Annual Report

November 8 , 2017

Virginia Offshore Wind Development Authority
c/o Virginia Department of Mines, Minerals and Energy
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EXECUTIVE SUMMARY

INTRODUCTION

2017 saw the reinvigoration of the Virginia Offshore Wind Technology Advancement Project (VOWTAP) and the strongest evidence to date that European developers will bring investment dollars and lessons from their 10-year learning curve to the U. S. East Coast.

Dominion Energy partnered with Denmark's Ørsted (formerly DONG Energy), the world leader in offshore wind development, to develop the *Coastal Virginia Offshore Wind* Project (CVOW) 24 nautical miles off Virginia Beach. CVOW will include two, 8 MW wind turbines located in the federal research lease area. The project is expected to be operational by the end of 2020. It would be only the second offshore wind project in the nation and the first owned by an electric utility; and it will be an important first step toward commercial-scale offshore wind development. Ørsted also is involved as a developer or co-developer for the 1,000 MW *Bay State Wind* project off Massachusetts and the 1,950 MW *Ocean Wind* project off New Jersey.

On March 16, 2017, BOEM held a competitive lease sale for the Kitty Hawk Wind Energy Area offshore North Carolina. The auction lasted 17 rounds. Avangrid Renewables, LLC which bid $9,066,650 was the winner of the 122,405-acre lease area. The lease was signed by BOEM on October 10, 2017. Avangrid Renewable is a subsidiary of Avangrid and part of the Iberdrola Group.

Deepwater Wind's Block Island Wind Farm, a 30-megawatt facility in Rhode Island state waters, began commercial operations in December 2016, becoming the first such power plant in the United States.

Developers have so far secured 12 offshore wind leases for federal waters from BOEM that can accommodate over 14GW of offshore wind off the coasts of Rhode Island, Massachusetts, Maryland, New Jersey, Delaware, New York and Virginia.

Zentech Inc. and Renewable Resources International announced plans to build the nation's first Jones Act compliant offshore wind jack-up vessel on a U.S. built barge to provide the U.S. Offshore Wind Industry with a cost competitive marine logistic solution. The delivery of the vessel is expected by the end of 2018.

BACKGROUND

The Virginia Offshore Wind Development Authority ("VOWDA" or "the Authority) was created in 2010 and vested with the powers set forth in § 67-1201 of the Code of Virginia for the purposes of facilitating, coordinating, and supporting the development of the offshore wind energy industry, offshore wind energy projects, and associated supply chain businesses, including:

- Collecting relevant metocean and environmental data.
- Identifying existing regulatory or administrative barriers to the development of the offshore wind energy industry.
- Working in cooperation with local, state and government agencies to upgrade port and other logistical facilities and sites to accommodate the manufacturing and assembly of offshore wind energy project components and vessels.
- Ensuring development of such projects is compatible with other ocean uses, including naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.
- Recommending ways to encourage and expedite offshore wind industry development.

The four main goals established by the legislation are summarized as follows:

1. Virginia Offshore Industry Data: Facilitate the definition, collection, and dissemination of relevant metocean data, environmental data, and other information needed by Virginia offshore wind stakeholders, using existing, planned, or projected sources of data collection or activities.
2. Offshore Leasing, Permitting, Financing, and Regulation: Identify existing federal and state barriers to the development of the offshore wind industry in Virginia.
3. Virginia Offshore Job Creation and Supply Chain Development: Work in cooperation with relevant local, state, and federal agencies to accommodate the manufacturing, assembly, and maintenance of offshore wind energy project components and vessels.
4. Offshore Wind Project Siting and Development: Communicate and coordinate with stakeholders to ensure the development of offshore wind projects is compatible with other ocean uses and avian and marine resources, including both the possible interference with and positive effects on naval facilities and operations, NASA-Wallops

Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

To accomplish its goals, the Authority worked with and supported efforts by the Virginia Department of Mines, Minerals and Energy (DMME), the federal Bureau of Ocean Energy Management (BOEM), Dominion Energy, and other stakeholders to help accelerate offshore wind development projects in Virginia and address financial and environmental issues. The Authority sent letters to Virginia's Congressional Delegation in support of legislation that would extend the 30% investment tax credit for offshore wind projects and to the State Corporation Commission expressing support for offshore wind in Dominion Energy's Integrated Resource Plan. The Authority also heard presentations from various stakeholders and experts, analyzing information to determine the appropriate next steps to facilitate development of the offshore wind energy resource, to provide reasonably priced renewable energy, and to develop a supply chain that will attract significant commercial investment in Virginia's offshore wind industry and attendant jobs at the ports, shipyards, and supplier base.

Harnessing our offshore wind is a win-win in Virginia and across the nation. Offshore wind is, not only a potentially sizeable generation resource offering valuable fuel diversity, but also an important economic engine. As more offshore wind areas are developed in the United States, it is expected that the costs will come down significantly. To reap the economic benefits of this new industry, we need to establish a robust supply chain. Virginia's port assets provide a tremendous opportunity for Virginia to be viewed as a "player" in offshore wind as the market develops and matures.

Several activities were completed during the 2016-2017 report year which support offshore wind power development:

VOWDA responded in 2016 to support an increasing emphasis on promoting Port of Virginia assets to attract members of the supply chain because of interest by two turbine foundation fabricators.

To support this effort, the Commonwealth reached out to partner with the Virginia Port Authority, the Virginia Economic Development Partnership, the Virginia Maritime Association, the Virginia Ship Repair Association, and others to show developers and fabricators public and private port facilities that could support the offshore wind industry along the entire East Coast. The team hosted Ørsted for a bus and helicopter tour of the Port of Virginia and several private facilities. At a subsequent meeting the team hosted a meeting and tour for a major European turbine foundation fabricator to feature the benefits of Virginia's port facilities and to send a

strong message that Virginia is open for foreign manufacturing businesses looking to expand into the U.S. market.

As a result of its activities and accomplishments in 2017, the Authority makes the following recommendations to advance offshore wind development and related supply chain activities in Virginia. The recommendations are ranked in order of priority.

RECOMMENDATIONS

RECOMMENDATION 1: Encourage and advocate for supportive state and federal regulatory changes, as well as legislative proposals, such as the establishment of a mandatory renewable energy standard with a specific goal for offshore wind and for extension of the federal tax credits.

RECOMMENDATION 2: Collaborate with stakeholders, including Dominion Energy, Ørsted, Virginia Economic Development Partnership, the Port of Virginia, Virginia and European manufacturers, and others to promote Virginia companies as part of the supply chain for offshore wind.

RECOMMENDATION 3: Work with the Governor's Office, DMME, and interested stakeholders to build support for State Corporation Commission approval of the CVOW project.

RECOMMENDATION 4: Work with CVOW partners to identify possible power offtakers in the Commonwealth and elsewhere, such as large data companies with clean energy commitments, for offshore wind energy from CVOW and the commercial Wind Energy Area.

RECOMMENDATION 5: Actively solicit third party participants to undertake offshore wind project development activities in the DMME Research Lease in conformance with existing agreements.

As required by § 67-1209 of the Code of Virginia, the Authority submits this seventh annual report to the Governor and the Chairmen of the House Appropriations Committee, the Senate Finance Committee and the House and Senate Commerce and Labor Committees.

MISSION AND OBJECTIVES

Virginia has unique characteristics and an excellent wind resource that make it an ideal location for offshore wind power development. Virginia is well positioned to become a leading base of operations for the offshore wind industry for the mid-Atlantic region, bringing quality jobs and other benefits to Virginia's citizens and businesses.

In 2010, the Virginia Offshore Wind Development Authority (VOWDA or the Authority) was created and vested with the powers set forth in § 67-1201 of the Code of Virginia. The Authority was established for the purposes of facilitating, coordinating, and supporting the development of the offshore wind energy industry, offshore wind energy projects, and associated supply chain businesses. A copy of the Authority's Mission Statement and Objectives can be found in *Appendix A*.

The four main goals established by the legislation are summarized as follows:

- Virginia Offshore Industry Data: Facilitate the definition, collection, and dissemination of relevant metocean data, environmental data, and other information needed by Virginia offshore wind stakeholders, using existing, planned, or projected sources of data collection or activities.

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- Virginia Offshore Job Creation and Supply Chain Development: Work in cooperation with relevant local, state, and federal agencies to accommodate the manufacturing, assembly, and maintenance of offshore wind energy project components and vessels.

- Offshore Wind Project Siting and Development: Communicate and coordinate with stakeholders to ensure the development of offshore wind projects is compatible with other ocean uses and avian and marine resources, including both the possible interference with and positive effects on naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

The Governor appoints the nine non-legislative citizen members. Six of the inaugural members served terms of less than four years to maintain continuity of operations by ensuring that all appointments do not expire in the same year. Thereafter, all appointments or re-appointments are for four year terms. In 2016, the Authority elected Joan Bondareff to serve as Chair and Deborah Miller as Vice-Chair. The full list of VOWDA Board Members is included as *Appendix B*.

VOWDA has broad authority to accept, hold, invest and administer monies, grants, securities or other property, to make and execute contracts with public and private entities as necessary, and to hire consultants, attorneys, financial experts and others as necessary to fulfill its mission. The Director of DMME serves as the Director of the Authority, and DMME serves as staff to the Authority.

The legislation requires the Authority to provide an annual summary of the activities of the Authority and policy recommendations to the Governor, the Chairs of the House and Senate Commerce and Labor Committees and the Chairs of the House Appropriations and Senate Finance Committees. Copies of all VOWDA reports are available on its website, http://wind.jmu.edu/offshore/vowda/index.html.

OFFSHORE WIND DEVELOPMENTS AND ACTIVITIES

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY

To accomplish its goals and objectives, the Authority regularly updates and works to implement a comprehensive work plan. Objectives include the following:

- Engage with agencies and stakeholders to support and accelerate offshore wind development and associated supply chain in Virginia, including support for the successful completion of the VOWTAP.
- Secure financial and other resources; leverage state funding with additional private and federal funding to give Virginia a competitive advantage over other Mid-Atlantic States in attracting the offshore wind industry.
- Identify and address policy and regulatory issues and barriers.
- Acquire and share data.
- Promote Virginia's unique attributes and readiness for offshore wind and encourage port and supply chain development.

VOWDA continues to support efforts by DMME, BOEM, Dominion Energy and other stakeholders to help accelerate the funding and development of offshore wind development projects in Virginia, including meetings and port tours with two major European offshore wind developers and component fabricators. The Authority submitted letters to Virginia's Congressional Delegation in support of legislation that would amend the federal tax code to extend the 30% investment tax credit and to the State Corporation

Commission expressing support for offshore wind in Dominion Energy's Integrated Resource Plan. In addition, the Authority heard presentations from various stakeholders and experts, analyzing information to determine the appropriate next steps to facilitate development of the offshore wind energy resource, to provide reasonably priced renewable energy, and to develop an offshore wind industry and supply chain that will create economic opportunity for businesses and good jobs for Virginians. Letters and available presentations can be viewed on the VOWDA website at http://wind.jmu.edu/offshore/vowda.

Presentations

- McNeilan & Associates presented on behalf of the Lake Erie Energy Development Company and Fred. Olsen Renewables USA and provided an update on the Icebreaker Offshore Wind Demonstration Project.
- Renewable Resources International addressed VOWDA on what's next for offshore wind in Virginia and what role the Commonwealth can play in the continued development of the offshore wind industry. RRI also spoke to the Authority on U.S. offshore marine logistics and construction of the first U.S. offshore wind installation vessel.
- Virginia Offshore Wind Coalition presented on VOW activities, government relations plans, and the status of the proposed Tangier Island wind project; and provided insights on Virginia's roles in the offshore wind industry.
- Dominion Energy reported on the status of the Coastal Virginia Offshore Wind Project, formerly known as VOWTP. The company announced its partnership with DONG Energy to start phase one of the project.
- Ørsted (formerly DONG Energy) provided an overview of its global offshore wind experience and its U.S. wind power projects, including next steps for Virginia's CVOW project.

VIRGINIA

Coastal Virginia Offshore Wind Project (Formerly VOWTAP)

Dominion Energy announced in July 2017 that it is moving forward on the mid-Atlantic's first offshore wind project in a federal lease area. It signed an agreement and strategic partnership with Ørsted, formerly DONG Energy, a global leader in offshore wind development, to build two 8-megawatt turbines approximately 24 nautical miles off the Coast of Virginia Beach on a 2.134-acre site leased by the VA DMME.

Dominion initially began work on the project, previously called the Virginia Offshore Wind Technology Assessment Project (VOWTAP) in 2011, as part of a U.S. Department of Energy grant to develop and demonstrate new-generation offshore wind technologies and support offshore installations in state and federal waters for commercial operation in 2017. VOWTAP met with a setback in 2016 when DOE withdrew the $40 million in funding awarded the project due to delays that would have pushed commercial operation beyond 2020.

The newly named *Coastal Virginia Offshore Wind Project* (CVOW) would be only the second offshore wind project in the nation and the first owned by an electric utility company. Ørsted brings significant experience in engineering, manufacturing, construction and supply chain management.

- The two companies will begin refining agreements for engineering, procurement and construction. Dominion Energy remains the sole owner of the project. Engineering and development work on the project is expected to begin immediately by Ørsted to support the targeted installation by the end of 2020. The timing for construction depends on many factors such as weather and protected species migration patterns. After the initial turbines are installed, Ørsted has the exclusive rights to discuss a strategic partnership with Dominion Energy focused on developing the commercial site based on successful deployment of the initial test turbines through a memorandum of understanding signed by both companies.

- The project opens the door to long-term commercial wind development and will provide the critical operational, weather and environmental experience needed for large-scale development in the adjacent 112,800-acre site leased by Dominion Energy from BOEM. Full deployment could generate up to 2,000 megawatts of energy—enough to power half a million homes.

- Dominion filed its annual Integrated Resource Plan in May 2017, a long-term energy forecast required by state law. Included in the IRP is the development of the 12-MW VOWTAP (now CVOW) to test two wind turbines off the coast of Virginia Beach as early as 2021. VOWDA sent a letter to the State Corporation Commission on September 15, 2017, in support for offshore wind in Dominion's Energy Integrated Resource Place (IRP), and in particular the CVOW project. *[Appendix C]*

Commercial Offshore Wind Lease

A complete Site Assessment Plan (SAP) was submitted by Dominion to BOEM for meteorological evaluations and site assessment on March 2, 2016. The plan details the

methods and procedures Dominion will use to collect and analyze meteorological data and information on the conditions of the marine environment within the Commercial Lease.

On October 12, 2017, the Bureau of Ocean Energy Management approved Dominion's SAP. The SAP approval allows Dominion to proceed with the installation of a WindSentinel™, a floating light detection and ranging (LiDAR) buoy.

Renewable Energy Generation

Dominion Energy issued an RFP on July 24, 2017, to support its proposed CRG Rate Schedules recently filed with the SCC to promote renewable energy generation. The program allows non-residential customers with peak measured demands of 1,000 kW or greater to voluntarily elect to purchase 100 percent of their energy needs from renewable energy sources. The company is proposing the program to better meet the needs and interests of its customers desiring renewable energy. Dominion prefers locating renewable sources within Virginia, although projects located elsewhere within the PJM regional transmission organization will also be considered. Implementation of the CRG Rate Schedules is consistent with the goals of the Virginia's Energy Plan to accelerate the development of renewable energy resources to ensure a diverse fuel mix and promote long-term health, as well as the state's goal to reduce carbon emissions while encouraging clean energy initiatives that will grow jobs and help diversify the economy.

Governors' Wind and Solar Energy Coalition

In February 2017, the Governors' Wind and Solar Energy Coalition, a bipartisan group of twenty U.S. Governors of which Virginia Governor Terry McAuliffe is a member, wrote a letter to President Donald Trump urging his support of renewable energy saying that wind and solar industries are crucial economic engines for impoverished rural regions. The Coalition is seeking increased federal funding to modernize local power grids and boost clean energy research as well as calling for legislation to promote offshore wind farms and efforts to streamline the permitting process for wind and solar projects. A copy of this letter is included as *Appendix D*.

FEDERAL

U.S. House and Senate Federal Tax Credits

S. 1672, the *Incentivizing Offshore Wind Power Act*, was introduced August 1, 2017, by Senators Tom Carper (D-DE) and Susan Collins (R-Maine). This bill would provide the

offshore wind industry with a stable but limited financial incentive be amending Section 48 of the tax code to extend the 30% investment tax credit (ITC) for the first three (3) gigawatts of offshore wind facilities placed in service through 2025.

On September 15, 2017, VOWDA sent a letter to Virginia's Congressional delegation in support of S. 1672. VOWDA believes that the ITC legislation could provide the additional short-term incentive needed to attract significant investment in Virginia's offshore wind industry and attendant jobs at the ports, shipyards, and supplier base. *[Appendix E).*

America-First Energy Strategy

President Trump signed an executive order in May 2017 that implements an America-First Energy Strategy that directs the Interior Department to review oil and gas drilling policies, and will also look at offshore wind development.

Bureau of Ocean Energy Management

- In March 2017 BOEM-National Marine Fisheries Service released the report, *Socio-Economic Impact of Outer Continental Shelf Wind Energy Development on Fisheries in the U.S. Atlantic,* to better understand fishing activity as it relates to areas of potential offshore wind energy development. This report will inform BOEM's decision-making related to future offshore wind energy development by identifying potentially affected fisheries that may require additional information and analysis.

- BOEM announced in April 2017 that it will continue to develop plans to advance offshore wind and was in the process of outlining three new areas for offshore wind leases, identifying three zones off the East Coast as having the most potential: "Nantucket to New York," south of Massachusetts and New York; "New Jersey to DelMarVa," in Mid-Atlantic waters; and "Carolina Long Bay," where the Carolinas meet. BOEM is looking for areas where a wind turbine will be located at least 10 nautical miles from the shore, and also emphasizing areas that are close to power demand and where states have incentives or other policy support for offshore wind.

OTHER STATES

California

- BOEM completed the initial review of an unsolicited commercial lease request from Trident Winds LLC for a proposed 765-MW floating offshore wind farm northwest of Morro Bay and deemed it complete. The RFI notice was published in the Federal

Register in August 2016 and BOEM determined there was competitive interest. The project could take advantage of transmission lines constructed for a now-retired natural gas plant.

- The BOEM/California Intergovernmental Renewable Energy Task Force held its first meeting in October 2016. A California Offshore Wind Energy Planning meeting was held with BOEM in April 2017 to share information on current planning activities for possible offshore wind energy development off the Central Coast. The task force is working on the first phase of the process, planning and research, focused on the Central Coast, where winds consistently blow 7 meters per second, and existing infrastructure at the Morro Bay energy plant and the Diablo Canyon nuclear power plant could be used to distribute wind-generated power.

- In support of the Task Force, the Offshore Renewable Wind Energy Gateway was developed-- an online data portal for the collection of geospatial information on ocean wind resources, ecological and natural resources, ocean commercial and recreational uses and community values which will help identify areas off of California that are potentially suitable for wind energy generation.

Delaware

- Governor John Carney signed an executive order in August 2017 establishing an offshore wind working group to study potential "environmental and economic development benefits of offshore wind development to serve Delaware". The group plans to submit a report to the Governor by December 15 that recommends plans to develop job opportunities in the offshore wind industry and will also draft any necessary legislation, including amendments to Delaware's Renewable Energy Portfolio Standards Act.

- University of Delaware researchers and industry partners have determined that assembling offshore wind turbines in a port is the most cost- and time-effective method in the construction of offshore wind farms, since it would cost up to $1.6 million less per project than conventional approaches and would take half the construction time. The five-year research project was funded by the U.S. Department of Energy. The draft report was released October 15, 2017.

Maine

- BOEM proposes to authorize federal funding for the University of Maine's New England Aqua Ventus I project, a pilot floating offshore wind farm with two 6-

megawatt direct-drive turbines on concrete semi-submersible foundations at a test site off of Monhegan Island, Maine. Because of its location in deep waters off the coast of Maine, where traditional foundations are not feasible, the University of Maine is developing an innovative floating platform. The plans are to test the two commercial-scale floating turbines in 2019. In March 2017, BOEM requested public input on the scope of an environmental assessment for the project. The draft EA for this proposed project is being developed and DOE anticipates making it available to the public in Spring/Summer 2018.

Maryland

- US Wind, Inc. has the lease for an offshore wind project 12 miles off the coast from Ocean City with plans to install 187 total turbines in 20-30 meters of water over approximately 80,000 acres. A substation will collect the energy from the turbines and transmit the electricity to the shore using underwater cables. This project is expected to produce up to 750 MW of power, which is enough power for more than 500,000 homes. The project is anticipated to come online in early 2020.

- In May 2017 the Maryland Public Service Commission (PCS) fully approved US Wind's and Deepwater Wind's proposals for offshore wind farms off the coast of Ocean City. The PCS's decision awarded offshore wind renewable energy credits to both projects -- US Wind's 248-MW project is expected to be operational in January 2020, and Skipjack Offshore Wind LLC's (a subsidiary of Deepwater Wind) 120-MW project is expected to launch in 2022. Both companies have agreed to invest a total of $115 million into port infrastructure and manufacturing around Sparrows Point in Baltimore County related to the development of the state's offshore wind industry. In July 2017 Rep. Andy Harris (R-MD) successfully inserted an amendment to block funding for reviews of site assessment or construction and operation plans for offshore wind projects less than 24 nautical miles from the Maryland shore. Two such projects are the ones from U.S. Wind Inc. and Deepwater Wind LLC. The turbines would be located between 12 and 21 miles from the coast.

- The Maryland Energy Administration (MEA) allocated $1 million for two new grant programs specifically targeting the offshore wind industry. The Offshore Wind Business Development Grant Program is open to emerging businesses and grant funds will help offset upfront barrier costs in market entry assistance and capital expenditures and facilities upgrades. The Offshore Wind Workforce Development Grant Program will provide funding on a competitive basis to ensure Maryland has a

ready and able workforce capable of contributing to the construction, installation, and operations and maintenance of an offshore wind energy project.

Massachusetts

- The Massachusetts Clean Energy Center (MassCEC) and BOEM announced in October 2016 the results of two new multi-year marine wildlife survey efforts that focus on collecting baseline biological occurrence and distribution data for whale, turtle, and bird species within the Wind Energy Areas (WEAs) offshore Massachusetts and Rhode Island. The wildlife surveys found that the Massachusetts and Rhode Island WEAs avoid the high concentrations of protected species of whales, turtles and seabirds in these areas.

- Offshore MW filed the Site Assessment Plan (SAP) for its commercial lease to BOEM in March 2017. Once the SAP is determined complete, BOEM will review the SAP and approve, disapprove, or approve with modifications the proposed site assessment activities. BOEM was ordered by the U.S. Court of Appeals in July 2016 to supplement the final Environmental Impact Statement with sufficient seafloor data. BOEM is reviewing public comments and will revise the SEIS as necessary later this year.

- The Bay Wind commercial lease Site Assessment Plan was approved by BOEM in June 2017, allowing for the installation of two floating light detection ranging buoys to measure wave and wind speeds in the project's leased area and one metocean/current buoy. This utility-scale offshore wind project, located 15 nautical miles south of Martha's Vineyard, is a joint venture between Ørsted and Eversource.

- Statoil Wind US LLC (December 2016) and PNE Wind USA Inc. (January 2017) individually submitted unsolicited lease requests for two commercial lease areas. Because both parties nominated the same area and both were determined qualified to hold an OCS lease, BOEM determined that competitive interest exists. BOEM plans to auction two ocean parcels about 15 miles off the Massachusetts coast in later summer of fall of 2018.

- Massachusetts Department of Energy partnered with investor-owned electric distribution companies across the state in April 2017 to jointly issue a RFP for renewable energy generation to ultimately help the state meet goals outlined in the energy diversity legislation. The state received nearly four dozen bids for a contract to add more renewable power to its energy portfolio.

- National Grid Plc, Unitil Corp. and Eversource Energy proposed buying as much as 800 MW of offshore wind energy as a first step to comply with a Massachusetts law. The three utilities asked state regulators to approve a draft plan to solicit bids for offshore wind energy contracts spanning 15 to 20 years. By law they are required by law to source 1,600 megawatts of their total electricity from offshore wind by 2027 and the state will host two offshore wind bidding rounds to advance this goal. In response to the RFP for long-term contracts for clean energy projects issued in March 2017, Deepwater Wind submitted a proposal to pair with Telsa Inc. batteries with offshore wind turbines. The 144-MW project would store electricity produced late at night and deliver it when the grid needs it most.

- Scottish Power won rights in May 2017 for two wind farm sites that could total a combined 4 GW. The sites include the 1,500-MW Vineyard Wind project that will span 115 square miles south of Martha's Vineyard, and an unnamed project.

- Opponents of the stalled Cape Wind Offshore Wind Farm continued efforts to end the company's federal lease. A two-year suspension of the Cape Wind lease, which was sought by the company, ended in July 2017. Cape Wind is currently in good standing and BOEM has no plans to rescind the lease for 46 square miles in Nantucket Sound. BOEM issued the Notice of Availability of a Final Supplemental EIS in August 2017 and affirmed issuance of the existing lease to Cape Wind in September 2017 after a thorough analysis of the seafloor and its ability to support wind turbine generators.

- Under the new state energy law, Massachusetts utilities released the first offshore wind RFP in June 2017. The RFP calls for at least 400 megawatts of capacity from offshore wind turbines planned on the outer continental shelf. Proposals are due December 20, 2017, and contracts will go before the Department of Public Utilities in late 2018. It could be another two years before the winning bidder, or bidders, begin construction.

New York

- BOEM announced in December 2016 that Statoil Wind US LLC was the provisional winner of the nation's sixth competitive lease for renewable energy in federal waters, 79,350 acres offshore New York. The commercial wind energy lease was signed and executed by BOEM in March 2017.

- PNE Wind USA, Inc. submitted an unsolicited lease request in December 2016 for 40,920 acres offshore New York. The NY4-Excelsior Wind Park, located 28 nautical

miles off the coast of Long Island, would use 30 to 50 8-10 MW wind turbines for the project. Commercial operations would begin no later than 2027.

- The South Fork Wind Farm, 30 miles southeast of Montauk, was approved by the Long Island Power Authority in January 2017. The wind farm, which will consist of 15 advanced offshore wind turbines able to generate 90 megawatts of energy, would be the nation's second and largest offshore wind farm. The project is Part of Governor Cuomo's Clean Energy Standard to Secure 50 Percent of the State's Electricity Supply from Renewable Sources by 2030.

- In October 2017 New York State asked BOEM to consider identifying and leasing at least four new Wind Energy Areas off of New York's Atlantic Coast. Each would be capable of accommodating at least 800 MW of offshore wind. The auction for these new leases could take place by the end of 2019.

North Carolina

- Avangrid Renewables, LLC was named winner in March 2017 of BOEM's seventh competitive lease sale for renewable wind energy in federal waters. The lease was signed by BOEM on October 10, 2017 and goes into effect on November 1, 2017. The lease area of 122,405 acres offshore Kitty Hawk is located 24 nautical miles from shore.

- Governor Cooper signed HB 589 in late July that included an 18-month moratorium on wind farm projects, which is intended to allow time for legislators to more thoroughly study potential impacts of wind turbines on area military facilities and operations. To mitigate the impact of the moratorium the Governor issued an executive order directing the NC Department of Environmental Quality to continue recruiting wind energy investments and to "move forward" with all behind the scenes work involved with bringing wind energy projects online.

- In August 2017 Duke Energy Carolinas issued a RFP for up to 500 MW of wind capacity delivered to its transmission system. The RFP was open to existing and new wind generation facilities from 100 to 500 MW of delivered capacity that can be transported into DEC's transmission system by the end of 2022. The deadline to submit proposals was September 27.

Ohio

- The U.S. Department of Energy (DOE) is proposing to provide funding to Lake Erie Energy Development Corporation (LEEDCo) to construct and operate Project

Icebreaker, a 20.7-megawatt offshore wind project located approximately 8 miles offshore of Cleveland, Ohio in Lake Erie. DOE has prepared a draft environmental assessment and the public comment period ended October 10.

Rhode Island

- A bond referendum was approved in November 2016 to improve Rhode Island's existing ports infrastructure that will enable the state to be an attractive destination for port usage for offshore wind projects. Interstate cooperation will play an important role. There is a DOE-funded study underway among Massachusetts, Maine, Rhode Island, and New York to consider ways to collaborate on supply chain management, including aspects relating to port infrastructure.

- Deepwater Wind's Block Island Wind Farm offshore Rhode Island began commercial operation in December 2016, becoming the first such facility in the United States to deliver electricity to the power grid. In May 2017 Block Island Power Co. officially transferred Block Island's electrical grid from diesel generation to wind generation. According to the company, the approximately 2,000 electric customers on Block Island will have access to lower-cost and cleaner energy.

- In February 2017 BOEM awarded funds to the University of Rhode Island to conduct a study and collect data to determine the effects of Block Island Wind Farm on tourism and recreation.

- Deepwater Wind has partnered with the U.S. Fish and Wildlife Service, the University of Rhode Island, and the University of Massachusetts Amherst to assist in their studies of bird and bat activity off the Atlantic Coast, which is funded by BOEM. Deepwater Wind installed a wildlife tracking station on a foundation platform at the Block Island Wind Firm.

PJM Interconnection

- PJM Interconnection, a regional grid operator that works in 13 states, passed a new rule in April 2017 that requires utilities on its grid to source some of their generation from wind year-round -- not just in the winter months, according to the company. PJM expects that the requirement may result in an uptick in wind projects.

Zentech-RRI First U.S. Wind Jack-Up Vessel

- Zentech Inc. (marine engineering firm) and Richmond, Virginia based Renewable Resources International (RRI) announced on June 29, 2017, their plans to build the

nation's "first Jones Act compliant offshore wind jack-up vessel on a U.S.-built barge". The Jones Act requires all seafaring vessels transporting goods to and from the U.S. ports must be built in and owned by the U.S. This vessel will provide the U.S. Offshore Wind industry with a "cost competitive marine logistic solution", converting a Jones Act compliant asset aligned with the conclusions from the European offshore wind learning curve. The vessel will also act as an oil & gas crane jack-up for decommissioning when not in service for installing and/or maintaining wind turbines. The unit will be constructed using U.S.-built components and delivery is predicted by Quarter 4 of 2018. In addition to enabling a competitive solution addressing the offshore wind industry's Jones Act challenge, this vessel will contribute to the revival of the nation's shipbuilding industry and port infrastructure.

BVGA – RRI Partnership

- BVG Associates (BVGA) and Virginia Renewable Resources International announced a partnership on October 18, 2017. RRI Managing Partner Any Geissbuehler will lead BVGA's U.S. offshore wind business to help it grow by combining European offshore wind market experience with U.S. offshore capabilities.

RECOMMENDATIONS

RECOMMENDATION 1: Encourage and advocate for supportive state and federal regulatory changes, as well as legislative proposals, such as the establishment of a mandatory renewable energy standard with a specific goal for offshore wind and for extension of the federal tax credits.

RECOMMENDATION 2: Collaborate with stakeholders, including Dominion Energy, Ørsted, Virginia Economic Development Partnership, the Port of Virginia, Virginia and European manufacturers, and others to promote Virginia companies as part of the supply chain for offshore wind.

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RECOMMENDATION 5: Actively solicit third party participants to undertake offshore wind project development activities in the DMME Research Lease in conformance with existing agreements.

GOALS AND ACTIVITIES

The following are derived from the recommendations and are intended to help guide effective actions to achieve the recommendations. Staff will translate these into specific tasks in a separate work plan.

- Identify and explore strategies that promote the value and benefits of offshore wind energy development to generate increased public and political support.
- Continue maintaining and updating information on wind resource data, economics and environmental impacts, and information characterizing the state and federal regulatory framework for establishing a project off the coast of Virginia.
- Support continued development of a strategic or ocean management plan for Virginia waters, which includes uses such as offshore wind, and participating in the Coastal and Marine Spatial Planning process for federal waters off the coast of Virginia.
- Explore opportunities to collaborate regionally in anticipation of wind power development in neighboring states, while emphasizing Virginia's unique assets.
- Continue to identify and promote specific Port and private assets and facilities unique to Virginia to support private developers and supply chain members involved in pre-construction, construction, operation and maintenance.
- Engage with community colleges and universities, the U.S. Navy, the U.S. Department of Energy, and other subject matter experts about curriculum, education programs, trainings, and/or certification of individuals interested in construction and maintenance of offshore wind turbines and relevant offshore safety training.

- Work with developers, port and maritime industry, the VOW Coalition and other stakeholders to assess the sourcing and supply strategy for components, services, and vessels employed or being contemplated for other offshore wind farms in the U.S. and overseas, and identify how Virginia companies and resources can best be deployed to promote and benefit from offshore wind development in Virginia and neighboring states.

- Work with the Virginia Economic Development Partnership (VEDP), Port of Virginia, Dominion Energy, Ørsted and other developers, and domestic and European supply chain businesses to identify incentives to attract supply chain businesses and manufacturers to Virginia. Identify local candidate businesses and help to connect them to state and federal support programs.

- Continue to advocate on behalf of the Commonwealth that Virginia has the port infrastructure, unlimited air clearance, workforce resources, and strategic location that make Virginia the ideal host and partner for offshore wind developers and their preferred supply chain partners.

- Investigate the potential for the designation by BOEM of other Wind Energy Areas off the coast of Virginia.

- Identify new grant opportunities and other financing mechanisms that support offshore wind development, including the supply chain based in Virginia, endorsing and possibly participating in federal grant applications and state efforts to support projects that improve the offshore wind value chain, reduce the delivered cost of power, and create jobs and other opportunities.

- Work with BOEM to minimize undersea cable right of way conflicts.

- Work with DMME to identify possible participants in other projects in the research area that do not interfere with CVOW. Specifically, DMME will develop an "Information Package" to be distributed to market participants describing the DMME Research Lease and in cooperation with VOWDA will issue a "Request of Proposals" from third parties interested in developing offshore infrastructure within the DMME Research Lease.

- Work with the Governor's Office, DMME and interested stakeholders including possible offtakers to build support for SCC approval of the CVOW project.

APPENDIX A

MISSION STATEMENT AND OBJECTIVES

Virginia Offshore Wind Development Authority

Objectives

Mission Statement

The Virginia Offshore Wind Development Authority (the "***Authority***") is created as a political subdivision of the Commonwealth for the purpose of facilitating, coordinating, and supporting the development (either by the Authority or by other qualified entities) of the offshore wind energy industry, offshore wind energy projects, and supply chain vendors by:

A. Collecting relevant metocean and environmental data;
B. Identifying existing state and regulatory or administrative barriers to the development of the offshore wind energy industry;
C. Working in cooperation with relevant local, state, and federal agencies to upgrade port and other logistical facilities and sites to accommodate the manufacturing and assembly of offshore wind energy project components and vessels; and
D. Ensuring that the development of such wind projects is compatible with other ocean uses and avian and marine resources, including both the possible interference with and positive effects on naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

The Authority shall, in cooperation with the relevant state and federal agencies as necessary, recommend ways to encourage and expedite the development of the offshore wind energy industry.

The Authority shall also consult with research institutions, businesses, nonprofit organizations, and stakeholders as the Authority deems appropriate.

The Authority shall consider seeking grant and/or loan guarantees and/or entering into public-private partnerships to assist in the development of offshore wind.

The Authority shall provide two reports: 1) by May 31, 2011, a report on its recommendations on what is needed to facilitate the transmission of the offshore wind-generated power after review of the transmission study prepared by the investor-owned utility, Dominion Virginia Power; and 2) by October 15 each year, an annual summary of the activities of the Authority and policy recommendations to the Governor, the Chairs of the House and Senate Commerce and Labor Committees and the Chairs of the House Appropriations and Senate Finance

Objectives

Committees (the "Annual Report"). The Annual Report shall include specific policy recommendations that shall be derived from and supported by the actions, results, and deliberations of the Authority in carrying out its objectives listed below.

A. <u>Virginia Offshore Industry Data:</u> Facilitate the definition, collection, dissemination of relevant metocean data, environmental data, and other information needed by Virginia offshore wind stakeholders, utilizing existing, planned, or projected sources of data collection or activities.

1. Direct and provide support to the Virginia Department of Mines, Minerals and Energy (DMME) to gather, reconcile and disseminate information and data required for the development of the offshore wind industry and offshore wind facilities. Specifically, develop a strategy and action plan to:

    a. Inventory the available information (e.g. wind data, environmental data, oceanographic data, sea current data, electricity transmission data, port and shipping data, DOD/Navy Coast Guard requirements, integration of the Chesapeake Light Tower, offshore LIDAR buoy data, wind turbine construction and operating cost data, etc.);
    b. Gather stakeholder input regarding what information is required to support the offshore wind industry;
    c. Reduce gaps in information required versus information collected[1];
    d. Collect, process and disseminate this information to stakeholders; and

2. Collect, monitor, and provide information regarding the delivered cost, rate impact, economic impact, and environments benefits of electricity generated from offshore wind projects that considers existing studies, legislative and regulatory actions by the Commonwealth, federal government and other states, and information provided by stakeholders and interested parties;

3. Review, support/endorse and possibly participate in federal grant applications and state efforts that support projects that will improve the offshore wind value chain to shorten completion times, reduce the delivered cost of power, and create job opportunities.

[1] Note that the Department of the Interior plans to make available to lessees available federal data at the time of the lease sale for offshore wind

Objectives

B. <u>Offshore Leasing, Permitting, Financing, and Regulation:</u> Identify existing federal and state barriers to the development of the offshore wind industry in Virginia.

1. Define, identify and provide information regarding:

    a. Virginia's renewable energy goals with respect to offshore wind as well as state and federal incentives for renewable energy development;
    b. The current federal and state regulatory framework for the development, transmission, generation and purchasing power for offshore wind in Virginia;

2. Develop a process to gather and validate stakeholder input regarding perceived and/or real federal and state regulatory and administrative barriers to the development of the offshore wind industry in Virginia and work with stakeholders to create action plans or strategies to remove or reduce those barriers.

3. Incorporate results of these findings into the Annual Report.

C. <u>Virginia Offshore Job Creation & Supply Chain Development:</u> Work in cooperation with relevant local, state, and federal agencies to accommodate the manufacturing, assembly, and maintenance of offshore wind energy project components and vessels.

1. Support the Virginia Economic Development Partnership (VEDP) to:

    a. Assess the competitiveness of Virginia for the location of manufacturing, assembly, portage, and service centers to support the offshore wind industry;
    b. Define and implement strategies to attract industry to locate facilities in Virginia that will support the manufacturing, assembly, service and transport resources required by the industry participants; and
    c. Address the training and human resource requirements and the mechanism to provide the necessary human resources.

2. Consider incentives and/or policy initiatives needed to attract offshore related business to Virginia so as to create employment opportunities and balance the delivered cost of offshore wind and incorporate any recommendations regarding those incentives/policy initiatives into the Annual Report.

Objectives

D. <u>Offshore Wind Project Siting and Development:</u> Communicate and coordinate with stakeholders, including the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) Task Force to ensure that the development of offshore wind projects is compatible with other ocean uses and avian and marine resources, including both the possible interference with and positive effects on naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

1. Provide input and support to the Virginia BOEMRE Task Force in their ongoing communication with local, state, tribal, and federal stakeholders concerning the compatibility of offshore wind projects with other ocean uses.

2. Encourage the development of a strategic plan regarding the development and use of the offshore waters of Virginia for wind generation and other uses (recreation, defense, oil and gas exploration, shipping, etc.), using the principles of coastal and marine spatial planning.

APPENDIX B

2017 VOWDA BOARD MEMBERS

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY
BOARD MEMBERS
2017

Joan Bondareff, Chair
Attorney
Blank Rome LLP

Deborah E. Miller, Vice-Chair
Principal
Green Strategy Associates

Mary C. Doswell
Consultant
Doswell Strategic Consulting Services

Phillip S. Green
President
Green Powered Technology

Robert Matthias, Chair
Assistant to the City Manager
VA Beach City Manager's Office

Arthur W. Moye, Jr.
Executive Vice President
Virginia Maritime Association

Varun Nikore
Virginia Commercial Space Flight Authority Representative
Managing Director
Red Fort Strategies

Brian Redmond
Managing Director
Paragon Asset Group, LLC

Ronald Rosenberg
Chancellor Professor of Law and Associate Dean for Academic Affairs
William & Mary Law School

APPENDIX C

VOWDA LETTER TO SCC IN SUPPORT FOR OFFSHORE WIND IN DOMINION ENERGY'S IRP

Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
http://wind.jmu.edu/offshore/vowda/index.html

September 15, 2017

The Honorable Judith Williams Jagdmann
Chairman, Virginia State Corporation Commission
P.O. Box 1197
Richmond, Virginia 23218

Dear Chairman Jagdmann:

The Virginia Offshore Wind Development Authority (VOWDA) would like to express its support for offshore wind in Dominion Energy's Integrated Resource Plan (IRP), and in particular, the Coastal Virginia Offshore Wind (CVOW) project. VOWDA is a state legislative authority with Gubernatorial appointments established for the purposes of facilitating, coordinating, and supporting the development of the offshore wind energy industry, offshore wind energy projects, and related supply chain opportunities.

Offshore wind is important to Virginia, not only as a potentially sizeable generation resource offering valuable fuel diversity, but also as an important economic engine. As more offshore wind areas are developed in the United States, it is expected that the costs will come down considerably, to the point of being competitive, if not cheaper, than other renewable generation resources. This is exactly the scenario that has unfolded in Europe, where the costs of recent offshore wind projects are as low as an equivalent 6 cents per kWh, including transmission.

The reduction in the cost of offshore wind will be due, in part, to the establishment of a robust supply chain in the United States. This supply chain development presents a tremendous opportunity for Virginia, given the port assets that exist in the State if, and only if, Virginia is viewed as a "player" in offshore wind as the market develops and matures. The CVOW project is also an important first step to develop this new generation resource on a commercial scale. Dominion Energy will be able to test the equipment and design, understand the operations and maintenance expenses, and most importantly, explore cost-cutting opportunities BEFORE attempting to install hundreds of turbines in the larger, adjacent Wind Energy Area.

VOWDA acknowledges that the cost of CVOW on a "per MW" basis is high compared to traditional fuel sources; however, this project is needed so that Virginia is prepared to utilize

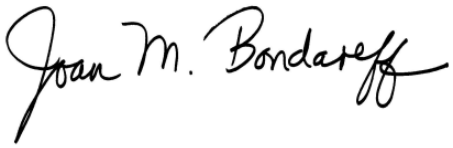
offshore wind as a commercial-scale resource as the prices come down. This will eventually occur as a result of technology advancements, development of a robust local supply chain and capturing economy of scale.

Dominion has partnered with experienced European wind farm developer, DONG Energy, on the CVOW. The CVOW project should not be viewed in isolation. It should be viewed as an enabling project to further develop offshore wind as a reliable, affordable generation resource and as a catalyst for job growth in Virginia.

The General Assembly has declared, in chapter 550 of the 2014 Acts of Assembly that "…planning and development activities for a new generating facility or facilities utilizing energy derived from offshore wind are in the public interest." For this reason, and those articulated above, VOWDA strongly encourages the State Corporation Commission to support offshore wind and the CVOW project as part of Dominion Energy's IRP. It is in the public interest of the Commonwealth to be a leader in offshore wind in order to have the opportunity to have access to a low cost renewable resource and to receive the economic development benefits as the market develops.

We appreciate your consideration of these comments. If you need any further information about the role VOWDA plays in offshore wind, or the importance of the CVOW in the proposed Dominion IRP, please contact me at 703.989.8011 or jbondareff@erols.com.

Sincerely,



Joan Bondareff
Chair

c: The Honorable Terry McAuliffe, Governor of Virginia
The Honorable Molly Ward, Secretary of Natural Resources
The Honorable Todd Haymore, Secretary of Commerce and Trade
Thomas F. Farrell, II, President and Chief Executive Officer, Dominion Energy, Inc.

APPENDIX D

GOVERNOR'S SOLAR AND WIND ENERGY COALITION LETTER TO PRESIDENT TRUMP

Governors' Wind & Solar Energy Coalition

2200 Wilson Boulevard, Suite 102-22
Arlington, Virginia 22201-3324
Phone 402 651-2948
www.GovernorsWindEnergyCoalition.org

February 13, 2017

The Honorable Donald J. Trump
President of the United States
The White House
1600 Pennsylvania Avenue
Washington, DC 20500

Dear President Trump:

As the governors of Rhode Island and Kansas and the chair and vice chair of the Governors' Wind & Solar Energy Coalition — a bipartisan group of the nation's governors representing states from coast to coast — we look forward to working with you to strengthen America's energy future.

The Coalition's twenty member-states are home to hundreds of wind and solar energy facilities that employ hundreds of thousands of Americans and contribute significantly to each state's economy, and the nation's at large. The growth of the renewable energy industry is an American success story built on federal research and development, state policy leadership, private sector investment, and ingenuity. A new chapter of that story began last year when our country's first offshore wind facility went into service in the waters of Rhode Island.

The nation's wind and solar energy resources are transforming low-income rural areas in ways not seen since the passage of the *Homestead Act* over 150 years ago. For example, U.S. wind facilities pay rural landowners $222 million a year, with more than $156 million going to landowners in areas with below-average incomes. In addition, $100 billion has been invested by companies in low-income counties, where some 70 percent of the nation's wind farms are located[1].

Last year, the country's solar industry employed over 200,000 and added 31,000 new jobs. Most of the installations are in rural areas and have provided landowners another income option. Further, the United States added a record 4,143 GW of new solar in the third quarter of 2016[2]. Wind energy currently generates nearly 25 percent of Kansas's electricity, 35 percent of Iowa's electricity, and five percent of the entire nation's electricity.

[1] *Wind power pays $222 million a year to rural landowners, American Wind Energy Association, March 2, 2016; Wind Is the New Corn for Struggling Farmers, Bloomberg News, October 26, 2016.*

[2] *National Solar Job Census, The Solar Foundation, 2016.*

Members of the Coalition have seen the benefits of renewable energy firsthand, and agree that expanding renewable energy production is one of the best ways to meet the country's growing demand for energy. Today's wind and solar resources offer consumers nearly unlimited electric energy with no fuel costs, no national security impacts, and a number of environmental benefits. The boons of renewable energy can be virtually endless with your Administration's and Congress' support of the key initiatives detailed here. Your support of these initiatives will allow our nation to capitalize on renewable resources, meet the needs of Americans and bolster the economy.

Grid modernization and Transmission Development

Any national infrastructure legislation introduced in Congress should provide significant funding for grid modernization.

Just like other basic infrastructure needs, the nation must address the electrical transmission challenges that a large expansion of renewable energy production will create, including the integration and transmission of significant new renewable energy to all areas of the nation. Across the country, electric utility customers are paying for investments in transmission and distribution system modernization. As the governors work with state utility commissions and the private sector to plan the best electric systems, it is vital that those investment decisions are based on the latest data, technology options and trends.

The complexity of the nation's aging, multi-state grid makes the need for sophisticated modeling and analysis critically important. We ask that you create a new state-federal task force, perhaps in conjunction with the Federal Energy Regulatory Commission and the National Laboratories, to examine options to modernize and streamline state and federal regulatory processes. Improving the regulatory framework will stimulate private sector and utility investments in a resilient electric system that is capable of withstanding security threats and delivering low cost electricity to every region of the nation.

Adopt Comprehensive Long-term Offshore Wind Development Legislation

Offshore wind is an abundant source of renewable energy handily located near some of our nation's largest cities and densest areas of population. However, the United States boasts just one active offshore project – the Block Island Wind Farm along the coast of Rhode Island. Europe currently has 11 GW of offshore wind installed. The Department of Energy's 2015 Wind Vision Report predicted that our country's offshore wind resources could support the installation of 22 GW of new wind by 2030 and 86 GW by 2050. If we capitalized on that potential, a new American offshore wind industry could create thousands of jobs in research and development, engineering, manufacturing, marine construction and other sectors.

Given its location, offshore wind presents greater development challenges than onshore wind, resulting in longer construction times and higher initial costs. In addition, most of the nation's best offshore wind resources are found in federal waters — requiring federal permits and other logistic efforts that can add years to the construction timeline.

Because of these offshore development challenges, different tax incentives, infrastructure investments, and research are needed for offshore wind projects to be successful. Understanding this, the governors

recently informed Congressional leadership that the nation's offshore wind industry cannot grow without specific federal policy foundations that will encourage offshore wind development in shallow and deep water. The governors have urged Congress to approve comprehensive offshore development legislation as soon as possible.[3]

Offshore wind investors need a faster return on their long-term investments, which is why the investment tax credit (ITC) is a better incentive for offshore wind development than the production tax credit (PTC). Tax incentives for the first offshore wind projects will ultimately reduce costs for future projects and for consumers. In order for offshore wind to be successful, a long-term extension of a thirty percent investment tax credit is critical.

Unfortunately, Congress has passed only short-term extensions of the investment tax credit that will expire before a majority of offshore wind projects will qualify. In fact, the National Renewable Energy Laboratory's analysis of the impacts of the recent PTC and ITC extensions found that no offshore wind projects would qualify prior to the 2019 expiration date. The investment tax credit also phases down, similar to the production tax credit, removing the effectiveness of the incentive.

Investor confidence in the nation's offshore wind potential is strong today. Six companies from around the world recently competed in a federal auction for the right to explore building offshore wind energy facilities on the Outer Continental Shelf. This is evidence of the private sector's support for offshore wind development, but that support will disappear without a strong national policy foundation.

It is our hope that your Administration and Congress will support a long-term extension of a thirty percent investment tax credit for offshore wind. Congress already has two pieces of legislation from last session that would address this issue. Bills authored by Senator Markey and Senator Whitehouse (S.3036) would extend the ITC for offshore wind through 2025 so the industry has sufficient time to develop these projects. Other legislation authored by Senator Carper and Senator Collins (S.1736) would allow the first 3,000 megawatts of offshore wind to qualify for the ITC, providing certainty for early developers regardless of timing. Both bills have companion legislation in the House. We support these efforts and other options that provide more certainty and time for the investment tax credit.

Increase Wind and Solar Research and Development Appropriations

The nation's long-term investment in research conducted by the U.S. Department of Energy's national laboratories, state universities, and private companies around the nation is responsible for the extraordinary growth of the nation's wind and solar energy industry. New electricity distribution, storage, controls and end-use technologies are making possible increased resilience and decreased costs to improve economic competitiveness.

Federal funding for energy research and development helps ensure that future generations of Americans are the beneficiaries of the country's tradition of energy innovation and economic competitiveness. This funding will also continue the dramatic cost reductions we've seen over the past 15 years as the average cost of wind and solar energy production continue to fall. For states without fossil fuel resources, wind

[3]*Iowa Governor Terry Branstad and Rhode Island Governor Gina Raimondo to Congressional Leadership, June 29, 2016. Governors' Wind & Solar Energy Coalition.*

and solar offer economic development opportunities for rural areas. For states with natural gas, coal, and oil resources, wind and solar present an opportunity to diversify energy resources.

If the United States does not continue robust federal research and development programs in wind and solar energy, we will cede leadership in these critical technologies to other nations that have demonstrated ongoing high priority commitments to these technologies, such as China. We would also cede the resulting economic development benefits to these nations and would be importing the great majority of our wind and solar equipment from them.

Streamline and Improve Collaboration for Permitting Solar and Wind Energy Projects

It is very difficult to permit wind and solar projects on public land and private land because of unworkable wildlife regulations. Wildlife permitting should allow wildlife-friendly projects and mitigation efforts to advance. An especially effective approach used by past Administrations to address permitting and siting issues is to direct assistant secretary level appointees from key agencies to meet quarterly and report on progress and remaining barriers. Consistent high-level attention, followed by White House questions, can deliver results.

Thank you for your consideration of our recommendations and your support for the nation's energy future. Please contact us or Larry Pearce, the Coalition's executive director (402-651-2948 or larry@governorscoalition.org) if we can be of further assistance.

Sincerely,

Gina M. Raimondo
Chair and
Governor of Rhode Island

Sam Brownback
Vice Chair and
Governor of Kansas

cc:
The Honorable Mike Pence, Vice President
The Honorable Reince Priebus, Chief of Staff
Members, Senate Appropriations Subcommittee on Energy and Water Development
Members, U.S. Senate Finance Committee
Members, U.S. Senate Energy and Natural Resources Committee
Members, U.S. House of Representatives Subcommittee on Energy & Water Development
Members, U.S. House of Representatives Committee on Commerce and Energy
The Honorable, Rick Perry, U.S. Secretary of Energy Nominee
The Honorable, Scott Pruitt, U.S EPA Administrator Nominee
The Honorable, Sonny Perdue, U.S Department of Agriculture Nomimee
The Honorable, Jared Kushner, Senior Advisor to the President
The Honorable, Mick Mulvaney, White House Office of Management & Budget Nominee

APPENDIX E

LETTER TO VIRGINIA'S CONGRESSIONAL DELEGATION IN SUPORT OF S.1672, INCENTIVIZING OFFSHORE WIND POWER ACT AND RESPONSE FROM SENATOR KAINE

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY

Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
http://www.dmme.virginia.gov/DE/vowda.shtml

September 12, 2017

The Honorable Timothy Kaine
United States Senate
231 Russell Senate Office Building
Washington, DC 20510

The Honorable Mark Warner
United States Senate
703 Hart Senate Office Building
Washington, DC 20510

Dear Senators Kaine and Warner:

The Virginia Offshore Wind Development Authority (VOWDA) respectfully requests your support for S. 1672, the *Incentivizing Offshore Wind Power Act*, introduced August 1, 2017, by Senators Tom Carper (D-DE) and Susan Collins (R-Maine). This bill would provide the offshore wind industry a stable but limited financial incentive by amending Section 48 of the tax code to extend the 30% investment tax credit (ITC) for the first three (3) gigawatts (GW) of offshore wind facilities placed in service through 2025.

We are also writing to update you on progress for the offshore wind industry in the Commonwealth. Dominion Energy has partnered with Denmark's DONG Energy, the world leader in offshore wind development, having built more offshore wind farms than any other company worldwide. DONG Energy and a leading offshore wind turbine foundation fabricator are scheduled to visit Hampton Roads with Governor McAuliffe later this month to tour Virginia's world class port assets as they evaluate it as a possible location for an offshore wind foundation fabrication facility. This manufacturing facility could result in $70M–$130M in investment, create over 500 good paying direct jobs, thousands of indirect and induced jobs, and could serve as the "anchor tenant" for additional offshore wind supply chain industries in Hampton Roads. These developments have made it even more critical for Congress to extend the ITC for offshore wind. Passage of S. 1672 will enable Virginia to become a landmark along the Atlantic Seaboard for offshore wind development.

Harnessing our nation's offshore wind is a win-win in Virginia and across the nation. It means reliable, homegrown power, cleaner air, and real American jobs. For the U.S. to harness offshore wind and reap the economic benefits of this new industry, we need a nurturing environment to get this industry off the ground. You can help catalyze offshore wind deployment through our tax code with an extension of the investment tax credit for the first offshore wind projects. We believe that the limited, focused and reasonable incentives in the *Incentivizing Offshore Wind Power Act* should be supported for several reasons:

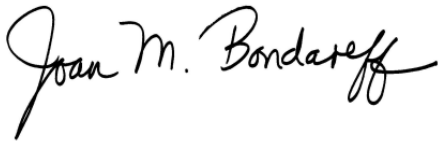
- Offshore wind is uniquely appropriate for a limited, fiscally sensible subsidy, and this legislation is fiscally conservative and well targeted. Offshore wind needs initial support to help offset the higher costs of investing long-term in these projects.

- Offshore wind faces higher technological and construction risk than land-based wind. This is historically the type of technology deployment and demonstration that is appropriate for limited federal government financial support. It will give a new industry, with the potential for thousands of jobs, a chance to establish footing in the Commonwealth.

In summary, VOWDA believes that the ITC legislation could provide the additional, short-term incentive needed to attract significant commercial investment in Virginia's offshore wind industry and attendant jobs at the ports, shipyards, and supplier base.

Thank you for your attention to this matter. Please contact me at 202.772.5911 or Bondareff@blankrome.com, or Al Christopher at the Department of Mines, Minerals and Energy at 804.692.3216 or al.christopher@dmme.virginia.gov, with any questions you may have on this request or new developments in Virginia.

Sincerely,



Joan Bondareff
VOWDA Chair

cc: Al Christopher, Division of Energy Director
Department of Mines, Minerals and Energy

TIM KAINE
VIRGINIA

COMMITTEE ON
ARMED SERVICES

COMMITTEE ON
FOREIGN RELATIONS

COMMITTEE ON
THE BUDGET

COMMITTEE ON
HEALTH, EDUCATION, LABOR,
AND PENSIONS

WASHINGTON OFFICE:

WASHINGTON, DC 20510-4607
(202) 224-4024

United States Senate
WASHINGTON, DC 20510-4607

October 31, 2017

Ms. Joan M. Bondareff
Chair
Virginia Offshore Wind Development Authority
1100 Bank St Fl 8
Washington Floor
Richmond, VA 23219-3638

Dear Ms. Bondareff:

Thank you for contacting me about the Incentivizing Offshore Wind Power Act. It was good to hear from you.

I firmly believe it is time to for the United States to lead the world in producing clean renewable energy. I support a comprehensive energy policy that develops all our energy sources in a safe, smart way to create jobs and reduce pollution.

There is also widespread agreement the federal tax code needs to be reformed - it must be simpler, fairer, and more transparent, while still promoting economic growth. I welcome ideas to advance clean energy development through tax reform. For example, production tax credits are important policies that will help Virginia lead the nation in producing energy from offshore wind. Ultimately, these tax incentives will strengthen America's manufacturing sector and ensure steady growth for the clean energy industry.

Tax reform also requires a balanced approach, and I believe there are energy-related tax expenditures that should be eliminated. We currently face tough choices about the right mix of revenues and spending cuts needed to lower our federal budget deficit. The five largest oil companies made more than $1 trillion in profits over the last decade, yet still receive more than $4 billion in federal tax credits annually. At a time when we may be making cuts to many important priorities, I do not believe these tax breaks should be continued.

Historically, tax incentives have helped to promote innovation in the production of our nation's energy sources. I believe that investments in U.S. oil and gas must be paired with long-term investment in clean energy. This combination will help us clean up our environment, bolster our national security, and create good-paying American jobs that cannot be outsourced.

As we continue to debate these issues in Congress, I'll be certain to keep your views on tax reform in mind. Thank you again for contacting me.

Sincerely,

Tim Kaine