

6-2019

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Marine Affairs Institute, Roger Williams University School of Law

Jourdan Thompson
Rhode Island Sea Grant Law Fellow

Read Porter
Senior Staff Attorney, Marine Affairs Institute, Roger Williams University School of Law, rporter@rwu.edu

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Recommended Citation

Marine Affairs Institute, Roger Williams University School of Law; Thompson, Jourdan; and Porter, Read, "Takings Implications of Offshore Wind Energy Development" (2019). *Sea Grant Law Fellow Publications*. 93.
https://docs.rwu.edu/law_ma_seagrant/93

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Takings Implications of Offshore Wind Energy Development

June 2019

This study is a product of the Marine Affairs Institute at Roger Williams University School of Law and the Rhode Island Sea Grant Legal Program. Jourdan Thompson, Rhode Island Sea Grant Law Fellow, conducted research and drafting under the guidance of Read Porter, Senior Staff Attorney. All errors and omissions are the responsibility of the Marine Affairs Institute. This study is provided only for informational and educational purposes and is not legal advice.

This study reviews the potential takings liability associated with government development of wind turbine projects in offshore areas. It begins by introducing the development of the offshore wind industry in the U.S. and the benefits and potential impacts associated with this industry. Section 2 explains and evaluates potential takings claims under each of four theories: (1) direct appropriation or physical invasion; (2) categorical takings; (3) partial takings; and (4) nuisance takings. Section 3 concludes.

1 Expansion of Offshore Wind Energy Development

Wind energy has been expanding both in the United States and internationally.¹ By 2015, wind energy provided 4.7% of the total electricity generated in the United States, with continuing gains expected.² This expansion has been driven by environmental factors, such as interest in greenhouse gas reduction, as well as economic forces, such as energy price stability and job creation.³ However, wind energy also has drawbacks that affect the use and enjoyment of neighboring properties, such as aesthetic impacts, economic impacts (e.g., decreased property values), electromagnetic interference, noise, shadow flicker, and ice throwing.⁴ These impacts may undermine support for wind energy projects among local communities and, in some cases, may lead to court challenges seeking compensation.

While much of the expansion of U.S. wind energy has occurred on land to date, the industry is beginning to develop in offshore areas. In December 2016, The Block Island Wind Farm (BIWF)

¹ See generally Lauha Fried et al., *Growth Trends and the Future of Wind Energy*, in WIND ENERGY ENGINEERING 559 (2016).

² *Id.* §§ 26.1.2, 26.3.

³ *Id.* § 26.1; U.S. DEP'T OF ENERGY, [COMMUNITY WIND BENEFITS](#) (2012).

⁴ NATIONAL RESEARCH COUNCIL, [ENVIRONMENTAL IMPACTS OF WIND-ENERGY PROJECTS](#) 140-179 (2007) (summarizing impacts to humans). Shadow flicker is “moving shadows on the ground resulting in alternating changes in light intensity” caused by turbine rotation. *Id.* at 160. “Wind turbine icing, especially ice build-ups on rotor blades, causes risk of ice throw which in turn can cause injuries to humans or damages to property.” Tomas Wallenius & Ville Lehtomäki, *Overview of Cold Climate Wind Energy: Challenges, Solutions, and Future Needs*, 5 WIRE ENERGY & ENV'T 128, 131 (2016).



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became the first offshore wind farm of its kind in the United States.⁵ The success of this venture has encouraged additional investments in offshore wind projects in federal waters. For example, a December, 2018, lease sale off of Massachusetts attracted \$405 million in sales for three lease areas covering 390,000 acres.⁶ The growth of nearshore and offshore wind energy raises questions regarding the impacts of these projects and potential legal challenges to these projects.

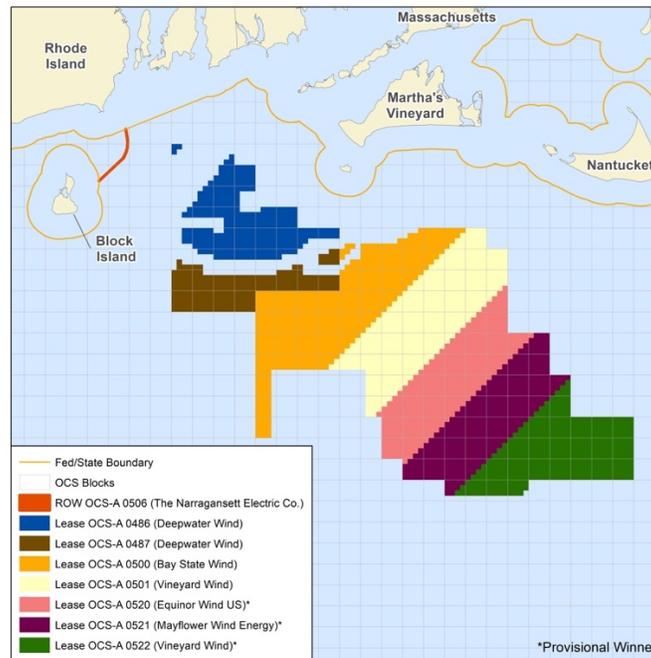


Figure 1. Federal Renewable Energy Leases off Rhode Island and Massachusetts.⁷

Offshore wind facilities require approval from the state and/or federal government. States own submerged lands out to three miles from shore in trust from the public pursuant to the Submerged Lands Act.⁸ The federal government has jurisdiction over and can issue leases for renewable energy projects on submerged lands of the Outer Continental Shelf, from 3-200 nautical miles from shore.⁹ Wind energy projects require a lease from the relevant jurisdiction to the developer, along with required permits, before work can begin.¹⁰ The state and federal governments therefore exert substantial control over whether and how wind energy occurs in marine areas. If these projects

⁵ Deepwater Wind, *Block Island Wind Farm: America's First Offshore Wind Farm*, <http://dwwind.com/project/block-island-wind-farm/> (last visited Mar. 29, 2019).

⁶ Jon Chesto, *Offshore Wind Auction Draws Huge Interest and Big Money*, BOSTON GLOBE, Dec. 14, 2018; BOEM, MASSACHUSETTS ACTIVITIES, <https://www.boem.gov/state-activities-massachusetts/>.

⁷ BOEM, MASSACHUSETTS ACTIVITIES, <https://www.boem.gov/state-activities-massachusetts/>.

⁸ ENVIRONMENTAL LAW INSTITUTE, SITING WIND FARM FACILITIES ON STATE-OWNED LANDS AND WATER 15 (2011); 43 U.S.C. § 1311.

⁹ Jacqueline S. Roller, *Offshore Wind Energy in the United States: Regulations, Recommendations, and Rhode Island*, 15 ROGER WILLIAMS UNIV. L. REV. 217, 220-23 (2010) (examining regulatory structure); 43 U.S.C. § 1337(p).

¹⁰ See ENVIRONMENTAL LAW INSTITUTE, *supra* note 8, at 15 (discussing

injure other parties, governments could be subject to liability for these injuries. This study considers these claims by evaluating past claims associated with other types of energy generation facilities.

2 Potential Takings Claims Associated with Offshore Wind

The United States Constitution and state constitutions prohibit the government from taking private property for public use without paying just compensation.¹¹ The takings clause of the 5th Amendment “prevents the public from loading upon one individual more than his just share of the burdens of government, and says that when he surrenders to the public something more and different from that which is exacted from other members of the public, a full and just equivalent shall be returned to him.”¹² The takings clause only applies if a plaintiff has a valid property interest affected by the government action.¹³ While taking of real, personal, and intangible property can all result in liability, the takings clause does not apply to interests that lack “crucial indicia of a property right” (including fishing permits and licenses)¹⁴ or that are not recognized by law (such as the “right to a view” in Rhode Island or the right to conduct activities that constitute a nuisance¹⁵). However, government actions that deprive a person of a valid property right may result in claims and require the payment of compensation.

The Supreme Court has recognized several categories of takings. “Direct appropriation” of property through condemnation has long been considered a taking.¹⁶ Takings can also result from a lesser government action that “goes too far.”¹⁷ Government actions that “compel the property owner to suffer a physical ‘invasion’ of his property” are considered takings,¹⁸ as are regulations that “den[y] all economically beneficial or productive use of land.”¹⁹ There is no “set formula” for whether other regulation goes too far; rather, the Court evaluates cases alleging regulatory takings by balancing the impacts of the regulation using a three-part test.²⁰ Finally, a taking may result from actions on government land that are akin to a nuisance. This section considers the potential for offshore wind takings claims to arise under each of these theories.

¹¹ U.S. CONST. amend V (“nor shall private property be taken for public use, without just compensation”); R.I. CONST. art. 1, § 16.

¹² *Monongahela Nav. Co. v. U.S.*, 148 U.S. 312, 325 (1893).

¹³ *Wyatt v. U.S.*, 271 F.3d 1090, 1096 (Fed. Cir. 2001) (“It is axiomatic that only persons with a valid property interest at the time of the taking are entitled to compensation.”).

¹⁴ *Amer. Pelagic Fishing Co. v. U.S.*, 379 F.3d 1363, 1374 (Fed. Cir. 2004) (quoting *Conti v. U.S.*, 291 F.3d 1334, 1341 (Fed. Cir. 2002)).

¹⁵ *Palazzolo v. State*, No. WM 88-0297, 2005 WL 1645974 (R.I. July 5, 2005) (finding that title to property did not include right to develop parcel in a way that would constitute a public nuisance and noting that there is no right to a water view).

¹⁶ *Legal Tender Cases*, 79 U.S. 457, 551 (1870).

¹⁷ *Penn. Coal Co. v. Mahon*, 260 U.S. 393, 416 (1922).

¹⁸ *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1015 (1992) (citing *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982)).

¹⁹ *Id.*

²⁰ *Penn. Central Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978).

2.1 Takings by Direct Appropriation or Physical Invasion

A physical taking could occur with offshore wind turbines as a result of bringing power to shore. Power from turbines must be connected to the power grid through a cable, which can require temporary occupation or permanent condemnation of property on the shore.²¹ For example, BIWF is connected to Block Island and the mainland by power cables, which come to shore at Crescent Beach in New Shoreham and Scarborough State Beach in Narragansett.²² The beaches used for onshoring in this case are not privately owned, but subsequent projects could hypothetically be onshored on private lands, resulting in a need to pay compensation.

Alternatively, wind turbine development could be challenged if turbines cause debris to invade neighboring property. For example, one plaintiff has alleged a physical taking arising from a wind turbine in at least one case as a result of ice throwing.²³ While the claim was dismissed without analysis, such impacts could theoretically arise in more robust form in the future. However, such claims are unlikely for offshore turbines, which are constructed far enough from neighboring property that ice throwing or other direct impacts to privately owned lands are unlikely.

2.2 Categorical Takings

Categorical takings occur “where regulation denies all economically beneficial or productive use of land.”²⁴ Categorical takings claims are rarely successful because government land use actions rarely leave property “economically idle.”²⁵ Categorical takings claims against approval of wind projects thus face a difficult evidentiary burden. Nonetheless, one plaintiff has alleged a categorical taking resulting from wind development authorization on neighboring property. In *Muscarello v. Ogle County Board of Commissioners*, the plaintiff owned land adjacent to a proposed wind farm site.²⁶ She alleged that Ogle County’s zoning ordinance amendment allowing special use permits for the construction of wind turbines effectuated a taking of her property due to “uncompensated adverse consequences for her and her fellow nonresidential property owners.”²⁷ Despite the landowner’s lengthy list of alleged harms, the Seventh Circuit Court of Appeals summarily rejected this argument: “Muscarello would have us turn land-use law on its head by accepting the proposition that a regulatory taking occurs whenever a governmental entity lifts a restriction on someone’s use of land. We see no warrant for such a step.”²⁸ Thus, while wind turbines may have impacts on nearby properties, such

²¹ ENVIRONMENTAL LAW INSTITUTE, DELAWARE OFFSHORE ALTERNATIVE ENERGY FRAMEWORK REVIEW & RECOMMENDATIONS 13, 15 (2011).

²² NATIONAL GRID, SEA2SHORE, PROJECT OVERVIEW <https://sea2shoreri.com/project-overview/>; Rick Laezman, *Undersea Cable Delivers Power from First U.S. Offshore Wind Project*, Sept. 2016, <https://www.ecmag.com/section/your-business/undersea-cable-delivers-power-first-us-offshore-wind-project>

²³ *Muscarello v. Ogle Cnty. Bd. Of Comm’rs*, 610 F. 3d 416, 419 (7th Cir. 2010) (reviewing claims by property owner, but not evaluating physical occupation claim).

²⁴ *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1015 (1992)

²⁵ *Id.* at 1019; *see also* *Palazzo v. Rhode Island*, 533 U.S. 606, 631 (2001) (“A regulation permitting a landowner to build a substantial residence on an 18-acre parcel does not leave the property ‘economically idle.’”); *Gove v. Zoning Bd. Of Appeals of Chatham*, 831 N.E.2d 865, 872-73 (Mass. 2005) (\$23,000 value of property and allowed uses other than residence did not leave property ‘economically idle’).

²⁶ 610 F. 3d 416 (7th Cir. 2010).

²⁷ *Id.* at 418.

²⁸ *Id.* at 421-22.

as shadow flicker and noise, that can affect property value, these effects are unlikely to render a landowner's property completely valueless under the *Lucas* standard.²⁹

2.3 Partial Takings

Regulations that are not categorical takings may nonetheless take property under a “partial takings” theory. Such a claim could hypothetically arise in a wind energy context based on an allegation that approval of a development reduces, but does not eliminate, the value of neighboring property. While it would hypothetically be possible to allege a partial taking caused by wind energy development, research for this study revealed no such claims to date.³⁰ Moreover, the available evidence on the impacts of wind energy development suggest that such claims would be unlikely to succeed if brought.

Partial takings claims are evaluated under a three-part balancing test set out by the Supreme Court in *Pennsylvania Central Transportation Co. v. City of New York*.³¹ These three factors include: (1) the regulation's economic impact on the land owner; (2) the extent to which the regulation interferes with investment-backed expectations; and (3) the character or extent of the government action.³² While none of these factors alone is “dispositive” of a taking, the courts will evaluate each of them to determine whether a government action has taken private property.³³

Application of the *Penn. Central* factors to wind energy suggests that approval of a wind project will not support a viable taking claim. First, wind turbines cause minimal or positive economic impacts on neighboring properties. For example, recent studies have determined that the Block Island Wind Farm has had a positive effect on tourism revenue on the island.³⁴ Further, onshore wind turbines, which are much closer to private property, have been shown to have minimal impacts on house prices.³⁵ These impacts, even if greater on specific properties, are far less severe than property value reductions that were not takings.³⁶ Second, wind development is unlikely to interfere with investment-backed expectations, as actions on government-owned lands do not restrict the use of neighboring properties. Third, wind projects are likely to be considered a “public program adjusting the benefits and burdens of economic life to promote the common good” and therefore not of a

²⁹ See COREY LANG & JAMES OPALUCH, [EFFECTS OF WIND TURBINES ON PROPERTY VALUES IN RHODE ISLAND](#) 4 (2013) (finding no statistically significant effect of onshore wind turbines on property values).

³⁰ The plaintiff in *Muscarello* could have, but did not, allege a partial taking. See *Muscarello v. Ogle Cnty. Bd. Of Comm'rs*, 610 F. 3d 416 (7th Cir. 2010)

³¹ 438 U.S. 104 (1978).

³² *Id.* at 124.

³³ *Palazzo v. Rhode Island*, 533 U.S. 606, 634 (2001).

³⁴ Andrew Carr-Harris & Corey Lang, *Sustainability and Tourism: The Effect of the United States' First Offshore Wind Farm on the Vacation Rental Market*, 57 RESOURCE & ENERGY ECON. 51 (2019).

³⁵ COREY LANG & JAMES OPALUCH, [EFFECTS OF WIND TURBINES ON PROPERTY VALUES IN RHODE ISLAND](#) 4 (2013) (“Across a wide variety of specifications, the results indicate that wind turbines have no statistically significant impact on house prices Our principle [*sic*] finding is that the best estimate is that there is no price effect, and we can say with 90% level of confidence if there is a price effect, it is roughly 5.2% or less.”).

³⁶ *Euclid v. Ambler Realty Co.*, 272 U.S. 365, 384 (1926) (holding that a zoning restriction resulting in a 75% diminution in value was not a taking).

character that would give rise to a taking.³⁷ As none of the three factors suggests a taking, it appears unlikely that offshore wind projects would result in a successful partial takings claim—which may explain the lack of reported cases alleging such claims.

2.4 Nuisance Takings

A takings claim against the government for authorization of offshore wind development could follow a third line of cases that are similar to private nuisance claims.³⁸ A plaintiff could argue a takings claim on grounds similar to a private nuisance. The Supreme Court has held “under the 5th Amendment, . . . that while the legislature may legalize what otherwise would be a public nuisance, it may not confer immunity from action for a private nuisance of such character as to amount in effect to a taking of private property for public use.”³⁹ A plaintiff could allege that the government’s development of a wind energy project on its own property “interfere[s] with the ability of other owners to use and enjoy their properties.”⁴⁰ If so, the government would be required to pay compensation under the 5th Amendment.

To prevail on a nuisance taking theory, plaintiffs would need to satisfy the test set out in *Richards v. Washington Terminal Co.*⁴¹ In that case, smoke, cinders, and gases from a train tunnel near the plaintiff’s property contaminated the air to the point where plaintiff’s house was deemed inhabitable, and vibration from the trains’ movement cracked the walls, broke windows and “disturb[ed] the peace and slumber of occupants.”⁴² The Court held that a government action must place a “direct and peculiar and substantial” burden on a property owner to be a taking.⁴³ In other words, an activity must cause specific harm to an individual, and that harm must be different from that caused incidentally to the public as a whole.⁴⁴ Moreover, the harm must be substantial. Courts have differed on the degree of harm required, but a recent article suggests that it is greater than required to prevail in a tort claim for nuisance:

[I]t makes sense not to equate the mere existence of a nuisance with the presence of a taking. Such an approach . . . simply collapses the nuisance analysis into the takings determination with problematic consequences. At the same time, however, owners . . . should not be required to demonstrate that their property lacked all economically viable use There is a difference, after all, between a substantial and a complete interference with the use and enjoyment of property. The magnitude of the harm

³⁷ Penn. Central Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978); see also In re Review of Proposed Town Of New Shoreham Project, 25 A.3d 482, 488-89 (R.I. 2011) (characterizing policy basis for state renewable energy legislation).

³⁸ Carlos A. Ball, *The Curious Intersection of Nuisance and Takings Law*, 86 B.U. L. REV. 819, 820 (2016). A private nuisance is “a nontrespassory invasion of another’s interest in the private use and enjoyment of land.” RESTATEMENT (SECOND) OF TORTS § 821D (1979).

³⁹ *Richards v. Wash. Terminal Co.*, 233 U.S. 546, 553 (1914).

⁴⁰ Ball, *supra* note 38, at 820.

⁴¹ 233 U.S. 546 (1914).

⁴² *Id.* at 550.

⁴³ *Id.* at 557 (1914).

⁴⁴ Ball, *supra* note 38, at 827-30.

required in a nuisance/takings case, then, should lie between that required to make out a nuisance claim and that which would deprive the owner of all economically viable use of the property.⁴⁵

While a nuisance-takings analysis neatly fits the facts of wind development on public lands, there is little relevant case law. Nuisance takings claims have arisen in cases dealing with activities such as railroads, landfills, sewage treatment plants, and airports—but never, to date, in the context of a wind project.⁴⁶ However, consideration of nuisance claims against wind turbines can illustrate the potential application of this theory.

A wind turbine has been ruled a nuisance in at least one case to date. In *Falmouth v. Falmouth Zoning Bd. Of Appeals*, the court held that two town-owned wind turbines were a nuisance and ordered them to halt.⁴⁷ The nuisance claim was raised by the Funfars, neighbors to the town-owned turbines, who alleged harms from turbine noise including stress, anxiety, insomnia, and nausea, and deprivation of the use and enjoyment of their land as they could not stand to be outside for extended periods.⁴⁸ The court did not find a reduction in property value, but it nonetheless upheld the decision of the Zoning Board of Appeals that the “wind turbines and the consequent sound emissions constitute a substantial and unreasonable interference with the Funfars’ enjoyment of their property and constitute a nuisance.”⁴⁹ This case suggests that, at least in cases where turbines are located close to private properties, they can meet the legal standard to be considered a private nuisance.

Circumstances similar to the *Falmouth* case could potentially satisfy the *Richards* test for takings claims if they were considered “direct and peculiar and substantial.”⁵⁰ The court in *Falmouth* accepted that the harm was directly caused by the turbine, and it was peculiar to their particular property rather than being shared by the public as a whole. On the other hand, it is not clear that the harm was sufficiently substantial to satisfy a takings analysis, given that the property values were unaffected by the noise and the threshold for harm in a takings case is likely to be higher than in a tort action for nuisance. Thus, while turbine claims could potentially satisfy a takings/nuisance analysis in certain cases, those cases are likely to involve substantial fact-finding and require particularized showing of individual impacts to the plaintiff’s property.

Nuisance takings claims against offshore wind projects are unlikely to satisfy the *Richards* test. In addition to the difficulty in proving “substantial” harm to property, plaintiffs in offshore cases would struggle to show that a distant turbine caused those damages “directly.” The most “peculiar” impacts of turbines, such as ice throwing, shadow flicker, and noise, are also unlikely to be felt acutely at a distance. For example, BIWF is located 3.8 miles from Block Island and is easily visible

⁴⁵ *Id.* at 861.

⁴⁶ *Id.* at 821.

⁴⁷ *Town of Falmouth v. Falmouth Zoning Board of Appeals*, 34 Mass. L. Rptr. 408 (Mass. Super. Ct. 2017).

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Richards v. Wash. Terminal Co.*, 233 U.S. 546, 557 (1914).

from shore,⁵¹ the wind farm does not shadow and is not easily heard from the island. In these circumstances, relevant impacts are likely to be aesthetic and focused on effects on property values, which are less likely to be “peculiar” to individual property owners. Therefore, it is difficult to identify potential facts under which an offshore wind project could satisfy the *Richards* test.

3 Conclusion

Interest in wind energy is growing for environmental and economic reasons, including in offshore areas off Rhode Island. While wind energy is supported for its sustainability, it may cause a range of impacts to neighboring properties. Affected neighbors therefore may seek compensation for the alleged injuries, including by alleging violations of the takings clause. While rare, a few plaintiffs have brought takings claims against wind farm developments. These cases have not been successful to date, however, and their applicability to offshore wind development is limited. Past cases have been based primarily on impacts on properties directly adjacent or geographically close to turbines, which is not applicable to turbines located in offshore areas. In addition, takings claims are based on harm to property as a result of government action. While one case has successfully alleged a nuisance from turbine noise impacts, the court did not find any impact on property values. The evidence to date suggests that turbines have minimal or even positive impacts on property values in Rhode Island, which would pose a substantial barrier to takings claims by landowners alleging aesthetic or other injuries. Takings liability therefore may not be a substantial concern during the development of offshore wind projects.

⁵¹ DEEPWATER WIND, [ENVIRONMENTAL REPORT/CONSTRUCTION AND OPERATIONS PLAN](#) 3-1 (project site), 4-160-173 (acoustic impacts), 4-191-201 (visual impacts) (2012).