

Offshore wind from a developer and financial investor perspective

Copenhagen Infrastructure Partners



Webinar with NASEO
November 10, 2020



Only the right/intended addressees are allowed to access and read this document.
This document may contain confidential information and shall not be disclosed to
any third party, referred to or published without CIP's prior written approval.

Content

Section	Page
1. Introduction to CIP	3
2. Offshore wind in North America – the developer view	9
a. Why offshore wind in the USA	
b. Key challenges and attractiveness	
3. Securing financing for offshore wind in the USA	15
a. The experience with Vineyard Wind I	



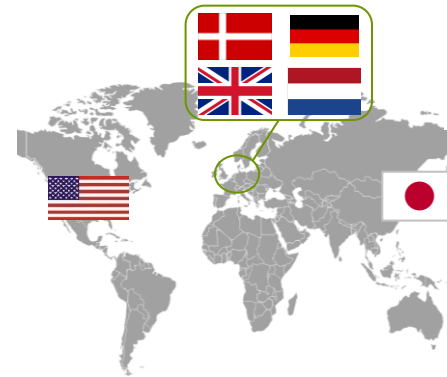
Copenhagen Infrastructure Partners (CIP) at a Glance

The CIP Team



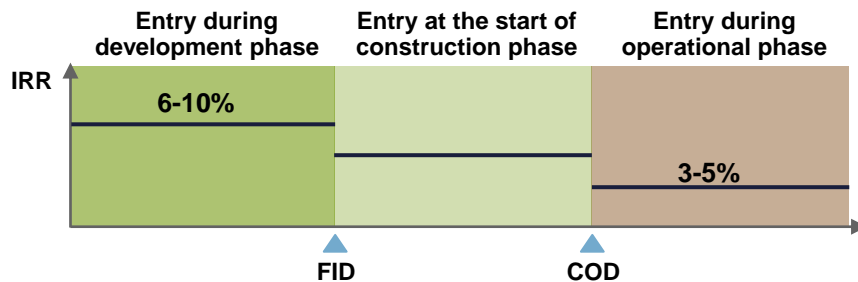
- Founded in 2012 by senior executives from the energy sector and PensionDanmark as founding investor
- 22 partners with extensive energy sector experience
- +140 team of industrialists across 20 nationalities (expected to grow to 150)
- The team has a broad range of competencies within corporate finance, merger & acquisitions, engineering, construction, project development and project management.
- Large international industrial network

Global Presence



- Global presence with 6 offices across 3 continents
- Headquarter in Copenhagen with ~140 employees
- Local project offices and presence in main geographies
- CI IV investment strategy focused on Western Europe, North America, developed Asia and Australia

CIP introduces institutional investors to greenfield premium projects



- EUR ~12bn¹ of commitments
- 65+ blue chip institutional investors
- Mainly industrial value creation
- Outperformance: Lifetime IRR of +10% for all predecessor flagship funds (CI I, CI II, CI III)
- Low financial leverage and low energy price risk exposure

CIP Core Values

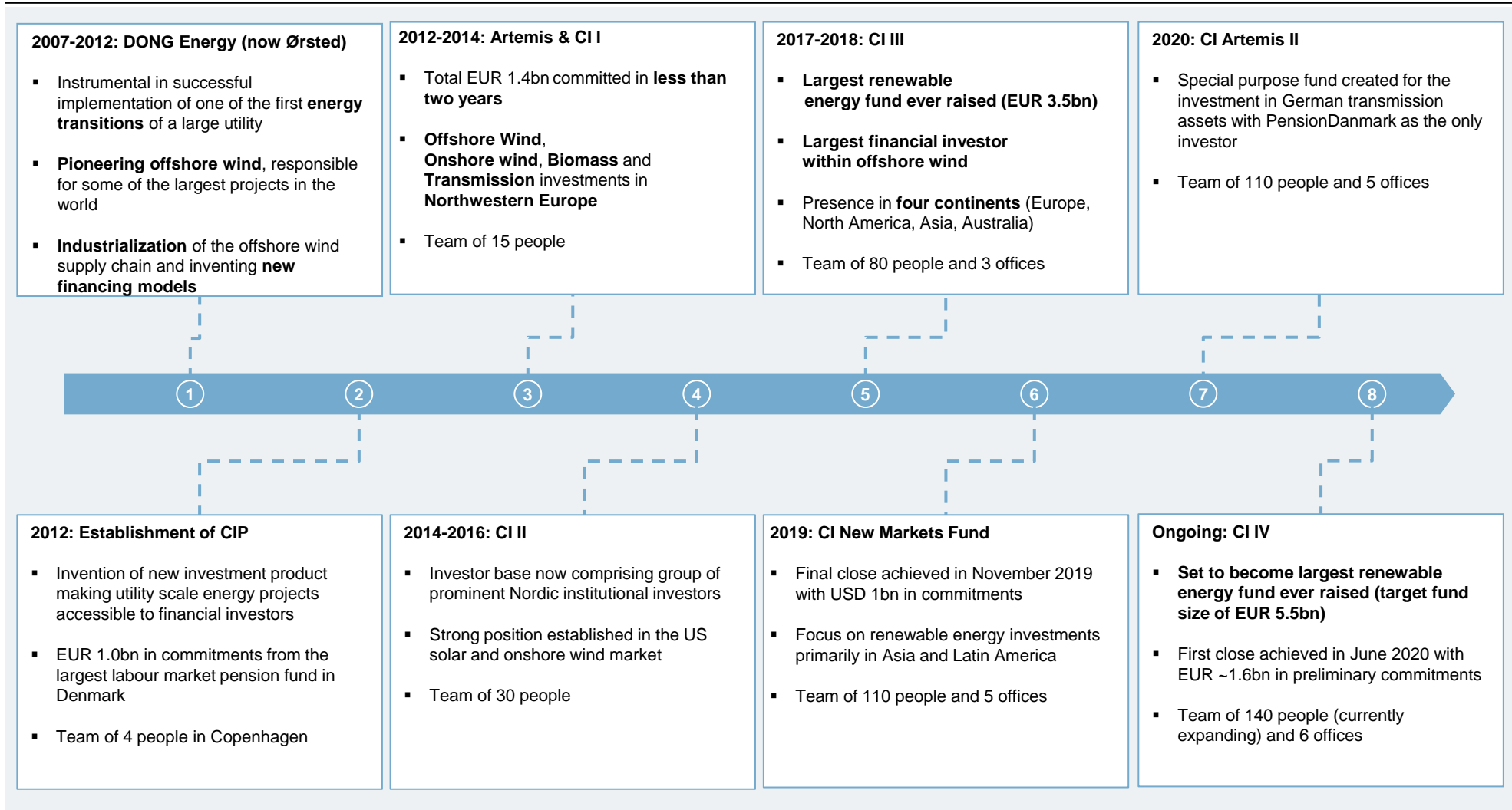


- Sector specialist and market pioneer
- Market leader within renewables
- Focus on large greenfield projects
- Strong ESG commitment
- Nordic heritage and corporate culture

The history of CIP

- Significant growth in a short period of time

Timeline of CIP



Overview of CIP's investments as of September, 2020

- Since 2012, Copenhagen Infrastructure Partners has invested in 24 projects¹

CIP projects that have reached Final Investment Decision

Offshore Wind	Onshore Wind	Solar PV	Biomass and Waste-to-Energy	Transmission
<p>Veja Mate (402MW)</p>	<p>Borea (273MW)</p>	<p>Mitchell (113MW)</p>	<p>Brigg (40MW)</p>	<p>Dolwin 3 (900MW)</p>
<p>Beatrice (588MW)</p>	<p>Bearkat I (197MW)</p>	<p>Misae (240MW)</p>	<p>Snetterton (44MW)</p>	<p>CI Artemis II assets (~2.8GW)</p>
<p>Changfang & Xidao (589MW)</p>	<p>Bearkat II (162MW)</p>	<p>Sage I-III (58MW)</p>	<p>Kent (28MW)</p>	<p>SOO Green (~2.1GW)</p>
<p>Vineyard Wind I (800MW)</p>	<p>Blue Cloud (148MW)</p>	<p>Greasewood (255MW)</p>	<p>Brite (42MW)</p>	
<p>Park City Wind (804MW)</p>	<p>Fluvanna I (155MW)</p>	<p>Fighting Jays (350MW)</p>	<p>Lostock (60MW)</p>	
	<p>Fluvanna II (158MW)</p>	<p>Travers (400MW)</p>	<p>Slough (50MW)</p>	
	<p>Monegros I+II (487MW)</p>			

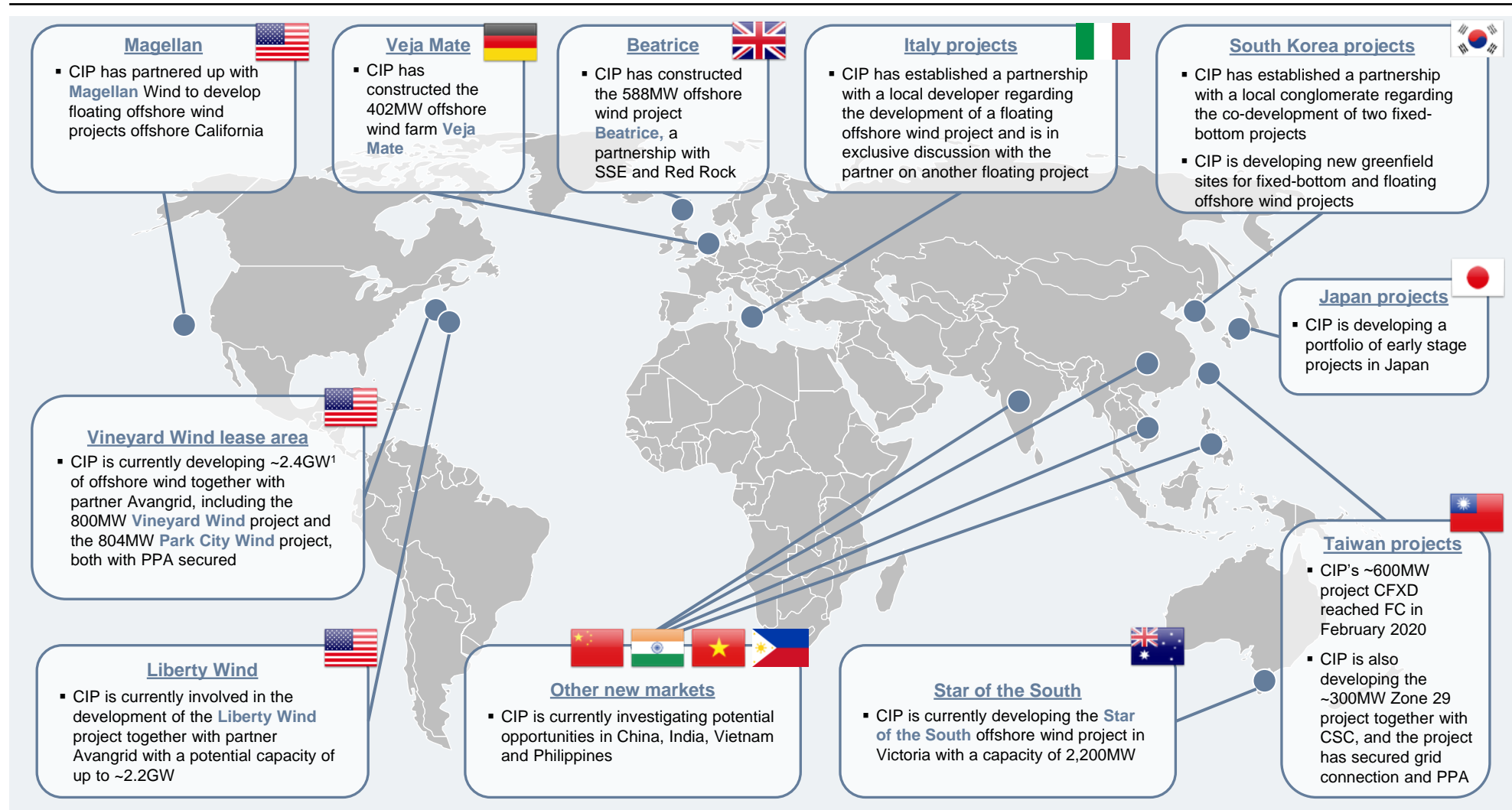
- 24 investments¹ and a total of 12.2 GW
- Equivalent to the annual power consumption of more than 5 million households p.a.²
- Yearly CO2 reduction of more than 7 millions tonnes

Notes: 1) That have reached FC; 2) Accounting only the generation assets

CIP is a leading investor in offshore wind globally

- In recent years CIP has established a significant position in the N. America offshore wind market

World map of current CIP offshore wind activities



Notes: 1) Including Vineyard wind (800MW), Rest of Zone (up to ~1.6GW) which includes Park City Wind

Video: Veja Mate Offshore Wind Farm

- A 402MW OWF that reached COD 4-months ahead of schedule and under budget

CIP

COPENHAGEN INFRASTRUCTURE PARTNERS



Content

Section	Page
1. Introduction to CIP	3
2. Offshore wind in North America – the developer view	9
a. Why offshore wind in the USA	
b. Key challenges and attractiveness	
3. Securing financing for offshore wind in the USA	15
a. The experience with Vineyard Wind I	



Offshore wind is fundamentally a highly attractive technology

- Uniquely positioned to provide scalable decarbonisation for important global demand centres at competitive costs and with limited externalities / land use

Fundamentals of offshore wind technology drive future growth

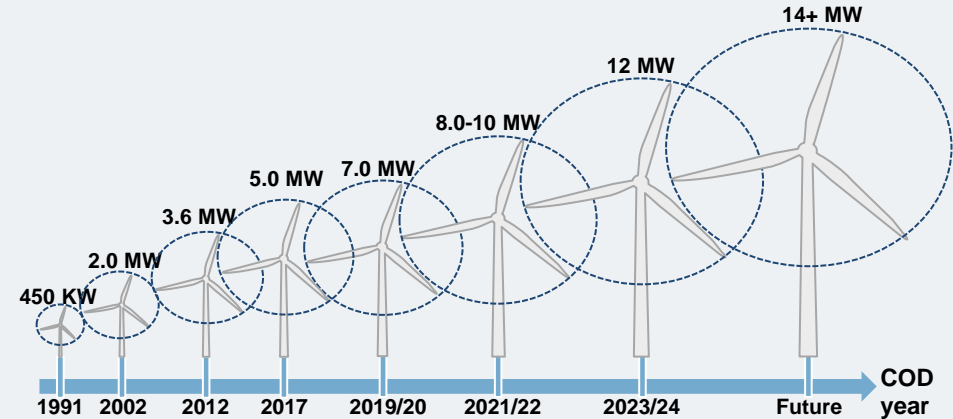
Offshore wind provides a solution to an urgent global problem...

- Global demand for rapid, scalable replacement of carbon intense centralised power generation
- Key global demand centres are in densely populated coastal regions
- Onshore land typically scarce, limiting scalability of other technologies
- Offshore wind ideally suited as it has limited externalities
- Additionally benefits from stable and predictable wind resources due to absence of physical obstacles

Next evolution: Floating foundations

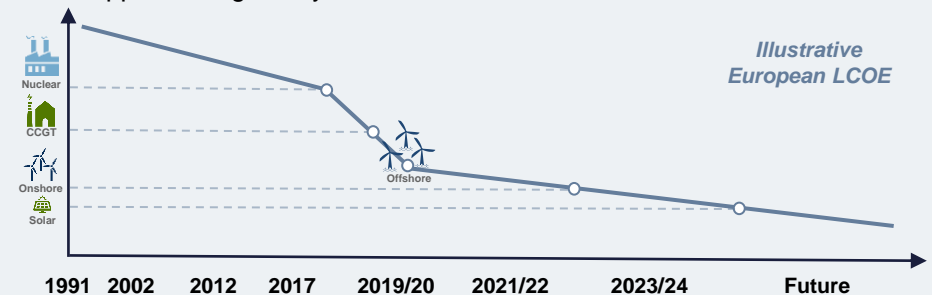
- Ability to access coastal regions with steeper shorelines and deeper water depths
- Will further expand global reach and provide next growth wave
- Large potential of costs reductions due to modular production of foundations

...at highly competitive costs thanks to rapid technology and supply chain optimisations



LCOE journey primarily driven by 3 factors

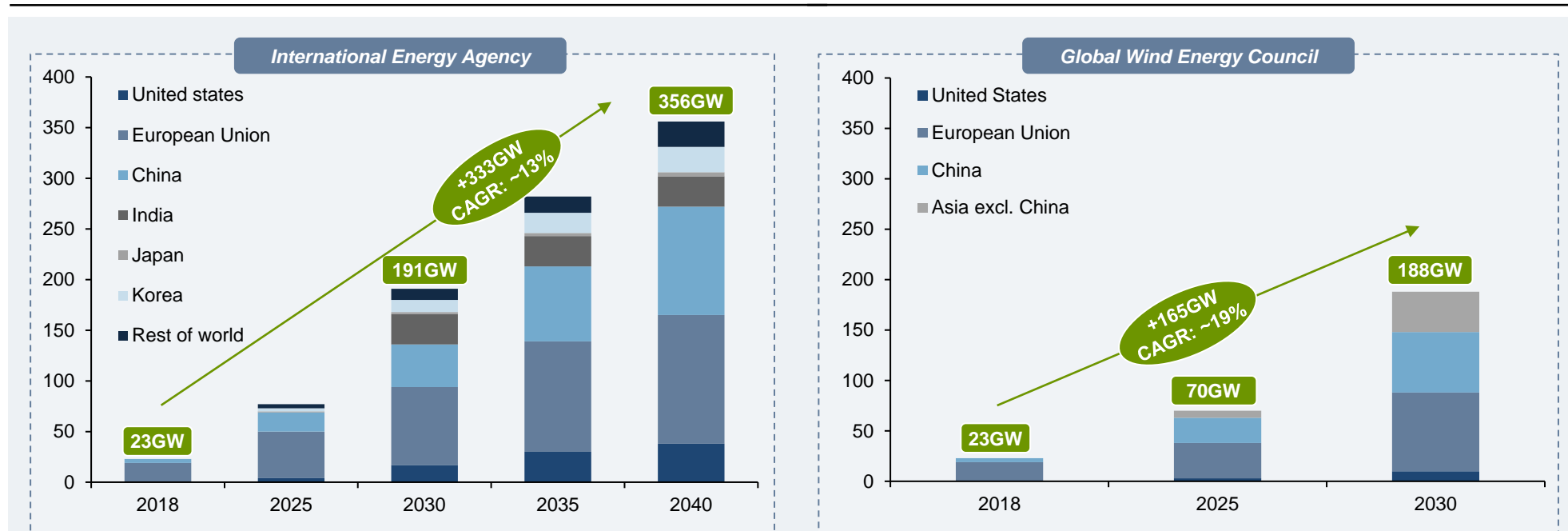
- Economies of scale due to size of projects
- Remarkable technological progress through the entire supply chain
- Supportive regulatory frameworks



Fundamental attractiveness drives unprecedented growth

- Global offshore wind capacity expected to increase 15-fold within the next 2 decades and represent significant investment opportunities

Forecasted development in global offshore wind (installed GW¹)



- Projected global growth measured in multiples of existing capacity
 - This will require an unprecedented deployment of capital
- Europe and APAC expected to be the primary growth drivers over the coming decades, with the US following

Notes: 1) Based on stated policies; Source: Offshore Wind Outlook 2019: World Energy Outlook Special Report. International Energy Agency and Global Offshore Wind Report 2019, Global Wind Energy Council

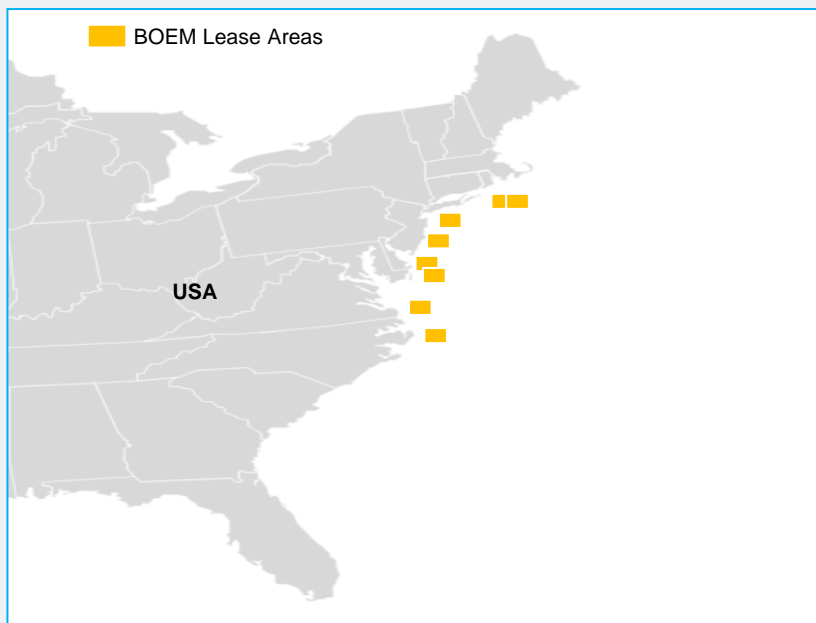
East coast states drive offshore development in the U.S.

- Comparison with the Continental North Sea shows clear potential for U.S. offshore wind

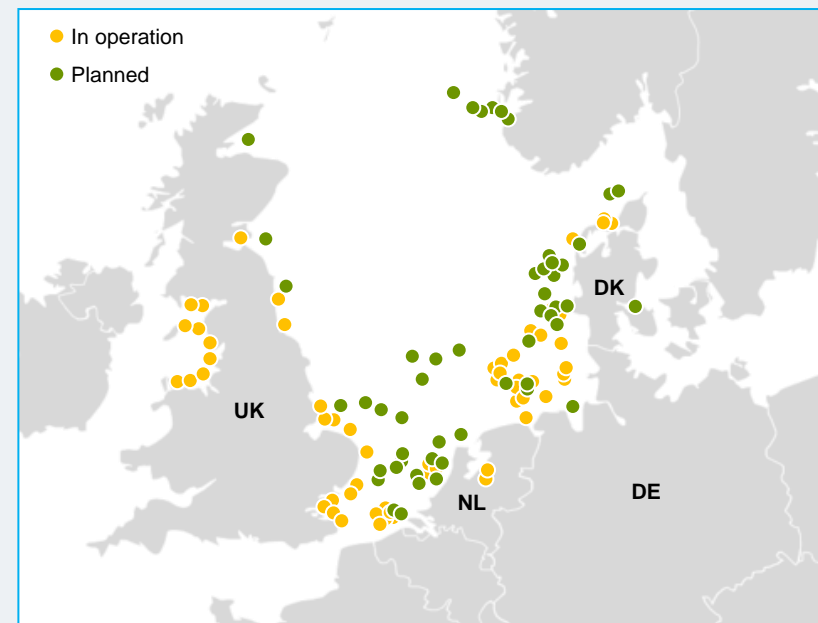
US Atlantic and North Sea offshore wind facilities

	Coastal population	Coastline (Miles)	Distance from shore (Miles)	Water depth	Wind speed	# of active projects	Active production (MW)	Anticipated production by 2030 (MW)
U.S. Atlantic	~52,000,000	750	Up to 30 miles	Up to 60m	9-10 m/s	14	30	9,500
North Sea	~83,000,000	1100	More than 60 miles	Up to 70m	9-10m/s	62	15,010	67,500

U.S. Atlantic



North Sea

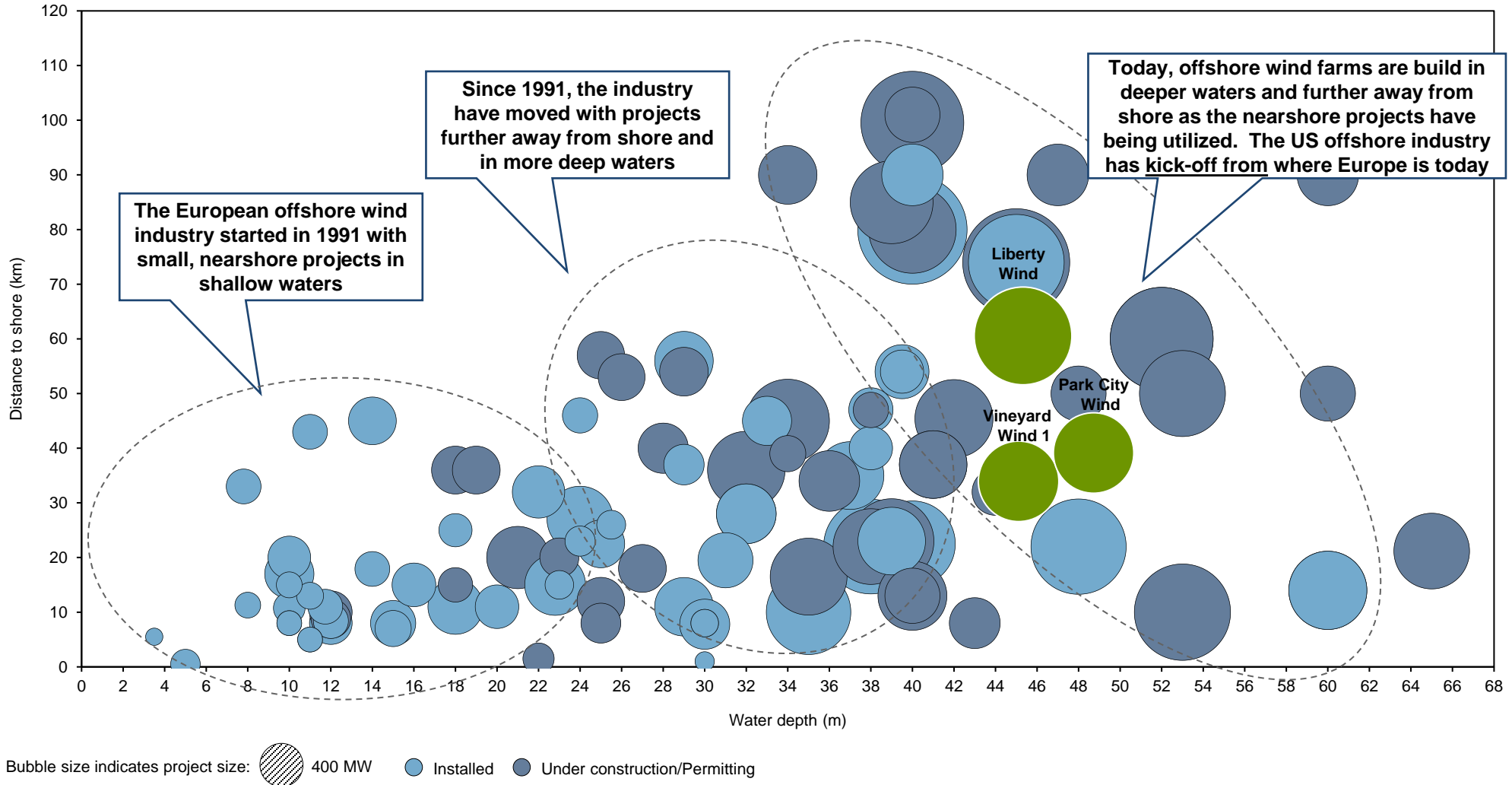


Strong similarities on key geographical parameters but the US is far behind Europe regarding active and anticipated production, and with current cost levels for offshore wind this is expected to change

Development of projects

- Significant difference in size, water depth and distance from shore since the start of offshore wind and today

Overview of offshore wind projects in terms of size, water depth and distance to shore



Source: U. S. Department of Energy, Fraunhofer IWES

Note 1: The chart includes both projects in the permitting / under construction phase and installed / operational stage

Key challenges and attractiveness of US offshore wind

- Europe started with low competition and limited financing opportunities whereas today in the US the competition is high and financing is vital

Overview of key challenges and attractiveness in US offshore wind

	<i>European offshore wind</i>	<i>US offshore wind</i>
Site fundamentals	<ul style="list-style-type: none"> High wind speeds in the North Sea Low to medium water depths Start with nearshore projects 	<ul style="list-style-type: none"> ✓ Similar high wind speeds in the US east coast ✓ Water depths in the east coast allow for monopiles ➤ US started with projects further away from shore
Competition	<ul style="list-style-type: none"> Limited competition in the early days Local utilities being they players 	<ul style="list-style-type: none"> ➤ High competition from international players both in terms of securing seabed and offtake
Regime	<ul style="list-style-type: none"> Strong political support with fixed and high tariffs in the early days Process to enable a wind farm well designed and very efficient 	<ul style="list-style-type: none"> Support through state regimes ➤ Fragmented permitting process (federal, state) ➤ High litigation risk
Supply chain	<ul style="list-style-type: none"> Supply chain matured in Europe along the way with offshore wind 	<ul style="list-style-type: none"> ➤ Limited local supply chain opportunities
Infrastructure	<ul style="list-style-type: none"> Infrastructure (ports, vessels, transmission) matured along the way with offshore wind 	<ul style="list-style-type: none"> ➤ Ports not ready to accommodate industry's needs ➤ Jones Act and limited US vessels opportunities ➤ Weak transmission backbone
Financing opportunities	<ul style="list-style-type: none"> Balance sheet equity Project finance 	<ul style="list-style-type: none"> Balance sheet equity Project finance ✓ Tax Equity

The US offshore wind industry lean on European technological learnings and kicked off at much more mature level compared to the start of offshore wind in Europe, however the high competition, the weak infrastructure and the limited supply chain opportunities present a challenge that offshore wind developers need to find solutions

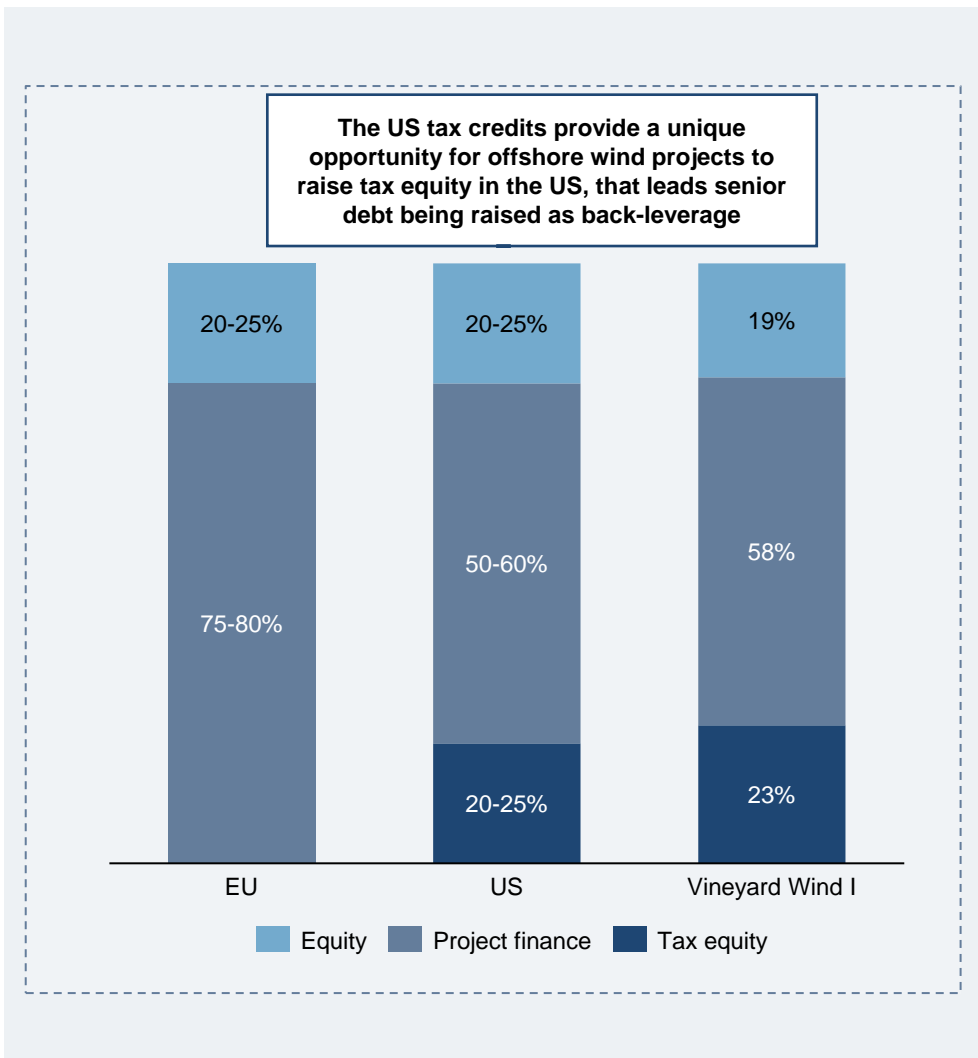
Content

Section	Page
1. Introduction to CIP	3
2. Offshore wind in North America – the developer view	9
a. Why offshore wind in the USA	
b. Key challenges and attractiveness	
3. Securing financing for offshore wind in the USA	15
a. The experience with Vineyard Wind I	



Financing opportunities

Typical capital structure for offshore wind assets



The Vineyard Wind I experience in 2019

Tax Equity

- ✓ Strong interest from the biggest tax equity investors
- ✓ Attractive terms were secured (Term sheet was signed), however significant education around the risks of offshore wind was required

Back-leverage

- ✓ European banks were leading the consortium of banks that was identified for Vineyard Wind I
- ✓ American banks gained increasing interest through the process
- ✓ Vineyard Wind I ended up being oversubscribed and achieved European terms for the first US offshore wind project

Unfortunately, as the permit was delayed due to the need of cumulative impact assessment of offshore wind, the whole financing process needs to be re-done. Interests from tax equity and banks remains strong but financing parties are hesitant to re-engage before clarity on permitting is achieved