Outer Continental Shelf (OCS) Energy

OCS Lands Act: "... vital national resource ... expeditious and orderly development ... environmental safeguards"

Energy Policy Act of 2005: "... energy from sources other than oil and gas ..."
Atlantic OCS Renewable Energy: State Leadership
## Atlantic OCS Renewable Energy: State Leadership (cont.)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maine</td>
<td>80% by 2030</td>
<td>144</td>
<td>0 + 0</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>35% by 2030</td>
<td>5,600</td>
<td>1,600 + 1,600</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>100% by 2030</td>
<td>unspecified</td>
<td>430 + 600</td>
</tr>
<tr>
<td>Connecticut</td>
<td>48% by 2030</td>
<td>2,300</td>
<td>1,108 + 0</td>
</tr>
<tr>
<td>New York</td>
<td>70% by 2030</td>
<td>9,000</td>
<td>4,316 + 0</td>
</tr>
<tr>
<td>New Jersey</td>
<td>50% by 2030</td>
<td>7,500</td>
<td>1,100 + 6,400</td>
</tr>
<tr>
<td>Maryland</td>
<td>50% by 2030</td>
<td>1,568</td>
<td>368 + 1,200</td>
</tr>
<tr>
<td>Virginia</td>
<td>30% by 2030</td>
<td>5,212</td>
<td>2,652 + 0</td>
</tr>
<tr>
<td>North Carolina</td>
<td>unspecified</td>
<td>2,800</td>
<td>0 + 0</td>
</tr>
</tbody>
</table>
Atlantic OCS Renewable Energy: State Leadership (cont.)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>100% by 2045</td>
<td>3,000</td>
<td>unspecified</td>
</tr>
<tr>
<td>Hawaii</td>
<td>100% by 2045</td>
<td>unspecified</td>
<td>unspecified</td>
</tr>
<tr>
<td>Oregon</td>
<td>50% by 2040</td>
<td>unspecified</td>
<td>unspecified</td>
</tr>
<tr>
<td>Louisiana</td>
<td>80% by 2050</td>
<td>5,000</td>
<td>unspecified</td>
</tr>
<tr>
<td>TOTAL</td>
<td>--</td>
<td>42,124 MW</td>
<td>21,374 MW</td>
</tr>
</tbody>
</table>
Technology & the Growth of the Wind Turbine

- Statue of Liberty: 305 ft (93 m)
- Golden Gate Bridge: 746 ft (227 m)
- Washington Monument: 555 ft (169 m)
- One World Trade Center: 1,792 feet (546 m)

- 500 KW: Vestas V39
  - 197 ft (60 m)
- 2 MW: Vestas V80
  - 394 ft (120 m)
- 3.6 MW: Siemens SWT 120
  - 487 ft (148.5 m)
- 6 MW: Alstom Haliade 150
  - 569 ft (173.5 m)
- 8 MW: Vestas V164
  - 607 ft (185 m)
- 12 MW: GE Haliade-X
  - 853 ft (260 m)

- Theoretical: ARPA-E (DOE-sponsored)

BOEM Bureau of Ocean Energy Management

- **$3,838,288**
  - Orsted (Deepwater Wind New England LLC)
  - RI-MA, July 2013

- **$3,841,538**
  - U.S. Wind Inc.
  - VA, September 2013

- **$4,859,560**
  - U.S. Wind Inc.
  - MD, August 2014

- **$166,886**
  - Vineyard Wind LLC
  - MA, January 2015

- **$281,285**
  - Orsted (Bay State Wind LLC)

- **$880,715**
  - Orsted (Ocean Wind LLC)
  - NJ, November 2015

- **$4,859,560**
  - U.S. Wind Inc.

- **$166,886**
  - Vineyard Wind LLC

- **$281,285**
  - Orsted (Bay State Wind LLC)

- **$1,006,240**
  - Atlantic Shores LLC
  - VA, September 2013

- **$3,841,538**
  - U.S. Wind Inc.

- **$880,715**
  - Orsted (Ocean Wind LLC)

- **$4,859,560**
  - U.S. Wind Inc.

- **$166,886**
  - Vineyard Wind LLC

- **$281,285**
  - Orsted (Bay State Wind LLC)

- **$1,006,240**
  - Atlantic Shores LLC

- **$4,859,560**
  - U.S. Wind Inc.

- **$166,886**
  - Vineyard Wind LLC

- **$281,285**
  - Orsted (Bay State Wind LLC)

- **$1,006,240**
  - Atlantic Shores LLC

- **$42,469,725**
  - Equinor Wind US LLC
  - NY, December 2016
Atlantic OCS Renewable Energy Lease Sales (2016 – 2022)

- **NY**: December 2016
  - Equinor Wind US LLC: $42,469,725
  - Avangrid Renewables LLC: $9,066,650

- **NC**: March 2017
  - Equinor Wind US LLC: $135,000,000

- **MA**: December 2018
  - Vineyard Wind LLC: $135,000,000
  - Mayflower Wind Energy LLC: $135,000,000

- **NY**: February 2022
  - OW Ocean Winds East LLC: $780,000,000
  - Invenergy Wind Offshore LLC: $645,000,000
  - Mid-Atlantic Offshore Wind LLC: $285,000,000
  - Mayflower Wind Energy LLC: $135,100,000
  - Vineyard Wind LLC: $135,000,000
  - Mayflower Wind Energy LLC: $135,000,000
  - Mayflower Wind Energy LLC: $135,000,000

- **NY**: February 2022
  - Atlantic Shores Offshore Wind Bight LLC: $795,000,000
  - Attentive Energy LLC: $1,100,000,000

$ = Recent Sales
Offshore Energy Bids Total $4.37 Billion

- Invenergy Wind Offshore LLC: $645M
- OW Ocean Winds East LLC: $765M
- Atlantic Shores Offshore Wind Bight LLC: $780M
- Attentive Energy LLC: $795M
- Bight Wind Holdings LLC: $1.1B

Mid-Atlantic Offshore Wind LLC: $285M
Provisional Winners of the Carolina Long Bay Lease Areas, $315M in High Bids

- OCS-A 0545
  TotalEnergies Renewables USA, LLC
  $160M

- OCS-A 0546
  Duke Energy Renewables Wind, LLC
  $155M
Atlantic OCS Renewable Energy: Onshore Supply Chain Activities

- Eversource Orsted Foundation Platform Manufacturing Facility
- Marmon Utility LLC Marmon Utility - Array Cable
- Njorrie Tower and Transition Piece Manufacturing Facility
- Sparrows Point Steel
- Siemens Gamesa Blade Factory
- Nexans Submarine Cable Facility
- Block Island Foundations - Jacket
- Offshore Wind Substation

MANUFACTURING
Atlantic OCS Renewable Energy: Onshore Supply Chain Activities (cont.)

- Atlantic Pioneer
- Atlantic Endeavor
- ECO Service Operations Vessel
- Charybdis

VESSELS
Atlantic OCS Renewable Energy: Onshore Supply Chain Activities (cont.)

- Salem Harbor
- Brayton Point
- New London State Pier
- New Jersey Wind Port
- New Bedford Marine Commerce Terminal
- Bridgeport (Barnum Landing)
- Portsmouth Marine Terminal
Atlantic OCS Renewable Energy: Onshore Supply Chain Activities (cont.)

University of Massachusetts Wind Energy Center
Bristol Community College
United States Coast Guard Academy
SUNY Farmingdale Stony Brook University
University of Delaware
Atlantic OCS Renewable Energy: Onshore Supply Chain Activities (cont.)

West Ocean City Operations and Maintenance Facility
# Renewable Energy Program by the Numbers

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Lease Sales Completed</td>
<td>10</td>
</tr>
<tr>
<td>Active Commercial Offshore Leases Issued</td>
<td>27</td>
</tr>
<tr>
<td>Active Research Offshore Leases Issued</td>
<td>2</td>
</tr>
<tr>
<td>Site Assessment Plans (SAPs) Approved</td>
<td>14</td>
</tr>
<tr>
<td>General Activities Plans Approved</td>
<td>1</td>
</tr>
<tr>
<td>Construction and Operations Plans (COPs)</td>
<td></td>
</tr>
<tr>
<td>- Approved Since 2021</td>
<td>2</td>
</tr>
<tr>
<td>- NEPA Process Underway</td>
<td>10</td>
</tr>
<tr>
<td>- Other COPs Submitted</td>
<td>5</td>
</tr>
<tr>
<td>- Anticipated Within Next 12 Months</td>
<td>2</td>
</tr>
<tr>
<td>Guidance</td>
<td>11</td>
</tr>
<tr>
<td>Leasing Under Consideration</td>
<td>5</td>
</tr>
<tr>
<td>Steel in the Federal Waters</td>
<td>2020</td>
</tr>
</tbody>
</table>
STEEL IN THE WATER! Coastal Virginia Offshore Wind Project (CVOW)

- Lessee: Virginia DMME
- Operator: Dominion Energy
- Engineering Contractor: Orsted
  - Construction (May/June 2020)
  - Two 6-MW turbines
  - Staging: Halifax, Hampton Roads, Camp Pendleton
  - Commissioning: 2020
Atlantic OCS Renewable Energy: “Projects in the Pipeline”

<table>
<thead>
<tr>
<th>Project</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2020</strong></td>
<td></td>
</tr>
<tr>
<td>Coastal Virginia Offshore Wind Pilot</td>
<td>Dominion Energy, Orsted</td>
</tr>
<tr>
<td>South Fork</td>
<td></td>
</tr>
<tr>
<td>Vineyard Wind I</td>
<td>Vineyard Wind</td>
</tr>
<tr>
<td>Revolution Wind</td>
<td></td>
</tr>
<tr>
<td>Skipjack Windfarm</td>
<td></td>
</tr>
<tr>
<td>Empire Wind</td>
<td>Equinor</td>
</tr>
<tr>
<td>Bay State Wind</td>
<td>Bay State Wind</td>
</tr>
<tr>
<td>U.S. Wind</td>
<td>US Wind</td>
</tr>
<tr>
<td>Sunrise Wind</td>
<td>Orsted, Eversource</td>
</tr>
<tr>
<td>Ocean Wind</td>
<td>Orsted</td>
</tr>
<tr>
<td>Coastal Virginia Offshore Wind Commercial</td>
<td>Dominion Energy</td>
</tr>
<tr>
<td>Park City Wind</td>
<td>Park City Wind</td>
</tr>
<tr>
<td>Mayflower Wind</td>
<td>Mayflower Wind</td>
</tr>
<tr>
<td>Atlantic Shores</td>
<td>Atlantic Shores</td>
</tr>
<tr>
<td>Kitty Hawk</td>
<td>Avangrid</td>
</tr>
<tr>
<td><strong>2030</strong></td>
<td></td>
</tr>
<tr>
<td>OCS-A 0522</td>
<td>Vineyard Wind</td>
</tr>
</tbody>
</table>
Renewable Energy Project: Rhode Island / Massachusetts

South Fork (OCS-A 0517)

- Lease Issued: Oct 1, 2013
- Current Stage: **Installation**
- Max # of WTG Locations: Up to 15
- Interconnection State: New York
- Power Purchase Agreement: NY, 133 MW
- Commissioning Date: 2023
- Lessee: South Fork Wind, LLC
Renewable Energy Project: Massachusetts

Vineyard Wind I (OCS-A 0501)

- Lease Issued: April 1, 2015
- Current Stage: **Installation**
- Next Milestone Facility Design Report (FDR) Fabrication & Installation Report (FIR) Review
- Max # of WTG Locations: 62
- Interconnection State: MA
- Power Purchase Agreement: MA, 800 MW
- Commissioning Date: 2024
- Lessee: Vineyard Wind 1, LLC
President Biden issued Executive Order 14008 that called for the Interior Department to identify steps to increase responsible renewable energy development on public lands and waters.

First-ever national offshore wind goal to deploy 30 gigawatts of offshore wind by 2030, which would create nearly 80,000 jobs.
Our path forward will help achieve the first-ever national offshore wind goal to deploy 30 gigawatts of offshore wind by 2030, which would create nearly 80,000 jobs.