



GLOBAL OFFSHORE WIND SUPPLY CHAIN REPORT 2025

Navigating the Great Divergence:
Market Resilience, Regional Bottlenecks,
and the Rise of China

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RESILIENCE AMIDST VOLATILITY: THE 2025 SNAPSHOT

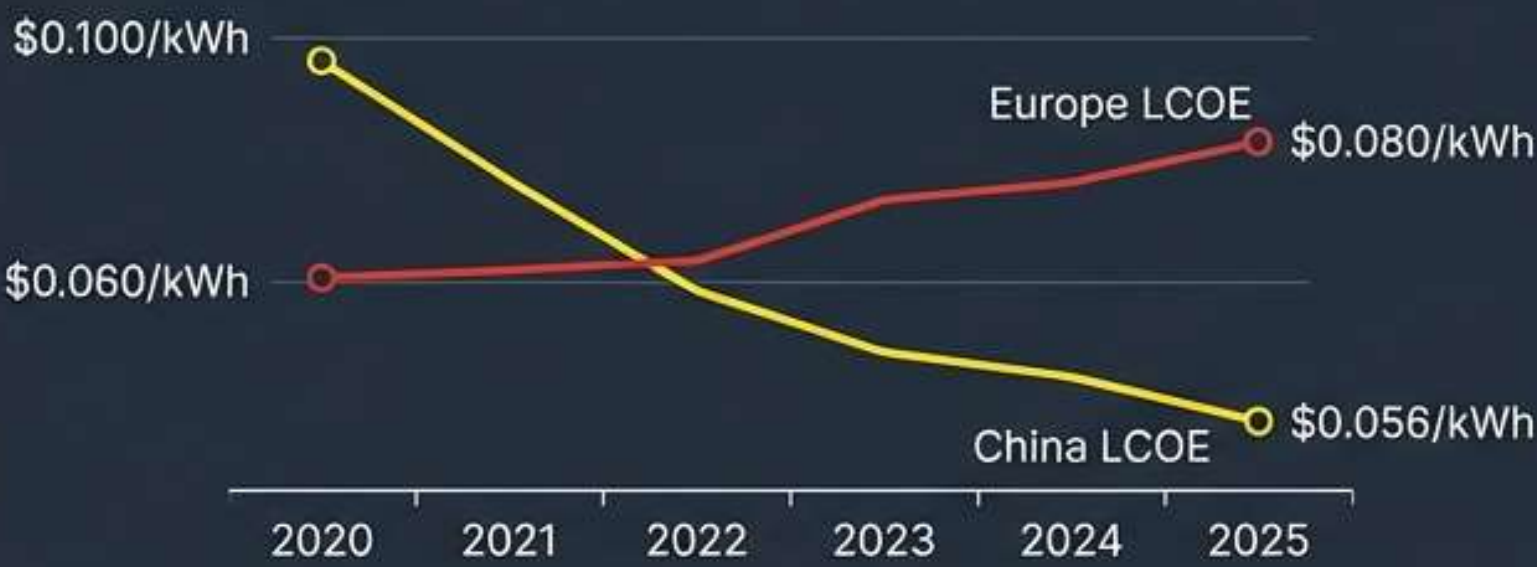
The market is bifurcating: Asian costs plummet while European costs rise.

1. GLOBAL CAPACITY

83.2 GW



2. THE COST FORK



3. THE SUPPLY GAP



WARNING: Excluding China, the world faces severe supply chain bottlenecks by 2030.

4. EMERGING MARKETS



THE SUPPLY-DEMAND DISCONNECT

Global manufacturing (ex-China) lags behind national targets, creating 'stranglehold' risks.



Capacity Mismatch
Shortages in High-Power
Turbines & Installation Vessels.

Economic Headwinds
Inflation & High Interest
Rates stalling FIDs in US/EU.

Resource Nationalism
China controls 85% of
Rare Earth Refining.

Forecast: Net Component Deficit by 2030
for Europe & Asia-Pacific (ex-China).

LATIN AMERICA: WORLD-CLASS WIND, EARLY-STAGE INDUSTRY

Massive resource potential constrained by a lack of offshore infrastructure.



THE INDUSTRIAL VOID: SUPPLY CHAIN GAPS (2025–2035)

To hit 2030 targets, LAC faces a critical ‘Build or Buy’ crisis.

COMPONENT	STATUS	AVAILABILITY DETAILS
Offshore Turbines		100% Import Dependency. No local assembly.
Subsea Cables (HVDC)		No local production. Reliance on Nexans/Prysmian.
Installation Vessels (WTIV)		0 Operational Vessels in region.
Towers & Blades		Existing Onshore capacity (Aeris/Windar) needs upgrades for 100m+ sizes.
Concrete & Raw Materials		Available. Rich in Copper & Iron Ore.

THE ENABLERS: PORTS, VESSELS, AND MATERIALS

Infrastructure is the primary choke point for LAC development.

Vessel Scarcity:

No local WTIVs. Global fleet fully booked by 2030. Brazil faces shortages by 2028.



Raw Materials:

Strategic Advantage: Chile/Peru hold ~40% of global Copper mine output.

Port Readiness:

44 potential ports, but few ready for 15MW+ components.

Key Hubs: Port of Açu (Brazil) & Barranquilla (Colombia).

THE GLOBAL ENGINE: CHINA'S SCALE AND SPEED

#1 in installations for 5 years. Transitioning from 'Following' to 'Leading'.



SUPERSIZED: THE ERA OF 20MW+ TURBINES

Aggressive upscaling has made 16MW standard, with 26MW prototypes connected.

EVOLUTION OF SCALE



2020 (8-10MW)



2023 (16MW)



2025 (26MW Dongfang Electric)

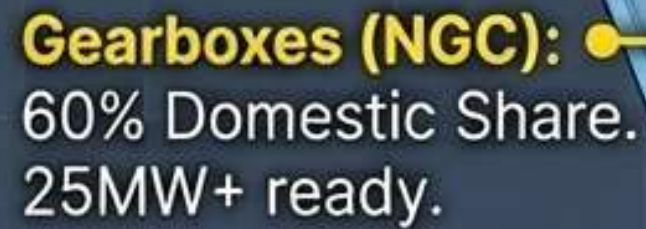
- **Dongfang Electric: 26MW**
(World's Largest)

- **Blade Length: 153m**
(Sinoma/TMT)

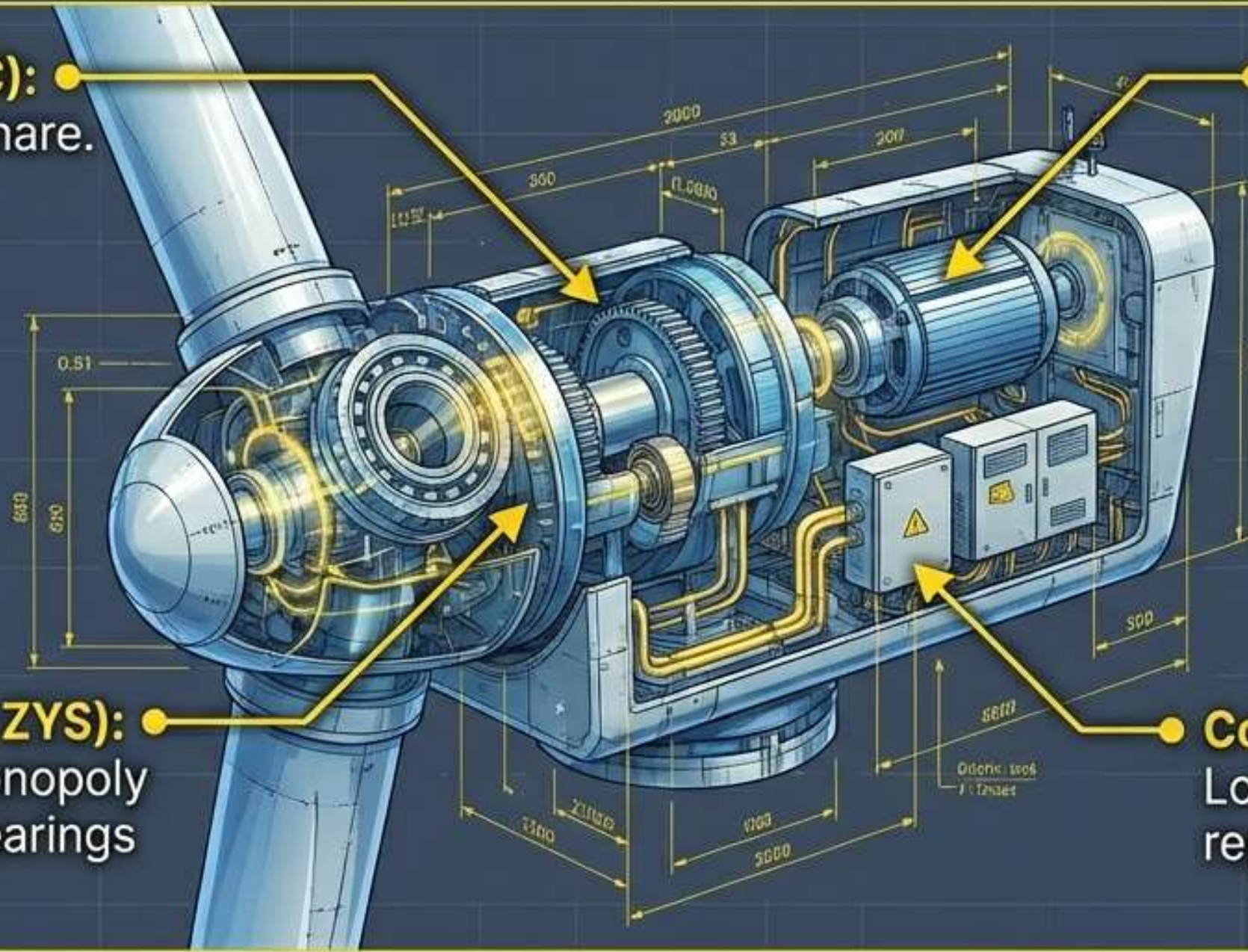
- **Recyclability:** Swancor
"EzCiclo" Resin deployed.

COMPLETE AUTONOMY: THE LOCALIZED INDUSTRIAL CHAIN

China has broken foreign monopolies in key high-value components.



Bearings (LYC & ZYS): Broke foreign monopoly on Main Shaft Bearings for 20MW units.

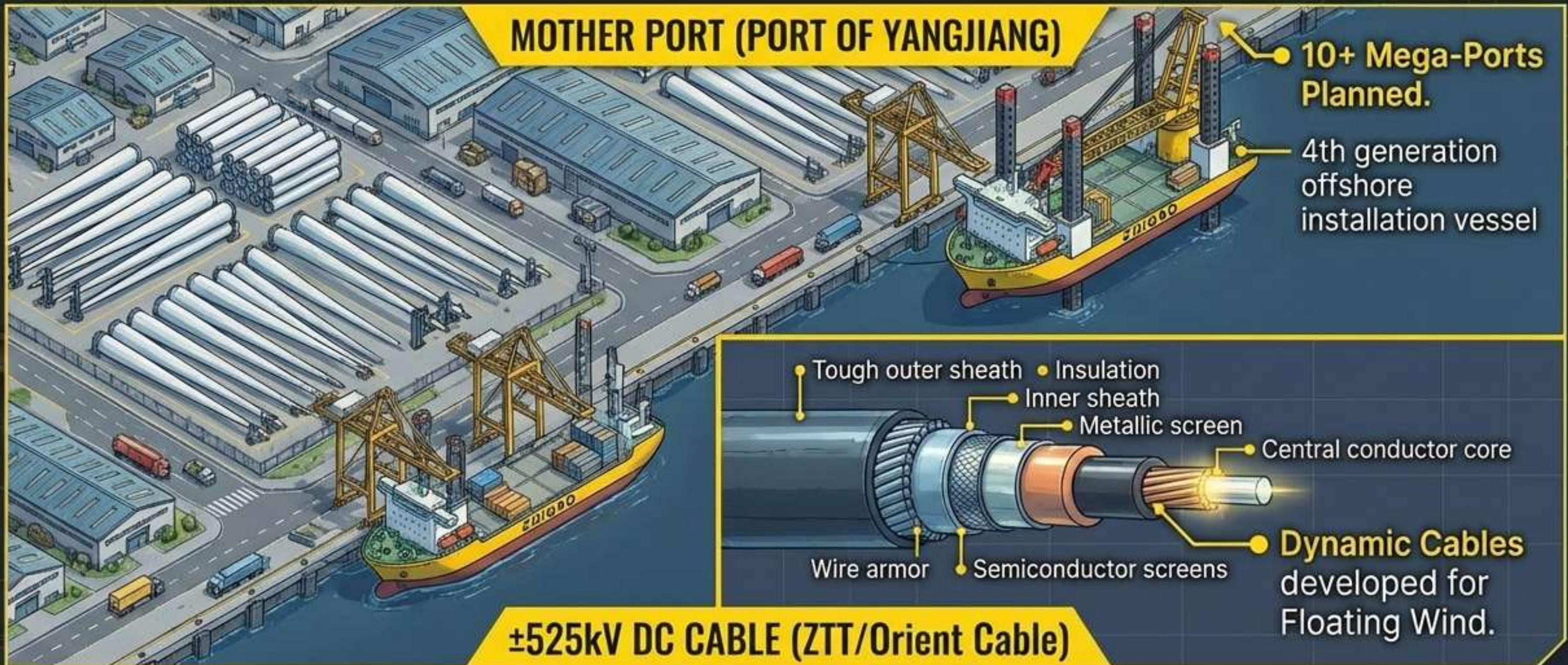


- **Generators (CRRC):** High-voltage (35kV) breakthroughs to reduce weight.

- **Converters (Sungrow):** Localized IGBT chips replacing imports.

THE BACKBONE: MOTHER PORTS & HVDC TRANSMISSION

Coordinated infrastructure enables deep-sea expansion beyond the horizon.



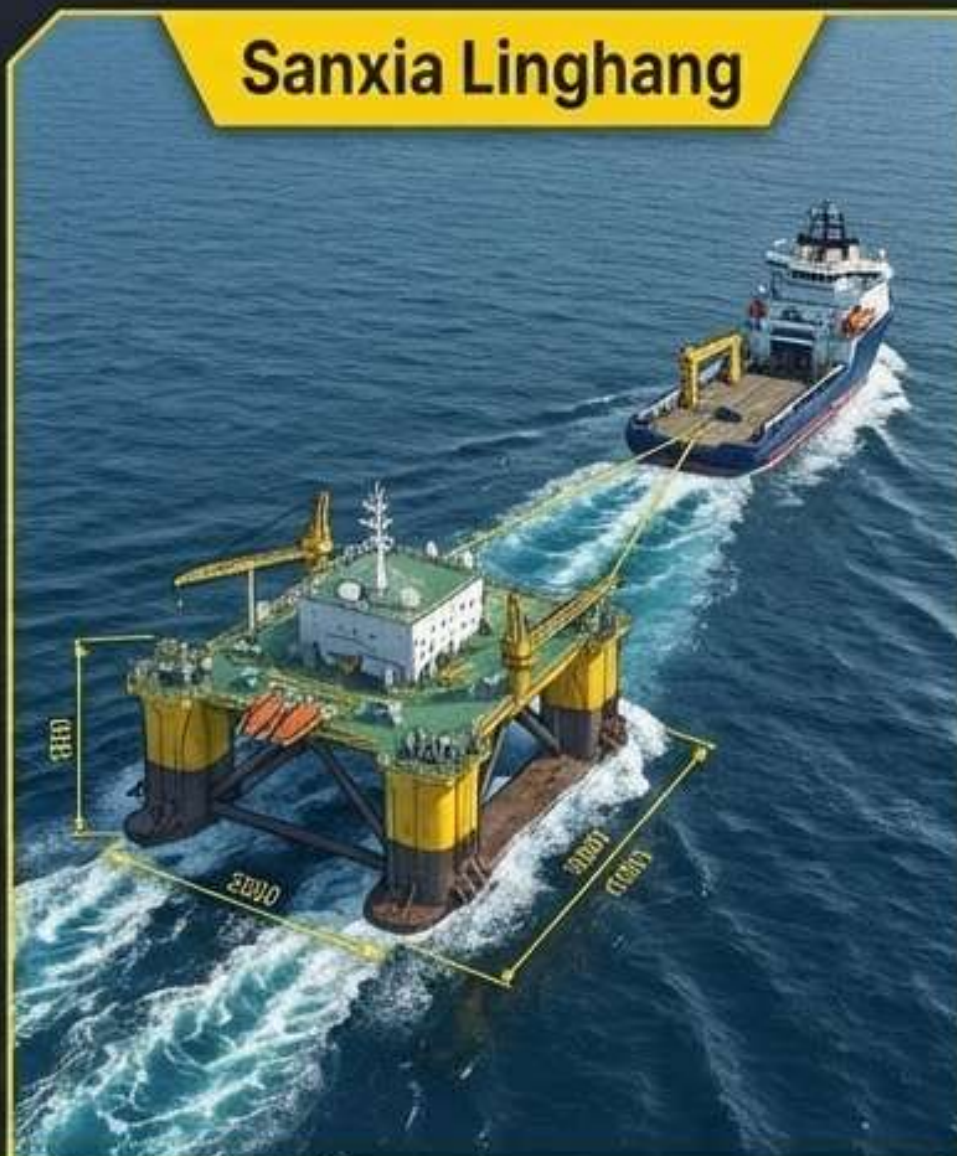
FLOATING WIND: FROM DEMONSTRATION TO COMMERCIALIZATION

China is actively prototyping while the global timeline slips to post-2030.

Mingyang Tiancheng



Sanxia Linghang



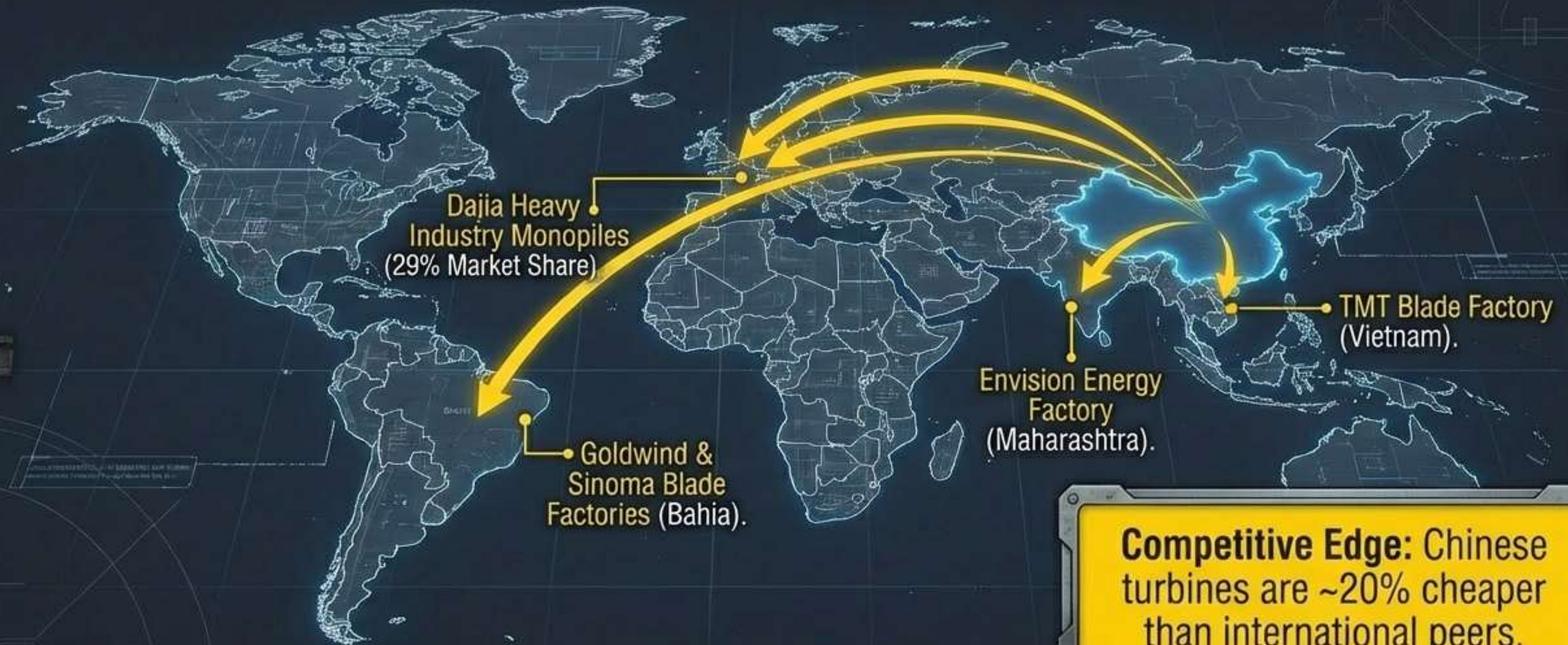
CNOOC Guanlan



Forecast: Global Floating Capacity to reach 19 GW by 2034.

INTERNATIONALIZATION: EXPORTING THE INDUSTRIAL CHAIN

Moving from product export to establishing global manufacturing bases.



Competitive Edge: Chinese turbines are ~20% cheaper than international peers.

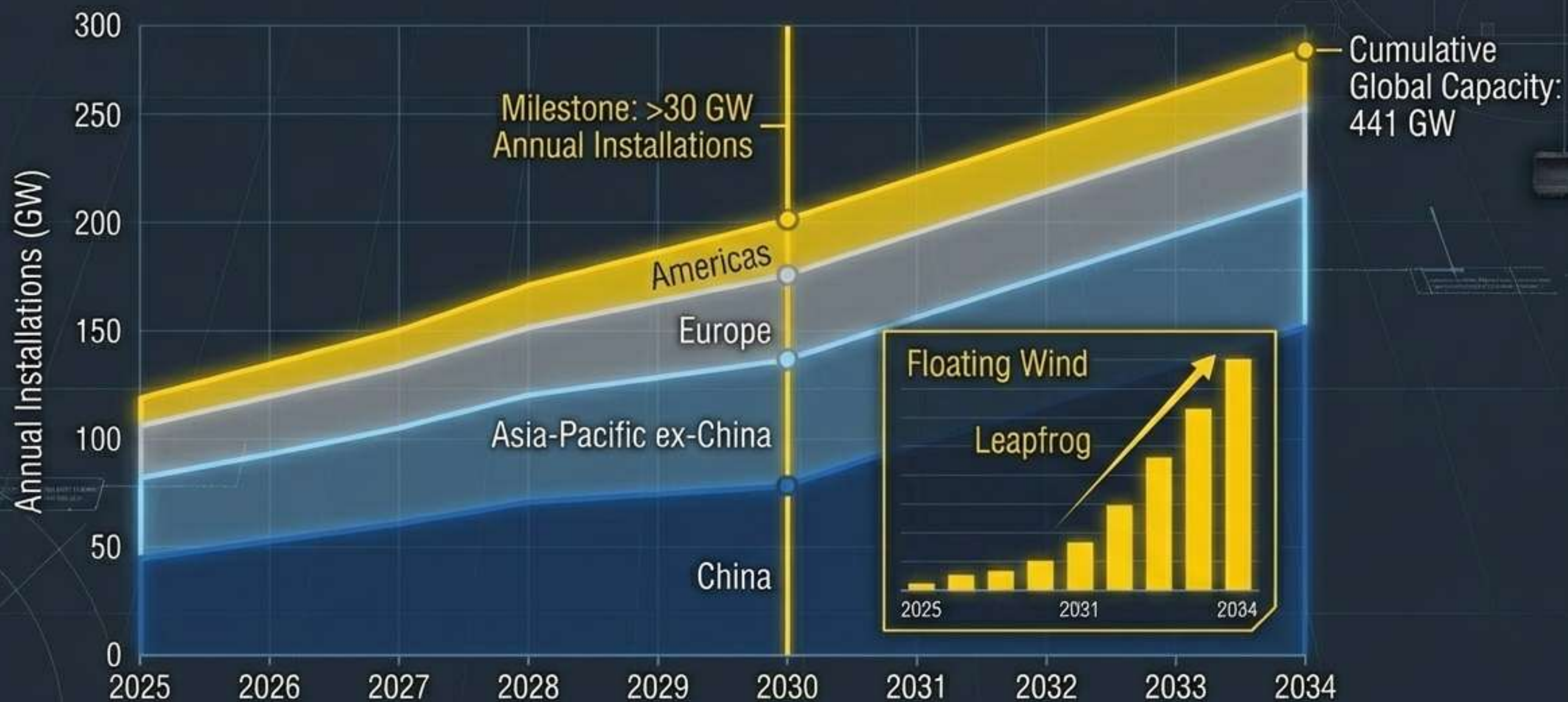
OFFSHORE WIND +: THE MARINE ENERGY ECOSYSTEM

Beyond electricity: Creating integrated Blue Economy hubs.



OSWALD: THE HORIZON: 2025–2034 FORECAST




Inter: High-speed expansion with a CAGR of ~15% through 2034.



BRIDGING THE GREAT DIVERGENCE

Meeting 2030 climate goals requires fusing resource potential with industrial capacity.



-  **Emerging Markets:** Accelerate Infrastructure (Ports/Grid).
-  **Industry:** Export "Green Local Industry" chains, not just products.
-  **Goal:** An open, cooperative ecosystem to prevent supply chain fracture.