

# Offshore Wind 3: New frontiers and paradigms

*Updates in the American offshore wind market*

*Sebastian Chivers*

*May 2, 2018 - All-Energy Conference, Glasgow*

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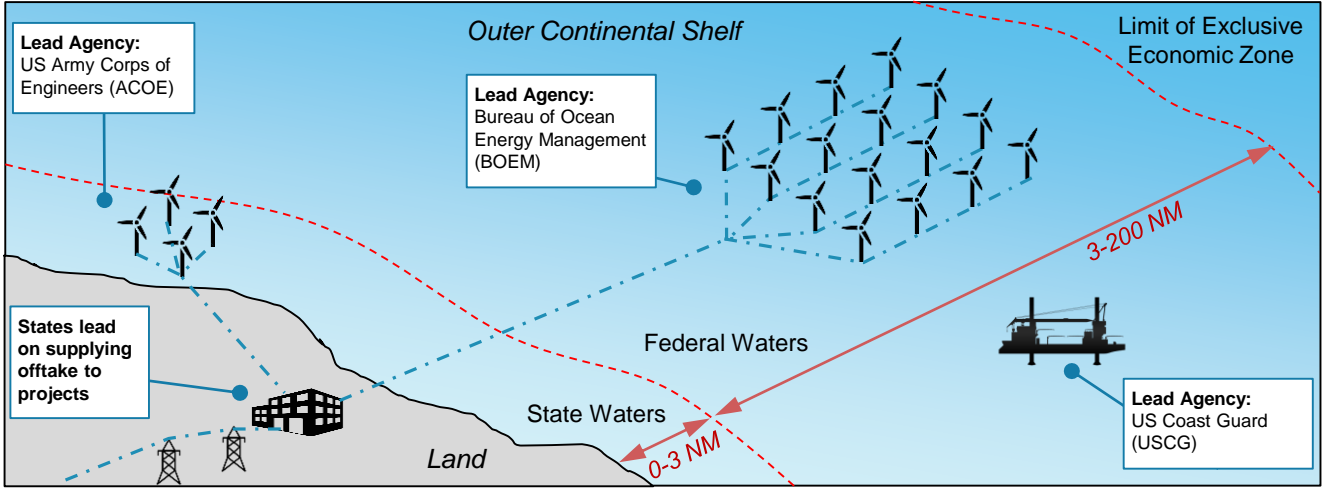
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# Agenda

1. Federal Policy and Leasing
2. Market Overview
3. Latest Developments in MA, NY, and NJ

# Developing, financing, constructing offshore wind projects in the United States requires two distinct and decoupled steps

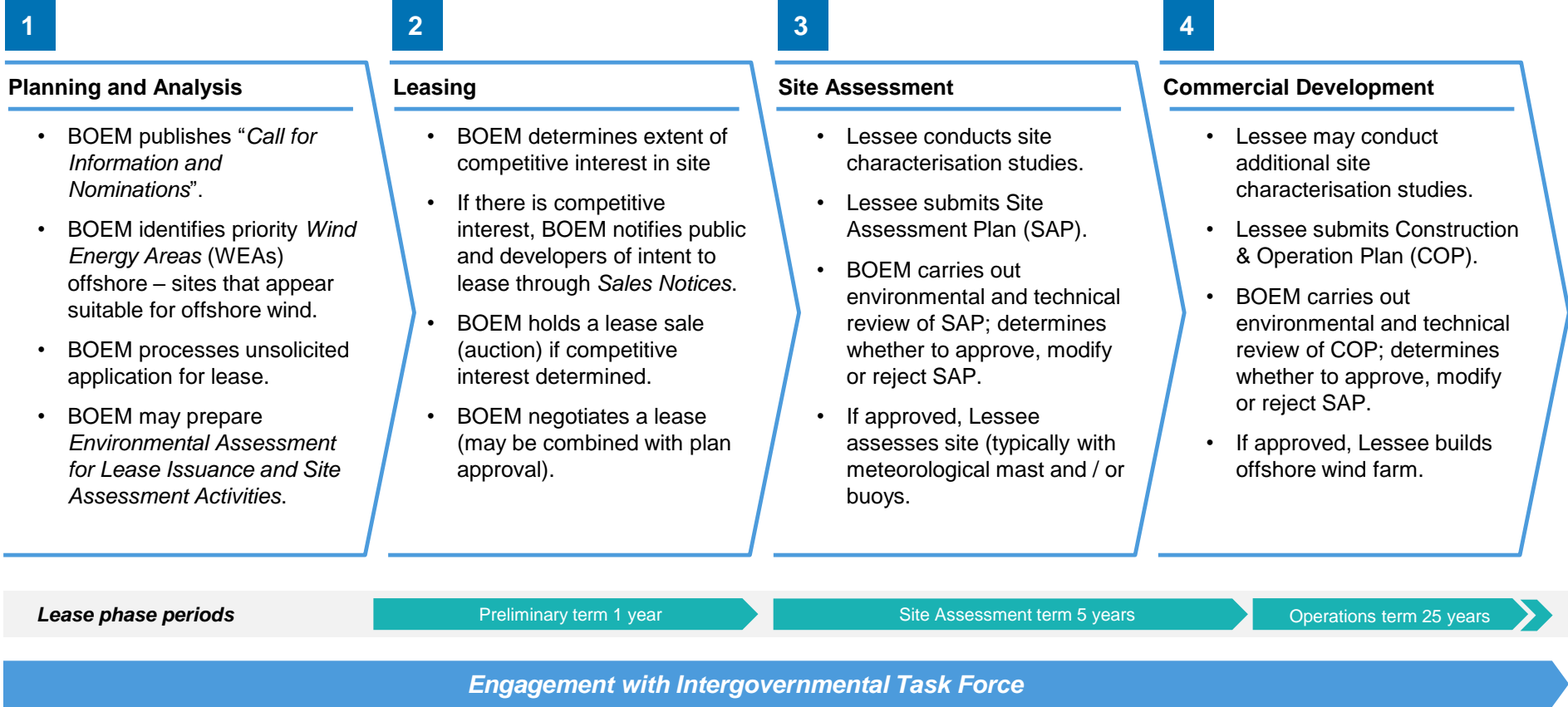
- 1** **Federal-level:** Acquire a wind energy area lease from the US Department of Interior's Bureau of Ocean Energy Management.
- 2** **State-level:** Secure an agreement for power purchase and grid connection.



**Both steps are essential to deliver a successful offshore wind project in the United States.**

Source: RCG analysis

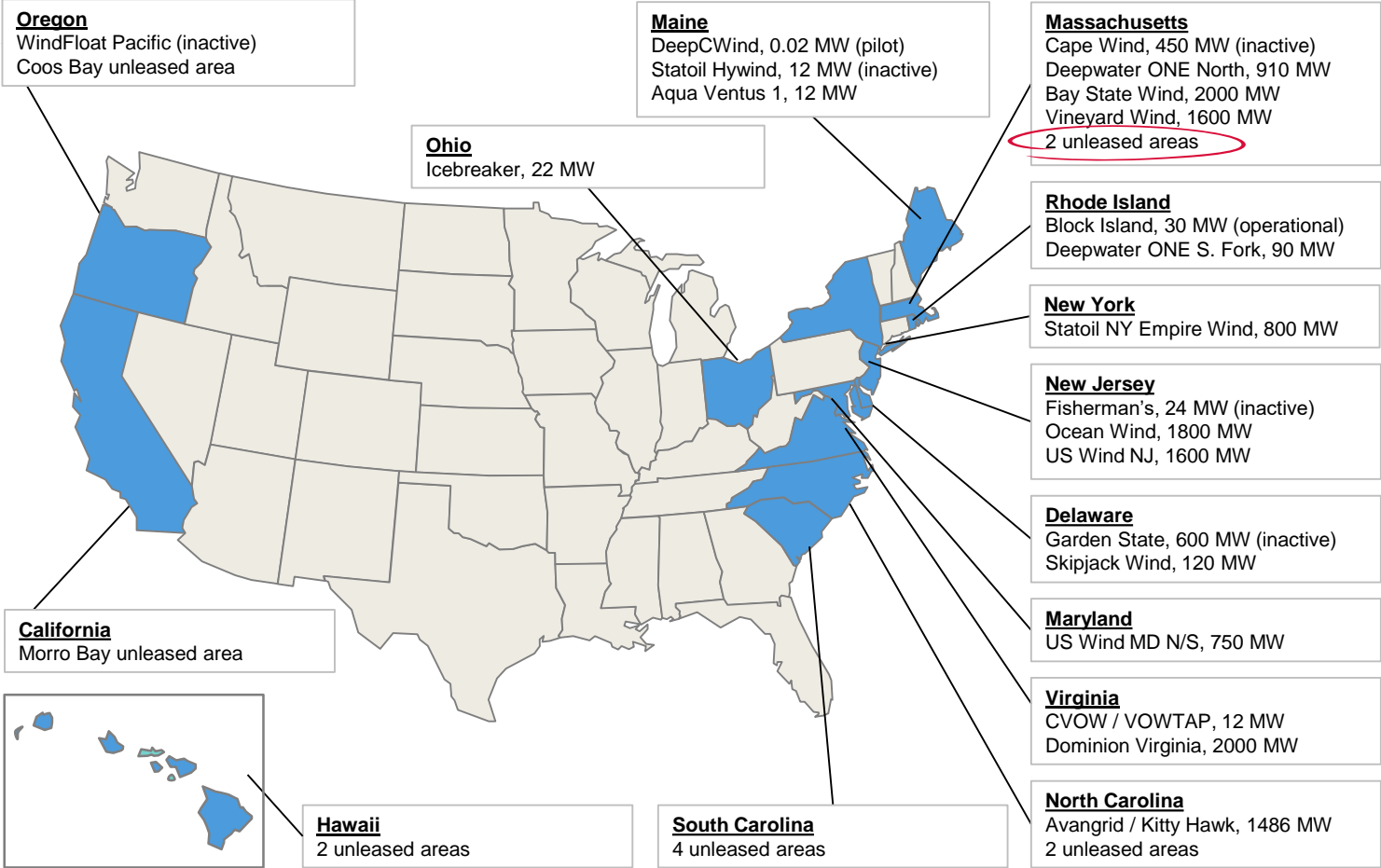
# BOEM’s OCS Renewable Energy Regulatory Framework and Leasing Process has four key stages



Source: RCG analysis from BOEM data

# From Maine to the Carolina's, offshore wind projects are under development, as well as the West Coast and the Great Lakes

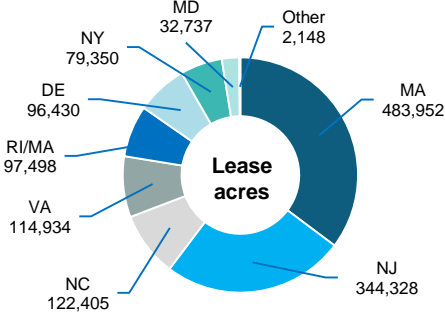
## US Offshore Wind Sites, projects and leases



## Comments

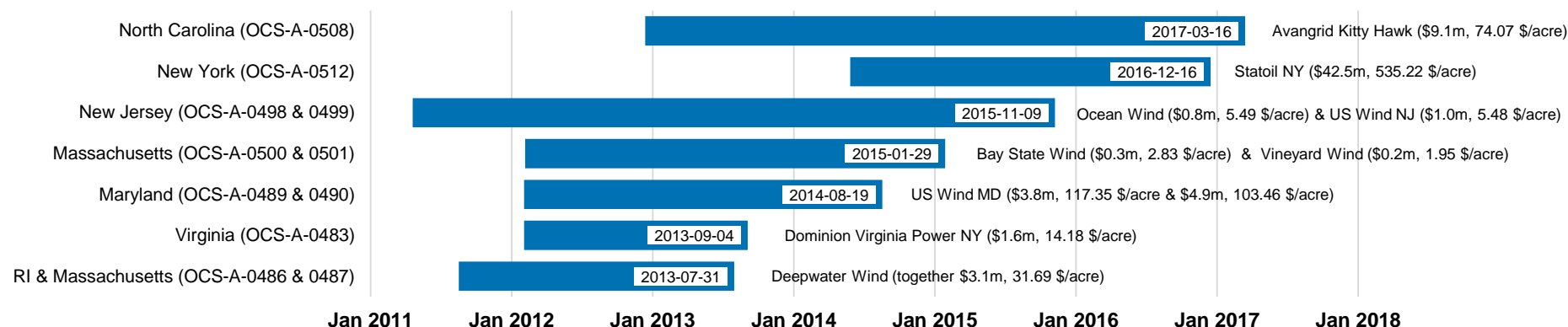
- Despite the growing number of offshore wind sites and projects in the US, only a few key locations are positioned to succeed near-term.
- Commercial scale, conventional projects are concentrated on the Atlantic coast.
- Capacities indicated are from developers and indicate maximum potential from lease areas.

State-level & BOEM leasing by State


















1000 acres = 4.0 km<sup>2</sup>

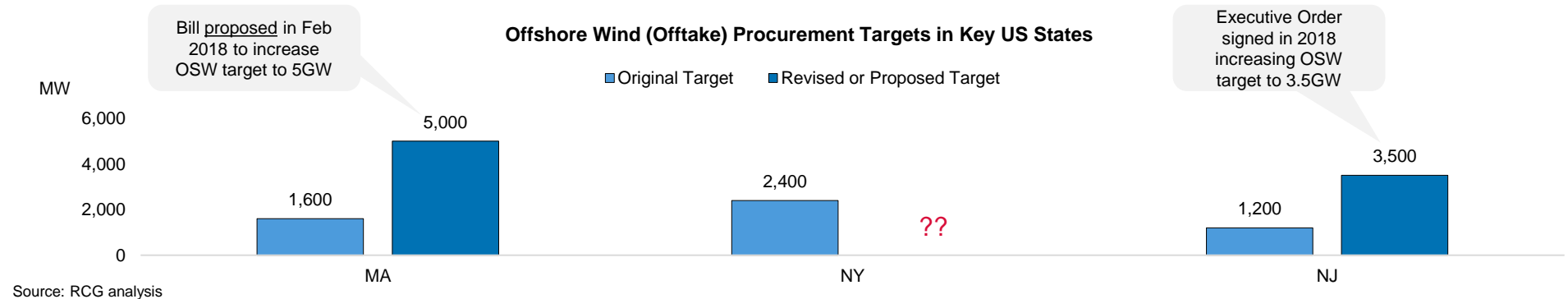
# Values paid for leases have ranged from \$300k to \$43m, with a typical 2-3 year timeline from competitive interest to lease award



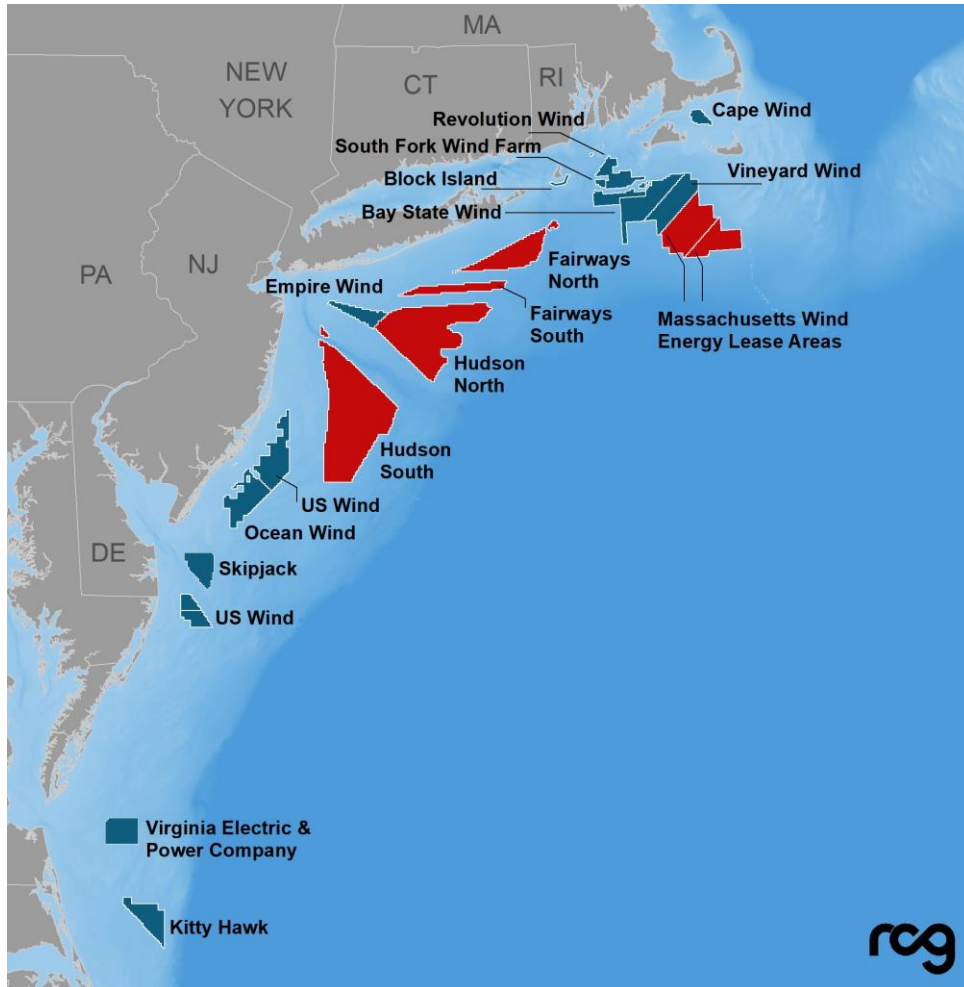
- BOEM has run competitive auctions for blocks of commercial offshore wind energy development on the Atlantic Outer Continental Shelf (OCS).
- The results from the auctions (shown above) indicate a typical timeline of 2-3 years from determination that there is competitive interest to closing on the winning bid.
- A short period then typically elapses whilst lease negotiations are finalised.

# Three States are competing to be the nation's leader in offshore wind – this should help to drive further offtake and leasing

State	Incumbent Governor	RPS	Lease Auction	Offshore Wind Support Scheme	Latest Developments	Outlook
<b>1</b>  Massachusetts	 <b>Charlie Baker (R)</b> Republican Party 2015 - 2019	 15% renewables by 2020, additional 1% each year thereafter.		An Act Relative to Energy Diversity was signed into Law in 2016 and requires utilities to contract 1,600 MW of offshore wind capacity by 2030.	Results from the first (>800MW) solicitation delayed by 1-month until May 23. MA Senators introduce new Bill with goal of 5,000 MW of offshore wind power by 2035, and reducing the time between procurements.	
<b>2</b>  New York	 <b>Andrew Cuomo (D)</b> Democratic Party 2015 - 2019	 NY PSC established a CES in 2016 mandating 50% of electricity to come from clean energy by 2030.		In State of the State address on January 10, 2017, Cuomo announced his support for 2.4 GW of offshore wind energy by 2030, and called for procurement of at least 800MW of offshore wind in 2018 and 2019	In January, The New York State Energy Research and Development Authority (NYSERDA) released an Offshore Wind Master Plan, and proposed four "Areas for Consideration" to BOEM for new leasing. "Call" announced this month by BOEM.	
<b>3</b>  New Jersey	 <b>Phil Murphy (D)</b> Democratic Party 2018 - 2022	 24.39% renewables by 2028, increased to 50% by 2030 under new Governor.		The 2010 Offshore Wind Development Act. directed the NJ BPU to establish an OREC program to support at least 1,100 MW of offshore wind. This Act stalled and was not implemented under the Gov. Chris Christie administration.	Phil Murphy signed an executive order to increase the offshore wind target to 3.5 GW by 2030 and instructed the BPU to issue a solicitation for 1,100MW of offshore wind. Strategic planning for offshore wind now underway by the BPU.	



# PSN for two previously unleased areas off MA, and a “call for information and nominations” for four new areas off NY out now



Source: RCG analysis

## Comments

### New York

- Call for Information and Nominations published by BOEM on April 11, 2018.
- Four “Call” areas – Hudson South, Hudson North, Fairways South, and Fairways North.
- Companies interested in commercial wind energy leases within the proposed area need to provide nominations and comments before **May 29, 2018 deadline**

### Massachusetts

- Proposed Sale Notice (PSN) published in the Federal Register on April 11, 2018.
- BOEM has proposed Lease Areas (LAs) that constitute the portions of the Massachusetts WEA that went unsold in 2015.
- All qualifications materials must be received by BOEM before the **June 11, 2018 deadline**.

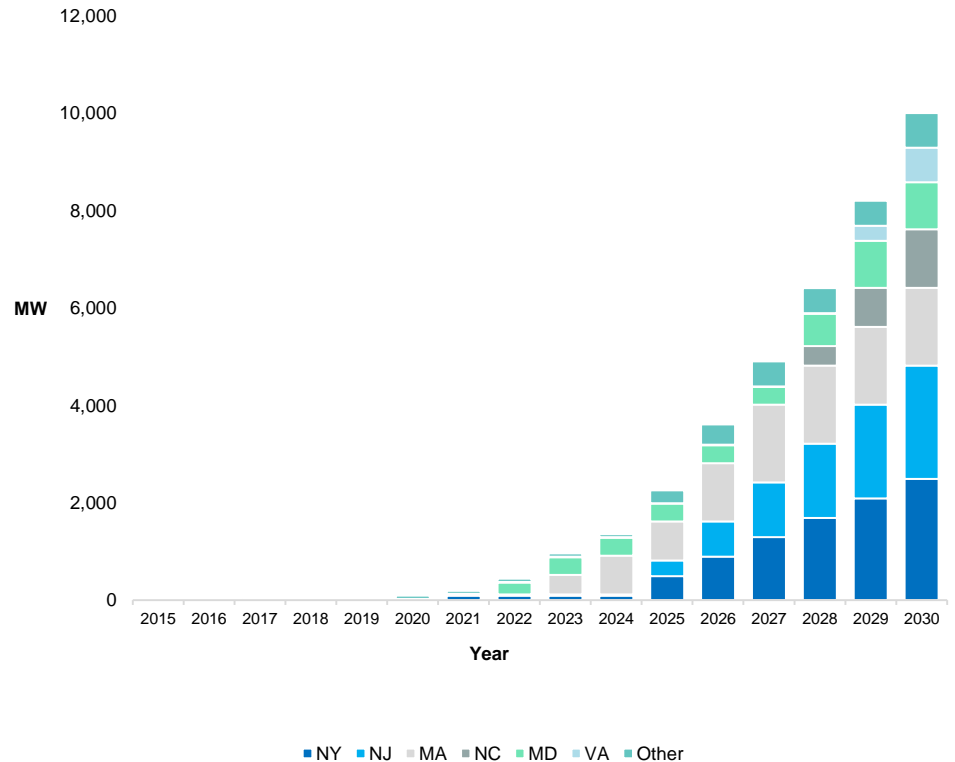


# The US has huge offshore wind potential, positive market fundamentals, and a healthy pipeline of projects

## Comments

- BOEM has leased areas capable of supporting multiple GWs of capacity up-and-down the East coast, with more to follow.
- Several promising demonstration-scale projects should be built between now and the start of large-scale deployment
- Our latest forecast from our GRIP™ database shows the potential for >10GW of offshore wind between now and 2030.
- Strong competition between several key States, that will lead to increased targets, and other States starting their own offshore wind programs.
- Political risk (Trump Administration), and supply chain challenges (The Jones Act., etc.) exist, but all are surmountable with a growing pipeline of projects to 2030 and beyond.

USA commissioning activity & forecast  
2015 - 2030 (cumulative MW) by State



Source: Global Renewables Infrastructure Projects (GRIP™) Database, April 2018

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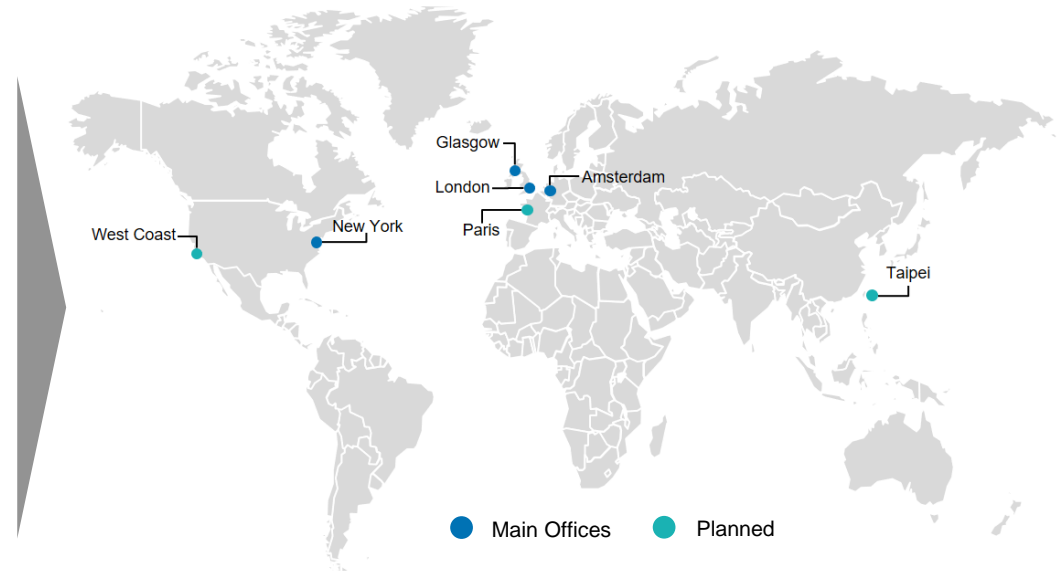
# Company Information

# The Renewables Consulting Group

## About the firm

- **Founded in early 2015** in London and New York.
- We are a **specialized expert services firm**, focused solely on the global renewable energy industry.
- Providing integrated **market intelligence, management consulting and technical advisory**.
- We support **mainstream and emerging energy technologies** and serve the organisations leading the transition to a low carbon economy.
- Our **success is based on building relationships and client results** – over 90% of our business comes from repeat engagements.
- We are **committed to doing business in a fair, safe and ethical way**, where the working environment is healthy and diverse, where confidential information is safeguarded, and where regulations are observed.

## Serving renewable energy markets worldwide



**15 yrs**

Average staff industry experience

**92%**

Repeat client engagement rate

**65%**

Staff with advanced level degrees

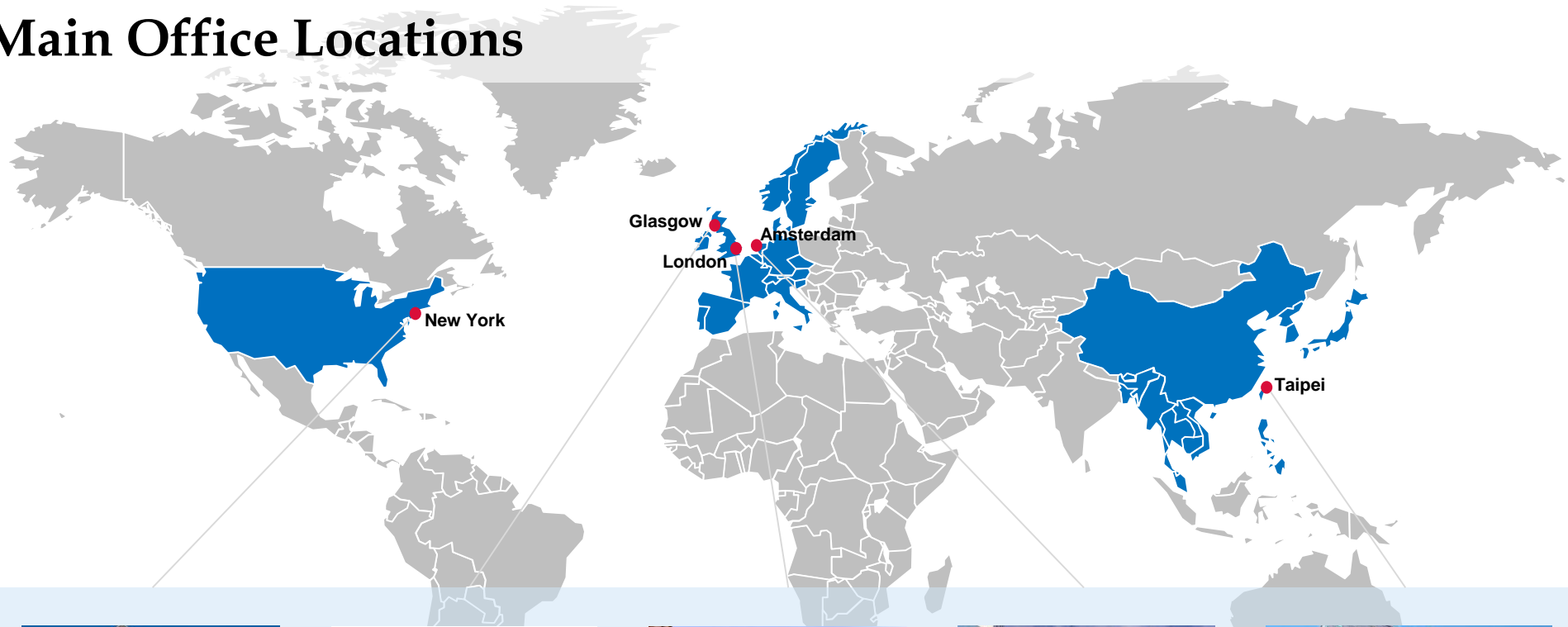
**48%**

Civil, electrical or mechanical engineers

**52%**

Natural sciences, MBA, economics, law

# Main Office Locations



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