Island Resilience Institute
島嶼韌性研究中心

Introducing Taiwan's offshore wind market

台湾洋上風力市場の紹介

Three messages for this discussion

本日の３つのメッセージ

1

Fixed-bottom is built; the 2030 target is not

着床式は導入済み、
2030年目標は未達の恐れ

4.9 GW since 2016; 10.9 GW by 2030 means doubling in four years

2

Floating wind is still at the design stage

浮体式はまだ制度設計の段階

2–3 demo projects by 2032–33; the tariff, site screening and fisheries evidence are the open questions.

3

The problems are regional, so are the fixes

課題も解決策も地域共通

Japan and Korea face the same price, siting and fisheries questions

MARKET AT A GLANCE

A fixed-bottom market built in 10 years

約１０年で構築された着床式洋上風力市場

4.9 GW

installed, 508 turbines, as of 10 July 2026

2026年7月10日現在
508基の風車を設置済み

5th

globally in cumulative offshore wind capacity, end-2025

世界5位の
洋上風力導入量(2025年末現在）

13.3%

renewable share of generation in 2025

2025年の再生可能エネルギーの割合

10.9 GW

2030 target, rising to 18.3–19.9 GW by 2035

2030年目標値、
2035年は18.3–19.9 GW

Floating wind, by contrast, is still at the **pre-demonstration** stage: no floating turbine is installed and the support tariff has not yet been set.

The state allocates sites; mostly foreign developers build

市場構造：政府が開発海域を割り当て、主に海外事業者が建設する

Rules and sites

制度・海域

- 經濟部 Ministry of Economic Affairs
- 台灣電力公司 TAIWAN POWER COMPANY
- 環境部 Ministry of Environment

Developers

開発事業者

- Ørsted
- CIP
- NORTHLAND POWER
- wpd
- 台灣電力公司 TAIWAN POWER COMPANY
- jera
- SRE Synera Renewable Energy
- 中鋼公司

Buyers

電力の買い手

- 台灣電力公司 TAIWAN POWER COMPANY
- tsmc
- Google
- 星星電力 STAR TRADE
- TSEE 台灣智慧電能

Finance

金融

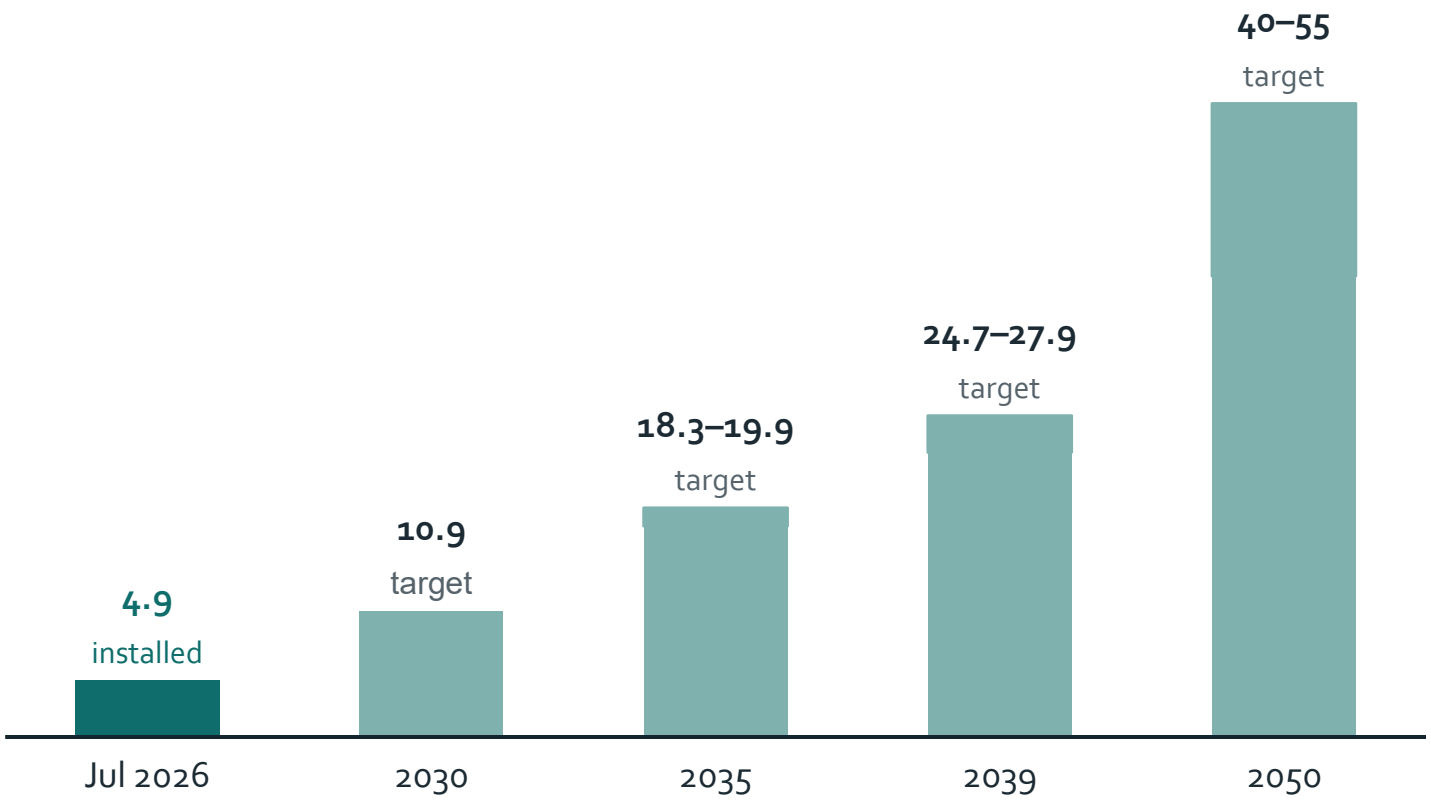
- KDB산업은행
- 臺灣銀行 BANK OF TAIWAN
- standard chartered
- 富邦金控 Fubon Financial
- 國泰世華銀行
- SMBC 三井住友銀行
- EDC
- UK Export Finance

DEPLOYMENT TRAJECTORY

Three phases, and targets that keep compounding

３段階の導入と、段階的に引き上げられてきた政策目標

Cumulative installed capacity, GW (installed vs policy target)



1 **Demonstration 実証 (2012-2014)**

2 projects, 237 MW, completed 2019 and 2021
2案件、237MW,　2019年、2021年に完成

2 **Potential sites ポテンシャル海域 (2015-2025)**

6 operating and 3 building (Jul 2026); Greater Changhua 2b&4 (920 MW) completed Sep 2026
6案件運転開始、3案件建設中（2026年7月現在）、Greater Changhua 2b&4 (920 MW) 2026年9月完了

3 **Zonal development ブロック開発 (2026-2035)**

- R3.1–3.2: 4.43 GW allocated, ~2.4 GW still active.
- R3.3: 3.6 GW, bids closed 30 Sep 2026.
- R3.4 and R3.5: 8 GW each, selection 2027 and 2029

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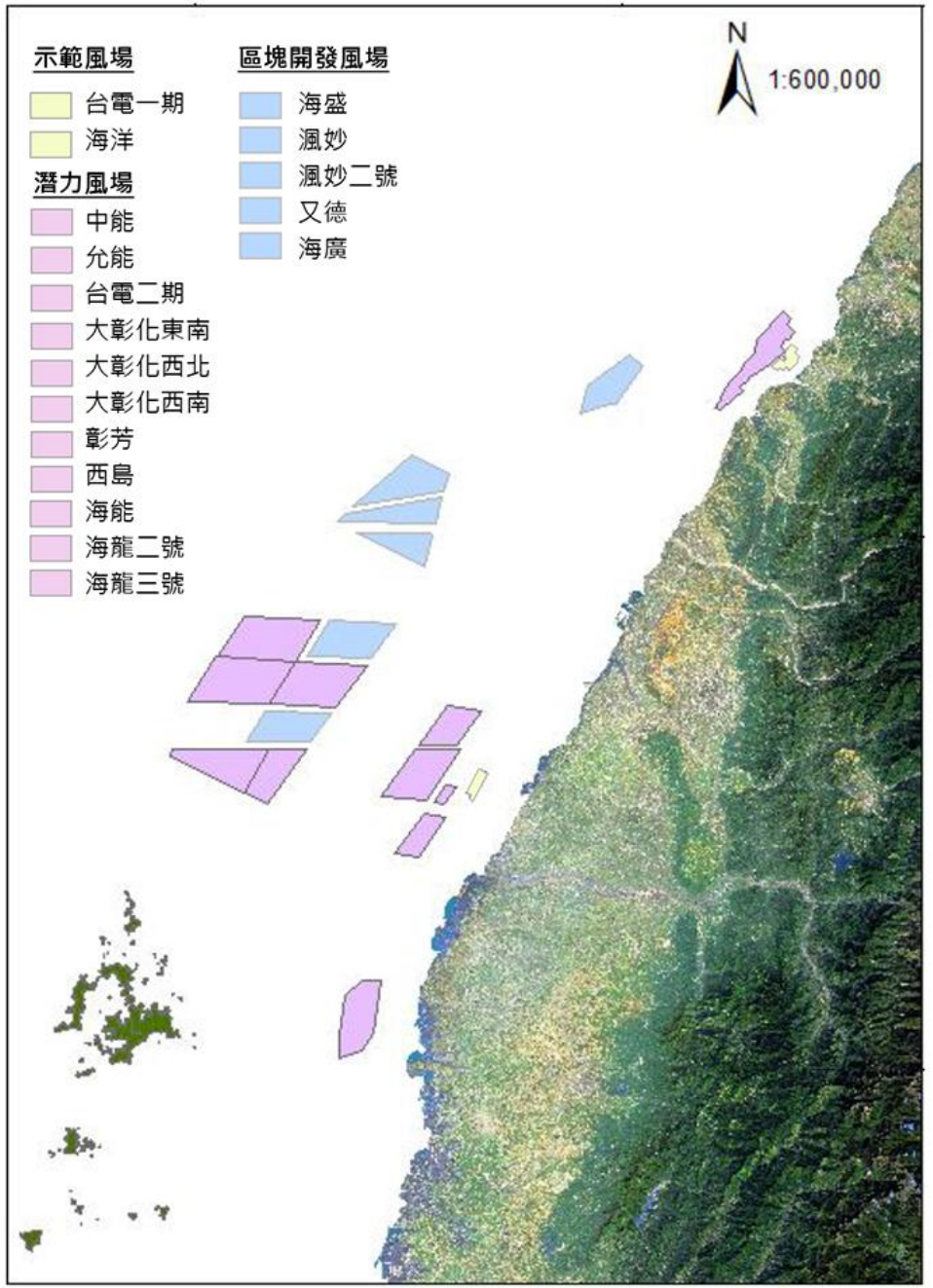


Two demonstration farms, 237 MW, built 2012-2014

第１段階：実証風力発電所２か所、計２３７MW（２０１９～２１年完成）

Wind farm	Developer	Turbines	MW	GWh/yr	Completed
Formosa 1 (海洋示範)	Ørsted, JERA, Macquarie	22	128	474	2019
Taipower Phase 1 (台電一期)	Taipower	21	109.2	317	2021

What it was for　目的

MOEA selected three developers; two farms were built. The phase set the base in regulation, infrastructure and technology.

MOEA（経済部）は３社の開発事業者を選定し、そのうち２箇所が建設される。制度、インフラ、技術面における基盤が築かれる。

How it was supported　支援策

Capital grants plus the feed-in tariff, under the 2012 offshore demonstration incentive rules.

２０１２年の洋上風力実証事業向けインセンティブ制度の下で、設備投資補助金と固定価格買取制度（FIT）が適用された。

Nine potential-site farms, 5.0 GW, most now operating (2015-2025)

第２段階(２０１５－２０２５)：潜在サイト９件、計５．０GW、大半が運転中

Wind farm	Developer	Turbines	MW	GWh/yr	Completed
Formosa 2 (海能)	JERA (49%) and partners	47	376	1,426	2023
Greater Changhua 1&2a	Ørsted	111	900	3,640	2024
Changfang & Xidao[1]	CIP	62	595.2	1,540	2024
Zhongneng (中能)	China Steel (Taiwan), CIP	31	294.5	1,120	2024
Yunneng (允能)[2]	wpd	80	640	2,100	2025
Hai Long 2 (海龍二號)	Northland, Mitsui, Gentari	37	518	1,940*	2026
Greater Changhua 2b&4	Ørsted (TSMC buys all output)	66	920	3,454*	Sep 2026
Hai Long 3 (海龍三號)	Northland, Mitsui, Gentari	36	504	1,894*	Building
Taipower Phase 2 (台電二期)	Taipower	31	294.5	1,104*	Building

What it was for　目的

To scale up to gigawatt-scale farms and build a local supply chain. 5.5 GW was allocated for grid connection by 2025

スケールの拡大化、サプライチェーンの構築、２０２５年までに５．５GWが系統接続を割り当て

How it was supported　支援策

3,8 MW went to selected projects on a 20-year FIT, with local-content requirements. 1,664 MW went to auction winners, whose bids of NT$2.22–2.55 (US$74–84) set their price

３．８GW分が国内生産比率要件ありの２０年FIT対象案件に、１，６６４MWは入札（NT$2.22～2.55/kWh）

Zonal rounds: 2.4 GW in development, 3.6 GW now bid (2026-2035)

第３段階（区域開発）：２．４GWが開発中、３．６GWを入札中

Round	Wind farm	Developer	MW	GWh/yr*	Target	Status
R3.1	Fengmiao (風妙)	CIP	500	1,875	2027	In construction
R3.1	Haisheng (海盛)	SRE	495	1,856	2028	In construction
R3.2	Haiguang (海廣)	SRE	800	3,000	2029	In construction
R3.2	Youde (又德)	Fuwei Energy	700	2,625	2029	Being terminated
R3.2	Fengmiao 2 (風妙二)	CIP	600	2,250	2029	In construction
R3.3	3.6 GW	Ørsted, CIP expected	3,600	13,500	2030–31	Bids closed 30 Sep 2026
R3.4–3.5	Next two rounds	—	8,000 each	—	2032–39	Selection 2027, 2029

Terminated since 2025: EDF's 440 MW, Haiding 2, Haixia 1 and Haixia 2. Their sea space returns as expansion capacity in R3.3

What it was for　目的

Regular competitive rounds with no subsidy
公的支援なしの競争.

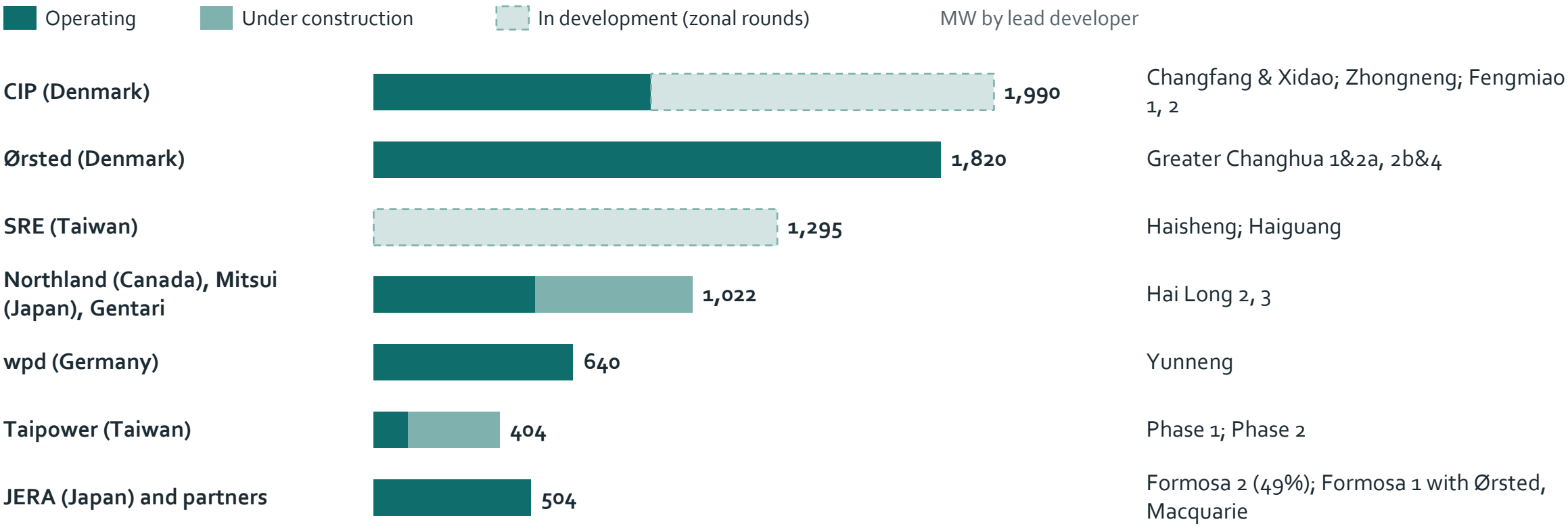
How it was supported　支援策

Corporate PPAs, such as TSMC's with Ørsted, plus a national loan-guarantee scheme. Round 3.3 adds a NT$2.29/kWh (US$72/MWh) floor price
TSMCとØrstedのようなCPPAに加え、国の融資保証制度。Round 3.3ではNT$2.29/kWh（72米ドル/MWh）の最低価格も導入。

DEVELOPERS AND THEIR WIND FARMS

CIP and Ørsted lead; Japanese firms are in four farms

CIPとオーステッドが先行、日本企業は４つの発電所に出資



Exited or terminated: EDF (440 MW, R3.1), Corio (Haiding 2, 600 MW), Lealea Group (Haixia 1, 2), Fuwei Energy (Youde, 700 MW, in progress).

MW of farms led or co-owned, not equity-adjusted. MOEA, Jul 2026 [1]; [7] [32] [37]–[39] [41]–[43] · 9

The floating demonstration project in a glance

浮体式実証の系統接続目標は２０３２～３３年に後ろ倒し

Scale　規模

2 projects (+1 possible), 100–200 MW each, 6–12 floating platforms
2案件（＋1案件の可能性）、各100～200MW、浮体式基礎6～12基

Eligibility　適格要件

Filed site plus preliminary EIA approval as a floating-foundation project　浮体式案件として、海域の申請および初期環境影響評価（EIA）の承認を取得済みであること

Scoring　評価

Technical 45, financial 40, sustainability 15; 70 of 100 to qualify

技術45点、財務40点、持続可能性15点。100点満点中70点以上で適格

Support　支援

20-year FIT only, no capex grant; rate draft due end-2026　20年間のFITのみ。設備投資補助金はなし。買取価格案は2026年末までに提示予定

Selection　選定

Mechanism Q4 2026; applications 2027; results Q4 2027　制度詳細は2026年第4四半期、申請は2027年、結果発表は2027年第4四半期

Participation　参加予測

~9 eligible sites; fewer than five developers preparing; Ørsted will not bid.　適格候補海域は約9か所。準備中の開発事業者は5社未満。Ørstedは応札しない予定

Sources: MOEA draft, 8 Sep 2026 [2]; [3] [4] [31] [33]. Press reports a June close and Q3 results; the draft says Q3 and Q4 · 8

Five lessons from Taiwan's first decade

台湾の最初の１０年から得られた５つの教訓

1 · Price bids need a floor

価格入札には下限価格が必要

Low bids without escalation terms stalled; Taiwan and Japan now use floors.

2 · Local content has a price

国産化にはコストが伴う

Mandates raised cost and delay and drew an EU dispute; removed in R3.3

3 · Screen conflicts upstream

海域利用の競合は早期に洗い出す

Liwei (Taoyuan): an aviation conflict surfaced after allocation.

4 · Stable rules count

ルールの安定性が重要

Rule changes and long gaps deter bidders as much as price levels.

5 · Social licence comes first

社会的受容の確保が最優先

Engage fishers before site qualification, not at the compensation stage.

A caveat

留意点：R3.3と浮体式実証は別の制度

R3.3 is a commercial tender; the floating demo is a subsidised FIT.

AREAS FOR REGIONAL COLLABORATION

Where joint work adds more than national work

単独よりも共同で取り組む価値が大きい分野

A · Policy and spatial planning

政策・海洋空間計画

Compare permitting and site screening in TW, JP and KR; a joint position on upstream, multi-agency screening for floating zones.

B · Fisheries evidence

漁業に関するエビデンスの共有

A shared baseline and monitoring protocol for floating demos; compensation compared with co-management.

C · Supply chain

サプライチェーン

Map vessels, quays and floater assembly capacity so three markets do not compete for the same bottlenecks.

Also: shared benchmarks for floating price support (FIT, CfD, auction), so each premium rests on evidence.
浮体式の価格支援（FIT・CfD・入札）に関する共通ベンチマーク

Thank you!

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Each phase reset allocation, price and local content

段階ごとに、案件配分・価格支援・国産化要件が見直されてきた

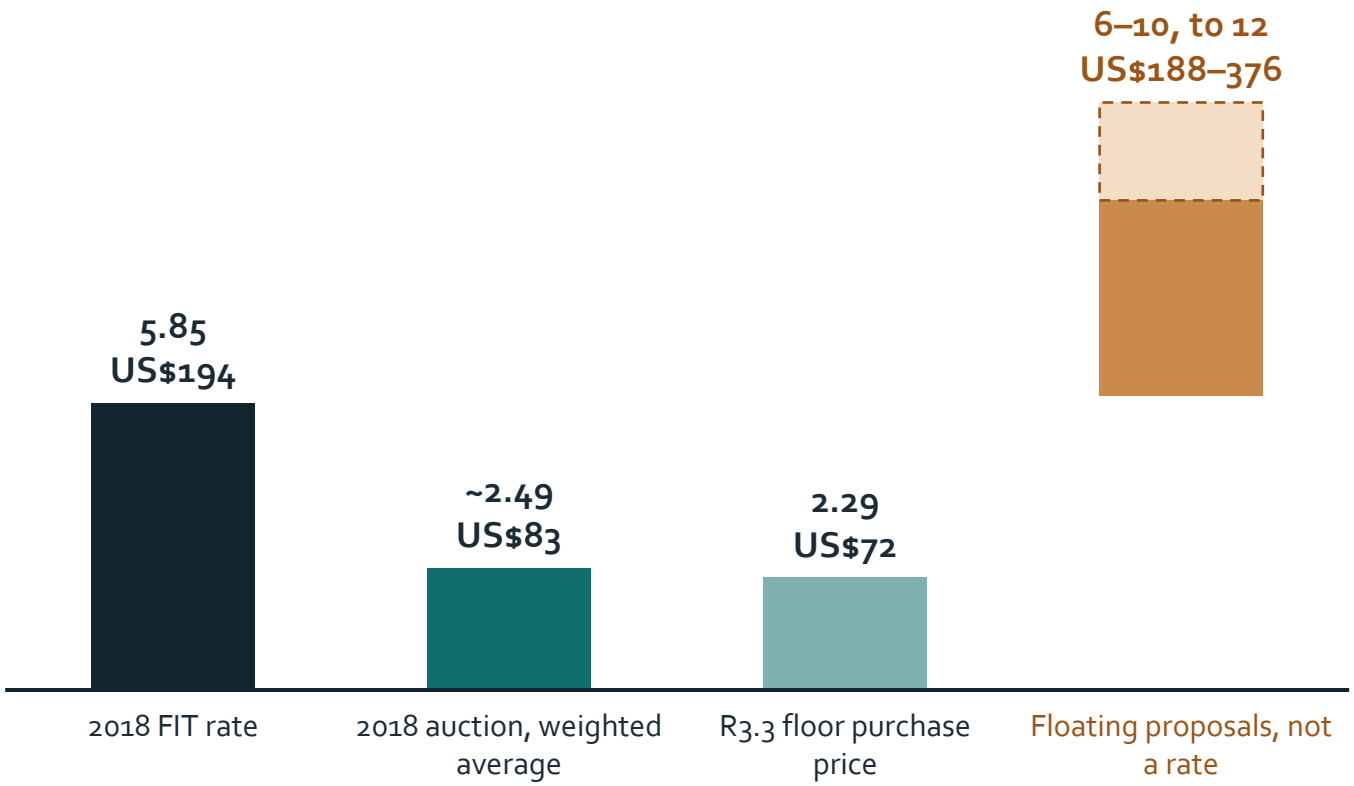
Stage	Allocation	Price (NT$/kWh, US$/MWh)	Local content	Status
Demonstration	Selected projects	Grant plus FIT	Not required	237 MW operating
Potential sites (2018)	Allocation plus price auction	FIT NT$5.85 (US$194); auction NT$2.22–2.55 (US$74–84)	Required	Operating or in construction
Zonal Development (R3.1–3.2)	Capability-based selection	Corporate PPAs only	Mandatory, then selectable	4.435 GW allocated; ~2.4 GW still active
Zonal R3.3 (2026)	Execution-capability scoring	PPAs + NT$2.29 (US$72) floor price	Removed; ESG commitments	Bids closed 30 Sep; two bidders expected
Floating demo	Qualification score of 70	20-year FIT; rate due end-2026	Local collaboration scored	Draft, Sep 2026; ~9 eligible sites

PRICE SIGNALS

From FIT, to auction, and back to FIT for floating

FITから入札へ、そして浮体式では再びFITへ

NT$ per kWh (US$ per MWh below each value)



A ~57% gap in one year: 2018 FIT NT$5.85 (US$194/MWh); auction bids NT$2.22–2.55 (US$74–84), ~NT$2.49 (US$83) weighted.

Low bids met inflation and localisation costs; R3.3 adds a NT$2.29 (US$72/MWh) floor purchase price.

Floating: MOEA's collected proposals are mostly NT$6–10 (US$188–314/MWh), some up to NT$12 (US$376).

Japan's Round 1 followed a similar cycle; June 2026 rules add a price band with a floor for the re-auction.

Exits reflect both global and Taiwan-specific factors

事業者の撤退は、世界的な要因と台湾固有の要因の双方を反映している

Global conditions

- floating capex US$7,349/kW vs US$5,411/kW fixed-bottom (+36%)
- ~278 MW floating installed worldwide at end-2024; only 25 MW commissioned in 2025.
- Higher financing costs; scarce vessels and turbine supply

Taiwan-specific conditions

- Localisation mandates added cost and delay (now removed)
- Corporate PPA prices versus rising capex
- Floating FIT still unset four years after the first demo draft (2022)
- Local-government and port coordination

References (1 of 4)

[1] MOEA, 我國離岸風電中長程發展規劃 (National Climate Change Committee briefing), 23 Jul 2026

[2] MOEA, 浮動式離岸風電示範計畫(草案) briefing, 8 Sep 2026

[3] Economic Daily News (UDN), 浮動式離岸風電躉購費率 每度喊到逾10元, 9 Sep 2026

[4] CNA, 經部浮式離岸風場年底前公告選商 學者籲港口量能儘早規劃, 26 Sep 2026

[5] CNA, 離岸風電3-3期選商9/30截止收件 強制國產化退場迎新局, 26 Sep 2026

[6] China Times, 經濟部公布離岸風電區塊開發第3期選商機制, 27 Mar 2026

[7] Environmental Information Center (e-info), 法國電力退出台灣離岸風電開發, Apr 2026

[8] e-info, 2025能源統計公布：燃煤未降至30% 綠電僅13%, Mar 2026

[9] GWEC, Global Offshore Wind Report 2026, Jun 2026

[10] RenewableUK EnergyPulse, Global offshore wind pipeline in 2025: a year in review, Jan 2026

[11] GWEC, Global Offshore Wind Report 2025 (floating capacity end-2024, via POWER Magazine)

[12] Chen Ying-feng, 我國能源政策實施政策環評之成效分析, Public Administration & Policy 72, 2021

References (2 of 4)

[13] IRI, Strategic Positioning and Analytical Reference, Jul 2026 (internal; Goto Islands)

[14] IRI, Floating Wind FIT Brief evidence log, Sep 2026 (internal)

[15] Energy Economic News (에너지경제), 해상풍력특별법 본격 시행, 17 Mar 2026

[16] SFOC, What Korea's Offshore Wind Act Means for Clean Energy, 2025

[17] enehub, 三菱商事、洋上風力第1ラウンドの3海域から撤退へ, Aug 2025

[18] Wind Journal, 第1ラウンド 占用指針の改訂完了, Jun 2026

[19] METI and MLIT, 洋上風力産業ビジョン（第2次）, 8 Aug 2025

[20] NOWnews, RE100: 台灣綠電跟不上半導體需求, Sep 2026

[21] Aju News, 해상풍력 10년 로드맵 (Ministry of Climate, Energy and Environment), 30 Jun 2026

[22] ZDNet Korea, 상반기 해상풍력 입찰 1,786MW 선정, 30 Jun 2026; Asia Economy, 2024 입찰 결과, 19 Dec 2024

References (3 of 4)

[23] IRI, 2026 Offshore Wind APAC Convening: survey results and proposed plan

[24] enehub, 再エネ海域利用法改正法が施行, Apr 2026; CIGS, Dec 2025 (June 2025 enactment)

[25] Japan, 再エネ海域利用法 (Act on Promoting Utilization of Sea Areas for Marine Renewable Energy), 2019

[26] Business Next (數位時代), 離岸風電二階段開標 2外商得標, Jun 2018

[27] Commercial Times, 明年離岸風電躉購費率擬降至5.1060元, Nov 2018; Events in Focus, 2019離岸風電躉購電價確定5.516元, Jan 2019

[28] e-info, 麗威風場許可遭退 達德能源駁民航局, Sep 2020

[29] Energy Administration (能源署), 能源統計 發電概況, updated Jul 2026

[30] NREL, Cost of Wind Energy Review: 2024 Edition, 2025

[31] e-info, 浮動式風場示範規劃 拚2029、2030年併網, Feb 2024

[32] Liberty Times (自由財經), 700MW又德風場 經部簽報解約, 24 Aug 2026

[33] Liberty Times (自由財經), 浮動式示範風場逾9座可競逐, 8 Sep 2026

[34] Capital Futures (群益), 風電3-3期 恐僅兩家投標, 13 Jul 2026

References (4 of 4)

[35] Central Bank of the ROC (Taiwan) (中央銀行), 新臺幣對美元銀行間成交之收盤匯率 (annual averages: 2018 NT$30.156, 2019 NT$30.925)

[36] CNA, 新台幣貶9.6分 收31.876元, 29 Sep 2026

[37] Liberty Times (自由財經), 日商JERA取得海能風場49%股權, Oct 2019

[38] Business Next (數位時代), 沃旭台灣二期風場完工 20年綠電全供台積電, 1 Sep 2026

[39] bplan, 產業風雲：台灣市場離岸風電開發商介紹 (Hai Long partners Northland, Mitsui, Gentari)