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Reducing The Headwinds: The Need For A Federal Approach To Siting Offshore Wind Interconnection Infrastructure, Despite Protective State Laws

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REDUCING THE HEADWINDS: THE NEED FOR A
FEDERAL APPROACH TO SITING OFFSHORE
WIND INTERCONNECTION INFRASTRUCTURE,
DESPITE PROTECTIVE STATE LAWS

Nicholas P. Janzen

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FEDERAL APPROACH TO SITING OFFSHORE
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*Nicholas P. Janzen**

Offshore wind will provide a key piece of the United States' clean energy future. Several East Coast states are planning for thousands of megawatts of wind energy generation off their coasts. But the nascent offshore wind industry faces many challenges. Some are social, such as from the fishing industry and coastal property owners who do not want their views obstructed. Other challenges are more technical, including how so much energy will interconnect to the onshore electrical grid. The state of Maine is currently grappling with all these issues as it seeks to develop the Gulf of Maine's world-class wind energy resource. This paper provides a legal analysis of Maine's wind regulatory regime. It focuses on state law that governs the interconnection of offshore wind and argues that while state protections from local interference with offshore wind projects is relatively strong, state law should be amended to clarify that those protections also cover wind energy projects in federal waters. Furthermore, because there is a particular need for regulatory uniformity when it comes to siting offshore wind infrastructure, this paper argues that a federal agency should have jurisdiction over these siting decisions.

INTRODUCTION

Offshore wind is an increasingly attractive source of renewable electric generation, particularly along the east coast of the United States.¹

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1. NAT'L RENEWABLE ENERGY LAB'Y, TECH. REP. NREL/TP-500-45889, ASSESSMENT OF OFFSHORE WIND ENERGY RES. FOR THE UNITED STATES 5 (June 2010) [hereinafter NREL report] ("In May 2008, the U.S. Department of Energy (DOE) released a report detailing a deployment scenario by which the United States could achieve 20% of its electric energy supply from wind energy. Under this scenario, offshore wind was an

Block Island Wind Farm, off the coast of Rhode Island, became the first commercial offshore wind farm in the U.S. in 2016.² Since then, states including Maine, Massachusetts, New York, New Jersey, and Virginia have begun planning for thousands of megawatts of offshore wind generation.³ Despite these announcements, the burgeoning offshore wind industry faces many challenges in the United States, including financing, permitting, and pushback from other stakeholders who use the marine environment.⁴ These stakeholders include coastal property owners⁵ who do not want their ocean views obstructed and a fishing industry⁶ concerned about its ability to productively operate in a seascape dotted with wind turbines.

One particular challenge for offshore wind development involves the interconnection of wind turbines offshore with the electric transmission

essential contributor, providing 54 gigawatts of installed electric capacity to the grid.”) (internal citation omitted).

2. Ambar Espinoza, *An American Offshore Wind Market Is Here*, THE PUBLIC’S RADIO (Oct. 28, 2016), <https://thepublicsradio.org/post/american-offshore-wind-market-here> [<https://perma.cc/V6JV-L6QG>].

3. As of June 2019, New Jersey had committed to installing 3.5 GW of offshore generation; New York to 9 GW, and Massachusetts to 3.2 GW. These are the three leading states on the east coast. Nicholas Lefevre-Martou et al., *Building an offshore wind industry along the US East Coast: The role of state collaboration* (McKinsey & Company, June 2019) [hereinafter McKinsey Report], <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/building-an-offshore-wind-industry-along-the-us-east-coast-the-role-of-state-collaboration#> [<https://perma.cc/MGG5-GV2Y>]; *Offshore Wind*, AMERICAN WIND ENERGY ASS’N, <https://www.awea.org/policy-and-issues/u-s-offshore-wind> [<https://perma.cc/PK5N-22LX>] (last visited Oct. 14, 2019).

4. Joseph B. Nelson and David P. Yaffe, *The Emergence Of Commercial Scale Offshore Wind: Progress Made And Challenges Ahead*, 10 SAN DIEGO J. CLIMATE & ENERGY L. 25, 27 (2019).

5. Katharine Seelye, *Koch Brother Wages 12-Year Fight Over Wind Farm*, N.Y. TIMES (Oct. 22, 2013), <https://www.nytimes.com/2013/10/23/us/koch-brother-wages-12-year-fight-over-wind-farm.html> [<https://perma.cc/3RYZ-3FXT>].

6. Although there is some evidence that offshore wind may improve fishing because the turbines act as artificial reefs. Lisa Prevost, *In Rhode Island, offshore wind farm emerging as popular fishing spot*, THE ENERGY NEWS NETWORK (Nov. 4, 2019), <https://energynews.us/2019/11/04/northeast/in-rhode-island-offshore-wind-farm-emerging-as-popular-fishing-spot/> [<https://perma.cc/C925-EV4F>]. And some parts of the fishing industry are committed to working with the federal government to consider collaborating on offshore wind development and permitting. Jennette Barnes, *Fishing industry, feds sign MOU on offshore wind*, S. COAST TODAY (Mar. 26, 2019), <https://www.southcoasttoday.com/news/20190326/fishing-industry-feds-sign-mou-on-offshore-wind> [<https://perma.cc/SDR5-4Z4V>].

grid on the mainland.⁷ Interconnection has two components.⁸ First, individual turbines must be connected to some centralized gathering system, which is typically offshore as well. Then, a cable is run from that system to the mainland, where it “plugs in” to the transmission grid. From there, the energy is transmitted on high-voltage power lines to substations, which reduce the energy’s voltage for distribution to homes and businesses.

Most of the United States’ available offshore wind resource is in federal waters.⁹ Offshore wind regulations, therefore, are primarily federal with regard to generation facilities.¹⁰ For example, under the Energy Policy Act of 2005, site permits are issued by the Bureau of Ocean Energy Management.¹¹ In addition, the Federal Energy Regulatory Commission (FERC) evaluates whether interconnection to the interstate electric grid is appropriate at a particular site based, in part, on the amount of energy coming from offshore and the physical electric load of the interconnecting transmission system.¹²

But state and sometimes even local actors also play a crucial role in interconnection. State regulatory authorities, typically a public utilities commission, permit and site new transmission facilities.¹³ Depending on the state, local zoning ordinances may also be implicated because the cable connecting the offshore generation site to the transmission grid must, after all, come ashore in *someone’s* jurisdiction.

Aside from federal and state regulatory hurdles, energy projects of all types face additional headwinds from local stakeholders—those people who interact with a project most directly because of where they live, work, or play. For example, the Cape Wind project, off the coast of Nantucket, Massachusetts, was killed after public outcry led to licensing and legislative setbacks.¹⁴ Vineyard Wind, also off Massachusetts, would be the largest offshore wind farm in the world if built, but has suffered a series of delays, including a recent announcement that the Bureau of Ocean Energy Management will conduct a more “robust” (read: longer)

7. Nelson and Yaffe, *supra* note 4, at 29.

8. *Id.* at 54.

9. See NREL Report at 10 (June 2010). This is true for Maine, as well.

10. Nelson and Yaffe, *supra* note 4, at 28.

11. *Id.* at 31.

12. *Id.* at 37.

13. *Id.* at 42.

14. Ros Davidson, *Cape Wind: Requiem for a Dream*, WIND POWER MONTHLY, May 1, 2018, <https://www.windpowermonthly.com/article/1462962/cape-wind-requiem-dream> [<https://perma.cc/VZ3F-HDFR>].

Environmental Impact Statement analysis.¹⁵ Similarly, the New Hampshire Siting Evaluation Committee recently denied a permit to the electric utility Eversource to build a high voltage transmission line to bring hydropower from Canadian utility HydroQuebec through the state to Massachusetts, a decision upheld by New Hampshire's Supreme Court.¹⁶ HydroQuebec's preferred alternative, the New England Clean Energy Connect, to be built by Central Maine Power, is now facing significant local opposition in Maine.^{17, 18}

Commentators have previously identified this “cost[] of contentiousness,” or “the troubling delays and legal battles that developers often face in the process of securing land on which to develop new renewable energy resources.”¹⁹ But the bulk of legal research regarding

15. Chris Martin and Jennifer A. Dlouhy, *Trump Delay Casts Doubt on First Major U.S. Offshore Wind Farm*, BLOOMBERG, Aug. 9, 2019, <https://www.bloomberg.com/news/articles/2019-08-09/u-s-is-said-to-extend-review-of-first-major-offshore-wind-farm> [hereinafter Martin and Dlouhy] [<https://perma.cc/4TQ4-DFY4>]. This decision presents an interesting dilemma for environmentalists. The environmental community strongly advocated for the passage of the National Environmental Policy Act in 1969, which “mandated that federal agencies take a ‘hard look’ at the environmental consequences of their actions and to engage all practicable measures to prevent environmental harm when engaging in agency action.” *RB Jai Alai, LLC v. Secretary of Fla. Dept. of Transp.*, 112 F. Supp. 3d 130, 1307 (M.D. Fla. 20156). But, as discussed below, the urgency of the climate crisis demands rapid construction of carbon free energy generation and transmission infrastructure and environmentalists have long used NEPA's requirements to gum up or even kill projects. The question, then, becomes whether environmentalists should abandon the very procedural protections they fought so hard to create. Should the global climate be prioritized over local ecological impacts? For an interesting discussion of why the offshore wind industry should view Vineyard's Wind expanded environmental impact statement positively, see Bill Loveless, *Jeff Grybowski Former Co-CEO of Ørsted U.S. Offshore Wind and Former CEO of Deepwater Wind*, COLUMBIA ENERGY EXCHANGE PODCAST, Sept. 9, 2019, <https://energypolicy.columbia.edu/outlook-us-offshore-wind-energy> [<https://perma.cc/7UAN-HT9Q>].

16. See generally, *Appeal of Northern Pass Transmission, LLC.*, 214 A.3d 590 (2019).

17. *CMP Corridor Foes Launch Citizens Referendum Effort*, MAINEBIZ.BIZ, Sept. 6, 2019, <https://www.mainebiz.biz/article/cmp-corridor-foes-launch-citizens-referendum-effort> [<https://perma.cc/N598-9UKL>].

18. With that said, some energy projects are moving forward, including a test project for a floating offshore wind project. Nora Flaherty, *Maine Utility Regulators Approve Tests for Floating Wind Turbine Project off Maine Coast*, BANGOR DAILY NEWS, Nov. 5, 2019, https://bangordailynews.com/2019/11/05/politics/maine-utility-regulators-approve-tests-for-floating-wind-turbine-project-off-maine-coast/?utm_campaign=magnet&utm_source=article_page&utm_medium=recommended_articles [<https://perma.cc/94XG-LMQM>].

19. Lawrence Susskind and Ryan Cook, *The Cost of Contentiousness: A Status Report on Offshore Wind in the Eastern United States*, VA. ENVTL. L. J. 204, 206 (2015).

renewable energy development has focused on generation, rather than interconnection infrastructure and the transmission system. Social resistance to both energy infrastructure development and wind energy generally makes the interconnection challenge for offshore wind even more fraught. While there are legitimate arguments that offshore wind development can do more harm than good in particularly environmentally sensitive locations, public outcry against reasonable energy generation and transmission projects in recent years suggests that projects are often not given a fair chance to succeed. This undermines certainty for the industry and prevents individuals, states, and the nation as a whole from taking action to reduce the harmful climate effects of continuing to burn fossil fuels for energy.

Part I of this paper provides background information on the climate crisis and current sources of electricity generation in the U.S. (with an emphasis on wind energy); the Atlantic coast's wind resource and how offshore wind sites function; and some key offshore wind projects that highlight the industry's impacts on fisheries and aesthetics, which are two of the larger sources of contention facing the offshore wind industry. Part II provides an overview of the federal and state regulatory regimes for offshore wind development and expose the gaps in these regimes with regard to interconnection infrastructure. Part III analyzes Maine's regulatory regime and identify potential challenges that could keep Maine from fully developing its offshore wind resource. And in Part IV, this paper argues that, given those regulatory hurdles, the eastern United States' valuable offshore wind resource, and the current difficulty of developing energy infrastructure projects, Congress should give jurisdiction over siting interconnection infrastructure to a federal agency, presumably the Federal Energy Regulatory Commission.

I. BACKGROUND ON CLIMATE, ELECTRICITY GENERATION, AND WIND ENERGY IN THE UNITED STATES

Renewable energy will continue to play an increasingly important role in society. To better understand how this transition will occur, and how it can occur more efficiently, it is important to understand certain background principles. First, deploying massive amounts of renewable energy generation assets (and expanding the transmission and distribution infrastructure necessary to accommodate that energy) will be crucial to mitigating and adapting to the worst impacts of climate change. Second, the Atlantic coast has tremendous offshore wind energy potential. And third, a review of some of the higher-profile offshore wind projects to date

expose two main sources of the public's frustration with offshore wind: its impacts on fisheries and aesthetic, or visual, impacts.

A. The Climate Crisis and U.S. Electric Generation

In 2018, the United Nation's Intergovernmental Panel on Climate Change issued a special report that found global warming must be limited to a 1.5 degrees Celsius increase to prevent the worst impacts from climate change.²⁰ This report was significant, because scientists previously predicted the worst impacts could be avoided by limiting warming to two degrees. The report also found that, in order to achieve that target, renewable sources of energy must account for seventy to eighty-five percent of electricity generation by 2050.²¹ According to the report, that means the world needs to invest \$2.4 trillion every year until 2035.²²

In 2019, renewable energy accounted for 17.5% of U.S. utility-scale electricity generation.²³ Wind energy, virtually all from onshore sources, contributed just over 7% of total generation, surpassing hydroelectric generation for the first time.²⁴ In Maine, wind energy provided 21.0% of all in-state electricity production in 2018.²⁵

20. MILES R. ALLEN ET AL., GLOBAL WARMING OF 1.5°C. AN IPCC SPECIAL REPORT ON THE IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY 5 (Masson-Delmotte, V. et al. eds., 2018).

21. *Id.*; see also Emma Foehringer Merchant, *IPCC: Renewables to Supply 70%-85% of Electricity by 2050 to Avoid Worst Impacts of Climate Change*, GREENTECH MEDIA, Oct. 8, 2018, <https://www.greentechmedia.com/articles/read/ipcc-renewables-85-electricity-worst-impacts-climate-change> [https://perma.cc/49C8-UCWU].

22. *Id.*; see also Reed Landberg, Chisaki Watanabe, and Heesu Lee, *Climate Crisis Spurs UN Call for \$2.4 Trillion Fossil Fuel Shift*, BLOOMBERG NEWS, Oct. 8, 2018, <https://www.bloomberg.com/news/articles/2018-10-08/scientists-call-for-2-4-trillion-shift-from-coal-to-renewables> [https://perma.cc/5A6G-XX6X].

23. "What is U.S. electricity generation by energy source?," U.S. Energy Information Administration (last accessed Apr. 5, 2020), <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3> [https://perma.cc/4XM5-Z5NW].

24. *Id.*; "Wind has surpassed hydro as most-used renewable electricity generation source in U.S.," U.S. Energy Information Administration, Feb. 26, 2020, <https://www.eia.gov/todayinenergy/detail.php?id=42955> [https://perma.cc/T8R9-BWNX].

25. *Wind Energy in Maine*, AMERICAN WIND ENERGY ASSOCIATION, (last visited April 5, 2020), <https://www.awea.org/Awea/media/Resources/StateFactSheets/Maine.pdf>.

B. Harnessing the Atlantic Coast's Offshore Wind Resource

According to the wind industry's trade association, the nation's offshore wind resource has the potential to produce over 2,000 gigawatts of electricity, which is almost twice as much as the nation's current electrical use.²⁶ "The primary method used to present the offshore wind resource data are maps that categorize the resource by annual average wind speed at ninety meters (m) above the surface."²⁷ The National Renewable Energy Laboratory maps typically extend fifty nautical miles from the shore.²⁸ On the East Coast of the United States, North Carolina has the largest offshore wind resource, followed by Massachusetts, Maine, New York, and South Carolina.²⁹

Several physical factors affect the economic viability of offshore wind projects, including wind speed, water depth, and distance from shore. Wind speed generally increases as you move up the East Coast and offshore.³⁰ According to the National Renewable Energy Laboratory, "[e]conomic factors make development of areas with less than 7.0 m/s average wind speeds unlikely," although wind speeds that are too high risk damaging wind turbines.³¹ Water depth also affects the ability of developers to profitably harness a steady offshore wind resource. "Current offshore wind turbine technology uses monopoles and gravity foundations" in depths up to thirty meters.³² From thirty to sixty meters, "tripods, jackets and truss-type towers will be used."³³ "Deep water [greater than sixty meters] may require floating structures instead of fixed bottom foundations, but this technology is currently in an early stage of development."³⁴ Lastly, "[d]istance affects the potential cost of

26. *Computing America's Offshore Wind Energy Potential*, U.S. DEP'T OF ENERGY, OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY (Sept. 9, 2016), <https://www.energy.gov/eere/articles/computing-america-s-offshore-wind-energy-potential> [<https://perma.cc/Y2UX-RPXU>].

27. NREL Report at 1. The National Renewable Energy Laboratory (NREL) is part of the U.S. Department of Energy.

28. *Id.*

29. *Id.* at 2-4. NREL calculates "the offshore wind resource by available square kilometers of water and potential installed capacity in gigawatts (GW) for annual average wind speeds greater than 7.0 meters/second at 90 m above the surface."

30. *Id.* at 10.

31. *Id.* at 9.

32. *Id.* at 9.

33. *Id.*

34. *Id.* See Nora Flaherty, *Maine utility regulators approve tests for floating wind turbine project off Maine coast*, BANGOR DAILY NEWS (Nov. 5, 2019), <https://bangordailynews.com/2019/11/05/politics/maine-utility-regulators-approve-tests->

development through considerations such as the length of underwater cable needed to connect the offshore wind project to land-based electricity distribution facilities.”³⁵ As discussed below, distance from shore also affects visibility and whether a project is located in state or federal waters,³⁶ all of which impacts a project’s political viability.

“Wind turbines use blades to collect the wind’s kinetic energy.”³⁷ As wind flows over a turbine’s blades, it creates lift, which turns the blades.³⁸ Those blades are connected to an electric generator, housed in the turbine’s nacelle, which produces electricity as wind turns the blades.³⁹ For offshore wind projects, each turbine is connected to a “hub,” located on the sea floor, by floating submarine cables.⁴⁰ From that hub runs a submarine cable that eventually comes ashore at a landing point and connects to a transformer at an interconnection point.⁴¹ Once connected to the grid, the energy produced offshore intermingles with all the other sources of electricity used by consumers.

C. Landmark Offshore Wind Projects and Competing Interests

There is no free lunch in energy. Every energy resource involves trade-offs and has pros and cons. This section explores several of the more high-profile offshore wind projects in the United States and how those projects impact other current uses, in particular fishing and aesthetic enjoyment.

In December 2016, wind energy was generated offshore of the United States for the first time.⁴² Utility National Grid and developer Deepwater Wind built the project to bring electricity to Block Island, off the coast of

for-floating-wind-turbine-project-off-maine-coast/?utm_campaign=magnet&utm_source=article_page&utm_medium=recommended_articles [https://perma.cc/734T-CAYS].

35. NREL Report at 11.

36. *Id.*

37. U.S. Energy Information Administration, *Wind Explained: Electricity Generation From Wind*, <https://www.eia.gov/energyexplained/wind/electricity-generation-from-wind.php> (last updated Mar. 24, 2020) [https://perma.cc/KE2E-SKLQ].

38. *Id.*

39. *Id.*

40. *See, e.g., Proposed Cable Landings in St. George and East Boothbay*, MAINE AQUA VENTUS, <http://maineaquaventus.com/index.php/the-project/proposed-cable-landings/> (last visited April 5, 2020) [https://perma.cc/5VWZ-H4QY].

41. *Id.*

42. Tatiana Schlossberg, *America’s First Offshore Wind Farm Spins to Life*, THE NEW YORK TIMES (Dec. 14, 2016), <https://www.nytimes.com/2016/12/14/science/wind-power-block-island.html> [https://perma.cc/G88D-MTW2].

Rhode Island.⁴³ The project's five turbines will supply about 90 percent of the island's electricity needs.⁴⁴ "Despite its modest size, the wind farm, which cost about \$300 million to build, still represents a significant reduction in carbon dioxide emissions — about 40,000 tons per year."⁴⁵ "Much of the credit for the public support the [Deepwater Wind/Block Island] project has received must go to the state of Rhode Island, which identified a site where offshore wind development would be seen as a positive rather than a negative and provided consistent state support to the project."⁴⁶ Furthermore, the developer's "ability to work with stakeholder groups has also been a contributing factor, as demonstrated by the developer's commitment to avoid construction in early spring, when the endangered Right Whale migrates through the region."⁴⁷ Directing some of the energy to Block Island seems to have been particularly important here, too. That decision makes sense because of the island's dependence on diesel fuel. However, this issue—whether a community will directly benefit from an infrastructure project it hosts—is often a source of political resistance, particularly with regard to building transmission lines. The reason for that resistance is less clear, particularly in New England with its regional electric grid. But a best practice for developers may be to offer even a small amount of competitively priced electricity generated by the project to a nearby community, thereby limiting a source of opposition.

Since then, as of June 2019, East Coast states have committed to building twenty gigawatts of offshore wind energy by 2035.⁴⁸ The most notable project currently underway is Vineyard Wind, off the coast of Massachusetts. The nearly \$3 billion project would be the nation's first major offshore wind development, generating enough electricity to supply about 400,000 homes.⁴⁹ But regulatory delays have slowed progress. Specifically, in August of 2019, the Interior Department ordered additional environmental review of the project.⁵⁰ It is somewhat ironic that the Trump Administration ordered the additional review, considering its

43. *Id.*

44. *Id.*

45. *Id.*

46. Susskind and Cook, *supra* note 19, at 230.

47. *Id.*

48. McKenzie Report, *supra* note 3, at 1-2.

49. Martin and Dlouhy, *supra* note 15, at 2.

50. *Id.*

proclivity for rolling back environmental regulations,⁵¹ but the president is famously anti-wind.⁵²

Other offshore wind projects are in the works, as well. In October 2019, the governor of Massachusetts, Charlie Baker, announced his administration selected the Mayflower Wind project to provide over 800 megawatts of offshore wind energy to the state.⁵³ Additionally, in November 2019, the Maine Public Utilities Commission approved a twenty year contract between the utility Central Maine Power and developer Maine Aqua Ventus for the purchase of offshore wind energy.⁵⁴ The Aqua Ventus project is notable because it would be the nation's first *floating* offshore wind site.⁵⁵ Developers tested a miniature version of the project in 2013, generating power from two turbines floating in 65 feet of water.⁵⁶ As discussed earlier, a significant portion of the offshore wind resource is over waters deeper than sixty meters. Harnessing wind that far offshore will require these floating structures.

Even beyond putting turbines in the water, companies are also developing the infrastructure necessary to bring offshore wind energy to shore. For example, in 2018, Anbaric Development Partners submitted an application to the Bureau of Ocean Energy Management to build the "New York/New Jersey Ocean Grid."⁵⁷ Citing New York and New Jersey's plans to develop a combined nearly 6,000 megawatts of offshore wind by 2030, the company proposed a "carefully planned, coordinated offshore transmission system, as an alternative to project-by-project generator lead transmission interconnections that only serve one project."⁵⁸ In other

51. Nadja Popovich et. al., *85 Environmental Rules Being Rolled Back Under Trump*, N.Y. TIMES (Sept. 12, 2009), <https://www.nytimes.com/interactive/2019/climate/trump-environment-rollback.html> (explaining that, as of September 12, the Trump Administration had completed 53 regulatory rollbacks and was in the process of rolling back another 32) [<https://perma.cc/B7UV-TDGT>].

52. Kelsey Bruger, *Trump again condemns wind energy. His DOE disagrees*, E&E NEWS (Aug. 28, 2019), <https://www.eenews.net/stories/1061102807> [<https://perma.cc/RQ54-27JA>].

53. Press Release, Executive Office of Energy and Environmental Affairs, Project Selected to Increase Offshore Wind Energy in the Commonwealth (Oct. 30, 2019) (on file with the author).

54. Laurie Schreiber, *PUC approves Aqua Ventus wind-power contract*, MAINEBIZ (Nov. 6, 2019), <https://www.mainebiz.biz/article/puc-approves-aqua-ventus-wind-power-contract> [<https://perma.cc/W7TL-EHDN>].

55. *Id.*

56. *Id.*

57. Anbaric Development Partners, *Unsolicited Right-of-Way/Right-of-Use & Easement Grant Application*, 1 (amended June 22, 2018).

58. *Id.*

words, similar to the transmission and distribution system that currently exists on land, Anbaric proposed building a series of “Offshore Collector Platforms” that the turbines from individual projects would connect to by undersea cables.⁵⁹ From these platforms, subsea cables would transmit that energy to onshore “Points of Interconnection.”⁶⁰ In November 2019, Anbaric announced it would file an application with the Bureau of Ocean Energy Management to build a similar system off the coast of Massachusetts.⁶¹

These projects have at least two benefits. Development of a single offshore transmission system would mirror the current land-based transmission system and could provide regulatory certainty for novel projects. Additionally, and especially relevant for the purpose of this paper, this approach would result in fewer onshore interconnection points than if each wind project built its own transmission and interconnection systems. Therefore, under this approach, there are fewer opportunities for regulatory delay.

Of all the stakeholders involved with offshore wind development, the fishing industry has been, perhaps, the most outspoken. The commercial fishing workforce need large, unencumbered swaths of ocean to motor back and forth in order to capture its haul. Many are concerned that navigation will be impaired if hundreds of turbines dot a favored fishing ground. Specifically, the industry is especially upset that federal agencies have underestimated landings while conducting environmental impact studies.⁶² The effect of this underestimation, seemingly, would be an agency determination that a given project does not have a significant impact on the fishery, allowing the project to proceed with development.

Despite this tension, there is some hope the commercial fishing industry and federal government will reach a *détente*. In March 2019, some fishing interests and the federal government signed a ten-year memorandum of understanding that the groups would consider collaborating on the science and planning of offshore wind projects.⁶³ And

59. *Id.*

60. *Id.*

61. Adrienne Appel, *Anbaric Seeks First Federal OK for Offshore Wind Energy Grid*, BLOOMBERG ENV'T (Nov. 21, 2019), <https://news.bloombergenvironment.com/environment-and-energy/anbaric-seeks-first-federal-ok-for-offshore-wind-energy-grid> [<https://perma.cc/HS35-5FKG>].

62. Benjamin Storrow, *Emails show bond between NOAA, fishermen against project* E&E NEWS (Oct. 25, 2019) available at <https://www.eenews.net/stories/1061368297> [<https://perma.cc/Z2FN-MJK2>].

63. Memorandum of Understanding Between the National Atmospheric Administration's National Marine Fisheries Service, Bureau of Ocean Energy

in November 2019, a group of New England offshore wind developers proposed spacing turbines one nautical mile apart, “contending the grid system will provide adequate safety for fishing vessels,”⁶⁴ although many fishing industry representatives immediately called the proposal “inadequate.”⁶⁵

II. THE FEDERAL AND STATE REGULATORY REGIMES

Offshore wind developments are subject to either federal or state jurisdiction depending on whether the project is located in state or federal waters. Federal law governs ocean jurisdiction, the leasing and development of offshore wind, and transmission of electrical energy produced by offshore wind projects in interstate commerce. State law is primarily concerned with siting and permitting generation assets. Interestingly, interconnection infrastructure is touched by both of these regulatory regimes, but its development is prioritized by neither.

A. *The Federal Regulatory Regime*

Under the Submerged Lands Act of 1953, coastal state jurisdiction extends three nautical miles from the shore.⁶⁶ Federal authority extends from three nautical miles out to 200 nautical miles (nm).⁶⁷ Within federal

Management And The Responsible Offshore Development Alliance, available at <https://www.coastalreview.org/wp-content/uploads/2019/03/NOAA-BOEM-RODA-Memorandum-of-Understanding-3.pdf> [<https://perma.cc/9KDN-3QQG>].

64. Kirk Moore, *New England offshore wind developers propose 1-nautical-mile turbine spacing*, NATIONAL FISHERMAN (Nov. 19, 2019); Christer af Geijerstam, Leon Oliver, John Hartnett, Thomas Broström, and Lars Thaaning Pedersen, “Proposal for a uniform 1 x 1 nm wind turbine layout for New England Offshore Wind” (Nov. 1, 2019).

65. Chris Chase, *New England fishing groups object to latest offshore wind layout proposal*, SEAFOOD SOURCE (Nov. 19, 2019), <https://www.seafoodsource.com/news/supply-trade/new-england-fishing-groups-object-to-latest-offshore-wind-layout-proposal> [<https://perma.cc/SKH3-3XU9>]. However, interestingly, from recreational fishermen’s perspective, offshore wind turbines could actually benefit fishermen, because the turbines attract more species and more fish, similar to offshore oil platforms in the Gulf of Mexico. See Lisa Prevost, *In Rhode Island, offshore wind farm emerging as popular fishing spot*, THE ENERGY NEWS NETWORK (Nov. 4, 2019), <https://energynews.us/2019/11/04/northeast/in-rhode-island-offshore-wind-farm-emerging-as-popular-fishing-spot/> [<https://perma.cc/8PGT-2YJJ>].

66. See 43 U.S.C. § 1301(a)(2). This same provision grants Texas and the Florida Gulf Coast jurisdiction extending to nine nautical miles.

67. *Id.* at § 1302; CONG. RESEARCH SERV., R40175, WIND ENERGY: OFFSHORE PERMITTING 1 (2015) [hereinafter CRS Report]. Although the United States is not a party to the United Nations Convention on the Law of the Sea (UNCLOS), the U.S. “generally

waters, section 388 of the Energy Policy Act of 2005 “amend[ed] the [Outer Continental Shelf Lands Act] to specifically establish legal authority for federal review and approval of various offshore energy-related projects.”⁶⁸ Although the Energy Policy Act does not expressly identify a lead agency with respect to offshore wind permitting, “several provisions within section 388 suggest that [the Department of the Interior] is charged with primary responsibility.”⁶⁹ The Energy Policy Act also directs the Interior Department to issue leases, including those for offshore wind development, on a competitive basis.⁷⁰ And it establishes a revenue sharing formula that allocates 27 percent of the revenues collected from offshore projects “among coastal states that have a coastline that is located within 15 miles of the geographic center of the project.”⁷¹ Further, the Energy Policy Act subjects offshore wind development to certain obligations.⁷² Particularly relevant to state interests, the Energy Policy Act requires the Interior Department to “coordinat[e] and consult[] with the

acts in alignment with its terms.” *Id.* UNCLOS divides coastal state waters into the territorial sea (roughly from the shore, or “baseline,” out to 12 nm), the contiguous zone (from 12 nm to 24 nm), and the Exclusive Economic Zone (from 24 nm to 200 nm).

68. CRS Report, *supra* note 67, at 4; *see generally* 43 U.S.C. § 1337(p)(1); 43 U.S.C. § 1337(p)(1)(C) (authorizing the Department of the Interior (DOI) to grant leases, easements or rights-of-way to “produce or support production, transportation, or transmission of energy from sources other than oil and gas.”).

69. CRS Report, *supra* note 67, at 5; 43 U.S.C. § 1337(p)(1) (directing the DOI Secretary to consult with other agencies when granting leases, easements, or rights-of-way); § 1337(p)(2)(A) (directing the Secretary to “establish royalties, fees, rentals, bonuses, or other payments to ensure a fair return to the United States for any lease, easement, or right-of-way granted under this subsection.”).

70. 43 U.S.C. § 1337(p)(3).

71. *Id.* at § 1337(p)(2)(B).

72. *Id.* at § 1337(p)(4) (stating “[t]he Secretary shall ensure that any activity under this subsection is carried out in a manner that provides for—safety; protection of the environment; prevention of waste; conservation of the natural resources of the outer Continental Shelf; coordination with relevant Federal agencies; protection of national security interests of the United States; protection of correlative rights in the outer Continental Shelf; a fair return to the United States for any lease, easement, or right-of-way under this subsection; prevention of interference with reasonable uses (as determined by the Secretary) of the exclusive economic zone, the high seas, and the territorial seas; consideration of (i) the location of, and any schedule relating to, a lease, easement, or right-of-way for an area of the outer Continental Shelf (ii) and any other use of the sea or seabed, including use for a fishery, a sealane, a potential site of a deepwater port, or navigation; public notice and comment on any proposal submitted for a lease, easement, or right-of-way under this subsection; and oversight, inspection, research, monitoring, and enforcement relating to a lease, easement, or right-of-way under this subsection.”)

Governor of any State or the executive of any local government that may be affected by a lease, easement, or right-of-way under this subsection.”⁷³

When it comes to an offshore wind project generating energy, two statutes, the Federal Power Act and the Public Utility Regulatory Policies Act, govern. The Federal Power Act regulates offshore wind generation companies as public utilities if they “intend to sell their power either directly to utilities for resale or into a centralized energy or capacity market for resale to ultimate customers.”⁷⁴ The Federal Energy Regulatory Commission, which implements the Federal Power Act, also has jurisdiction over any interstate transmission or wholesale (as opposed to retail, which is subject to state jurisdiction) sale of electric energy.⁷⁵ Further, any rates and charges by public utilities must be just and reasonable.⁷⁶ “Thus, any offshore wind developer which seeks to sell energy at wholesale [or sell electric energy in interstate commerce] must obtain . . . authority from [the Federal Energy Regulatory Commission].”⁷⁷

That said, “it may be possible for some offshore wind projects to avoid [Federal Energy Regulatory Commission] rate regulation if they are deemed . . . ‘qualifying facilities’” under the Public Utilities Regulatory Policies Act.⁷⁸ Section 210 of the Public Utilities Regulatory Policies Act requires electric utilities (i.e., grid operators) “to: (i) interconnect with and accept the output of [qualifying facilities], and (ii) pay the purchasers ‘avoided cost’ for the output.”⁷⁹ Nelson and Yaffe credit the Public Utilities Regulatory Policies Act for the first wave of renewable expansion in the United States (roughly from the late 1970s to the early 1990s), particularly with regard to utility-scale solar and onshore wind.⁸⁰ And Susskind and Cook laud “Smart From the Start,” which:

aims to reduce the likely level of contentiousness in the development process by: avoiding areas where conflicting uses or environmental concerns are likely to elicit strong opposition; bringing opposing voices into the planning process early, and granting them an opportunity to have their concerns recognized when Wind Energy Areas are identified; and increasing developer

73. *Id.* at § 1337(p)(7).

74. Nelson and Yaffe, *supra* note 4, at 37; *see also* 16 U.S.C. § 824.

75. 16 U.S.C. § 824(b)(1).

76. *See id.* at § 824.

77. Nelson and Yaffe, *supra* note 4, at 37-38.

78. *Id.* at 38.

79. *Id.* at 45.

80. *Id.* at 44-45.

confidence by providing a transparent and consistent process for leasing offshore lands for wind energy generation.⁸¹

B. The State Regulatory Regime

Maine's offshore wind regulatory regime is found in three principal sources: state statute, case law, and gubernatorial policy. The Wind Energy Act⁸² recognizes "it is in the public interest to explore opportunities for and encourage the development" of wind generation⁸³ and "to reduce the potential for controversy regarding siting of grid-scale wind energy development by expediting development in places where it is most compatible with existing patterns of development and resource values."⁸⁴ The Act sets energy generation goals for both onshore and offshore wind energy generation.⁸⁵ Although the Act does not discuss offshore wind interconnection or transmission infrastructure in great detail, it does "encourage the attraction of appropriately sited development related to wind energy, including any additional transmission and other energy infrastructure needed to transport additional offshore wind energy to market. . . ."⁸⁶

Furthermore, Maine's Planning and Land Use Regulation statutes⁸⁷ prevent a municipality from enacting an ordinance that blocks the siting of an offshore wind project: "[a] municipality may not enact or enforce a land use ordinance that prohibits siting of renewable ocean energy projects, including but not limited to their associated facilities, within the municipality."⁸⁸ Maine statutes define "renewable ocean energy project," in relevant part, as "[a]n offshore wind power project . . . in, on or over the State's coastal waters . . . to the 3-mile limit of state ownership recognized under the federal Outer Continental Shelf Lands Act"⁸⁹ Each subsection makes clear that the definition of offshore wind power project includes both generating and associated facilities.⁹⁰ "Generating facilities"

81. Susskind and Cook, *supra* note 19, at 234-35.

82. 35-A M.R.S. §§ 3401 *et seq.* (2003).

83. *Id.* at § 3402.

84. *Id.* at § 3402(2).

85. *Id.* at § 3404(2)(B)-(C) ("300 megawatts or more from generation facilities located in coastal . . . [or] federal waters" by 2020 and "5,000 megawatts from generation facilities located in coastal . . . [or] federal waters" by 2030). The state has not met the 2020 goal.

86. 35-A M.R.S. § 3404(1).

87. 30-A M.R.S. §§ 4351-4361 (2010).

88. 30-A M.R.S. § 4361.

89. 12 M.R.S. §1862(F-1)(1), (4) (2019).

90. 38 M.R.S. § 482 (8).

“means wind turbines and towers and transmission lines, not including generator lead lines, that are immediately associated with the wind turbines.”⁹¹ “‘Associated facilities’ means elements of a wind energy development other than its generating facilities that are necessary to the proper operation and maintenance of the wind energy development, including but not limited to buildings, access roads, generator lead lines and substations.”^{92, 93}

As for case law, the Law Court has not yet had many occasions to review the Maine Wind Energy Act, and, as far as the author is aware, no decision has addressed an offshore project. For onshore wind projects, court decisions typically address appeals of decisions issued by the Department of Environmental Protection regarding noise and visual impacts and impacts to wildlife habitats and scenic resources.⁹⁴ Offshore projects in federal waters, which host the bulk of Maine’s offshore wind resource, are unlikely to encounter challenges based on auditory, visual, or scenic impacts. But, as described more fully below, the standard of review used in these cases will have important effects on the state’s initial offshore projects.

The courts “‘review decisions made by an administrative agency for errors of law, abuse of discretion, or findings of fact not supported by the record’”⁹⁵ and examine all testimony and evidence before the agency to ensure “‘the agency could fairly and reasonably find the facts as it did.’”⁹⁶ Courts “‘must affirm findings of fact if they are supported by substantial

91. 35-A M.R.S. § 3451(5) (2007).

92. 35-A M.R.S. § 3451(1) (2007).

93. There is no Maine case law further interpreting the definitions of “renewable ocean energy projects,” “associated facilities,” or “generating facilities.”

94. *See, e.g.,* Friends of Lincoln Lake v. Board of Env’t Protection, 2010 ME 18, 989 A.2d 1128 (2010) (holding there was sufficient evidence to support the Board of Environmental Protection’s findings that a wind power project met applicable requirements for sound levels, public health impacts, and impacts to wildlife habitats; and statutes that govern review of permit decisions did not violate the equal protection clause of the state Constitution); Friends of Maine’s Mountains v. Board of Env’t Protection, 2013 ME 25, 61 A.3d 689 (2013) (holding that the Board of Environmental Protection was required to adopt a provisional nighttime sound level limit, the Wind Energy Act did not violate the Equal Protection Clause of the state Constitution, and visual impact criteria in the Wind Energy Act were not unconstitutionally vague); Champlain Wind, LLC v. Board of Env’t Protection, 2015 ME 156, 129 A.3d 279 (2015) (upholding a decision by the Board of Environmental Protection that the visual impacts of a wind power project would have an unreasonable effect on the scenic character of nine interconnected great ponds).

95. *Friends of Lincoln Lake*, 989 A.2d at 1133 (quoting *Save Our Seabasticook, Inc. v. Board of Env’t Protection*, 2007 ME 102, ¶13, 928 A.2d 736, 740).

96. *Id.* (quoting *Int’l Paper Co. v. Board of Env’t Protection*, 1999 ME 135, ¶ 29, 737 A.2d 1047, 1054).

evidence in the record, even if the record contains inconsistent evidence or evidence contrary to the result reached by the agency.”⁹⁷ The substantial evidence standard requires courts “to determine whether there is any competent evidence in the record to support a finding. Administrative agency findings of fact will be vacated only if there is no competent evidence in the record to support a decision.”⁹⁸

The courts review statutory construction and questions of law *de novo*.⁹⁹ However, “[w]hen reviewing an agency’s interpretation of a statute that it administers, [the courts] defer to the agency’s construction unless the statute plainly compels a contrary result.”¹⁰⁰ The courts “do not second-guess an agency on issues within its area of expertise; rather, [they] review only to ascertain whether its conclusions are unreasonable, unjust, or unlawful.”¹⁰¹ Functionally, these deferential standards of review protect projects on appeal that the Board or Department of Environmental Protection has approved.

Lastly, governors influence the state’s wind policy. In November 2008, Maine Governor John Baldacci signed an Executive Order creating an Ocean Energy Task Force “to develop a strategy aimed at meeting or exceeding the goal established” in the Maine Wind Energy Act.¹⁰² Citing the Gulf of Maine’s “world-class wind power resource,” Baldacci directed the task force to “identify and recommend solutions to overcome potential economic, technical, regulatory, and other obstacles to vigorous and expeditious development of grid-scale wind energy generation facilities in Maine’s coastal waters and adjacent federal waters.”¹⁰³ The task force also examined non-wind energy resources, including tidal energy, as well as transmission infrastructure.¹⁰⁴ The task force recommendations included the following:

97. *Id.*

98. *Id.* at 1134.

99. *Champlain Wind*, 129 A.3d 279 at 283.

100. *Id.* (quoting *Passadumkeag Mountain Friends v. Bd. of Env’tl. Prot.*, 2014 ME 116, ¶12, 102 A.3d 1181).

101. *Id.* at 283-284 (quoting *Town of Eagle Lake v. Comm’r, Dep’t of Educ.*, 2003 ME 37, ¶ 8, 818 A.2d 1034).

102. AN EXECUTIVE ORDER ESTABLISHING THE OCEAN ENERGY TASK FORCE, Governor John E. Baldacci, EO No. 20 FY 08/09, 2 (Nov. 7, 2008), http://ldc.mainelegislature.org/Open/Exec/ExecutiveOrders/72_Baldacci/2008-09/eo_2008-09no20.pdf [<https://perma.cc/JX9C-CXCT>].

103. *Id.* at 1, 2.

104. Final Report of the Ocean Energy Task Force to Governor John E. Baldacci (Dec. 2009).

- Install 5 gigawatts of offshore wind energy in state and federal waters by 2030 and develop tidal energy resources, particularly in Passamaquoddy Bay;
- Improve and expand transmission and distribution capacity as needed to achieve wind power and energy conversion goals;
- Streamline state permitting of appropriately sited offshore wind developments, including by limiting municipalities' land use and zoning authority to promote consistency with state standards; and
- Support the formation of a private sector-led entity to spearhead renewable ocean energy developments.¹⁰⁵

With regard to transmission infrastructure, the report made several more findings: it recognized the need for new transmission and distribution capacity in state law; developed a comprehensive plan to determine the level of transmission and distribution infrastructure investment needed to achieve the state's wind energy goals; and encouraged utilities to expand transmission infrastructure now to accommodate future generation.¹⁰⁶ The report also recommended broad-based electrification and suggested the Public Utilities Commission explore changes to rate design structures that will encourage the use of intermittent resources; promote demand-response pricing; and study how smart-grid technologies can spur development of renewable energy technologies.¹⁰⁷ Finally, the report recommended that the state continue to work at the regional level to resolve transmission cost recovery and advocate that the Federal Energy Regulatory Commission and Public Utilities Commission permit recovery of generator lead-lines.¹⁰⁸

In December 2020, Governor Janet Mills and the Maine Climate Council released the state's first Climate Action Plan, "Maine Won't Wait."¹⁰⁹ The plan is an ambitious first step—a roadmap that shows how Maine can mitigate and adapt to the climate emergency and identifies several strategies for how to get there.¹¹⁰ The report does not discuss offshore wind interconnection, specifically. But it does recognize the need for a stakeholder process that will "ensure Maine's power sector evolves

105. *Id.* at vii-xi.

106. *Id.* at ix-x.

107. *Id.* at x.

108. *Id.*

109. Me. Climate Council, *Maine Won't Wait: A Four-Year Plan For Climate Action* (Dec. 2020).

110. *Id.*

efficiently and affordably,” including through beneficial electrification and further study of interconnection, generally.¹¹¹ And it lays out the need for setting “achievable targets for cost-effective deployment” of offshore wind to ensure adequate, affordable clean-energy supply.¹¹²

The policies, statutes, and cases cited above primarily address generation assets: the turbines themselves. Less attention has been paid to date to transmission and distribution infrastructure, and it is unclear whether the interconnection infrastructure required to bring energy generated offshore to the grid is addressed by these laws. Interestingly, neither the state nor the federal regulatory regimes fully incentivize development of interconnection infrastructure. The next section analyzes Maine law with a consideration of whether interconnection infrastructure is protected by state law from municipal interference.

III. ANALYSIS OF STATE LAW AND POLICY GOVERNING RENEWABLE OCEAN ENERGY PROJECTS, OFFSHORE WIND DEVELOPMENT, AND INTERCONNECTION

This section provides an objective analysis of the protections provided under current Maine law to offshore wind energy interconnection infrastructure. While state law likely does provide this protection to offshore wind energy interconnection infrastructure, this section also offers a few suggestions for ways Maine could further protect this vital piece of offshore wind energy development.

A. How Maine Law Prevents Municipalities From “Zoning Out” Renewable Ocean Energy Projects

Maine’s land use statutes protect much of an offshore wind project’s transmission and interconnection infrastructure. But it is not clear if all components of a project are protected, especially for projects in federal waters. Section 4361 of Maine’s Planning and Land Use Regulation statutes provides that “[a] municipality may not enact or enforce a land use ordinance that prohibits siting of renewable ocean energy projects, including but not limited to their associated facilities, within the municipality.”¹¹³ The definition of renewable ocean energy project

111. *Id.* at 61.

112. *Id.* at 12.

113. 30-A M.R.S. § 4361(2).

includes offshore wind projects and the municipal prohibition protects a project's generating and associated facilities.¹¹⁴

Despite these statutory protections, challenges remain. In part, these challenges reflect the lack of offshore wind development to date. For example, is transmission and interconnection infrastructure—in particular, the subsea interconnection cable—a generating or associated facility? Although generating facilities include “transmission lines,”¹¹⁵ this provision likely refers to the lines that connect the turbines to a centralized gathering platform offshore. The interconnection cable, which delivers the electricity generated offshore to the mainland, likely would not be considered “immediately associated” with the turbines.¹¹⁶ The cable could be considered an associated facility because it is “necessary to the proper operation” of the project.¹¹⁷ By the statute's plain language, substations and other onshore transmission infrastructure is an associated facility.

And, assuming that all interconnection infrastructure is either a generating or associated facility, the municipal prohibition in 35-A M.R.S. § 4361 may only apply to projects located in state waters. “Renewable ocean energy project” is defined as a project located in “coastal wetlands”¹¹⁸ or “coastal waters.”¹¹⁹ “Coastal wetlands” include “all tidal and subtidal lands”¹²⁰ and “[c]oastal waters” extend “to the 3-mile limit of state ownership recognized under the federal Outer Continental Shelf Lands Act.”¹²¹ Projects sited in federal waters cannot be considered, by definition, a renewable ocean energy project under state law because they are located beyond “the 3-mile limit of state ownership.”¹²² As discussed above, interconnection cables themselves must necessarily pass “in, on or over the State's coastal waters”¹²³ at some point after leaving a project in federal waters but before connecting with the power grid. However, because the cable is coming from a project in federal waters and not from a “renewable ocean energy project” as defined by state law, it is not clear

114. 12 M.R.S. § 1862(F-1)(1).

115. 35-A M.R.S. § 3451(5).

116. *Id.*

117. *Id.* § 3451(1). This interpretation assumes that “proper operation” includes the actual delivery of electricity from the generating asset to market. But, in theory, a turbine could be properly operating even if it is not generating electricity, such as on windless days.

118. 12 M.R.S. § 1862(F-1).

119. *Id.* § 1862(F-1)(4).

120. 38 M.R.S. § 480-B(2) (2005).

121. 12 M.R.S. § 1862(1)(F-1)(4).

122. *See id.*

123. 12 M.R.S. § 1862(1)(F-1)(4).

the cable would be entitled to the immunity from municipal zoning established in 35-A M.R.S. § 3461.

Lastly, from a judicial perspective, the deferential standard of review could inhibit offshore wind projects. Due to such a standard, a Maine court is unlikely to overturn a permit or application denied by the Board or Department of Environmental Protection or the Public Utilities Commission. Although that possibility always exists, it is especially high for the first offshore wind developers given the statutory ambiguities described above and the limited, yet fierce public resistance many onshore wind projects have faced. Moreover, if the courts were to uphold agency approvals, an anti-wind Legislature could change the standard of review that applies to renewable ocean energy projects. For example, in 2011, the Legislature considered a bill that would change the standard of review courts apply to agency rules and adjudicatory proceedings.¹²⁴ Committee Amendment A eliminated the deference courts typically give to agency interpretations of statute.¹²⁵ Given the political controversy that many wind power projects face, it is foreseeable that a similar bill could be proposed in the future.

In Maine, the immunity from municipal zoning ordinances granted to renewable ocean energy projects is a strong protection not found in some other states. Still, the Legislature should make statutory changes to provide more certainty to the offshore wind industry. First, 30-A M.R.S. § 4361 should be amended to explicitly include submerged transmission cables and interconnection infrastructure, eliminating any doubt that these facilities are entitled to immunity from municipal interference. And 12 M.R.S. § 1862(F-1) should be amended to clarify that projects with generating facilities sited in federal waters also come within the definition of “renewable ocean energy project.” Finally, Maine should explicitly include interconnection infrastructure in expedited permitting schemes and expand the area of expediting permitting for offshore wind through a process that considers wind levels, sea depths and competing commercial uses, particularly fisheries.

States obviously have an important role to play with offshore wind permitting, particularly with regard to siting generating facilities in state waters and identifying areas for expedited permitting of both generation

124. An Act To Amend the Laws Governing the Deference Afforded to Agency Decisions, L.D. 1546 (125th Legis. 2011). L.D. 1546, 125th Leg., 1st Reg. Sess. (Me. 2011).

125. Committee Amendment A to L.D. 1546, No. S-394 (125th Legis. 2012). The amendment provided that a “court may not substitute its judgment for that of the agency on questions of fact,” changing the mandatory “shall” to a permissive “may.” L.D. 1546, No. S-394, 125th Leg., 2nd Reg. Sess. (Me. 2012).

assets and transmission and distribution infrastructure. But there is a need for state-level work to be done in conjunction with neighboring states and the federal government, particularly when “chokepoints” like interconnection infrastructure and port facilities are considered. Considering this, a uniform regulatory framework implemented at a regional or federal scale will likely provide more certainty and incentivize offshore wind development.

B. Politics Has Crippled Maine’s Offshore Wind Industry

Regardless of the potential legal and regulatory challenges facing Maine’s offshore wind industry, and interconnection infrastructure in particular, old-fashion politics are still a barrier to the industry.¹²⁶ “Not only has the political inconsistency with which Maine has approached offshore driven an experienced developer away from the state, it may also lower the confidence of future investors in the state’s willingness to partner on offshore projects and thereby act as a deterrent for additional proposals.”¹²⁷ As Susskind and Cook note:

the case of Statoil demonstrates the impact that a different kind of contentiousness—changes in political environment—can have on the offshore wind industry. As an emerging technology, wind energy projects will require strong policy support in the short term from state and federal governments to survive. The story in Maine demonstrates that, when states opt to support offshore projects as a matter of policy, their assistance may only be as durable as the tenure of current political power holders.¹²⁸

While the Cape Wind problem—that of regulatory inconsistency—may be less of an issue, the length of time it takes to permit a project and changes to the political environment still are. In fact, in Maine, the offshore wind industry is not much further down the road than it was at the time Susskind and Cook documented the Statoil and Aqua Ventus projects. The Statoil project remains dead and no other experienced wind developer has proposed another utility-scale project. And the Aqua Ventus project has only just received approval from the Public Utilities Commission for a long-term power contract and continues to face some public resistance. As Susskind and Cook note, “[d]espite the state of Maine’s designation of the Monhegan Island site as an area appropriate

126. Susskind and Cook, *supra* n. 19, at 224-228.

127. *Id.* at 227-28.

128. *Id.* at 228.

for development, the project has nonetheless come under fire from local residents, primarily out of concern for its possible interference with the state's fishing industry.¹²⁹ While this fact is discouraging with regard to "the effectiveness of future government-led planning efforts to mitigate conflict over site identification," it also suggests that states with politically powerful fishing industries may be disadvantaged when developing a robust offshore wind industry.¹³⁰

Meanwhile, Governor Mills, like Governor Baldacci, has supported offshore wind development through executive orders and legislation.¹³¹ But as her predecessor, Governor Paul LePage, who staunchly opposes the wind industry in its entirety and was responsible for killing the Statoil project, trolls Mainers from his Florida residence about another run for governor, developers would be right to be concerned about political contentiousness.

IV. REGIONAL AND FEDERAL SOLUTIONS TO EXPEDITING THE INTERCONNECTION PROCESS

Even if Maine were to adopt the above mentioned reforms, the Pine State is but one among many.¹³²

[S]tates have . . . been assertive to varying degrees in engaging with and influencing federal land use decisions beyond three miles offshore. These factors combine to produce a fragmented landscape of jurisdictional control over siting decisions in which the ease of developing an offshore wind project will vary strongly depending on the governments involved.¹³³

For example, in 2016, Maine contributed just 0.3% to the United States' total annual carbon dioxide emissions.¹³⁴ In order for the U.S. to deploy the amount of new renewable energy generation scientists predict is necessary to stave off the worst impacts of climate change, changes to

129. *Id.* at 243.

130. *Id.*

131. See, e.g., "An Order Concluding The Maine Wind Advisory Commission And Wind Permit Moratorium," Governor Janet T. Mills, Executive Order No. 3 FY 19/20 (2019); L.D. 994, 129th Legis., (Me. 2019).

132. Of course, under the Trump Administration, many states have become leaders on addressing climate change through new legislation and regulatory reform.

133. Susskind and Cook, *supra* n. 19, at 215.

134. U.S. States State Energy Profile, U.S. ENERGY INFORMATION ADMINISTRATION (last visited Apr. 5, 2020), <https://www.eia.gov/environment/emissions/state/> [<https://perma.cc/SV42-DVM4>].

federal law and regulations will also be required.¹³⁵ These reforms include both legislative and non-legislative steps to:

- 1) Prioritize and streamline the regulatory review of renewable energy projects by proclaiming in laws like [the National Environmental Policy Act] and other major environmental statutes that quickly building significant numbers of such projects is of great strategic importance to the U.S.;
- 2) Establish clear, expedited timelines for agency review, consultation and coordination, as well as any judicial review of agency decisions;
- 3) Develop the expanded use of categorical exclusions under [the National Environmental Policy Act] for offshore wind demonstration, testing, and small-scale projects; and
- 4) Require that the “hidden” costs of fossil-fueled energy be taken into account, along with the comparative life cycle impacts of competing energy sources, as part of [the National Environmental Policy Act’s] no-action alternative analysis and other regulatory reviews.¹³⁶

Legislatively, “[a]ny effort toward national-scale coordinated and streamlined review of offshore wind projects must also consider the separate state and local regulatory obstacles before a project can begin construction.”¹³⁷ For example, Thaler suggests state and local governments should “be prohibited from regulating on the basis of harm to wildlife if the proposed project follows federal guidelines and laws, such as the [Endangered Species Act], the [Marine Mammal Protection Act], and the [Migratory Bird Treaty Act].”¹³⁸ Similarly, federal law should bar consideration of visual impacts when evaluating the impacts of a proposed offshore wind project in federal waters, including any required interconnection and transmission infrastructure. Additionally, “[f]or an American offshore wind energy industry to be cost-competitive without strong government subsidies, a number of improvements are necessary . . . [including] the mitigation of contentiousness in the offshore planning process.”¹³⁹

135. Jeffrey Thaler, *Fiddling as The World Floods And Burns: How Climate Change Urgently Requires A Paradigm Shift In The Permitting Of Renewable Energy Projects*, 42 ENVTL. L. 1101 (2012).

136. *Id.* at 1142.

137. *Id.* at 1148.

138. *Id.*

139. Susskind and Cook, *supra* n. 19, at 215.

Removing state and local obstacles to interconnection will be an important part of expediting offshore wind buildout. To avoid regulatory uncertainty, though, this process should be done deliberately and should be led by the federal government. As Susskind and Cook document:

[s]tate and federal governments did not develop regulatory mechanisms for siting and permitting offshore wind until after developers had begun to propose specific projects. This meant that the early proposals faced a large amount of uncertainty as there were no defined processes for them to follow in securing necessary approvals, and government action came largely in response to the proposals of individual developers.¹⁴⁰

Susskind and Cook assert that this developer-driven approach is substantially responsible for the contentiousness directed at offshore wind projects.

As discussed in the Introduction to this paper, similar challenges face interstate transmission lines.¹⁴¹ Commentators on that topic generally have proposed two possible solutions to minimize state or local opposition to interstate transmission lines: a regional approach and a federal approach.¹⁴² In this section, I build on that work and argue that this concept should be extended to offshore wind interconnection infrastructure, because doing so would limit the ability of states or municipalities to hamper the development of necessary offshore wind energy infrastructure.

140. *Id.* at 216.

141. See, e.g., Annie Ropeik, *In Unanimous Vote, N.H. Supreme Court Upholds Northern Pass Denial*, NEW HAMPSHIRE PUBLIC RADIO (Jul. 19, 2019), <https://www.nhpr.org/post/unanimous-vote-nh-supreme-court-upholds-northern-pass-denial#stream/0> [<https://perma.cc/R5PB-C5YK>]; Edward D. Murphy, *Opponents of CMP power line have enough signatures for referendum, secretary of state says*, PORTLAND PRESS HEARALD (March 4, 2020).

142. This idea builds on the work of commentators who advocate for concentrating the permitting of interstate transmission lines with a regional or federal authority. See, e.g., Kevin Decker, *Allocating Power: Toward A New Federalism Balance For Electricity Transmission Siting*, 66 ME. L. REV. 229 (2013); Alexandra B. Klass, *The Electric Grid At A Crossroads: A Regional Approach to Siting Transmission Lines*, 48 U.C. DAVIS L. REV. 1895 (2015); Elena P. Vekilov, *If It's Broke, Fix It: Federal Regulation of Electrical Interstate Transmission Lines*, 2013 U. ILL. L. REV. 695 (2013). Extending this concept to include offshore wind interconnection infrastructure would be an elegant way to avoid state and local obstacles.

A. *Using Regional Transmission Organizations to Streamline Permitting for Offshore Wind Energy Interconnection Facilities*

Under a regional approach, Regional Transmission Organizations (RTOs)^{143, 144} could be given siting authority for offshore wind interconnection infrastructure that connects to an interstate transmission line. Regional Transmission Organizations “have a history of creating a forum for a diverse number of stakeholders, including state [Public Utility Commissions], utilities, consumer advocates, non-utility electricity providers, and local governments.”¹⁴⁵ Furthermore, with the exception of the Electric Reliability Council of Texas¹⁴⁶ and the federal government, Regional Transmission Organizations “are the only existing legal entity . . . with jurisdiction over a transmission grid, major population centers, and ample renewable energy resources.”¹⁴⁷ Providing Regional Transmission Organizations with the authority to permit offshore wind interconnection infrastructure would allow an expert body to more appropriately balance the energy needs of distant population centers against the local impacts of a small, but vital, piece of an offshore wind project.

As Klass admits, there are potential downsides to this approach. For one, Congress would need to authorize this scheme.¹⁴⁸ Further, because Regional Transmission Organizations are non-governmental entities, it is uncertain whether they could make regulatory decisions when they “do not own or operate transmission lines and thus would not be making decisions that impact their own interests directly, even if an RTO may indirectly benefit from a new line because it would ease congestion on a grid that it manages.”¹⁴⁹ Additionally, while Regional Transmission Organizations may have a history of facilitating diverse stakeholders, they are inherently

143. The Federal Energy Regulatory Commission “encouraged the voluntary formation of Regional Transmission Organizations to administer the transmission grid on a regional basis throughout North America.” FERC, “Regional Transmission Organizations (RTO)/Independent System Operators (ISO),” (Dec. 20, 2019), <https://www.ferc.gov/electric/power-sales-and-markets/rtos-and-isos> [<https://perma.cc/8CNA-FK9H>]. See also, Lincoln L. Davies, et al., ENERGY LAW AND POLICY 412 (2d ed.) (2018).

144. For the purposes of this paper, Regional Transmission Organizations and Independent System Operators will be treated synonymously.

145. Alexandra B. Klass, *The Electric Grid At A Crossroads: A Regional Approach to Siting Transmission Lines*, 48 U.C. DAVIS L. REV. 1895, 1949 (2015) [hereinafter Klass].

146. The Electric Reliability Council of Texas is unique as a Regional Transmission Organization in that it only serves a single state.

147. *Id.*

148. *Id.*

149. *Id.* at 1950.

less politically accountable than governmental agencies. Congress, therefore, may be hesitant to delegate authority to Regional Transmission Organizations, especially considering the contentious history of their creation.¹⁵⁰

B. Using the Federal Energy Regulatory Commission to Streamline Permitting for Offshore Wind Energy Interconnection Facilities

Alternatively, the Federal Energy Regulatory Commission could be given jurisdiction over siting offshore wind interconnection infrastructure that connects to interstate transmission lines under a framework similar to that used for natural gas pipelines. In fact, it is likely this is the only effective solution. Although Klass argues against this type of model, her article explains:

that there was a moment in time in the 1940s when natural gas, which for a century had been limited in its commercial use because of lack of transportation from well sites to cities, became a critical energy resource for the entire nation. At that time, Congress responded by creating a federal regulatory process to build the interstate pipeline network necessary to transport this resource after state regulatory authorities had blocked such pipelines.¹⁵¹

Similarly, given the climate crisis, a streamlined permitting regime is critical to expanding renewable energy generation. Like a regional approach, a federal regime would more appropriately balance national needs against local impacts. A federal “scheme would still require a developer to prove the ‘public interest’ of the line’s construction, but the determination would depend on considerations of regional and national interests—the overall ‘public’ and not just the ‘public’ of state citizens, as under the current scheme.”¹⁵² Vekilov elaborates: “the state forum is best able to hear local concerns cheaply, but this comes at the price of increasingly powerful state interest groups that promote protectionist views of electrical transmission, harming neighboring states and potentially the whole nation in the process.”¹⁵³ An additional advantage of

150. Davies et al., *supra* n. 143, at 412.

151. Klass, *supra* note 145, at 1898.

152. Elena P. Vekilov, *If It’s Broke, Fix It: Federal Regulation of Electrical Interstate Transmission Lines*, 2013 U. ILL. L. REV. 695, 737 (2013) [hereinafter Vekilov]; *see also* Michael Diamond, *Energized Negotiations: Mediating Disputes over the Siting of Interstate Electric Transmission Lines*, 26 OHIO ST. J. ON DISP. RESOL. 217, 238-39 (2011).

153. Vekilov, *supra* n. 152, at 747.

this system is bureaucratic streamlining.¹⁵⁴ Furthermore, although Congressional action is needed to create this scheme, there is a history of expanding federal power in this area.¹⁵⁵

Yet, as with all policy solutions, there are downsides to this approach. State autonomy is reduced, although state and municipal governments would, of course, still be able to weigh in on proposed projects.¹⁵⁶ And, although the bureaucratic process would be streamlined, the Federal Energy Regulatory Commission itself is still a large bureaucracy.¹⁵⁷ Additionally, with federal action comes National Environmental Policy Act requirements and potential Environmental Impact Statements; although any offshore wind project in federal waters is already subject to these requirements—the interconnection infrastructure could simply be added to the project’s footprint.

The environmental and land use concerns provide an interesting tension. On the one hand, and from this author’s perspective, environmental assessments are good: society should pay attention to projects’ environmental impacts and work to mitigate those impacts. But the climate crisis demands urgent action, and environmental assessments are notorious for gumming up and killing projects, even those with climate benefits. One potential solution to this particular problem is expanding the federal workforce that conducts these assessments to allow for thorough, but timely, assessments.

For wind energy, whether onshore or offshore, this tension is further exacerbated by a definitional problem: is a project’s visual or aesthetic impact an environmental concern or a social/political/economic one? It is important to distinguish between environmental concerns and social concerns. State and federal governments already have a robust regulatory system designed to minimize environmental impacts, and it is important for that system to continue to do so, as just discussed: the energy cure should not be worse than the climatic disease. But that same urgency must lead policy makers to minimize the disruptiveness of some social concerns, by which I primarily mean economic and aesthetic concerns. As for economics, many clean energy projects are cost competitive or even cheaper than many fossil fuel projects at present. But even those clean energy projects that are more expensive should continue to receive government support—not born by ratepayers, but, ultimately, by either state or federal taxpayers. And with regard to aesthetic, or visual,

154. *Id.* at 746.

155. *Id.* at 740.

156. *Id.* at 748.

157. *Id.* at 750.

impacts—frankly, with few exceptions, they do not hold a candle to the importance of reducing carbon emissions. For offshore wind projects in federal waters, they should be no concern, because the visual impact is so slight. For projects in state waters, visual impacts will be a concern. As Susskind and Cook noted with regard to generation assets, “a fragmented and changing system of regulatory oversight . . . has left the project developer with a high level of uncertainty and has provided multiple legal and regulatory avenues for critics to exploit in their opposition to the project.”¹⁵⁸ For projects in both state and federal waters, however, interconnection presents yet another regulatory quagmire, an additional opportunity for project opponents to present additional legal challenges.

Removing the decision making to the federal level limits the impact of those challenges. A federal regulatory approach is best suited to make the permitting process for offshore wind interconnection infrastructure more efficient. These proposals—whether at the state, regional or federal level—have several attributes in common. All require legislative action that reduces local autonomy and are likely to be unpopular at the local level. Facing the same burdens, a federal solution has clear benefits that state and regional alternatives lack. These interconnection points have a national impact¹⁵⁹ and national benefits, particularly in the climate context. A federal authority, such as the Federal Energy Regulatory Commission, is better suited to value a project’s national benefits than a state authority. The Federal Energy Regulatory Commission is also more politically accountable than a Regional Transmission Organization. And a federal permitting scheme can be based on that for siting natural gas pipelines, which the Federal Energy Regulatory Commission already does. This avoids having to create regulations for several regional bodies that have never done this work before.

CONCLUSION

Part I of this paper provided background information on the climate crisis and U.S. electric generation from wind; how and how much of the Atlantic coast’s wind resource can be harnessed; and some key offshore wind projects that highlight the industry’s impacts on fisheries and aesthetics. Part II provided an overview of the federal and state regulatory regimes for offshore wind development and exposed the gaps in these regimes with regard to interconnection infrastructure. Part III analyzed Maine’s regulatory regime and identified potential avenues for further

158. Susskind and Cook, *supra* note 19, at 217.

159. *Federal Power Commission v. Florida Power & Light, Co.*, 404 U.S. 453 (1972).

incentivizing the development of interconnection infrastructure in Maine. And Part IV argued that a federal approach to siting and permitting interconnection infrastructure will provide greater certainty to the offshore wind industry as a whole, which is crucial for the nation to meet its Balkanized climate reduction goals.

Statutes such as the one found in Maine's Land Use and Planning title that prohibit municipalities from blocking the landing of an offshore interconnection cable are an effective way to encourage a single state's development of its offshore wind resource. However, to fully mitigate the worst effects of the climate crisis, every state will need to quickly and efficiently encourage the development of carbon-free energy generation sources—for the coastal and Great Lakes states, that includes offshore wind development. While there are legitimate arguments that offshore wind development can do more harm than good in particularly environmentally sensitive locations, public outcry against reasonable energy generation and transmission projects in recent years suggests that projects are often not given a fair chance to succeed. This undermines certainty for the industry and prevents individuals, states, and the nation as a whole from taking action to reduce the harmful climate effects of continuing to burn fossil fuels for energy. Such a crazy quilt of state laws is an inefficient means to this end. Instead, Congress should authorize a federal agency, such as the Federal Energy Regulatory Commission, to oversee all aspects of offshore wind interconnection. A federal authority is better suited to value a project's national benefits than is a state authority, and these projects have increasingly important national impacts and benefits given the climate crisis.

