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"The Energy Capital of the East Coast?": Lessons Virginia Can Learn from Cape Wind Failure and European Success in Offshore Wind Energy

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"THE ENERGY CAPITAL OF THE EAST COAST?": LESSONS VIRGINIA CAN LEARN FROM CAPE WIND FAILURE AND EUROPEAN SUCCESS IN OFFSHORE WIND ENERGY

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INTRODUCTION

The current opportunity for a successful wind energy initiative off the coast of Virginia will serve as the springboard for future investments in offshore wind energy throughout the United States. Virginia can act as a model for the rest of the nation for the viability of future initiatives if Virginia: 1) looks at successful examples of offshore wind projects used by European forerunners and 2) tailors the process to satiate our domestic concerns.

Given the length of the United States coastlines and the strength of wind off our coasts, offshore wind is consistent and has the potential of generating more than four times the generating capacity of electric power generators.[1] The Obama administration has pledged a goal of having eighty percent of the nation's energy coming from clean energy sources, including wind, by 2035.[2] In recent years, the Department of Interior has worked to promote wind energy on the outer continental shelf of the east coast by developing an extensive regulatory framework that provides the process which the Bureau of Ocean Energy Management ("BOEM"), formerly known as the Bureau of Ocean Energy Management, Regulation

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[1] U.S. DEP'T OF ENERGY, A NATIONAL OFFSHORE WIND STRATEGY: CREATING AN OFFSHORE WIND ENERGY INDUSTRY IN THE UNITED STATES 5 (2011),[hereinafter A National Offshore Wind Strategy]; *available at* http://www1.eere .energy.gov/wind/pdfs/national_offshore _wind_strategy.pdf; *Offshore Wind Research and Development*, U.S. DEP'T OF ENERGY, http://www1.eere.energy.gov/wind/offshore_wind.html (last visited Mar. 15, 2015), *archived at* http://perma.cc/CFQ9-X7UY.

[2] *A National Offshore Wind Strategy*, *supra* note 1, at 5.

and Enforcement ("BOEMRE"),[3] can use to grant leases, easements, and provide siting for construction.[4] In addition to providing land grants and oversight regulations for construction and development, the regulations also call for collaboration between federal, state, and tribal governments which provides a forum for all stakeholders to express their concerns.[5]

I. INVESTMENT IN WIND ENERGY

A. Benefits of Wind Energy

Wind energy initiatives provide solutions to a variety of current environmental, financial, and health issues.[6] Our dependence on fossil fuels from coal, natural gas, and petroleum comes at a high price to the environment.[7] When fossil fuels burn, they emit several gases including carbon dioxide, a greenhouse gas that makes up fifty-seven percent of all global greenhouse gas emissions.[8] The gases in turn make the Earth warmer, directly impacting climate change.[9] In 2004, the U.S. Environmental Protection Agency ("EPA") reported that twenty-six percent of all greenhouse emissions are the result of energy production, emitting more gases than any other economic activity.[10]

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[3] "BOEM promotes energy independence, environmental protection and economic development through responsible, science-based management of offshore conventional and renewable energy and marine mineral resources." *About BOEM*, BUREAU OF ENERGY MGMT., http://www.boem.gov/About-BOEM/ (last visited Mar 15, 2015), *archived at* http://perma.cc/W9AU-KXVD. As part of a major reorganization the BOEMRE was broken into two branches, the BOEM and the Bureau of Safety and Enforcement. The BOEM is the regulatory agency that has a greater hand in offshore wind energy development. *See Reorganization of the Bureau of Ocean Energy Management, Regulation and Enforcement*, BUREAU OF ENERGY MGMT., REGULATION & ENFORCEMENT, http://www.boemre.gov (last visited Mar. 15, 2015), *archived at* http://perma.cc/9VGJ-VJUF.

[4] *A National Offshore Wind Strategy*, *supra* note 1, at 40.

[5] *Id.*

[6] *See Fossil Fuels*, CONSERVE ENERGY FUTURE, http://www.conserve-energy-future.com/Disadvantages_FossilFuels.php (last visited Mar. 15, 2015), *archived at* http://perma.cc/ZA42-FXHD (pointing out the negative environmental, economic, and health impacts of fossil fuels and calling for alternative energy sources like wind turbines).

[7] *Id.*

[8] *Id.*; *Overview of Greenhouse Gases*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/climatechange/ghgemissions/gases.html (last visited Mar. 15, 2015), *archived at* http://perma.cc/HU53-NQ9E.

[9] *Overview of Greenhouse Gases*, *supra* note 8.

[10] *Global Greenhouse Gas Emissions Data*, U.S. ENVTL. PROT. AGENCY, http://www.epa

The ecological dangers of continued use of fossil fuels spread over several sectors.[11] The impact of drastic weather temperatures could adversely affect crop yields which in turn would affect food supply not only in the United States but globally.[12] Coastal areas will also be affected as they are sensitive to sea level rises that are the result of changes in the global sea level due to the melting polar ice caps.[13] This phenomenon has already affected parts of the United States, including the Chesapeake Bay of Virginia, which has suffered from "land sinking" that is forecasted to worsen the risk of flooding in cities, islands, and wetlands.[14]

Reducing our dependence on fossil fuels and investing in wind energy also eliminates several health risks associated with climate change.[15] Climate change is closely tied to human health.[16] The increase of warmer temperatures is directly correlated with the increase in heat-related illness and deaths.[17] The extreme weather change can also cause increased precipitation in the atmosphere which in turn leads to severe storms, leading to flooding and high winds.[18] Additionally, it has been anticipated that warmer temperatures will increase the amount of ground-level ozone, which will directly affect air quality.[19]

The American Wind Energy Association detailed in their annual report in 2010 that the reduction of emissions, specifically the reduction

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.gov/climatechange/ghgemissions/global.html (last visited Mar. 15, 2015), *archived at* http://perma.cc/5KRE-U47N.

[11] *See Climate Change Impacts and Adapting to Change*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/climatechange/impacts-adaptation/ (last visited Mar. 15, 2015), *archived at* http://perma.cc/YN5D-2GG3.

[12] *See id.*

[13] *Climate Impacts on Coastal Areas*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/climatechange/impacts-adaptation/coasts.html (last visited Mar. 15, 2015), *archived at* http://perma.cc/49HQ-V5FJ.

[14] *Id.*

[15] *See* Priyanth Manjooran, *Clean Energy or Dangerous Skies? Interactions Between the Wind Energy and Aerial Application Industries*, 18 DRAKE J. AGRIC. L. 183, 204 (2013) (noting that wind energy can better air quality and human health); *see also Climate Impacts on Human Health*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/climatechange/impacts-adaptation/health.html (last visited Mar. 15, 2015), *archived at* http://perma.cc/28HW-QMDL (describing how climate change negatively impacts health).

[16] *Climate Impacts on Human Health*, *supra* note 15.

[17] *Id.*

[18] *Id.*

[19] "If emissions of air pollutants remain fixed at today's levels until 2050, warming from climate change alone could increase the number of Red Ozone Alert Days (when the air is unhealthy for everyone) by 68% in the 50 largest eastern U.S. cities." *See id.* (describing ground ozone levels as a component of smog made up of carbon monoxide and oxides of nitrogen).

of carbon dioxide by using one energy-producing wind turbine, is equal to eliminating 500 carbon-dioxide-producing cars.[20]

In addition to the numerous environmental and health benefits of a reduction in reliance on fossil fuels, the move to wind energy marks a movement to a green economy and a surge of "green collar" jobs. Starting in 2006, energy technologies have produced 8.5 million jobs, generated $970 billion in revenue, and resulted in over $100 billion in industry profits.[21] In 2009, President Obama pledged $150 billion in the next ten years towards creating five million green jobs.[22] The creation of these jobs will be in sectors associated with the construction and production of offshore wind projects.[23] It is forecasted that the move towards "greening" our energy generation has the potential of boosting our economy by creating thirty-seven million jobs by 2030.[24]

B. A General Overview of Offshore Wind Energy in the United States

To date the most significant leap towards offshore wind energy in the United States, known as The Cape Wind Project ("Cape Wind") in Massachusetts, has faced debilitating environmental, construction, and implementation challenges.[25] Set to be built on Horseshoe Shoal on the Outer Continental Shelf ("OCS"), land under federal jurisdiction, Cape Wind is expected to provide an average of seventy-five percent of the electricity needed to supply the Cape Cod, Martha's Vineyard, and Nantucket region.[26] Developers have not only faced significant public opposition

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[20] AM. WIND. ENERGY ASS'N, AWEA U.S. WIND INDUSTRY ANNUAL MARKET REPORT: YEAR ENDING 2010 40 (2011), *available at* http://awea.files.cms-plus.com/FileDownloads/pdfs/AWEA%20U.S.%20Wind%20Industry%20Annual%20Market%20Report%20Year%20Ending%202010_FINAL.pdf.

[21] Domenic A. Cossi, *Getting Our Priorities Straight: Streamlining NEPA to Hasten Renewable Energy Development on Public Land*, 31 PUB. LAND & RESOURCES L. REV. 149, 160 (2010).

[22] Roger Fortuna & Imaeyen Ibanga, *The Greening of the Work Force*, ABC NEWS (Apr. 15, 2009), http://abcnews.go.com/GMA/story?id=7338802&page=1, *archived at* http://perma.cc/26S2-HZ9R.

[23] *Id.*

[24] Cossi, *supra* note 21, at 160.

[25] Adam M. Dinnell & Adam J. Russ, *The Legal Hurdles to Developing Wind Power as an Alternative Energy Source in the United States: Creative and Comparative Solutions*, 27 NW. J. INT'L L. & BUS. 535, 547–52 (2006–2007) (noting the resistance to the project due to environmental concerns and the numerous legal challenges regarding the construction of the project that complicated its implementation).

[26] *Id.* at 547.

harboring the "not in my backyard" ("NIMBY")[27] attitude resulting from aesthetic and environmental concerns, but developers also faced the challenge of weaving through the no man's land of local, state, and federal regulations every step of the way.[28]

As of February 26, 2014, Cape Wind has secured an additional $600 million in financing towards its $2.5 billion price tag.[29] Financial backing comes from the Danish-owned credit agency, EKF, with experience in investing in offshore wind.[30] Cape Wind anticipated securing the remainder of the necessary financing in 2014.[31] EKF is a returning investor and has invested in offshore wind projects in Europe. EKF considers the Cape Wind investment to be both a smart economic and environmental move.[32]

Similar to Cape Wind, a proposed deep-water offshore wind project off the coast of Delaware called "Bluewater Wind" has also faced significant obstacles.[33] Specifically, Bluewater Wind faced capacity challenges as the result of the power facility set to receive the offshore electricity only having an ability to receive power from less than seventy turbines, which reduced the originally proposed number of turbines by thirty.[34]

Additionally, Bluewater Wind LLC, the energy company granted the initial lease for the development off the coast of Delaware, was unable to attain the financial investment required to start the project despite merging with NRG Energy, a larger energy company.[35] In a statement released by NRG regarding the setback, the company attributes the project drawback to "the decisions of Congress to eliminate funding for the Department of Energy's loan guarantee program applicable to offshore wind,

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[27] *See generally* Jared Keller, *Can Wind Power Survive the NIMBY Syndrome?*, ATLANTIC (Apr. 20, 2010), http://www.theatlantic.com/personal/archive/2010/04/can-wind-power-survive-the-nimby-syndrome/39251/, *archived at* http://perma.cc/YTF2-XLSU.

[28] Anthony V. Bova, *What's the Holdup? How Bureaucratic Obstacles are Undercutting the True Potential of American Wind Power*, 46 SUFFOLK U. L. REV. 571, 572 (2013).

[29] Richard Valdmanis, *Cape Wind Says Secures $600 Mln in Financing from Danish Agency*, REUTERS (Feb. 26, 2014), http://uk.reuters.com/article/2014/02/26/massachusetts-capewind-idUKL6N0LV46N20140226, *archived at* http://perma.cc/WK7S-YV76.

[30] *Id.*

[31] *Id.*

[32] *Id.*

[33] Joseph J. Kalo & Lisa C. Schiavinato, *Wind Over North Carolina Waters: The State's Preparedness To Address Offshore and Coastal Water-Based Wind Energy Projects*, 87 N.C. L. REV. 1819, 1828 (2008–2009).

[34] *Id.*

[35] *See* James Quilter, *NRG Halts Bluewater Wind Delaware Offshore Project*, WIND POWER MONTHLY (Dec. 13, 2011), http://www.windpowermonthly.com/article/1108978/nrg-halts-bluewater-wind-delaware-offshore-project, *archived at* http://perma.cc/G9ZH-J8RN.

and the failure to extend the Federal Investment and Production Tax Credits for offshore wind which expire at the end of 2012."[36]

In October 2012, NRG Bluewater was granted a second federal lease by BOEM of 96,430 acres, eleven nautical miles off the coast of Delaware.[37] The lease allocates five years to offshore weather monitoring and twenty-five years to build and utilize the wind farm.[38] Additionally, NRG Bluewater will still have to participate in three years of environmental permitting and finding a buyer for the wind generated power.[39]

C. Litigation that Slowed Down Cape Wind Offshore Development

Despite the interests of several agencies having a hand in offshore wind energy project proposals, before the Cape Wind project, there was no federal oversight agency in charge of issuing permits, leases, and siting.[40] The regulatory uncertainty led to Cape Wind's first lawsuit, *Ten Taxpayers Citizen Grp. v. Cape Wind Assocs., LLC*, regarding the Army Corps of Engineering's issuance of a permit for the project.[41] The question arose as to whether the issued permit alone was sufficient to allow Cape Wind to commence construction of a scientific measuring device station.[42] The plaintiffs in the case argued that the permit received by Cape Wind from the Army Corps of Engineering, pursuant to section ten of the Rivers and Harbors Act of 1889,[43] was insufficient and approval from the state of Massachusetts was required in order to build the station.[44]

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[36] *NRG Drops Delaware Offshore Wind Farm Project*, POWER MAG (Dec. 14, 2011), http://www.powermag.com/nrg-drops-delaware-offshore-wind-farm-project/, *archived at* http://perma.cc/W85C-SPKG.

[37] *Bluewater Wind Granted US Offshore Wind Lease*, SUSTAINABLEBUSINESS.COM (Oct. 24, 2012), http://www.sustainablebusiness.com/index.cfm/go/news.display/id/24217, *archived at* http://perma.cc/X4RW-E9DZ.

[38] Aaron Nathans, *NRG Bluewater Wins Lease for Wind Farm off Delaware; Development of the Project Remains on Hold*, NATIONAL WIND WATCH (Oct. 23, 2012), https://www.wind-watch.org/news/2012/10/24/nrg-bluewater-wins-lease-for-wind-farm-off-delaware-development-of-the-project-remains-on-hold/, *archived at* http://perma.cc/6EJG-QJJV.

[39] *Id.*

[40] Erica Schroeder, *Turning Offshore Wind On*, 98 CALIF. L. REV. 1631, 1650 (2010).

[41] Ten Taxpayers Citizen Grp. v. Cape Wind Assocs., LLC, 278 F. Supp. 2d 98, 99 (D. Mass. 2003), aff'd, 373 F.3d 183 (1st Cir. 2004).

[42] *Id.*

[43] 33 U.S.C. § 403 (2006) (stating that no obstruction by any structures of navigable waters of the United States shall be permitted unless recommended by the Chief of Engineers and approved by the Secretary of the Army).

[44] *Ten Taxpayers Citizen Grp.*, 278 F. Supp. 2d at 99.

The plaintiffs' argument specifically hinged on compliance with Massachusetts fishing regulations and the authority given to the state by the Magnuson-Stevens Fishery Conservation and Management Act as understood by the plaintiffs.[45] Reading the language broadly, the plaintiffs understood the Act to permit authority over the Nantucket Sound fishery to the state.[46] The court found that no additional permitting from the state was required and the Magnuson Act specifically regulated the scope of fishing and did not regulate everything that could potentially affect fish, like a scientific measurement station.[47] The scientific measuring device station was constructed and continues to be operational today.[48]

Not only was Cape Wind challenged by groups opposed to the construction for regulatory reasons, but the project was also opposed by two Native American tribes who objected on religious grounds.[49]

> The Project will harm the Tribe's religious, cultural, and economic interests by degrading Nantucket Sound ecosystem and, in particular, disturbing the currently unblemished view of the eastern horizon, both of which are of immense spiritual importance to the Tribe; by disrupting or preventing fishing on Horseshoe Shoal (within Nantucket Sound) as a source of sustenance, subsistence, and income for individual tribe members; and by disturbing the sea bed, which may result in irreparable damage to historically significant and culturally and spiritually important archeological resources.[50]

Before filing the suit in 2011, the Nantucket Sound was found eligible for the National Register of Historic Places.[51] This designation

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[45] *Id.*
[46] *Id.*
[47] *Id.*
[48] *See generally Scientific Data Station Erected on Horseshoe Shoal*, CAPE WIND (Dec. 9, 2002), http://www.capewind.org/article/2002/12/09/1007-scientific-data-station-erected-horseshoe-shoal, *archived at* http://perma.cc/PLU5-GCFK.
[49] Timothy H. Powell, *Revisiting Federalism Concerns in the Offshore Wind Energy Industry in Light of Continued Local Opposition to the Cape Wind Project*, 92 B.U. L. REV. 2023, 2039 (2012).
[50] Gale Courey Toensing, *Aquinnah Wampanoag Sues Feds Over Cape Wind,* INDIAN COUNTRY (July 14, 2011), http://indiancountrytodaymedianetwork.com/2011/07/14/aquinna-wampanoag-sues-feds-over-cape-wind-42712, *archived at* http://perma.cc/N299-AN54.
[51] Powell, *supra* note 49, at 2026; *National Register of Historic Places Program: Fundamentals*, NAT'L PARK SERVICE, http://www.nps.gov/nr/national_register_fundamentals

afforded the area additional protection and review under the National Historic Preservation Act.[52] Despite the additional safeguards and "government to government" meetings between the tribe and the Secretary of Interior Ken Salazar, no resolution satisfying both parties was reached.[53] The case is still pending resolution.

Despite the hurdles faced by the offshore wind energy industry in the United States, Virginia is in a unique position to learn from the mistakes and challenges faced by the Cape Wind and Bluewater projects. Additionally, tax incentives and favorable regulatory frameworks will make the process more streamlined as Dominion Power Virginia ("Dominion") proceeds to develop off the coast of Virginia Beach.[54]

D. Regulatory Framework: Federal and State Regulations, Incentives, and Approaches

The Department of Interior, through the Bureau of Ocean Energy Management, regulates offshore wind energy.[55] Regulation of offshore wind energy is specifically dictated by the Coastal Zone Management Act ("CZMA") and the Outer Continental Shelf Lands Act ("OCSLA").[56] CZMA provides guidelines and calls for assessment reports and detailed plans regarding the environmental consequences of coastal development.[57] The Act also calls for the collaboration of efforts between federal, state, local, and Indian tribes.[58]

Unlike other federal acts, CZMA's general idea is to provide states with "leeway in crafting customized coastal zone plans."[59] Despite being a voluntary program, most states comply with CZMA requirements.[60] By

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.htm (last visited Mar. 15, 2015), *archived at* http://perma.cc/3JRJ-7TBJ. The register is the official list of places in the United States worth preserving. This is an effort to preserve America's historic resources. Factors taken into consideration to determine eligibility include the age, integrity and significance of the site.

[52] *Id.*

[53] Powell, *supra* note 49, at 2042.

[54] Aaron Applegate, *Officials Enthusiastic About Wind Power Possibilities*, PILOT ONLINE (Dec. 3, 2013), http://hamptonroads.com/2013/12/officials-enthusiastic-about-wind-power-possibilities, *archived at* http://perma.cc/8627-UZRV.

[55] Sarah Y. Dicharry, *Wind Energy Production Compensation Scheme: Oil-Like Royalties or Oyster-Like Rent?*, 58 LOY. L. REV. 179, 189 (2012).

[56] *Id.*

[57] *See* 16 U.S.C. § 1451 (2012).

[58] *Id.*

[59] Rusty Russell, *Neither Out Far Nor in Deep: The Prospects for Utility-Scale Wind Power in the Coastal Zone*, 31 B.C. ENVTL. AFF. L. REV. 221, 236 (2004).

[60] *Id.* at 237.

developing a state coastal management scheme, thus complying with the CZMA program, states benefit by receiving federal grants and are shielded from the federal government usurping the coastal management decision making.[61]

The expectation of generality in state coastal development plans gives states the freedom to interpret the plans broadly when potential development proposals are presented.[62] The developer of the proposed coastal project has the burden of showing compliance with the state's coastal development plan.[63] The federal government has little control over how the state evaluates whether or not the proposed development is in compliance with the state's management plan.[64] Additionally, the Act does not provide a mechanism for aggrieved private citizens to gain relief for complaints regarding the proposed coastal development.[65]

The CZMA does not provide concrete guidelines and lacks strict federal oversight and enforcement.[66] According to the provisions of CZMA, a state's management program must "provide for adequate consideration of the national interest involved in planning for, and managing the coastal zone, including the siting of facilities such as energy facilities which are of greater than local significance."[67] Despite the incentives provided, coastal management plans are left to the discretion of the state, which in turn makes offshore wind developers subject to regulatory uncertainty.[68]

Not only do states have the opportunity to take advantage of the financial incentives provided by the CZMA but states can also benefit from the Energy Policy Act of 2005, a statute specifically governing offshore wind energy.[69] The Act eliminated some of the regulatory uncertainty that plagued projects like Cape Wind.[70] It designated authority over offshore leases, with recommendations of other agencies, to the Department of Interior.[71] The Act also generously entitles states with

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[61] *Id.*
[62] *Id.* at 238.
[63] *Id.*
[64] *Id.*
[65] Russell, *supra* note 59, at 239.
[66] *Id.* at 240.
[67] 16 U.S.C. § 1455 (2012).
[68] Russell, *supra* note 59, at 240.
[69] ADAM VANN, WIND ENERGY: OFFSHORE PERMITTING 4 (2012), *available at* https://www.fas.org/sgp/crs/misc/R40175.pdf.
[70] *See id.*
[71] *Id.* at 3. The Department of Interior is granted permission to determine the length of the lease, acceptable payment, and other terms related to the execution of the lease.

coastlines within fifteen miles of an offshore wind project site to a portion of the profits.[72]

To ensure further protections, the Department of Interior, in compliance and cooperation with other federal agencies, is allowed to conduct an environmental analysis under the National Environmental Policy Act ("NEPA").[73] If a proposed project is considered to not have an impact on the environment, the process stops.[74] If, however, the project is found to have an impact on the environment, the next level of testing occurs, which includes an environmental assessment.[75] If an environmental impact is then found, an environmental impact statement will be prepared that will detail the consequences and options available.[76] NEPA does not require any action be taken but rather only requires that the environmental consequences be considered.[77]

The federal government does play a significant role in creating incentives for renewable energy. The Production Tax Credit ("PTC") provides a credit per kilowatt hour of electricity generated by approved renewable energy sources.[78] The PTC has undergone several changes in the last two decades and in January 2013, underwent a revision that directly impacts offshore wind development.[79] The legislation had specific dates by which the renewable energy facilities had to be in service to be eligible for the tax credit.[80] The change in the program extended the deadline criteria from having the facility "placed in service" to the date of the commencement of the construction.[81] Specifically affecting wind energy, the tax credit deadline date was then extended from December 2012 to December 2013.[82] Although seemingly well planned, the PTC does not provide any certainty to an already tentative offshore wind energy development.

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[72] *Id.* at 6.
[73] *Id.* at 8.
[74] *Id.*
[75] VANN, *supra* note 69.
[76] *Id.*
[77] *Id.*
[78] Hanna Conger, *A Lesson from Cape Wind: Implementation of Offshore Wind Energy in the Great Lakes Should Occur Through Multi-State Cooperation*, 42 LOY. U. CHI. L.J. 741 (2011); *Renewable Electricity Production Tax Credit (PTC)*, DATABASE OF STATE INCENTIVES FOR RENEWABLE ENERGY & EFFICIENCY (DSIRE), http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F, *archived at* http://perma.cc/V842-HAV7.
[79] *Id.*
[80] *Id.*
[81] *Id.*
[82] *Id.*

Despite the PTC being considered a success, as it has been used as an incentive for the implementation of land-based wind development generating renewable energy, the incentives it provides are nonetheless far from ideal.[83]

The PTC frequently expires, which then leads to a fluctuation in the wind industry.[84] While in place, the PTC can be credited for an upsurge in investment and development, but once nearing expiration the wind energy market is drastically affected.[85]

On the state level the incentives for renewable energy development are in the form of compliance with the Renewable Portfolio Standard ("RPS") for a given state.[86] The policies adopted by each state encourage electricity producers within that state to derive some of the electricity from renewable sources like solar, wind, geothermal, and hydroelectric energy.[87] The eligible renewable resources are often tailored to meet that specific state's available resources.[88] This often encourages innovation in renewable technologies.[89] If a given state produces more energy from renewable sources than is required by the RPS, it is permitted to sell or trade the energy credit to other jurisdictions that have not yet met their quota.[90] Despite adoption of RPS in only thirty states and the District of Columbia, RPSs are considered a helpful means of stimulating renewable energy production.[91] Fifty percent of wind energy growth in the United States can be attributed to adherence to implemented RPSs.[92]

In 2007, Virginia passed legislation that allowed for voluntary participation in meeting RPSs.[93] The legislation permits a utility company to meet up to twenty percent of the sales requirement of renewable energy by conducting and participating in research and development

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[83] Conger, *supra* note 78, at 748.
[84] *Id.*
[85] *Id.*
[86] *Most States Have Renewable Portfolio Standards*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/todayinenergy/detail.cfm?id=4850 (last visited Mar. 15, 2015) [hereinafter *Renewable Portfolio Standards*], *archived at* http://perma.cc/LBM9-4LEU.
[87] *Id.*
[88] *Id.*
[89] *Id.*
[90] *Id.*
[91] *Renewable Portfolio Standards*, *supra* note 86.
[92] *Id.*
[93] *Voluntary Renewable Energy Portfolio Goal*, DATABASE OF STATE INCENTIVES FOR RENEWABLE ENERGY & EFFICIENCY (DSIRE), http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=VA10R (last visited Mar. 15, 2015), *archived at* http://perma.cc/7D95-F5YP.

related to renewable and alternative energy.[94] Additionally, approved participating utility companies can recover costs associated with meeting RPS including administrative and capacity costs.[95] The RPS schedule for Virginia sets a steady increase in the amount of energy generated from renewable sources required for a utility to continue to meet the standards.[96] Beginning in 2010, the RPS goal was 4% of base sales, increasing to 7% of base sales in 2016, ending with a goal of more than double to 15% of base sales in 2025.[97] In setting the RPSs, the Virginia legislature has permitted utility companies to receive double credit towards RPS goals for onshore wind and solar power generation and development and has generously allowed utility companies to receive triple credit towards goals for offshore wind energy.[98]

II. CURRENT VIRGINIA DOMINION WIND ENERGY INITIATIVE

In September 2013, Dominion successfully won the federal lease for the development of offshore wind energy more than twenty nautical miles off the coast of Virginia.[99] The lease provides 112,799 acres of land and could provide 2,000 megawatts of energy.[100] Dominion currently has a test project of two wind turbines off the coast of Virginia predicted to be in operation by 2017.[101] The U.S. Department of Energy awarded Dominion $4 million towards the test project with the possibility of receiving an additional $47 million in federal grants.[102] It is predicted that once the full wind farm is developed the project could provide electricity for 700,000 homes.[103]

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[94] *Id.*; *see* VA. CODE ANN. § 56-585.2 (2001).
[95] VA. CODE ANN. § 56-585.2.
[96] *Id.*
[97] *Id.*
[98] *Id.*
[99] *Dominion Wins Virginia Offshore Wind Farm Lease with $1.6 Mln Bid*, REUTERS (Sept. 4, 2013 5:21 PM), http://www.reuters.com/article/2013/09/04/utilities-virginia-offshorewind-idUSL2N0H01WE20130904, *archived at* http://perma.cc/ZYR6-JALD.
[100] Peter Bacque, *Dominion Virginia Power Signs Offshore Wind Lease*, RICHMOND TIMES-DISPATCH (Oct. 12, 2013 12:00 AM), http://www.timesdispatch.com/business/economy/dominion-virginia-power-signs-offshore-wind-lease/article_9e683a8a-2557-5d9b-890e-27790ab49215.html, *archived at* http://perma.cc/3HFF-3DU4.
[101] Peter Bacque, *Dominion Virginia Power Gets Federal Wind Energy Test Grant*, RICHMOND TIMES-DISPATCH (Dec. 12, 2012 11:00 PM), http://www.timesdispatch.com/business/economy/dominion-virginia-power-gets-federal-offshore-wind-energy-test-grant/article_fa9f21b4-d9a8-5a97-bb0e-ab65db099a15.html, *archived at* http://perma.cc/Y35S-D2G3.
[102] *Id.*
[103] Tamara Dietrich, *Dominion Wins Bid for Wind Farm, Environmentalists Wary*, DAILY PRESS (Sept. 5, 2013), http://articles.dailypress.com/2013-09-05/news/dp-nws-offshore

Throughout the process from construction to the completion of the fully operational wind farm, Dominion will be required to satisfy several benchmarks. Dominion will have "6 months to develop a Site Assessment Plan followed by a five year time frame in which the developer must prepare a Construction and Operations Plan."[104]

As was required by Cape Wind, the Dominion wind project will more than likely be required to produce the following materials in order to be in compliance with the NEPA requirements: an environmental assessment for marine life and other wildlife, a final environmental impact statement, and a biological opinion on the potential effects of the project.[105] Additionally, it is likely that Dominion will also have to comply with state and local statutes and provisions regarding historic preservation.[106] Lastly, Dominion will also have to comply with Federal Aviation Administration regulations, the Clean Air Act and regulations provided by the United States Coast Guard.[107]

A. Setting the Stage for Offshore Wind: What Virginia Already Has in Place

In order to understand the steps Dominion must take in order to develop a successful offshore wind energy initiative in Virginia, it is critical to take a step back and understand the regulations and initiatives already in place that benefit offshore wind development. Created in 2010 pursuant to Title 67, Chapter 12, Code of Virginia, the Virginia Offshore Wind Development Authority ("VOWDA"), serves as the facilitating body of all offshore wind initiatives in Virginia.[108] In addition to coordinating offshore wind development, VOWDA also collects data regarding the effects of proposed development,[109] identifies administrative and state hurdles

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-lease-sale-20130905_1_dominion-virginia-power-wind-farm-virginia-beach, *archived at* http://perma.cc/H894-N2XS.

[104] Eileen Levandoski, *Sierra Club Congratulates Dominion on Offshore Wind Winning Bid*, VA. SIERRA CLUB CHAPTER (Sept. 4, 2013), http://vasierraclub.org/2013/09/sierra-club-congratulates-dominion-on-offshore-wind-winning-bid/, *archived at* http://perma.cc/ZRT7-APNP.

[105] *See generally Cape Wind*, BUREAU OF OCEAN ENERGY MGMT. http://www.boem.gov/Renewable-Energy-Program/Studies/Cape-Wind.aspx (last visited Mar. 15, 2015), *archived at* http://perma.cc/H548-PCPL.

[106] *Id.*

[107] *Id.*

[108] VA. CODE ANN. § 67-1201 (2010).

[109] *See* VA. CODE ANN. § 67-1203 (describing how VOWDA may partner with developers to install research equipment, and stating that VOWDA will share the costs with the developer and information will be shared and made available to the public).

to development, and ensures that potential development is compatible with the interests of other industries and agencies that use marine resources.[110] As granted by statute, VOWDA has permission to apply for federal loans geared towards offshore wind development on behalf of the Commonwealth of Virginia.[111] Lastly, VOWDA is granted permission to review and propose recommendations regarding the transmission methods of transferring offshore energy onshore.[112]

Not only does Virginia have a facilitating body that works solely on the development of offshore wind, it also has several other organizations and agencies that contribute to awareness regarding the benefits of offshore wind and regulate the multifaceted aspects of projects of this magnitude.[113] Organizations like Virginia Offshore Wind Coalition not only raise awareness by reaching out to communities via newsletters and speaking events, but they also encourage active participation by the community in contacting legislators and voicing opinions regarding offshore wind development.[114]

III. WIND ENERGY ABROAD GENERALLY

A. An Overview

Europe is drastically ahead of the United States in its development and implementation of fully operational offshore wind farms. In a yearly report presented by the European Wind Energy Association, in 2012 development at eighteen offshore wind locations included the completion of current wind farm projects, the development of nine additional wind farms and the erection of new turbines.[115] In total, Europe currently has fifty-five

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[110] *Id.*
[111] VA. CODE ANN. § 67-1205.
[112] *Id.* § 67-1206.
[113] *See* VA. OFFSHORE WIND DEV. AUTH., http://wind.jmu.edu/offshore/vowda/ (last visited Mar. 15, 2015), *archived at* http://perma.cc/8TP9-XT9X; *see, e.g.*, VA. OFFSHORE WIND COAL., http://www.vowcoalition.org (last visited Mar. 15, 2015), *archived at* http://perma.cc/H8T5-AA3G; VA. COASTAL ENERGY RESEARCH CONSORTIUM, http://vcerc.org (last visited Mar. 15, 2015), *archived at* http://perma.cc/P3JD-ZR37.
[114] *See* VA. OFFSHORE WIND DEV. AUTH., http://wind.jmu.edu/offshore/vowda/ (last visited Mar. 15, 2015), *archived at* http://perma.cc/GV4U-LCLL; *see, e.g.*, VA. OFFSHORE WIND COAL., http://www.vowcoalition.org (last visited Mar. 15, 2015), *archived at* http://perma.cc/WU5M-JSAV; VA. COASTAL ENERGY RESEARCH CONSORTIUM, http://vcerc.org (last visited Mar. 15, 2015), *archived at* http://perma.cc/Q6VM-S3PY.
[115] *The European Offshore Wind Industry—Key Trends and Statistics 2012*, EUROPEAN WIND ENERGY ASS'N (2012), *available at* http://www.ewea.org/fileadmin/files/library/publications/statistics/European_offshore_statistics_2012.pdf.

operational offshore wind farms.[116] The United Kingdom ("UK") currently boasts the majority of offshore wind capacity claiming 58.9% of European offshore farms.[117]

While Europe has developed vast stationary offshore wind farms attached to the sea-floor, Japan is experimenting off the coast of Fukushima with floating offshore wind turbines in order to make the resource feasible in waters too deep for turbines attached to the sea-floor.[118] In Japan, the geographic make up of the seabed, which is not conducive to attaching turbines to the sea-floor, has caused innovation in the form of floating platforms for wind turbines.[119] Not only do floating platforms allow for cleaner energy in Japan, but the technology may prove useful and marketable to the United States in developing its own offshore wind farms.[120]

Beginning in 2010, China has also initiated a collaborative effort with the United Kingdom in order to produce significant offshore wind energy by 2020.[121] The partnership involves "policy development, technology transfer, personnel training, and increas[ing] access to the markets in the U.K., China, and other countries."[122] If China meets its goal to produce 30GW by 2020 it will surpass the capacity of current European forerunners and become the largest producer of offshore wind energy in the world.[123]

B. Wind Energy Initiatives in the United Kingdom and Denmark

By looking to international forerunners in wind energy, Virginia can learn from the success of Europe in developing regulations and incentives

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[116] *Id.* at 11.
[117] *Id.*
[118] Annette Bossler, *Floating Turbines—Japan Enters the Stage*, WIND POWER OFFSHORE (Sept. 12, 2013), http://www.windpoweroffshore.com/article/1211680/floating-turbines---japan-enters-stage, *archived at* http://perma.cc/39WN-SK5E; Chisaki Watanabe, *Fukushima Floating Offshore Wind Turbine Starts Generating*, BLOOMBERG (Nov. 11, 2013), http://www.bloomberg.com/news/2013-11-11/fukushima-floating-offshore-wind-turbine-starts-generating-power.html, *archived at* http://perma.cc/CET7-4EMJ.
[119] Bossler, *supra* note 118.
[120] *Id.* (discussing the market in the United States, highlighting that the majority of the offshore wind resources off United States coastline is in water deeper than 60 meters; in Japan, floating turbines are used in waters 100 meters deep).
[121] *UK, China Harness Offshore Wind Energy*, ECO-BUSINESS (Oct. 2, 2013), http://www.eco-business.com/news/uk-china-harness-offshore-wind-energy/, *archived at* http://perma.cc/X799-LTLH.
[122] *Id.*
[123] *Id.*

for both land and offshore wind farms. The United Kingdom has the most successful offshore wind project to date with twenty-two wind projects supplying electricity to two million homes.[124] The U.K. is expected to increase this number to seven million homes.[125]

Offshore wind energy development in the U.K. has occurred in a series of leasing rounds.[126] Round 1 leasing consisted of turbines close to shore and was projected to have thirty or less turbines.[127] Already more than a decade ahead of the United States in offshore wind energy, Round 1 of offshore wind development in the U.K. began operations in 2001.[128] Round 1 consisted of eighteen sites while Round 2, launched in 2003, consisted of seventeen sites adding 7GW capacity.[129] In comparison to Round 1 leasing, Round 2 leasing allowed for the construction of larger farms farther from shore generating significantly more energy.[130] Round 3 is set to begin development in 2014 and will generate more than 30GW of capacity.[131]

Round 3 development is drastically different from Rounds 1 and 2.[132] Round 3 offered nine zones to developers with the potential of developing several projects per zone.[133] Zone 3 is predicted to have a capacity of 32GW, four times more than Round 1 and 2 capacity.[134]

The government of the U.K. has taken several steps to incentivize and expand the offshore wind industry. After Round 1, capital grants were granted through the New Opportunities Fund,[135] which allocated USD

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[124] *Offshore Wind*, RENEWABLEUK, http://www.renewableuk.com/en/renewable-energy/wind-energy/offshore-wind (last visited Mar. 15, 2015), *archived at* http://perma.cc/4GSA-443S.
[125] Kamaal Zaidi, *Wind Energy and its Impact on Future Environmental Policy Planning: Powering Renewable Energy in Canada and Abroad*, 11 ALB. L. ENVTL. OUTLOOK 198 (2007).
[126] *Leasing Rounds, Round 1 and 2*, THE CROWN ESTATE, http://www.thecrownestate.co.uk/energy-infrastructure/offshore-wind-energy/our-portfolio/, *archived at* http://perma.cc/U7GE-JDQ7.
[127] *Id.*
[128] RENEWABLEUK, *supra* note 124.
[129] *Id.*
[130] *Our Portfolio*, CROWN ESTATE, http://www.thecrownestate.co.uk/energy-infrastructure/offshore-wind-energy/our-portfolio (last visited Mar. 15, 2015), *archived at* http://perma.cc/QF9E-D8JN/.
[131] *Id.*
[132] *UK's Offshore Wind Round 3 Winning Consortia Announced*, RENEWABLE ENERGY FOCUS (Jan. 8, 2010), http://www.renewableenergyfocus.com/view/6293/uks-offshore-wind-round-3-winning-consortia-announced/, *archived at* http://perma.cc/TPL2-Y89Z.
[133] *Id.*
[134] *Id.*
[135] *About BIG*, BIG LOTTERY FUND, http://www.biglotteryfund.org.uk/about-big (last visited Mar. 15, 2015), *archived at* http://perma.cc/V7XX-PZMN (describing how the New

20.5 million per offshore project already in construction.[136] Also, in 2010 additional development rights were awarded to sites in Round 1 and Round 2 leasing areas.[137] The extensions to the geographical area encompassing a single lease allows for an increase of electrical capacity to supply a million homes.[138] Lastly, for Round 3 development the Crown Estate[139] initiated and developed the program to generate wind energy on a larger scale.[140] As opposed to awarding developers project sites, developers are each awarded zones within a given leased area.[141] By awarding zones, developers are given more leeway to design and navigate their zones as they see fit.[142] This also allows for development of numerous projects within a given area.[143]

The Crown Estate finds two crucial benefits to the Round 3 approach. First, they note that by sectioning the leases into zones, developers are encouraged to conduct "zone-level studies" in order to access the area and understand how best to develop.[144] During the process of conducting the studies, the developers will incidentally learn of the environmental impacts which they can then take into account during their planning process.[145] Second, the Crown Estate anticipates that the magnitude of Round 3 development will encourage investors to back the individual projects due to the increased visibility of having numerous projects in development simultaneously.[146] Additionally, the significant increase in offshore

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Opportunities Fund uses money from the national lottery towards the improvement of health, education and environment).

[136] INT'L RENEWABLE ENERGY AGENCY, 30 YEARS OF POLICIES FOR WIND ENERGY 125 (2012), *available at* http://www.irena.org/DocumentDownloads/Publications/GWEC_UK.pdf.

[137] *Round 1 and 2 Wind Farm*, CROWN ESTATE, http://www.thecrownestate.co.uk/energy-infrastructure/offshore-wind-energy/our-portfolio (last visited Mar. 15, 2015), *archived at* http://perma.cc/4B3Y-6VSE.

[138] *Id.*

[139] *FAQS*, CROWN ESTATE, http://www.thecrownestate.co.uk/our-business/faqs/ (last visited Mar. 15, 2015), *archived at* http://perma.cc/E522-VXTH (describing how the organization manages property owned by the Crown, but which is not the personal property of the monarch; the property managed includes urban and rural areas, and the seabed around the United Kingdom).

[140] *Round 3 Offshore Wind Site Selection at National and Project Levels*, CROWN ESTATE, http://www.thecrownestate.co.uk/media/310531/round_3_offshore_wind_site_selection_at_national_and_project_levels.pdf (last visited Mar. 15, 2015) [hereinafter *Round 3 Offshore Wind Site Selection*].

[141] *Id.*

[142] *Id.*

[143] *Id.*

[144] *Id.*

[145] *Id.*

[146] *Round 3 Offshore Wind Site Selection*, *supra* note 140.

development activity will show progress and will allow financiers to have greater confidence in their investments.[147]

In addition to successfully diving into the offshore wind energy market, the U.K. has also been successful in publicizing renewable energy and bringing information to the public.[148] This national initiative has brought renewable energy to the forefront and allows the public to understand the positive consequences of investing in renewable energy. Action for Renewables, a grass-roots organization with the goal of promoting clean energy throughout the U.K., supports local clean energy initiatives, promotes clean energy on social media and "aims to inspire and motivate the public to demonstrate their support for home-grown renewable energy."[149]

Other European countries have also taken initiative in making a commitment to renewable energy.[150] Beginning with the Danish Energy Plan of 1976,[151] the Danish entertained the idea of renewable energy as an alternative to proposed plans to increase electricity capacity from coal production.[152] This shift led to public and political interest in alternative energy plans while organizations educated people on the advantages of renewable energy.[153] Denmark has taken a "holistic approach" to renewable energy and has developed national energy strategies that have specifically promoted wind energy[154]:

> The following policy factors were critical components of Denmark's success in promoting wind energy infrastructure,

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[147] *Id.*

[148] Zaidi, *supra* note 125.

[149] *Action for Renewables*, RENEWABLEUK, http://www.renewableuk.com/en/get-involved/action-for-renewables.cfm (last visited Mar. 15, 2015), *archived at* http://perma.cc/WJ24-VUDY; *see generally* ACTION FOR RENEWABLES, http://www.actionforrenewables.org (last visited Mar. 15, 2015), *archived at* http://perma.cc/LQ9L-F846.

[150] Jeremy McBryan, *Denmark Energy Policy: Success in Achieving Energy Independence and Establishing an International Wind Energy Industry*, 20 U. FLA. J.L. & PUB. POL'Y 329 (2009).

[151] *See id.*; *see also* Maya Kaplan, *Denmark's Achievement of Energy Independence: What the United States Can Learn*, 18 CARDOZO J. INT'L & COMP. L. 723 (2010). The Danish Energy plan was designed to ensure energy security. *Id.* It was designed to limit dependency on foreign oil rather than to promote a renewable energy initiative. *Id.* The desire to become self-sustaining led to an increase in energy from fossil fuels which in turn sparked concern regarding the environment. *Id.* A plan for the use of nuclear power was then proposed which was met with opposition from the public and experts. *Id.* Experts and scientists prepared and alternative energy plan specifically promoting and encouraging solar and wind energy. *Id.*

[152] McBryan, *supra* note 150, at 332.

[153] *Id.*

[154] *Id.* at 330–31.

> achieving energy independence, and establishing a successful international wind energy industry: (a) national energy plans; (b) research, development, and demonstration; (c) economic support systems; (d) energy taxes and green taxation; (e) local ownership; and (f) energy source transition planning.[155]

In order to promote offshore wind development the Danish government has created a Committee for Future Offshore Wind Turbine Locations that specifically looks for appropriate sites that not only are geographically conducive to offshore turbines, but also consider the interests of other prominent marine industries.[156] In making their determination the committee takes several factors into consideration including societies' interest in regards to "grid transmission conditions" and the conditions of the natural world.[157] The committee also considers and assesses options for connecting large scale offshore wind farms to the national grid, including examining the engineering, economic, and planning options for onshore connection of the power and the consequences for the underlying grid of the various potential areas for construction.[158]

IV. HOW DOMINION VA CAN LEARN FROM U.S. FAILURES AND EUROPEAN SUCCESS

A. Lessons from Cape Wind and Recommendations for Virginia

Virginia can learn considerable lessons from the Cape Wind project that has been stalled for over a decade by regulatory hurdles and litigation in opposition of development.[159] Unlike Cape Wind, Virginia's Dominion project has the benefit of taking advantage of a decade's worth of experimentation regarding offshore development in the United States. The process of leasing and the requirements that accompany getting a project started have been significantly streamlined, which will allow for

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[155] *Id.* at 335.
[156] *Offshore*, DANISH WIND ENERGY ASS'N, http://www.windpower.org/en/policy/offshore.html (last visited Mar. 15, 2015), *archived at* http://perma.cc/5MLT-5LJQ.
[157] *The Planning and Siting of Offshore Wind*, DANISH ENERGY AGENCY, http://www.ens.dk/en/supply/renewable-energy/wind-power/offshore-wind-power/planning-siting-offshore-wind (last visited Mar. 15, 2015), *archived at* http://perma.cc/8HRG-AA4X.
[158] *Future Offshore Wind Power Sites—2025*, DANISH ENERGY AGENCY, http://ec.europa.eu/ourcoast/download.cfm?fileID=983 (last visited Mar. 15, 2015), *archived at* http://perma.cc/65VS-4FYU.
[159] *See generally* Bova, *supra* note 28.

a substantially more efficient process. As previously mentioned, regulating offshore wind development is multifaceted, involves several agencies and requires compliance with federal regulations.[160] Obtaining the required permits and approval involves compliance with a variety of agency standards ranging from agencies with predictable environmental concerns like the EPA and Fish and Wildlife Services[161] to agencies with less obvious concerns such as the Department of Defense and the Federal Aviation Administration.[162] Dominion, with the assistance and guidance of VOWDA can overcome the administrative, state, and industry hurdles presented to Cape Wind while also obtaining through federal loans the financial resources needed to sustain a project of this magnitude.

The general attitude presented by the public and others regarding Cape Wind placed a substantial burden on the development of the proposed wind farm.[163] The NIMBY attitude is not a new phenomenon. It has presented challenges to a wide variety of development projects ranging from waste management facilities to prisons and low income housing.[164] In the case of Dominion, NIMBY has the potential to undermine the efforts and steps taken towards promoting clean energy on both the state and national level.[165] If not confronted from the outset, NIMBY can stall offshore wind development in the United States for decades to come, debilitating President Obama's national movement toward clean energy.[166]

Proposed over two decades ago, "The Facility Siting Credo: Guidelines for an Effective Facility Siting Process," if used effectively and modified to incorporate components applicable to offshore wind energy, has the potential to overcome the NIMBY attitude of Cape Wind.[167] One key difference to note is that in the case of offshore wind development the site has already been selected by the federal government and the lease has already

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[160] *A National Offshore Wind Strategy*, *supra* note 1, at 572, n. 5.
[161] *Fish and Wildlife Service*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/region9/nepa/fish-wild.html, *archived at* http://perma.cc/3J2D-39S2 ("The Fish and Wildlife Service (FWS) an agency within the U.S. Department of the Interior, works with others to conserve, protect and enhance fish, wildlife, and plants and their habitats. FWS enforces Federal wildlife laws, protects endangered species, manages migratory birds, restores nationally significant fisheries, conserves and restores wildlife habitat such as wetlands, and helps foreign governments with their international conservation efforts").
[162] *See generally id.*
[163] Keller, *supra* note 27.
[164] Howard Kunreuther & Lawrence E. Susskind, *The Facility Siting Credo: Guidelines for an Effective Facility Siting Process*, UNIV. OF PA. (1991), *available at* http://web.mit.edu/publicdisputes/practice/credo.pdf.
[165] Keller, *supra* note 27.
[166] *Id.*
[167] Kunreuther & Susskind, *supra* note 164.

been granted to Dominion; therefore recommendations provided in the guidelines referring to stages of the siting process and competitive siting do not apply to the current phase of offshore wind energy in Virginia.

As found in the guidelines, "achiev[ing] an agreement that the status quo is unacceptable" is the first step to gaining local support for facility development.[168] In the case of Dominion, this should be accomplished through targeted public education to raise the awareness and open dialogue regarding the consequences of not investing in clean energy, and the ways in which championing clean energy benefits the country as a whole, particularly focusing on the ways in which coastal communities are adversely affected by global climate change. Next, "seeking consensus" of all interested parties will allow for agreements to be reached before major construction takes place.[169] Setting up a process in which stakeholders can come to the table and discuss their concerns will allow groups, like Native American tribes that may have an interest in clear visibility and preservation of the ocean, to be heard and potentially reach an agreement before the full implementation of proposed plans.

The guidelines call for a "guarantee that stringent safety standards will be met."[170] As this applies to offshore wind energy, this includes environmental and marine safety in addition to human safety during construction phases. This may also incorporate human health as it applies to the long term health consequences of wind turbine usage. It will be crucial to remain transparent regarding any health effects of offshore wind, as concerns have been raised regarding the effects of land wind turbine usage.[171] Most environmental concerns will be addressed during the impact studies conducted as required by the CZMA and NEPA.

In addition to identifying safety concerns and guaranteeing that standards will be met, the Facility Siting Credo recommends that "negative aspects of the facility" be addressed.[172] The guidelines suggest that if negative consequences are unavoidable then compensatory payments should be made to those affected.[173] As it applies to offshore wind energy, it is important that negative consequences be addressed and known to those directly affected, but it may prove to be particularly burdensome

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[168] *Id.*
[169] *Id.*
[170] *Id.*
[171] *See, e.g.*, *Strategic Health Impact Assessment On Wind Energy Development in Oregon*, THE PEW CHARITABLE TRUSTS (2013), *available at* http://www.healthimpactproject.org/resources/document/Oregon-Wind-HIA_Final.pdf.
[172] Kunreuther & Susskind, *supra* note 164.
[173] *Id.*

for Dominion to compensate people within a given region and may result in the futility of offshore wind as funds used for the project will be diverted to compensation instead of development.

Lastly, it is recommended that the host community be made better off.[174] Directly tied to the first recommendation, identifying that the status quo is no longer sufficient, the community will benefit directly from the movement to renewable energy. Health risks associated with climate change and retrieval of fossil fuels will be greatly diminished, in addition to a decrease in the risk of flooding.[175] The host community, specifically residents of Virginia Beach and surrounding areas, will also be able to take advantage of the influx of "green collar" jobs that will be required to facilitate a project of the magnitude proposed by Dominion.[176]

B. Lessons from Europe and Recommendations for Virginia

By looking to the model taken by the U.K., Dominion would be best served if it broke its developments into rounds all within the current project. It is important to note that development of rounds was promulgated by the British government and not by an individual state or region. Dominion can still use this model to promote the expansion of offshore wind in years to come, and successful implementation in Virginia can serve as the template for offshore wind energy in the United States.

While not adhering to the U.K.'s current model of implementing offshore leasing rounds by geographical region, allocating additional nautical miles per round and making modifications to capacity by adding new turbines, Dominion can use the basic principle of rounds to slowly phase in offshore wind off the coast of Virginia. Beginning with the proposed tester turbine, Virginia can slowly add more turbines to the project and attach them to the energy grid as they are developed, as opposed to waiting for the full completion of the farm before generating power.

The U.K. developed leasing Round 1 and Round 2 over the course of several years and continued to generate electricity in the process.[177] In taking this approach Virginia has the opportunity to test the viability of the project in stages, acquiring additional funding in the form of federal and private loans as the project progresses, while still making headway in offshore wind development through research and experimentation. This approach will allow for a smaller scale farm to be implemented in

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[174] *Id.*
[175] *Supra* Part I.A.
[176] *See id.*
[177] *See Offshore Wind*, *supra* note 124.

a shorter time frame, giving local communities results rather than waiting and deliberating for decades over the proposed project.[178] This will also give other coastal cities in the United States the opportunity to gain insight into how the Dominion project was implemented and allow them to mimic the same strategy in executing their own offshore wind initiatives.

As suggested by the U.K. model and the "Facility Siting Credo," public dialogue and discourse is essential in promoting offshore wind energy and has allowed the renewable energy market to be successful in the U.K. The U.K. credits grass-roots organizations for promoting clean energy initiatives on a national scale.[179] Although it is unlikely that a national initiative promoting offshore wind energy is going to develop in the majority of landlocked U.S. states, the push towards offshore wind must be publicized and open for dialogue. Since receiving the lease off the coast of Virginia towards the end of 2013, there has been little to no media attention given to the Dominion offshore wind project.

In an attempt to move the process along, Dominion should start the conversation with local communities in Virginia Beach and surrounding areas. In doing so they may be opening the door to unwelcome opposition, but addressing issues up front will prove to be more favorable in the long run and will prevent the gridlock that has prevented Cape Wind from already being an operational wind farm.

By satiating local opposition by implementing the "Facility Siting Credo" guidelines and implementing the gradual approach to offshore wind energy as presented by the U.K., Virginia has an opportunity to take a comprehensive and holistic approach in addressing offshore wind energy development. The process of developing an operational farm is both intricate and the expected benefits will likely take years before realized, but if Dominion uses the U.K. as a model there is a strong opportunity for success.

V. RECOMMENDATIONS FOR THE FUTURE OF OFFSHORE WIND IN THE UNITED STATES GENERALLY

The future of offshore wind energy in the United States is promising. By learning from the downfalls of Cape Wind and crafting the Dominion project in anticipation of using it as a template for other offshore

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[178] *See generally* DEPT. OF ENERGY & CLIMATE CHANGE, *Community Engagement for Onshore Wind Developments: Best Practice Guidance for England*, *available at* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364244/FINAL_-_Community_engagement_guidance_-06-10-14.pdf.

[179] *Supra* notes 162–63.

projects, the United States has the potential to streamline the offshore wind energy industry, tailoring it to cater to domestic needs and geographic assets. The United States would be best served if it fully transplanted the U.K.'s model of using leasing rounds, specifically the Round 3 model, to all future offshore wind initiatives.

In allowing multiple developers to build within a given site, there will be increased visibility and competition, which will lend itself to scientific innovation and financial support from multiple investors. This will also allow for the elimination of financial uncertainty as faced by the Bluewater project in Delaware. Although onshore capacity to hold offshore generated energy may prove difficult given the projected increase in generated energy, if the U.K. model is followed (as the result of having multiple wind farms operating at one time), the reliance on fossil fuels could potentially be reduced to accommodate an influx of renewable energy.

As used by the Danish, the concept of local ownership could also be applied to offshore wind energy on a national scale. If individual municipalities through green taxation and private investors could raise the capital required to build small scale projects on their coasts, they could potentially generate enough energy to not only satisfy their own needs or at least offset the dependence on traditional energy producers, but may also be able to sell the excess energy to neighboring states and jurisdictions, harnessing the abundance of wind for profit.

CONCLUSION

In his 2012 address to the Virginia General Assembly, then-Governor Bob McDonnell clearly identified Virginia's natural resources and argued that Virginia has the potential to satisfy its own energy needs and even to provide energy to other states.[180] Calling for Virginia to become the "energy capital of the east coast," Governor McDonnell allocated $500,000 to research and development of Virginia's wind energy sector.[181]

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[180] *Governor Bob McDonnell Unveiled A Series of Recommendations Supporting Wind Energy*, VA. OFFSHORE WIND COAL., http://www.vowcoalition.org/index.php/newsevents/138-governor-mcdonnell-makes-recommendations-that-will-advance-virginias-role-as-the-energy-capital-of-the-east-coast. Plans set out by Governor Bob McDonnell and the bills passed as part of his energy initiative focused on multiple energy sources. *Id.* Bills passed called for the expansion of the natural gas sector, conversion of state vehicles to run on alternative fuel sources, and development in renewable thermal energy. *See VA Governor Bob McDonnell Signs 13 Energy Bills—Energy Bills Signed Today*, NBC29, http://www.nbc29.com/story/17515377/va-governor-to-add-signature-to-energy-bills (last visited Mar. 15, 2015), *archived at* http://perma.cc/E2XX-WN69.

[181] *Va. Gov. McDonnell Outlines 2012 Energy Agenda*, THE DAILY RECORD (Jan. 5, 2012),

Virginia is in the unique position to in fact meet the goals of former Governor McDonnell and become the "energy capital of the east coast."[182] By understanding the downfalls of the Cape Wind and Bluewater Projects, and looking to European success in both the United Kingdom and Denmark, Dominion can surpass the expectations of other proposed offshore wind projects and serve as the model for the future of offshore wind energy in the United States. If the selected guidelines found in the "Facility Siting Credo" are implemented, in addition to following the basic outline of the U.K. leasing rounds, Dominion Virginia's offshore wind project will not only allow Virginia to meet former Governor McDonnell's goals but will allow Virginia to surpass the goals making it the first successful offshore wind farm in the United States.

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http://thedailyrecord.com/2012/01/05/va-gov-mcdonnell-outlines-2012-energy-agenda/, *archived at* http://perma.cc/C9CZ-R8GK.

[182] *Id.*