POSH
Kerry Renewables
保時嘉里潔能

Challenges in the Taiwan Offshore Wind Market

the Need for Integrated Solutions

Growing Importance of Offshore Wind

Significant Growth Expected in Asia

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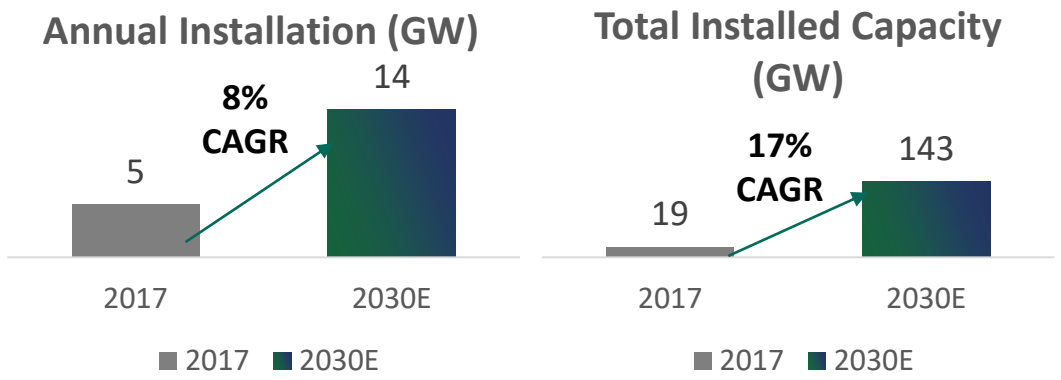
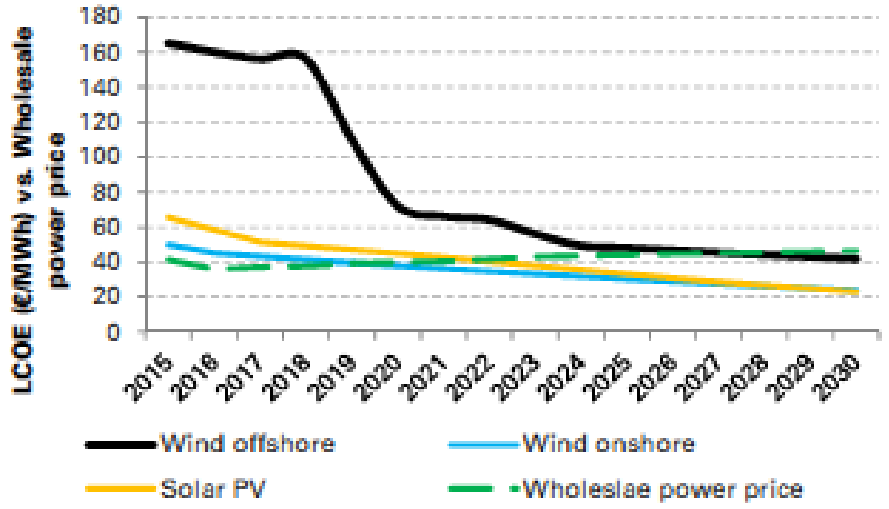
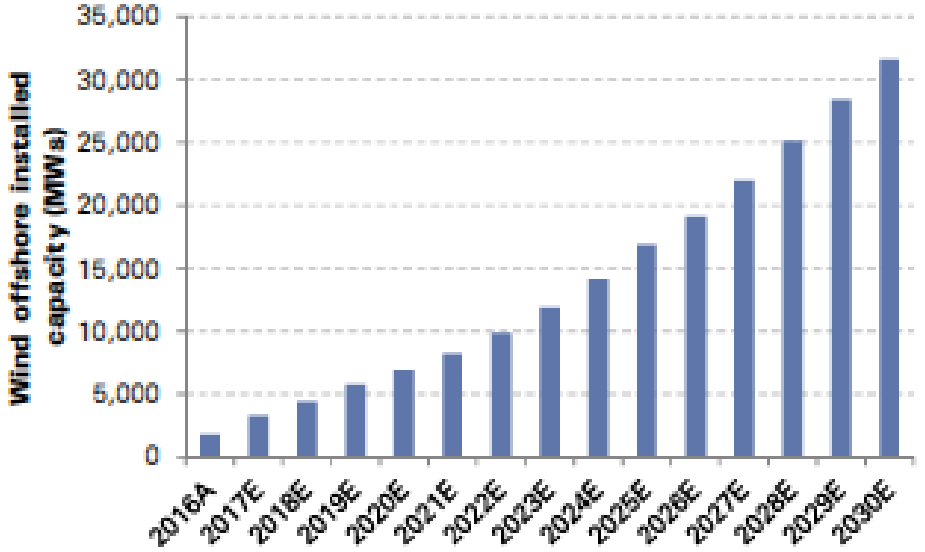
Global Growth Trend



Price Reduction Drive Usage



Forecast Growth in Asia Waters



- Offshore wind is at an inflection point and global capacity expected to surge 9x over the next decade and represent 12% of global generation capacity by 2050
- As cost continues to decline significantly, offshore wind will increasingly become a key source of energy in areas with strong natural winds, densely populated or area with land constraints
- Among all the continents, Asia is seen to be driving the growth of Offshore Wind in the next decade. China, Taiwan, Japan and Korea are the key markets for this

Source: Goldman Sachs Research

Taiwan as 2nd Largest Market in Asia

Huge Untapped Potential and Aggressive Push by Local Government

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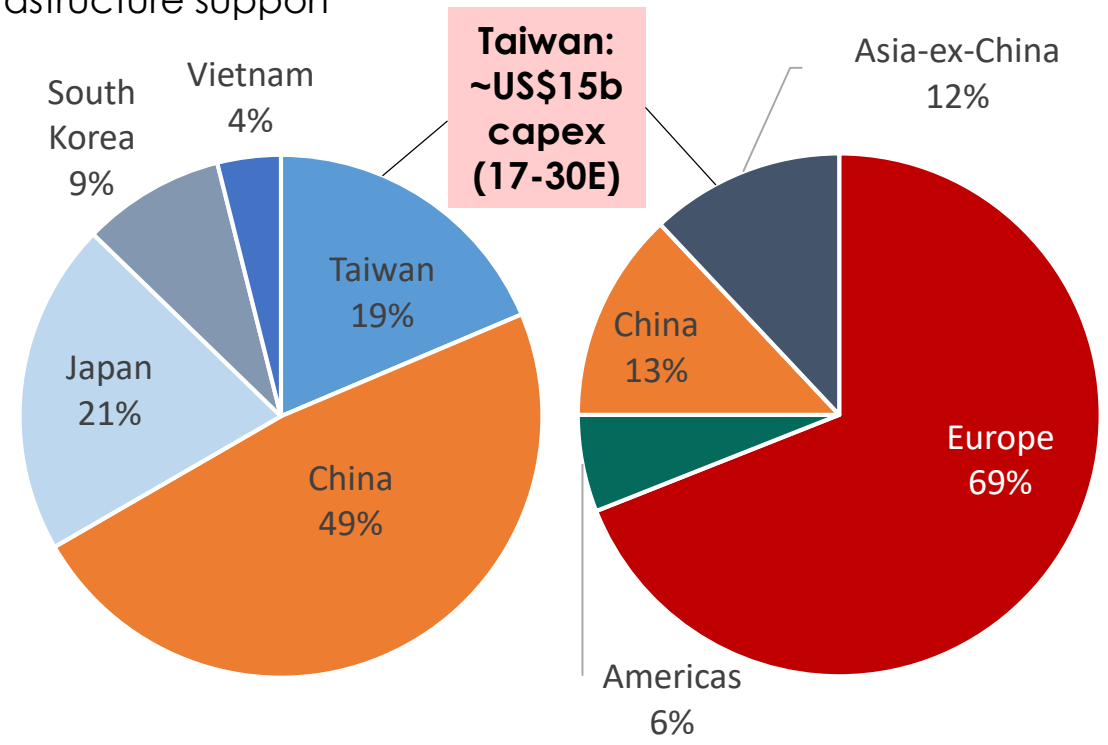
Taiwan will be a Key Market

Offshore Wind Capacity

Taiwan government plans to invest additional **US$23b** on infrastructure support



Investment Capex (2017-2030E)

~US$317b capex

Strong Commitment by Taiwanese Government

Government plans to phase out nuclear energy and through the approved amended draft of the Renewable Energy Development Act, targets **20% renewable energy by 2025**, driven by solar photovoltaic and **offshore wind (5.5 GW)**

"Thousand Wind Turbines Project" launched in 2012

- **May 2018**: 3GW beauty contest
- **Summer 2018**: 2GW auction
- **June 2019**: PPA for beauty contest assets
- **2025**: Commission

In the period to 2025, the Taiwan Ministry of Economic Affairs ("MOEA") intends to invest **NT$684b (US$22.7b)** to achieve its wind power targets. The investment is meant to stimulate the private sector to contribute **NT$478b (~US$15.9b)** in the same period

As of Feb 2018, **almost 10.5GW of offshore wind capacity in total had passed the Environmental Impact Assessment (EIA) process**. These projects will now **compete for 5.5GW of offshore wind contracts**

Source: Clarksons Platou AS, Goldman Sachs Research

Complexity & Challenges in Taiwan Market

Creates significant opportunity for Kerry Logistics and POSH

Tenders are dominated by major European developers with significant experience, BUT:

Local content requirements and supply chain restrictions pose challenges

E.g. Obligation to develop local industry, China-built vessels restrictions, etc.

No or limited local network and knowledge

Limited relationships with local stakeholders and understanding of the Taiwan market

No or limited access to local supply chain

Existing supply chain partners mostly European players with limited expertise in Asia

Limited local capabilities and capacity

Large number of projects between 2020 and 2025 will stretch local capabilities across both vessels and fabrication

POSH Kerry Renewables - Overview

One-stop solutions provider in the Offshore Renewables Space

JV between leading offshore marine operator, **POSH** and Asia's premier logistics service provider **Kerry TJ Logistics**

POSH Kerry Renewables aims to deliver a **Unique Integrated Solutions Platform,** which will provide clients with a **comprehensive suite of supply chain and offshore marine solutions**, that can be **customised to meet their specific requirements** in the offshore wind farm space in Taiwan

Leverage on extensive track record in the domains of **design and fabrication of offshore structures**, **multi-modal logistics** and **specialized offshore marine support**, and offer an unparalleled suite of services across the **entire life cycle of offshore wind projects** by acquiring **PCL** and **PaxOcean** as strategic alliances

35yrs International shipping

60yrs offshore marine services as well as logistics and supply chain management

70yrs offshore engineering and fabrication

Kuok Group Parentage

One of Asia's Most Diversified and Dynamic Multi-national Conglomerate

KUOK GROUP

Properties

SHANG PROPERTIES

PPB GROUP BERHAD

Hospitality

SHANGRI-LA HOTELS and RESORTS

KERRY HOTELS

HOTEL JEN

Logistics

KERRY LOGISTICS

Media

Golden Screen Cinemas

Environmental

chemQuest

CWM Group Sdn Bhd

Commodities

FFM

GMP

wilmar

Philanthropy

KUOK FOUNDATION BERHAD

嘉里集團郭氏基金會 Kerry Group Kuok Foundation

The Kuok Group has diverse operations in **five continents** with specialisations in **Properties, Hospitality, Logistics, Media, Maritime, Commodities, Environment & Philanthropy**

POSH is headquartered in Singapore and listed in the Singapore Stock Exchange (around **US$400M market cap**)

KUOK (SINGAPORE) LIMITED

Kerry TJ Logistics is headquartered in Taiwan and listed in the Taiwan Stock Exchange

Agri-solutions

agrifert MALAYSIA

Maritime

POSH Excellence Through Safety

PCL

PaxOcean

Property

ALLGREEN

POSH – Overview

Leading Global Offshore Marine Service Provider

>60 Years of Operating Experience

Serves Multiple Segments of the Offshore Energy Value Chain

>120 Vessels

Global Operating Footprint

Offshore Supply Vessels (OSV)

- Operates **44 powerful AHTS/PSV** with an average age of 4.7 years
- One of the **youngest deepwater and midwater AHTS/PSV fleets globally**

Transportation & Installation (T&I)

- Operates **39 vessels** including **submersible and launch barges**
- **Key transportation partner** for major oil and gas projects in 2017

Offshore Accommodation (OA)

- Operates a young accommodation fleet with total capacity of approximately **3,300 persons**
- Owns two of **world's largest semi-submersible accommodation vessels**

Harbour Services & Emergency Response (HSER)

- One of the four **MPA-licensed towage service providers** in the **world's busiest port**, Singapore
- Operates **34** vessels including **Azimuth Stern Drive (ASD) harbour tugs** and **heavy lift crane barges**

Kerry TJ Logistics – Overview

Asia's Premier Logistics Service Provider

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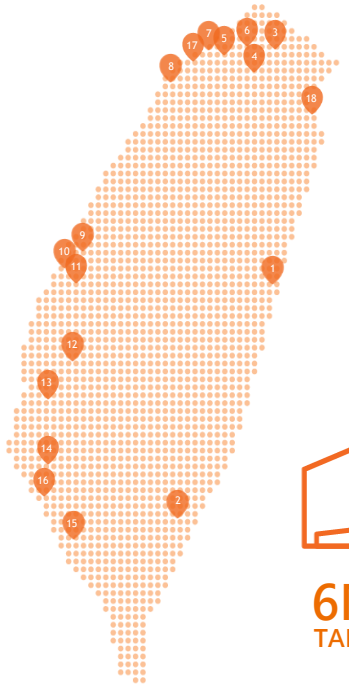
KERRY TJ LOGISTICS 嘉里大榮物流

EXTENSIVE NETWORK OF FACILITIES ACROSS TAIWAN



6M ft² TAIWAN

End-to-end solutions with high supply chain efficiency

SUPPLY CHAIN SOLUTIONS

INTEGRATED LOGISTICS

INTERNATIONAL FREIGHT FORWARDING

EXPRESS

Taipei Head Office

1954 Established Since

181 Business Locations

5,500+ Employees

3,140+ Self-owned Vehicles

7/6 Transit & Container Hubs/ Maintenance Centers

82/11 Depots/ Logistics Centers

56 Drop-off Stations

INTEGRATED SOLUTIONS FOR OFFSHORE WIND

LOGISTICS AND SUPPLY CHAIN CAPABILITIES SPANNING ACROSS CONSTRUCTION, INSTALLATION AND MAINTENANCE OF OFFSHORE WIND PROJECTS

- Freight forwarding and customs clearance
- Staging, storage and pre-assembly for industrial cargo
- Warehousing and inventory management
- Multi-modal and inter-terminal transportation
- Quayside load-out supervision
- Express logistics for spare parts replacement
- Track and trace for end-to-end visibility

Strategic Alliances

Synergistic Partnership to Offer Complete Suite of Services to Offshore Wind Industry

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PACC Line
Effective Shipping Solutions

PACC Line

Extensive Track Record

- Over **1800 wind turbine blades** shipped, amassing over **800,000 revenue tons**
- Over **2000 wind towers** shipped globally, generating total about **2.6 million revenue tons**

State-of-the-Art Assets

- **Largest** shipping and transportation solutions provider for wind energy
- Approximately **100 vessels** under the Group's control, including **60 geared vessels**
- Fleet of **12 purpose-built 27,500 DWT Multi-purpose Vessels** with **removable decks** to match specific stowage requirements

Wide Network Across Globe

- Operating out of **7 offices** globally across **5 continents**
- **13 million nautical miles travelled** carrying odd-shape or large-size cargo – equivalent to the distance of over **30 round trips** between the earth and moon

PaxOcean

PaxOcean

Foundation Fabrication

- More than **2.4 million m2** of dock and fabrication yard globally
- Specialised production workshop at **Batam Nanindah Yard**
- **In-depth analysis** with clients to select the best-suited foundation designs

Vessel Newbuilding

- Built more than **600 vessels and barges** across major vessel classes
- Built **15** jack-up rigs, liftboats and wind turbine installation vessels
- Utilises **in-house engineering capabilities and tools**

Project Execution Expertise

- Project Management Team with more than **20 years of experience**
- **Strong QMS compliance** to oil and gas standards and norms

POSH Kerry Renewables

One-stop Solution Provider in the Offshore Renewables Space

Together with strategic partners, **PACC Line** & **PaxOcean Group** under the **Kuok Group** of companies, **POSH Kerry Renewables** aims to develop an **industry-first solutions platform**, integrating **supply chain** and **marine solutions** for the **entire offshore renewables space in Taiwan**.

Preferred Local Partner

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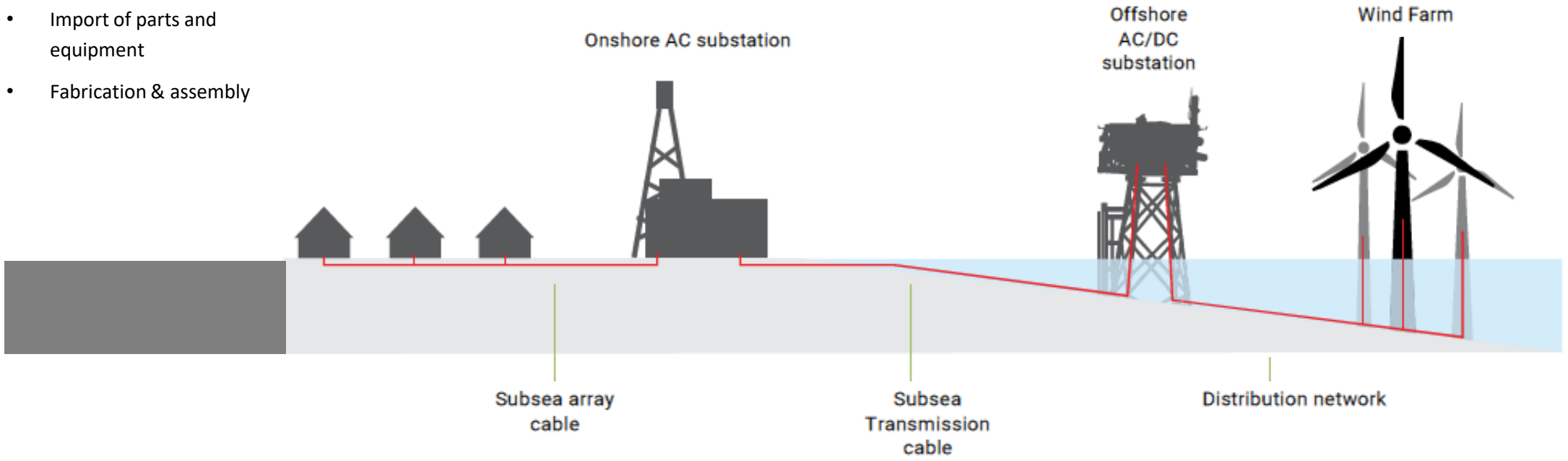
Fabrication & Assembly	Array (subsea cables)	Transmission	Foundation	Turbine Manufacturing

- Import of parts and equipment
- Fabrication & assembly



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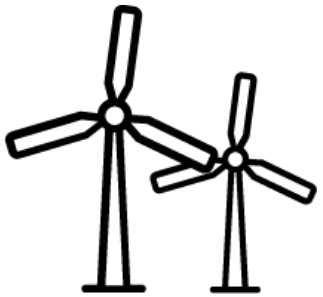
INITIATIVES	Active engagement with various **wind farm developers, turbine manufacturers and EPCI players**, both **in Europe and Taiwan**, to identify their needs & requirements for the successful execution of their offshore wind farm projects in Taiwan	Committed to **delivering customised solutions via innovation** with **leading ship designers**	Strategic partnerships with **established local marine companies in Taiwan** in **navigating the complex local operating landscape**
SIGNED MOU WITH	MACQUARIE Swancor Energy Saving & Environmental Protection	Rolls-Royce	SEAGREEN ENTERPRISE 海歷企業有限公司 -MARINE SERVICE-
PURPOSE	To jointly explore opportunities for their offshore wind farm developments in Taiwan	To explore suitable designs for walk-to-work and SOV vessels, specific to offshore wind operations	To provide local assistance for the customs and regulatory formalities for vessels operating in Taiwan



The End

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