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PORT OF HUALIEN

ENVIRONMENTAL REPORT

TAIWAN INTERNATIONAL PORTS CORPORATION, LTD.

TIPC



2024

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Content

Message from the President / 04

Environmental Policy / 06

Port Profile / 10

Environmental Management / 16

State of the Environment / 26

Emergency Response / 42

Innovation and Collaboration/ 48

Training and Communication / 56

Green Accounting / 64

Improvement Recommendations / 68

Message from Port of Hualien

Hualien Port, located on the eastern coast of Taiwan, is surrounded by pristine natural landscapes. It has been awarded the Best Tour Experience by the renowned British cruise industry magazine, Cruise Insight. Hualien Port is the only international commercial port in eastern Taiwan and also serves as a port for tourism and recreation. In its operations, the port is committed to enhancing the quality of cargo movement in the Hualien-Taitung region, while also actively developing tourism, recreation, and environmental sustainability, creating a water-friendly and environmentally friendly space for the public.

In recent years, with the international promotion of ESG and the response to climate change, Hualien Port Branch has been actively creating an environmentally and socially friendly high-quality port to foster a green port space and drive local economic prosperity and development. Utilizing the geographical characteristics of the port area, the port has installed water conservation equipment, significantly reducing water resource usage. It is also committed to promoting a smart port by implementing a smart energy management system that reallocates surface water resources and uses electricity efficiently, achieving energy-saving goals through automatic control and remote operation, thereby improving overall resource utilization.

Additionally, the port has implemented environmental management measures, installing air quality sensor monitoring systems to continuously monitor the operations and surrounding environmental quality of the port. To ensure the effective operation of the port area's environmental management system, it regularly performs international eco-port certification reviews and greenhouse gas inventories, verified by third-party certification bodies to confirm the port's environmental performance.

In terms of corporate social responsibility, Hualien Port Branch provides port land to connect a 5-kilometer green belt of bicycle paths, actively promoting and maintaining port greening operations. By the end of 2023, it completed the development of the Hualien Port tourism and recreation wharf, equipped with shore power facilities for small cruise ships, yachts, sailing boats, and whale-watching boats. The old warehouse area was transformed into the "East Coast Cultural and Creative Warehouse Market and Exploratory Cruise Island Hopping Travel Service Base," creating a customs travel station for international travelers, showcasing the branch's dedication and efforts towards sustainable development and tourism.

In interactions with stakeholders, the branch has developed its annual summer camp into environmental education, actively obtaining environmental education site certification. It promotes the development of the Hualien Port Qilai Nose Coastal Scenic Corridor, incorporating ecological and environmental protection into detailed planning. Related environmental practices are published in the database of the European Eco-Sustainable Logistics Chain Foundation for reference by other international eco-port partners.

To implement the green port policy, Hualien Port Branch continues to improve and ensure the implementation of economic development and resource conservation. It collaborates with relevant port entities (including shipping companies, businesses, the Maritime and Port Bureau, and local governments) to jointly invest. In the future, it will continue to promote the construction of various port facilities, optimizing port operation safety, providing friendly services to shipping companies, businesses, and the city, aiming to reduce environmental pollution, enhance the quality of life for local residents, and achieve the goal of sustainable port management.

Wang Pai-Feng

President of Port of Hualien
Taiwan International Ports Corporation, Ltd.



Environmental Policy and Objective

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.

Date: 2024 /10 /30

Hsien-Yi Lee

Hsien-Yi Lee
Chairman of TIPC

Date: 2024 /10/30

Chin-Jung Wang

Chin-Jung Wang
President of TIPC

Environmental Policies
Port of Hualien

To protect the marine environment and ensure sustainable development, the Port of Hualien, in coordination with the Ministry of Transportation and the Ministry of Environment's environmental protection policies, follows the Taiwan Port Corporation's strategy for promoting green initiatives across Taiwan's port cluster. This includes plans aimed at harbor environmental protection, resource conservation, environmental education, and ecological sustainability. The Port of Hualien is committed to continuous on-site inspections to achieve environmental goals and performance. The specific environmental policies of the Port of Hualien are as follows:

- **Comply with environmental protection laws and regulations to build a green port.**
- **Adopt environment-friendly plans to reduce pollution emissions.**
- **Implement recycling to secure resource conservation.**
- **Establish an audit and tracking system to ensure continuous improvement.**

President of Port of Hualien, TIPC Wang Pai-Feng

Date 2024 / 05 / 15

Environmental Objectives
Port of Hualien

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

Air Quality Improvement
Together with port area operators, maintain air quality in the port area and enhance environmental patrols to monitor pollution sources.

Improvement of Ship Exhaust Emissions
Promote the use of ultra-low sulfur diesel and shore power by port service vessels, and require all ships to reduce speed when entering and exiting the port.

Implementation of Bulk Material Unloading Management
Strengthen the inspection of pollution prevention measures during the unloading of bulk and fuel ships.

Reduction of Port Waste
Implement waste segregation and resource recycling in the port area, promote waste reduction, and waste management.

Ship Waste Inspection
Implement preventive measures and inspections for ship waste to reduce the risk of foreign contaminants.

Reduction of Dust Emission in the Port Area
Improve dust control facilities during loading and unloading operations, and require transport vehicles to be cleaned to reduce dust.

Enhancement of Dangerous Goods Handling Procedures
Establish standard operating procedures for handling dangerous goods and conduct inspections.

Reduction of Vehicle Exhaust Emissions
Install automated gate systems for entry and exit, reducing idle times for vehicles and thus cutting down on exhaust emissions.

Strengthening Community Relations
Apply for environmental education facility certification and organize community engagement activities to strengthen relationships with the public.

Maintaining Water Quality in the Port Area
Continuously monitor water quality, regularly inspect environmental and drainage systems in the port area to ensure cleanliness.

President of Port of Hualien, TIPC Wang Pai-Feng

Date 2024 / 05 / 15

01

Port Profile



1.1 History and Development

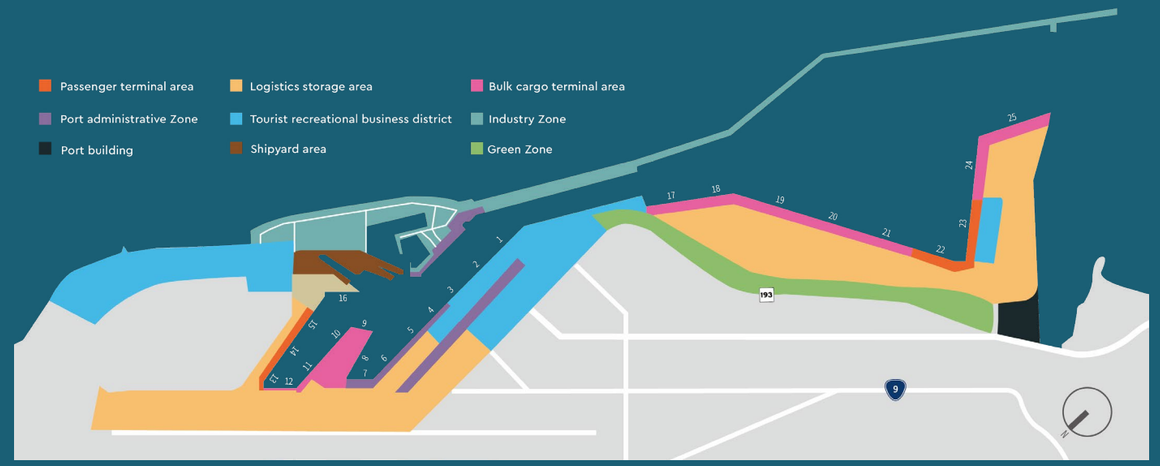
In early 20th-century Taiwan, before the development of a strong road and rail network, both trade and communication were accomplished by sea. Due to the lack of suitable natural harbors on the eastern coast of Taiwan, steamships might lay their anchors at any point between the mouths of the Hualien and Meilun Rivers, where Amis laborers would load the cargo onto barges and ferry it upstream. To expedite the shipment process, Japan's Imperial Diet passed a motion in 1930 to construct the Port of Hualien. Construction officially began in October of 1931, with three wharves completed by 1939. These wharves served for the export of sugar to Japan and the transport of goods locally around the island.

Once Taiwan's period of Japanese colonial rule had come to an end, the Taiwanese government was free to open the Port of Hualien to international trade, which it did on September 1, 1963 in a bid to facilitate economic and industrial development in the region. Over the years, Hualien Harbor has undergone four separate expansion projects to relieve congestion from steadily increasing cargo ship traffic, with the final project completed in December of 1991. The port now boasts 25 wharves, each serving freighters carrying below 100,000 tons and cruise lines international ships 220,000 tons–easily enough capacity to support Eastern Taiwan's still-burgeoning industrial economy.

1.2 Port Location and Port Area

The Port of Hualien situates in northeastern Hualien, Taiwan (23°59′11″N, 121°37′35″E). Embedded by the Pacific Ocean to the east and Meilun Mountain to the west, the Port of Hualien is the only international commercial port in Eastern Taiwan. The overall area of the port is 1,214 ha (land area: 169ha; waterside area: 1,045 ha)

Ships enter the inner harbor through a northward narrow channel from the outer harbor. In the inner harbor zone, 16 wharves exist, where the water depth is 6.5–10.5 m and the wharf length is 2.5 km. The outer harbor contains 9 deep-water wharves, with 12–16.5 m deep and 2.3 km of wharf length.



Map of Port of Hualien

1.3 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. In March 2012 the maritime system changed to a "separation of government and corporation" method. Previously publicly managed organization was transformed into state enterprise organizations, which combined port operation originally under Keelung Port Bureau, Taichung Harbor Bureau, Kaohsiung Harbor Bureau, and Hualien Harbor Bureau into a company managed system (Taiwan International Ports Corporation). This solved previous problem of commercial ports being limited by legal and system restrictions, which caused an inability to respond to market changes and decreased competitive strength. After restructuring of the Hualien Port Bureau, stevedore operation business is now the responsibility of the Port of Hualien, TIPC. Maritime administration, operation items, and public authority within the harbor are handled by the East Taiwan Maritime Affairs Center of the Maritime and Port Bureau (MPB).

1.4 Main Commercial Activities

Currently, the Port of Hualien consists of 25 wharves, among which some have multiple functions, and others were mainly built for stevedoring bulk cargo and wood. The major commercial activities in the port include the transportation of aggregates (sand and gravel), warehousing and transportation,ship repair. The incoming and outgoing cargos for stevedoring primarily include dry bulk, petroleum, general cargo, and ores. Tramp shipping lines from the near ocean are the major operating lines in the Port of Hualien. The commercial activities in the port include tourism, recreation, and the storage and transportation of cement, ores (sand), and stone products.

Commercial Activities	
Aggregates(sand、gravel)	Tourism, recreation
Ship repair	
Cargo Handling	
Dry bulk(Timber products, Silica Sand)	Petroleum(Refined products)
Pyrites minerals(Cement)	Ores(Coal, gypsum)

Source: Hualien Branch of TIPC







1.5 Main Cargoes

The main incoming cargo of Hualien Port in 2022 were mineral products (48.3%), wood, bamboo, rattan and their products (49.6%). In 2023, the main incoming cargo inbound goods are still mineral products (58.2%), wood, bamboo, rattan and their products (40.3%)

Type	2022	2023	Comparison of changes in 2022 & 2023	
			Difference	%
Mineral Products	960,376	1,179,275	218,899	22.79%
Products of the Chemical or Allied Industries	34,446	22,075	-12,371	-35.91%
Wood, Bamboo and Rattan Products	985,522	817,251	-168,271	-17.07%
Non-metallic mineral products	310	94	-216	-69.68%
Base Metals and Articles of Base Metal	9	16	7	77.78%
Mechanical electrical appliances and their products	36	363	327	908.33%
Transportation	7,902	7,135	-767	-9.71%
Vehicles, Aircraft, Vessels, and Transportation Equipment	0	910	910	–
Miscellaneous Products	0	0	0	–

Unit:tons
Source: Hualien Branch of TIPC

1.6 2022–2023 Business of Port of Hualien

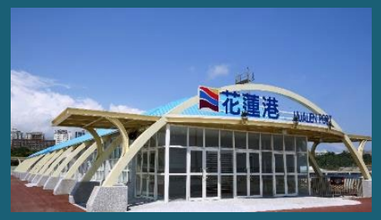
Type		2022	2023	Comparison of changes in 2022 & 2023	
				Difference	%
Incoming and Outgoing Ships	Number of Vessel	2,249	2,120	-129	-5.74%
	G.T.	16,380,870	16,161,891	-218,979	-1.34%
Volume of Cargo Handled	Dry bulk and Groceries (Revenue Ton)	8,658,114	8,402,085	-256,029	-2.96%
	Pipeline cargo (Revenue Ton)	388,844	425,547	36,703	9.44%
	(Revenue Ton)	9,046,958	8,827,632	-219,326	-2.42%
Volume of Imports & Exports	Imports(Ton)	1,988,601	2,027,119	38,518	1.94%
	Exports(Ton)	548,436	357,882	-190,554	-34.74%
	Domestic(Ton)	6,243,371	5,858,138	-385,233	-6.17%
	Total(Ton)	8,780,408	8,243,139	-537,269	-6.12%
Incoming and Outgoing Passenger	Domestic Line(Number)	644	0	-644	-100.00%
	International Line(Number)	0	16,485	16,485	–
	Total passenger (Number)	644	16,485	15,841	2459.78%

Source: Annual Statistical Report, TIPC, 2023

1.7 Cruise ships and tourist

The Hualien Branch of the Taiwan International Ports Corporation (TIPC) has also been actively stimulating tourism by leasing out underutilized facilities for recreational use. Opening such underutilized wharves to alternate commercial uses enables the tourism industry to capitalize on offshore recreational opportunities, like conducting sightseeing tours of Hualien's skyline from a cruise ship at night.
To develop the cruise economy, Hualien Port has focused on improving its facilities and infrastructure despite the impact of the COVID-19 pandemic, international cruises resumed operations in March 2023. The port aims to develop Docks #13 to #16 and the adjacent areas, with plans to transform Warehouse #14 into a cultural and creative marketplace for the East Coast. Parts of this space will also serve as a base for exploration-type island-hopping cruises and supply facilities, creating the most beautiful multifunctional dock in Eastern Taiwan, offering the public a comprehensive and enriching experience at Hualien Port.







02

Environmental Management

2.1 Environmental Management Organization Structure

The Hualien Branch of TIPC consists of 6 departments, including Port Business Department , Harbor Management Department , Construction Management/ Equipment Department , Information Technology Office, Occupational Safety and Health Department , Human Resource Department , Civil Service Ethics Department , Accounting Department , Secretariat Department . In the Hualien Branch of TIPC, the department responsible for the operation and management of the environment is the Occupational Safety and Health Department that consists of the Safety and hygiene Section, Environmental Safety Section.

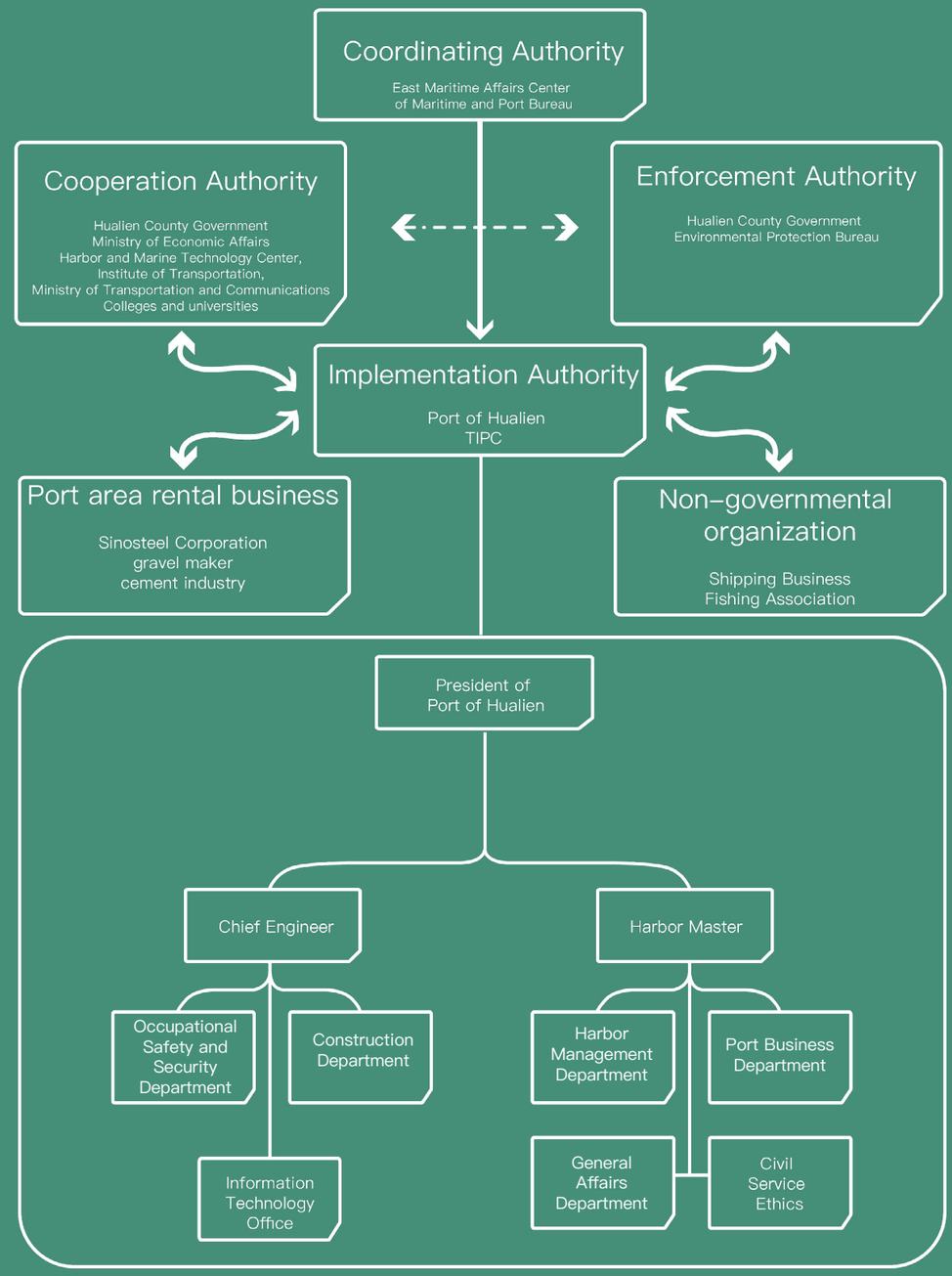
The Safety and Hygiene Management Section is in charge of management of occupational safety and hygiene; the Environment Safety Section deals with pollution control, environmental law, EIA, ambient monitoring, emergency response, environmental education, plant conservation, waste treatment and recycling.
The Hualien Branch of TIPC is in charge of managing the environment of the Port of Hualien. However, environmental aspects involve the department of responsibilities among different agencies. In addition to the Hualien Branch of TIPC, agencies responsible for environmental aspects include the East Maritime Affairs Center of Maritime and Port Bureau (MPB), Environmental Protection Bureau of Hualien County Government, Ministry of Environment, Ocean Affairs Council, Coast Guard Administration, Maritime Patrol Directorate General, 6th offshore Flotilla, Coast Patrol Group 12, Eastern Branch, Coast Guard Administration, Ocean Affairs Council, Hualien Harbor Police Department of National Police Agency, Hualien Harbor Fire Brigade of National Fire Agency, East Control of Centers for Disease Control.

Based on the Commercial Port Act, the MPB and the Hualien Branch of TIPC are responsible of Hualien Port's environmental management, which the Hualien Branch of TIPC is in charge of port operation related issues and the MPB is in charge of port authority related issues

Duties of the Department s of the Hualien Branch of TIPC

Department / Office	Duty
Port Business Department	Port development, investment promotion, cargo handling and warehousing in port areas, and passenger clearance services.
Harbor Management Department	Port area safety management, Disaster prevention and response, Harbor facility management, Navigation safety management for ships entering and leaving the port.
Information Technology Office	Integration and Maintenance of Information Systems and Equipment.
Construction Management/ Engineering Department	Port construction project management and repairs; maintenance and management of electrical and mechanical engineering equipment, ship machinery, and other machines.
Occupational Safety and Health Department	Port environmental protection, pollution, and occupational safety management .
General Affairs Department	General Affairs Management, Human Resources, Budget and Financial Review, Public Relations.
Civil Service Ethics	Government Ethics Prevention and Investigation.

Source: Hualien Branch of TIPC



Organization chart of Hualien Branch of TIPC

2.2 Environmental Aspects and Legal Requirements

The Port of Hualien adheres to environmental regulations that can be categorized by pollution sources into maritime vessel pollution and port operation pollution emissions. The former is largely governed by international conventions, while the latter falls under the jurisdiction of domestic regulations.

The Port of Hualien follows relevant international environmental regulations and conventions, including international maritime conventions such as the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), the London Convention (Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter), the International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS Convention) (2001), and the International Convention for the Control and Management of Ships' Ballast Water and Sediments (2004). The port has established relevant management rules and implements them accordingly.

The Port of Hualien also regularly identifies and updates domestic regulations related to environmental issues. It participates in public hearings organized by environmental authorities to express practical approaches in port areas when necessary. Additionally, the port collaborates with the Maritime and Port Bureau and environmental protection authorities to conduct environmental management guidance and inspection operations in the port area. The applicable regulations are compiled as follows:



EcoPorts Certification Meeting



Stakeholder Interviews



Stakeholder Interviews

Relevant Environmental Laws and Regulations Related to Ports in Taiwan

Laws Title			Central Competent Authority	Local Law Enforcement Agencies
Sectors in the Ministry of transportation and communications	The Commercial Port Law	2023/06/28	Ministry of Transportation and Communications	East Maritime Affairs Center, Maritime and Port Bureau, MOTC
	The Law Of Ships	2010/12/08		
	Shipping Act	2014/01/22		
Sectors related to agricultural	Wildlife Conservation Act	2013/01/23	Ministry of Agriculture	Agriculture Bureau, Hualien City Government
Sectors in the Ministry of the Interior	Fire Services Act	2023/06/21	Ministry of the Interior	Hualien Harbor Fire Brigade
Sectors related to environmental protection	Marine Pollution Control Act	2023/05/31	Ocean Affairs Council	Environmental Protection Bureau, Hualien City Government
	Basic Environment Act	2002/12/11	Ministry of Environment	
	Air Pollution Control Act	2018/08/01		
	Toxic and Concerned Chemical Substances Control Act	2019/01/16		
	Indoor Air Quality	2011/11/23		
	Water Pollution Control Act	2018/06/13		
	Waste Disposal Act	2017/06/14		
	Soil and Groundwater Pollution Remediation Act	2010/02/03		
	Noise Control Act	2021/01/20		
	Environmental Impact Assessment Act	2023/05/03		
	Climate Change Response Act	2023/02/15		
	Environmental Education Act	2017/11/29		
	Environmental Agents Control Act	2016/12/07		
	Public Nuisance Dispute Mediation Act	2009/06/17		Public Nuisance Disputes Mediation Committee, Hualien City Government
Intersectoral	Disaster Prevention and Protection Act	2022/06/15	Hualien City Government	

Source: Hualien Branch of TIPC

2.3 StakeholderAnalysis

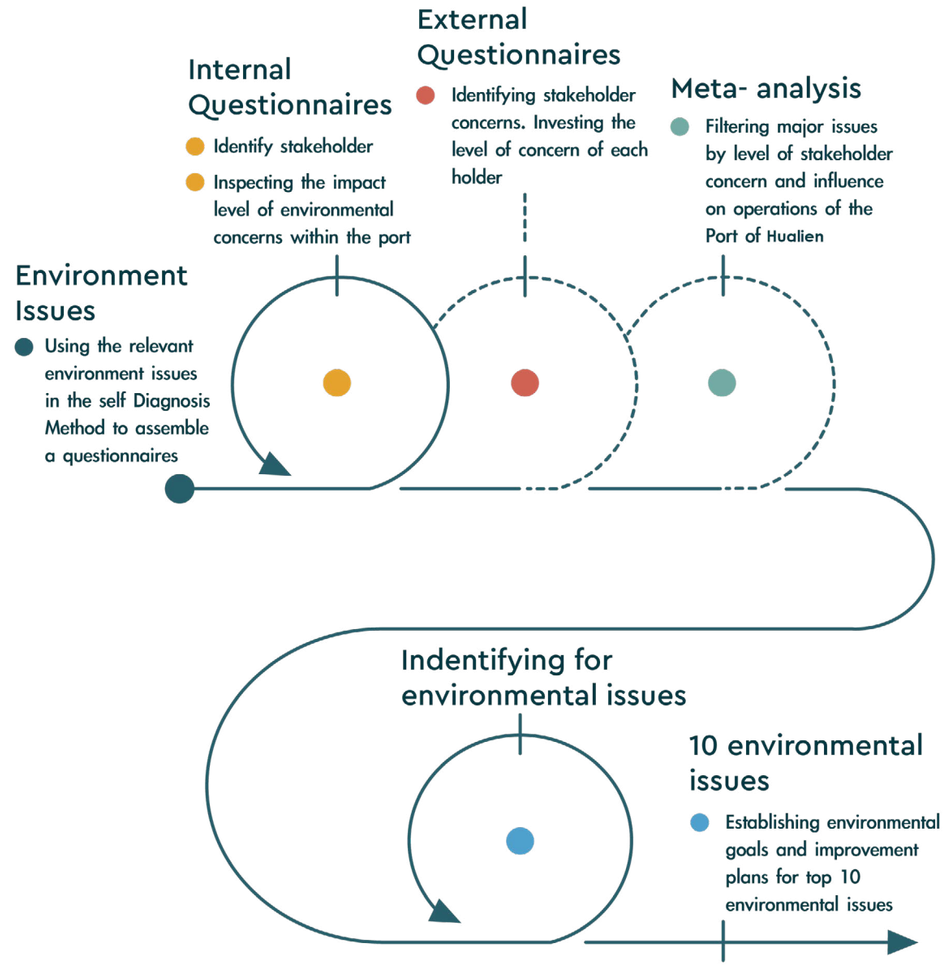
The Hualien Branch of TIPC believes that good communications with stakeholder help identify key environmental issues and create value Therefore, the Hualien Branch of TIPC uses a variety of methods to communicate with stakeholder,including surveys and interviews Their needs and expectations are gathered and incorporated into operation and environmental management

Issues of interest to stakeholders

Sector	Focus on issues	Corresponding top 10 environmental issues in Hualien Port
Government agencies	Dust Water Quality Air Quality Ship Emissions Cargo Spillage	• Abate port fugitive dust emissions • Maintain Water Quality in the Port Area • Improve air quality • Reduce Ship Emissions • Implement Bulk Cargo Unloading Management
Employee	Air Quality Hazardous Cargo Handling/Storage Vehicle Emissions Relationship with Local Communities Ship Waste	• Air Quality Improvement • Enhance Hazardous Cargo Handling Procedures • Reduce Vehicle Emissions • Strengthen Community Relations • Intensify Ship Waste Inspections
Client	Dust Port Waste Cargo Spillage Water Quality	• Dust Reduction • Minimize Port Waste • Implement Bulk Cargo Handling Management • Maintain Water Quality in the Port Area
Community	Air Quality Relations with the Local Community	• Air Quality Improvement • Strengthening Relations with the Local Community

Stakeholder	Importance
Government	30%
Employee	20%
Client	30%
Community	20 %

Analysis of major environmental issues



Port of Hualien

Environmental Issues

Top 10

1. Air Quality

indicator

-Air quality pass rate (TSP、PM_{10}、$PM_{2.5}$、SO_2、NO_2)
-Number of air pollution patrols.

2. Ship exhaust gas emissions

indicator

-Proportion of Service Vessels Using Low-Pollution Fuel and Low-Pollution Fuel Consumption of Harbor Service Vessels
-Proportion of Harbor Service Vessels Using Shore Power.
-Ships deceleration target completion rate.

3. Cargo Spillage

indicator

-Percentage of oil tanker ships using containment booms.
-Inspection of Spilled Cargo

4. Port Waste

indicator

-General waste removed and recycling rate in the harbor land area.

5. Ship Waste

indicator

-Ship Resource Recycling Rate.

6. Dust

indicator

-Road sprinkler for dust suppression
-Water bank usage.

7. Hazardous Goods (Handling/Storage)

indicator

-Emergency Spill Response Drills.

8. Vehicle Emissions (Including Cargo Handling)

indicator

-Automated Gate Systems for Port Entry/ Exit Lanes

9. Relationship with Local Communities

indicator

-Number of activities and participants

10. Water Quality

indicator

-Marine water quality pass rate (pH, DO, BOD_5, cyanide, phenols, mineral oils)

03

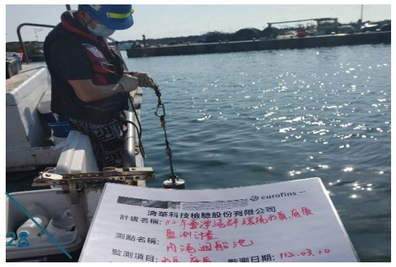
State of the Environment

3.1 State of Environment

Environmental Monitoring

The most significant environmental issues affecting the Port of Hualien are air pollution, noise pollution, and sewage runoff, as well as waste management and resource conservation Importantly these challenges also create the need for a strong public relations strategy To understand the environmental changes in the port and surrounding areas over the years, the Hualien Branch of TIPC launched the Hualien Harbor Environmental Quality Monitoring Integration Program in 2015 For the program, the Ministry of Environment (commissioned certain environmental testing organizations to gather data on important indicators in the area surrounding the port, including air quality, noise levels, water quality, sediment composition, and biodiversity Environmental monitoring is conducted to determine the effects of various pollution sources, providing crucial information for environmental management and pollution prevention and mitigation The harbor close to Hualien City presents potential noise generated by vehicular traffic To monitor this traffic, the Hualien Branch of TIPC has set up around the clock surveillance cameras on the main road and along restricted areas, as well as noise monitoring stations at Sentry Posts N 17 and 24 The Hualien Branch of TIPC has invited environmental professionals and researchers to review the project and provide suggestions As part of its ongoing commitment to transparency, TIPC publishes its annual environmental monitoring report on its website.

Monitoring item		Monitoring frequency
Air Quality	TSP(Total suspended particulates),PM_{10} , $PM_{2.5}$ SO_2 , CO , O_3 , Nox, NO , NO_2 , temperature , humidity , wind speed , wind direction ,rainfall	Monthly , 24 hr duration
Noise	Environmental sound volume criteria (Daytime L eq , , Evening L eq ,Nighttime L eq , Full Range L eq Low frequency noise *Equivalent Energy Sound Level (L eq It refers to a specific period within the measured volume of the average energy	Monthly , 24 hr duration (weekday and weekend) Using 2 sets of 24 hr automated and continuous monitoring systems
Water Quality	<General item> Velocity of flow, Flow direction , Water temperature ,pH DO,BOD,E coli , NH 3 N,TP, cyanide, Phenols, Mineral oils ,SS ,salinity, Nitrite , Nitrate , Detergents Anionic surfactant interface Etc. <Heavy meatal item> Cd ,Pb ,Cr 6+6+,As , Hg , Se , Cu , Zn , Mn , etc .	Quarterly
Sediment	<General item> Particle size analysis、Water Content 、specific weight 、Fixity solids ,Volatile solids 、pH 、TN 、TP 、Total lipid 、Phenols, Total organic Etc. <Heavy meatal item> Cu , Cd , Pb , Cr , Zn , As , Hg , Se, Mn , Ag , Al	Quarterly
Ecology	Concentrations of heavy metal in phytoplankton, zooplankton, zooplankton,benthos Cu Pb , Cd , Zn ,Ni , Cr , Hg , As	Quarterly







3.2 Improvement Strategy of Air Quality

A series of pollution control measures have been introduced to improve air quality in the Port These measures include a campaign to reduce vessel speeds, a shore side electric power supply system, the use of low sulfur fuels, and an automatic gate control system To prevent suspended particles emissions, the port now requires all operators to use dust control meshes, dust suppression sprinklers, car washing stations, water lanes, enclosed conveyors, and unloading facilities The Port offers its full cooperation with other government agencies at both the local and national level such as Ministry of Transportation's Maritime Port Bureau or the Hualien County Environmental Protection Bureau especially with regard to pollution prevention and auditing measures The Port also collaborates with the Ministry of Environment in evaluating the efficacy of air and marine pollution control programs.





3.2.1 Vessel Speed Reduction

To reduce air pollution and greenhouse gas emissions from ships, the Port of Hualien has been actively promoting its Vessel Speed Reduction to record the speed of inbound and outbound ships With the AIS system, the Port of Hualien can receive real time data to monitor the speed of ships that are approaching the port's 20 nm radius and notify the ships for speed reduction through either text messages or port's broadcasting system The Port of Hualien also makes use of the Port Affairs Meetings and Berth Allocation Meetings to promote the VSR Policy. The Port of Hualien VSR Policy requires ships within 20 nm radius to reduce speed to under 12 knots/. Hualien Port Branch advocates for vessel speed reduction (VSR) for ships entering and exiting the port, limiting vessels to a speed of 12 knots or less within a 20 nautical mile (nm) radius. The vessel speed reduction compliance rate was 80.1% in 2022 and 77.9% in 2023.

year	(A) Meet The deceleration conditions	(B) The average speed of all vessel	(C) Total number of vessels entering and exiting the port	(D) Reduction rate(%) (D=A/B)	(E) Carbon reduction
2022	1,377	1,719	2,279	80.10%	1,896.35
2023	1,322	1,697	2,118	77.90%	1,815.65

Results of vessel speed reduction program

3.2.2 Reduce Vehicle Emissions

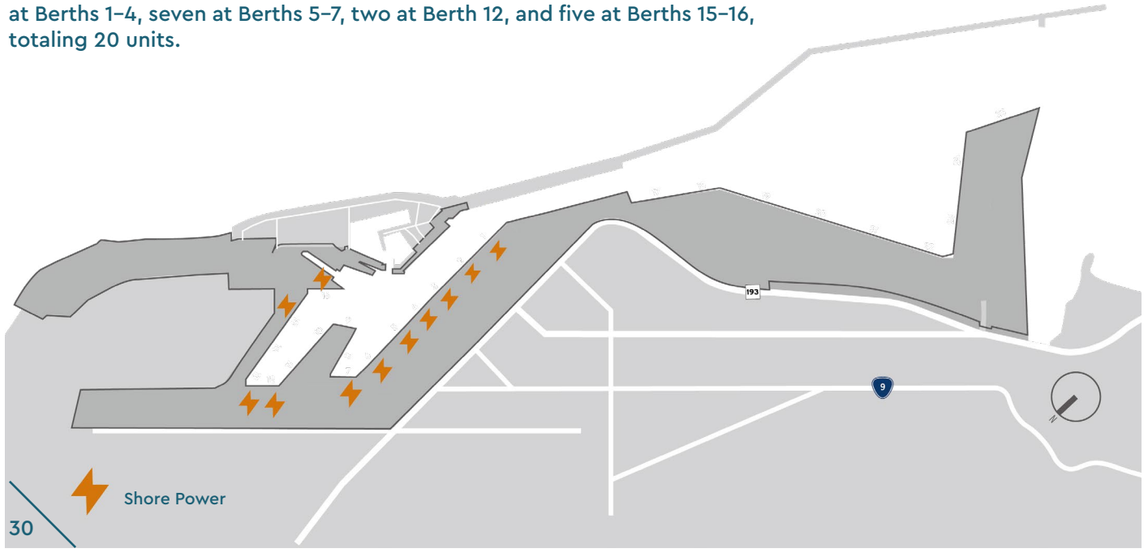
Vehicle emissions come from the combustion or evaporation of fuel. In Hualien Port, between 2022 and 2023, there were approximately 1.03 million vehicle trips. Automated gate systems were installed at entry and exit points, reducing clearance time by 70 seconds per vehicle, saving a total of about 20,000 hours over two years. Considering that trucks consume 6 liters of fuel per hour while idling, at a cost of NT$27.5 per liter, this results in savings of around NT$3.3 million in fuel costs. Each vehicle passing through the gate reduces gasoline usage by 0.1167 liters and carbon dioxide emissions by 304.4 grams, totaling a reduction of about 315 tons of CO2 emissions. This significantly shortens idle time for port users, reducing vehicle pollution. In 2022, e-gate lanes were established, incorporating RFID identification and OCR license plate recognition systems, reducing the workload of checkpoint officers and enhancing inspection and passage efficiency. After improvements, 688 vehicle passes were issued in 2022, and 641 in 2023, strengthening port traffic management.



3.2.3 The use of low-polluting fuel and shore power for port handling ships

Shore power is installed on the dockside and provides electricity to docked ships through the ship's cables. This power supply supports maintenance or routine servicing, replacing the use of diesel engines, thus significantly reducing air pollution. Besides using ultra-low sulfur diesel fuel for port service vessels, Hualien Port has fully implemented shore power facilities at Berths 1–4, 15, and 16. Additionally, shore power facilities have been newly installed at Berths 5–7 to accommodate the relocation of the Coast Guard, ensuring that all Coast Guard vessels use shore power. By the end of 2022, shore power was also installed at Berth 12 for yacht docking, further reducing ship emissions. Currently, there are six shore power units at Berths 1–4, seven at Berths 5–7, two at Berth 12, and five at Berths 15–16, totaling 20 units.





3.2.4 Reducing Leakage of Cargo Stevedoring

To maintain operational safety and environmental management within the port area, the Port of Hualien has installed CCTV to monitor various port operations around the clock. Personnel are also assigned daily to conduct regular environmental inspections, and any detected pollution activities are either promptly addressed or reported to law enforcement for penalties. Furthermore, when signing contracts with lessees within the port area, the Port of Hualien explicitly requires compliance with environmental laws and mandates corresponding pollution prevention measures.

To prevent dust and reduce air pollution, specific guidelines are in place for the handling of bulk cargo. Grab operations are prohibited from opening the grab in mid-air, conveyor operations must install chutes at discharge points, and the gap between the discharge point and the truck bed must be within one meter to prevent materials from scattering and causing dust. Additionally, vehicles leaving the operational pier area must be covered securely with dust-proof fabric, which should be tightly fastened and extend at least 15 centimeters below the top edge of the cargo box. Furthermore, a shield must be installed at the unloading point to prevent materials from falling into the harbor basin, ensuring that unloading activities do not contaminate the marine environment.

Inspection and Jointly Supervised Safety Drills

Item	2022	2023
Number of harbor inspections	249	251
Number of joint safety supervision	12	12









3.2.5 Dust Reduction

Operators in the Port of Hualien have established enclosed storage and transportation facilities for loading and unloading operations. These include enclosed ship loaders at the Asia Cement Company's Piers 8, 10, and 18; enclosed conveyor belts and ship loaders at China Steel's Pier 11 backline; and enclosed ship loaders for aggregate operators at Piers 17, 20, and 21, effectively reducing environmental pollution caused by loading, unloading, and transportation activities. To further reduce dust from aggregate storage and transport within the port, the Port of Hualien has installed mobile sprinklers in aggregate storage areas to maintain material moisture through regular spraying. Additionally, operators are required to use automated sprinklers and misting systems to keep materials moist. Aggregate yards within the port have also set up vehicle washing facilities, and vehicles must pass through a water channel for a secondary wheel cleaning before leaving the port.

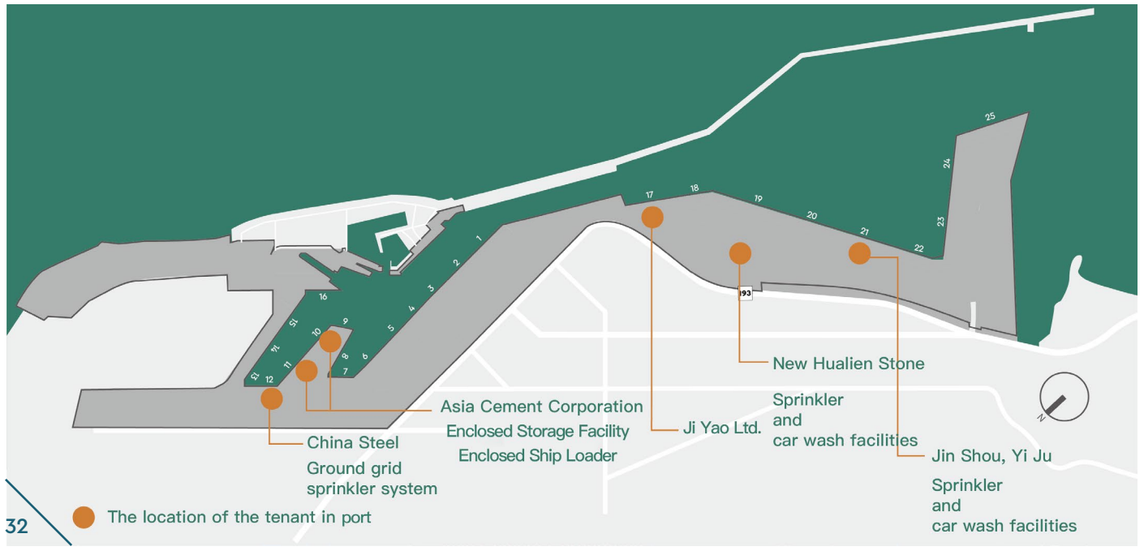
In 2022 and 2023, the aggregate storage volumes within the port area were approximately 3.27 million metric tons and 3.07 million metric tons, respectively, resulting in an estimated reduction of around 152.16 metric tons of particulate emissions. Additionally, China Steel's Hualien stone yard transported about 461,000 and 438,000 metric tons of stone in 2022 and 2023, respectively. Ground-based net spray systems were set up to keep the ground moist, leading to a reduction of approximately 21.6 metric tons of particulate emissions.

Dust Control Efficiency of Sand and GraveDust (2022–2023)
Unit: Tonne / year

Type	Amount of sand	Amount of suspended particles emissions*	Amount of suspended particles controlled **
Sand industries	6,340,000	380.4	152.16
Hualien sand site of China Steel	899,000	54	21.6
Total	7,239,000	434.4	173.76

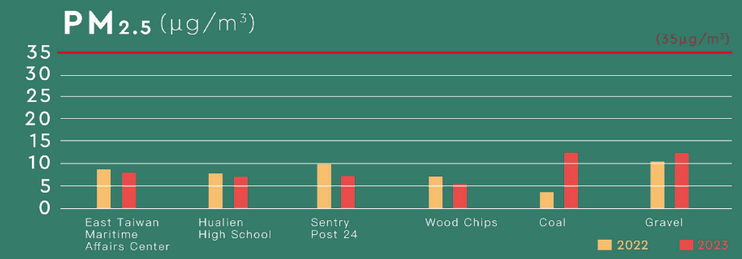
*Emission factor(0.06kg/ tonne) : Ministry of Environment gravel acquisition and processing industry suspended particles pollutants Prevention Technical Manual (P9)
**Dust proof efficiency40 %%:Large exposed to suspended particles matter emissioncharacteristics and technical feasibility study of control

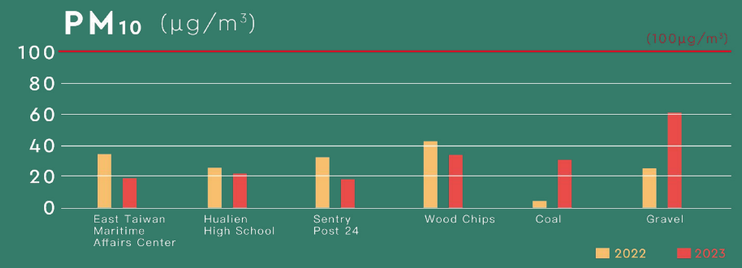




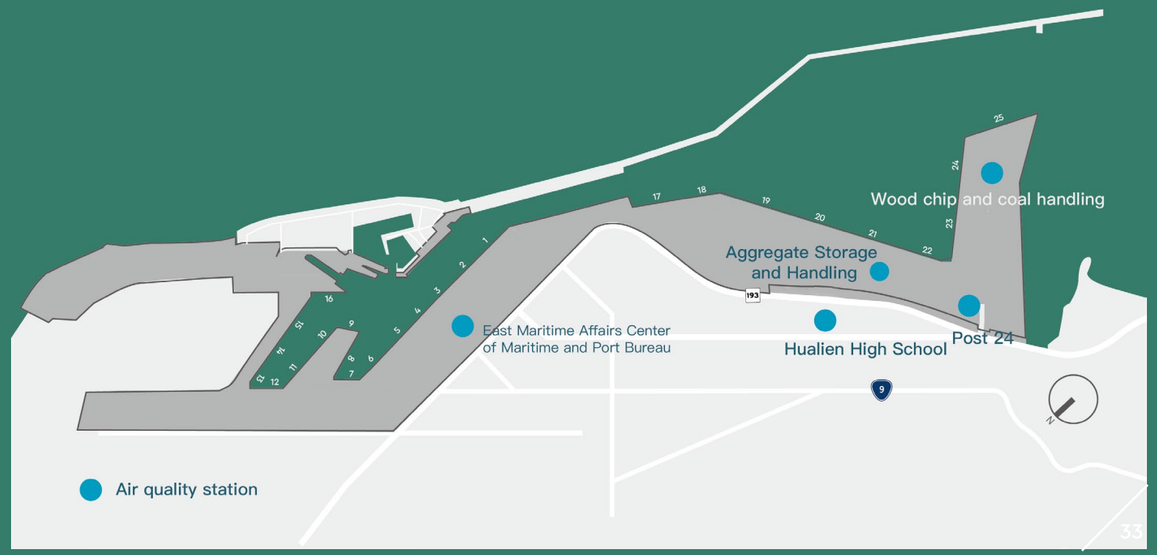
3.2.6 Air Quality Monitoring

The air pollution in the Port of Hualien mainly derives from vessels, as well as exhaust discharge and suspended particles from vehicles used by port operators. Long-term scientific environmental monitoring data should be established to examine and maintain local air quality. The Hualien Branch of TIPC monitors air quality to review improvements in pollution reduction. Since 2015, Hualien has set up three monitoring stations at Sentry Post 24, Hualien High School, and East Taiwan Maritime Affairs Center to monitor items of TSP、PM_{10}、$PM_{2.5}$、SO_2、NO_2、CO and O_3 It shows that all results are in compliance with air quality standards · According to the air quality monitoring results in 2022–2023, all levels comply with air quality standards.





Air quality monitoring station



3.3 Noise Reduction Improvement Strategy

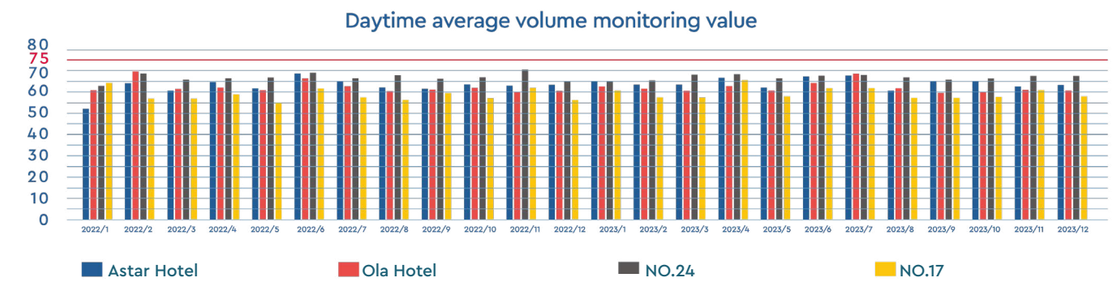
By constructing the North Shore Outer Ring Road, port vehicles are redirected through an underground route, reducing air pollution, noise, and vibrations in the North Shore community, ensuring safety and maintaining tranquility.

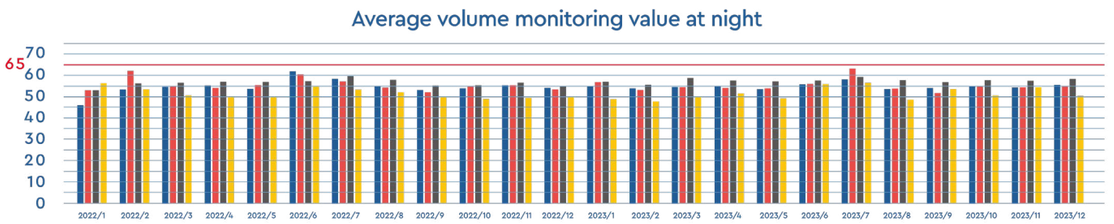
Hualien Port aims to minimize disruptions to residents' lives by establishing external traffic roads, reducing overlap between port and residential traffic.
The area atop the box culverts features a greenbelt, guardrails, bicycle paths, walking paths, and jogging tracks, providing a popular spot for residents to enjoy the Pacific Ocean scenery during walks and leisure activities.

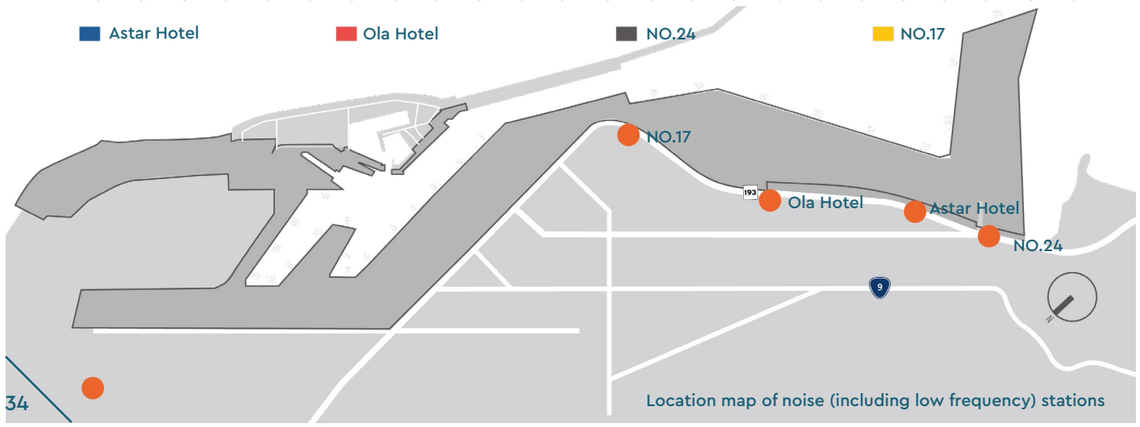
Additionally, a 4.6-hectare buffer greenbelt between Hualien Port and nearby residential areas acts as a sound barrier, reducing noise pollution and enhancing the area's greenery.

3.3.1 Noise Monitoring

Hualien Port is adjacent to Hualien City, and the noise generated by cargo transportation around the port can affect the quality of life of nearby residents. The Hualien Port area is classified as a Category IV control area, with two monitoring points set up around the port. The environmental quality monitoring results for Hualien Port in 2022 and 2023 both met the noise control standards.







Location map of noise (including low frequency) stations

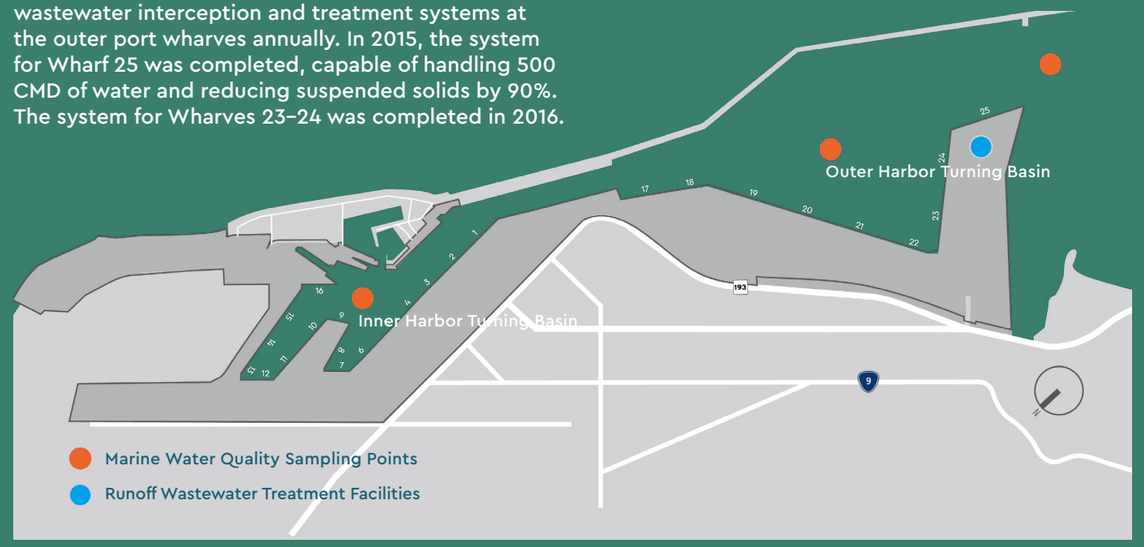
3.4 Water Quality Improvement Strategy

Water pollution in the port area can originate from ship discharges and upstream household wastewater. The Hualien Port Branch will continue to cooperate with the Hualien County Government's sewage connection plan to properly treat domestic sewage entering the port area.

According to the Ministry of Environment's "Port Area Pollution Prevention and Reduction Measures Plan," the Hualien Port Branch has been constructing runoff wastewater interception and treatment systems at the outer port wharves annually. In 2015, the system for Wharf 25 was completed, capable of handling 500 CMD of water and reducing suspended solids by 90%. The system for Wharves 23–24 was completed in 2016.

During oil unloading, oil booms must be deployed around the ship to prevent spills. Over the past five years, Hualien Port has not experienced any oil leakage incidents, ensuring water cleanliness.

The Hualien Port Branch conducts annual marine pollution emergency drills and promotes outsourcing the treatment of waste oil and sewage. It ensures 100% of ship waste and waste oil sewage are cleaned by certified contractors.

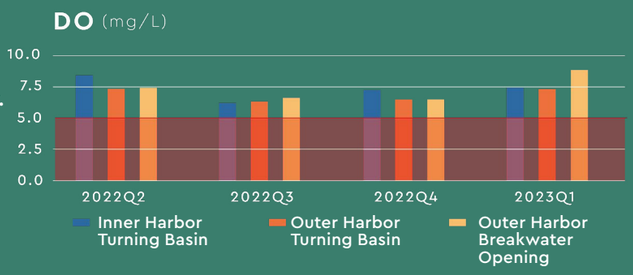


Locations of water quality monitoring sites and runoff wastewater interception and treatment system

3.4.1 Water Quality Monitoring

To monitor the runoff wastewater discharge and water quality changes in the port area, the Hualien Port Branch conducts quarterly monitoring of runoff wastewater discharge outlets, marine water quality, and bottom quality. In accordance with the Ministry of Environment's "Port Area Pollution Prevention and Reduction Measures Plan," monitoring reports are submitted for review every six months.

Water quality sampling in the port basin is carried out at three locations. The monitoring results for 2022 and 2023 have all met the Class B marine environmental quality standards.



3.5 Climate Change Mitigation Measures

Taiwan is an area with limited water resources, and the Port of Hualien is located adjacent to the Meilun Mountain Range. Due to its low-lying terrain with a gravel surface layer and a gray mudstone bedrock, the area is well-suited for collecting and filtering surface runoff. The Port of Hualien has implemented a "Water Piggy Bank" concept by establishing 11 water storage facilities within the port area for non-potable uses as a substitute for tap water. These facilities supply water for restroom facilities in administrative buildings, landscaping and greenery, dust suppression in aggregate yards, and vehicle washing stations.

Though this process, Hualien Port reduced processing costs of soil and stone resource processing and protected the port from ocean wave erosion With the increase in environmental protection awareness and the rise in prevalence of adopting renewable energy, Hualien Port began installing solar panels on the rooftops of its buildings in 2018 This led to an increase in the port's income and reduction in its CO_2 emissions，At the end of 2020, a total of 2,407 kilowatts of capacitors will be completed. According to statistics, 2,790,997 kWh of electricity was generated in 2022, reducing approximately 1,381.5 metric tons of CO_2 emissions. In 2021, 2,770,874 kWh of electricity was generated, reducing approximately 1,371.6 metric tons of CO_2 emissions.





3.6 Reducing port waste

For the waste in Hualien Port area, garbage and recycling bins are set up in the frequent activities of the port area, and garbage trucks are dispatched to collect and transport them at regular intervals. In 2022, Hualien Port generated 110.21 metric tons of waste, with approximately 31.4 metric tons recycled, achieving a recycling rate of around 22.2%. In 2023, the port generated 105.7 metric tons of waste, with 34.4 metric tons recycled, resulting in a recycling rate of about 24.6%. The recycling rate target has been raised from 10% to 20%, with the recycling rate increasing from 11% in 2019 to 24.6% in 2023, an increase of approximately 13.6%.

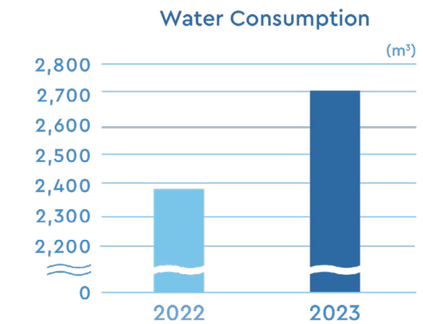
Solid waste disposal (2022–2023)

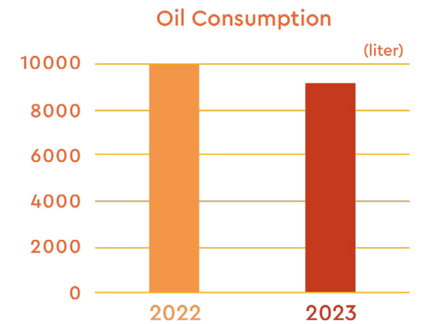
Item /Year	2022	2023
Total waste generation(ton)	141.61	140.1
General waste clearance volume(ton)	110.21	105.7
Recycle (ton)	31.4	34.4
Recycle Rate (%)	22.2	24.6

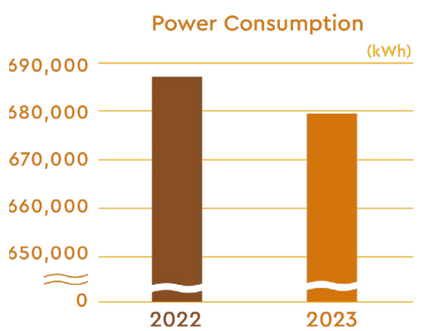
3.6.1 Reduce Resource Usage / Lower Carbon Emissions

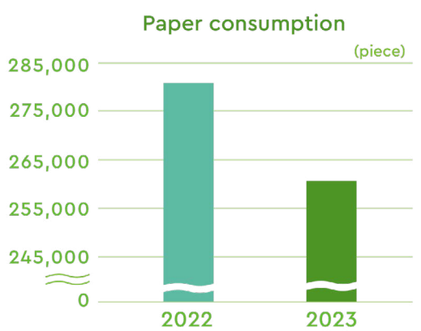
In order to achieve the goal of energy saving and carbon reduction, Hualien Port Branch actively cooperates with the government to promote the project in the four provinces, and often promotes colleagues to cherish and save resources. By monitoring the consumption of electricity, water, oil and paper in the office and operating areas, we can understand the use of resources. and improve.

Focus	Implementation plan
Water	Conduct regular pipeline inspections and monitor water usage monthly.
Electric	Implement smart lighting controls to automatically turn off lights in long-term unoccupied areas and gradually replace traditional lighting with energy-saving fixtures. Utilize remote control through a smart grid system to manage dock lighting via mobile devices. Set air conditioning usage guidelines, allowing it to operate only when temperatures exceed 28°C and maintaining an indoor temperature no lower than 26°C.
Fule	Promote carpooling for official vehicles, limit idling time to no more than 3 minutes, and regularly record mileage of official vehicles to manage fuel consumption. Implement a smart grid system with remote control and monitoring to reduce fuel use from vehicle travel.
Paper	Promote the digitalization of administration and services, increase the rate of e-services such as online document signing, and strive to use double-sided printing or reuse the reverse side of paper.









3.7 Improving the Port's Relationship with Local Communities

The Hualien Port Branch Office annually mobilizes employees and related port departments to conduct beach cleaning and sanitation activities. This hands-on approach not only removes garbage from the beaches near the port but also helps participants understand the importance of marine environmental protection. Through these clean-up actions, Hualien Port aims to work together with related units to maintain the area's cleanliness and aesthetics, fostering a sense of unity and vitality, and creating a healthy and sustainable quality living environment.

To celebrate the 60th anniversary of Hualien Port's opening, the Hualien Port Branch Office organized a series of events, offering people from all over Taiwan the opportunity to learn about the port area. These activities included historical retrospectives, demonstrations of port functions, guided tours, creative activities, and environmental beach clean-ups. These efforts aim to consider the interests of stakeholders around the port area and fulfill social corporate responsibilities. The "60th Anniversary Series of Hualien Port" events held in 2023 saw participation from tens of thousands of people. The public welfare activities in 2022–2023 included winter warmth donations and care for the disadvantaged, with 23 and 22 events held each year, respectively.



60th Anniversary Celebration Series



Promoting Harmonious Neighborhood Relations



Elementary School Visit


Care for Disadvantaged Individuals

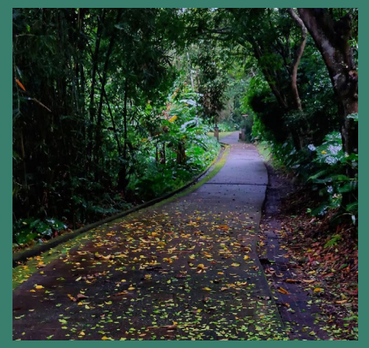
3.8 Port Landscaping

The Port of Hualien is adjacent to the Meilun community A 46 ha leisure park was established between the port and the community as a green belt to prevent dust, noise, and wind ,Meanwhile, the park also creates a positive image for the port for providing recreational space This project is estimated to reduce 437 tonnes of carbon emission annually

Planting area	Total tree planted	Shaded area per arbor tree	Ratio of arbor tree*	Carbon reduction**
46,000m^2	5,806 plants	0.1256m^2/plant	1.59%	437,460kg-CO_{2e}/yr

*The proportion of arbor species: 0.1256m^2/plant X 5806 plants/46000m^2 X 100% =1.59%
**Carbon reduction = 600kg-CO2/m^2 X 46000m^2X1.59%
Source of data: Estimated according to the calculation method of arbor-like open space greening and beautification proposed by the Architecture Research Institute of the Ministry of the Interior.







3.9 Environmental Performance Indicators of Hualien Port

Significant environmental issues of Hualien Port		Index item	Calculation method		Target value	Indicator presentation (calculation details)	
						2022	2023
1	Air Quality	Air quality pass rate (PM_{10}、$PM_{2.5}$、SO_2、NO_2)	The ratio of the measurements in the air quality monitoring station of the port that meet the "Air Quality Standards"		• PM_{10} of the daily mean measurements satisfy the standard (<100μg / m^3): 100% • $PM_{2.5}$ of the daily mean measurements satisfy the standard (<35μg / m^3): 100% • SO_2 of the daily mean measurements satisfy the standard (<0.075ppm): 100% • NO_2 of the daily mean measurements satisfy the standard(<0.1ppm): 100%	• PM_{10} of the daily mean measurements satisfy the standard (<125μg / m^3): 100% • $PM_{2.5}$ of the daily mean measurements satisfy the standard (<35μg / m^3): 100% • SO_2 of the daily mean measurements satisfy the standard: 100% • NO_2 of the daily mean measurements satisfy the standard: 100%	• PM_{10} of the daily mean measurements satisfy the standard (<125μg / m^3): 100% • $PM_{2.5}$ of the daily mean measurements satisfy the standard (<35μg / m^3): 100% • SO_2 of the daily mean measurements satisfy the standard: 100% • NO_2 of the daily mean measurements satisfy the standard: 100%
2	Ship exhaust gas emissions	Proportion of Harbor Service Vessels Using Low-Pollution Fuel and Consumption of Low-Pollution Fuel by Harbor Service Vessels	Number of harbor crafts using low-pollution fuel (marine diesel oil or super diesel) ÷ Total number of harbor crafts × 100% Consumption of low-pollution fuel among harbor crafts		The ratio of using low-pollution fuel or biodiesel reaches 100% among harbor crafts	• 3÷3×100%=100% • Percentage of harbor crafts that use low-pollution fuel: 100% • The total amount of low-pollution fuel used: 222.37 K	• 3÷3×100%=100% • Percentage of harbor crafts that use low-pollution fuel: 100% • The total amount of low-pollution fuel used: 315.1 KL
		Proportion of Harbor Service Vessels Using Shore Power	• Number of service vessels using shore power ÷ total number of service vessels × 100% • Shore power usage (kWh)		All service vessels using shore power	• 3÷3×100%=100% • Number of service vessels: 3; number of service vessels using shore power: 3 • 70,487(kWh)	• 3÷3×100%=100% • Number of service vessels: 3; number of service vessels using shore power: 3 • 80,480 (kWh)
		Ships deceleration target completion rate	The automatic identification system for ship deceleration is applied to determine the deceleration of ships within 20 sea miles from the port		The achieved speed reduction rate:60%	80.1%	77.9%
3	Cargo spillage	Percentage of oil tanker ships using containment booms	Percentage of oil tanker ships using containment booms (number of ships using oil containment booms ÷ number of ships that entered the port within a given period × 100% = percentage of oil tankers using oil containment booms).		Deployment oil booms of ship Bunkering is 100%	• Deployment oil booms of ship Bunkering is 100% • (147÷147) ×100%=100%	• Deployment oil booms of ship Bunkering is 100% • (162÷162) ×100%=100%
		Inspection of Spilled Cargo	Actual inspection times ÷ Number of workstations × 100%		Daily inspection times reaching 100%	249÷249=100%	251÷251=100%
4	Port and harbor waste	General waste removed and recycling rate in the harbor land area	Amount of recycled waste ÷ Waste generation×100%		Port Resource Recycling Rate Reaches 20%	31.4÷141.61×100%=22.2%	34.4÷140.1×100%=24.6%
5	Ship Waste	Ship Resource Recycling Rate	Ship Resource Recycling Volume ÷ Waste Resource Generation Volume × 100%		Port Resource Recycling Rate Reaches 20%	28.124÷108.299×100%=26%	31.141÷109.094×100%=28.5%
6	Dust	Road sprinkler for dust suppression	Streetwash attendance Daily sweeping kilometers (annual mileage ÷ 2 ÷ working days)		240 attendances of street washing vehicles per year 10 kilometers per day	• Attendance 249 times • 10030÷2÷249=20.1km	• Attendance 251 times • 7353÷2÷251=14.6kms
		Water bank usage	• Aggregate Yard Water Usage • Road Washing and Sprinkling Water Volume • Wood Chip Vessel Loading and Unloading Sprinkling Water Volume		Conserve up to 100,000 tons of tap water	• Gravel Yard: 45,020 tons • Water Trucks: 37,084 tons • Wood Chip Ship: 6,675 tons • Plant Watering: 6,525 tons • Car Washing Equipment: 22,812 tons • Total: 118,206 tons	• Gravel Yard: 57,186 tons • Water Trucks: 28,841 tons • Wood Chip Ship: 6,280 tons • Plant Watering: 4,514 tons • Car Washing Equipment: 24,010 tons • Total: 120,831 tons
7	Hazardous Goods (Handling/Storage)	Emergency Spill Response Drills	• Number of emergency spill response drills conducted. • Number of inspections.		Inspections: Minimum of 5 inspections per year. Emergency Spill Response Drills: At least 1 drill per year.	• Hazardous materials inspections/ port area patrols: 5 times. • Emergency spill response drills: 1 time.	• Hazardous materials inspections/port area patrols: 5 times. • Emergency spill response drills: 1 time.
8	Vehicle Emissions (Including Cargo Handling)	Number and Proportion of Automated Gate Lanes for Port Entry and Exit	• Comparison of the number of automated gate entry lanes to the total number of port area lanes. • (Number of automated gate lanes / Total number of port area lanes) × 100% = Automated gate system ratio.		Automated gate lane quantity and proportion: 80%	• 8 automated sentry system e-lanes ÷ 10 total lanes = 80% • In 2022, a total of 273,000 vehicles used automated gate lanes to enter and exit the port area.	• 12 automated gate lanes ÷ 10 total lanes = 120% • In 2023, a total of 776,000 vehicles used automated gate lanes to enter and exit the port area.
9	Relationship with Local Communities	Number of activities and participants	Calculate the actual number of occurrence		Number of activities and events	Held 23 charitable activities.	Held 22 charitable activities.
10	Water Quality	Marine water quality pass rate (pH, DO, BOD_5, cyanide, phenols, mineral oils)	The ratio of port water quality measurements (obtained at the water quality monitoring station in the port) satisfying the Marine Environment Classification and Quality Criteria		Marine water quality: 100% of the quarterly pH, DO, BOD_5, cyanide, phenols, mineral and oils measurements satisfy the criteria.	Class B Marine Water Quality Standards Hydrogen Ion Concentration Index: 100% Dissolved Oxygen: 100% Biochemical Oxygen Demand: 100% Cyanides: 100% Phenols: 100% Mineral Oils: 100	Class B Marine Water Quality Standards Hydrogen Ion Concentration Index: 100% Dissolved Oxygen: 100% Biochemical Oxygen Demand: 100% Cyanides: 100% Phenols: 100% Mineral Oils: 100%

04

Emergency Response

4.1 Port Emergency Notification and Drills

Because of Hualien Port's geographical position, its land and sea areas are exposed to various disasters, such as earthquakes, wind storms, floods, tsunamis, general shipwrecks, marine oil pollution, air pollution, leaks of toxic and non-toxic materials, severe traffic incidents, and industrial safety accidents. We have established 21 notification and response procedures to mitigate the impact, ensuring that emergency events can be reported and responded to in the fastest possible time. Meanwhile, we cooperate with the harbor police and harbor fire brigade for periodic drills to practice and improve emergency operation skills.

In terms of port pollution and disaster events, the general public, ship owners, or port business units can liaise with the Hualien Branch of TIPC via our communication channels or mailbox. Every year, the Hualien Branch of TIPC collaborates with the Ministry of Environment and the Hualien County Government for unannounced drills related to pollution and spills of chemicals and other hazardous substances. These drills include preventing spills from reaching the shore, removing spilled oil from the water, cleaning up residual oil from the sea surface, event investigation, and pollution claims, among other tasks.

In all cases, the Hualien Branch of TIPC strives to cooperate closely with all parties involved in an incident and ensure that a cross-department emergency response center can be promptly established and run smoothly. In case an event arises, prompt notifications and appropriate emergency measures are taken to mitigate the environmental impact and minimize losses.







4.1.1 Oil Pollution Incident Handling

The Port of Hualien, to maintain the environmental quality and aquatic ecology of the port area, acquired emergency oil spill response and decontamination equipment in August 2023. Nearly one million was invested in purchasing various types of oil booms and reel machines for different purposes. External contractors were engaged to conduct drills for using the related equipment and machinery, with 11 participants receiving training. This initiative ensures the port's rescue and emergency response capabilities to prevent oil pollution incidents before they occur.





Hualien Port Environmental Inspection and Joint Inspection Statistics

Inspection items	2022	2023
Port Environmental Inspection	249	251
Port area joint inspection	12	12

Number of accidents in Port of Hualien

Accidents type / year	2022	2023
Vessel collision, sinking, capsizing, fire, oil spill, and other chemical leaks	0	1
Vessel mechanical failure, operational malfunction, listing, grounding	0	0
Major warehouse and storage tank fires, explosions	0	0
Minor pollution, fires, and chemical spills in the port area	0	0
Personnel falling overboard, occupational accidents, marine debris, others	0	0

2022–2023 Joint Exercise Record of Hualien Port Branch

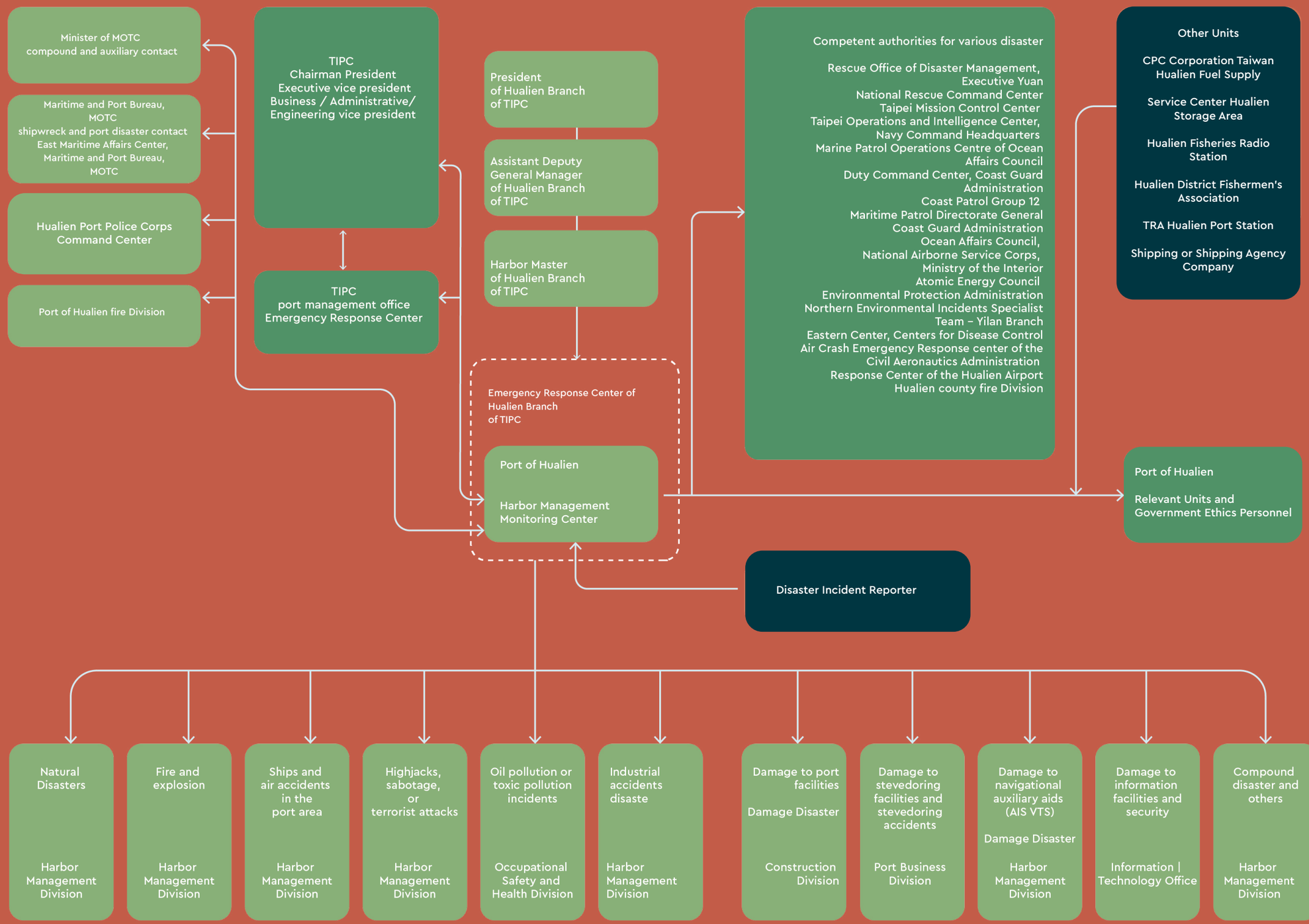
Year	Name of the drill	Content	Date
2022	2022 International Ship and Port Facility Security and Disaster Prevention Drill	At Pier 8 of this port, during the unloading operations of TRA carriages, a shipping agent discovered a black suitcase at the entrance of the first floor of the Asia Cement Corporation Hualien Storage and Transportation Station. A faint ticking sound, resembling that of a timer or clock, was heard from the suitcase, raising suspicions of it being an explosive device. The incident was immediately reported to the Port of Hualien Monitoring Center.	2022/09/30
2023	2023 International Ship and Port Facility Security and Disaster Prevention Drill	The international cruise ship "Star of Brilliance" experienced a fire in the cabin off the coast of Hualien Port, resulting in injuries to personnel who require emergency medical treatment.	2023/12/26







4.2 Port of Hualien Emergency Disaster Prevention and Response Notification Plan



05

Involvement and Cooperation

6.1 Hualien Port Environmental Education Park Site Certification Project

Involvement in SDGs: SDG 11(Sustainable Cities and Communities),SDG 15(Life on Land)

A. Concern/Motivation

To align with Taiwan's 2050 net-zero transition, Hualien Port, in conjunction with the environmental policies and ten environmental goals of its parent company, Taiwan International Ports Corporation, will implement the "Lifestyle Transformation" strategy and key measures for "Net Zero Green Living." These measures include green tourism, green freight, energy-saving equipment, and low-carbon exhibitions. The aim is to integrate designed teaching materials and topics into family-oriented environmental lifestyles, encouraging citizens to make small changes in daily life to protect our homeland. This approach will timely incorporate sustainable development goals, promoting environmental protection, economic development, and social progress, and align with international trends, moving towards a healthy, happy, and prosperous city.

B. Program Objectives

By integrating the historical and cultural features of Hualien Port with resource utilization, we have developed a systematic educational content that enhances external participants' awareness of the impact of human development on the environment in different settings. This program provides knowledge on environmental protection and problem-solving skills, fostering an environmentally friendly attitude and encouraging the public to take voluntary environmental actions. Through the development of certified environmental education venues, our company collaborates with stakeholders and the public to improve environmental quality and ecological conservation, promoting regional development and exchange, and indirectly enhancing the corporate image.

C. Execution/time course

- December 2022: Proposal and budget preparation
- June 2023: Initial meeting
- August 2023: Completion and trial teaching of elementary school lesson plans "The Path of Port Water" and "Port Explorers"
- October 2023: Recruitment and training of 24 seed teachers in 3 sessions
- December 2023: Data compilation and submission to the National Institute of Environmental Research
- March 2024: Completion and trial teaching of college student lesson plan "Port Correspondent"
- April 2024: Review by Ministry of Environment committee
- 2024 to present: Ongoing certification process

D. investment amount

Design Commission Fee: NT$1.8 million
Annual Management, Operation, and Education Training Fees: NT$800,000
Total Investment: Approximately NT$2.6 million

E. Effect/benefit

(a) Implement ESG Corporate Social Responsibility
Promote environmentally friendly and ecological sustainability concepts while establishing a bridge between the port and the public.
(b) Engage with External Entities
Collaborate with various educational institutions, environmental education sites, environmental protection units, NGOs, and local communities to participate, cooperate, and integrate educational resources.
(c) Provide Environmental Education Beneficiaries
Aim to reach 500 beneficiaries in the first year, with an annual increase of 300 participants thereafter.
(d) Develop Emerging Business Opportunities
Plan to incorporate green deep tourism and integrate digital educational resources in the future.





Involving environmental issues

Strengthening Community Relations
Port Development (Land-Related)

Participating units

Port of Hualien, ECO TECHNOLOGY & CONSULTANTS CO., LTD.

Stakeholders

Hualien Port Branch Company, General Public, Surrounding Agencies and Organizations, Educational Institutions at All Levels

Port Name: Port of Hualien
Contact Person: Lin, Chu-Lun
Organizing Unit: Occupational Safety and Security Department, Port of Hualien
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6.2 Hualien Port Salute to the Sea Project

Involvement in SDGs: SDG 4(Quality Education), SDG 17(Partnerships for the Goals)

A. Concern/Motivation

Hualien Port Branch Company, in accordance with the Blue Highway 10-Year Comprehensive Development Plan in 2021, completed the comprehensive engineering planning for transforming Hualien Port #13 to #16 piers into an exploration-type cruise hopping travel base. This aims to enhance the development of the Qilai Nose Coastal Landscape Corridor (formerly known as Hualien Port East Construction Site) as a commercial and tourism recreation area to meet the needs of investment management and overall development.

B. Program Objectives

1.Resolve Current Urban Planning Land Use Issues for Tourism and Recreation Development:
Achieve appropriate land use to facilitate tourism and recreation development.
2.Develop Future Directions and Plans for the Port Area:
Revitalize port land use and enhance the international commercial port image.
3.Extend Hualien City's Existing Tourism Development Areas and Routes:
Deepen tourism content and create multifunctional recreational services in the commercial port area.
4.Leverage Hualien Port's Advantageous Development Conditions:
Strengthen the Hualien tourism industry chain and shape local characteristics and international tourism status.

C. Execution/time course

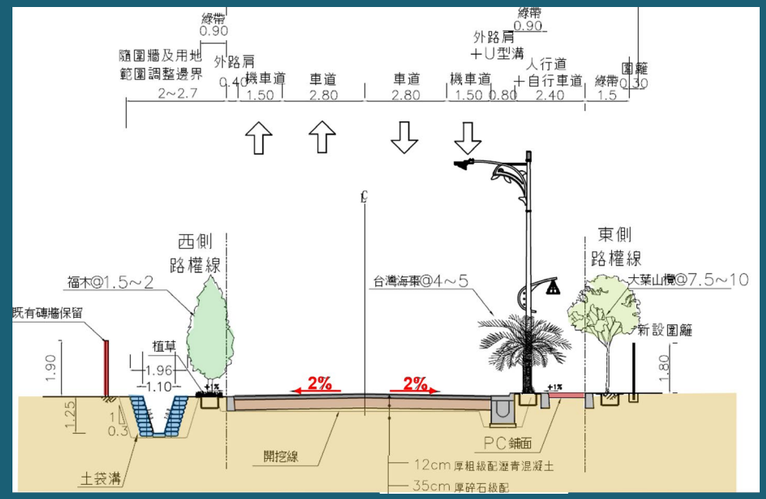
- November 2022: Design phase begins.
- January 2023: Completion of ecological assessment and formulation of conservation strategies.
- December 2023: Commencement of construction.
- August 2024: Expected completion of ecological corridor installation.
- September 2024: Expected overall project completion.
- End of 2024: Opening for public passage.

D. investment amount

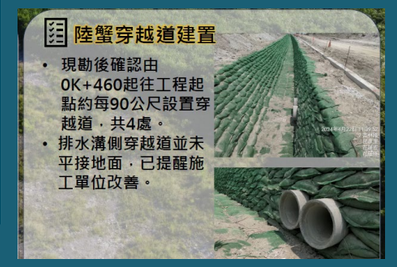
Total Investment Amount: NT$6.688 million in 2023.

E. Effect/benefit

As an international gateway on Taiwan's east coast, Hualien Port should not only meet the needs of navigation but also offer the public insights into various aspects of the ocean, including ecology, conservation, industry, and cultural industries. Surrounding Hualien Port are numerous tourist resources: to the north, there is Qixingtan Scenic Area, set-net fishing, and the deep ocean water industry; to the south, there are whale watching activities, the Blue Highway, and Pacific Park within the port area. Thus, the planning of the Hualien Port area should incorporate different facets of the marine cultural industry. Through the development of an integrated corridor, it aims to highlight key industries. As marine environment conservation and education gain importance, this region is planned as a marine resource ecological recreation area. It aims to showcase the marine ecology and unique marine resources of the Hualien-Taitung region, leveraging the area's excellent landscape advantages. The goal is to create a rich marine tourism and recreational experience through low-density development of tourism services and environmental education facilities.







Involving environmental issues

Habitat/Ecosystem Loss (Terrestrial), Port Development (Terrestrial), and Relationship with Local Communities

Participating units

Port of Hualien

Stakeholders

Hualien Port Branch, people

Port Name: Port of Hualien
Port Contact Person: Lin, Shih-Hong
Organizing Unit:Construction Department, Port of Hualien
Contact Phone: 03-8325131 ext. 2466
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6.3 Involvement and Collaborating Organizations

Hualien Port Branch actively cooperates with domestic and foreign industrial, government, and academic institutions on environmental-related issues. In addition to understanding foreign environmental development trends, it also achieves the goal of a green and sustainable port through technical cooperation, joint inspections, lectures and internships.

Association of Pacific Ports (APP)

The APP is aimed to gather the authorities of ports along the Pacific coast to discuss the development of Pacific marine transportation, seek solutions for problems. The Kaohsiung Branch regularly attends APP conferences and served as the organizer in 2015, adopting the theme of "Ecology, LOHAS, and Greening in the Port of Kaohsiung" to exchange innovative technology, knowledge, and professional management experiences with other members.

Taiwan Port Association

Integrate the knowledge platform of domestic production, officials and academia. Through this platform, Taiwan's shipping-related industries can coordinate and integrate internally, and externally can play cooperative marketing, investment promotion, seeking to join international organizations, hosting important conferences, and promoting cross-strait cooperation.

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Taiwan Marble Association

The Quarry Products Association regularly sends members to participate in the Taiwan Quarry Products Industry Association Member Congress.

China steel

An automatic material transporting device has been installed at Wharf No 11 in the Port of Hualien In addition, the Hualien Branch of TIPC
provided land for the CSC to invest in improving related transportation equipment, changing the means of gravel transportation in Hualien from highways to railways

Taiwan port co., ltd.

Sign a cooperation agreement Carry out tugboat and ship repair yard maintenance business

ASIA CEMENT CORPORATION

Set up automated transportation facilities at Pier 10 and Pier 18 in Hualien Port.

National Taiwan Ocean University

National Taiwan Ocean University and Taiwan Port Co., Ltd. signed a memorandum of cooperation to conduct research on marine meteorology, marine drifting sand deposition, etc., and jointly strive for the development of international ports and academics, and improve international competitiveness and shipping business quality.

National Cheng Kung University

National Cheng Kung University and Taiwan Port Co., Ltd. signed a memorandum of cooperation to jointly enhance the competitiveness of international port services in talent training and port development.

National Sun Yat-sen University

NSYSU signs a memorandum of cooperation with the TIPC to cooperate in terms of personnel training, student internships, and the management of seminars and lectures.

Hualien County Government Environmental Protection Bureau

Hualien Port Branch cooperates with Hualien County Environmental Protection Bureau to conduct irregular joint inspections of the port area and conduct marine pollution prevention and control drills.

East Maritime Affairs Center of MPB, MOTC

The South Taiwan Maritime Affairs Center of the MPB under the MOTC is in charge of the affairs related to port security, disaster relief, and pollution control in the Port of Kaohsiung, as well as the implementation of laws and regulations, gathering of evidence, and penalty consideration The Kaohsiung Branch of TIPC cooperates with the South Taiwan Maritime Affairs Center to conduct land water inspection in the port

Hualien City Office

Hualien Port Branch cooperated with Hualien City Office to carry out green port promotion activities.

06

Training & Communication

Training

In 2011, the "Environmental Education Act" was promulgated and implemented, requiring public enterprises to establish an environmental education plan annually, with each employee participating in more than four hours of environmental education courses. In compliance with environmental education policies, the Port of Hualien Branch provides appropriate environmental education training, aiming to foster employees' environmental awareness and enhance their knowledge of environmental protection, thereby increasing the competitiveness of the Port of Hualien Branch.

For general employees, the Port of Hualien Branch organized seven and five environmental education courses in 2022 and 2023, respectively, with a total of approximately 488 participants. The courses included various methods such as lectures, video viewing, practical exercises, experiences, outdoor learning, speeches, and other activities. The course content covered areas such as disaster prevention and rescue, nature conservation, environmental and resource management, and environmental education for schools and society.

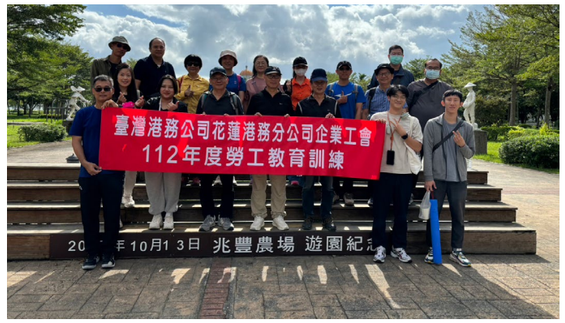
To prevent oil pollution from international ships, the Port of Hualien Branch has equipped the port area with oil spill containment materials (such as oil booms, oil skimmers, and oil absorbent pads) in accordance with the Marine Oil Spill Emergency Response Plan. To ensure the proper functioning of this equipment, the Port of Hualien Branch conducts regular maintenance, servicing, and inspections, along with training sessions for the use and on-site operation of oil spill response equipment. Additionally, to enhance the knowledge and skills of environmental protection personnel, the Port of Hualien Branch annually invites professionals to conduct marine pollution lectures or collaborates with the Environmental Protection Administration and Hualien County Environmental Protection Bureau for relevant training and drills to effectively achieve training goals.

To serve port area businesses and strengthen pollution prevention measures, the Port of Hualien Branch holds regular environmental symposiums annually based on the characteristics of different businesses, including sand and gravel operators, loading and unloading operators, engineering contractors, and shipping companies. During these symposiums, the Port of Hualien Branch introduces environmental regulations and presents cases of on-site deficiencies and improvements, engaging in two-way communication with businesses and guiding them to comply with current environmental regulations, aiming for a win-win situation with the businesses.

To improve the on-site supervision capabilities of environmental patrol personnel, the Port of Hualien Branch participates in various professional environmental protection training courses offered by the Environmental Protection Administration, Environmental Protection Personnel Training Institute, Hualien County Environmental Protection Bureau, Port and Harbor Research Institute, National Sun Yat-sen University, and Taiwan International Ports Corporation. Currently, the Occupational Safety and Health Department holds professional certifications in visual smoke detection, Class A air pollution, and wastewater treatment.



2022 Labor Education



2023 Labor Education


Environmental Education



Employee Health Promotion Activities



Environmental Education Training


Environmental Education Training for New Employees


Observation and Drills for Using Marine Pollution Equipment


Oil Boom Deployment Exercises


Safety and Health Education Training for Port Area Operations



Joint Regional Rescue and Marine Pollution Response Drills in the Port Area

6.2 Communications and Publications

1. 60th Anniversary Celebration Activities of Hualien Port

The Port of Hualien has been open as an international commercial port for 60 years, carrying the memories of Hualien's past and present. In 2023, a special series of celebration events were organized, including the "Harbor Navigator" family camp activity, the "Paint Hualien Port" sketching competition, and a "Hualien Harbor Friendship" charity fair held around the administrative building to celebrate the anniversary.









2. Exhibition Space

The "Hualien Port History Museum" introduces the growth trajectory of Hualien Port and records of various significant events over the years. It features immersive interactive displays to deepen visitors' understanding of the Hualien Port environment and strengthen their connection to it.

To help the public better understand the history and development of Hualien Port, the Port of Hualien has carefully curated old photos from its collection, combining them with the port's history and environment in a "Nostalgia and Historical Retrospective Exhibition.





Media Marketing and Communication

The Taiwan International Ports Corporation has established the "Taiwan International Ports Corporation Green Policy Bilingual Webpage" (http://www.twport.com.tw/GP/) to showcase the achievements of green port implementation on the international stage. This webpage serves as a communication channel between Taiwan and other countries, and provides real-time information on the port area's environment.

Port of Hualien Branch Global Information Network – Feedback (http://hl.twport.com.tw/chinese/)
The Port of Hualien Branch has set up a public feedback mailbox on its global information webpage, providing a channel for the general public and consumers to express their opinions online.





Port Marketing Video

(https://www.youtube.com/watch?v=9jH0yjS0G3I&feature=player_embedded)

Through the "Taiwan Port Group" marketing video, the public can experience the unique features of each port through real-life scenes.



Various units periodically post information such as public tenders, cruise schedules, and various promotional activities to help the public better understand the operations of the Port of Hualien Branch.



Public Welfare/Community Bonding Activities

Blood Donation Campaign

To promote the spirit of saving lives through blood donation, the Port of Hualien periodically invites organizations such as Chunghwa Post, the Hualien Port Police Corps, the Hualien Port Fire Brigade, and the Eastern Navigation Affairs Center of the Maritime and Port Bureau to jointly hold blood donation drives. This initiative reflects corporate social responsibility in action, encouraging the people of Hualien to enthusiastically participate in blood donation.



Donation of Second-Hand Computers to Remote Areas

The Port of Hualien Branch visited Tongmen Elementary School in a remote area, donating a total of 10 second-hand computers. We are committed to continually helping each young student have access to better learning environments and resources, paving the way for a brighter future.



Lunar New Year Charity Visits

To welcome the Lunar New Year, the Port of Hualien Branch aims to share love and care with disadvantaged groups. Led by the Deputy General Manager, a team visited six social welfare organizations to extend their support. This initiative embodies the spirit of compassion and invites everyone to join in serving the community!



Community Clean-Up Activity

The Port of Hualien Branch, together with enthusiastic community volunteers, gathered in the surrounding neighborhoods, each armed with various cleaning tools. United in their efforts, they worked diligently to beautify the environment, giving the entire port area and its surrounding community a fresh, renewed appearance.



Coastal Cleanup Activity for Ecological Protection

The Port of Hualien Branch is dedicated to protecting the coastline and ensuring environmental quality in the Hualien area. By continuously managing and maintaining the coastal environment under its jurisdiction, the Port of Hualien Branch aims to raise public awareness about the importance of caring for the marine environment through coastal cleanup activities. Protecting the ocean is a crucial responsibility that we all share.



"Port 712 Fasting for Hunger" Initiative

The Port of Hualien Branch stands in solidarity with the world in facing climate change and the impacts of war. To contribute to global efforts, the branch participates in the "Port 712 Fasting for Hunger" initiative by donating a day's worth of meals and experiencing hunger. This act of solidarity aims to provide assistance to those in need.



Harbor Mobilization Charity Summer Camp

In collaboration with surrounding agencies, the Port of Hualien organizes a summer camp that offers themes such as parent-child interaction, history and culture, and environmental education. This camp provides participants with the opportunity to experience and understand various aspects of the port area, creating meaningful summer memories.



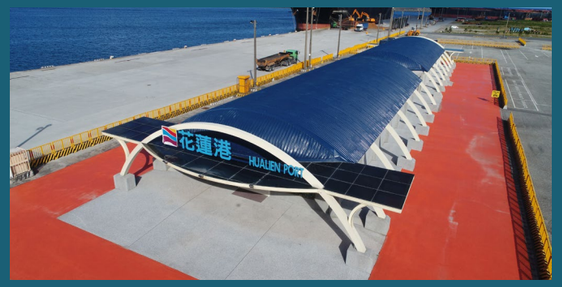


07

Green Accounting

Environmental Resource Allocation

The cost that have been invested by the Hualien Branch of TIPC in the environmental aspects are mainly divided into the categories of staff, environmental maintenance and management, environmental monitoring, and emergency responses and communication. The purpose of these investments is to improve the environmental awareness among staff, environmental maintenance, environmental quality, emergency response abilities, and public understanding of the port. The cost in each category are as follows



- Staff: Cost for environment-related staff and training.
- Environmental maintenance and management: Port greening and beautification, waste disposal, and dredging.
- Environmental monitoring: Environmental monitoring and inspection of air, noise, water quality, sediments, and dredging.
- Emergency response: Charges for handling accidents, materials for pollution in the port, and charges for testing dangerous goods.
- Communication and publications: Website maintenance, promotional activities, and environmental publications.

In 2022 and 2023, the Port of Hualien Branch invested NT$9,434,000 and NT$8,891,000 respectively in environmental issues.

Cost invested by the Investments of the Hualien Branch of TIPC in the Environmental Aspects in 2022–2023
(Unit: Thousand in NTD)

Cost items	2022	2023
Employees (including Environmental Education)	846	654
Environmental maintenance and management	5,769	5,412
Environmental monitoring	2,500	2,500
Emergency response	250	250
Communication and publications	69	75
Total	9,434	8,891

To enhance asset utilization efficiency at Hualien Port, stimulate local economic prosperity, and establish it as an energy-saving and carbon-reducing green environmental port, the Port of Hualien Branch has launched a series of port development projects. Some of these projects involve environmental issues, such as the reconstruction of Hualien Port docks to increase public access to the port, the installation of surveillance systems, and the implementation of projects related to port area power, lighting, and water supply facilities to improve execution effectiveness and reduce pollution emissions. In total, the Port of Hualien Branch invested NT$8,659,000 and NT$5,241,000 in fixed assets related to environmental issues in 2022 and 2023, respectively.

Environmentally-related fixed asset expenditures in 2022–2023 (Unit: Thousand in NTD)

Items	2022	2023
Land Improvement	6,734	3,833
Houses and Buildings	658	494
Machinery and Equipment	904	455
Transportation Equipment	130	188
Other Equipment	233	271
Total	8,659	5,241





8

Improvement Recommendations

To protect the marine environment and ensure sustainable development, the Port of Hualien Branch collaborates with the Environmental Protection Administration and the Ministry of Transportation and Communications to align with relevant environmental protection policies. Following the overarching green promotion goals and execution plans set by the parent company, the Port of Hualien Branch is committed to environmental protection, resource conservation, and ecological preservation within the port area. Continuous on-site inspections are conducted to ensure high-quality air standards within the port.

The Port of Hualien Branch will actively develop the cruise economy and landscape recreation, and it has renewed its Eco Port international certification from the European Sea Ports Organization. This positions Hualien Port as a "green port" that combines tourism and recreation on Taiwan's east coast, achieving a win-win goal of "economic development" and "environmental protection."

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

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