

Taiwan International Ports Co., Ltd.

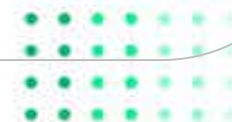
Development and Opportunities of Offshore Wind at Taiwan Ports

2026.08.05



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2. **Government Policy Towards Offshore Wind Development**
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1. TIPC Introduction

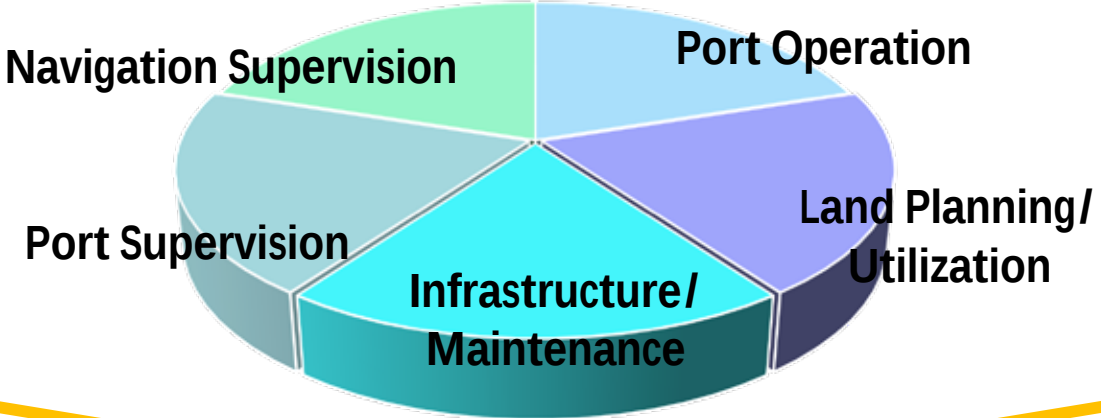




Port Governance Reform



Kaohsiung. Taichung. Keelung. Hualien Harbor Bureaus



- Port Authority
- Public Administration of maritime & port affairs

MPB



TIPC

- State-owned enterprise
- Operate and Manage Taiwan's International Commercial Ports

Navigation Supervision

Port Supervision

Port Authority

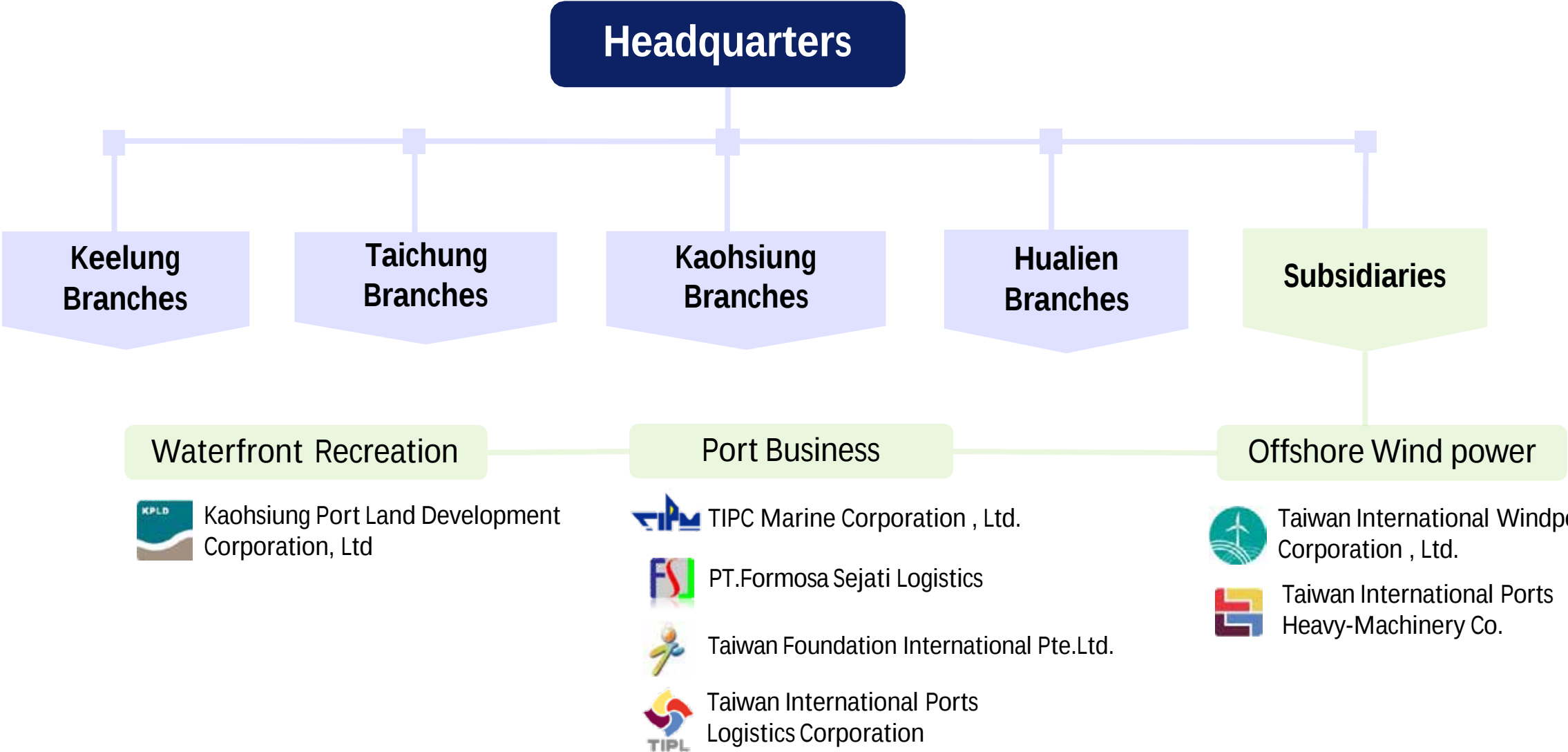
March 1st, 2012

Port Operation

Land Planning/Utilization

Infrastructure/Maintenance

Port Business Operation



2025 Overview



Operating Revenue

760 million USD



Container Handling Volume

13.49 million TEU



Port of Kaohsiung

23th largest container port



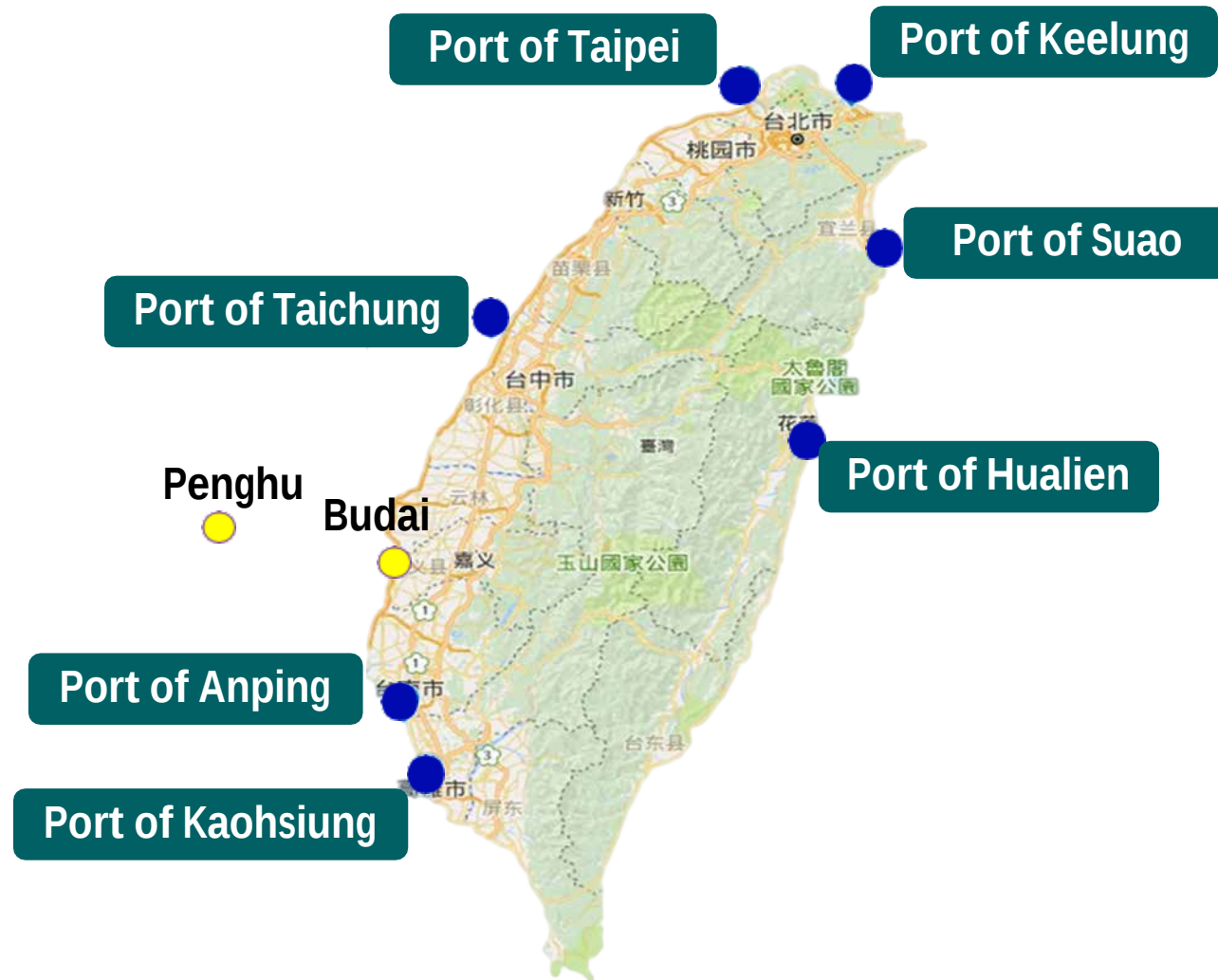
Passengers

1.15 million visitors



Cargo Handled

690 million tons





2. Government Policy Towards Offshore Wind Development



Taiwan's 2050 Net-Zero Transition - 12 Key Strategies

Taiwan's 12 Key Strategies for Net-Zero Transition

Building a sustainable, resilient and prosperous future



The 12 Key Strategies provide the roadmap for achieving Taiwan's 2050 net-zero emissions target.

Taiwan Government 3-phase Policy of Offshore Wind Development

2013~2020

Phase 1

Demonstration Incentive Program (DIP)

- ü **2019: Formosa 1**
@Miaoli
(128 MW commissioned)
- ü **2021: Taipower 1**
@Changhua
(109.2 MW commissioned)

2015~2025

Phase 2

Zones of Potential

- ü **2018:** Completed capacity allocation
 - By selection: 3.8 GW
 - By Auction: 1.7 GW
- ü **2025:** 4.57GW in commercial operation.

2026~2035

Phase 3

Zonal Development

Total capacity 15 GW (1.5 GW/yr)

Capability Review & Bidding Process

4248/4253
Tgrgcug'ecr cek' " " ' I Y

4254/4257
Tgrgcug'ecr cek' " " ' I Y

First stage

Round 1

- 2026-2027
- Alloc.: 3GW

Round 2

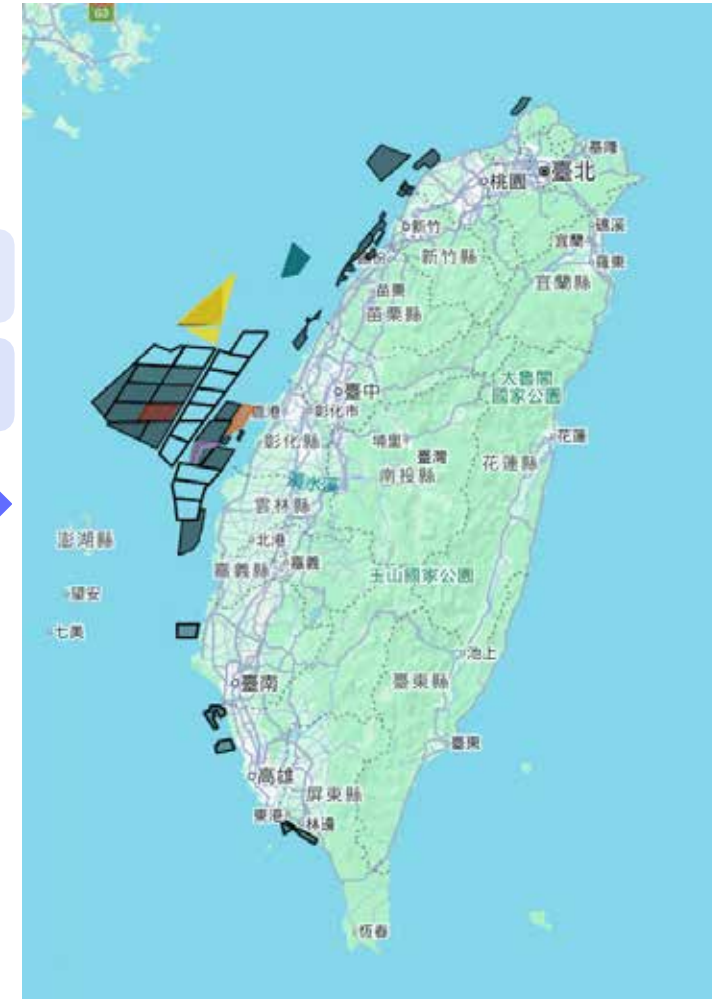
- 2028-2029
- Alloc.: 3GW

Round 3

- 2030-2031
- Alloc.: 3.6GW(temp.)

Second stage

- Depending on previous development in first Stage.
- International technology development will also be considered.



Operating Achievements

As of end of June 2026, TIPC's support has been provided to the offshore wind industry to achieve:



Wind Turbines
500 installed



Capacity
4.80 GW cumulatively installed





3. TIPC's Role in Supporting Offshore Wind Industry



4 Aspects of OSW at Ports

Turbine Pre-assembly Area

< Port of Taichung

- Turbine pre-assembly Area
- Home port for working vessels

< Port of Anping

- Warehousing and storage for imported underwater foundation.

Manufacturing Area

< Port of Taichung

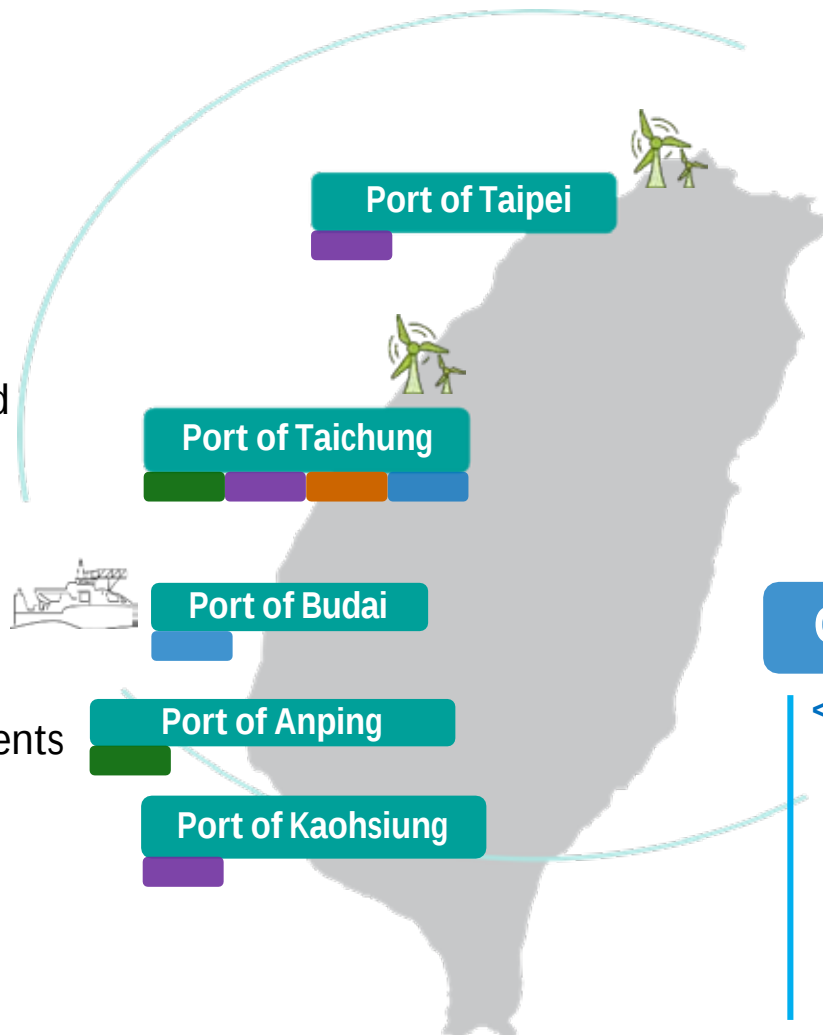
- Turbine manufacturing area for turbine components

< Port of Taipei

- Underwater foundation manufacturing base

< Port of Kaohsiung

- Maritime engineering support
- Underwater foundation manufacturing base
- Undersea cable



Training Center

< Port of Taichung

- OWP training center
- GWO and customized courses

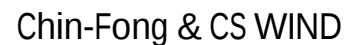
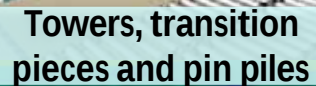
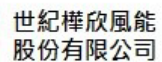


O&M Service

< Port of Taichung & Budai

- Land & water O&M base
- Ship repair services
- Maritime transportation services
- Stevedoring, warehousing & logistics services





3 Major Areas at Port of Taichung for 2026-2035

Region 1: #105P #106P #107

Length: 780m, Depth: -13m~-16m

Hinterland area(South Reclamation Area) w 65ha

Bearing capacity w 3日10日40tons/M² Function w Manufacturing日Turbine pre-assembly

Completion of south reclamation area (50ha) by end of 2026

Region 2: #36P #37P #38

Length: 990m, Depth: -12m~-16m

Hinterland area(Manufacturing area) w 69ha

Bearing capacity w 20日40tons/M²

Function: Turbine pre-assembly area

Completion of #37日#38 total 580m by March, 2026

Region 3: #5AP #5B

Length: 400m, Depth: -11m

Hinterland area: 61.5ha

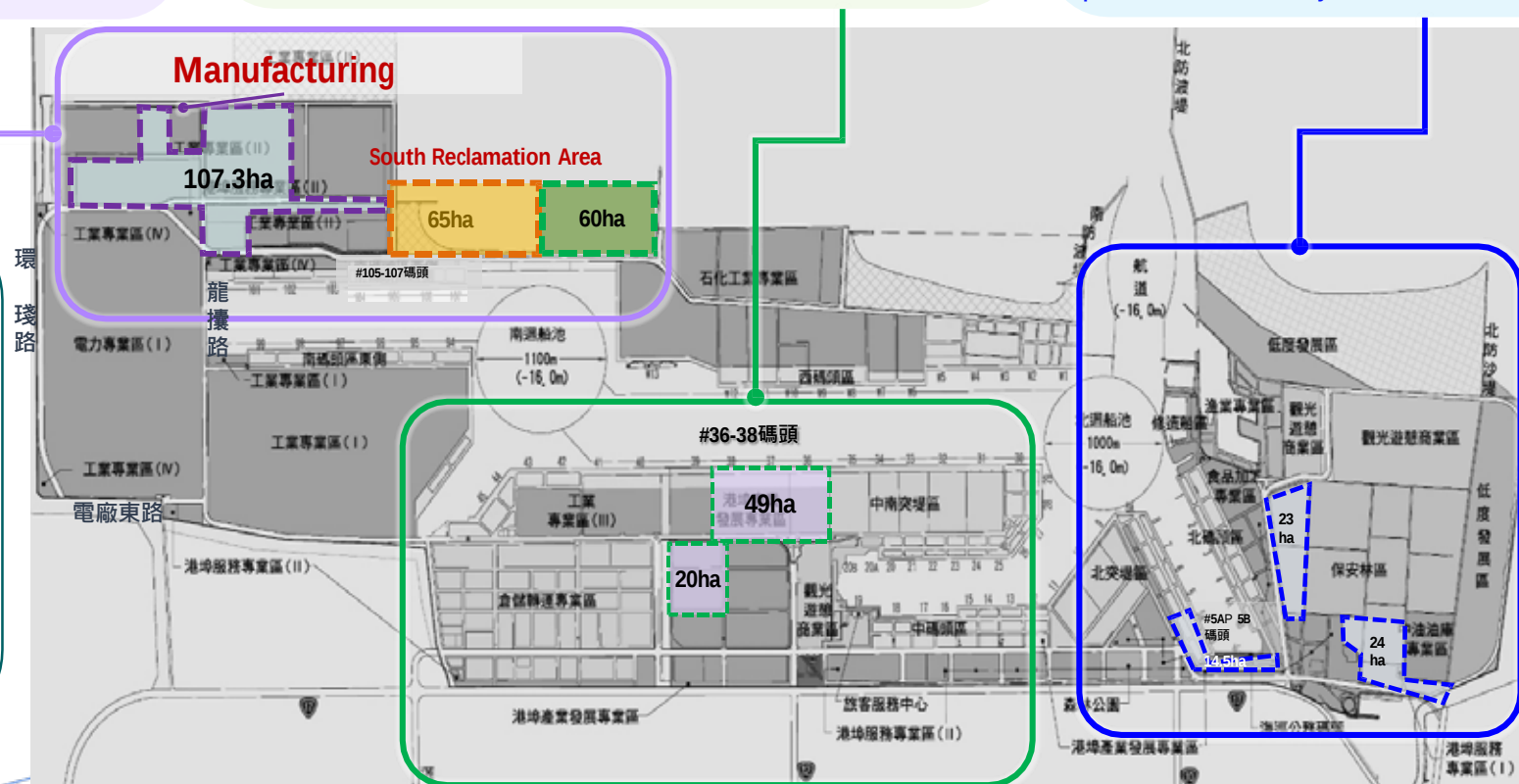
Bearing capacity: 50 tons/M²

Function w Turbine pre-assembly area日O&M Services日Training Center

Completion of public road widening project in protection forest by end of 2027

'Planning Principles :

1. Arrange wharves with at least 400m length and 30ha hinterland for each region.
2. Reduce the transportation cost and distance by arranging available hinterland and wharves at the same area.



Port of Taipei-Manufacturing Area

South Terminal Area

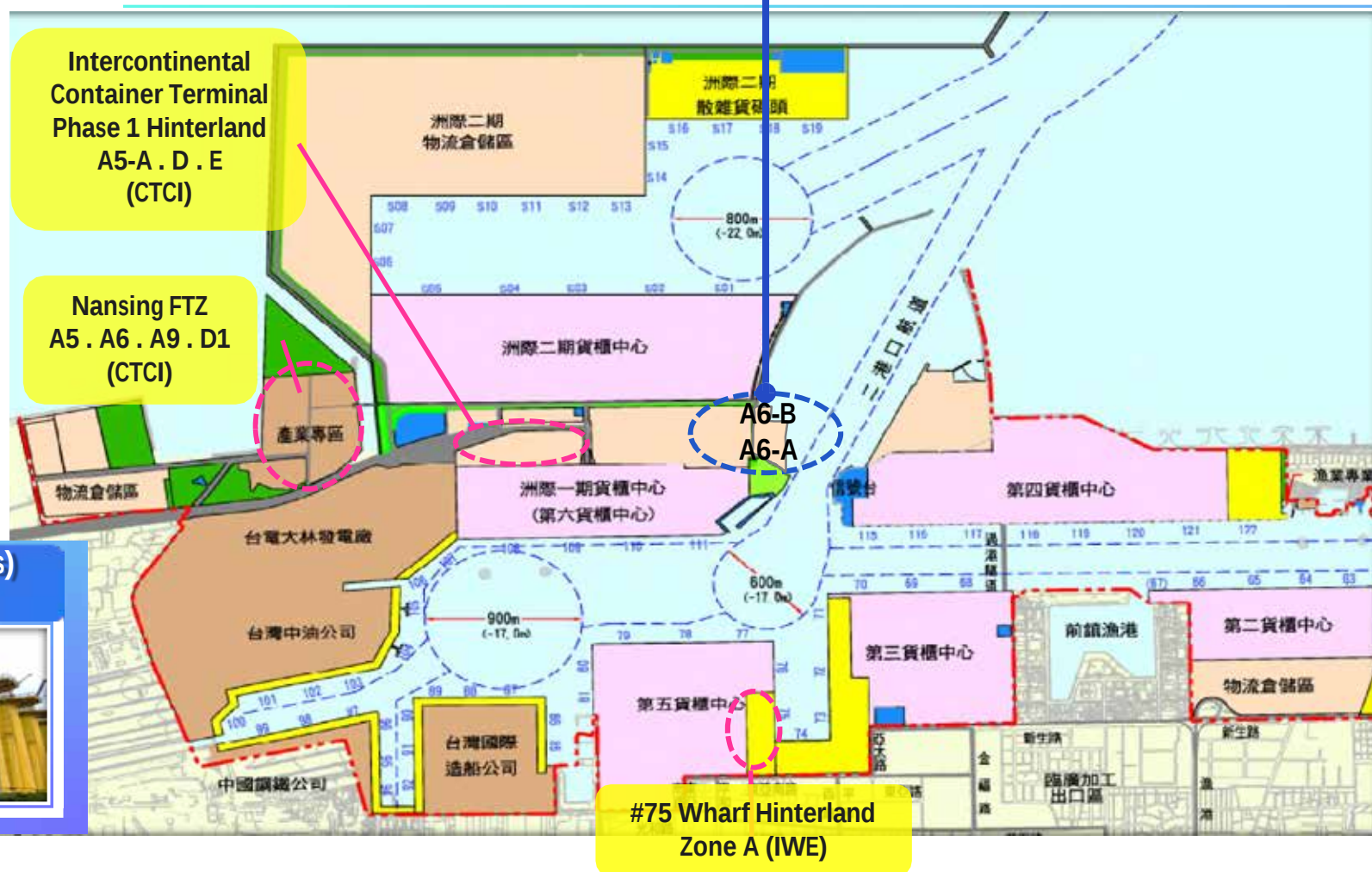
Century Wind Power Co., Ltd. invests and operates underwater foundation manufacturing factory.



Port of Kaohsiung-Manufacturing Area

A6 Heavy Cargo Wharves

- A6-B: IWE operates underwater foundation assembly.
- A6-A: Walsin operates undersea cable manufacturing.



PP (Pin Piles) @ A5-D



TP (Transition Pieces) @A5-E



Port of Anping-Storage Base

» Imported underwater foundation storage and transportation base



OSW Services by TIPC - O&M

TIPC Marine Corporation



- **100% Shareholding**
- Established in Oct 2014
- Capital : NT\$4 billion

Main Business

- Port tugboats, ship rental
- Ship repair, marine rescue
- Offshore wind power operations and maintenance base service

TIPC Marine Boat Services



**CREW OPERATION
AND MAINTENANCE
BOAT SERVICE**

» **4** CTVs

» Crew / supply transport services.



**TUGBOAT
SERVICE**

» **37** tugboats + **6** in progress

» Port area: ship docking operations.

» Underwater exploration surveys and the deployment and retrieval buoys.

» Whales and dolphins observation monitoring, buoy deployment/retrieval, and towing platform operations.



**MARINE ENGINEERING
SERVICES**

» **2** Barges

» Transport turbine underwater foundations, nacelle, and other heavy equipment.

OSW Services by TIPC – Heavy Cargo Transportation

Taiwan International Ports Heavy-
Machinery Corporation, Ltd.



- ◆ 49% Shareholding
- ◆ Established in Dec. 2020
- ◆ Capital : NT\$10 million

Main Business

- One-stop service for heavy cargo transportation.
- Provide engineering project management.
- Lifting and transportation operations.

Heavy Equipment Facility



Special Heavy Equipment Transportation Vehicles



OSW Services by TIPC – Training Center

Taiwan International Windpower Training Corporation Ltd.

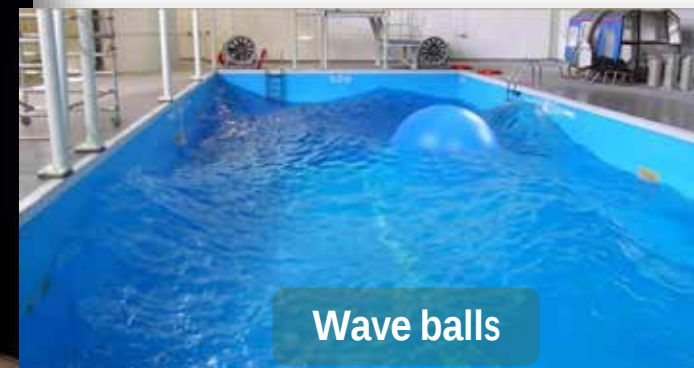


- ◆ **28% Shareholding**
- ◆ **Established in May 2018**
- ◆ **Capital : NT\$100 million**

Main Business

- u **GWO certified courses**
- u **Basic Technical Training**
- u **Basic Safety Training (First Aid, Manual Handling, Fire Awareness, Working at Heights, and Sea Survival.)**

- » **2020–2022:** Ranked No. 1 in the issuance of GWO certificates in the Asia region.
- » **2023:** Began planning to establish a subsidiary in Japan.
- » **2024-2025:**
 1. Completed the registration of the Japanese subsidiary “TIWTC Training Corporation Ltd” in 2024.
 2. Won the GWO Safety & Training Forum and Awards 2024 and 2025 for “Training Team of the Year – APAC.”
 3. 2026: nominated “Training Team of the Year” and “Instructor of the Year.”



Wave balls



4. Port Planning and Support for Floating Offshore Wind Development





Taiwan FOW Policy



August, 2022

For Taiwan 2050 Net-zero, the demonstration program of FOW officially launched.

January, 2024

The key points of Taiwan’s FOW demonstration program w

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4- 3	8 TM 34 ^h mcvki " r mcvtqto u1gcej " r tqlgev	; 2 TM 3: 2 OY	Hggf /k'Vctkh' *HV+	424; "qt 4252

Spec requirements for FOW at ports



Quayside : 400 meters



Hinterland : 30 ha

Site Demand

Ø **Quayside: 2 Wharves (Total 400 meters)**

1 components loading and unloading area + 1 floating assembly area

Ø **Depth: 10~16 meters**

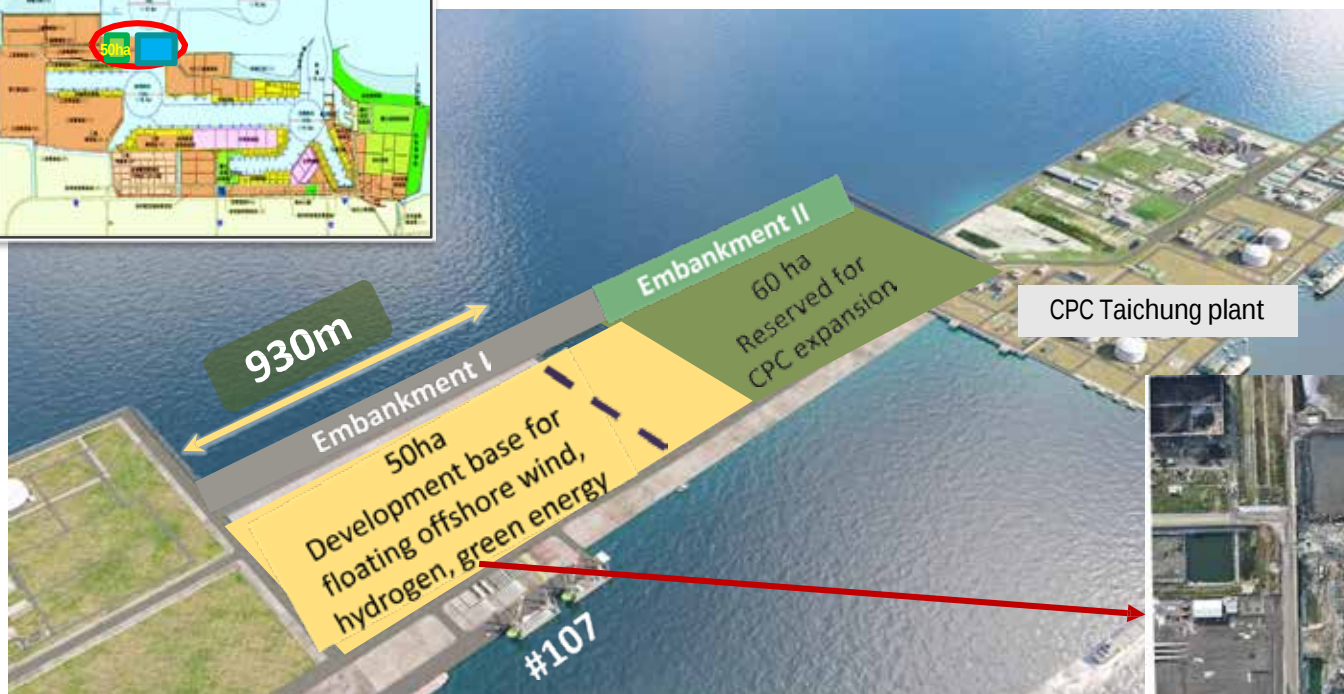
Ø **Hinterland: 30 ha**

20 ha assembly area + 10 ha floater storage area

Ø **Waters: calm water area for wet storage**

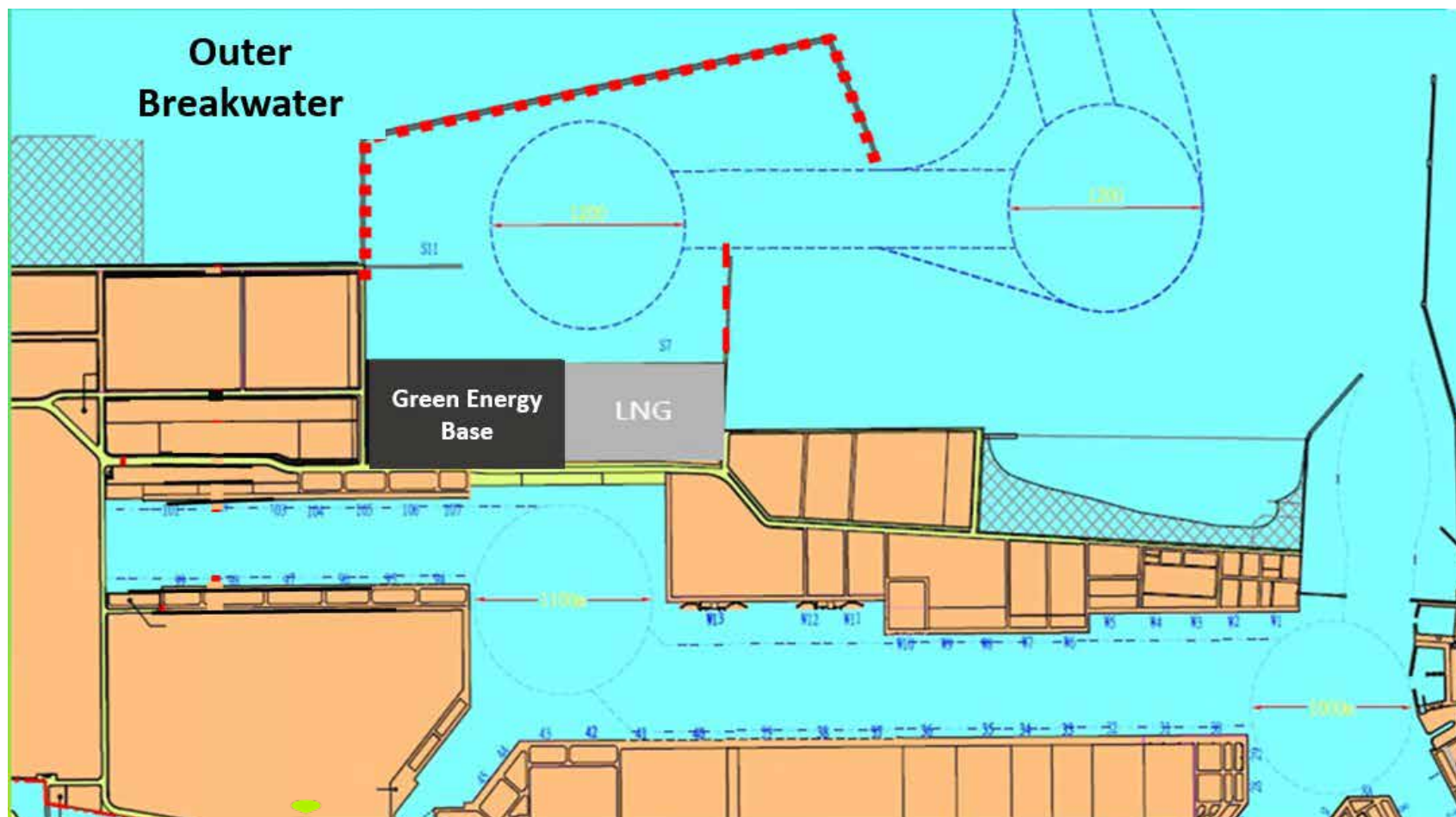
Future Plan for the Requirement of FOW at Ports (1/2)

South reclamation area in Port of Taichung
Complete **50** ha hinterland by end of 2026



Future Plan for the Requirement of FOW at Ports (2/2)

The EIA of outer breakwater has been submitted, and on the premise of being approved by the end of 2027, a 800-1000 meter section of outer breakwater could be completed by Q1, 2029.



Calm water areas would be provided for floating offshore wind.



5. Conclusion





Port adaptation to Energy Transition

Government Leadership Drives Development

A clear and consistent policy framework is essential for advancing offshore wind development and attracting long-term investment.

Ports Enable the Offshore Wind Ecosystem

Beyond providing dedicated port infrastructure, ports can support industry growth through diversified services and participation across the offshore wind value chain.

Embracing the Energy Transition

Renewable energy development is a global trend, creating opportunities for sustainable growth, industrial transformation, and long-term competitiveness.

Taiwan International Ports Co., Ltd.

THANK YOU





Appendix



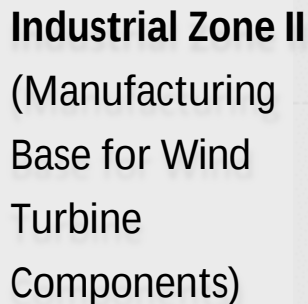


Case sharing for Blade Transportation Route



Issues:

1. The extra-long blades can no longer be transported via existing port roads (yellow line below).
2. The transportation hours was limited to **11 pm - 6 am**.

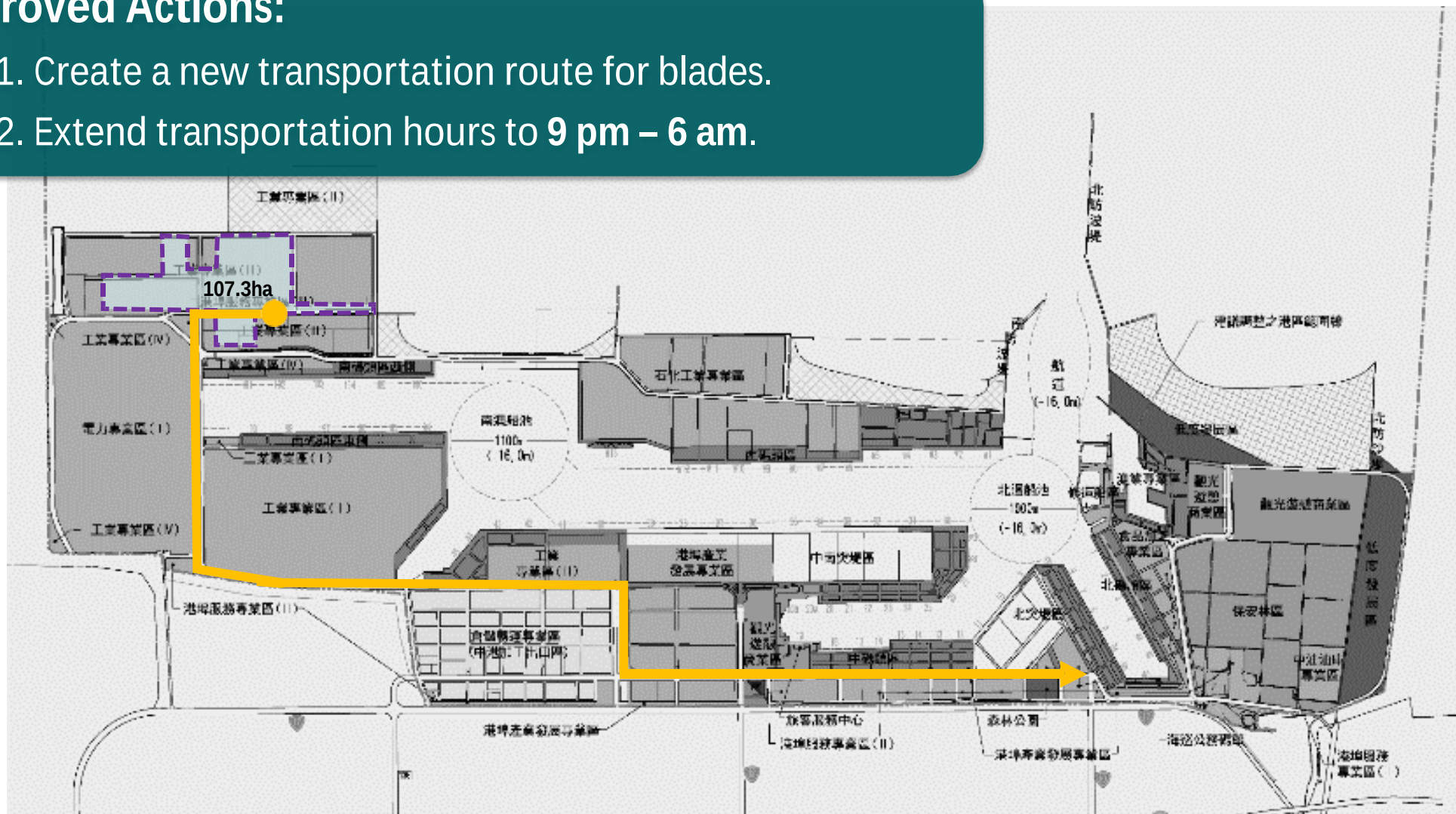


Dedicated wharf

Blade Transportation Route at Port of Taichung

Improved Actions:

1. Create a new transportation route for blades.
2. Extend transportation hours to 9 pm – 6 am.



Solution A

Use Taipower Power Plant South and North 2nd Road (yellow )



There was high-voltage cable culvert beneath yellow line --- **insufficient bearing capacity.**

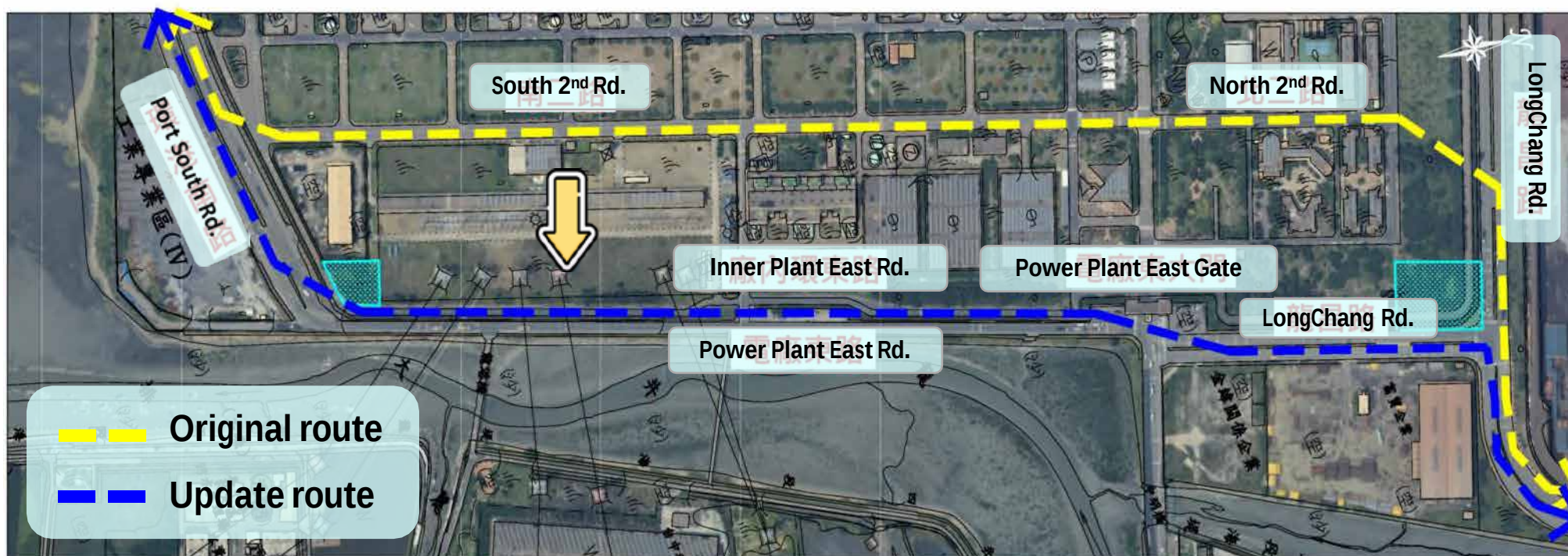


Solution B

Use Power Plant West Road
(blue — —)



- Plant land setback → Increase turning space
- Removed Power plant fence → Widen the route
- Straightened the Route → Decrease the curve
- Removed Median, relocated traffic signal and street lamp → Widen the route



Engineering Improvement Projects of the Transportation Route



Power Plant South and North 2nd Rd

- 8 Taipower high-voltage cables beneath the road.
- The road's bearing capacity has been accessed.



Power Plant Fence

- Creating new road entrances/exits on Port South Road and Longchang Road .



South Basin Inspection Station

- The Median needs to be removed to increase the usable road width.

Finalized Transportation Route

Power Plant East Road (Taipower Company)

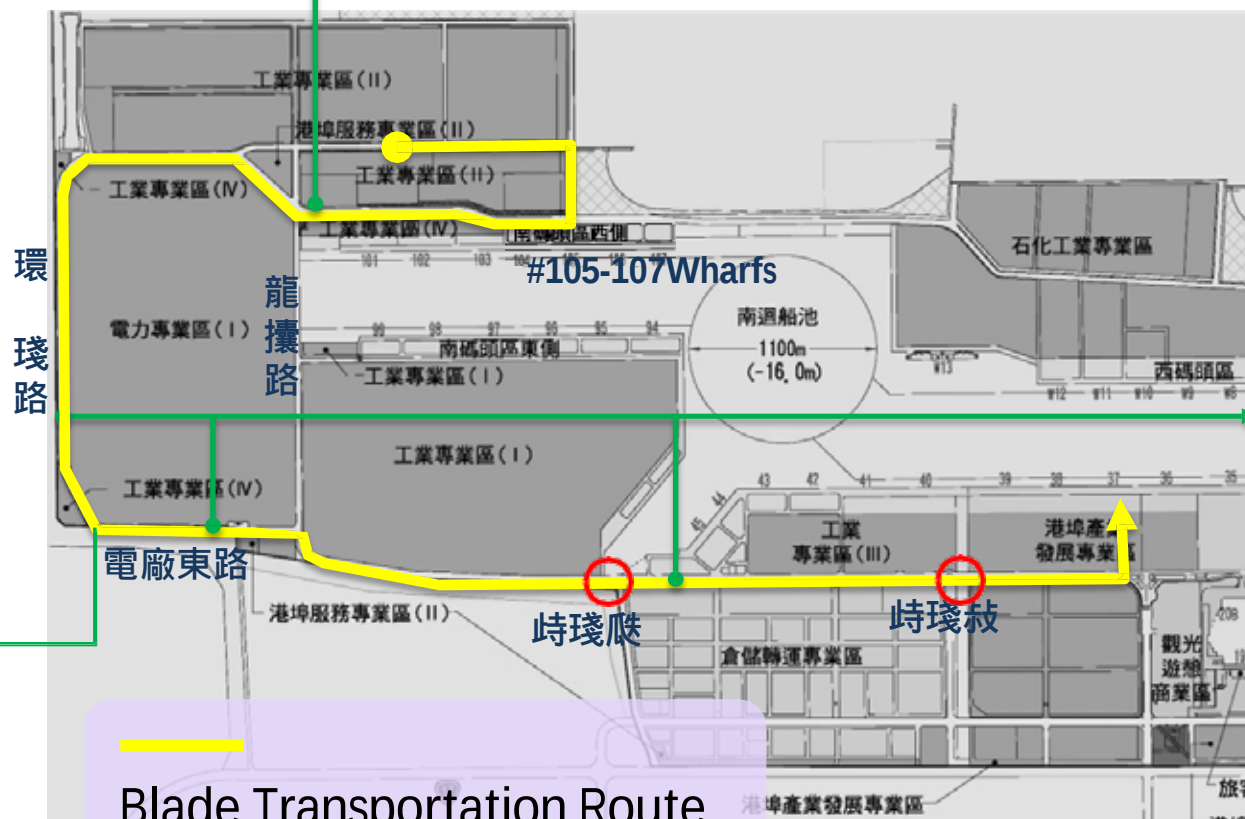
- Power plant fence removed
- On-site land leveling
- Vegetated road paved

West Wharf Inspection Station(TIPC)

- Street lamp removed
- Median removed
- Vegetated road paved

Port South Road P " Longchang Road, South Basin Inspection Station(TIPC)

- Intersection temporary lighting
- Median removed
- Street lamp removed
- Vegetated road paved
- Traffic signals relocated



Blade Transportation Route