

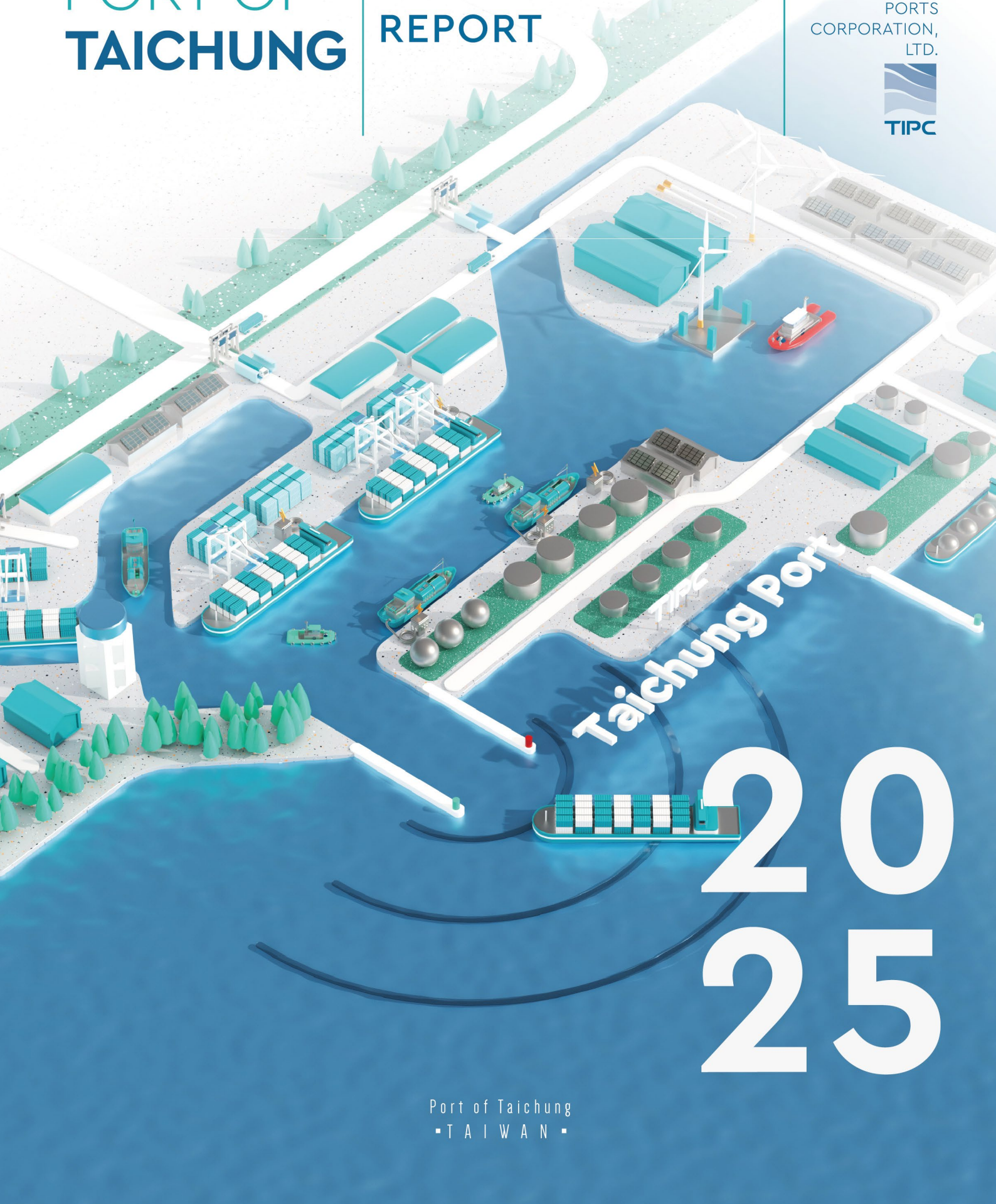
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# PORT OF TAICHUNG

# ENVIRONMENTAL REPORT

TAIWAN  
INTERNATIONAL  
PORTS  
CORPORATION,  
LTD.



Taichung Port

20  
25

Port of Taichung  
▪ T A I W A N ▪



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## Port of Taichung Environmental Report Work Team

Port of Taichung, TIPC: President Chun-Fu Lin, Vice President Chung-Long Chen, Chief Secretary Su-Fang Chen, Occupational Safety and Health Department Director Wen-Wu Yang, Supervisor & Manager Yuan-Long Chen, Technician Wei-Xuan Chang

Advised by Taiwan International Port Corporation, Ltd. Deputy Vice President of Business Chan-Jung Chang, Senior Director of Occupational Safety and Health Department Hsieh Chih-Nan, Supervisor & Manager Tsung-Hsun Tsai, Senior Technician Yi Ho

Chief Editor: Su-Fang Chen

Examine and Revise: Wen-Wu Yang

Layout and Design: Urban Moss Design CO., LTD.

Reviewed by: Yuan-Long Chen, Wei-Xuan Chang

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Address: No. 10, Penglai Rd., Gushan Dist., Kaohsiung City 804, Taiwan (R.O.C.)

Tel: +886-7-521-9000



## Environmental Policy

# 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: 2025 / 10 / 22

**Joe Y. Chou**  
Chairman of TIPC

Date: 2025 / 10 / 22

**Chin-Jung Wang**  
President of TIPC



# Port of Taichung Environmental Policy

## Environmental Policy Port of Taichung

The Port of Taichung, as a port operation and management entity, recognizes its responsibility for maintaining and improving the port environment, and regards environmental protection as an integral part of port operations. Therefore, we are committed to minimizing the environmental impact of port activities, and to building a high-quality port that is environmentally friendly, sustainable, and progressive.

To ensure alignment between environmental performance and port policy, the following guiding principles shall be adopted:

- Comply with environmental regulations and protect the port environment
- Implement environmental monitoring and identify sources of pollution
- Advance the transformation toward a smart and green port
- Promote energy conservation and emission reduction for sustainable development

This environmental policy shall be effectively communicated to all employees and made publicly available through the Port of Taichung's official website for stakeholders including shipping companies, lessees, and surrounding communities.

President of Port of Taichung, TIPC

*Chun Fu Lin*

Date

*9 / May / 2025*

# Port of Taichung Environmental Objectives

## Environmental Objectives Port of Taichung

In affirmation of its commitment to environmental sustainability, the Port of Taichung hereby sets forth the following objectives, developed in accordance with the operational characteristics and responsibilities of the port:

### Improving air quality in the port area

Continuously monitor air quality within the port area, oversee, and identify sources of pollution.

### Reducing fugitive dust in the port area

Promote enclosed cargo operations, enhance dust control measures, and manage windblown sand.

### Promoting measures to address climate change

Conduct greenhouse gas inventories, implement carbon reduction and afforestation, and advance renewable energy use.

### Enhancing hazardous cargo management

Establish a safety management system, conduct regular inspections, and strengthen emergency response integration.

### Environmentally-friendly development of port land areas

Promote waterfront tourism and commercial use; enhance green landscaping and aesthetic appeal.

### Promoting resource recycling in the port and ships

Maintain environmental cleanliness and promote waste classification and recycling aboard vessels.

### Enhancing energy efficiency

Promote the use and replacement of energy-saving equipment; implement smart energy management systems.

### Implementing ship waste oil and sewage management

Control discharges from vessels and ensure removal by licensed contractors.

### Enhancing development of port water areas

Develop clean, inviting waterfront spaces and support tourism-related commercial growth.

### Strengthening community relationships

Encourage public participation and increase engagement with local communities.

The President of the Port of Taichung, TIPC, is responsible for implementing, maintaining, and reviewing this policy every two years to ensure compliance and continuous improvement.

President of Port of Taichung, TIPC

*Chun Fu Lin*

Date

*9 / May / 2025*



## Message from Port of Taichung, TIPC

With the advancement of global maritime transport, international ports are increasingly aligning with the goal of sustainable development. As the core maritime hub of central Taiwan, Port of Taichung has achieved remarkable progress in recent years across sectors including cargo, energy, and tourism. With its vast territory, the port serves not only as a critical hub for transshipment of energy and bulk commodities, but also as a base for port-adjacent industrial development. At the same time, by integrating passenger transport and leisure functions, the port is evolving into a diversified gateway, poised to become a vital center for cargo consolidation and value-added industries in the region.

Since receiving its first EcoPorts certification in 2015, Port of Taichung has continued to undergo biennial re-certification. The Port of Taichung actively promotes environmental policies and objectives, implementing sustainable port development strategies, environmental planning, pollution prevention, community engagement, and corporate social responsibility. In recent years, the port has revitalized waterfront spaces and port-owned assets to foster marine tourism and leisure — such as attracting Yaguo Yacht to develop ocean-based recreational facilities, and renovating former residences of port executives to preserve cultural heritage and enrich the port's tourism appeal. To promote the sustainable development of the green energy supply chain, the port continues infrastructure upgrades to support land demands for renewable energy and LNG reserve capacity. Looking forward, Port of Taichung remains committed to advancing intelligent and sustainable port development, establishing itself as a model green port.

Through the process of reapplying for EcoPorts certification, the port continues to enhance and optimize its operations, strengthening the integration of port development with environmental management, cultural education, tourism and recreation, community engagement, and green sustainability. These efforts reinforce the port's vision of becoming a friendly and sustainable green port, while aligning with the United Nations Sustainable Development Goals (SDGs).

*ChunFu Lin*

*President of Port of Taichung  
Taiwan International Ports Corporations, Ltd.*



# 01



## Port Profile



## 1.1 Port Geographic Information

The Port of Taichung is located on the west coast of Taiwan. Its north begins from the south of Dajia River and south to the north of Dadu River and borders Lingang Road on its east side, stretching 12.5 kilometers from north to south and 2.5 to 4.5 kilometers from west to east. The total area is about 11,285 hectares (about 2,904 hectares land and 8,381 hectares water, in which 958 hectares of water the water area is surrounded by port infrastructure).

Preservation Area, agricultural lands, and there are primary drainage channel such as Anliang Port Canal and Wuci Port Canal that converge into the port area.

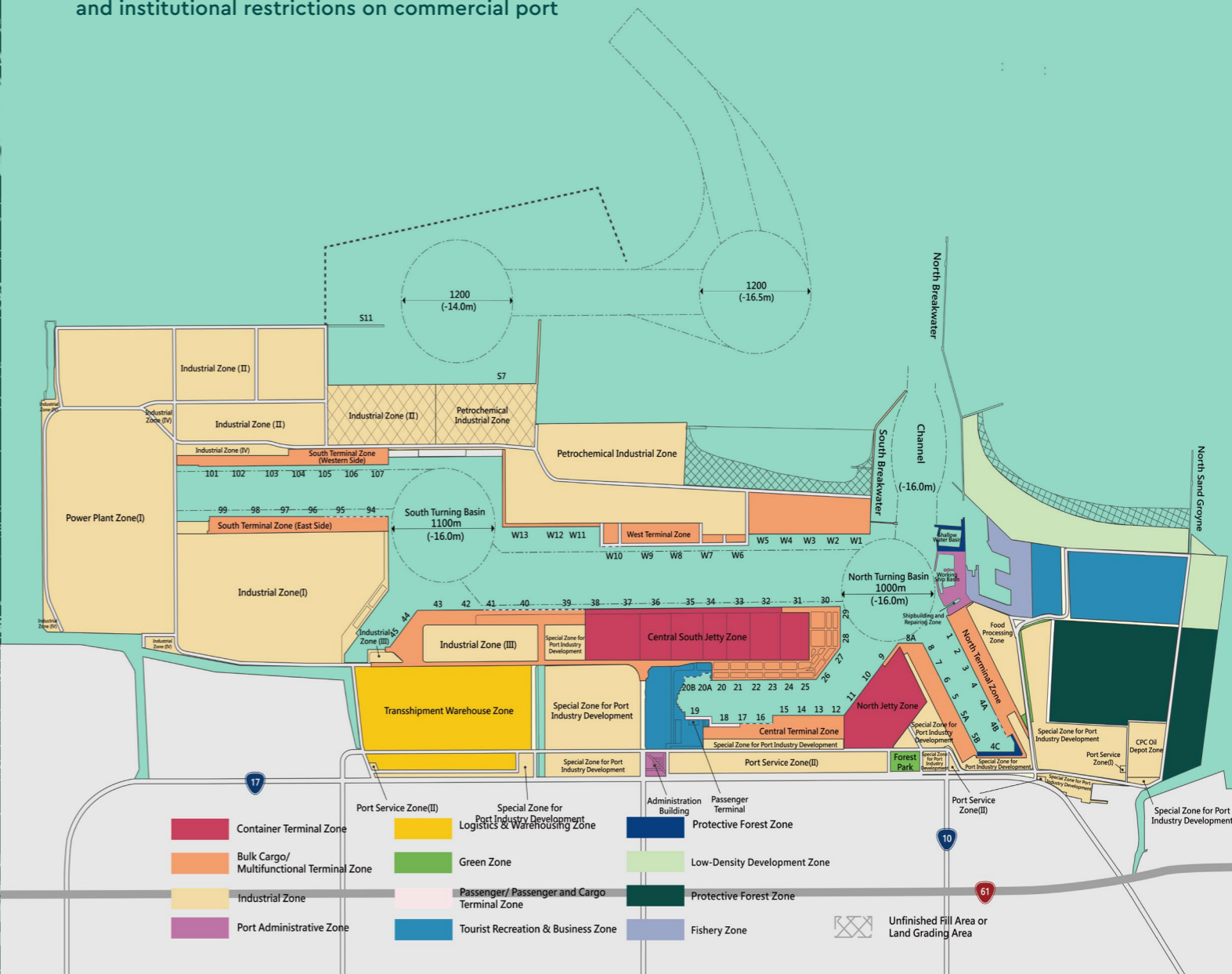
The Port of Taichung is the first man-made port completed by Taiwan and has an average tidal range of approximately 3.85 meters. The mouth of the port has high volume of silt and the marine area and seashore is mainly composed of intertidal beach, seawall, and beaches. The port is in proximity to port related industrial zone, the Gaomei Wetland



## 1.2 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 Taichung is now the responsibility of the Port of Taichung. The Maritime Port Bureau (MPB), Ministry of Transportation and Communications (MOTC) will be in charge of management issues related to public authority.



### 1.3 Main Commercial Activities

According to the port's construction and development plan, a total of 85 wharves are planned, of which 64 have already been completed. These include various types of wharves such as those for grain, containers, general cargo, cement, bulk cargo, coal, liquid cargo via pipelines, chemicals, petroleum products, Liquefied Natural Gas(LNG), scrap metal, offshore wind heavy components, and passenger-freight services.

Commercial activities within the port encompass passenger and leisure services, offshore wind component manufacturing and assembly, general manufacturing and chemical industries, as well as container logistics.

#### Main Commercial Activities

Port of Taichung Main Commercial Activities	
Passenger ferries/leisure and recreation	Wind Power Component Manufacturing and Assembly
General manufacturing and chemical industries	Petroleum Processing and Storage & Distribution
Container handling	Dry and Liquid Bulk Cargo (Non-Petroleum)
Automobile	Steel Materials, Hardware, and Other Cargo Handling

### 1.4 Main Cargoes

In 2023 and 2024, the primary inbound cargo at Taichung Port included coal, Liquefied Natural Gas(LNG), metal ores, and petroleum products, followed by wind turbine components, cement and clinker cement, grains, other chemical products, and steel materials

and hardware (such as cables and steel coils). The main outbound cargo consisted of steel products, wind turbine components, petroleum, ores, other liquid products, and chemicals.

#### Main Cargoes of Taichung Port

Petroleum	Pyrites minerals
Diesel , Gasoline, Fuel oil	Coal, metal ores, cement, blast furnace slag, limestone, and mill scale.
Dry bulk	Liquid bulk (non-oil)
Corn, Wheat, Soybeans, Timber (wood), Fertilizers, etc.	Chemical liquids, Liquefied natural gas (LNG), Cement for pipelines, etc.
Ores	Other
Machinery, wind turbine components, steel hardware, scrap steel, automobiles and their parts., etc.	Cement clinker, General groceries, etc.

### 1.5 Business Statistics

Port of Taichung Business Statistics from 2023–2024

Business Item	2023	2024	Comparison between 2021 and 2022		
			Actual Number	%	
Incoming and outgoing ships (ton)	Total number of ships	23,870	23,105	-765	7.08%
	Total tonnage	266,476,077	261,940,432	-4,535,645	-5.81%
Cargo Stevedoring Quantity (shipping ton)	Container cargo	57,132,351	57,209,724	77,373	-9.47%
	Bulk cargo	44,264,927	48,054,788	3,789,861	10.91%
	Channel cargo	15,667,365	18,320,889	2,653,524	-14.28%
	Total	117,064,643	123,585,401	6,520,758	-2.63%
Container Stevedoring Quantity (TEU)	Inbound container	798,259.50	808,433.75	10,174	-11.38%
	Outbound container	811,939.25	805,038.25	-6,901	-8.24%
	Total	1,610,198.75	1,613,472.00	3,273	-9.80%
Cargo Throughput (metric ton)	Imported cargo	52,977,343	57,363,417	4,386,074	-6.57%
	Exported cargo	7,100,233	6,901,672	-198,561	-6.19%
	Domestic cargo	4,801,610	4,354,336	-447,274	5.81%
	Total	64,879,186	68,619,425	3,740,239	-5.68%
Number of Travelers	Domestic line	4,850	5,350	500	-27.72%
	International line	0	0	0	-100.00%
	Total	4,850	5,350	500	-36.38%



# 02



## *Environmental Management*



## 2.1 Organization Structure

Within the commercial port area of the Port of Taichung, environmental issues involve not only the Port of Taichung, Taiwan International Ports Corporation but also the following authorities: the Central Taiwan Maritime Affairs Center of the Maritime Port Bureau, Ministry of Transportation and Communications; the Environmental Protection Bureau of Taichung City Government; the Ministry of Environment; the Ocean Conservation Administration of the Ocean Affairs Council; the 3rd Coastal Patrol Corps of the Central Branch of the Coast Guard Administration; the 3rd Offshore Flotilla, Fleet Branch, Coast Guard Administration, Ocean Affairs Council of the National Police Agency, Ministry of the Interior; the Taichung Harbor Fire Brigade of the Harbor Fire Corps, National Fire Agency; the Taichung Branch of the Industrial Park Administration, Ministry of

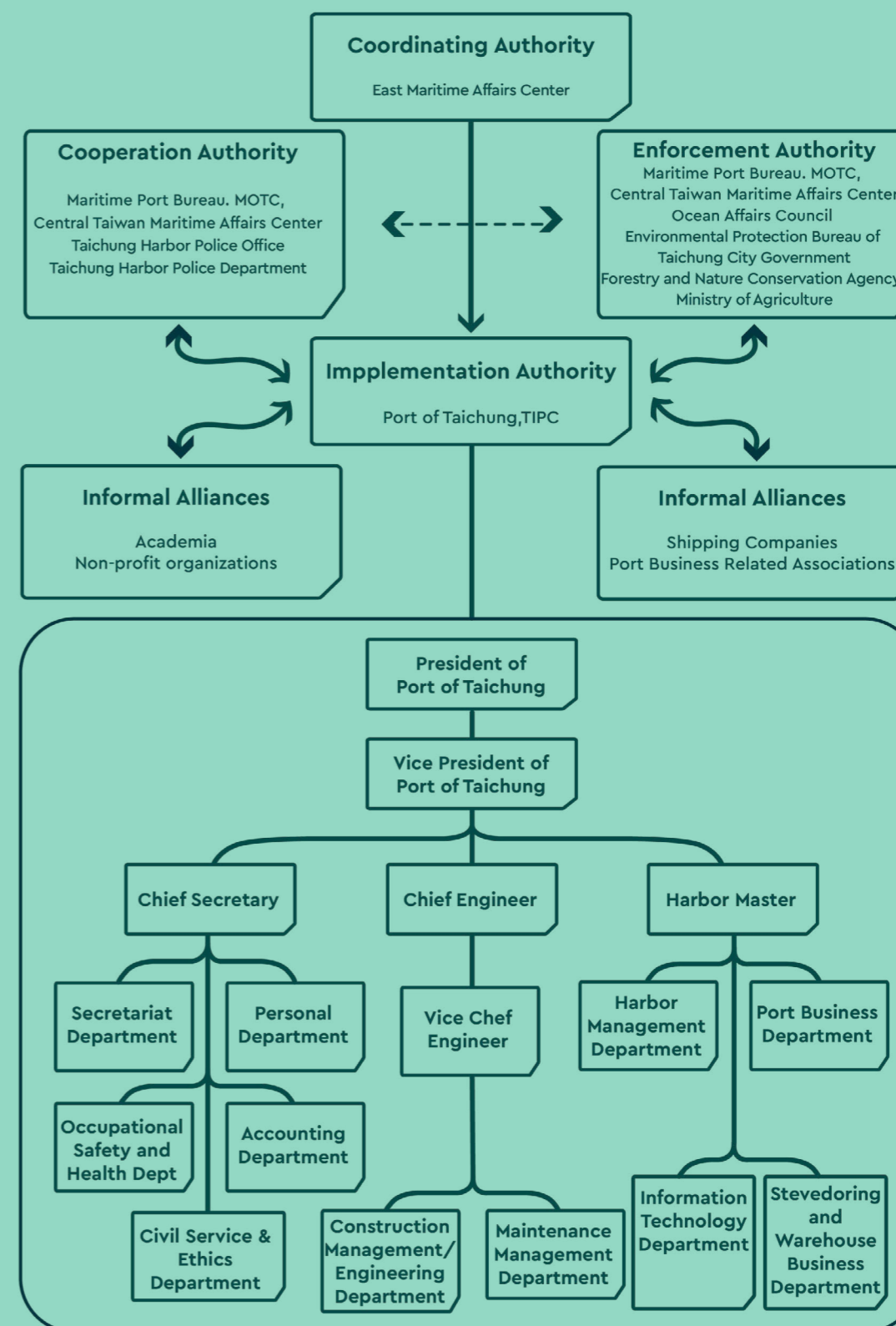
Economic Affairs; Taichung Customs of the Customs Administration, Ministry of Finance; and the Taichung Port Office of the Taichung Port Office of the Central Regional Control Center, Taiwan Centers for Disease Control, Ministry of Health and Welfare.

Internally, the Port of Taichung manages environmental affairs through eleven departments: the Occupational Safety and Health Department, Secretariat Department, Construction Management/Engineering Department, Maintenance Management Department, Harbor Management Department, Stevedoring and Warehousing Department, Port Business Department, Information Technology Department, Personnel Office, Civil Service Ethics Department, and Accounting Department.

Responsibilities of each unit within the Port of Taichung, TIPC

Department	Functions of the divisions at Taichung Port
Port Business Department	Attraction of local investments, implementation of port functions, and creation of benefit
Harbor Management Department	Port safety
Stevedoring & Warehousing Department	Tourist services
Information Technology Department	Development and maintenance of IT systems and equipment
Construction Management / Engineering Department	Port engineering and electrical and mechanical planning, design, construction and supervision
Maintenance management Department	Planning, design, construction, manufacturing supervision, communication management and maintenance management of port engineering and electromechanical equipment
Occupational Safety and Health Department	Environmental protection, pollution prevention, environmental monitoring, environmental education, vegetation maintenance, environmental sanitation, and occupational safety and health management services
Personnel Department	Human resource management
Civil Service Ethics Department	Enforcement of ethics and investigation
Accounting Department	Budget review and management of income and expenditures
Secretariat Department	General affairs management

Responsibility Chart of the Environmental Issues Management Unit for the Port of Taichung, TIPC



### 3.2 Environmental Issues Related Regulations

Port of Taichung, TIPC adheres to international environment regulations and conventions, including adherence to relevant international shipping conventions such as the International Convention for the Prevention of Pollution From Ships (MARPOL73/78), the London Convention (Prevention of Marine Pollution by Dumping of Wastes and Other Matter), the International Convention for the Safe and Environmentally Sound Recycling of Ships, the International Convention on the Control of Harmful Anti-fouling Systems on ships (AFS Convention), and the International Convention for the Control and Management of Ships' Ballast Water and Sediments.

In addition to international environment regulations and conventions, the Port of Taichung, TIPC also complies with domestic environmental laws and cooperate with local law enforcement agencies in conducting harbor area environmental management. Domestic stevedore environment regulations are shown below.

Relevant Environmental Laws and Regulations Related to Ports in Taiwan

Competent Authority	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	Central Taiwan Maritime Affairs Center of the Maritime Port Bureau, MOTC
	Shipping Act	2014/01/22		
	The Law of Ships	2018/11/28		
	Act for the Establishment and Management of Free trade zones	2019/01/16		
Sectors related to agricultural	Wildlife Conservation Act	2025/02/18	Council of Agriculture	Agriculture Bureau, Taichung City Government
Sectors related to marine	Marine Conservation Act	2024/07/31	Ocean Affairs Council	Taichung City Government
Sectors in the Ministry of the Interior	Fire Services Act	2024/11/29	Ministry of the Interior National Police Agency	Taichung Harbor Fire Brigade, National Fire Agency
	Police Act	2002/06/12	Administration Police	Taichung Harbor Police Department
Sectors related to environmental protection	Marine Pollution Control Act	2023/05/31	Ocean Affairs Council	Environmental Protection Bureau of Taichung City
	Basic Environment Act	2002/12/11	Ministry of Environment	
	Air Pollution Control Act	2018/08/01		
	Water Pollution Control Act	2018/06/13		
	Waste Disposal Act	2017/06/14		
	Environmental Impact Assessment Act	2023/05/03		
	Environmental Education Act	2017/11/29		
	Noise Control Act	2021/01/20		
	Indoor Air Quality Management Act	2011/11/23		
	Toxic and Concerned Chemical Substances Control Act	2019/01/16		
	Soil and Groundwater Pollution Remediation Act	2010/02/03		
	Climate Change Response Act	2023/02/15		
	Resource Recycling Act	2009/01/21		
	Environmental Agents Control Act	2016/12/07		
Public Nuisance Dispute Mediation Act	2009/06/17		Taichung City Mediation Committee	
Taichung City Low Carbon City Development Self-governance Article	2014/05/09		Local Administrative Government	
Cross-Sectoral Laws	Disaster Prevention and Protection Act	2025/05/28	Ministry of Interior	Taichung City Government

## 2.3 Analysis of Major Environmental Issues

The port of Taichung sought to fully understand the thoughts of stakeholders by conducting a survey using questionnaires, targeting employees, the government, customers, and the community, among other stakeholders. A total of 107 questionnaires were collected, which served as the foundation for subsequent investigation into the degree of concern among stakeholders.

The port of Taichung has taken into account the issues and suggestions of interest to stakeholders and has made them the focus of improvements in the port environment. It continues to work on improving the port environment to maintain an ecologically sustainable green port.

Stakeholders	Number of Questionnaires	Percentage
Government Agencies	15	14.0%
Community or Local Groups	2	1.9%
Customers or Traders	50	46.7%
Suppliers or Contractors	5	4.7%
Employees (Colleagues)	35	32.7%
Total	107	100%



### Stakeholders' Concerns on Environmental Issues

Target	Concerned Environmental Condition	Corresponding Top Ten Environmental Issues in the Port of Taichung
Government Agencies	Maintenance of port air quality, climate change, port development, cargo spillage response, energy and resource use, protected areas, and vessel emissions	Issue 1: Air Quality Issue 2: Fugitive Dust Issue 3: Climate Change Issue 6: Port and Vessel Waste Issue 7: Energy Consumption Issue 9: Port Water Area Development
Community or Local Groups	Maintenance of port air and water quality, handling and storage of hazardous cargo, vessel and vehicle emissions, loss of aquatic ecosystems, dredging, cargo spillage response, and port development	Issue 1: Air Quality Issue 4: Dangerous Goods Management in the Port Area Issue 5: Port Land Area Development Issue 8: Vessel Sewage Discharge Issue 9: Port Water Area Development
Customers or Traders	Maintenance of port air quality, climate change, hazardous cargo handling and storage, port development, port and vessel waste, energy consumption, and vehicle exhaust emissions	Issue 1: Air Quality Issue 2: Fugitive Dust Issue 3: Climate Change Issue 4: Dangerous Goods Management in the Port Area Issue 5: Port Land Area Development Issue 6: Port and Vessel Waste Issue 7: Energy Consumption
Suppliers or Contractors	Climate change, maintenance of port air and water quality, protected areas, port soil and sediment contamination, energy consumption, and industrial pollution within the port	Issue 1: Air Quality Issue 3: Climate Change Issue 6: Port and Vessel Waste Issue 7: Energy Consumption Issue 10: Community Relations
Employees	Maintenance of port air quality, hazardous cargo handling and storage, climate change, community relations, port development, and vessel emissions	Issue 1: Air Quality Issue 2: Fugitive Dust Issue 3: Climate Change Issue 4: Hazardous Cargo Management in the Port Area Issue 5: Port Land Development Issue 10: Community Relations



## Taichung Port Environmental Issues

To fully understand the opinion of each stakeholder and adapt to the new EcoPort Certification, the Port of Taichung 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.

Top 10

### 1. Air Quality

Indicator

- Qualification rate of air quality indices: (PM<sub>10</sub> and PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, CO, and O<sub>3</sub>)
- Response to Poor Air Quality Days
- Air Quality Control Zone
- Electrification of Container Yard Vehicles and Equipment

### 2. Dust

### 3. Climate Change

### 4. Hazardous Cargo Management

Indicator

Indicator

- Convene handling prevention meetings and review the number of environmental-friendly loading and unloading equipment
- Handling operators audit
- Road dust cleaning

Indicator

- New and Replacement Planting in Port Area
- Maintenance of Green Spaces/Green Belts in the Port Area
- Electrification of Fleet Vehicles
- Promotion of Solar Photovoltaic Systems in the Port
- Greenhouse Gas (GHG) Inventory

- Number of harbor inspections, cargo spillage emergency response drills
- Jointly supervised harbor safety drills

### 5. Port Land Development

### 6. Port and Ship-Generated Waste

### 7. Energy Consumption

Indicator

Indicator

Indicator

- Maintenance of Waterfront and Inclusive Recreational Facilities in the Port Area
- Relocation and Zoning Adjustment of Taichung Port's Specialized Industrial Zones

Indicator

- Port Area Ship Waste Disposal
- Port Area Land-Based Waste Disposal
- Port Area Water-Based Waste Disposal

- Electricity Usage Efficiency
- Equipment Upgrade & Energy Saving

### 8. Ship Sewage Discharge

### 9. Development of Port Water Areas

### 10. Strengthening Community Relations

Indicator

Indicator

Indicator

- Collection of ship oily waste and bilge water
- Assistance in the declaration and management of ship oily waste and bilge water collections.

- The qualified rate of marine water quality (pH, DO, BOD, mineral oil, cyanide, total phenols)
- Salute to the coastal cleanup
- Maintenance dredging of navigational waters.

- Handling Community Welfare Subsidies, Activities, and Petitions
- Handling of Public Complaints
- Conducting Environmental Education Activities



# 03



## *State of the Environment*



## Air Quality

The air quality in the Taichung Port area is influenced by transboundary pollution, emissions from ships and vehicles, cargo handling operations, and emissions from both public and private enterprises operating within and around the port. To improve the environmental air quality of the port, Taichung Port has implemented various management measures.

Long-term air quality monitoring has been carried out, with six monitoring sites established in 2023 and five in 2024. Monitored parameters include suspended particulates (PM<sub>10</sub>), fine suspended particulates (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>2</sub>), carbon monoxide (CO), and ozone (O<sub>3</sub>). The monitoring results mostly complied with national air quality standards, indicating that air quality management and improvement efforts at Taichung Port have been effective.

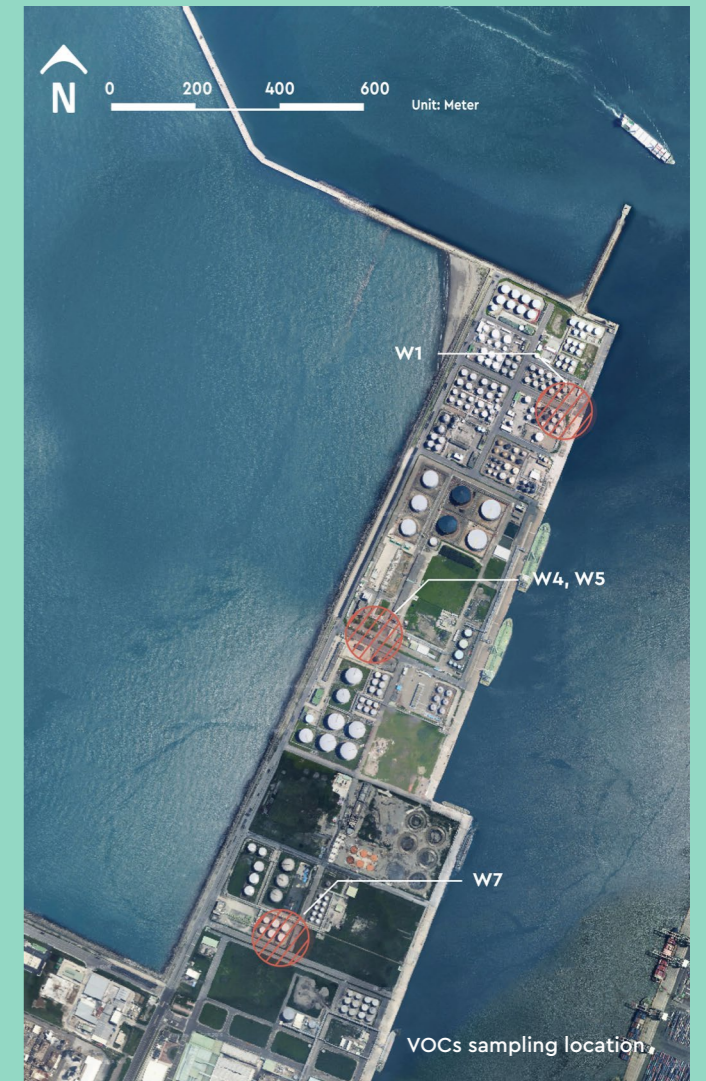
In 2021, three air quality monitoring stations were established at the Working Ship Basin, Central Basin, and South wharf. These stations have been regularly calibrated and maintained by contracted service providers to ensure data quality. Since 2024, monitoring data has been integrated into the Ministry of Environment's Air Quality Monitoring Network, allowing the public to access real-time air quality information.



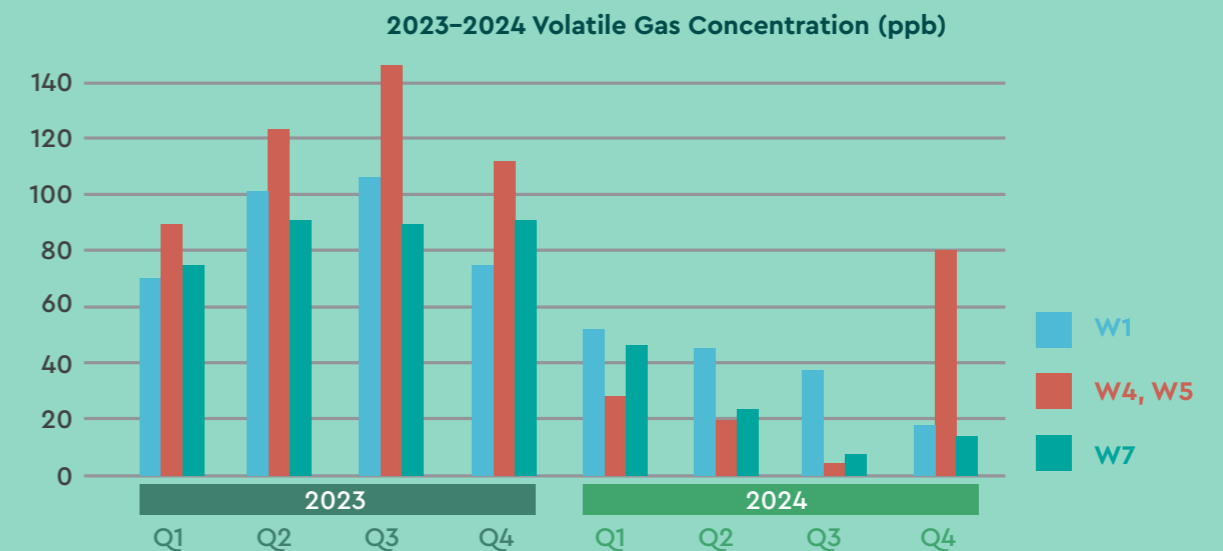
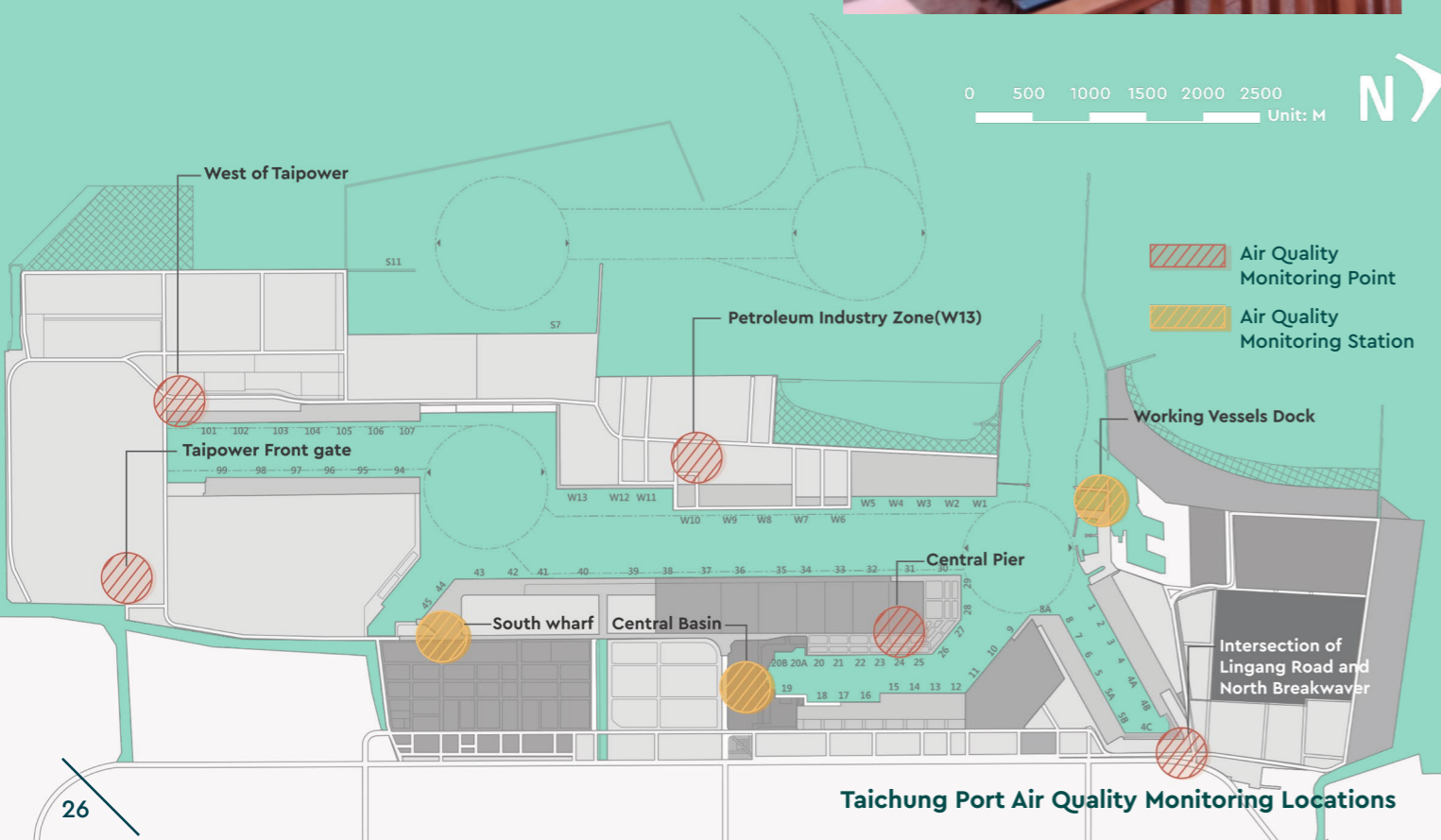
Taichung Port Air Quality Monitoring Station

In the West Terminal storage zone of Taichung Port, pipelines and storage tanks for petroleum products, chemicals, and liquefied natural gas are present. Since the unloading, storage, and transportation of petrochemical products are potential sources of volatile organic compound (VOC) emissions, Taichung Port has long conducted regular VOC monitoring at West Terminal No. 1, West Terminals Nos. 4 and 5, and West Terminal No. 7.

An analysis of the VOC species distribution for 2023–2024 shows that alkanes, aromatic compounds, and other compounds (including esters) are the dominant categories. Compared to past monitoring results, VOC concentrations have shown a downward trend year by year, with 2024 recording the lowest levels in recent years.



VOCs sampling location.





## Abate Dust Emission

### Loading and unloading management and pollution prevention measures

The Port of Taichung has promoted centralized management of bulk cargo and implemented designated berthing schemes for fugitive cargo.

To improve pollution control, the Port of Taichung convened a "Review Committee on Fugitive Cargo Handling Equipment and Anti-Pollution Practices," in collaboration with the Environmental Protection Bureau of Taichung City Government and the Central Taiwan Maritime Affairs Center of the Maritime Port Bureau, MOTC. From 2023 to 2024, a rolling review of cargo handling improvement plans from stevedoring companies was carried out, involving four review meetings and one written evaluation. The initiative continuously encourages operators to adopt enclosed handling equipment and strengthen pollution prevention facilities. Equipment such as enclosed dischargers, rotating containers, and dust-collecting hoppers have been introduced, significantly reducing fugitive cargo emissions and enhancing operational efficiency.

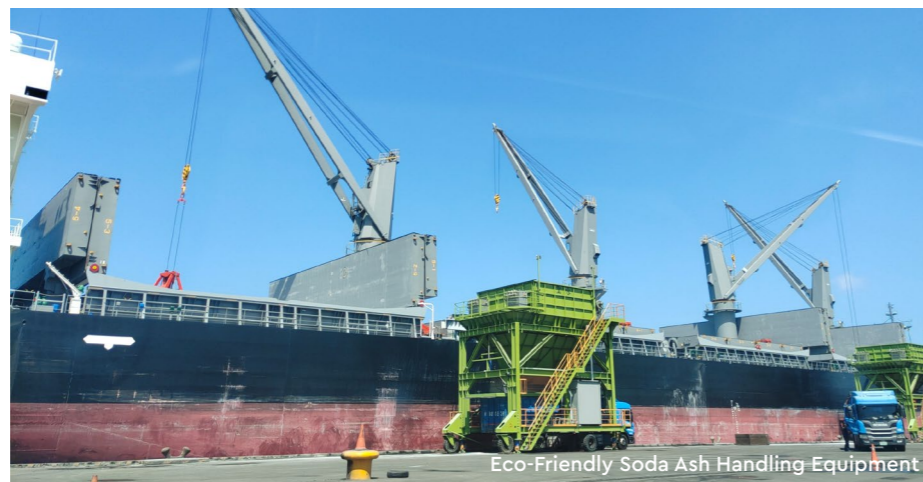
The Port of Taichung requires operators to perform self-inspection checks before, during, and after operations. In addition, regular on-site inspections, CCTV monitoring, and joint audits are conducted to reinforce operational management and environmental compliance.



Eco-Friendly Coal Handling Equipment



Eco-Friendly Bauxite Handling Equipment

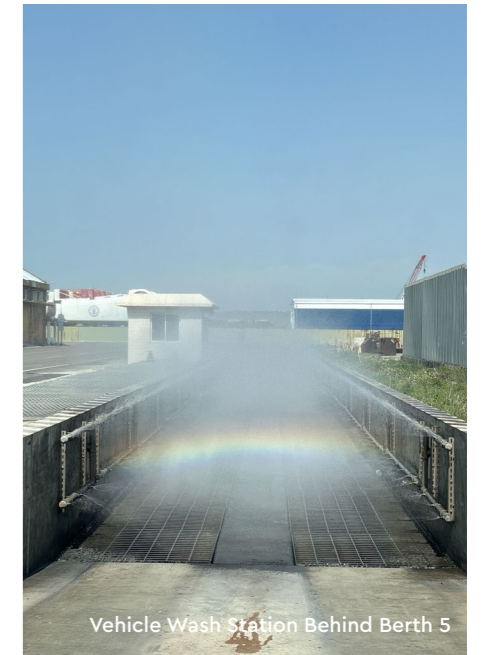


Eco-Friendly Soda Ash Handling Equipment

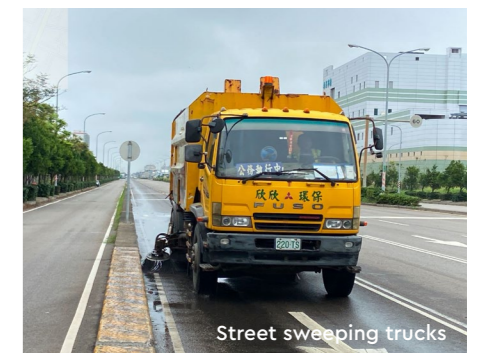
Regarding road transportation, vehicles may also contribute to particulate matter emissions on roads. To mitigate this issue, the port area has designated washing facilities at specific zones, including wharves 5, 12-15, 29, 43, 103, and 105. These six public washing facilities are available for vehicles leaving after completing cargo handling operations. The vehicles' bodies and tires are washed to reduce the potential spread of particulate matter to public roads and curb fugitive dust pollution.

The Port of Taichung Outsources road sweeping operations throughout the port area. With the use of street-sweeping and street-washing vehicles, the roads were cleaned for a total of 63,463.7 km in 2023 and 47,849.4 km in 2024. These efforts help maintain clean port roads and reduce fugitive dust emissions.

Each year, the Port of Taichung organizes the "Port Business Stakeholder Meeting" to brief port operators on current air quality management policies and promote enhanced dust suppression measures. In 2023 and 2024, the Port also held "Port Air Quality Management and Pollution Control Policy Promotion and Seminars" to strengthen stakeholders' awareness of environmental protection and air quality maintenance. In 2024, the seminar was combined with an air quality monitoring station results presentation, allowing stakeholders to understand the current air quality status and jointly discuss strategies and recommendations for improving dust control.



Vehicle Wash Station Behind Berth 5



Street sweeping trucks



Road Washer



Air Quality Maintenance and Pollution Prevention Policy Briefing and Seminar in the Port Area

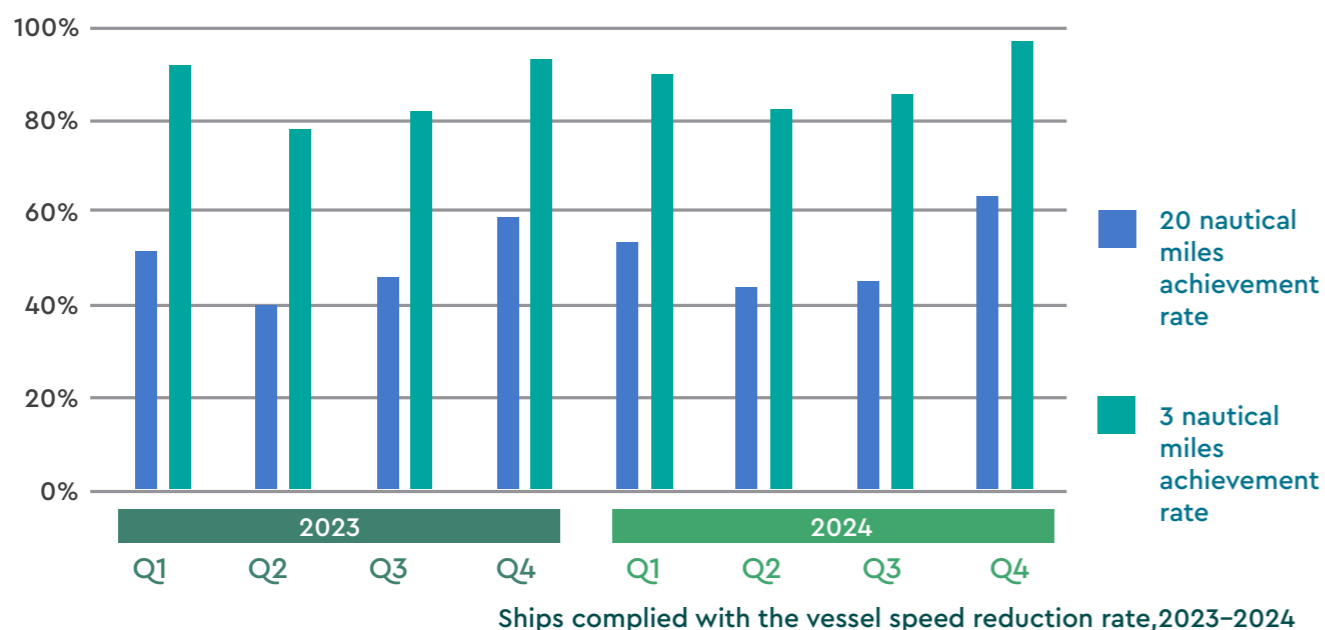
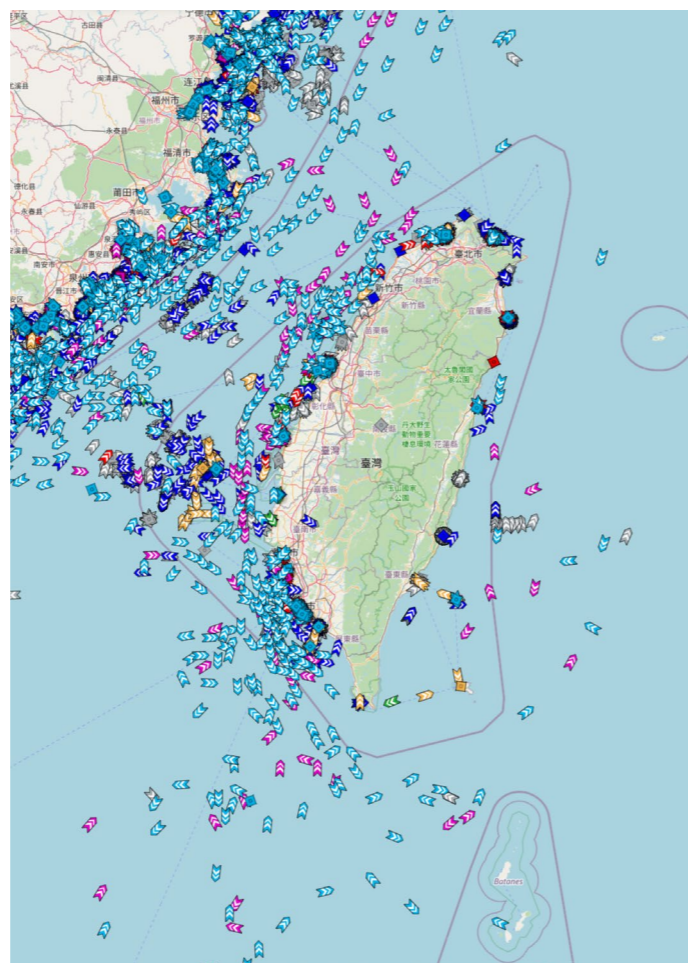


## Air Quality Improvement Strategies

In 2019, the Commercial Port Administration Regulations were amended to include requirements for ships to use low-sulfur fuel, aiming to reduce sulfur oxide emissions. The Port of Taichung has continued to ensure that 100% of its service vessels use ultra-low sulfur diesel with a sulfur content of less than 10 ppm.

To further reduce air pollution from ships, the Port of Taichung encourages vessels to reduce speed to under 12 knots upon approach. The port transmits Automatic Identification System (AIS) messages every hour to inbound vessels, promoting speed reduction — achieving a 100% outreach rate. Additionally, reminders are sent via email after each weekday berth meeting (248 emails in 2023 and 250 in 2024).

According to the port's Ship Speed Reduction Monitoring System, the speed reduction compliance rate within 3 nautical miles of Taichung Port reached 83.83% in 2023 and 87.09% in 2024.



## Taichung Port Air Quality Maintenance Zone

Environmental Protection Bureau of Taichung City Government officially designated the Taichung Port Air Quality Maintenance Zone, which took effect on September 23, 2023. Under this regulation, Stage 1 and Stage 2 large diesel vehicles that have not passed emissions inspections are restricted from entering the port area.

From 2021 to 2023, the Taichung Port collaborated with the Environmental Protection Bureau to implement related administrative control and outreach measures. These included issuing notifications to port operators and vehicle associations, assisting in the installation of seven signage points throughout the port, and supporting the Bureau in conducting air quality monitoring at the West Terminal and Central Breakwater to establish baseline air quality data (completed from September 2022 to April 2023).

The Air Quality Maintenance Zone at Taichung Port is now in effect and actively contributes to reducing carbon dioxide and air pollutant emissions.



Shore power

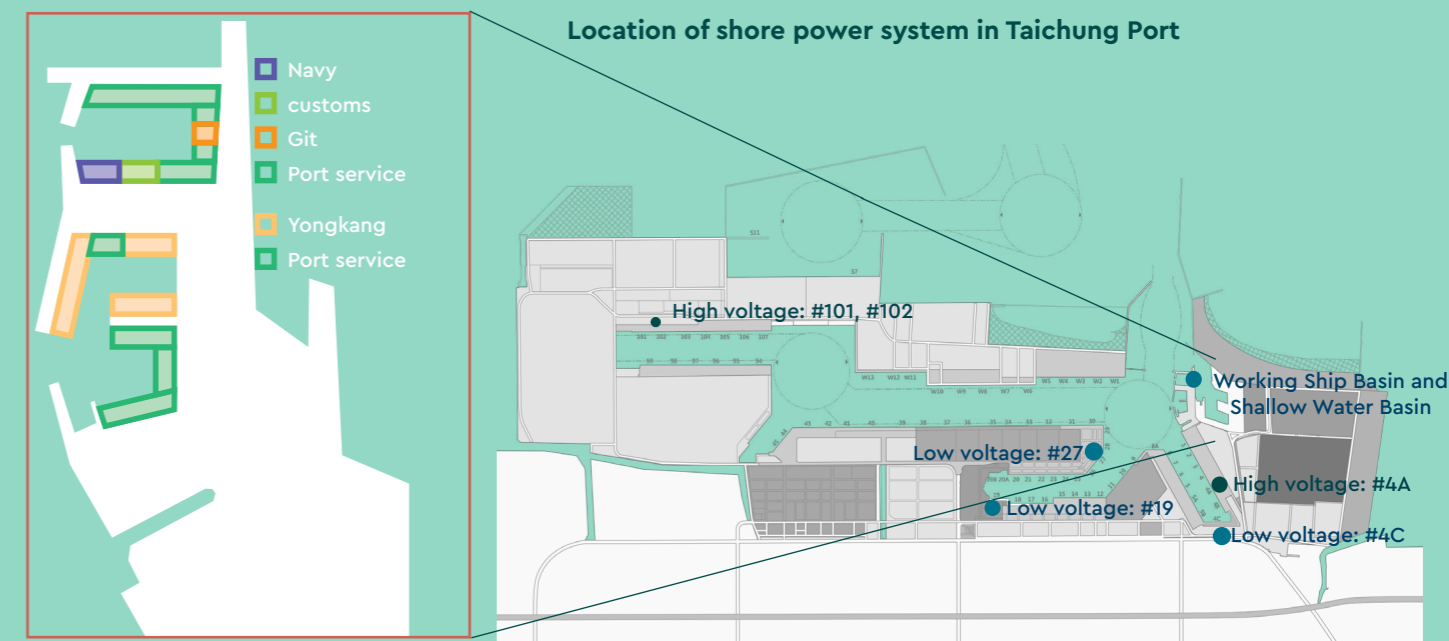
## Port Shore Power Usage

To reduce emissions from fuel use, Port of Taichung has installed 26 low-voltage shore power units in the Working Ship and Shallow Water Basin. Harbor service vessels now use shore power at 100%, with electricity consumption reaching 1.2 million kWh in 2023 and 1.49 million kWh in 2024, reducing carbon emissions by an estimated 318.79 and 397.59 metric tons, respectively.

The port also encourages tenants to adopt shore power. Low-voltage units are used by Kinmen Express Ferry (wharf 19), the Coast Guard (wharf 4C), and Asia Cement Corp. (wharf 27). High-voltage systems have been installed by Taichung Power Plant (wharf 101, 102) and Taiwan Cement Corp. (wharf 4A), with total consumption reaching approximately 2.66 million kWh in 2023 and 4.76 million kWh in 2024.



Ship Shore Power Electricity meter





## Port Water Quality

Several medium and large drainage channels from the upstream urban area flow into the harbor basin at the Port of Taichung. Port of Taichung, regularly conducts sampling and analysis of both land-based and marine water quality.

Land-based water quality is primarily affected by discharges from surrounding drainage channels, including domestic and livestock wastewater as well as industrial effluent from adjacent industrial zones. As for marine water quality, the Port of Taichung is a semi-enclosed water body with limited hydrological circulation and tidal self-purification, making it susceptible to upstream discharge impacts. Despite these challenges, overall water quality in the port area met the Class C marine water quality standards in both 2023 and 2024.

Water Quality Monitoring in 2023 and 2024

Items	Standard (note 1)	2023	2024
		Meet rate(%)	Meet rate(%)
pH	7.0~8.5	100	100
DO (mg/L)	≧2.0	100	100
BOD <sub>5</sub> (mg/L)	≧6.0	100	100
Mineral oil( mg/L)	<2.0	100	100
Cyanide (mg/L)	<0.02	100	100
Phenolic compounds(mg/L)	<0.005	100	100

Note 1: Class C Marine Water Quality Standard

Note 2: According to Taiwan Coastal Marine Water Body Classification, water bodies within 2 km proximity to a drainage systems may lower water 1 level of water quality standard.

## Water Quality Improvement Strategies

To enhance the water quality in the port area, reducing wastewater discharge into the harbor is essential. Taichung Port Authority has adopted environmentally-friendly, ecologically-conscious, and energy-efficient measures during the design and renovation of new and old wharves. This includes the implementation of drainage diversion systems and the installation of sedimentation tanks. Wastewater containing sediment is collected through drainage channels and directed to the sedimentation tanks, preventing the direct discharge of sediment-laden wastewater into the harbor.

Furthermore, the Port of Taichung has established a pollution prevention and reduction plan for the port area and collaborates with environmental authorities to monitor the discharge of wastewater by port operators.

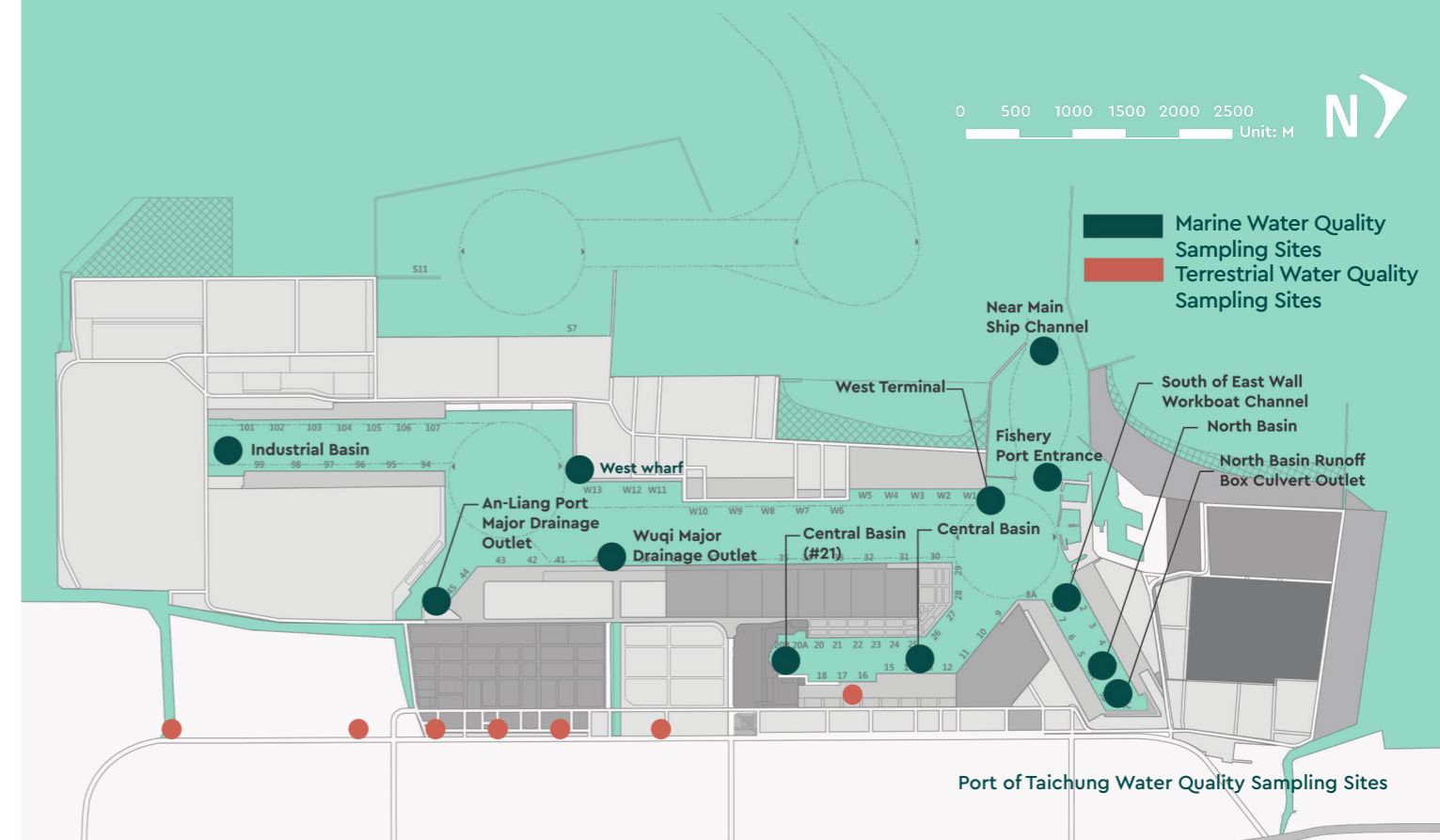
To address onshore water quality improvement, environmental agencies continue to promote pollution reduction and remediation projects in river basins, while also implementing strict controls and inspections on sewage and wastewater. Taichung Port Authority continuously monitors onshore water quality to understand the impact of upstream urban drainage on harbor water, and maintains communication with environmental agencies to strengthen onshore drainage pollution control.



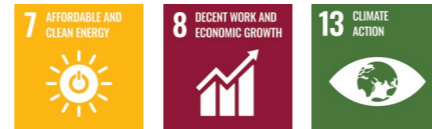
Drainage ditch interception system



New sedimentation tank



Port of Taichung Water Quality Sampling Sites



## Port Area Environmental Planning

Clearly defining and managing terminal operation zones is essential for effective port operations. In alignment with the government's green energy policy, the Port of Taichung has designated wharves 5A, 5B, 36, 37, 38, 106, and 107 as production, storage, assembly, and transportation bases for offshore wind turbine components for various wind farm developers.

Additionally, the Working Ship Basin and the Shallow Water Basin have been designated for berthing of wind farm operation and maintenance (O&M) vessels,

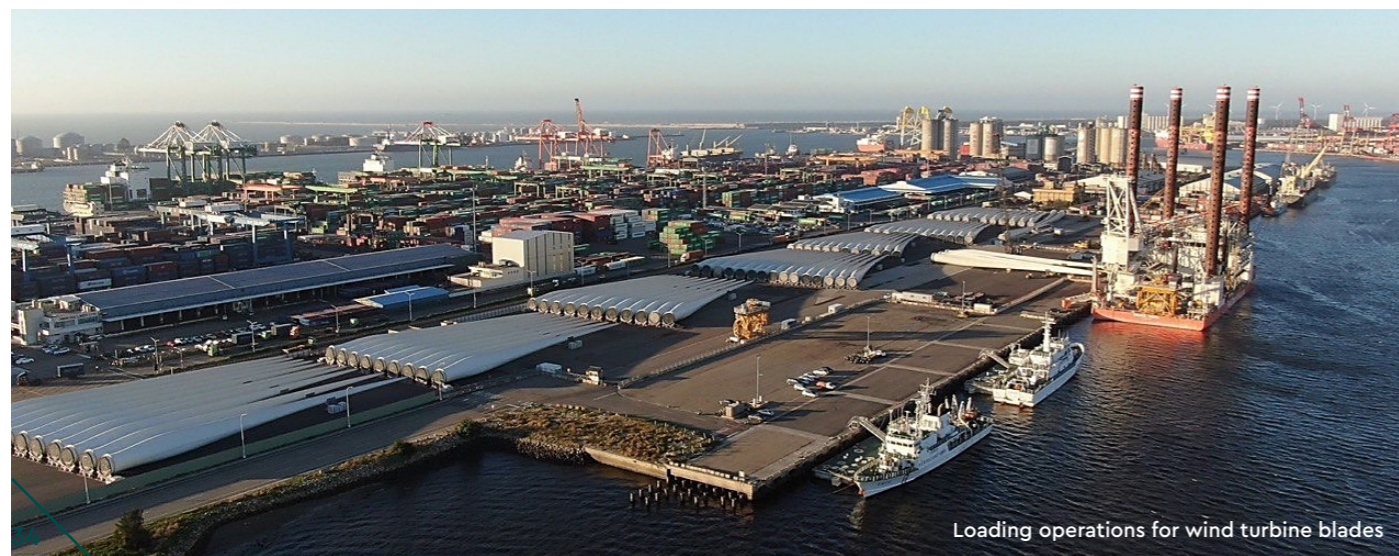
equipped with shore water and shore power systems. The O&M base on land includes the shipyard area and the shorelines of the Working ship and Shallow Water Basins. The Port Services Company has also formulated relevant management regulations for berth allocation and site use at the O&M base to ensure efficient use of limited space and effective vessel operations.



Pre-assembly wharves



wharves 5A 5B



Loading operations for wind turbine blades

To promote waterfront tourism and recreation, Taichung Port has partnered with Mitsui Outlet Park to transform the inner section of the Central Basin into a multifunctional waterfront destination. On the northwest side of Mitsui Outlet Park, wharves 20A and 20B have been designated for the development of a yacht marina. In 2024, ARGO Yacht Club successfully secured the investment project, which includes facilities such as a dry dock, yacht club, marine academy, and family leisure center. The development will be carried out in two phases, creating 101 international yacht berths over five years with a total investment of approximately NT\$1 billion.

The yacht marina is expected to create around 80 jobs and bring in services such as yacht tourism, marine education, leisure activities, family entertainment, lodging, and dining—establishing a vibrant waterfront recreation hub. The investment agreement for the

development and operation of the commercial port facilities at wharves 20A and 20B was signed between ARGO Yacht Club and the Port of Taichung on January 8, 2024. Phase I is scheduled to begin operations in 2026, and Phase II in 2030.



Rendering of ARGO Yacht Club's Taichung Port Marina



## Indoor Air Quality

Taichung Port's Passenger Service Center serves as a key terminal for passenger vessel transportation. Therefore, maintaining good air quality in the center is of great importance. To safeguard the health of both passengers and port staff, Port of Taichung regularly conducts indoor air quality monitoring at the Passenger Service Center.



Taichung Port Passenger Service Center



Lobby of the Taichung Port Passenger Service Center

### Indoor Air Quality Monitoring Results

location/year		CO	CO <sub>2</sub>	O <sub>3</sub>	HCHO	Fungus	Bacterial	PM <sub>10</sub>	PM <sub>2.5</sub>
		(ppm)	(ppm)	(ppm)	(ppm)	(CFU/m <sup>3</sup> )	(CFU/m <sup>3</sup> )	(ug/m <sup>3</sup> )	(ug/m <sup>3</sup> )
1F Arrival Hall Office	2023	<0.1	482	0.020	<0.01	77	179	21	7
	2024	<0.1	579	0.042	<0.01	121	158	20	12
1F Hall	2023	<0.1	467	0.012	<0.01	226	903	20	5
	2024	<0.1	529	0.042	<0.01	195	241	31	24
2F Departure hall	2023	0.2	417	0.018	<0.01	<14	7	29	5
	2024	<0.1	515	0.036	<0.01	256	328	17	9
Legal standard value		9	1000	0.06	0.08	1000	1500	75	35

## Environmental Cleanliness in the Port Zone

### Implementing Land Area Environmental Cleanliness in the Port Zone

Port of Taichung oversees the maintenance of approximately 94 kilometers of port roads (91 sections), 8 public restrooms, 14.5 hectares of green space, 15.1 hectares of plazas, 16.5 kilometers of open drainage channels, and 38 public wharves. The port outsources waste removal and maintenance tasks to professional cleaning contractors, who perform street sweeping manually. On average, about 14 personnel are assigned daily to maintain these areas, with approximately 80 metric tons of domestic waste and 360 metric tons of sediment from drainage channels removed annually.



Taichung Port Road Cleaning



Taichung Port Road Cleaning

### Public Restroom Renovation and Maintenance

In response to the United Nations' World Toilet Day, the Port of Taichung has continuously earned the "Excellence" rating for 15 consecutive years (2009–present) from the Environmental Protection Bureau of Taichung City Government for its public restrooms. This recognition highlights the port's ongoing efforts to promote awareness of sanitation and public health. Upholding the "Three No's" principle—no filth, no wetness, no odor—Taichung Port is committed to improving restroom cleanliness and maintaining facilities that meet international hygiene standards.



Taichung Port Passenger Service Center - North Public Restroom



Taichung Port Passenger Service Center - South Public Restroom



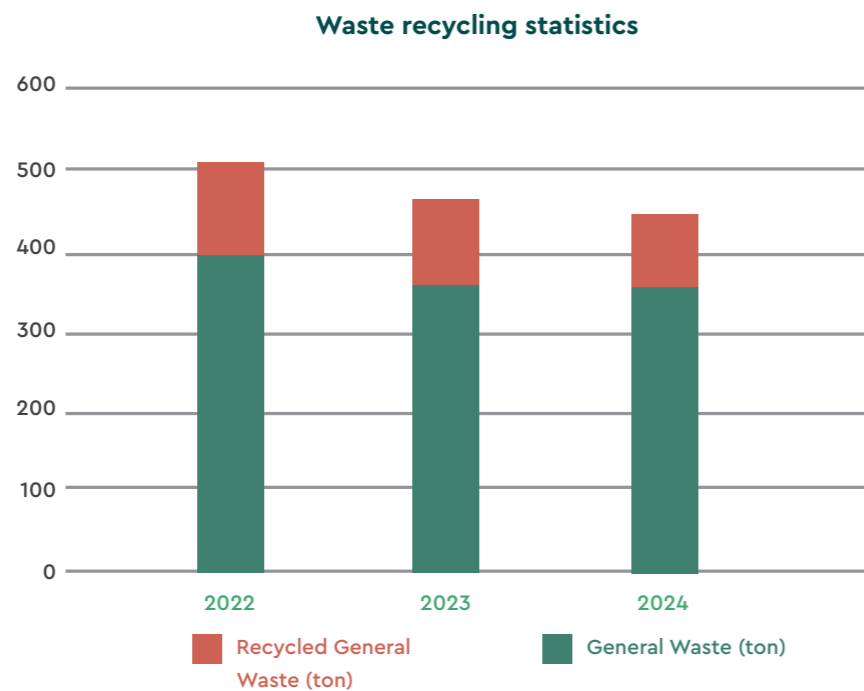


# Waste Management

## Promoting Ship Waste Sorting and Resource Recycling

Taichung Port accommodates a variety of vessels, including international commercial ships, government vessels, service boats, and workboats. General waste collection from vessels has achieved a 100% collection rate. To enhance resource recovery and waste treatment efficiency, Port of Taichung has promoted vessel waste sorting. All ships at port are required to sort and recycle waste materials. The Port of Taichung contracts qualified waste disposal operators certified by the Ministry of Environment to handle the collection and disposal of vessel-generated waste. If any vessel fails to comply with sorting regulations, it is required to correct the issue before waste collection proceeds.

In 2023, 354.84 metric tons of ship-generated general waste and 107.145 metric tons of recyclables were collected. In 2024, 351.95 metric tons of ship-generated general waste and 90.655 metric tons of recyclables were collected.



Ship Waste receiving

## Implementing Ship Waste Oil and Wastewater Management

Port of Taichung publishes the list of certified wastewater removal contractors, as registered in the Environmental Protection Administration's "Waste Disposal Operator Service Management Information System," on its official website. This allows shipowners or their agents to independently contract qualified operators to collect vessel sewage. As of now, seven certified contractors at Taichung Port are authorized to handle sewage in accordance with MARPOL Annex IV, and this information is updated regularly.

To prevent the unauthorized discharge of sewage into port waters, Port of Taichung has established regulations for the disposal of oily waste. Ships at the port must apply for waste removal services from contractors registered and approved by the Port. Only after review and approval may removal operations proceed.

In 2023, Taichung Port processed sewage removal applications from 150 vessels, collecting approximately 1,779.64 metric tons of oily wastewater. In 2024, 144 vessels were serviced, and approximately 1,350.83 metric tons were collected.

### Port of Taichung Oily bilge Water Collected

Year	Number of Ships	Oily Bilge Water (tone)	Collection Rate
2022	176	2,078.46	100%
2023	150	1,779.64	100%
2024	144	1,350.83	100%



Oily bilge water receiving



## Clean the Ocean



In line with the Executive Yuan's "Salute to the Sea" policy, the Port of Taichung has implemented the "Taichung Port Coastal Cleanup and Maintenance Plan" to conduct shoreline and beach cleaning operations, complemented by an inspection mechanism to ensure effective implementation. Due to its outstanding performance, on August 6, 2024, a minister without portfolio led officials from the Ministry of Environment and other central and local coastal authorities to Taichung Port for an observation visit, where the port shared its coastal maintenance practices.

### Salute to

Port of Taichung, TIPC organizes annual beach cleanup events to promote waste reduction at the source through environmental education. These events are open to participation by civic groups and enterprises. The 2024 cleanup also aligned with the Ministry of Environment's "Reduce Cigarette Butts, Clean Environment" campaign, advocating for responsible disposal of cigarette waste, reflecting the port's commitment to environmental protection and marine stewardship.

## Clean the Beach



## Embrace the Ocean



In 2024, the Port of Taichung collaborated with government agencies and the Chung Hua Dabei Fazang Buddhist Association to conduct marine release activities. These efforts, aligned with ESG principles, combined ecological restoration, fishery enhancement, and religious release, aiming to promote sustainable marine conservation and responsible ecological practices.

### the Sea

Port of Taichung organizes annual beach cleanup events to promote waste reduction at the source through environmental education. These events are open to participation by civic groups and enterprises. The 2024 cleanup also aligned with the Ministry of Environment's "Reduce Cigarette Butts, Clean Environment" campaign, advocating for responsible disposal of cigarette waste, reflecting the port's commitment to environmental protection and marine stewardship.



## Know the Ocean



### Environmental Ecological Concern

The Port of Taichung conducts biannual surveys of terrestrial and marine ecology. In the past two years, findings showed native plant species dominate the surrounding land area. Observed wildlife includes birds such as scaly-breasted munia, greater painted-snipe, and little tern, while other fauna (butterflies, amphibians, reptiles, mammals) were common species. In marine areas, dominant phytoplankton included Skeletonema and Chaetoceros, zooplankton were mainly crustacean eggs and copepods, and benthic organisms were primarily crustaceans.



Little Tern



Scaly-breasted Munia



Pale Grass Blue (Zizeeria maha)



Lined Shore Crab (Grapsus albolineatus)

### Environmental Green Beautification

To promote low-carbon and low-pollution port operations, the Port of Taichung has continuously advanced greening, landscaping, and afforestation projects. From 2023 to 2024, efforts included the maintenance of green spaces along port roads, around the Harbor Building, and in designated low-development zones. A total of 950 trees and 100,419 shrubs were planted, with an overall budget of NT\$50 million. In addition to ongoing maintenance, the port has also encouraged businesses to adopt greening plots, reducing maintenance costs and promoting joint responsibility for environmental enhancement.

approximately 577.4 hectares of greenbelt. Despite environmental challenges like seasonal droughts, the port has made significant progress and aspires to transform the port area into a "harbor park," using vegetation to naturally purify the air and enhance carbon absorption.

By the end of 2024, the port maintained



2024 "Planting Trees Like Poetry, Landscapes Like Paintings" Tree Planting Activity



Greening and Beautification of the Low-Port Area



Median Strip Replanting



2023 "Ocean Forest Life" Tree Planting Activity



## Reducing Energy and Resource Consumption

### Continuous Replacement with Energy-Efficient Lighting Fixtures

Ongoing Replacement of Energy-Efficient Lighting  
Given Taichung Port's vast area and extensive lighting needs—including office areas, wharves, and roads—the Port has been actively replacing high-energy-

consuming fixtures (e.g., sodium and metal halide lamps) with LED lights. From 2023 to 2024, a total of 445 outdated lights were replaced. As of 2024, LED fixtures account for 87% of all public lighting in the port area.

Number of Lighting Fixtures in Taichung Port Area

Public Lighting Location	Total Number of Fixtures (units)	Energy-Saving Fixtures	
		2023	2024
Office Areas	2,544	2,544	2,544
Port Operation Areas	2,990	2,037	2,270
Total	5,534	4,581	4,814
Percentage	-	83%	87%



### Reduce resource consumption

To better monitor water and electricity usage across the port area, regular awareness initiatives are conducted to encourage all staff to conserve resources, establish a shared commitment to energy saving, and jointly monitor port water and electricity consumption.

over vehicle dispatch and utilization. Continuous promotion is also carried out to encourage staff to improve driving habits and enhance energy efficiency.

In terms of paper use, staff are encouraged to adopt double-sided printing and replace paper-based document approval processes with online workflows.

According to branch resource consumption statistics and greenhouse gas emission reports, overall resource usage has shown a year-by-year decrease.

Regarding fuel management for official vehicles, the head office has implemented an official vehicle management system, which helps strengthen control

Estimation of Resource Consumption and Greenhouse Gas Emissions by Port of Taichung, TIPC

Tems	Emission Coefficient (kgCO <sub>2e</sub> per unit)		2023		2024	
	2023	2024	Consumption	Emissions (ton)	Consumption	Emissions (ton)
Water (m <sup>3</sup> )	2023	2024	20,525	3.24	18,347	2.75
	0.158	0.150				
Power (kWh)	2023	2024	5,635,918	2,784.1	5,647,454	2,676.9
	0.494	0.474				
Gas (L)	Gasoline for Vehicles		21,488	48.6	19,275	43.6
	2.2631(Per liter)					
Paper (pack)	Virgin wood pulp		1,364	4.9	1,200	4.3
	3.6(every pack)					
total				2,840.8		2,727.6

Note: Carbon emissions from resource consumption = [Actual consumption × Emission factor]



### Energy Usage Index (EUI)

In line with the Ministry of Economic Affairs' energy efficiency plan for government agencies, Port of Taichung established an energy-saving task force, holding two meetings annually to review progress. The Port's announced EUI benchmark is 60; actual EUI was 31.66 in 2023 and 33.66 in 2024—well below the target. Monthly usage is also monitored to improve energy efficiency.

### Resource Reuse

- **Dike Protection:** On-site soil, sand sausages, and sandbags are used instead of externally sourced stones.
- **Filling Material:** Reclaimed materials from old structures and local dredging are reused to reduce transportation costs and environmental impact.
- **Dredged Soil:** Used for coastal nourishment and dike protection, aligning with circular resource use and environmental goals.

### Reclaimed Water Use

Port of Taichung sources cooling discharge water from Dragon Steel Corporation and installs pressurized water intake facilities to reuse this effluent. The reclaimed water is provided to the port and port tenants for purposes such as road cleaning, wharf operation dust suppression, and construction dust control within the port area, achieving the goal of sustainable water resource utilization.



## Greenhouse Gas Emission Inventory

Since 2014, the Port of Taichung has conducted annual greenhouse gas (GHG) inventories in accordance with the Taichung City Low-Carbon City Development Self-Governance Ordinance. In addition, in alignment with the Taiwan Ports policy, the Taichung Branch has carried out GHG inventories for 2023–2024 in accordance with the ISO 14064–1 standard.

The organizational boundary is defined using the operational control approach to identify all emission sources within the boundary. Following evaluation, the base year has been adjusted to 2020. The primary activities covered include port area management operations and office administrative activities. The inventory results are required to obtain third-party verification certification.

In line with national policies and international trends, the port will target net-zero carbon emissions by 2050. A rolling review mechanism will be adopted to plan and update new carbon reduction pathway roadmaps on an annual basis.



Taichung Port 2050 Net-Zero Emissions Awareness Seminar



## Promoting the Electrification of Government Fleets and Establishing Public EV Charging Infrastructure

### Replacement with Electric Vehicles

In line with government sustainability policies, Port of Taichung continues to promote carbon reduction by replacing fuel-powered vehicles with electric ones. The first electric official vehicle was added in 2021. In 2023, one more was purchased with a budget of NT\$1.7 million, and in 2024, five additional electric vehicles were procured with a budget of NT\$6.41 million. The port will continue transitioning to electric vehicles to achieve energy conservation and carbon reduction goals.

Replacement with Electric Vehicles	2021	2023	2024	Total
New Electric Cars (units/year)	1	1	3	5
New Electric Light Trucks (units/year)	0	0	1	1
New Electric Motorcycles (units/year)	0	0	1	1
<b>Total</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>7</b>

### Planning and Installation of EV Charging Stations

In 2023, the Port of Taichung initiated a project to install public electric vehicle charging stations at the Tourist Service Center parking lot. The plan includes 11 dedicated EV charging spaces, consisting of eight 120kW fast chargers and three slow chargers. Fast charging is estimated to take about 1 hour, while slow charging takes approximately 6 hours. The installation was completed on May 14, 2024, and officially began operation on September 1, 2024. A charging service management and mobile payment system has also been implemented to enhance charging efficiency.



## Installation of Solar Photovoltaic System

With abundant sunshine throughout the year, the Port of Taichung is well-suited for solar power development. Port of Taichung has leased rooftops of some port-owned buildings to solar power companies for photovoltaic (PV) installations, while also encouraging tenants to install rooftop PV systems. This initiative supports the global transition toward green and net-zero energy.

The total installed solar capacity in the port area continues to grow, reaching 55,961 kWp in 2023 and 57,932 kWp in 2024, with corresponding annual electricity generation of 61.28 million kWh in 2023 and 63.44 million kWh in 2024, leading to an estimated carbon reduction of 60,339 metric tons CO<sub>2</sub>e over the two years.



Port of Taichung Covered Walkway Rooftop



Port of Taichung Multi-level Parking Structure Rooftop

In support of Taiwan's energy transition policy, Port of Taichung also collaborated with the Bureau of Energy in 2022 on the "Joint Public Rooftop Leasing Program." Solar panels were installed on four firefighting division rooftops at the port, with a total capacity of 193.88

kWp. These systems were connected to the grid in early 2023, expected to generate around 210,000 kWh per year, reducing carbon emissions by approximately 107 metric tons annually.



Port Fire Brigade - Taichung Port South Dike Division Rooftop



Port Fire Brigade - Taichung Port West Wharf Division Rooftop



### Taiwan International Ports Corporation Taichung Port educate career center

To support the government's pro-natal policy and the Executive Yuan's "National Plan to Counteract Low Birth Rates," Port of Taichung actively promoted the establishment of the Taichung Port Workplace Mutual Support Childcare Service Center. The center officially opened on October 31, 2022, and is operated by the Starlight Education Foundation. It currently runs three mixed-age classes for children aged 2 to under 6, with a total enrollment of 60 students—reaching full capacity from the 2022 to 2024 academic years.

The center integrates the resources of the port and

childcare services, offering access to port facilities and co-developing experiential port-themed courses and activities with teachers and students. This collaboration helps establish a workplace childcare center with distinctive Taichung Port characteristics. Through the center's programs, events, and visits from various organizations, the public gains a deeper understanding of the port's environmental features, business operations, and social responsibility efforts—effectively promoting a positive corporate image of Taichung Port.



Staff Volunteering for a Day at the educate career center



Taichung Port Picture Book Launch Event



Maritime Day Educational Campaign



Children's Day Visit to Taichung Port Passenger Center

### Enhancing Port Area Dangerous Goods Management

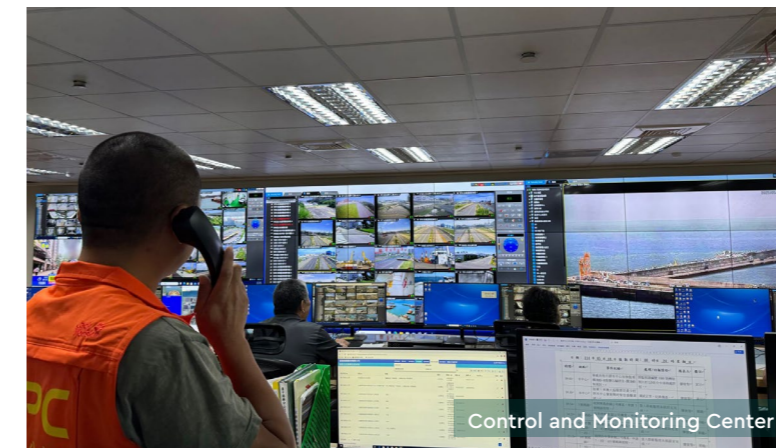
Taichung Port handles large-scale loading, unloading, storage, and transportation of hazardous and petrochemical goods. To manage hazardous materials effectively, Port of Taichung has designated the West Wharf Area as the centralized zone for such operations.

The port implements a port-wide inspection mechanism based on departmental responsibilities,

participates in joint safety inspections and audits conducted by relevant government agencies, and coordinates with authorities and operators in emergency response drills and safety training related to hazardous materials. These efforts aim to enhance the port's emergency response capabilities in the event of an incident.

Hazardous Materials Management Statistics

Item/year	2017	2018	2019	2020	2021	2022	2023	2024
Drill	1	1	1	1	1	1	1	1
Joint Supervision	4	4	4	4	24	24	24	24



Control and Monitoring Center



Joint Supervision of Hazardous Materials



Taichung Port Marine Oil Pollution Response Drill



Taichung Port Marine Oil Pollution Response Drill



## Port of Taichung Environmental Education Center

To fulfill its ESG-related corporate social responsibility commitments and to promote environmentally friendly and ecologically sustainable development concepts, the Taichung Branch established the "Port of Taichung Environmental Education Center," which officially obtained certification from the National Institute of Environmental Research of the Ministry of Environment on June 15, 2022. The Center integrates port cultural history, natural ecological resources, and offshore wind industry development into environmental education curricula. A total of 10 and 17 environmental education activities were held in 2023 and 2024 respectively, with 27 sessions conducted over the two-year period.

On September 26, 2025, the National Institute of Environmental Research approved the revision of the "Offshore Wind Energy Uncovered" course to expand its target audience to include adults, and also approved the addition of a new environmental education course titled "Sustainable Green Port — SDGs in Action." The new course introduces the United Nations Sustainable Development Goals (SDGs), explains their global sustainability implications, and highlights the Port of Taichung's environmental objectives and ongoing actions toward achieving a sustainable green port aligned with the SDGs.



Mysteries of the Green Port — Environmental Education Course



Stories of the Port of Taichung Environmental Education Courses



Offshore Wind Energy Uncovered — Environmental Education Course



Sustainable Green Port — SDGs in Action (Trial Teaching) Environmental Education Course

## Signing of the Memorandum of Understanding (MOU)

In fostering partnerships with local schools and surrounding communities, 18 partner organizations have been engaged to date. Letters of Intent were signed with six organizations in 2023 and six in 2024. Partners include schools, community colleges, environmental education venues, public agencies,

village and neighborhood communities, and civil society associations. In 2024, the Taichung Branch also joined the Central Regional Environmental Education Site Alliance.

year	Environmental Education Activities (sessions)	Partner Organizations
2023	10	12
2024	17	18



MOU signed with Taichung City Wuci Elementary School on November 29, 2023



MOU signed with Dade Energy Environmental Education Center on July 9, 2024



MOU signed with Haikouqiang Cultural Development Association on June 25, 2024



On August 20, 2024, the Port of Taichung and the Central Region Coast Guard Directorate General

## Environmental Performance Indicators

Ten Significant environmental issues of the Taichung Port		Index item	Calculation method	Index target	Relevant SDGs Targets	Calculation	
						2023	2024
1	Air Quality	Qualification rate of air quality indices: (PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , CO, and O <sub>3</sub> )	Rate of air quality measurements meeting the Air Quality Standards (measured at harbor test stations)	The compliance rate for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , CO, O <sub>3</sub> is 100%.	SDG 11 — Sustainable Cities and Communities	<ul style="list-style-type: none"> <li>PM<sub>10</sub> daily average pass rate: 98.54%</li> <li>PM<sub>2.5</sub> daily average pass rate: 97.26%</li> <li>SO<sub>2</sub> daily average pass rate: 100.00%, hourly average pass rate: 100.00%</li> <li>NO<sub>2</sub> hourly average pass rate: 100.00%</li> <li>CO hourly average pass rate: 100.00%, 8-h average pass rate: 100.00%</li> <li>O<sub>3</sub> hourly average pass rate: 100.00%, 8-h average pass rate: 97.56%</li> </ul>	<ul style="list-style-type: none"> <li>PM<sub>10</sub> daily average pass rate: 99.27%</li> <li>PM<sub>2.5</sub> daily average pass rate: 99.36%</li> <li>SO<sub>2</sub> daily average pass rate: 100.00%, hourly average pass rate: 100.00%</li> <li>NO<sub>2</sub> hourly average pass rate: 100.00%</li> <li>CO hourly average pass rate: 100.00%, 8-h average pass rate: 100.00%</li> <li>O<sub>3</sub> hourly average pass rate: 100.00%, 8-h average pass rate: 97.72%</li> </ul>
		Response to Poor Air Quality Days	Compliance Rate = (Number of times the subsidiary cooperated with contingency measures) / (Number of times the environmental protection bureau issued notifications) × 100%	Compliance rate of 100%		<ul style="list-style-type: none"> <li>A total of 93 times of Environmental Protection Bureau report</li> <li>Port of Taichung cooperated with contingency 114 times</li> <li>93 ÷ 93 × 100% = 100</li> </ul>	<ul style="list-style-type: none"> <li>A total of 88 times of Environmental Protection Bureau report</li> <li>Port of Taichung cooperated with contingency 51 times</li> <li>88 ÷ 88 × 100% = 100</li> </ul>
		Air Quality Control Zone	(Number of Phase-I and Phase-II large diesel vehicles entering the port that have passed inspection ÷ Total number of Phase-I and Phase-II large diesel vehicles entering the port) × 100%	Compliance rate of 100%		Compliance rate: 86.3% (inspection initiated in October 2023)	Compliance rate: 89.5%
		Electrification of Container Yard Vehicles and Equipment	Total Number of Electric Vehicles and Equipment at the Port of Taichung Container Yard	The total number of electric vehicles and equipment at the Port of Taichung Container Yard reached 15 units.		N/A	Electric Container Straddle Carriers: 15 units
2	Dust	Convene handling prevention meetings and review the number of environmental-friendly loading and unloading equipment	<ul style="list-style-type: none"> <li>Number of rolling reviews or rolling review meetings for the Port Area Loading and Unloading Prevention Plan.</li> <li>Review the number of convene handling machines</li> </ul>	<ul style="list-style-type: none"> <li>Conduct at least one rolling review or rolling review meeting for the Loading and Unloading Equipment Plan annually</li> <li>The quantity of ecological handling equipment were reviewed for 2 years and should not be lower than the quantity in 2018. (2018 quantity: 6)</li> </ul>	SDG 11 — Sustainable Cities and Communities	<ul style="list-style-type: none"> <li>One plan review and 3 rolling review meetings held in 2023</li> <li>Quantity of Environmental Protection Cargo Handling Equipment: Enclosed-type handling equipment: 11 sets (applicable to cargo types such as coal, bauxite, slag, etc.)</li> <li>Dust-collecting handling equipment: 4 sets (applicable to alkali powder)</li> </ul>	<ul style="list-style-type: none"> <li>One rolling review meeting held in 2024</li> <li>Quantity of Environmental Protection Cargo Handling Equipment: Enclosed-type handling equipment: 11 sets (applicable to cargo types such as coal, bauxite, slag, etc.)</li> <li>Dust-collecting handling equipment: 4 sets (applicable to alkali powder)</li> </ul>
		Handling operators audit	<ul style="list-style-type: none"> <li>Rolling review of the Port Area Loading and Unloading Control Plan or the number of rolling review meetings.</li> <li>Number of environmental loading and unloading equipment reviews.</li> </ul>	<ul style="list-style-type: none"> <li>More than 50 times of audits conducted by the port</li> <li>Cooperated with the Maritime Port Bureau Port and Environmental Protection Department for joint inspection and counseling for more than 10 times</li> </ul>		<ul style="list-style-type: none"> <li>Times of audits conducted by Port of Taichung: 130</li> <li>Times of cooperating with the Maritime Port Bureau or Environmental Protection Department for joint inspection and counseling: 12</li> </ul>	<ul style="list-style-type: none"> <li>Times of audits conducted by Port of Taichung: 120</li> <li>Times of cooperating with the Maritime Port Bureau or Environmental Protection Department for joint inspection and counseling: 14</li> </ul>
		Road dust cleaning	<ul style="list-style-type: none"> <li>Daily cleaning and sweeping operation</li> <li>Cleaning road length(km/year)</li> </ul>	<ul style="list-style-type: none"> <li>Daily cleaning and sweeping operations should be conducted.</li> <li>The total cleaning distance shall meet the quantitative performance target set by the "Taichung City Air Pollution Control Measures."</li> </ul>		<ul style="list-style-type: none"> <li>Daily execution of cleaning and sweeping operations.</li> <li>Total kilometers covered for cleaning and sweeping: 63,463.7 kilometers.</li> <li>Estimated reduction in PM<sub>10</sub>: 166.27 metric tons, PM<sub>2.5</sub>: 38.52 metric tons.</li> <li>(2 street cleaning vehicle, 2 street sweeping vehicles, with an additional street cleaning vehicle starting in March).</li> </ul>	<ul style="list-style-type: none"> <li>Daily execution of cleaning and sweeping operations.</li> <li>Total kilometers covered for cleaning and sweeping: 47,849.4 kilometers (2024 target: 28,800 km).</li> <li>Estimated reduction in PM<sub>10</sub>: 125.37 metric tons, PM<sub>2.5</sub>: 29.04 metric tons.</li> <li>(2 street cleaning vehicles, 2 street sweeping vehicles)</li> </ul>
3	Climate Change	Port area new planting and replanting of vegetation	Number of new (replacement) plantings.	Number of new (replacement) plantings in the port area reaches 5,000 plants per year.	SDG 11— Sustainable Cities and Communities SDG 13—Climate Action SDG 15—Life on Land	The total number of new (replacement) plantings in the port area is 50,989 plants, including 770 trees and 50,219 shrubs.	The total number of new (replacement) plantings in the port area is 50,380 plants, including 180 trees and 50,200 shrubs.



## Environmental Performance Indicators

Ten Significant environmental issues of the Taichung Port	Index item	Calculation method	Index target			Calculation	
						2023	2024
3	Climate Change	The maintenance of green areas/green belts in the port area	The maintenance of green areas/green belts in the port area	The maintenance of green spaces/green belts in the port area covers an area of 200 hectares.	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land	The maintenance of green belts covers approximately 584.6 hectares, which includes the following areas: 1. Security forest area: 166 hectares 2. Low development area on the north side: 21 hectares 3. Second-phase improvement area of the north siltation zone: 30 hectares 4. Key green areas around the harbor building: 22.5 hectares 5. Maintenance of grass cutting and planting in the port green area: 198.4 hectares 6. Industrial professional area II: 4.17 hectares 7. Cooperative afforestation: 3.14 hectares. 8. Port Industrial Development Zone: 47 hectares 9. Tourism and Recreation Zone: 92.36 hectares	The maintenance of green belts covers approximately 577.4 hectares and includes the following areas: 1. Security forest area: 166 hectares 2. Low development area on the north side: 13.8 hectares 3. Second-phase improvement area of the north siltation zone: 30 hectares 4. Key green areas around the harbor building: 22.5 hectares 5. Maintenance of grass cutting and planting in the port green area: 198.4 hectares 6. Industrial professional area II: 4.17 hectares 7. Cooperative afforestation: 3.14 hectares. 8. Port Industrial Development Zone: 47 hectares 9. Tourism and Recreation Zone: 92.36 hectares
		Electrification of Fleet Vehicles	Number of Government Fleet Vehicles Replaced with Electric Vehicles	Increase in Electric Government Fleet Vehicles Compared to 2021	SDG 11 — Sustainable Cities and Communities SDG 13 — Climate Action	Increase of 1 electric car.	Increase of 3 electric cars, 1 electric light truck, and 1 electric motorcycle.
		Promoting solar photovoltaic energy in the port area	<ul style="list-style-type: none"> <li>Power generation capacity</li> <li>Reduction in carbon emissions</li> <li>Installed capacity</li> </ul>	<ul style="list-style-type: none"> <li>Solar energy generation capacity</li> <li>Reduction in carbon emissions</li> <li>Capacity of the installation</li> </ul>	SDG 7 — Affordable and Clean Energy SDG 11 — Sustainable Cities and Communities	<ul style="list-style-type: none"> <li>Power generation: 61,277,706 kWh</li> <li>Carbon reduction: 30,271,187 kg CO<sub>2</sub></li> <li>Installed capacity: 55,981 kWp</li> </ul>	<ul style="list-style-type: none"> <li>Power generation: 63,435,151 kWh</li> <li>Carbon reduction: 30,068,262 kg CO<sub>2</sub></li> <li>Installed capacity: 57,932 kWp</li> </ul>
		Greenhouse Gas Inventory	Greenhouse Gas Emission Inventory	Greenhouse gas emissions verified by a third-party verification body.	SDG 13 — Climate Action	Third-party verification obtained on September 25, 2025 <ul style="list-style-type: none"> <li>Category 1 (Scope 1): 345.2816</li> <li>Category 2 (Scope 2): 2,696.0839</li> <li>Total Emissions: 3,041.3655 (metric tons CO<sub>2</sub>e/year)</li> </ul>	Inventory work in progress in coordination with the parent company and the third-party verification unit.
4	Hazardous Cargo Management	Number of harbor inspections, cargo spillage emergency response drills, and jointly supervised harbor safety drills	<ul style="list-style-type: none"> <li>Number of joint supervision for dangerous goods safety</li> <li>Number of emergency response drills in the port area</li> </ul>	<ul style="list-style-type: none"> <li>Number of supervisions: 24 times per year</li> <li>Participation in Emergency Response Drills with Relevant Authorities and Operators: Once per year</li> </ul>	SDG 6 — Clean Water and Sanitation SDG 12 — Responsible Consumption and Production	<ul style="list-style-type: none"> <li>Number of inspections/supervisions: 24 times per year</li> <li>Joint emergency drills with relevant authorities and operators: 1 time per year</li> </ul>	<ul style="list-style-type: none"> <li>Number of inspections/supervisions: 24 times per year</li> <li>Joint emergency drills with relevant authorities and operators: 1 time per year</li> </ul>
5	Port and Land Development	Maintaining port waterfront and related recreational facilities	The area of port waterfront and related recreational facilities and friendly spaces.	Maintain or increase waterfront and recreational amenity areas within the port district to a total of 15 hectares.	SDG 11 — Sustainable Cities and Communities SDG 14 — Life Below Water SDG 15 — Life on Land	The recreational area and friendly space in the harbor cover a total area of 24.82 hectares, divided as follows: <ul style="list-style-type: none"> <li>Mitsui Outlet: 17.77 hectares</li> <li>The bottom end of Central Basin: 2.84 hectares</li> <li>North Wharf: 3.69 hectares</li> <li>Wharf 100: 0.52 hectares</li> </ul>	The recreational area and friendly space in the harbor cover a total area of 24.82 hectares, divided as follows: <ul style="list-style-type: none"> <li>Mitsui Outlet: 17.77 hectares</li> <li>The bottom end of Central Basin: 2.84 hectares</li> <li>North Wharf: 3.69 hectares</li> <li>Wharf 100: 0.52 hectares</li> </ul>
		Adjusting the location of Taichung Port Special Zone	The area of the port recreation zone.	Development planning for recreation-related areas reached 150 hectares.	SDG 11 — Sustainable Cities and Communities SDG 15 — Life on Land	"Future Development and Construction Plan for Taiwan International Commercial Ports (2022-2026)" <ul style="list-style-type: none"> <li>Reconstruction of the hydrophilic revetment at the inner end of the Central Basin, with 0.89 hectares of reclaimed land added. An additional 5.41 hectares will be designated for tourism, recreation, and commercial development in the area south of Zhongheng 18th Road, within the leisure yacht zone.</li> <li>Land use adjustment for 4.63 hectares on the western side of the port and 4.19 hectares adjacent to Taipower and China Steel Corporation's sites, converting the Port Service Zone (II) into the Industrial Zone (IV), totaling an increase of 8.82 hectares.</li> <li>Tourism and Recreation Commercial Zone: 142.94 hectares; Port Service Professional Zone (II): 50.75 hectares Total: 193.69 hectares.</li> </ul>	"Future Development and Construction Plan for Taiwan International Commercial Ports (2022-2026)" <ul style="list-style-type: none"> <li>Reconstruction of the hydrophilic revetment at the inner end of the Central Basin and reclamation of 0.89 hectares of new land. An additional 5.41 hectares, located south of Zhongheng 18th Road within the leisure yacht zone, is designated for tourism, recreation, and commercial development.</li> <li>Land use adjustment of 4.63 hectares on the west side of the port and 4.19 hectares adjacent to the Taipower and China Steel sites. The zoning is planned to be changed from Port Service Zone (II) to Industrial Zone (IV), resulting in a total increase of 8.82 hectares.</li> <li>Tourism and Recreation Commercial Zone: 142.94 hectares; Port Service Professional Zone (II): 50.75 hectares Total: 193.69 hectares</li> </ul>

## Environmental Performance Indicators

Ten Significant environmental issues of the Taichung Port		Index item	Calculation method	Index target	SDG	Calculation	
						2023	2024
6	Port and Ship-generated Waste	Port Area Ship Waste Disposal	Ship Waste Disposal Volume in the Port Area	Statistics of Ship General Waste and Recyclable Waste Disposal Volume (January-December)	SDG 11 — Sustainable Cities and Communities SDG 12 — Responsible Consumption and Production SDG 14 — Life Below Water SDG 15 — Life on Land	<ul style="list-style-type: none"> <li>Ship-generated general waste collected: 354.84 metric tons.</li> <li>Ship-generated recyclable waste collected: 107.145 metric tons.</li> </ul>	<ul style="list-style-type: none"> <li>Ship-generated general waste collected: 351.95 metric tons.</li> <li>Ship-generated recyclable waste collected: 90.655 metric tons.</li> </ul>
		Port Area Land-Based Waste Disposal	Land-Based Waste Disposal Volume in the Port Area	Statistics of Land-Based General Waste and Recyclable Waste Disposal Volume in the Port Area (January-December)	<ul style="list-style-type: none"> <li>General onshore waste disposal volume: 184.442 metric tons</li> <li>Onshore recyclable waste disposal volume: 6.699 metric tons</li> </ul>	<ul style="list-style-type: none"> <li>General onshore waste disposal volume: 94.507 metric tons</li> <li>Onshore recyclable waste disposal volume: 27.762 metric tons</li> </ul>	
		Port Area WaterBased Waste Disposal	Water-Based Waste Disposal Volume in the Port Area	Statistics of Water-Based General Waste and Recyclable Waste Disposal Volume in the Port Area (January-December)	<ul style="list-style-type: none"> <li>General floating waste disposal volume: 148.81 metric tons</li> <li>Recyclable floating waste disposal volume: 22.103 metric tons</li> </ul>	<ul style="list-style-type: none"> <li>General floating waste disposal volume: 148.81 metric tons</li> <li>Recyclable floating waste disposal volume: 22.103 metric tons</li> </ul>	
7	Energy Consumption	Electricity Usage Efficiency	Energy Usage Index(EUI)	EUI is 60% below the announced baseline	SDG 7 — Affordable and Clean Energy	EUI: 31.66	EUI: 33.66
		Equipment Upgrade & Energy Saving	Number of energy-efficient lighting fixtures in the port area ÷ Total number of lighting fixtures	Proportion of energy-efficient lighting in the port area reached 70%.	SDG 11 — Sustainable Cities and Communities SDG 13 — Climate Action	Proportion of energy-efficient lighting in the port area: 83% 4,581 ÷ 5,534 = 83%	Proportion of energy-efficient lighting in the port area: 87% 4,814 ÷ 5,534 = 87%
8	Ship Sewage Discharge	Collection of ship oily waste and bilge water	Number of accepted ship oily waste and bilge water collections ÷ Number of ship collections executed by qualified waste oil and sewage receiving institutions	The execution rate of entrusting qualified contractors to clean ship oily waste and bilge water reaches 100%.	SDG 6 — Clean Water and Sanitation	<ul style="list-style-type: none"> <li>The execution rate is 100%, 150 ÷ 150 × 100% = 100%</li> </ul>	<ul style="list-style-type: none"> <li>The execution rate is 100%, 144 ÷ 144 × 100% = 100%</li> </ul>
		Assistance in the declaration and management of ship oily waste and bilge water collections.	The number of ship oily waste and bilge water collection applications per month ÷ the number of submissions to the environmental protection competent authority.	Execution rate 100%	SDG 12 — Responsible Consumption and Production SDG 14 — Life Below Water	<ul style="list-style-type: none"> <li>The execution rate is 100%, 12 ÷ 12 × 100% = 100%</li> </ul>	<ul style="list-style-type: none"> <li>The execution rate is 100%, 12 ÷ 12 × 100% = 100%</li> </ul>
		Quantity of ship oily waste and bilge water collected	Quantity of ship oily waste and bilge water collected	Collecting quantities for the months of January to December.		Quantity of ship oily waste and bilge water collected: 1,779.64 metric tons.	Quantity of ship oily waste and bilge water collected: 1,350.83 metric tons.
9	Development of Port Water Areas	The qualified rate of marine water quality (pH, DO, BOD, mineral oil, cyanide, total phenols)	The proportion of monitoring values from water quality stations in the port area that meet the "Marine Environment Classification and Ocean Quality Standards.	Water Quality in the sea area: The compliance rate for monitoring pH, DO, biochemical oxygen demand (BOD), mineral oils, cyanides, and total phenols every six months is 100%.	SDG 6 — Clean Water and Sanitation SDG 12 — Responsible Consumption and Production SDG 14 — Life Below Water	Compliance rate for Class III Sea Area Water Quality Standards: <ul style="list-style-type: none"> <li>pH: 100%</li> <li>Dissolved Oxygen (DO): 100%</li> <li>Biochemical Oxygen Demand (BOD): 100%</li> <li>Mineral oils: 100%</li> <li>Cyanides: 100%</li> <li>Total phenols: 100%</li> </ul>	Compliance rate for Class III Sea Area Water Quality Standards: <ul style="list-style-type: none"> <li>pH: 100%</li> <li>Dissolved Oxygen (DO): 100%</li> <li>Biochemical Oxygen Demand (BOD): 100%</li> <li>Mineral oils: 100%</li> <li>Cyanides: 100%</li> <li>Total phenols: 100%</li> </ul>

## Environmental Performance Indicators

Ten Significant environmental issues of the Taichung Port		Index item	Calculation method	Index target		Calculation	
						2023	2024
9	Development of Port Water Areas	"Salute to the Seas" coastal cleaning	<ul style="list-style-type: none"> <li>The status of beach cleaning and maintenance within the port area is regularly reported to the Coastal Cleanup Information Platform of the Ministry of Environment.</li> <li>In the event of natural disasters or upon receiving a notification, cleanup operations are initiated and completed within the required timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>Monthly reporting was conducted with a 100% submission rate.</li> <li>Immediate cleanup and emergency cleanup operations should be completed within 7 days upon receiving notifications, achieving a 100% completion rate.</li> </ul>	SDG 6 — Clean Water and Sanitation  SDG 12 — Responsible Consumption and Production  SDG 14 — Life Below Water	<ul style="list-style-type: none"> <li>Report the cleaning and maintenance status for each month (January to December) on the Ministry of Environment's information platform, achieving a 100% reporting rate.</li> <li>This year, there was 1 immediate cleanup and 0 emergency cleanups. All cleanup operations were completed within 7 days upon receiving notifications, achieving a 100% completion rate.</li> </ul>	<ul style="list-style-type: none"> <li>Report the cleaning and maintenance status for each month (January to December) on the Environmental Protection Administration's information platform, achieving a 100% reporting rate.</li> <li>This year, there was 1 immediate cleanup and 2 emergency cleanups. All cleanup operations were completed within 7 days upon receiving notifications, achieving a 100% completion rate.</li> </ul>
		Maintenance dredging of navigational waters	The actual dredging volume ÷ planned dredging volume × 100%	Dredging execution rate reached 100%		Dredging was carried out in accordance with the "2023-2024 Taichung Port Water Area Maintenance Dredging Project," with a completion rate of 112%. <ul style="list-style-type: none"> <li>Estimated dredging volume: 180,080 m<sup>3</sup></li> <li>Actual dredging volume: 201,321 m<sup>3</sup></li> <li>Operation area: Waters adjacent to the separation zone of the outer port inbound channel</li> </ul>	Dredging was conducted in accordance with the "2023-2024 Taichung Port Water Area Maintenance Dredging Project," achieving a dredging completion rate of 112%. <ul style="list-style-type: none"> <li>Estimated dredging volume: 180,080 m<sup>3</sup></li> <li>Actual dredging volume: 201,321 m<sup>3</sup></li> <li>Dredging area: Waters adjacent to the separation zone of the outer port inbound channel</li> </ul>
10	Strengthening Community Relations	Handling Community Welfare Subsidies, Activities, and Petitions	Calculating the Actual Occurrence Count	Number of Activities Held: 6 times	SDG 2 — Zero Hunger SDG 4 — Quality Education	<ul style="list-style-type: none"> <li>A total of 6 events were organized.</li> <li>9 cases of emergency assistance were provided.</li> <li>139 cases of community welfare and neighborhood support (event subsidies) were implemented.</li> </ul>	<ul style="list-style-type: none"> <li>A total of 6 events were organized.</li> <li>10 cases of emergency assistance were provided.</li> <li>179 cases of community welfare and neighborhood support (event subsidies) were implemented.</li> </ul>
		Handling of Public Complaints	The number of actual complaints received was recorded.	The complaint handling rate reached 100%.	SDG 4 — Quality Education SDG 16 — Peace, Justice and Strong Institutions	A total of 70 public complaints were received and handled: 70 ÷ 70 × 100% = 100%.	A total of 38 public complaints were received and handled: 38 ÷ 38 × 100% = 100%.
		Conducting Environmental Education Activities	<ul style="list-style-type: none"> <li>Number of Environmental Education Course Activities Held</li> <li>Number of partner organizations</li> </ul>	<ul style="list-style-type: none"> <li>Number of Activities Held: 8 time</li> <li>A total of 10 partner organizations were involved</li> </ul>	SDG 4 — Quality Education SDG 11 — Sustainable Cities and Communities SDG 13 — Climate Action	<ul style="list-style-type: none"> <li>A total of 10 environmental education activities were held in 2023.</li> <li>A total of 12 partner organizations were involved as of 2023.</li> </ul>	<ul style="list-style-type: none"> <li>A total of 17 environmental education activities were held in 2024.</li> <li>A total of 18 partner organizations were involved as of 2024.</li> </ul>



# 04



## *Emergency Response*



## Port of Taichung Emergency Response

The Port of Taichung implements a secondary inspection mechanism across the port area in accordance with the responsibilities of each unit. This includes joint safety supervision related to hazardous materials in the port and emergency response drills for chemical or oil spills.

area to establish a regional joint defense organization. The West Wharf Alliance was formed, where companies collaborate with the Taichung Port Division of the Port Fire Brigade under the National Fire Agency to regularly conduct disaster prevention tabletop exercises and drills through a voluntary firefighting framework.

In addition to inspections and emergency drills, the port encourages terminal operators in the West Wharf

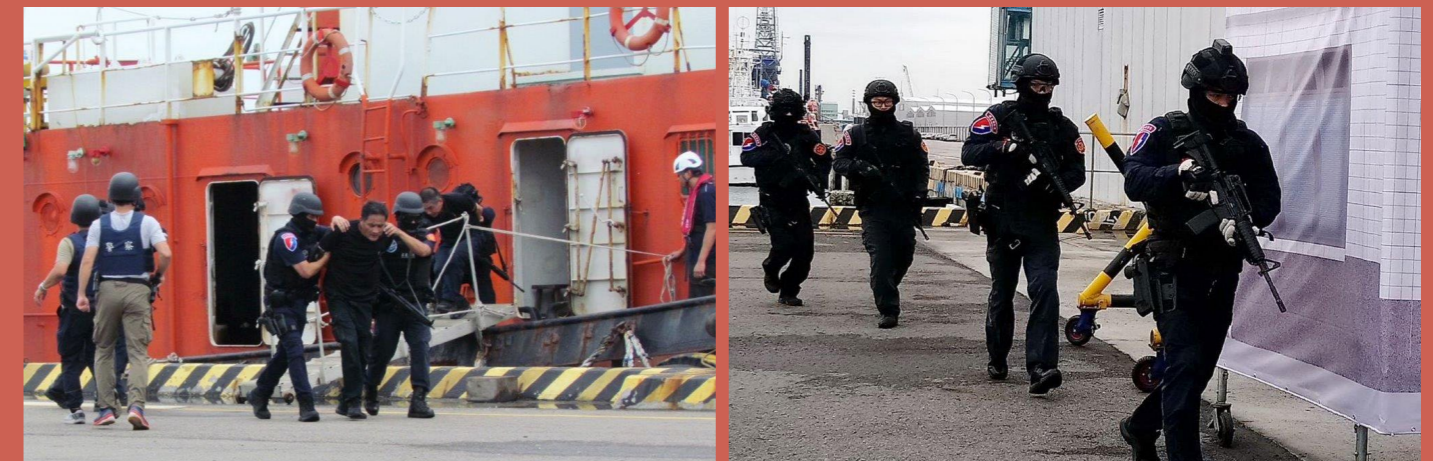
### Port Area Emergency Incidents: Record of Exercises by the Port of Taichung from 2023 to 2024

Year	Drill Title	Content	Date
2023	2023 Taichung Port Maritime Security Live Drill	<p>Mobilized units included:</p> <ol style="list-style-type: none"> <li>Port of Taichung,</li> <li>Taichung Harbor Police Office (National Police Agency, Ministry of the Interior),</li> <li>Central Taiwan Maritime Affairs Center (Maritime and Port Bureau, MOTC),</li> <li>Taichung Harbor Fire Brigade of the Harbor Fire Corps (National Fire Agency, Ministry of the Interior),</li> <li>Taichung Port Border Affairs Corps (National Immigration Agency),</li> <li>Taichung Customs (Customs Administration, Ministry of Finance),</li> <li>3rd Coastal Patrol Corps (Central Branch, Coast Guard Administration),</li> <li>3rd Offshore Flotilla (Fleet Branch, Coast Guard Administration),</li> <li>Airborne Service Corps (Ministry of the Interior),</li> <li>5th Investigation Corps (Criminal Investigation Bureau, NPA),</li> <li>1st Peace Preservation Police Corps (NPA),</li> <li>Taichung City Police Department,</li> <li>Taiwan International Ports Corporation, Harbor Services Division,</li> <li>ChengYi Integrated Marketing Co., Ltd.,</li> <li>CPC Corporation, Taiwan – Taichung LNG Plant,</li> <li>Yunneng Wind Power Co., Ltd.</li> </ol> <p>This joint exercise, simulating scenarios such as port facility hijackings or ship-based security incidents, was designed to integrate police resources and ensure timely and effective responses. Through realistic drills, participating agencies learned optimal crisis management procedures to safeguard the normal operation of the port and the safety of its critical infrastructure.</p> <p>By combining the capabilities of public and private sector entities within the port, the exercise validated emergency preparedness and response capacity through scenario-based simulations.</p>	06/16
2024	2024 Taichung Port Public wharves Port Facility Security Exercise	<p>Mobilization of CIQS Units at Taichung Port</p> <p>To strengthen security awareness and emergency response capabilities among port management and responsible personnel in the event of an attack on the port, Taichung Port mobilized all CIQS-related units.</p> <p>The exercise focused on procedures for escalating port security levels, including notification and emergency response actions. Through this drill, the aim was to enhance both horizontal and vertical communication and coordination among relevant agencies, ensuring collective efforts in safeguarding port safety and upholding the spirit of port facility security.</p>	11/25

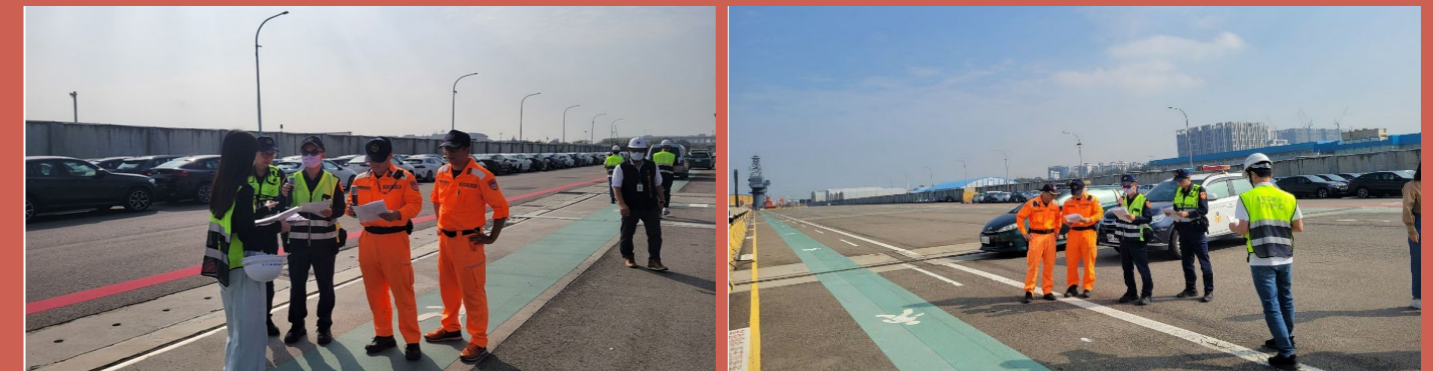
### Port Emergencies in 2023–2024

Event Title	Date	Handling Process
OSC Silicate Co., Ltd. Factory Fire	2023/01/19	A fire broke out at the OSC Silicate plant when workers were cutting sheet metal. The Port Fire Brigade responded promptly and successfully extinguished the fire.
Dry Dock Fire Incident	2023/10/08	A fire caused by hot work during ship construction occurred in the dock area. The fire was controlled and extinguished by on-site personnel and the Port Fire Brigade.
Panama-flagged Cargo Ship "Liquid Gem" Grounding Incident	2024/12/08	<ol style="list-style-type: none"> <li>On the day of the incident, the Port of Taichung promptly established an Emergency Response Team and a forward command post to carry out response operations.</li> <li>The shipowner was required to commission a salvage company to submit an oil removal plan and proceed with residual oil extraction and pollution prevention measures. A notarized verification report confirming the completion of the oil removal was provided. No oil pollution was detected around the vessel, and the Port of Taichung continues pollution monitoring.</li> <li>The shipowner and its P&amp;I insurer failed to follow up. The Central Taiwan Maritime Affairs Center of the Maritime Port Bureau issued a ban on all vessels insured by the said insurer from entering the port.</li> <li>The Port of Taichung began arrangements for hull removal and appointed legal counsel to pursue claims and handle related legal matters.</li> </ol>

### 2023 Taichung Port Port Security Live Drill

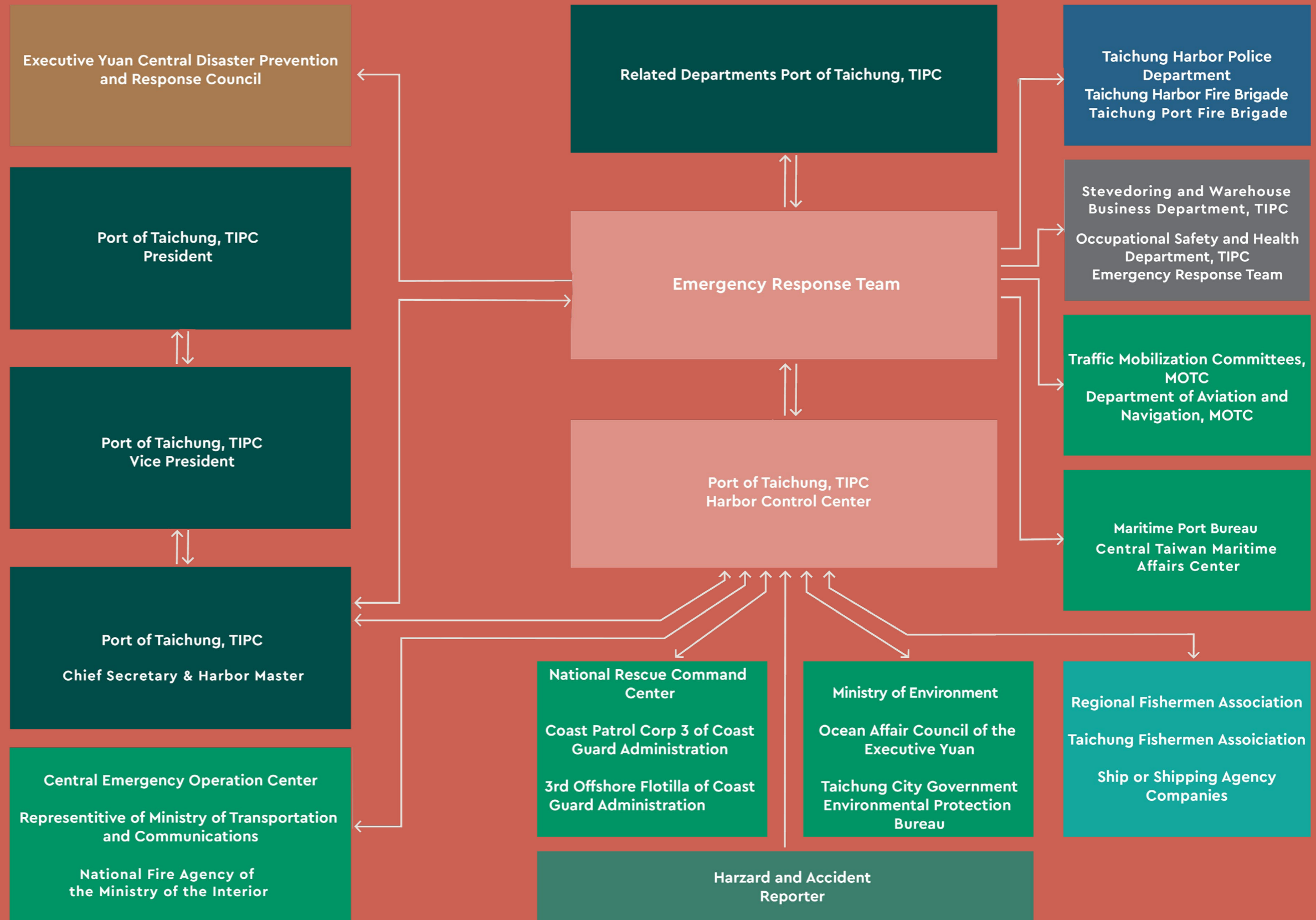


### 2024 Taichung Port Public Wharves Port Facility Security Exercise





# Port of Taichung Emergency Response





# 05



## *Involvement and Cooperation*

The Port of Taichung has proposed optimal solutions to address environmental issues within the port area, demonstrating its capability in implementing port environmental management. The best practice cases include: (1) Energy management system (EMS), (2) Promotion of Low-Carbon and Renewable Energy Development at Taichung Port, and (3) Replacement and Electrification of Container Terminal Equipment. These three best practices may also be submitted to the EcoPorts Foundation database as references for other EcoPort partners.



## Energy management system (EMS)

### Attention/Motives

In response to the need for improved energy efficiency, government policies promoting energy conservation and carbon reduction, and the growing demands of net-zero and sustainable development, it has become essential to establish an integrated system or platform. This system is intended to effectively manage electricity and water usage data, improve

the stability and efficiency of power and water distribution, and support the control of renewable energy and energy storage systems. It also aids the port in enhancing anomaly alerts, equipment management, and progressing toward a sustainable smart port.

### Solution

Establishment of a Energy management system (EMS) Platform

#### 1. Integration of Smart Electricity and Water Meters:

By integrating smart electricity and water meters, data from water and power usage in the port can be collected and recorded in a central database. This enables analysis, demand forecasting, and comprehensive management of utility usage in the port.

#### 2. Integration of Smart Lighting:

- **Wharf Operation Lighting:** High-efficiency LED high-mast lamps are used to replace traditional high-pressure sodium or metal halide lamps, thereby improving lighting efficiency, extending service life, and reducing maintenance costs. Scheduling is set based on operation data, and a remote monitoring platform allows real-time status tracking and fault reporting.

- **Smart Streetlight System:** LED energy-saving lights and gateway controllers are installed. The streetlights are connected to the integrated platform via NB-IoT, PLC, or 4G/5G communication technologies. Functions include on/off control, dimming, fault alerts, and maintenance dispatch. The system is also modular and expandable.

#### 3. Integration of Smart Air Conditioning:

High-efficiency chillers and air handling units are installed to

achieve energy savings. These are networked to the platform for automation, including temperature maintenance, scheduled operation, and variable frequency control. Sensors record key equipment data (e.g., power consumption), enabling predictive maintenance planning.

#### 4. Integration of Smart Security (for key energy facilities such as substations and water stations):

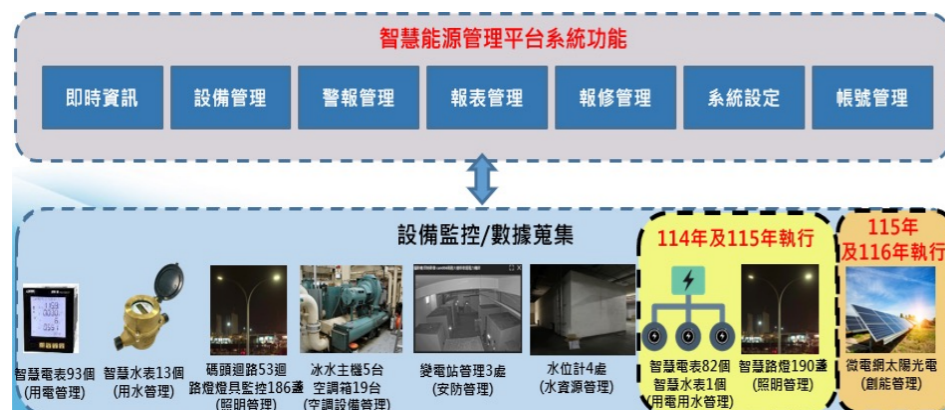
Door sensors and cameras are installed. When a door is opened, it triggers the linked camera to display live footage, alerting managers and recording the incident for future review.

#### 5. Integration of Reclaimed Water Resources:

Water level and flow meters are installed on existing reclaimed water storage systems using China Steel Corporation's cooling discharge water. This allows for the tracking of usage and storage volumes of reclaimed water.

#### 6. Installation of Solar Power and Energy Storage Equipment (Phase II):

Around the Vessel Traffic Service (VTS) center, solar panels and battery storage facilities will be installed to realize on-site generation and consumption of green energy.



### Implementation/Timeline

#### 1. Phase I (2023–2024):

Establishment of the "Smart Integrated Energy Management Platform," integrating smart electricity meters, smart water meters, smart lighting, smart security systems, and recycled water resources.

#### 2. Phase II (2025–2027):

Further expansion of the smart electricity meters, smart water meters, and smart lighting (smart streetlights) that were not fully implemented in Phase I. Additionally, a microgrid subsystem will be installed, including self-use solar power generation facilities and energy storage battery systems, aiming to achieve comprehensive energy management throughout the port area.

### Effect/Benefit

Integration of Smart Meters and Water Meters:

Automatically collects data into a centralized database, saving approximately 72 labor hours per year on reporting. Abnormal electricity or water usage can be instantly detected and reported for follow-up.

Integration of Smart Lighting:

Centralized control of wharves and streets lighting saves about 1,440 labor hours annually. LED streetlights reduce energy consumption by 144,000 kWh/year and allow predictive maintenance to shorten repair time.

Integration of Smart Air Conditioning:

Upgraded to high-efficiency systems, saving 223,000 kWh and around NT\$1.115 million in electricity costs annually, while reducing carbon emissions by approximately 105.7 metric tons CO<sub>2</sub>e.

Integration of Smart Security:

Installed door sensors and surveillance cameras to monitor restricted areas, providing real-time alerts and enhancing port security.

Integration of Recycled Water Resources:

Digitized water-saving management reduces annual water consumption by 127,000 liters. The system monitors water levels and usage in real-time and sends alerts for anomalies, improving efficiency and oversight.

### Investment Amount

Phase 1 (2023–2024):

Approximately NT\$15.26 million

Phase 2 (2025–2027):

Approximately NT\$150 million

### Environmental Issue

- Energy Consumption
- Energy Saving

### Stakeholders

Port of Taichung operational staff and others

### Participating Units

- Port of Taichung, TIPC
- Delta Electronics, Inc.



Port: Port of Taichung  
 Contact Person: Chen, Chien-Lung  
 Unit: Mechanical & Electrical Section,  
 Construction Management/ Engineering  
 Department, Port of Taichung, TIPC  
 Position: Manager  
 Phone Number: +886-4-2664-2530  
 Fax Number: +886-4-2664-2696  
 E-mail: chain\_lon@twport.com.tw



# Promotion of Low-Carbon and Renewable Energy Development at Taichung Port

## Attention/Motives

In line with Taiwan's energy transition policy, the Taiwan International Ports Corporation (TIPC) is promoting the development of Liquefied Natural Gas (LNG), offshore wind power, and the Ministry of Economic Affairs' target of 5.7GW of wind power installation by the end of 2025. To support the growth of green energy-related industries, TIPC has designated the Port of Taichung as a key hub, not only enhancing port infrastructure and services but also releasing land resources within the port area to facilitate energy transition and development.

## Solution

To support the Executive Yuan's offshore wind policy, TIPC has planned four core strategies at the Port of Taichung:

1. Offshore Wind Turbine Pre-Assembly Base,
2. Localization Manufacturing Zone,
3. Port Operation & Maintenance (O&M) Services, and
4. Talent Training Hub.

Since 2019, TIPC has provided wharves #2, #5A, #5B, #36, #106, and #107 for offshore wind turbine pre-assembly and localization manufacturing use. According to the Ministry of Economic Affairs' third-phase offshore wind development plan, 1.5GW of capacity will be developed annually starting in 2026. To meet this demand, TIPC plans to construct two additional heavy cargo wharves (#37 and #38) at the Port of Taichung. Upon completion, these will form three major pre-assembly bases—wharves #5A, #5B, #36, #37, and #38—capable of supporting three wind farms concurrently. This cluster-based regional development will reduce road transportation impact from large wind turbine components and offer high-quality port infrastructure for offshore wind operations.

The government is actively advancing the substitution of coal and nuclear power with natural gas, while also encouraging public and private entities to develop renewable energy such as wind and solar power, with the goal of achieving a nuclear-free homeland by 2025. Accordingly, to meet land demand for offshore wind energy development, it is essential to accelerate the reclamation of the Port of Taichung's outer harbor areas.

To meet land demand for green energy and LNG backup capacity policies, TIPC plans to reclaim land between the southern breakwater and the petrochemical zone, as well as to the south of the petrochemical zone, by forming an enclosed water area for dredged material containment. This effort is expected to create approximately 125 hectares of new land outside the current harbor, supporting future green energy and natural gas infrastructure needs.



Wharves 37 and 38 at Taichung Port



Taichung Port Reclamation Area Project Scope and Future Development

## Implementation/Timeline

Wharves #37 and #38

- Planning and design began in July 2022. The design was completed and announced for tender in September, with the contract awarded in December. Construction commenced in January 2023 and is scheduled for completion in March 2026.
- For the completed area of Wharf #37 and its rear zone, the Port of Taichung has leased approximately 13 hectares to Ørsted Taiwan Limited from January 1, 2024, to December 31, 2025. The area is used for the storage, handling, and assembly of offshore wind power equipment.

Southern Reclamation Zones (III) & (IV) and Northern Reclamation Zone (III)

- Planning and design commenced in October 2022, and the design was completed and publicly tendered in March 2023. The project was awarded and began construction in May 2023, with completion expected by December 2027.

## Effect/Benefit

(1) Localized Industry and Clustering

The localization strategy for offshore wind power enables domestic companies to enhance their technological capabilities and service capacity, while also establishing a robust industrial supply chain.

(2) Job Creation

The offshore wind industry encompasses a wide range of talent demands across its upstream and downstream sectors. As various companies invest in setting up facilities, they also promote talent cultivation and create employment opportunities in Taiwan's offshore wind industry.

(3) Building a Low-Carbon and Sustainable Homeland

The energy transition, coupled with the implementation of localization policies, creates significant business opportunities for related industries, helping to ensure energy security and foster a green economy.

(4) Development of Southern Reclamation Zones III & IV

The dike construction in Southern Reclamation Zones III and IV creates enclosed water areas used as sediment disposal sites for dredged material. As of 2024, 10 hectares have been reclaimed, 50 hectares in 2026. This aims not only to resolve sediment management for port waters and development but also to create new reclaimed port land to support industrial needs. Preliminary plans include facilities such as an LNG terminal, offshore wind industry zones, hydrogen energy, and green energy development bases.

## Environmental Issue

- Climate Change
- Renewable Energy Promotion

## Stakeholders

- Taichung Port
- Port Operations Personnel
- The General Public

## Participating Units

- Port of Taichung
- Port-Related Businesses
- I San Construction Co., Ltd.

Port: Port of Taichung, TIPC  
 Contact Person: Chang, Rou-En  
 Unit: Logistics Planning Section, Business Department, Port of Taichung, TIPC  
 Title: Manager  
 Phone Number: +886-4-2664-2170  
 Fax Number: +886-4-2664-2298  
 E-mail: rouen6213@twport.com.tw

Port: Port of Taichung  
 Contact Person: Ben Yang  
 Unit: Planning & Design Section, Engineering Department, Port of Taichung, TIPC  
 Title: Manager  
 Phone Number: +886-4-2664-2510  
 Fax Number: +886-4-2664-2587  
 E-mail: credo1110@twport.com.tw

## Investment Amount

Construction of Berths #37 and #38 involves a total investment of approximately NT\$3.5 billion.



# Replacement and Electrification of Container Terminal Equipment

## Attention/Motives

With the escalating challenges of global warming and climate change, the public is increasingly concerned about the long-term impact of human activities on the climate system. In line with the implementation of the Taichung Port Air Quality Control Zone, the Port of Taichung has guided port operators to adopt self-regulation measures for large diesel vehicles. The port has also strengthened promotional efforts within container terminals to encourage the replacement of outdated diesel-powered machinery.

Wan Hai Lines has recognized the urgent challenges posed by climate change and acknowledged the critical role operational vehicles play in greenhouse gas emissions. As a result, the company has taken the lead in proactively advancing equipment replacement policies.

## Solution

In coordination with the competent authorities, container yards within Taichung Port are conducting emissions testing on aging diesel-powered equipment, such as terminal tractors (yard trucks), and are planning the phased replacement of outdated machinery. Wan Hai Lines has actively responded to greenhouse gas reduction policies and has taken the lead in promoting equipment electrification at its Taichung Terminal container yard. This includes replacing fuel-powered equipment—such as tractors and forklifts—with electric machinery, demonstrating its commitment to reducing equipment-related emissions and achieving net-zero transition goals.



Wan Hai Lines Electric Terminal Tractor

In 2024, the Taiwan International Ports Corporation introduced the "Green Port Incentive Program" to encourage port operators to gradually phase out and electrify their equipment. This initiative significantly supports the development of a "green working environment" at Taichung Port.



Wan Hai Lines Charging Area for Electric Equipment



Wan Hai Lines Electric Forklift

## Implementation/Timeline

- March 2023 – Wan Hai Lines began signing contracts for the procurement of electric equipment
- March 14, 2024 – Taiwan International Ports Corporation announced the "2024 Green Port Incentive Program"
- September 2025 – Wan Hai Lines is expected to complete delivery of all electric equipment

## Effect/Benefit

Wan Hai Lines Ltd.

- Reduction in Carbon Emissions: Estimated annual CO<sub>2</sub> emissions reduction of approximately 330 tons with newly acquired electric equipment.
- Lower Air and Noise Pollution: Improved environmental and operational conditions.
- Reduced Maintenance Costs: Modular components and fewer consumables (e.g., engine oil, exhaust systems) required.
- Remote Monitoring System: Real-time monitoring of battery levels, operational status, and maintenance records for each vehicle via a cloud-based platform.

## Investment Amount

Wan Hai Lines Ltd.

Total Investment: Approximately USD 30 million

Scope of investment includes:

- Procurement of 6 new automated gantry cranes
- Automation upgrades for 2 existing gantry cranes
- Procurement of 15 electric terminal tractors
- Procurement of 4 electric empty container forklifts

## Environmental Issue

- Climate Change
- Greenhouse Gases (GHG)
- Air Quality

## Stakeholders

- Port of Taichung, TIPC
- Port Area Operational Staff

## Participating Units

- Port of Taichung, TIPC
- Wan Hai Lines Ltd.

Port: Port of Taichung  
 Contact Person: Chen, Yuan-Long  
 Unit: Occupational Safety and Health Division, Health and Disease Control Section, Port of Taichung, TIPC  
 Title: Supervisor and Manager  
 Phone Number: +886-4-2664-2450  
 Fax Number: +886-4-2664-2499  
 E-mail: bruceylchen@twport.com.tw

Port: Port of Taichung  
 Contact Person: Lu, Ying-Ming  
 Unit: POccupational Safety Section, Taichung Container Freight Station, Wan Hai Lines Ltd.  
 Title: Section Chief  
 Phone Number: +886-4-2626-2939 ext. 161  
 Fax Number: +886-4-2657-8792  
 E-mail: ming\_lu@wanhai.com



## Involvement and Collaboration

The Port of Taichung actively collaborates with both domestic and international organizations, including governmental agencies, academics, and industries. Besides sustainable development related exchanges, there are also joint collaboration on technological research, investment, inspection, etc.

協會



Association of Pacific Ports (APP)

The APP hosts conferences involving industry, government, and educational institutions on a regular basis for the benefit of port management bureaus, port management committees, and other relevant parties. It serves to provide ports in the Pacific region with a platform for exchanging professional skills, management knowledge, and relevant practical experience. The Port of Taichung, TIPC participates in conference on an occasional basis every year and exchanges operation experience with members from other countries so as to gain a better understanding of modern port operations and current development trends at Pacific ports.



The International Association of Ports and Harbors

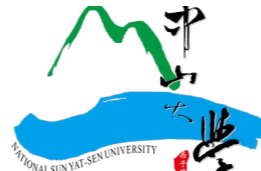
The International Association of Ports and Harbors is currently the most influential port and harbor organization in the world, and is a non-governmental organization that provides consulting to various primary UN organizations (ECOSOC, IMO, UNCTAD, UNEP, ILO, WCO, etc.). The Port of Taichung, TIPC participates in the World Ports Conference, which is held once every two years, so as to gain a better understanding of global port development trends.



National Taiwan Ocean University



National Quemoy University



National Sun Yat-Sen University

In order to enhance international competitiveness and transportation quality, create a sound educational and academic research environment, and allow the port and educational institutions to prosper together, Taiwan International Ports Corporation signed a memorandum of cooperation with three public universities in 2012. In the future,

the parties to the memorandum will be involved in academic exchanges, research and development, cooperative undertakings between companies and educational institutions, education and training, student internships, and port operation seminars. In addition to enhancing training quality, the educational institutions involved can also provide intelligence to

port affairs companies, and thus play an active role in assisting practical port management and operations, which will achieve a win-win outcome.



Forestry and Nature Conservation Agency

The Forestry Bureau implemented a forest renewal project between 2003 and 2006, and a preliminary coastline forest ecology recovery and afforestation project in 2012.



Institute of Transportation, MOTC

The Institute of Transportation has conducted research projects on such subjects as "Congestion Relief," "Capacity Increase," "Expansion and Use of Current Transportation Facilities," and "Establishing a Long Term Transportation Development Plan." In the past, the Port of Taichung, TIPC has worked with the Institute of Transportation on such projects such as "Port Ecological Landscape Planning, Design and Research" and "Energy Conservation and CO<sub>2</sub> Emission Reduction at Taiwan's Ports," etc.



Environmental Protection Bureau of Taichung City Government

The Port of Taichung, TIPC and the Environmental Protection Bureau of Taichung City Government have cooperated on audits and drills in the port area on the regular basis and assist the Environmental Protection Bureau of the Executive Yuan in hosting relevant meetings such as the "meeting for discussion of atmospheric dust suppression in central river regions," "public hearing for proposal of air pollution prevention in Taichung City," "public hearing for greenhouse gas emission management and reduction in Taichung city," "drill for atmospheric dust prevention by rivers," "seminar for monitoring, investigation, reporting and control of soil sediments" and "meeting for discussion of regular pollution source control in the Taichung port area."



Ministry of Environment

The Port of Taichung participates in major discussion meeting held by the EPA. For example, the "Port Area Air Pollution Reduction Discussion Meeting," "Environmental Assessment Act Promotion Campaign," and "Promotion Campaign for Port Transportation Pollution Control Measures." The Taichung Port has amended the "Terms and Conditions for the Application of TIPC International Commercial Port Access Pass" and only issue pass less than 3 months to trucks without a self-management seals.



Central Taiwan Maritime Affairs Center, Maritime Port Bureau

The Port of Taichung, TIPC cooperates with the Central Taiwan Maritime Affairs Center to perform regular audits and drills. The Port of Taichung, TIPC cooperates with Taichung Harbor Fire Brigade to train personnel in extinguishing fires in offices.



The Port Fire Brigade, Taichung Port Team

Taiwan International Ports Corporation, Port of Taichung, collaborates with the Port Fire Brigade, Taichung Port Team, under the Fire Bureau of the Ministry of the Interior, to conduct workplace fire training.



Industrial Technology Research Institute

To comply with the energy saving policy promoted by the Taichung city government, Port of Taichung entrusted energy management professionals to conduct energy researches and will require future public project contractors to meet national standards.



# 06



## *Training*





## Employee Education

Port of Taichung Environmental Education and Training Program

In alignment with national environmental policies, the Port of Taichung offers appropriate environmental education and training. These efforts not only cultivate environmental awareness among staff and enhance their environmental knowledge, but also contribute to strengthening the overall competitiveness of Port of Taichung.

Each year, the Port of Taichung allocates personnel to both internal and external environmental training programs. For internal education, an annual Environmental Education Plan is formulated in accordance with the Environmental Education Act. Each employee is required to complete more than four hours of environmental education annually. In 2023 and 2024, a total of 14 environmental training sessions were held, covering topics such as nature conservation, environmental and resource management, health and disaster prevention,

SDGs and ESG sustainable development, marine conservation, and other environment-related subjects. External training programs (related to environmental topics) included:

- Corporate Sustainability Management Professional Certification
- Occupational Safety and Health Management Personnel Training
- Occupational Safety and Health Supervisor Education and Training
- First Aid Safety and Health Education
- Fire Prevention Manager Training
- IMDG Code (International Maritime Dangerous Goods Code) Training
- ISPS Code – PFSO (Port Facility Security Officer) Training on Ship and Port Facility Security
- Public Construction Quality Management Training



Old Town Cultural Walk



VR Workplace Safety Training Experience



General Occupational Safety and Health On-the-Job Training



Eco-Friendly Consumption: Handmade Soap as an Example



Fazi River Environmental Walk



Active Aging Cultural and Arts & Sustainable Development Program: "Yigang Qingcun" Field Visit

No.	Date	Activity Name	Participants
1	2023/2/4	Charity Sale and Gender Equality Promotion Event	100
2	2023/3/29	Workshop on Improving Safety Facilities and Work Environment	22
3	2023/3/31	Children's Day Celebration and Gender Equality Promotion	60
4	2023/5/10	Port Fire Safety Enhancement	18
5	2023/5/17, 24, 31	VR Training	139
6	2023/5/19	Fire Drill	44
7	2023/5/26	2023 Multidimensional Health Promotion (Tangmadan Mountain)	20
8	2023/6/21	2023 Disaster Prevention and PPE Training	40
9	2023/6/30	2023 Multidimensional Health Promotion (Jiali Mountain)	45
10	2023/6/30	Beach Cleanup	73
11	2023/7/15	Tree Planting	40
12	2023/7/5	Clean Homeland	40
13	2023/7/25, 28	2023 CPR + AED Training	8
14	2023/8/7	Environmental Beautification and Biodiversity Course	40
15	2023/9/7	2023 New Employee General Safety & Health Training	162
16	2023/9/9	Drawing Competition and Gender Equality Promotion	110
17	2023/9/15	Raft Creek Guided Tour	30
18	2023/10/11-13	Employee Safety and Health Education	80
19	2023/10/20	2023 Multidimensional Health Promotion (Dakeng)	56
20	2023/11/1	Environmental Education Exchange	30
21	2023/11/23	Green Technology – Eco Landscape and Resilient Environment	31
22	2023/11/27	Fire Drill	50
23	2023/11/28	Green Consumption – DIY Soap	30
24	2023/12/1	Green Tech – Low-carbon Landscape Trends	29
25	2024/4/19	Tree Planting	30
26	2024/4/29-30	VR Activity Experience (Employees)	35
27	2024/5/6	Fire Drill	57
28	2024/5/7	Recycling Innovation Workshop	32
29	2024/5/15	Planting and Carbon Sink Management Course	19
30	2024/5/20	Contractor and Engineer Safety Promotion Meeting	80
31	2024/5/22	Occupational Safety Exchange for Bulk Cargo Handling	152
32	2024/6/6	Conservation Release	33
33	2024/6/12	Clean Homeland	34
34	2024/7/8, 15, 22, 29	2023 CPR + AED Training	120
35	2024/7/29	Ecology & Carbon Absorption with DIY Practices	32
36	2024/8/2	Art and Sustainability Course Visit: YiGang Village	35
37	2024/8/30	2024 Port Environmental Maintenance Briefing	10
38	2024/8/30-12/20	On-the-job Safety and Health Training (Employees)	101
39	2024/9/20	Old Town Guided Tour	30
40	2024/10/8	Corporate Challenges under Net-Zero Emissions Policy	21
41	2024/10/23	2024 Employee General Safety and Health Training	60
42	2024/11/15	Lifecycle Safety Health Inspection Forum	52
43	2024/11/19	Occupational Safety Seminar for Transport and Storage Units	105
44	2024/11/21	Centennial West District Heritage Tour	60
45	2024/12/26	Occupational Training – Quantifying Safety Budgeting	58
		Total	2453

# 07



## *Communication and Publication*



# Communication and Publication

Port of Taichung strives to maintain continuous communication and engagement with stakeholders and the public through a variety of channels. Activities, seminars, workshops, publications, webpages, and exhibition spaces are among the key avenues used to disseminate relevant information about Port of Taichung. These efforts aim to provide the general

public, port stakeholders, academic institutions, and various business units within Port of Taichung with valuable insights and understanding of its operations and developments.



Port of Taichung disaster prevention related publications in 2023-2024



World Bicycle Day Nationwide Cycling and Awareness Event

Taichung Port Authority Rice Donation Love Volunteers



"Farewell to the Jade Rabbit, Welcome the Auspicious Dragon" Charity Sale Event

Workplace Mutual Support Childcare Center: One-Day Volunteer Pinwheel DIY Workshopbabies

# 08



## *Green Accounting*



## Environmental Investment and Cost

Taiwan International Ports Corporation's investment in environmental issues can be categorized into employee training, environmental maintenance and management, environmental monitoring, publications, emergency response, and communication. The objectives are to enhance employees' environmental awareness, maintain and improve environmental quality, build emergency response capabilities, and increase public awareness of the port. The total cost expended by the Port of Taichung, TIPC for the environmental issues was NT\$126,854 thousand and NT\$134,816 thousand in 2023 and 2024.



- **Staff:** Expenses related to staff training and education on environmental topics.
- **Environmental Maintenance and Management:** This involves expenses for greening and beautification within the port area, waste clearance, road maintenance, seawall maintenance, and port dredging activities.
- **Environmental Monitoring:** This includes costs for monitoring air quality, noise levels, water quality, sediment quality, and other relevant environmental parameters. It also covers expenses for environmental inspections and the maintenance of the port surveillance system.
- **Emergency Response:** This category covers expenses for handling accidental incidents, materials used for pollution control within the port area, hazardous substance testing fees, and disaster recovery activities.
- **Communication and Publications:** Community engagement, business promotion, awareness campaigns, and production of environmental publications.

The total cost expended by the Port of Taichung, TIPC for the environmental issues in 2023 and 2024 (Unit: NT\$1,000)

Items	2023	2024
Employees	384	412
Environmental Maintenance and Management	87,432	89,055
Environmental Monitoring	27,443	33,781
Emergency Response	4,708	4,003
Communication and Publication	6,887	7,565
<b>Total</b>	<b>126,854</b>	<b>134,816</b>

## Environmental Assets

Taichung Port is positioned as a hub for maritime cargo in central Taiwan, industrial value-added services, energy and bulk material logistics, passenger transport, and tourism.

To support this vision, the Port of Taichung has launched various development projects, some of which involve environmental considerations. These include:

- Maintaining waterfront landscape facilities and restoring historic buildings to enhance public access to the port
- Upgrading passenger service center equipment to improve clearance efficiency
- Supporting offshore wind development by installing signage and lighting for heavy cargo routes
- Promoting smart and sustainable port development, such as adopting electric vehicles and installing EV chargers
- Constructing and upgrading Wharves

- Installing new car wash stations and replacing outdated equipment to boost operational efficiency and reduce pollution.

The total fixed asset investment in environmental issues by Taichung Port Authority In 2023 and 2024, the Port of Taichung invested NT\$1,699,994 thousand and NT\$1,684,391 thousand, respectively, in fixed assets related to environmental issues.

Fixed assets invested by the Port of Taichung in environmental aspects in 2023 and 2024 (Unit: NT\$1,000)

Items	2023	2024
Land Improvements	1,476,526	1,425,718
Houses and Buildings	40,202	19,241
Machinery and Equipment	93,510	141,808
Transportation and Equipment	77,923	94,552
Other Equipment	11,833	3,073
<b>Total</b>	<b>1,699,994</b>	<b>1,684,391</b>

# 09



## **Improvement Recommendations**

As the central hub port of Taiwan, Taichung Port plays a key role in handling green energy and bulk cargo imports and exports. In response to global climate change, the Port of Taichung is actively promoting sustainable port development to enhance resilience.

As the port management authority, the port takes responsibility for maintaining and improving the port environment. Environmental protection is considered an integral part of port operations. The port is committed to minimizing environmental impact and providing an eco-friendly, sustainable, and modern port. Key principles include complying with environmental laws, preserving the port environment, conducting regular monitoring, identifying pollution sources, promoting smart port transformation, reducing emissions, and pursuing long-term sustainability.

Since first achieving EcoPorts certification in 2015, Taichung Port has undergone reassessment every two years. In line with Taiwan's non-nuclear homeland policy and energy transition goals, the development of green energy is seen as a new driver of economic growth. Moving forward, the port will continue to support national energy strategies, improve the environmental conditions needed for renewable energy, enhance port sustainability, and align with the United Nations Sustainable Development Goals (SDGs).



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



**Port of Taichung**

Taiwan International Ports Corporation, Ltd.

Address: No.2, Sec. 10, Taiwan Blvd., Wuqi Dist., Taichung City, Taiwan(R.O.C)

Website: <https://tc.twport.com.tw/>