經濟部能源局
BUREAU OF ENERGY, MINISTRY OF ECONOMIC AFFAIRS






The Development and Prospect of Offshore Wind Energy in Taiwan

Yu Cheng-Wei, Director-General

Bureau of Energy, MOEA

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Outlines

- Taiwan Offshore Wind Potential
- Promotion Policy of Offshore Wind
- Phase 1: Demo Incentive Program
- Phase 2: Zones of Potential
- Phase 3: Zonal Development
- Outlook of 2035

Taiwan Offshore Wind Potential

Shallow Water

Depth: 5-20 m
Area: 1,779.2 km^2
Potential: 9 GW

Feasible: 1.2 GW

Deep Water

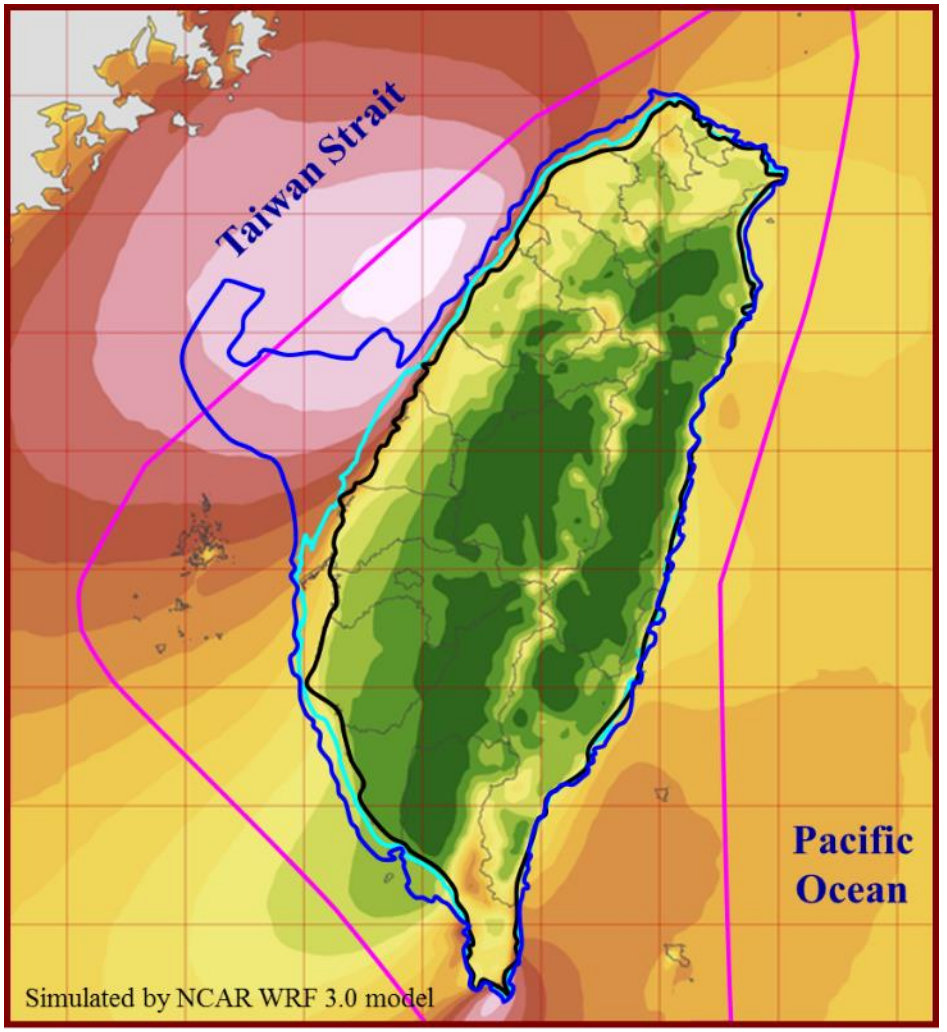
Depth: 20-50 m
Area: 6,547 km^2
Potential: 48 GW

Feasible: 10 GW

Deeper Water

Depth: > 50 m
Potential: 90 GW

Feasible: > 10 GW



Wind Power Density(W/m2)

< 100	400 - 500	800 - 900	1,200 - 1,300
100 - 200	500 - 600	900 - 1,000	1,300 - 1,400
200 - 300	600 - 700	1,000 - 1,100	1,400 - 1,500
300 - 400	700 - 800	1,100 - 1,200	> 1,500

Ref. “Wind Resource Assessment Handbook,” ITRI, 2011

Promotion Policy of Offshore Wind

Phase 1: Demonstration Incentive Program (DIP)

- ✓ **2019:** Formosa 1 @Miaoli (128 MW commissioned)
- ✓ **2021:** Taipower 1 @Changhua (109.2 MW grid-connected in August)

Phase 2: Zones of Potential

- ✓ **2018:** Completed capacity allocation
  - By Selection: 3.8 GW
  - By Auction: 1.7 GW
- ✓ **2025:** 5.5 GW will be in commercial operation.

Phase 3: Zonal Development

- ✓ **2026 - 2035:** 1.5 GW to be developed every year.
- Directions of site planning was announced.
- 2-stage selection:
  - Capability Review
  - Bidding Process
- Industrial Relevance Plan will be included as well.

Phase 1: Demo Incentive Program(1/2)

Demonstration Projects of Offshore Wind

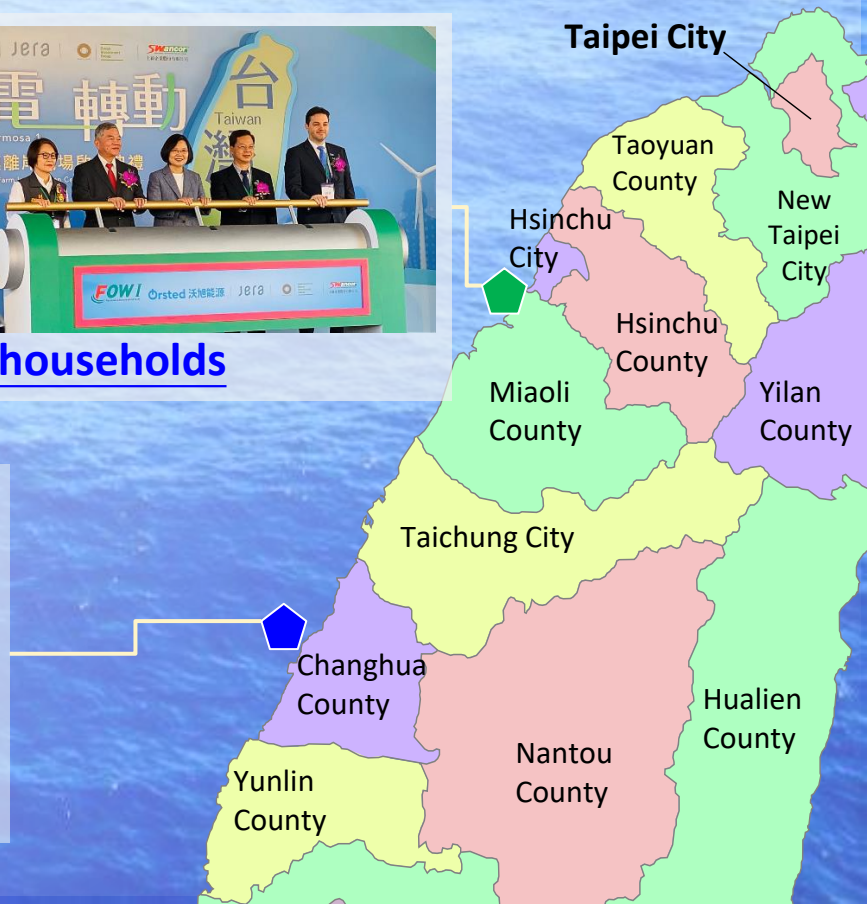
- MOEA provides subsidies for both turbines & wind farms to encourage pioneers
- To confirm feasibility in terms of administration, technology and finance

Formosa Demonstration Wind Farm

- Total capacity 128 MW
(including demonstration turbines)
- Construction initiated on 18th May 2018
- Commissioned by the end of 2019
- Annual production 480 GWh, supplying 128,000 households

Taipower Demonstration Wind Farm

- Total capacity 109.2 MW
- Construction completed on 27th August 2021
- Annual production 410 GWh, supplying 94,000 households



Phase 1: Demo Incentive Program(2/2)

Formosa I Wind Farm
Total capacity 128 MW
(4MW x2，6MWx20)

Demonstration Projects of Offshore Wind in Taiwan
In total the capacity is around 238 MW

Taipower Wind Farm
Total capacity
109.2MW (5.2MWx21)

Phase 2: Zones of Potential (1/2)

Selection
3,836 MW
(2020 ~ 2024)

Total **5.5 GW**

Auction
1,664 MW
(2025)

Formosa II (Swancor + Macquarie+JERA) #5-6
2020 — 378 MW

Taipower Phase II #26
2024 — 300 MW

Greater Changhua SE (Ørsted) #15
2021 — 605.2 MW

Chang-Fang (CIP) #27
2021 — 100 MW
2023 — 452 MW

Greater Changhua SW (Ørsted) #14
2021 — 294.8 MW

Xi-Dao (CIP)
2024 — 48 MW

Hai-Long 2 (NPI + Yushan) #19
2024 — 300 MW

Chung-Neng (CSC+CIP) #29
2024 — 300 MW

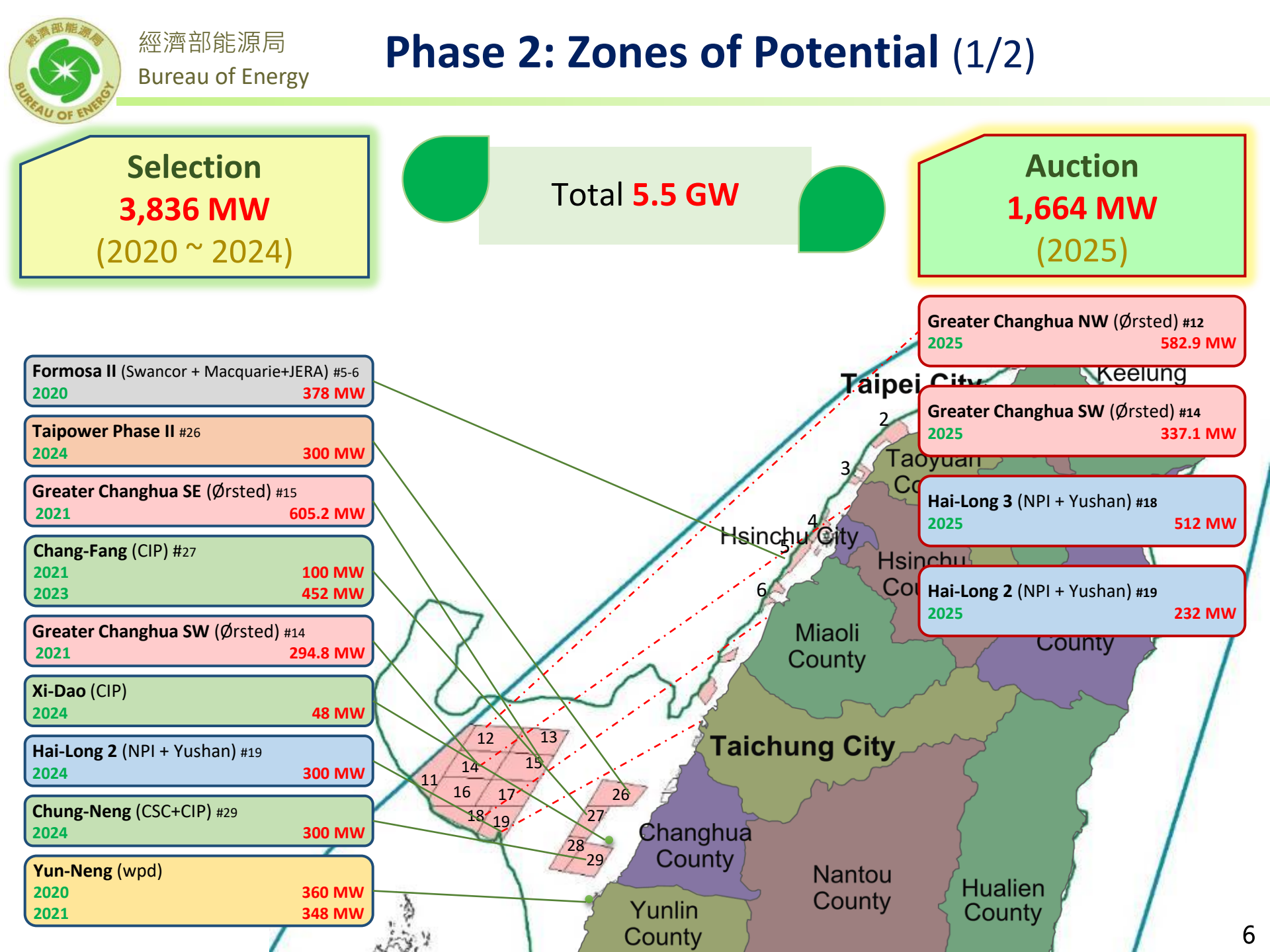
Yun-Neng (wpd)
2020 — 360 MW
2021 — 348 MW

Greater Changhua NW (Ørsted) #12
2025 — 582.9 MW

Greater Changhua SW (Ørsted) #14
2025 — 337.1 MW

Hai-Long 3 (NPI + Yushan) #18
2025 — 512 MW

Hai-Long 2 (NPI + Yushan) #19
2025 — 232 MW



Phase 2: Zones of Potential (2/2)

Taiwan's Phase 2 offshore wind farms are currently under construction.

Ørsted- Greater Changhua Wind Farm

wpd-Yunlin Offshore Wind Farm

Phase 3: Zonal Development (1/3)

The main scheme of Zonal Development

To Enlarge Capacity

- 2026 - 2035: 1.5 GW to be developed every year

Flexible IRP Options

- Item Flexibility
- Quantity Flexibility
- Optional Collaboration

2-stage Selection Process

- Stage 1: Capability Review
- Stage 2: Bidding Process

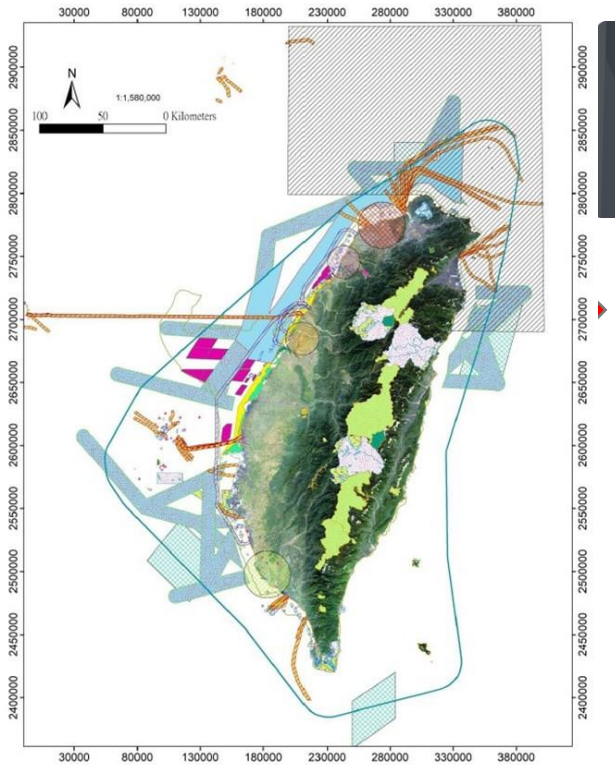
To Enhance Competitivity

- The upper limit of capacity allocation for the same developer or a single wind farm is 0.5 GW
- To enhance competitivity & diversity.

Phase 3: Zonal Development (2/3)

Mechanism of Application and Joint Review

MOEA releases the "Sensitive Sea Areas" and guidance of site planning areas



MOEA holds joint review mechanism

Phase 3: Zonal Development (3/3)

2026 - 2035 Total capacity 15 GW (1.5 GW / yr)

Capability Review & Bidding Process

2026 - 2031
Release capacity: 9 GW

2032 - 2035
Release capacity: 6 GW

First Stage

Round 1
- 2026 - 2027
- Alloc.: 3 GW

Round 2
- 2028 - 2029
- Alloc.: 3 GW

Round 3
- 2030 - 2031
- Alloc.: 3 GW

- MOEA might adjust the selection mechanism of Round 2 & 3 based on the result of Round 1

Second Stage

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

Outlook of 2035

In 2035, the annual electricity production of offshore wind is 77.3 TWh, and annual carbon reduction is 38.8 million tons.

The accumulated number of job opportunities in 2035 is estimated to exceed 74,000.

The foreign and domestic investment is estimated to approach NTD 3.2 Trillion (€99.2 Billion)**.**

Thank You for Your Attention