspection of cargo handling operations in the port area

### 3. Loss of Aquatic Ecosystems

Indicator

- Pass rate of Heavy metal content in Aquatic organisms

### 4. Climate Change

Indicator

- Greenhouse Gas Emissions

### 5. Ship Emissions (wastewater)

Indicator

- Volume of waste oil wastewater received
- Waste oil wastewater acceptance rate

### 6. Noise

Indicator

- Daily qualification rate for port noise quality

### 7. Ship Exhaust Emissions

Indicator

- The ratio of using low-sufer fuel and the consumption of low-sufer fuel among ships
- The ratio of using shore power among ships
- Alternative Maritime Power System facilities and usage
- Vessel Speed Reduction Achievement rate, Qualified rate of low-sulfur fuel oil inspection for Vessel

### 8. Ship Waste

Indicator

- Domestic waste of crew members in port area

### 9. Cargo (fuel) Spillage (handling)

Indicator

- The deployment proportion of oil booms for chemical and oil product vessels
- The number of port area inspections, cargo spillage emergency response drills, and joint audits of vessels in the port area.

### 10. Port Waste Management

Indicator

- Port Aquatic Waste



# 04



## State of the Environment







## Air Quality

The primary causes of air pollution in Anping Port stem from exhaust emissions produced by ships burning fuel, exhaust from vehicles operated by port businesses, and loading/unloading equipment. The main air pollutants include nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and fine particulate matter (PM<sub>2.5</sub>).

Air quality Performance	Index presentation (qualified rate %)				
	TSP (µg/m <sup>3</sup> )	PM <sub>10</sub> Daily average (>125µg/m <sup>3</sup> )	PM <sub>2.5</sub> Daily average (>35µg/m <sup>3</sup> )	SO <sub>2</sub> Daily average (>0.75ppm)	NO <sub>2</sub> Daily average (>0.1 ppm)
	24 hours	24 hours	24 hours	1hour	1hour
Standards	-	100	35	0.075	0.1
2021	100%	100%	75%	100%	100%
2022	100%	100%	100%	100%	100%



## Results





## Automatic Gate Sentry Post Control System

The primary causes of air pollution in Anping Port stem from exhaust emissions produced by ships burning fuel, emissions from vehicles owned by port businesses, and loading and unloading equipment. The primary air pollutants include nitrogen oxides (NOx), sulfur dioxide (SO<sub>2</sub>), and fine suspended particulates (PM<sub>2.5</sub>).

In terms of vehicle control, the Anping Port Industrial Zone and the Sikunshen Control Station currently have eight entrance and exit lanes in total. Among these, four are automated gatehouses. The automated gatehouse system identifies and quickly cross-references with the database using Optical Character

Recognition (OCR) and Radio Frequency Identification (RFID) systems. The setup includes electronic display boards, traffic lights, and other related hardware equipment. This arrangement efficiently manages the entry and exit of personnel, vehicles, and containers into the port area. In 2021, there were 328,839 vehicle passages, and in 2022, there were 361,099 passages. This not only reduces vehicle idling and waiting times at the entrance but also enhances the efficiency of port entrance traffic. Consequently, it helps in reducing carbon emissions. Approximately 49.98 tons of carbon was reduced in 2021, and about 54.88 tons was reduced in 2022.

Year	Total number of vehicles	Reduced fuel consumption	Reduced carbon emissions (kg)	Carbon reduction (metric tons)
2021	328,839	24.6g/Vehicle	0.152Kg/Vehicle	49.983528
2022	361,099			54.887048

Note.1 : The fuel consumption data comes from The Automotive Research & Testing Center (ARTC)

Note 2: Based on the data of the Environmental Protection Agency "Eco Taiwan Clean Homes Gucuobian Green Living Network"



## Mobile Pollution Source Control

Land-based transportation within Anping Port is another significant source of air pollution emissions. The Anping Port Operations Division, in collaboration with the Tainan City Government Environmental Protection Bureau, has been advocating and inspecting for improved air quality. Starting from January 1, 2016, Anping Port was officially designated as an "Air Quality Purification Zone". Within this zone, vehicles subcontracted by Chimei Industries for chemical tank transport and Wanqing Cement Company are required to manage their emissions autonomously. Diesel vehicles entering the purification zone should have an exhaust management emblem approved by the Environmental Protection Agency. The emission standard is stricter than the regulatory standard when the vehicle was first manufactured.

Through prolonged advocacy and inspection operations, in 2021, 279 vehicles were stopped and inspected, with 0 penalties, resulting in a 99% compliance rate. In 2022, 250 vehicles were stopped and inspected, with 0 penalties, achieving a compliance rate of 97%.



Air Quality Maintenance Zone Signboard

2021- 2022 Tainan City Government Environmental Protection Bureau Audit performance table

Inspect Performane	Index presentation (qualified rate %)			
	No. of checks	Number of penalties	Number of Non-compliance	Qualified rate
2021	279	0	2	99.0%
2022	250	0	7	97.0%





## Reduce Dust Pollution

The primary sources of dust in Anping Port come from the loading and unloading processes at the bulk cargo pier, wind erosion, and vehicle-induced dust. To mitigate the generation of dust, four car wash pools have been installed within the port's operational wharf area. The Anping Port Operations Office strictly mandates that all transport vehicles entering and exiting the port precincts must pass through these wash stations to cleanse their tires before leaving the port. This measure ensures the cleanliness of the roads and significantly reduces dust pollution.

Furthermore, the Tainan City Government's Water Resource Recovery Center has set up a reclaimed water pipeline in the Anping Port area. This pipeline provides port businesses with a source of water for cleaning wharf operational grounds or for sprinkling during loading and unloading operations to prevent dust from billowing into the air. In 2021, the total amount of reclaimed water used was 383 tons. This figure rose significantly in 2022, with a total usage of 5,208 tons, marking an increase of 4,825 tons.

Reclaimed water usage of Anping Port Operation

Year	Usage (tons)	Increase(tons)
2021	383	-471
2022	5,208	4,825



Car wash tank



Reclaimed Water Collection Point



Water Spraying During Loading/Unloading Operations to Reduce Dust



Using Reclaimed Water for Road Cleaning to Prevent Dust Emission

## Automatic Coal Unloading Enclosed Warehousing Operations

To mitigate the environmental pollution caused by suspended particles from the loading and unloading of cargo in the port area, the Port of Anping has adopted strategies to restrain the spread of dust. These strategies include the use of enclosed storage for coal and cement transportation, primarily through the installation of loading and unloading control equipment and the regulation of relevant operational procedures. In 2021, the proportion of goods stored in enclosed storage was about 66.6%, while in 2022 it was approximately 45.3%.

In 2021 and 2022, due to an increase in the loading and unloading of goods like steel products and machine parts, the use of enclosed storage declined. Although some operations did not utilize the continuous enclosed storage for loading and unloading, they still complied with environmental regulations. Dust control nets were set up during the operations, and water sprinkling and cleaning in the operation areas were intensified to prevent dust dispersion.



Automated Coal Unloading Machine and Enclosed Coal Storage



Dust Control Nets Installed for Loading and Unloading Operations



Pipeline Transportation and Enclosed Storage for Cement Unloading to Reduce Dust Emission





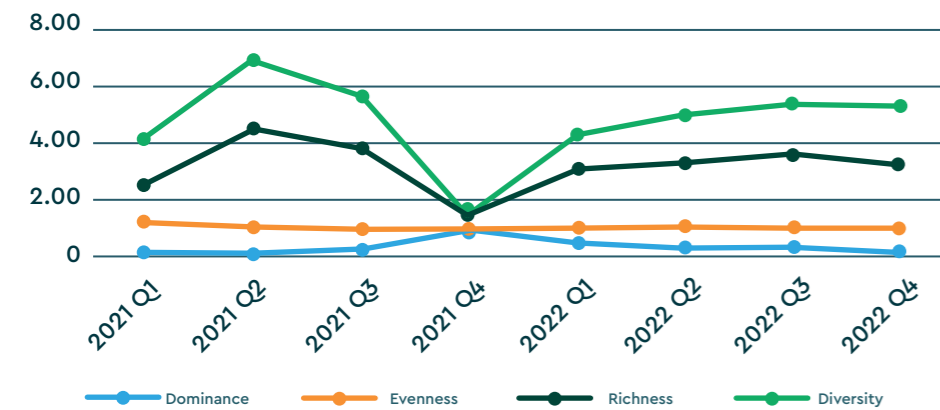
### Port waste treatment

The Port of Anping conducts an environmental monitoring plan each season every year, focusing on marine life investigation and analysis. With the accumulation of long-term data, it provides fundamental marine ecological information, insight into marine ecological balance, biological resource reserves, and water quality conditions.

This marine ecological monitoring program includes plankton, benthos, fry and juvenile fish, and adult fish. They identify samples of phytoplankton, zooplankton, and benthic organisms to the genus, category,

and species levels. They also calculate indices like richness, dominance, evenness, and diversity. For the fish category, they analyze the metal content in the biological weight. This analysis includes six heavy metals: cadmium, copper, zinc, lead, manganese, and iron. By understanding the ecological indicators of various marine organisms and the changes in the metal content in their biological weight, the Port of Anping can effectively grasp the environmental trends of marine ecology. This information serves as a critical reference indicator for the ecological impact during marine development.

Ecological Monitoring of the Port of Anping Waters



Benthic organisms	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3	2022Q4
Dominance	0.17	0.11	0.29	0.99	0.52	0.29	0.34	0.17
Evenness	0.97	0.85	0.65	0.01	0.45	0.71	0.6	0.81
Richness	1.38	3.56	2.88	0.49	2.17	2.27	2.75	2.28
Diversity	1.57	2.4	1.75	0.02	1.16	1.77	1.67	2.07



Benthic organisms	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3	2022Q4
Dominance	0.23	0.1	0.28	0.34	-	0.5	0.56	0.13
Evenness	0.8	0.9	0.85	0.83	-	0.79	0.92	0.94
Richness	2.29	2.96	1.12	0.91	-	1.12	0.91	3.11
Diversity	1.76	2.3	1.37	1.16	-	0.87	0.64	2.17

### Focusing on Climate Change

The impacts of climate change are becoming increasingly severe, indicating that the world should reconsider its carbon reduction efforts. The Port of Anping has conducted an annual greenhouse gas emission inventory based on the ISO14064-1 standard. The main activities covered by this inventory are port management operations and office administration. The method for setting the boundaries of the greenhouse gas organization is determined by operational control, identifying all emission sources within the organizational boundary, which covers the scope owned and controlled by the Port of Anping Operations Office. The direct or indirect greenhouse gas emissions for 2020 amounted to 24,835.382 metric tons of CO<sub>2</sub>

equivalent, and for 2021, it was 26,289.380 metric tons of CO<sub>2</sub> equivalent. The greenhouse gas emissions for 2022 are currently under review, with the current scope 1 and scope 2 emissions amounting to 17,421 metric tons of CO<sub>2</sub> equivalent. Scope 3 emissions are still under investigation, and after the review, third-party verification is expected to be completed by the end of 2023.

Greenhouse Gas Emissions from the Port of Anping

Year	2020	2021
Greenhouse Gas Emissions (tonnes CO2e)	24835.382	26286.380

Port of Anping Greenhouse Gas Verification Statement







## Strengthening Ship Wastewater Emission Management

To reduce pollution from ships, the Port of Anping requires ship waste oil and sewage cleaning businesses to present relevant documentation before they can operate within the port area. As of now, there are four certified waste oil and sewage handling companies authorized to operate in the Port of Anping. These certified entities report their processed volume monthly. In 2021, the quantity of ship waste oil and sewage cleaned was 310.13 tons, and in 2022, it was 345.55 tons.

The Port of Anping Operations Office regularly conducts port inspections. Each year, in collaboration with the relevant authorities, joint supervision and pollution control inspections are carried out. Moreover, to enhance the port's response to marine oil pollution, the operations office ensures that relevant parties are

familiar with the marine pollution emergency reporting system, aiming to reduce response time. Joint marine pollution emergency response drills are conducted in collaboration with the Tainan City Government to improve the capability to manage significant marine pollution incidents.

Waste Oil Wastewater Collection Volume at Port of Anping

Year	Waste Oil Wastewater (tons)
2021	310.13
2022	345.55



Ship Waste Oil Recovery and Treatment



Port Sanitation Operations



Port Cleaning and Maintenance



Port Sanitation Operations

## Reducing Ship Emissions

Regarding the reduction of ship pollution, the Port of Anping completed the establishment of the AIS Ship Speed Checking System in 2015. This system can capture the speed records of ships entering and leaving the port. Through the "Port Business Symposium", shipping companies, ship agents, and related port industries are informed that ships within 20 nautical miles of entering or leaving the port area must reduce their speed to 12 knots to comply with air pollution control measures.

In 2021, the average speed reduction compliance rate for the Port of Anping was 75.7%, and in 2022, it was

79.4%. Starting from 2019, ships entering commercial ports should use low-sulfur fuel with a sulfur content of less than 0.5 or devices or alternative fuels with equivalent emission reduction effects. The Port of Anping assists in promoting that ships entering the port should comply with relevant regulations, switch to qualified fuel, reduce ship exhaust emissions, and according to the audits by the Anping Navigation Section of the Southern Navigation Center of the Harbor and Navigation Bureau in 2021 and 2022, all ships in the Port of Anping meet the requirements.



Natchan Rera

## Status of Shore Power Installation

In terms of ship air pollution management, to reduce the environmental impact of port operations, service vessels in Anping Port have fully adopted shore power during standby. 100% of transport ships use ultra-diesel, and 100% of tugboats use low-sulfur fuel.

Anping Port has set up a total of 5 public shore power systems. In 2021, the Yagu Yacht Wharf area had 62 yacht shore power berths and 33 shore power piles. There were no additions in 2022. The amount of shore power used in Anping Port was 106,093 kWh in 2021 and 102,674 kWh in 2022. Both the shore power facilities and usage have significantly increased over these two years, effectively reducing the environmental impact.



Port Service Vessels Using Shore Power





## Port Noise

Given that the Anping port area is adjacent to the urban area and closely surrounded by industrial zones, the activities of the port, the transportation of goods, and the noise generated by construction projects can easily affect the quality of life of nearby residents. Noise pollution is also one of the environmental issues of concern to the residents.

Time Period	Daytime Noise Level (dB(A))	Evening Noise Level (dB(A))	Nighttime Noise Level (dB(A))
Category IV Controlled Zone Regulation Standard Unit: dB(A)	75	70	65
Adjacent to roads with a width of 8 meters or more	76	75	72

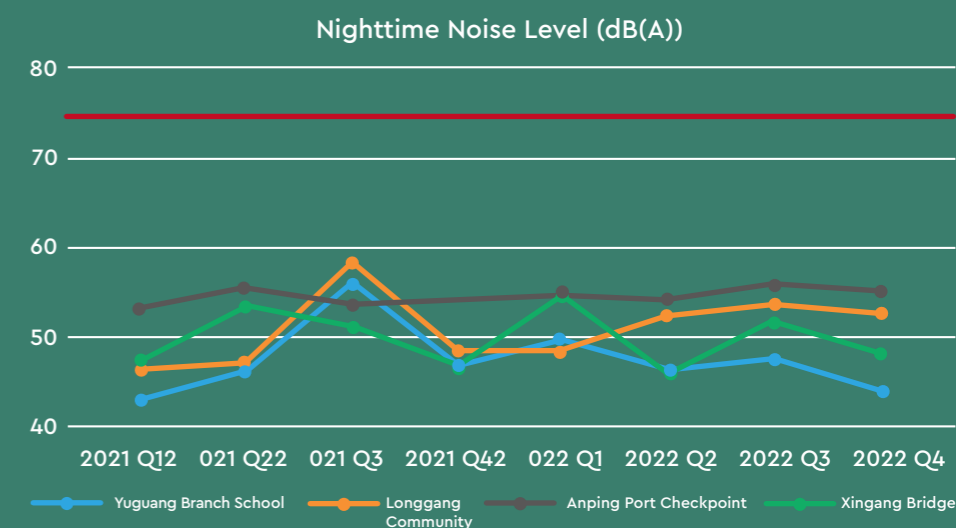
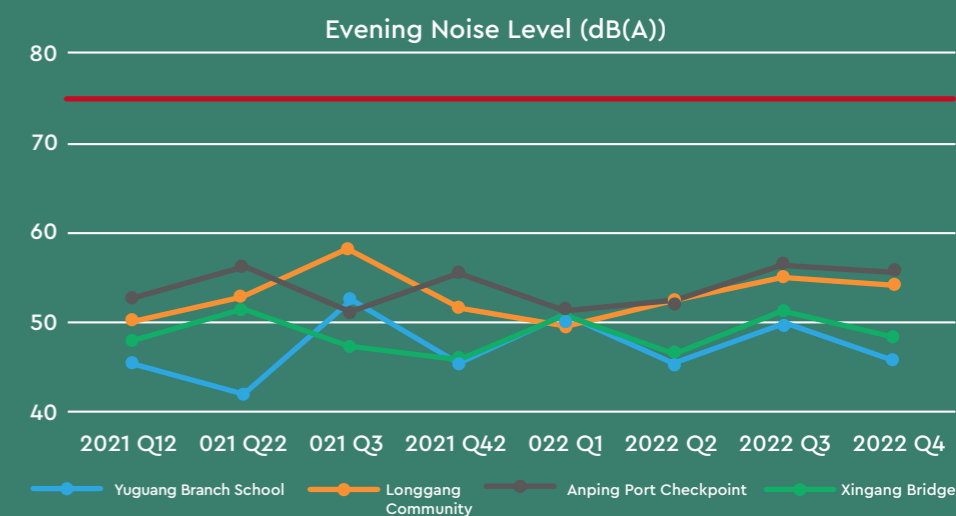
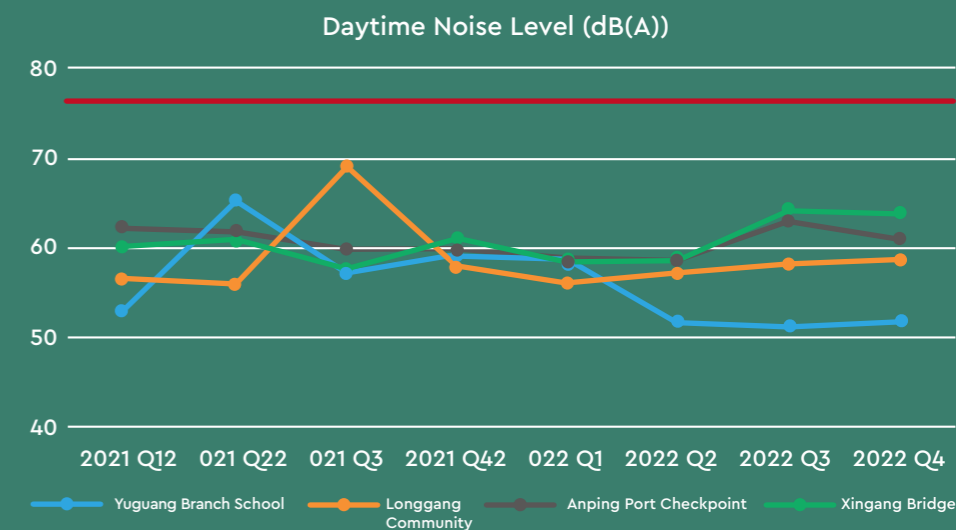
Noise Monitoring Locations in the Commercial Area of Port of Anping



## Noise Monitoring

The Port of Anping Commercial Area falls under the noise control standards for Class IV controlled areas adjacent to roads 8 meters or above. The Port of Anping has independently planned 4 noise monitoring points, which are respectively located at Yizai Elementary School Yuguang Branch, Longgang Community, Anping Industrial Zone Control Station, and Xingang Bridge to monitor nearby sensitive recipient areas, port traffic arteries, and loading and unloading areas.

Based on the environmental quality monitoring results of the Port of Anping Area in 2021 and 2022, the compliance rate with noise control standards reached 100%.







## Handling Ship Waste

Regarding the terrestrial waste in the Port of Anping, the port has designated garbage sorting bins at specific locations for vessels to sort their waste, preventing trash from scattering on the quay and falling into the harbor. In 2021, the Port of Anping generated 147.674 tons of terrestrial waste, with a recycling volume of approximately 0.206 tons. In 2022, the waste generated was 168.67 tons with a recycling volume of 0.219 tons. As most of the waste is not recyclable, the port allows businesses within its jurisdiction to handle recycling on their own. This has resulted in a

low recycling volume, but it has not diminished the effectiveness of waste management for ship-generated waste.

Item	2021	2022
Waste Generation (tonnes)	147.468	133.031
Resource Recycling (tonnes)	0.206	0.219



Outsourced vendor for port waste collection



Garbage sorting bins

## Port Waste Management

In 2021, the Port of Anping Operations Department had a marine waste removal volume of 196.79 tonnes, with 42 removal instances. In 2022, the removal volume was 71.53 tonnes, with 21 removal instances. Although marine litter is pervasive, the Port of Anping Operations Department still cleans the marine and terrestrial areas

of the port daily and regularly removes waste to keep the port tidy.



Port Waterway Cleaning



Port Waterway Cleaning

## Reducing Cargo Spills

The petrochemical and chemical storage businesses within the Port of Anping possess potential environmental hazards. In the event of unexpected incidents, the leaked materials could harm both the ecosystem and the nearby residents. Hence, proper cargo management and strengthening port safety are among the top environmental priorities for the Port of Anping.

Protection Agency, the aim is to mitigate disaster losses, ensuring both environmental and human safety, maintaining normal port operations, and minimizing significant harm from chemical incidents to both environment and human life. Regular measures are taken to prevent and mitigate chemical spills, and coordination with related supporting units is strengthened to establish a joint defense response system.

On the business end, every operational unit has its respective emergency response plan. Regular disaster drills are conducted, coupled with joint exercises with the port, to enhance the emergency handling capability in unforeseen events. Proactive measures include routine checks on chemical spill prevention and disaster mitigation, as well as coordination with relevant support units to establish a combined response system, maximizing both manpower and equipment resources efficiently.

To minimize pollution from cargo spills, the Port of Anping operations require oil and chemical ships to deploy oil booms, which prevent leaks and contain pollutants, safeguarding the water and facilitating the collection of spilled pollutants. In 2021, 231 vessels deployed these booms, while in 2022, 205 vessels did. All chemical ships at the Port of Anping now deploy oil booms comprehensively.

The operations at the Port of Anping follow the "Taiwan International Ports Corporation Disaster Prevention and Rescue Business Plan." They are prepared to respond promptly to chemical spills in the commercial port area or if there is a suspected leak. Collaborating with the Ministry of Transportation and the Environmental



Chemical Spill Drill



Oil Boom Deployment



## Anping Port Environmental Performance Index

Significant environmental issues of Anping Port	Indicator	Calculation method	Target value	Indicator presentation (calculation details)		
				2021	2022	
1	Air quality	Air quality pass rate (PM <sub>10</sub> /PM <sub>2.5</sub> /SO <sub>2</sub> /NO <sub>2</sub> )	The ratio of the measurements in the air quality monitoring station of the port that meet the "Air Quality Standards"	<ul style="list-style-type: none"> <li>PM<sub>10</sub> of the daily mean measurements satisfy the standard (&lt;125μg/m<sup>3</sup>):90%</li> <li>PM<sub>2.5</sub> of the daily mean measurements satisfy the standard (&lt;35μg /m<sup>3</sup>):75%</li> <li>SO<sub>2</sub> of the daily mean measurements satisfy the standard (&lt;0.1 ppm): 100%</li> <li>NO<sub>2</sub> of the hour average measurements satisfy the standard (&lt;0.25 ppm): 100%</li> </ul>	<ul style="list-style-type: none"> <li>PM<sub>10</sub> of the daily mean measurements satisfy the standard:100%</li> <li>PM<sub>2.5</sub> of the daily mean measurements satisfy the standard:75%</li> <li>SO<sub>2</sub> of the daily mean measurements satisfy the standard: 100%</li> <li>NO<sub>2</sub> of the hour average measurements satisfy the standard: 100%</li> </ul>	<ul style="list-style-type: none"> <li>PM<sub>10</sub> of the daily mean measurements satisfy the standard: 100%</li> <li>PM<sub>2.5</sub> of the daily mean measurements satisfy the standard: 100%</li> <li>SO<sub>2</sub> of the daily mean measurements satisfy the standard:100%</li> <li>NO<sub>2</sub> of the hour average measurements satisfy the standard: 100%</li> </ul>
		The passing rate for diesel vehicles stopped and inspected inside the Clean Zone	(Number of vehicles stopped and inspected - Number of penalized vehicles ÷ Number of vehicles that passed inspection) ÷ Number of vehicles stopped and inspected = Passing rate	Satisfy the standard :96%	<ul style="list-style-type: none"> <li>Number of vehicles stopped and inspected = 279</li> <li>Number of penalized vehicles = 0(Number of non-compliances: 2)</li> <li>Satisfy the standard = 99%</li> </ul>	<ul style="list-style-type: none"> <li>Number of vehicles stopped and inspected = 250</li> <li>Number of penalized vehicles = 0(Number of non-compliances: 7)</li> <li>Satisfy the standard = 97%</li> </ul>
		Promote transportation operator to use Automatic Gate Sentry Post Control System	<ul style="list-style-type: none"> <li>The ratio of lanes (in and out of the port area) setting of Automatic Gate Sentry Post Control System</li> <li>Numbers of passing vehicles</li> <li>Carbon reduction</li> </ul>	<ul style="list-style-type: none"> <li>Maintain or increase the lanes of automatic gate sentry post control</li> <li>Increase number of passing vehicles and carbon reduction ratio annually</li> </ul>	<ul style="list-style-type: none"> <li>The ratio of lanes (in and out of the port area) setting of Automatic Gate Sentry Post Control System</li> <li>4÷8*100%=50%</li> </ul>	<ul style="list-style-type: none"> <li>The ratio of lanes (in and out of the port area) setting of Automatic Gate Sentry Post Control System</li> <li>4÷8*100%=50%</li> </ul>
			<ul style="list-style-type: none"> <li>Carbon reduction</li> </ul>	<ul style="list-style-type: none"> <li>Increase number of passing vehicles and carbon reduction ratio annually</li> </ul>	<ul style="list-style-type: none"> <li>Numbers of passing vehicles:328,839</li> <li>Carbon reduction:About 50.0 tons</li> </ul>	<ul style="list-style-type: none"> <li>Numbers of passing vehicles:361,099</li> <li>Carbon reduction:About 54.9 tons</li> </ul>
2	Dust	Numbers of pollution prevention cargo handling, Enclosed cargo handling and dust collection cargo handling equipments	Increase/update or maintain the number of dust prevention devices	Perform biennial reviews of the prevention devices	<ul style="list-style-type: none"> <li>Numbers of pollution prevention device (Wan Qing Cement Corporation and Yu Hang Coal Corporation). sets: 5</li> <li>Enclosed cargo handling equipment sets: 3</li> <li>Dust collection cargo handling equipment sets: 5</li> <li>Number of dust-proof nets sets: 13</li> </ul>	<ul style="list-style-type: none"> <li>Numbers of pollution prevention device (Wan Qing Cement Corporation and Yu Hang Coal Corporation). sets: 5</li> <li>Enclosed cargo handling equipment sets: 3</li> <li>Dust collection cargo handling equipment sets: 5</li> <li>Number of dust-proof nets sets: 13</li> </ul>
		Ratio of enclosed warehousing used for loading and unloading of bulk cargo (chemicals + cement + coal) in the port area	Amount of bulk cargo Annual volume of enclosed bulk cargo ÷ annual volume of enclosed bulk cargo × 100%	Maintain or increase ratio of enclosed storage usage in the handling of break-bulk general cargo	Volume of goods through enclosed storage (other liquefied products + cement + coal) ÷ total weight of bulk goods × 100% = (767,033 + 658,300 + 26,134) ÷ 2,177,017 × 100% = approximately 66.6%	Volume of goods through enclosed storage (other liquefied products + cement + coal) ÷ total weight of bulk goods × 100% = (591,736 + 592,215 + 37,435) ÷ 2,694,513 × 100% = approximately 45.3%
		The usage of Reclaimed water	The usage of Reclaimed water in port area	Increase usage annually	The usage of Reclaimed water : 383 tons	The usage of Reclaimed water:854 tons
		Inspection of cargo handling operations in the port area	Numbers of Inspection of cargo handling operations	Inspect at least 50 times annually	<ul style="list-style-type: none"> <li>Numbers of Inspection:45</li> <li>Transferred cases:0</li> </ul>	<ul style="list-style-type: none"> <li>Numbers of Inspection:79</li> <li>Transferred cases:0</li> </ul>





## Anping Port Environmental Performance Index

Significant environmental issues of Anping Port	Indicator	Calculation method	Target value	Indicator presentation (calculation details)		
				2021	2022	
3	Loss of Aquatic Ecosystems	Pass rate of Heavy metal content in Aquatic organisms	The ratio of various heavy metals in the organisms in the waters that meet the (Sanitation Standard for Contaminants and Toxins in Food)	Heavy metal content in Aquatic organisms(Cd) , ( Pb) , with a 70% compliance rate.	<ul style="list-style-type: none"> <li>Sanitation Standard for Contaminants and Toxins in Food</li> <li>(Cd) 90.0%</li> <li>(Pb) 50.0%</li> </ul>	<ul style="list-style-type: none"> <li>Sanitation Standard for Contaminants and Toxins in Food</li> <li>(Cd): 100%</li> <li>(Pb): 100%</li> </ul>
4	Climate Change	Greenhouse Gas Emissions	Direct Greenhouse Gas Emissions + Indirect Greenhouse Gas Emissions	Greenhouse gas emissions are updated every 2 years	Direct greenhouse gas emissions: 57.5890 million metric tons of carbon dioxide equivalent.	The greenhouse gas emissions for the year 2022 are presently undergoing a comprehensive audit. The emissions falling within Scope 1 and Scope 2 aggregate to 17.421 million metric tons of carbon dioxide equivalent. The evaluation of Scope 3 emissions is currently in progress, with certification expected to be completed by a third-party entity by the end of 2023.
5	Ship Emissions (wastewater)	Volume of waste oil wastewater received Waste oil wastewater acceptance rate	Actual volume of waste oil wastewater received by qualified vendors (oil record book) or setting up appropriate facilities for waste oil, wastewater, and other pollutant reception (Produced Volume ÷ Received Volume × 100% = Acceptance Rate)	Waste oil wastewater acceptance rate: 100%	<ul style="list-style-type: none"> <li>Waste oil wastewater production volume: 310.13 metric tons</li> <li>Waste oil wastewater received volume: 310.13 metric tons</li> <li>Waste oil wastewater acceptance rate: 100%</li> </ul>	<ul style="list-style-type: none"> <li>Waste oil wastewater production volume: 345.55 metric tons</li> <li>Waste oil wastewater received volume: 310.13 metric tons</li> <li>Waste oil wastewater acceptance rate: 100%</li> </ul>
6	Noise	Daily qualification rate for port noise quality	The environmental noise standard for Category 4 road traffic is set at 76 decibels during the day (from 7 a.m. to 7 p.m.), 75 decibels in the evening (from 7 p.m. to 11 p.m.), and 72 decibels at night (from 11 p.m. to 7 a.m. the following day).	Port noise quality: 100.00% seasonal daytime qualification rate, 95.00% evening, and 93.00% nighttime	<ul style="list-style-type: none"> <li>Daytime Leq: 100.00%</li> <li>Evening Leq: 100.00%</li> <li>Nighttime Leq: 100.00%</li> </ul>	<ul style="list-style-type: none"> <li>Daytime Leq: 100.00%</li> <li>Evening Leq: 100.00%</li> <li>Nighttime Leq: 100.00%</li> </ul>
7	Ship Exhaust Emissions	The ratio of using low-sufer fuel and the consumption of low-sufer fuel among ships	Number of ships using low-sufer fuel (marine diesel oil or marine gas oil)÷Total number of harbor crafts×100%	The ratio of using low-sufer fuel reaches 100% among ships	5÷5×100%=100% Among the 5 ships, 5 use low-sufer fuel (Diesel )	5÷5×100%=100% Among the 5 ships, 5 use low-sufer fuel (Diesel )
		The ratio of using shore power among ships	Numbers of ships use Alternative Maritime Power System÷Total number of ships×100%	Ratio of ships use Alternative Maritime Power System : 100%	5÷5×100%=100% Among the 5 ships, 5 use Alternative Maritime Power System	5÷5×100%=100% Among the 5 ships, 5 use Alternative Maritime Power System
		Alternative Maritime Power System facilities and usage	<ul style="list-style-type: none"> <li>Increasing numbers of Alternative Maritime Power System facilities</li> <li>Usage of Alternative Maritime Power System</li> </ul>	Maintain or increasing the number of Alternative Maritime Power System facilities increasing the usage of Alternative Maritime Power System	<ul style="list-style-type: none"> <li>Port area : 5 AMP:Argo yacht marina :62 AMP, 33 AMP for yacht in total .</li> <li>Usage of AMP : 106,093kWh</li> </ul>	<ul style="list-style-type: none"> <li>Port Area: There are 5 shore power connections available. Argo yacht marina: There are originally 62 yacht shore power berths with 33 shore power pedestals, and there have been no additions.</li> <li>Shore Power Usage: The total shore power usage is 102,674 kilowatt-hours.</li> </ul>
		Vessel Speed Reduction Achievement rate Qualified rate of low-sulfur fuel oil inspection for Vessel	According to the AIS vessel speed reduction checking system to understand the status of vessels speed reduction, when approaching port about 20 sea miles (Qualified vessels/Checked vessels) *100%=Qualified Rate	<ul style="list-style-type: none"> <li>Reduction Achievement rate 50%</li> <li>Qualified rate 85%</li> </ul>	<ul style="list-style-type: none"> <li>Reduction Achievement rate about 75.7%</li> <li>Checked vessels:3</li> <li>Qualified vessels:3</li> <li>Qualified rate 100%</li> </ul>	<ul style="list-style-type: none"> <li>Reduction Achievement rate about 79.4%</li> <li>Checked vessels:3</li> <li>Qualified vessels:3</li> <li>Qualified rate 100%</li> </ul>



## Anping Port Environmental Performance Index

Significant environmental issues of Anping Port	Indicator	Calculation method	Target value	Indicator presentation (calculation details)	
				2021	2022
8	Ship Waste	Domestic waste of crew members in port area •Port area crew's domestic waste collection frequency •Amount of domestic waste collected from port area crew	The ratio of domestic waste removal of crew members in port area: 2 times a week.	<ul style="list-style-type: none"> <li>Removal ratio : 2 times a week.</li> <li>The volume of domestic waste removal of crew members in port area : 147,674 tons</li> </ul>	<ul style="list-style-type: none"> <li>Removal ratio : 2 times a week.</li> <li>The volume of domestic waste removal of crew members in port area : 133.25 tons</li> </ul>
9	Cargo (fuel) Spillage (handling)	The deployment proportion of oil booms for chemical and oil product vessels The deployment proportion of oil booms for chemical and oil product vessels (Number of vessels deployed with oil booms/ number of vessels entering the port × 100% = the oil boom deployment proportion).	Deployment oil booms of ship Bunkering is 100%	Deployment oil booms of ship Bunkering : (143÷143)×100%=100%	Deployment oil booms of ship Bunkering : (178÷178)×100%=100%
		The number of port area inspections, cargo spillage emergency response drills, and joint audits of vessels in the port area.	The number of port area inspections, cargo spillage emergency response drills, and joint audits of vessels in the port area.	<ul style="list-style-type: none"> <li>Number of port area inspections:50</li> <li>Number of cargo spillage emergency response drills: at least one a year.</li> <li>Number of vessel joint audits in the port area: at least 20 per year.</li> </ul>	<ul style="list-style-type: none"> <li>Number of port area inspections:59</li> <li>Number of emergency response drills: 1</li> <li>Number of vessel joint audits in the port area: 18</li> </ul>
10	Port Waste Management	Port Aquatic Waste Frequency of harbor water waste cleanup Amount of harbor water waste transported	The waste in the port waters is collected and transported at least once a month.	<ul style="list-style-type: none"> <li>The number of transportations: 42 times</li> <li>Amount of harbor water waste transported: 196.79 tons</li> </ul>	<ul style="list-style-type: none"> <li>The number of transportations: 21times</li> <li>Amount of harbor water waste transported: 71.53 tons</li> </ul>





# 05



## *Emergency Response*







## 5.1 Emergency Response

To maintain the safety of the operational environment at the Port of Anping, the Port of Anping Operation Division conducts regular inspections of both the terrestrial and aquatic areas within the port. Whenever suspicious polluting activities are observed, immediate interventions are carried out either through emergency response or by informing the relevant law enforcement authorities for further action. During 2021 and 2022, there were no incidents within the Port of Anping such as fishing boats obstructing safe navigation, minor oil spills, garbage, ship collisions, explosions, oil pollution, chemical spills, or occupational accidents resulting in casualties. Only a few minor fires and warehouse fire incidents were reported. The Port of Anping Operation Division, port-related disaster prevention personnel, and the Anping Port Subdivision of the Kaohsiung Port Firefighting Team arrived promptly on the scene to extinguish the fires, ensuring no casualties.

Regarding pollution and disaster incidents within the port area, the Port of Anping Operation Division, the Tainan City Environmental Protection Bureau, and the Anping Navigation Section of the Southern Navigation Center of the Maritime and Port Bureau all have established channels for lodging complaints, allowing the public, shipping companies, and other related entities to report and communicate. The Port of Anping Operation Division also has protocols in place for emergency response to major incidents in the port area, such as ship-related incidents, fires and explosions, major oil pollution disasters, and major accidents leading to casualties, ensuring timely and efficient crisis management in the event of disasters.



Tainan City Marine Pollution and Anping Commercial Port Typhoon



Flood Prevention, ISPS, and Search and Rescue Comprehensive Drill



Promoting Water Safety Awareness among the Public

## Results

### Anping Port Environmental Patrol and Referral Penalty Statistics

Item\Year	2021	2022
Number of inspections	59	58
Number of vessels equipped with oil containment booms	231	205
Joint inspection	18	13
Advisory improvement	10	13
Number of public petitions	4	5
Fines imposed (referred to the Maritime and Port Bureau)	0	0

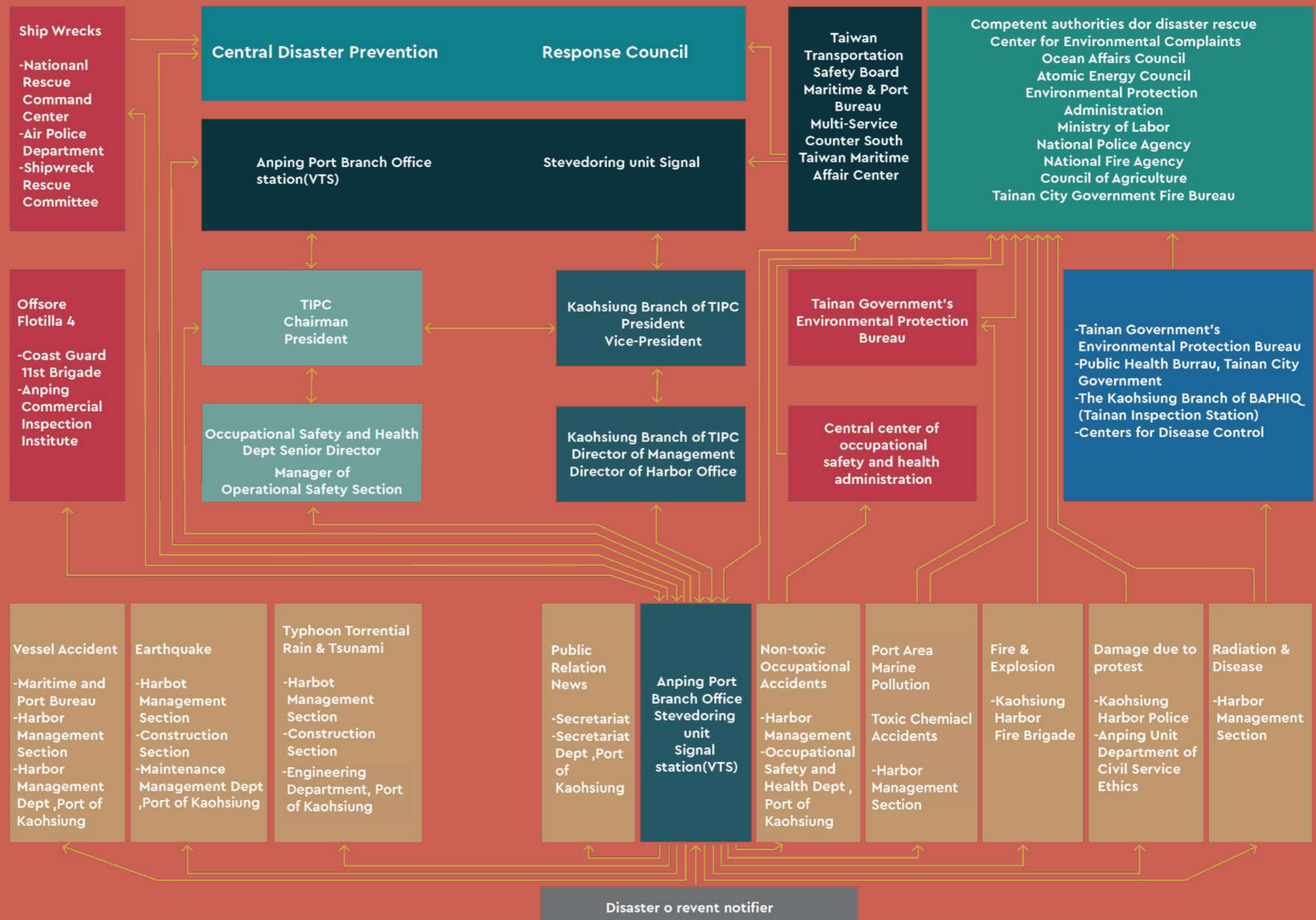
### Anping Port Branch Office's Drill record from 2021 to 2022

Year	Name of the Drill	Content	Dates
2021	Typhoon and Flood Prevention Drill Combined with International Ship and Port Facility Security (ISPS) Exercise	Conducting emergency response drills for typhoon incidents, enabling all units to understand the emergency response procedures and handling methods during disasters, and harnessing the collective defense system to jointly minimize disaster impacts.	MAY06
	International Ship and Port Facility Security (ISPS) Exercise	Conducting personnel training on various safety matters within the port area.	MAR 29 MAY 05 SEP 24 DEC 29
2022	Tainan City Marine Pollution, Anping Commercial Port Typhoon and Flood Prevention, ISPS, and Search and Rescue Integrated Exercise	Conducting emergency response drills for marine pollution incidents, enabling all units to understand the emergency response procedures and handling methods during disasters, and harnessing the collective defense system to jointly minimize disaster impacts.	JUN 28
	International Ship and Port Facility Security (ISPS) Exercise	Conducting personnel training on various safety matters within the port area.	MAR 18 JUN 28 JUL 26 DEC 12





# Flow Chart for Disaster and Accident Notification in Port of Anping







# 06



## ***Involvement and Cooperation***







## 6.1 Anping Port Landscaping Improvement

- Environmental Issues: Climate Change, Air Quality and Local Communities
- Environmental management strategy: Exemplifying / Enabling

### A. Attention/Motives

The planting area of Anping Port is divided into approximately 2 hectares of harbor ring roads, 3.62 hectares of scenic green belts, and 19.8 hectares of isolation green belts. Due to the widespread distribution and large number of silver acacia trees in the green belt area, which are tree species with strong growth and reproduction capabilities, they have suppressed the living space of other tree species. In line with the National

Tree Planting Project meeting guidelines from the Executive Yuan, which emphasizes the results of tree-loving efforts and in coordination with our company's annual goal of planting 100,000 trees, there are plans to carry out removal operations in phases by area, followed by environmental cleanup and replanting tasks to maintain the green environment of the Anping Port planting area.

### B. Solution

The existing number of trees and shrubs on the harbor ring road is approximately 25,000. A survey identified 969 aging/missing trees, with 60 trees still having their fixed braces not removed. Between May and November of 2022, 30 trees were intensively pruned, 890 were replanted, and the braces of 60 trees were removed. Each year, external contractors are also regularly hired to clean the environment and beautify the area.

May and September of 2022, 3 trees were intensively pruned, 12 were replanted, and the braces of 2 trees were removed. Each year, external contractors are also regularly hired to clean the environment and beautify the area.

The isolation green belt currently covers an area of 19.8 hectares. There is a plan to carry out removal operations in phases by area each year, followed by environmental cleanup and replanting tasks. In 2023, there's an expectation to plant 6,000 trees and shrubs, with an annual rolling review.

Around the office of the scenic green belt, there are approximately 300 trees and shrubs in the flowerbeds. The survey found 15 aging/missing trees, with 2 trees that have not had their fixed braces removed. Between

Improvement of tree pruning along the perimeter road

Before improvement



After improvement



### C. Implementation/Timeline

2003-2004	Anping Harbor Ring Road Longgang District Isolation Green Belt Project
2004-2005	Anping Harbor Ring Road Wharf Operation Area Isolation Green Belt Project
2004-2005	Anping Harbor Ring Road Administrative District Isolation Green Belt Project
2022	Taiwan Ports Corporation's Supervision and Audit Plan for Improved Tree Planting Deficiencies.

### D. Investment Amount

#### Project budget

Date	Project	Cost (TWD)
2003-2004	Anping Harbor Ring Road Longgang District Isolation Greenbelt Project	13,000,000
2004-2005	Anping Harbor Ring Road Dock Operations Area Isolation Greenbelt Project	14,000,000
2004-2005	Anping Harbor Ring Road Administrative District Isolation Greenbelt Project	24,000,000

#### Environmental cleanup budget

Date	Project	Cost (TWD)
2021-2023	Annual Environmental Cleaning and Maintenance Work	36,000,000
2021-2022	Enhanced Environmental Cleaning Efforts	830,000

#### Green beautification budget

Date	Project	Cost (TWD)
2021-2023	Green Beautification of North-South Breakwater	2,210,000
2022	Taiwan Ports Corporation's Supervision and Audit Plan for Improved Tree Planting Deficiencies	190,000

### E. Effect/Benefits

- Creating a high-quality green and beautified port environment, preserving the port's planting ecology.
- Implementing carbon reduction policies, utilizing the carbon sequestration function of trees to alleviate the pressures of climate change.

### F. Participating Units

Anping Port Branch Office, Port of Kaohsiung, TIPC

### G. Stakeholders

- Anping Port Branch Office, Port of Kaohsiung, TIPC
- Local residents
- Business operators visiting Anping Harbor
- Tourists

#### Contact

Port of Anping  
Harbor Management Section, Anping Port  
Branch Office, Port of Kaohsiung, Taiwan  
International Ports Corporation

Contact Person: Hsu, Chia Yu  
Phone: 06-2925756  
Fax: 06-2653064  
E-mail: T01894@twport.com.tw





## 6.2 CHIMEI Corporation's wastewater treatment system

- Environmental Issues : Soil quality, water quality, air quality, port land development, and their relationship with the local community
- Environmental management strategy: Exemplifying / Enabling

### A. Attention/Motives

In March of 2004, CHIMEI Anping Oil Depot cooperated with Kaohsiung Port Authority to construct storage tanks at Anping Port's 19# and 20# docks, as well as the 19# backline. After several expansions, there are now 2 docks each of 200M, 19 storage tanks, and loading/unloading lanes, with a total volume of 80,000KL. When the factory was initially planned, subsequent environmental factors for expansion were considered. In terms of wastewater management, a temporary storage tank management method was adopted to ensure that no wastewater flows into the Anping Port area, maintaining the quality of the water environment in the port area and implementing the concept of environmental sustainability.

### B. Solution

CHIMEI Corporation's wastewater management maintains the high-quality water environment of the port area, implements the concept of sustainable operations, and can save water waste, as well as alleviate the recent water shortage due to climate change. This aligns with CHIMEI Corporation's principle of sourcing its production water from a water resource recycling system.

### C. Implementation/Timeline

2002/03	Planning phase
2003/03	Construction phase
2004/03	Operation phase

### E. Effect/Benefits

- Wastewater from the manufacturing process is centrally managed and then transported back to CHIMEI's headquarters for treatment, ensuring the maintenance of the port's high-quality aquatic environment.
- The recycling and utilization of wastewater embody the sustainable environmental philosophy.

Currently, wastewater is collected through a closed piping system and is pumped into a 50-ton wastewater collection tank. After storing for a certain period and accumulating a specific volume of wastewater, it's reported online to the Environmental Protection Administration's Industrial Waste Management Information System. Once compliant with environmental regulations, the wastewater is transported back to CHIMEI Corporation's Rende Factory for wastewater treatment using specialized tank trucks.

In addition to the treatment and utilization of industrial wastewater, CHIMEI Corporation's domestic wastewater in Anping Commercial Port connects to the domestic sewage system designated by the Port Authority in Anping Harbor. It is then discharged into the sewer system and processed at the Tainan City Water Resource Center.

### D. Investment Amount

Project	Cost (EUR)
Construction cost	460,000
Operational maintenance fee	5,500 TWD/month

### F. Participating Units

- Anping Port Branch Office
- Tainan City Government
- Maritime and Port Bureau of the Ministry of Transportation and Communications



Pipeline transportation

Comparison of cement storage tank before and after beautification

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# 07



## ***Training and Communica- tion***





# Training

The Anping Port Branch Office adheres to the content of the environmental policy statement, providing appropriate environmental education and training. This not only cultivates the environmental awareness of employees and enhances their knowledge of environmental protection but also boosts the competitiveness of Anping Port. In 2011, the "Environmental Education Act" was implemented, mandating public enterprises and other relevant entities to establish an environmental education plan every year. Each employee is required

to participate in at least four hours of environmental education.

In 2021 and 2022, the Anping Port Branch Office organized environmental education training courses and activities for both internal and external personnel. These encompassed pollution prevention and control, natural disaster education, physical and mental health, site visits, and other aspects.



"Harbors United: Protecting the Beach" Beach Cleanup Activity



Firefighting Experience Day - Awareness Course



Fire Safety Awareness Event



2022 Labor Education - Wu Jie



ISPS Education & Training Course



Fire Safety Awareness Event



2022 Labor Environmental Education - Flying Cow Ranch



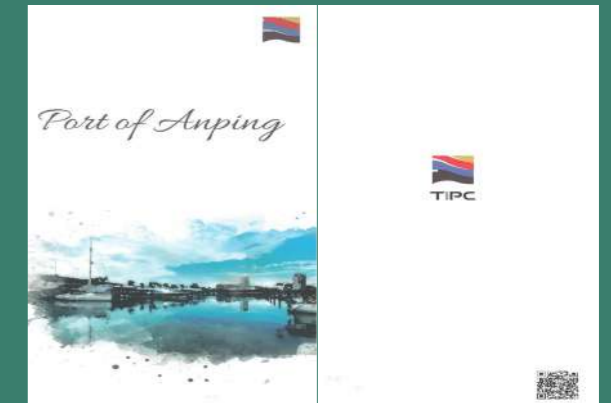
ISPS Education & Training Course

# Communication & Publication

To ensure ongoing communication between Anping Port, stakeholders, and the public, the main channels include events, seminars, publications, and websites. Information related to Anping Port is made public, providing a reference for the general public, port operators, academic institutions, and related business units of the subsidiary



Anping Port Introduction Brochure



To showcase the achievements of promoting green ports on the international stage, Taiwan International Ports Corporation has set up a bilingual website in Chinese and English titled 'Taiwan International Ports Corporation Green Policy'. This serves as a communication channel between Taiwan and other countries.

The Anping Port Operations Office has set up a public feedback mailbox on its official website, offering a platform for the general public and consumers to express their opinions online.



Greenport website



Port of Anping website



# Activity



2021 Fisherman's Island Art Festival



2022 Tainan Spring Wave Festival



Natchan ReraVoyage Ceremony



Water Salute Welcome for Natchan Rera Inaugural Voyage



2022 Fisherman's Island Art Festival



Tainan Ancient Capital Marathon



Waterside Tourism Investment Signing Ceremony with Drowning Prevention Advocacy



Port Affairs Family Day



Port Affairs Family Day





# 08

## ***Green Accounting***



## 9.1 Environmental investment and cost

The Anping Port Branch Office's expenditures on environmental issues can primarily be categorized into staff, environmental maintenance and management, environmental monitoring, publications, emergency response, and communication. The aim is to enhance employees' environmental awareness, maintain the environment, improve environmental quality, augment

emergency response capabilities, and elevate the public's understanding of the port. In total, the costs invested by the Anping Port Operation Office in 2021 and 2022 for environmental issues amounted to NTD 35,768,910 and NTD 31,497,093, respectively, which is approximately €1,057,884 and €931,542.

- Staff: Costs for environment-related staff and training.
- Environmental maintenance and management: Port greening and beautification, waste disposal, and dredging.
- Environmental Monitoring: Monitoring the air, noise, water, sediment, dredging as well as environmental patrol
- Emergency response: Charges for handling accidents, materials for pollution in the port, and charges for testing dangerous goods.
- Green procurement: office supplies that meet the green environmental protection label
- Communication and publications: Website maintenance, promotional activities, and environmental publications.

Costs related to Environmental Issues, Anping Port Branch Office in 2021 (Unit: NT\$)

Item of Expense		Amount
		Unit: TWD
Staff	Cost of environment-related personnel	4,841,567
	Training costs	216,984
	Subtotal	5,058,551
Environmental maintenance and management	Outsourced spending for port garbage disposal	23,965,265
	Port greening (plantation and maintenance) and beautification	230,926
	Consultant fees of the construction and management operations	916,882
	Subtotal	25,113,073
Environmental Monitoring	Test request fee	5,233,206
Emergency Respose	Port disaster drill expenses	1,861,022
Communication and Publication	Welfare expenditure (for networking with neighboring communities)	249,678
Green procurement	Office supplies cost	111,327
Total		35,768,910

Costs related to Environmental Issues, Anping Port Branch Office in 2022 (Unit: NT\$)

Item of Expense		Amount
		Unit: TWD
Staff	Cost of environment-related personnel	4,536,321
	Training costs	71,047
	Subtotal	4,607,368
Environmental maintenance and management	Outsourced spending for port garbage disposal	19,556,136
	Port greening (plantation and maintenance) and beautification	295,800
	Consultant fees of the construction and management operations	2,457,143
	Subtotal	22,309,079
Environmental Monitoring	Test request fee	2,755,541
Emergency Respose	Port disaster drill expenses	1,415,977
Communication and Publication	Welfare expenditure (for networking with neighboring communities)	297,552
Green procurement	Office supplies cost	111,576
Total		31,497,093

## 9.2 Environmental Assets

To revitalize the asset utilization efficiency of Anping Port, stimulate local economic prosperity, and transform it into an environmentally-friendly green port, the Anping Port Operation Office has initiated a series of port development plans. Some of these plans pertain to environmental issues, such as the infrastructure for recreational areas to increase the public's engagement with the port, the implementation of a ship speed verification system to enhance its execution efficiency

and reduce pollution emissions, and the procurement of products with eco-labels to reduce environmental burdens, all in line with the principle of sustainable operation.

In total, for the years 2021 and 2022, the fixed assets invested by the Anping Port Operation Office towards environmental issues amounted to NTD 14,043,368 and NTD 14,107,253, respectively, which is approximately €415,340 and €417,229.

Assets invested by the Anping Port Branch Office in the environmental aspects in 2021 - 2022 (General building and equipment plan) Unit: TW\$

Item	2021	2022
Improvement on land	7,265,914	6,168,357
Buildings	1,595,972	1,896,078
Machinery and equipment	1,920,502	3,213,767
Transportation Facilities	3,018,917	2,590,111
Miscellaneous equipmen	242,063	238,940
Total	14,043,368	14,107,253





# 09



## *Improvement Recommendations*

Since its elevation to an international commercial port in 1997, Anping Port has positioned itself as an international general cargo import and export port with both tourism and waterfront functions. Transitioning from its initial focus on sand, cement, and petrochemicals as its primary cargo, the port has successfully reinvented itself, aligning with dual objectives: "South for Trade" and "North for Tourism." To the south, it capitalizes on the established Free Trade Zone, offering efficient ship cargo services. To the north, in alignment with local industrial developments and urban patterns, initiatives like the International Yacht Marina, Phase 5 Waterfront Recreational Commercial Zone, Sankakeng Area, and Crescent Bay attract waterfront leisure industries, fostering a port environment rich in recreational opportunities.

Recognizing its role as an international port operator, Anping Port deeply understands the significance of creating a port environment that's ecologically friendly. From its inception, the port has been committed to

numerous environmental protection measures, such as mangrove restoration, enclosed continuous unloading and storage operations, installation of shore power facilities, planning for air quality purification zones, and continuous environmental monitoring. These endeavors have positioned Anping Port as a global eco-port. The port also acknowledges the importance of sustainable environmental development and upholding corporate social responsibilities. This eco-port philosophy will be integrated into future port land development plans. For instance, the northern tourism area will embrace the principles of low-density, low-carbon ecological development to establish a low-carbon waterfront ecological island. Anping Port is poised to foster a high-quality port environment that champions sustainable ecological development. In partnership with local governments and investors, Anping Port aspires to forge a tripartite win-win situation, overflowing with potential and promise.





If you have any inquiries regarding this report, please contact us.



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