

## Offshore wind trends and perspectives for Taiwan

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#### **Intro to Copenhagen Infrastructure Partners**











- Founded in 2012 by senior executives from the energy industry and PensionDanmark, and owned by five partners with substantial experience in infrastructure investments (80+ years, EUR∼30bn worth of transactions & contracts)
- CIP leadership instrumental in the industrialization of European offshore wind, and has been involved in 15+ offshore wind farm projects since 2008
- CIP staff have been involved in 15 offshore wind farm projects. 40 people specialized in offshore wind
- Manages three infrastructure funds, with approx. Euro 3,5Bn (125Bn Taiwan Dollar)
- Investors in the funds include 19 institutional investors from Europe (EIB, PensionDanmark and others)
- CIP's activities started out in Europe and is about to enter the North American wind market, with acquisition of 600MW onshore investment just announced.
- Taiwan with green field opportunities is a logical next market for CIP where offshore wind competences and finances can be deployed.
- CIP can provide financing of offshore wind and brings specialist offshore wind competences to all phases from development, construction and operation.
- Flexible in structuring JV partnerships

# CIP currently involved in two offhore projects; Veja Mate and Beatrice both under construction. Have invested Euro 1,5Bn in offshore wind to date and more in the pipeline

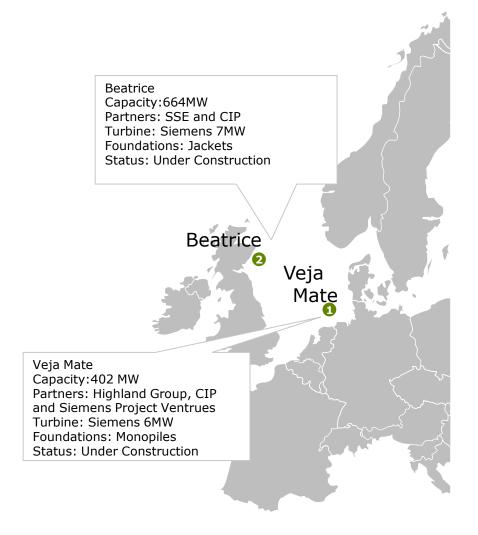


Scylla installing the world's largest MP



MP uplifted





#### **Offshore Wind 2005**



Geographic focus	Northern Europe – Denmark
Project capacity	Small Scale- ~100MW
Developers	Dominated by utilities, very few players
Financing	Balance sheet financing by utilites
Wind Turbine	2-3MW wind turbines generators
Foundations	Monopiles and gravity based foundations



#### **Offshore Wind 2015**



Geographic focus	North Western Europe – UK, Germany, Denmark
Project capacity	Medium Scale~400-500MW
Developers	Utilities and financial investors, many players
Financing	Balance sheet and Project Financing
Wind Turbine	3-6MW wind turbines generators
Foundations	Monopiles and jackets

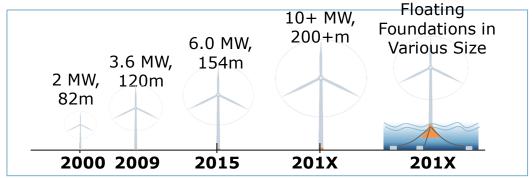


#### **Offshore Wind 2025**



Geographic Global industry: Europe, North America, Asia Large Scale 500 - 1200MW Developers Utilities and financial investors, many players **Balance sheet and Project Financing** Wind Turbine 8MW- +10MW wind turbine generators Monopiles, jackets, gravity based and floating Foundations foundations





# What can Taiwan do to fast track offshore wind and learn the lessons from Europe



The fundamentals for offshore wind in Taiwan are in place		
Wind Resource	Strong wind resource, possibly even better than North Sea	<b>√</b>
Regulatory Framework	Renewables Targets and subsidy framework in place	<b>√</b>
Need for Offshore Wind	Phasing out of nuclear and aim to reduce energy imports	<b>✓</b>
To fast track deployment of offshore wind Taiwan should:		
Grid infrastruc- ture	Plan early and invest upfront in grid infrastructure	
Port Infrastruc- ture	Invest upfront in port infrastructure to ensure Taiwan ports are used for build out	
Consents	Ensure consents are flexible and allows use of latest technology	
Local Supply Chain	Develop and invest in Taiwanese supply	