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Our Biggest Fans: Nuisance Immunity for Grid-Scale Wind Energy Projects in Maine

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ABSTRACT

Global climate change and its attendant impacts threaten to change life on Earth as we know it. The sea level rise that comes with rising temperatures is an issue of particular importance to coastal states like Maine. Thankfully, continued investment in renewable energy technology is beginning to make certain renewable energy sources competitive with their nonrenewable counterparts. This Comment highlights wind energy as a particularly effective option for meeting Maine's energy needs while significantly reducing the harmful greenhouse gas emissions that contribute to climate change.

Despite its many benefits, wind energy technology still has its detractors. Wind energy projects (especially the grid-scale projects needed to meet Maine's energy needs) are sometimes still associated with undesirable impacts. However, improved technology and careful regulation have significantly reduced the likelihood that such impacts are felt by neighboring landowners. Regardless, nuisance claims remain available to those who believe that a wind energy project unreasonably interferes with their use and enjoyment of their property. The availability of these claims hinders further development—as the threat of litigation can scare off investors or make it difficult to predict project costs.

This Comment highlights the effectiveness of Maine's regulatory framework for mitigating the adverse impacts of wind energy projects, as well as the low likelihood that a successful nuisance claim could be brought against a properly permitted wind energy project under Maine law. As a result, this Comment urges the Maine Legislature to pass legislation barring nuisance claims against wind energy projects that comply with applicable regulations. A legislative measure of this kind would improve investor confidence and encourage further wind energy development in the state, helping Maine meet its energy needs while curtailing its contributions to climate change.

INTRODUCTION

There is some debate over whether climate change is a properly existential threat, but regardless of whether the continuation of the human race itself is at stake, science indicates that practically everything about our lives will dramatically change.[1] Scientists have long had to combat dissenting voices that say climate

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1. *See* Kelsey Piper, *Is Climate Change an "Existential Threat" – Or Just a Catastrophic One?*, VOX, https://www.vox.com/future-perfect/2019/6/13/18660548/climate-change-human-civilization-existential-risk [https://perma.cc/WMM3-4TNA].

change is just a continuation of our planet's natural climate cycle,[2] but a recent report from the United Nations' Intergovernmental Panel on Climate Change (IPCC) illustrates that the international scientific community has reached the consensus opinion that the human race is to blame for the current, unprecedented rise in global temperatures.[3]

The geography of the State of Maine places it at high risk of catastrophic environmental and economic consequences from one of climate change's most worrisome symptoms—global sea level rise.[4] Any one state's individual efforts will be insufficient to halt or significantly slow the oceans' creeping ascent up our beaches.[5] But, Maine's legislature has staked its claim to regional clean energy leadership through passage of the Wind Energy Act (WEA), the Expedited Permitting of Grid-Scale Wind Energy Development Act (hereinafter, the "Expedited Permitting Act"), and an ambitious Renewable Portfolio Standard (RPS) that calls for 100% of electricity sold in-state to come from renewable resources by 2050.[6]

Wind energy presents the lowest cost-for-value method of generating electricity without burning fossil fuels and significantly contributing to global climate change, and Maine has taken great strides towards promoting its development.[7] However, the availability of private nuisance actions against the owners and operators of these facilities disincentivizes development by introducing uncertainty and risk into project planning.[8] Part I of this Comment explores the mechanics of wind energy, the current state of the industry in Maine, and the legislative steps the state has taken to promote development. Part II discusses the disincentive created by the continued availability of nuisance actions, how grid-scale wind energy projects would fare against such a claim in Maine, and how the legislature could act to remove this disincentive while still protecting Mainers' use and enjoyment of their properties.

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2. *See generally* Howard Lee, *How Earth's Climate Changes Naturally (and Why Things Are Different Now)*, QUANTAMAGAZINE (July 21, 2020), https://www.quantamagazine.org/how-earths-climate-changes-naturally-and-why-things-are-different-now-20200721/ [https://perma.cc/SV64-YL7R] (explaining why the current increase in global temperatures is different than other global heating trends in the past).

3. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS 4 (Valérie Masson-Delmotte et al. eds., 2021) (presenting the latest physical science on climate change)

4. *See Effects of Sea-Level Rise on Maine*, NAT. RES. COUNCIL OF ME., https://www.nrcm.org/programs/climate/global-warming-air-pollution/sea-level-rise-maine/ [https://perma.cc/GLH5-9PUN].

5. *Cf.* IPCC, *supra* note 3, at 21 (implying that even worldwide collective effort would be insufficient to reverse "changes in the ocean, ice sheets and global sea level" caused by greenhouse gas emissions).

6. *See* 35-A M.R.S. §§ 3401–3406 (2022) (WEA); 35-A M.R.S. §§ 3451–3459 (2022) (Expedited Permitting Act); 35-A M.R.S. § 3210 (2022) (RPS).

7. *See infra* Sections I.D, I.H.

8. *See infra* Section II.C.

I. BACKGROUND

A. The Mechanics of Wind Energy

Wind is caused by uneven solar heating of the atmosphere and the shape of the earth.[9] The sun warms the Equator more than it does the earth's poles, causing differential pressure.[10] As low-pressure equatorial air rises and moves towards the poles, cool high-pressure air rushes towards the Equator to fill that space.[11] The human race has been harnessing the wind for productive use since 5000 BC when ancient Egyptian people used it to move their boats along the Nile River.[12] By 200 BC, China was using wind to power its water pumps, while Persia and other Middle Eastern civilizations used early windmill technology to grind grain.[13] Merchants and crusaders eventually brought the technology to Europe,[14] and in 1887, in Glasgow, Scotland, James Blyth constructed the first wind turbine used for generating electricity.[15]

Blyth's turbine was a primitive version of a vertical-axis turbine,[16] but most wind turbines in use today are horizontal-axis turbines, which resemble airplane propellers.[17] Horizontal-axis wind turbines are designed to pivot, so they can always face into the wind, and the two sides of their blades are designed to experience an air pressure differential when struck by moving air—creating lift and drag.[18] The lift is stronger than the drag, so the aerodynamic force causes the rotor at the center of the blades to spin, which, in turn, spins a generator and produces electricity.[19]

Wind turbines generally require wind speeds between six and nine miles per hour in order to operate (referred to as the "cut-in" speed), but "[a]s wind speeds increase, so does electricity production."[20] The consistency and speed of wind varies based on factors such as proximity to water bodies, the presence of

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9. Off. of Energy Efficiency & Renewable Energy, *How Do Wind Turbines Work?*, ENERGY.GOV, https://www.energy.gov/eere/wind/how-do-wind-turbines-work [https://perma.cc/X232-69HD] [hereinafter *How Do Wind Turbines Work?*].

10. *Wind*, NAT'L GEOGRAPHIC, https://www.nationalgeographic.org/encyclopedia/wind/ [https://perma.cc/7ZCF-VHT5?type=image].

11. *Id.*

12. *Wind Explained: History of Wind Power*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/wind/history-of-wind-power.php [https://perma.cc/7RSC-HPY5] [hereinafter *Wind Explained*].

13. *Id.*

14. *Id.*

15. Niki Nixon, *Timeline: The History of Wind Power*, THE GUARDIAN (Oct. 17, 2008), https://www.theguardian.com/environment/2008/oct/17/wind-power-renewable-energy.

16. *James Blyth (1838-1906)*, UNIV. OF EDINBURGH (Oct. 30, 2018), https://www.ed.ac.uk/alumni/services/notable-alumni/alumni-in-history/james-blyth. *See generally Wind Explained*, *supra* note 12 (explaining the relevant differences between horizontal-axis and vertical-axis wind turbines).

17. *Wind Explained*, *supra* note 12.

18. *How Do Wind Turbines Work?*, *supra* note 9.

19. *Id.*

20. *Wind Power Facts*, AM. CLEAN POWER, https://cleanpower.org/facts/wind-power/ [https://perma.cc/AV4M-YFK5] (requires reader to click on "How much wind is needed for a wind turbine to function?" under the "Frequently Asked Questions" section). Turbines also have a "cut-out" speed (around fifty-five miles per hour) at which continued operation presents a high risk of failure. *Id.*

obstructive vegetation, and other differences in surrounding terrain.[21] Because turbine viability at a particular site depends on developers' ability to assess the wind resource, the United States Department of Energy's (DOE) Wind Energy Technologies Office (WETO) performs national assessments of wind resources for developers to reference.[22] Since winds are generally stronger and more consistent at higher altitudes, and longer blades enable turbines to capture more of it,[23] manufacturers have significantly increased turbines' rotor diameter and hub height over the years.[24] In 2021, the average hub height for grid-scale, land-based turbines reached ninety-four meters—66% higher than it was between 1998 and 1999.[25] With an average rotor diameter of 127.5 meters, some of these new turbines can now access wind resources over 150 meters from the ground.[26]

At 164,000 gigawatt hours per year, Maine has only the thirty-fourth highest potential annual wind generation in the continental United States.[27] However, it has the third highest potential annual wind generation of any state on the Atlantic Ocean and almost twice as much as the rest of New England combined.[28] According to maps prepared by the National Renewable Energy Laboratory (NREL), very few parts of Maine have wind speeds at one hundred meters above surface level that average below approximately thirteen miles per hour, which means that standard wind turbines can operate effectively in most parts of Maine.[29] Most of northern Maine and all of the state's coastline has approximate average wind speeds between seventeen and twenty-three miles per hour.[30] Furthermore, the hilly parts of western and central Maine have approximate average wind speeds between twenty-three and twenty-seven miles per hour.[31] Since areas with average wind speeds of nine miles per hour or more are considered good sites for land-

21. *How Do Wind Turbines Work?*, *supra* note 9.

22. Off. of Energy Efficiency & Renewable Energy, *Wind Resource Assessment and Characterization*, ENERGY.GOV, https://www.energy.gov/eere/wind/wind-resource-assessment-and-characterization [https://perma.cc/7A7T-6NWM] [hereinafter *Wind Resource Assessment*].

23. *Id.*; Off. of Energy Efficiency & Renewable Energy, *Wind Turbines: The Bigger, the Better*, ENERGY.GOV (Aug. 16, 2022), https://www.energy.gov/eere/articles/wind-turbines-bigger-better [https://perma.cc/LE9E-UNZ7] [hereinafter *Wind Turbines: The Bigger, the Better*].

24. RYAN WISER ET AL., OFF. OF ENERGY EFFICIENCY & RENEWABLE ENERGY, LAND-BASED WIND MARKET REPORT: 2021 EDITION 23 fig.24 (2021).

25. *Wind Turbines: The Bigger, the Better*, *supra* note 23. Maine has a number of land-based turbines with hub heights between ninety and one hundred meters, as well as a few that stand over one hundred meters tall. *Id.*

26. *See id.* The maximum height that a turbine's blades can reach is the sum of its hub height plus its rotor radius. *See generally id.* (displaying illustrations of turbines that show the blades reaching above the hub height).

27. Off. of Energy Efficiency & Renewable Energy, *U.S. Installed and Potential Wind Power Capacity and Generation*, ENERGY.GOV, https://windexchange.energy.gov/maps-data/321 [https://perma.cc/V97V-JVZU] (requires reader to open the "Potential" tab, select the "Generation" option, and set the slider to 2020) [hereinafter *U.S. Installed and Potential Wind Power Capacity and Generation*].

28. *Id.*

29. *See* Off. of Energy Efficiency & Renewable Energy, *Wind Energy in Maine*, ENERGY.GOV, https://windexchange.energy.gov/states/me [https://perma.cc/WX6B-FG25] [hereinafter *Wind Energy in Maine*]; *supra* note 20 and accompanying text (explaining cut-in speeds).

30. *Wind Energy in Maine*, *supra* note 29.

31. *Id.*

based wind energy development,[32] Maine's wind energy potential makes it an attractive place for developing those projects in the eastern United States.

B. Maine's Current Wind Energy Production

While Maine ranks thirty-fourth in the country in terms of wind energy potential, it ranks twenty-third in terms of installed capacity, with 1,011 megawatts installed as of 2022.[33] This is almost double the capacity installed in the rest of New England (538 megawatts) and more than some large western states that have three to six times more wind energy potential, such as Idaho, Nevada, Arizona, and Utah.[34] In fact, in 2020, about 24% of Maine's in-state net generated electricity came from wind, giving it the sixth highest share of wind in its electric grid mix of any state in the country.[35]

However, Maine still has room to improve. In 2022, biomass comprises a larger share of Maine's electric grid mix than in any state other than Vermont.[36] At the same time, more Mainers primarily use high greenhouse-gas-emitting fuel sources to heat their homes than in any other state.[37] Since installed wind power capacity in Maine is still a small fraction of potential capacity,[38] Maine has significant reason and opportunity to continue advancing the cause of wind energy development in the state.

C. Reasons to Keep Advancing

The shift toward wind energy and away from traditional energy sources has historically been supported by two arguments: energy independence and climate change mitigation.[39] However, the hydraulic fracking boom in the mid-2000s

32. *Wind Explained*, *supra* note 12.

33. *U.S. Installed and Potential Wind Power Capacity and Generation*, *supra* note 27 (requires reader to open the "Installed" tab and set the slider to 2022).

34. *See id.*

35. *Maine: State Profile and Energy Estimates*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/state/?sid=ME [https://perma.cc/W4KF-BY6T].

36. *Id.* Although biomass has comparatively low greenhouse gas emissions compared to traditional fuel sources like oil, coal, and natural gas, it has net positive carbon dioxide emissions if its use outstrips the regrowth of its sources, making it a poor fit for such a large portion of a state's electric grid mix over the long-term. *Biomass Energy Basics*, NREL, https://www.nrel.gov/research/re-biomass.html [https://perma.cc/7RBT-Q4JJ].

37. *Wind Energy in Maine*, *supra* note 29.

38. *U.S. Installed and Potential Wind Power Capacity and Generation*, *supra* note 27 (showing that Maine has installed approximately 1,000 megawatts of wind power but has a potential wind capacity of 70,000 megawatts) (requires reader to compare the graphics under the "Installed" and "Potential" tabs, with the "Capacity" option being selected in the latter graphic).

39. *See, e.g.*, Bent Ole Gram Mortensen, *International Experiences of Wind Energy*, 2 ENV'T & ENERGY L. & POL'Y J. 179, 184–85 (2008); Brian E. Maxted, *Developing Wind Power in the Commonwealth: No Longer a Quixotic Quest to Build Wind Farms in Virginia*, 33 WM. & MARY ENV'T L. & POL'Y REV. 319, 321–23 (2008); Patricia E. Salkin & Ashira Pelman Ostrow, *Cooperative Federalism and Wind: A New Framework for Achieving Sustainability*, 37 HOFSTRA L. REV. 1049, 1056, 1061 (2009).

substantially weakened the energy independence argument.[40] The increased availability of domestic oil facilitated a steady decline in the United States' net imports of crude oil and petroleum products, leading to energy independence in 2019 and the general maintenance of that position since.[41] Although the energy independence argument has waned in significance, the significance of the climate change mitigation argument is growing.[42]

Carbon dioxide (CO_2) and other greenhouse gases trap the sun's heat close to the earth's surface and warm the atmosphere.[43] Although beneficial in limited amounts, current levels of greenhouse gas concentrations in the atmosphere cause excessive warming and lead to dangerous changes in the global climate.[44] The international scientific community has unequivocally concluded that human activity is the cause of these dangerously elevated concentrations, and a full quarter of CO_2 emissions in the United States (currently, the country with the second highest emissions in the world) can be attributed to burning fossil fuels for electricity production.[45]

One consequence of particular concern to Maine is rising sea levels.[46] Rising global temperatures cause the oceans to warm and expand, ice sheets and glaciers to melt, and sea levels to rise.[47] Between 1901 and 2018, average global sea levels rose by 0.2 meters—a faster rate than in any century in the past three thousand years.[48] A recent report by the IPCC concluded: "[i]t is *virtually certain* that global mean sea level will continue to rise over the 21st century . . . [and] it would take several centuries to millennia for global mean sea level to reverse course even under large net negative CO_2 emissions."[49]

Maine has almost 3,500 miles of tidal shoreline[50] and plenty of "communities built just slightly above sea level."[51] If sea levels continue to rise at the rate projected by the National Oceanic and Atmospheric Administration (NOAA) in a 2017 report, "at least [twenty] high risk cities and towns . . . stand to lose 20–30%

40. Robert Rapier, *Is the U.S. Energy Independent?*, FORBES (Nov. 14, 2021), https://www.forbes.com/sites/rrapier/2021/11/14/is-the-us-energy-independent/; *see also* Robert Rapier, *Surprise! The U.S. Is Still Energy Independent*, FORBES (Mar. 8, 2022), https://www.forbes.com/sites/rrapier/2022/03/08/surprise-the-us-is-still-energy-independent/.

41. *See* sources cited *supra* note 40.

42. *See Effects of Sea-Level Rise on Maine*, *supra* note 4.

43. TODD AAGAARD ET AL., PRACTICING ENVIRONMENTAL LAW 272 (1st ed. 2017).

44. *Id.*

45. IPCC, *supra* note 3, at 4, 7 (identifying humans as the cause of climate change); Michael Ovaska et al., *Who Is the Biggest Polluter?*, REUTERS GRAPHICS (Nov. 10, 2021), https://graphics.reuters.com/CLIMATE-UN/EMISSIONS/jnvwexaryvw/ (illustrating nations' shares of global emissions); *Sources of Greenhouse Gas Emissions*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions [https://perma.cc/6SWQ-MQLA] (describing prominent sources of greenhouse gas emissions).

46. *See, e.g.*, *Effects of Sea-Level Rise on Maine, supra* note 4.

47. *Id.*; IPCC, *supra* note 3, at 11.

48. IPCC, *supra* note 3, at 5, 8.

49. *Id.* at 21, 30.

50. *See* Nik DeCosta-Klipa, *Does Maine Really Have More Shoreline Than California?*, BOSTON.COM (Aug. 11, 2017), https://www.boston.com/news/local-news/2017/08/11/does-maine-really-have-more-shoreline-than-california/.

51. *Effects of Sea-Level Rise on Maine*, *supra* note 4.

of their land area, their municipal infrastructure, miles of highway, and millions of dollars of property."[52] Maine will also face severe economic and environmental impacts if global sea level rise is not mitigated to the greatest extent possible, including the need to rebuild large stretches of Route One and the destruction of various endangered bird species' breeding habitats.[53]

D. Grid-Scale Wind Energy to the Rescue

Since burning fossil fuels for electricity creates a quarter of CO_2 emissions in the United States, meeting our energy needs with increased wind energy development is one of the best ways to reduce emissions while retaining current energy production levels.[54] A wind farm's carbon footprint is 98–99% smaller than that of a coal-fired or natural gas-fired power plant, and 75% smaller than that of a comparable solar panel array.[55] On average, if the carbon emissions associated with the construction of wind turbines is amortized over the equipment's life-cycle, turbines generate only eleven grams of CO_2 per kilowatt hour, second only to nuclear power, but with the added benefit of not generating radioactive waste.[56] In just six months' time, the average wind turbine will have repaid its carbon footprint and will generate twenty to thirty more years of emission-free electricity over its lifespan.[57] In 2020 alone, replacing traditional energy with wind power avoided seventy-two million cars worth of CO_2 emissions (330 million metric tons).[58]

On top of its environmental benefits, wind energy provides economic reasons to prioritize its development over other forms of energy production.[59] The cost of wind energy is down 47% over the last decade and, at two cents per kilowatt hour, it is cheaper than burning natural gas in existing gas-fired combined cycle units.[60] Although wind energy's competitiveness is supported by federal and state incentives, low costs of traditional energy production are partially a result of a

52. *Id.*

53. *Id.*; *see also* IPCC, *supra* note 3, at 30.

54. *See* Christopher Helman, *How Green Is Wind Power, Really? A New Report Tallies Up the Carbon Cost of Renewables*, FORBES (Apr. 28, 2021), https://www.forbes.com/sites/christopherhelman/2021/04/28/how-green-is-wind-power-really-a-new-report-tallies-up-the-carbon-cost-of-renewables/?sh=ce4bb4d73cd9.

55. *Id.*

56. *Id.*; *see also Nuclear Explained: Nuclear Power and the Environment*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php [https://perma.cc/FYH9-7GMA].

57. *Wind Power Facts*, *supra* note 20.

58. *Id.*

59. *See generally* WISER ET AL., *supra* note 24 (describing the current state of the U.S. land-based wind energy industry).

60. *Wind Power Facts*, *supra* note 20 (providing the percentage decrease in wind energy costs over the last decade); Off. of Energy Efficiency & Renewable Energy, *Economics and Incentives for Wind*, ENERGY.GOV, https://windexchange.energy.gov/projects/economics [https://perma.cc/M5F5-WN9B] [hereinafter *Economics and Incentives for Wind*] (providing current cost of wind energy production); WISER ET AL., *supra* note 24, at 50 (comparing costs of wind energy production to more traditional methods of electricity generation).

failure to require internalization of substantial emission-related externalities.[61] Because most component parts for a turbine can be produced domestically, the wind energy market is also more stable than the market for commodity fuels, which experiences significant volatility due to fluctuations in import policy.[62] With the wind industry providing 120,000 jobs nationally in 2021 and wind turbine technician becoming the "the second fastest growing job in the country," communities can also receive substantial localized economic benefits from hosting wind projects.[63] In 2021 alone, the industry invested $20 billion into new projects and contributed $1.9 billion in lease payments and taxes to state and local governments.[64] Project construction was a significant source of jobs in Maine from 2006 to 2018, providing support to the state's workforce in the wake of the 2008 financial crisis, but cutbacks in new construction in recent years have led to a corresponding decrease in jobs.[65]

E. Incentivization of Growth

These arguments in favor of increased wind energy development have gained traction in the United States; in 2020, the Nation saw record-breaking growth rates for newly-installed wind power capacity.[66] A full 77% of adults in the United States approve of continued expansion of wind energy development, though there is an obvious partisan component.[67] This trend is at least partially a result of differing perceptions as to the costs and reliability of wind energy relative to other energy sources but, despite these differences, wind energy enjoys significant incentivization at both the federal and state levels.[68]

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61. *See infra* Section I.E (explaining federal and state incentivization of wind energy production); *see also* Mortensen, *supra* note 39, at 179, 194 (making the argument that internalization of emission-related externalities would substantially raise the costs of traditional energy production).

62. WISER ET AL., *supra* note 24, at 13 (describing wind energy's market stability); Off. of Energy Efficiency & Renewable Energy, *Frequently Asked Questions about Wind Energy*, ENERGY.GOV, https://www.energy.gov/eere/wind/frequently-asked-questions-about-wind-energy [https://perma.cc/X788-9GAB] [hereinafter *Frequently Asked Questions about Wind Energy*] (explaining that turbine components can be domestically produced).

63. *Wind Power Facts*, *supra* note 20.

64. *Id.*

65. ME. WIND ENERGY ADVISORY COMM'N, REPORT 21, 22 (2018).

66. WISER ET AL., *supra* note 24, at 3.

67. Brian Kennedy & Alison Spencer, *Most Americans Support Expanding Solar and Wind Energy, but Republican Support Has Dropped*, PEW RSCH. CTR. (June 8, 2021), https://www.pewresearch.org/fact-tank/2021/06/08/most-americans-support-expanding-solar-and-wind-energy-but-republican-support-has-dropped/. Only 62% of Republicans expressed support for expansion of wind energy, whereas 91% of Democrats did the same. *Id.*

68. *Id.* (explaining partisan differences in support for wind energy development). *See generally* OFF. OF ENERGY EFFICIENCY & RENEWABLE ENERGY, ADVANCING THE GROWTH OF THE U.S. WIND INDUSTRY: FEDERAL INCENTIVES, FUNDING, AND PARTNERSHIP OPPORTUNITIES (2021) [hereinafter ADVANCING THE GROWTH OF THE U.S. WIND INDUSTRY] (describing the various federal incentives in place to promote wind energy development).

1. Federal Incentives

The federal government incentivizes wind energy development through tax credits, financing mechanisms, grants, cooperative agreements, and partnership opportunities.[69] The most important incentive is the Renewable Electricity Production Tax Credit (PTC), which grants a federal income tax credit to the developers and owners of utility-scale wind projects for "every kilowatt-hour of electricity generated for the power grid annually for a period of 10 years after a facility is placed into service."[70] Enacted as part of the Energy Policy Act of 1992 and set to expire on June 30, 1999, the PTC has since been extended thirteen times—most recently, under the Inflation Reduction Act of 2022.[71]

The PTC offsets the investment costs of installing wind energy, but it is frequently allowed to lapse before its renewal.[72] Although its extensions operate retroactively, the uncertainty of renewal creates a boom-bust cycle for development, characterized by increased development when the PTC is in effect and decreased development close to expiration and before renewal.[73] This market inefficiency has led commentators to advocate for enactment of a long-term PTC to cultivate a sustained development boom.[74] Alternatively, a developer or owner can claim the Business Energy Investment Tax Credit (ITC), a one-time credit based on the size of their investment rather than the project's production.[75] The existence of a boom-bust cycle, aligned with the expiration and renewal of a particular federal tax incentive, highlights the importance of the incentive in promoting and facilitating increased wind energy development.

2. State Incentives

Wind energy industry growth is similarly stimulated by state incentivization programs.[76] One of the most widespread and important forms of incentivization that a state can use is the adoption of a renewable portfolio standard (RPS).[77] An RPS requires a state electricity utility to purchase an established percentage of the

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69. *See generally* ADVANCING THE GROWTH OF THE U.S. WIND INDUSTRY, *supra* note 68 (describing the various methods by which the federal government incentivizes wind energy development).

70. *Id.* at 1; *see* I.R.C. § 45.

71. *See* MOLLY F. SHERLOCK, CONG. RSCH. SERV., R43453, THE RENEWABLE ELECTRICITY PRODUCTION TAX CREDIT: IN BRIEF 3 (2020) (describing the PTC's historical enactment and first twelve extensions); Inflation Reduction Act of 2022, Pub. L. No. 117-169, § 45, 136 Stat. 1818 (2022) (extending the PTC a thirteenth time).

72. *Id.*

73. *Id.* at 9; *see* Brad Plumer, *The Rise and Fall of the U.S. Wind Industry, in One Chart*, WASH. POST (Nov. 26, 2012), https://www.washingtonpost.com/news/wonk/wp/2012/11/26/the-rise-and-fall-of-the-u-s-wind-industry-in-one-chart/.

74. *See* Maxted, *supra* note 39, at 347; Susan Perera, *Following Minnesota's Renewable Energy Example: Will Federal Legislation Fly High or Flap in the Wind?*, 9 MINN. J.L. SCI. & TECH. 949, 973–74 (2008).

75. ADVANCING THE GROWTH OF THE U.S. WIND INDUSTRY, *supra* note 68, at 1.

76. *See* Off. of Energy Efficiency & Renewable Energy, *Wind Energy Financial Incentives*, ENERGY.GOV, https://windexchange.energy.gov/projects/incentives [https://perma.cc/6RGQ-A9WQ].

77. *See State Renewable Portfolio Standards and Goals*, NAT'L CONF. OF STATE LEGISLATURES (Aug. 13, 2021), https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx.

electricity it sells from renewable sources.[78] The National Conference of State Legislatures attributes approximately half of post-2000 renewable energy generation growth to the proliferation of these statutes.[79]

While more than half of the states have established an RPS, not all of those states have updated them since their enactment, and an increasing number have been allowed to expire.[80] Maine's RPS initially required 30% of total electricity sales of each provider in the state to come from specified renewable and energy efficiency resources, a lower figure than the percentage that those sources already supplied.[81] In 2019, Governor Janet Mills signed a bill that established ambitious new goals of 80% by 2030 and 100% by 2050,[82] making Maine one of ten states expressly stating a legislative commitment to completely renewable electricity markets.[83]

F. Political Winds

Despite the consistent, rapid growth of the wind energy industry, there has been considerable political opposition in recent years.[84] Former President Donald Trump stated (without factual support) that wind turbines lower property values by 75% and emit cancer-causing noise.[85] At the same time, his administration "eliminated" the renewable energy permitting office in the Bureau of Land Management (BLM), impeded competitive renewable energy lease sales, and declined to give renewable energy interests the same level of access afforded to oil and gas industry lobbyists.[86] Meanwhile, Maine's former governor, Paul LePage, signed an executive order establishing a moratorium on wind energy development in the most beneficial areas of Maine in order to give the new Maine Wind Energy Advisory Commission time to evaluate turbines' effects on property values and tourism.[87]

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78. *Id.*

79. *Id.*

80. *See id.*

81. *Renewable Portfolio Standard*, DSIRE, https://programs.dsireusa.org/system/program/detail/452 [https://perma.cc/3CSB-VJ3M].

82. *Renewable Portfolio Standards*, STATE OF ME. GOVERNOR'S ENERGY OFF., https://www.maine.gov/energy/initiatives/renewable-energy/renewable-portfolio-standards [https://perma.cc/FX98-YK5Z]; *see also* 35-A M.R.S. § 3210(1-A) (2022).

83. *See State Renewable Portfolio Standards and Goals*, *supra* note 77.

84. *See* Nicole Gentile & Kate Kelly, *The Trump Administration Is Stifling Renewable Energy on Public Lands and Waters*, CTR. FOR AM. PROGRESS (June 25, 2020), https://www.americanprogress.org/article/trump-administration-stifling-renewable-energy-public-lands-waters/ (highlighting former President Donald Trump's antagonism toward renewable energy generally and the wind energy industry in particular); Kevin Miller, *LePage Blocks New Wind Energy Projects, Creates Secretive Commission to Study Impacts*, PORTLAND PRESS HERALD, https://www.pressherald.com/2018/01/24/lepage-imposes-moratorium-on-new-wind-energy-permits/ (last updated Jan. 25, 2018) (highlighting former Maine Governor Paul LePage's antagonism towards the wind energy industry).

85. Michael Burke, *Trump Claims Wind Turbine "Noise Causes Cancer,"* THE HILL (Apr. 3, 2019), https://thehill.com/homenews/administration/437096-trump-claims-noise-from-windmills-causes-cancer/.

86. Gentile & Kelly, *supra* note 84.

87. *See* Miller, *supra* note 84.

LePage's successor, Governor Janet Mills subsequently ended this moratorium through an executive order of her own.[88] Although she signed legislation prohibiting development of "new offshore wind projects in State waters,"[89] Governor Mills and ten other state governors on the Atlantic Coast joined a new Federal-State Offshore Wind Partnership with the White House.[90] Under the Partnership, the Gulf of Maine is one of seven areas that the Biden administration will open for competitive bidding under the Bureau of Ocean and Energy Management's (BOEM) reinvigorated offshore renewable energy leasing program.[91] Importantly, the terms of the state legislation prohibiting development in Maine's territorial waters explicitly carves out exceptions for building equipment to support these projects.[92]

President Biden and Governor Mills's apparent support for the wind energy industry presents a favorable political climate for continued development in Maine, and in the country at large. However, the state's prohibition on offshore wind projects in state waters means that it will have to focus on land-based development if it wants to personally contribute to the wind-led shift away from fossil-fuel-based electricity production. As a result, this Comment focuses on promoting increased development of Maine's *land*-based wind energy resource.

G. Opposition to Wind Energy Development

Despite its benefits and strong federal and state incentivization, wind energy still faces considerable opposition at the local level.[93] Although polls indicate high public approval,[94] wind energy projects have characteristics that often cause local landowners to harbor a NIMBY ("not in my backyard") attitude towards them.[95] In its 2018 report, the Maine Wind Energy Advisory Commission noted that "wind is an emotive issue for many Mainers, both those for and against wind power development."[96] A number of public interest groups have formed in Maine to challenge the construction of wind energy projects over the years, including Partnership for the Preservation of the Downeast Lakes Watershed (PPDLW), Fox

88. *See* Me. Exec. Order No. 3 FY 19/20 (Feb. 14, 2019) (ending LePage's moratorium on land-based wind projects).

89. *See* 35-A M.R.S. § 3405(2) (2022).

90. *See* Matthew Daly, *President Biden Partners with East Coast Governors to Boost Offshore Wind Energy*, PBS (June 24, 2022), https://www.pbs.org/newshour/politics/president-biden-teams-with-east-coast-governors-to-boost-offshore-wind-energy.

91. *See Biden-Harris Administration Sets Offshore Energy Records with $4.37 Billion in Winning Bids for Wind Sale*, U.S. DEP'T OF THE INTERIOR (Feb. 28, 2022), https://www.doi.gov/pressrelease/biden-harris-administration-sets-offshore-energy-records-437-billion-winning-bids-wind [hereinafter *Biden-Harris Administration*].

92. *See* 35-A M.R.S. § 3405(3)(C), (D) (2022) (providing exceptions to the general prohibition on development of wind energy projects in Maine state waters).

93. *See generally* Robert Bryce, *Here's the List of 317 Wind Energy Rejections the Sierra Club Doesn't Want You to See*, FORBES (Sep. 26, 2021), https://www.forbes.com/sites/robertbryce/2021/09/26/heres-the-list-of-317-wind-energy-rejections-the-sierra-club-doesnt-want-you-to-see/?sh=50ef3dea5bad.

94. *See* Kennedy & Spencer, *supra* note 67.

95. *See* Bryce, *supra* note 93.

96. ME. WIND ENERGY ADVISORY COMM'N, *supra* note 65, at 3.

Islands Wind Neighbors (FIWN), and Friends of the Boundary Mountains (FBM).[97]

1. Environmental Concerns

Although wind energy is key to mitigating climate change,[98] individual projects can have adverse impacts on the local environment.[99] This can be amplified by frequent project siting "in or near pristine natural and wilderness areas,"[100] or on coastlines and hillsides with robust wind energy resources.[101] In order for developers to secure wind access at a site, they must clear obstructive vegetation and create roads if none exist, which usually requires road cuts, grading, and hillside terracing.[102] If precautions are not taken, this can erode soil, pollute water, and disrupt habitats by altering them or impairing their usefulness to the wildlife that relies on them.[103] If the site is very remote, the project may also require construction of new transmission infrastructure, which can substantially increase the amount of affected environment.[104]

Turbines also have direct impacts on avian wildlife, sometimes killing birds that fly into the tower, blades, or surrounding objects after being caught in the blades' wake or disoriented by their movement.[105] This was a key issue with respect to FBM's opposition to Maine's Kibby Expansion Wind Power Project in the early-2010s.[106] Avian mortality is substantially increased when turbines are sited in breeding or wintering territories, migratory paths, or canyons; when they are placed more than thirty-five meters apart; or when weather conditions like fog or heavy rain refract and reflect light from the tower's aviation lights.[107]

In recent years, environmentalists have also become concerned with decommissioning turbines because of the difficulty of recycling the fiber-

97. *See* Champlain Wind, LLC v. Bd. of Env't Prot., 2015 ME 156, ¶ 8 n.5, 129 A.3d 279 (illustrating PPDLW's opposition efforts); Fox Island Wind Neighbors v. Dep't of Env't Prot., 2015 ME 53, ¶ 3, 116 A.3d 940 (illustrating FIWN's opposition efforts); Friends of the Boundary Mountains v. U.S. Army Corps of Eng'rs, 24 F. Supp. 3d 105, 107 (D. Me. 2014) (illustrating FBM's opposition efforts).

98. *See supra* Section I.D.

99. *See, e.g.*, Victoria Sutton & Nicole Tomich, *Harnessing Wind Is Not (By Nature) Environmentally Friendly*, 22 PACE ENV'T L. REV. 91, 95 (2005).

100. Robert S. Guzek, *Addressing the Impacts of Large Wind Turbine Projects to Encourage Utilization of Wind Energy Resources*, 27 TEMP. J. SCI. TECH. & ENV'T L. 123, 124 (2008).

101. *See* Salkin & Ostrow, *supra* note 39, at 1063, 1071 (mentioning the suitability of coastlines for wind energy development, as well as the opposition to project siting in remote, undeveloped areas); *see also infra* Section I.A (illustrating the favorable wind energy potential of Maine's hillsides and coastlines).

102. *See* Roy Fuller, *Wind Energy Development on BLM Lands*, 24 J. LAND. RES. & ENV'T L. 613, 618 (2004); Kim R. York & Richard L. Settle, *Potential Legal Facilitation or Impediment of Wind Energy Conversion System Siting*, 58 WASH. L. REV. 387, 388 (1983).

103. Sutton & Tomich, *supra* note 99, at 91, 97–98.

104. *See* Melanie McCammon, *Environmental Perspectives on Siting Wind Farms: Is Greater Federal Control Warranted?*, 17 N.Y.U. ENV'T L.J. 1243, 1248, 1252 (2009).

105. Sutton & Tomich, *supra* note 99, at 91, 96.

106. *See* Friends of the Boundary, Mountains v. U.S. Army Corps of Eng'rs, 24 F. Supp. 3d 105, 109 (D. Me. 2014).

107. Sutton & Tomich, *supra* note 99, at 95–97, 120.

reinforced plastic composites used to manufacture the blades;[108] however, creative individuals have discovered innovative new uses for them, such as bike racks and bridges.[109] Most environmentalists praise wind energy's climate benefits, but preservationists' valid objections to local impacts often carry considerable weight because wind energy is often incorrectly viewed as something that only environmentalists are in favor of in the first place.[110]

2. Practical Concerns

Because of their height, wind turbines may interfere with air navigation if not sited properly.[111] This issue is of sufficient national security interest that Congress gave the Federal Aviation Administration (FAA) a statutory mandate to conduct Obstruction Evaluations/Airport Airspace Analyses (OE/AAA) on all wind energy projects that meet the FAA's criteria for height, location, and proximity to an airport.[112] Additionally, wind turbines may also interfere with radar systems used for "weather forecasting, homeland security, and national defense."[113] In order to mitigate these conditions, the Department of Defense (DOD), DOE, FAA, and NOAA have collectively formed the Wind Turbine-Radar Interference Mitigation Working Group (WTRIM) and collaboratively review projects with respect to this issue.[114]

3. Neighbors' Quality of Life Concerns

A third consequence that generates opposition to wind energy development is the impact on neighbors' use and enjoyment of their properties.[115] This issue is the

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108. *See, e.g.*, Warigia M. Bowman, *Dust in the Wind: Regulation as an Essential Component of a Sustainable and Robust Wind Program*, 69 U. KAN. L. REV. 45, 65 (2020).

109. *See* Douglas Broom, *These Bike Shelters are Made from Wind Turbines*, WORLD ECON. F. (Oct. 19, 2021), https://www.weforum.org/agenda/2021/10/recycle-bike-wind-turbine/; Maddie Stone, *Engineers are Building Bridges with Recycled Wind Turbine Blades*, VERGE (Feb. 11, 2022), https://www.theverge.com/2022/2/11/22929059/recycled-wind-turbine-blade-bridges-world-first.

110. *See* Brian Dietz, *Turbines vs. Tallgrass: Law, Policy, and a New Solution to Conflict Over Wind Farms in the Kansas Flint Hills*, 54 U. KAN. L. REV. 1131, 1135 (2006); Salkin & Ostrow, *supra* note 39, at 1071.

111. *See* Andrew Tunnicliffe, *Aviation and Wind Farms: Working Together for a Safer Future*, AIRPORT TECH. (July 23, 2020), https://www.airport-technology.com/features/aviation-wind-farms/.

112. *See* 49 U.S.C. § 106(f)(3)(A), (g)(1)(C) (granting the FAA regulatory authority and mandating that they maintain domestic airspace safety); 14 C.F.R. § 77.9 (2022) (establishing the regulatory bases that trigger FAA's OE/AAA review); *Obstruction Evaluation / Airport Airspace Analysis (OE/AAA)*, FED. AVIATION ADMIN., https://oeaaa.faa.gov/oeaaa/external/portal.jsp [https://perma.cc/2LNQ-LTWW] (detailing the FAA's procedures for OE/AAAs).

113. Off. of Energy Efficiency & Renewable Energy, *Wind Turbine Radar Interference*, ENERGY.GOV, https://windexchange.energy.gov/projects/radar-interference [https://perma.cc/96WM-JY68].

114. Off. of Energy Efficiency & Renewable Energy, *Wind Turbine-Radar Interference Mitigation Working Group*, ENERGY.GOV, https://windexchange.energy.gov/projects/radar-interference-working-group [https://perma.cc/5VVZ-T5YX].

115. *See*, *e.g.*, Roger Smith, *Bitter Wind: A Town Divided Over a Controversial Maine Wind Farm*, YALE ENV'T 360 (Sept. 8, 2015), https://e360.yale.edu/features/bitter_wind_a_town_divided_over_a_controversial_maine_wind_farm.

basis for this Comment's core legal argument. These conditions may provide neighbors with a cause of action against a turbine's operator or owner, which stalls development and increases its costs, regardless of whether the claim is ultimately successful.[116] The most significant of these conditions are the noise, aesthetic impact, and safety concerns associated with turbines.

a. Auditory Concerns

Wind turbines produce both mechanical and aerodynamic noise.[117] A turbine's gears, generator, and other mechanical parts can produce "tonal sound" while in operation, which is experienced as constant noise at a specific, audible (typically high) pitch.[118] On the other hand, air flow over the turbine's blades produces repetitive but inconsistent "impulsive sound" that varies in amplitude depending on wind speeds.[119] Additionally, wind turbines produce "low-frequency noise" (LFN), which is referred to as "infrasonic sound" when it occurs at a frequency below twenty Hertz (Hz).[120] Although frequently inaudible, infrasonic sound travels further than higher-frequency sound, and can cause physical vibrations, such as the rattling of windows.[121]

Regardless of the level at which wind turbines generate these sounds, the level at which neighboring properties experience them depends on a variety of factors, including the turbine's size, type, and distance from the property; wind direction and speed; atmospheric conditions; and the topography of the surrounding area, including development density.[122] Turbine-generated noise has motivated opposition to a number of wind projects in Maine, including Record Hill Wind, LLC's wind farm in Roxbury,[123] and a small-scale wind project in Vinalhaven.[124]

b. Aesthetic Concerns

The perception that turbines are unsightly or negatively impact existing views often motivates wind energy NIMBYism.[125] This view is strengthened by the fact that the most profitable development sites are often on hillsides, large flat areas,

116. *See*, *e.g.*, L. Paul Goeringer, Annotation, *Challenges Under State Law to Wind Energy Facilities and Laws Regulating or Prohibiting Such Facilities*, 64 A.L.R. 6th 601, §§ 40–43 (2011).

117. *See, e.g.*, Mortensen, *supra* note 39, 189.

118. Off. of Energy Efficiency & Renewable Energy, *Wind Turbine Sound*, ENERGY.GOV, https://windexchange.energy.gov/projects/sound [https://perma.cc/4NS2-VHXV] [hereinafter *Wind Turbine Sound*].

119. *See id.*; Jake Hays, *Feeling the Noise: Proposed Standards and Alternatives to Wind Energy Nuisance Litigation*, 28 FORDHAM ENV'T L. REV. 242, 250 (2017).

120. Hays, *supra* note 119; *see also Wind Turbine Sound*, *supra* note 118.

121. *Wind Turbine Sound*, *supra* note 118.

122. *See* Hays, *supra* note 119, at 251; Margaret E. Byerly, *Zoning and Land Use Planning*, 41 REAL EST. L.J. 351, 376 (2012).

123. *See* Concerned Citizens to Save Roxbury v. Bd. of Env't Prot., 2011 ME 39, ¶ 25, 15 A.3d 1263.

124. *See* Fox Island Wind Neighbors v. Dep't of Env't Prot., 2015 ME 53, ¶ 3, 116 A.3d 940.

125. *See, e.g.*, Goeringer, *supra* note 116, §§ 41, 43.

and coastlines, where siting will generally equate to high project visibility.[126] However, aesthetics are an intrinsically subjective determination. While some people consider wind turbines "utterly offensive" and "visually awful,"[127] plenty of others think they look "pretty cool," especially because of the public good they provide.[128] Opinions on turbines' aesthetic merits are often related to feelings about wind energy generally and its compatibility with an individual's preferred land uses—it is essentially an emotional reaction that varies by the individual.[129]

However, wind turbines do have certain visual impacts that are more consistently seen as objectionable.[130] One example is the flashing, FAA-required cautionary lighting used to "define the periphery" of the wind farm, which is particularly noticeable at night.[131] Another is "blade glint," which is the effect of sun flashing off a turbine's blades—a phenomenon exacerbated by the rotor's angle and the blades' color, reflectivity, and age.[132] Perhaps the most notorious of these conditions though is "shadow flicker," the term used to describe the phenomenon of a turbine's blades repeatedly casting shadows when the sun is shining low on the horizon.[133]

c. Safety Concerns

Neighbors may also view wind turbines on abutting properties as potentially dangerous because of the possibility of mechanical failure.[134] These concerns are fueled by publicized turbine collapses.[135] There are also documented cases of "blade throws," where a rotor blade detaches during operation and is thrown by the

126. *See*, *e.g.*, Mortensen, *supra* note 39, at 191. *See generally Wind Energy in Maine*, *supra* note 29 (providing a map of Maine that displays topography and average wind speeds).

127. Ketan Joshi, *Think Windfarms Are Ugly? It's Not Only a Matter of Perception, but Policy Too*, THE GUARDIAN (May 11, 2017), https://www.theguardian.com/commentisfree/2017/may/12/think-wind-farms-are-ugly-its-not-only-a-matter-of-perception-but-policy-too (quoting Joe Hockey and former Australian prime minister Tony Abbott).

128. Sammy Roth, *Newsletter: Are Solar and Wind Farms Ugly or Beautiful? There's a Lot Riding on the Answer*, L.A. TIMES (May 27, 2021), https://www.latimes.com/environment/newsletter/2021-05-27/are-solar-and-wind-farms-ugly-or-beautiful-boiling-point.

129. *See, e.g.*, Rankin v. FPL Energy, LLC, 266 S.W.3d 506, 511 (Tex. App. 2008).

130. *See*, *e.g.*, Mortensen, *supra* note 39, at 190–91.

131. *Id.*; *see also* Roth, *supra* note 128 (quoting an individual who referred to a wind turbine with cautionary FAA lighting as "an abomination [that] ruin [sic] our night sky").

132. Mortensen, *supra* note 39, at 190.

133. Off. of Energy Efficiency & Renewable Energy, *Wind Energy Projects and Shadow Flicker*, ENERGY.GOV, https://windexchange.energy.gov/projects/shadow-flicker [https://perma.cc/D5E7-ZQQT].

134. *See, e.g.*, Burch v. NedPower Mount Storm, LLC, 647 S.E.2d 879, 885 (W. Va. 2007).

135. *See, e.g.*, *Giant Wind Turbine Collapse to Be Investigated*, BBC (Feb. 15, 2022), https://www.bbc.com/news/uk-wales-60390094.

rotor's momentum.[136] Additionally, in the right conditions, ice can form on rotor blades and be thrown in a similar manner.[137]

d. Economic Concerns

Although wind energy development has clear community-wide economic benefits,[138] neighbors are often concerned that the auditory, aesthetic, and safety factors described above contribute to negative pressure on surrounding property values.[139] In fact, William Fischel's "homevoter hypothesis" suggests that neighbors' feelings towards any proposed land use policies are primarily motivated by concern for home values.[140] Fears of decreased home values provide a powerful motive for neighboring landowners to scare off would-be developers by initiating any available cause of action that can delay or dissuade development.

H. Maine's Solutions to the Concerns Raised by Grid-Scale Wind Energy

The State of Maine strikes a balance between state-level and municipal-level regulation of wind projects when it comes to addressing neighbors' concerns. This approach facilitates uniformity of standards across the state and enhances regulatory certainty while allowing municipalities to ensure their own locality-specific preferences are met.[141]

1. Site Location of Development Act

Since 1969, Maine's Site Location of Development Act (Site Law) has allowed the state "to control the location of . . . developments substantially affecting [the] local environment" to ensure that they "have a minimal adverse impact on the natural environment" and do not harm the "health, safety and general welfare of the people."[142] The Act requires developers to obtain approval from Maine's Department of Environmental Protection (DEP) before constructing "any

136. *See* Off. of Energy Efficiency & Renewable Energy, *Wind Energy Projects and Safety*, ENERGY.GOV, https://windexchange.energy.gov/projects/safety [https://perma.cc/2GVA-TBSW] [hereinafter *Wind Energy Projects and Safety*].

137. *Id.*; *see also* Bomba v. Zoning Bd. of Appeals, No. 293552, 2005 WL 2106162, at *2–4 (Mass. Land Ct. Sept. 1, 2005) (considering testimony from plaintiff that ice chunks had been thrown through the roofs of buildings on properties neighboring the wind turbine).

138. *See supra* Section I.D.

139. *See* Jude Clemente, *Do Wind Turbines Lower Property Values?*, FORBES (Sept. 23, 2015), https://www.forbes.com/sites/judeclemente/2015/09/23/do-wind-turbines-lower-property-values/?sh=6846b8e848cb.

140. *See* WILLIAM A. FISCHEL, THE HOMEVOTER HYPOTHESIS: HOW HOME VALUES INFLUENCE LOCAL GOVERNMENT TAXATION, SCHOOL FINANCE, AND LAND-USE POLICIES 5 (2001); *see also* Troy A. Rule, *Renewable Energy and the Neighbors*, 2010 UTAH L. REV. 1223, 1228–29, 1235–41 (2010) (discussing how Fischel's homevoter hypothesis interacts with renewable energy development).

141. *See cf.* McCammon, *supra* note 104, at 1269 (discussing the comparative benefits and tradeoffs of centralized and decentralized regulation at the federal and state levels as opposed to the state and municipal levels).

142. 38 M.R.S. § 481 (2022).

development of state or regional significance that may substantially affect the environment."[143]

Grid-scale wind energy projects are usually considered "[d]evelopment[s] of state or regional significance" and trigger the Site Law because they either (i) take up more than twenty acres of land, or (ii) strip and do not revegetate more than three acres of land.[144] Under the Site Law, these projects have to meet lots of development standards, including, among other things, having "[n]o adverse effect on the natural environment."[145] This standard requires analysis of the "noise generated" by a project and its impact on "scenic character," including whether it fits "harmoniously into the existing natural environment."[146] Importantly, the Site Law specifically invites decentralized municipal regulation of projects' sound output by stating: "Nothing in this subsection may be construed to prohibit a municipality from adopting noise regulations stricter than those adopted by the [Board of Environmental Protection (BEP)]."[147]

2. Maine Wind Energy Act

In 2003, Maine's legislature enacted the Maine Wind Energy Act (WEA), which explicitly stated that "it is in the public interest to explore opportunities for and encourage the development, where appropriate, of wind energy production in the State."[148] On May 8, 2007, then-Governor John Baldacci signed an executive order creating the Wind Energy Task Force for the purpose of, among other things, reviewing and recommending updates to Maine's regulatory process for wind projects.[149] The Task Force's report identified several issues with the permitting process in place at that time, including (i) confusion over wind energy's benefits, (ii) the failure to take account of project benefits in permitting decisions, (iii) an overly burdensome requirement for harmonious integration into the natural environment under the Site Law, and (iv) a lack of clarity on certain regulatory issues unique to wind turbines.[150]

Pursuant to the Task Force's recommendations, the State Legislature adopted amendments to the WEA in 2007, prefaced by a legislative finding that wind energy development "makes a significant contribution to the general welfare of the citizens of the State."[151] The amendment declared that it was in the public interest for the visual impacts of wind projects to be evaluated under less demanding criteria and for development to be expedited "where it is most compatible with existing patterns of development and resource values."[152]

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143. *Id.* § 483-A(1).
144. *Id.* § 482(2), (2)(A), (2)(C), (6)(B).
145. *Id.* § 484(3).
146. *Id.*
147. *Id.* § 484(3)(C).
148. 35-A M.R.S. § 3402 (2022).
149. Me. Exec. Order No. 31 FY 06/07 (May 8, 2007).
150. GOVERNOR'S TASK FORCE ON WIND POWER DEV., REPORT OF THE GOVERNOR'S TASK FORCE ON WIND POWER DEVELOPMENT: FINDING COMMON GROUND FOR A COMMON PURPOSE 15–17 (2008).
151. P.L. 2007, ch. 661, § A-4.
152. 35-A M.R.S. § 3402(2)(A)–(C) (2022).

3. Expedited Permitting of Grid-Scale Wind Energy Development Act

At the same time as the 2007 amendments were made to the WEA, Maine's legislature enacted the Expedited Permitting of Grid-Scale Wind Energy Development Act (hereinafter "Expedited Permitting Act").[153] The Expedited Permitting Act established DEP as the primary siting authority for grid-scale wind energy projects in Maine.[154] It also established the majority of Maine's organized areas, and certain designated lands in the state's unorganized and deorganized areas, as "expedited permitting areas" in which WEA's more relaxed standards apply.[155] These alternative permitting regimes under WEA and the Site Law have important differences that will be discussed below.[156]

4. Model Wind Energy Facility Ordinance

As for Maine's decentralized regulation of wind energy, the Governor's Task Force on Wind Power Development also recommended that the State Planning Office create a model ordinance for municipalities to adopt for local regulation of wind projects.[157] Preparation of the Model Wind Energy Facility Ordinance was completed in 2009,[158] and seven municipalities in Maine have adopted some form of it since.[159] These ordinances authorize municipalities to establish heightened requirements on proposed wind projects in their jurisdictions, allowing them to effectively address conditions of particular concern to their community.[160]

II. ANALYSIS

Despite Maine's regulatory framework for mitigating wind projects' potential for offending neighbors, there is a civil cause of action nominally available to them in the form of an action for nuisance.[161] The interaction between Maine's overlapping permitting regimes and the continued vitality of this cause of action is complicated and will be thoroughly explored for the remainder of this Comment.

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153. P.L. 2007, ch. 661, § A-7.

154. *See* 35-A M.R.S. § 3451(8) (2022). The Expedited Permitting Act defines "grid-scale wind energy development" as any wind energy project that would trigger the Site Law. *Id.* § 3451(6).

155. *See id.* § 3451(3). The Expedited Permitting Act also establishes procedures for the Land Use Planning Commission to add and remove land in the unorganized and deorganized areas from consideration as "expedited permitting areas." *Id.* §§ 3453, 3453-A.

156. *See infra* Section II.B.

157. GOVERNOR'S TASK FORCE ON WIND POWER DEV., *supra* note 150, at 28.

158. *Model Wind Energy Facility Ordinance*, DSIRE, https://programs.dsireusa.org/system/program/detail/3766/model-wind-energy-facility-ordinance [https://perma.cc/LT6M-D8NR] (describing the development of Maine's Model Wind Energy Facility Ordinance).

159. *See* Off. of Energy Efficiency & Renewable Energy, *Wind Energy Policies and Incentives*, ENERGY.GOV, https://windexchange.energy.gov/policies-incentives?state=me [https://perma.cc/8AVB-6B2F] (providing information regarding which municipalities have adopted a form of the Model Wind Energy Facility Ordinance). These municipalities are Dixmont, Montville, Winthrop, Buckfield, Rumford, Rome, and Bethel. *Id.* Saco, Biddeford, and Eliot's wind energy ordinances predate the completion of the model ordinance. *Id.*

160. *See generally* 30-A M.R.S. § 3001 (2022) (explaining the contours of municipalities' power to enact ordinances).

161. *See infra* Section II.A.3.

A. Nuisance Law

1. Generally

The conditions described in Section I.G.3 above potentially give neighboring property owners a cause of action against wind farm owners and operators in the form of a nuisance claim.[162] As a common law cause of action, nuisance provides a form of judicial land use control that allows private litigants to resolve conflicting land uses.[163] Nuisance law is premised on the "ancient maxim: *sic utere tuo ut alienum non laedas*, meaning that one should use one's own property in such a way as not to injure the property of another."[164] This principle has received legal recognition since as early as 533 AD in ancient Rome, where section 8.5.8.5 of Justinian's Digest prohibited property owners from emitting smoke into properties above them or discharging water into properties below them.[165] Because nuisance claims have historically been a primary method for environmental interest groups to seek abatement of polluting activities,[166] there is a certain irony in their being used to challenge the propriety of climate change-mitigating technologies like the wind turbine.

2. Restatement Approach

A nuisance can be either "public" or "private," and the category that it falls into depends on whether it interferes with the rights of the general public or the rights of individual landowners;[167] however, almost all published opinions regarding nuisance claims against wind turbines are advanced on the ground that they constitute private nuisances.[168] The American Law Institute's (ALI) Second Restatement of the Law of Torts defines a private nuisance as "a nontrespassory invasion of another's interest in the private use and enjoyment of land," but many sources use the term "interference" rather than "invasion," which helps to further differentiate this cause of action from that of trespass.[169] However, not all interferences of this kind are actionable. An interference is only actionable if it results in substantial harm and is either (i) "intentional and unreasonable;" or (ii)

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162. *See generally, e.g.*, Burch v. NedPower Mount Storm, LLC, 647 S.E.2d 879 (W. Va. 2007) (exemplifying a nuisance claim brought against a grid-scale wind energy project).

163. JESSE DUKEMINIER ET AL., PROPERTY 779 (Vicki Been et al. eds., 8th ed. 2014).

164. *Id.*

165. *See* Stephen Harland Butler, *Headwinds to a Clean Energy Future: Nuisance Suits Against Wind Energy Projects in the United States*, 97 CALIF. L. REV. 1337, 1343 (2009) (providing extensive background on nuisance law).

166. TODD AAGAARD ET AL., *supra* note 43, at 60.

167. *See* RESTATEMENT (SECOND) OF TORTS §§ 821B, 821D (Am. L. Inst. 1979).

168. *See* Rose v. Chaikin, 453 A.2d 1378, 1380 (N.J. Super. Ct. Ch. Div. 1982); Rassier v. Houim, 488 N.W.2d 635, 636 (N.D. 1992); Burch v. NedPower Mount Storm, LLC, 647 S.E.2d 879, 885 (W. Va. 2007). *But see* Rankin v. FPL Energy, LLC, 266 S.W.3d 506, 508, 513 (Tex. App. 2008) (affirming the dismissal of plaintiffs' public and private nuisance claims on the basis that there was no legally recognized invasion of *anybody's* rights, without specifically addressing which cause of action was a better fit for the facts).

169. RESTATEMENT (SECOND) OF TORTS § 821D (defining nuisance); JESSE DUKEMINIER ET AL., *supra* note 163, at 782 (defining nuisance slightly differently than the Restatement).

unintentional and the result of negligent, reckless, or abnormally dangerous conduct.[170] The most common grounds for nuisance claims today are "air and water pollution, noise, odors, vibrations, flooding" and excessive or inadequate light.[171]

Intentionality of an interference is established if it was the party's purpose, it was known by them to occur, or it was known to be "substantially certain to result from [their] conduct."[172] Because of the permitting processes described below, the characteristics of wind turbines that potentially give rise to a nuisance claim will always be known to occur or known to be substantially certain to occur by the turbine's owner or operator.[173] As a result, whether their operation constitutes a nuisance at common law is going to depend on whether the resulting interference produces substantial harm and is unreasonable.[174]

To be considered a substantial harm, an interference must be "more than [a] slight inconvenience or petty annoyance," and must rise to the level of a "real and appreciable invasion of the plaintiff's interests."[175] The Restatement also requires the harm to be one "that would be suffered by a normal person in the community."[176] The "normal person" standard is an objective standard based on the sensitivity of a "person of ordinary sensibilities,"[177] which prevents an interference from becoming substantial and actionable on the basis of a person's hypersensitivity to it.[178] Despite the objective nature of this standard, the Restatement suggests that the hypothetical person of ordinary sensibilities must be one from the particular community where the land use occurs, requiring the substantiality analysis to take the character, habits, and opinions of the community into account, even if those opinions are not supported by facts.[179]

When determining the unreasonableness of an interference, there are a host of competing interests that courts attempt to balance.[180] The Restatement proposes a balancing test between the utility of the conduct and the gravity of harm it imposes.[181] In evaluating the conduct's utility, courts may consider the conduct's social value, the conduct's "suitability . . . to the character of the locality," and the impracticability of performing the conduct without causing the interference.[182] In evaluating the gravity of the harm, courts may consider the extent of the harm in

170. RESTATEMENT (SECOND) OF TORTS §§ 821F, 822; *see also* JESSE DUKEMINIER ET AL., *supra* note 163, at 782 (using the term "substantial" instead of "significant" with respect to the level of harm necessary to make interference with another's use and enjoyment of land actionable as a nuisance).

171. JESSE DUKEMINIER ET AL., *supra* note 163, at 782.

172. RESTATEMENT (SECOND) OF TORTS § 825.

173. *See infra* Section II.B.

174. *See* RESTATEMENT (SECOND) OF TORTS § 822.

175. *Id.* § 821F cmt. c.

176. *Id.* § 821F.

177. *See* Kristina Culley, *Has Texas Nuisance Law Been Blown Away by the Demand for Wind Power?*, 61 BAYLOR L. REV. 943, 958 (2009); Hays, *supra* note 119, at 258 (explaining the "person of ordinary sensibilities" standard).

178. *See* RESTATEMENT (SECOND) OF TORTS § 821F cmt. d.

179. *Id.* § 821F cmts. e–f.

180. *Id.* §§ 827–828.

181. *Id.* § 826(a).

182. *Id.* § 828(a)–(c).

terms of both degree and duration, the character of the harm in terms of whether it creates physical damage or just personal discomfort, the social value of the use or enjoyment interfered with, the use's suitability to the locality, and the burden on the injured party of avoiding the harm.[183] Although "[r]elatively few courts have followed the Restatement explicitly," these factors are frequently considered, weighed differently, and balanced against one another in resolving nuisance claims.[184]

If a court finds an interference with another's use and enjoyment of property to be substantial, intentional, and unreasonable, then a plaintiff should succeed on the merits of their claim and be entitled to remedies.[185] Damages and injunctions are both potentially available remedies for a successful nuisance action, and they each harm the defendant's development goals by imposing a financial burden or preventing continuance of the land use.[186] Even if a plaintiff's claim is unsuccessful and does not entitle them to damages, the threat and cost of litigation may be independently sufficient to deter potential developers and investors.[187]

3. Maine Common Law

The State of Maine also recognizes nuisance as a common law cause of action for "an interference with the use and enjoyment of land."[188] Historically, nuisance was considered something of a "catch-all tort" that defied "technical definition" and could only be understood by piecing together case law.[189] However, by the twenty-first century, Maine's Supreme Judicial Court (referred to as the "Law Court" when hearing appeals)[190] ventured to spell out the elements of this cause of action in *Charlton v. Town of Oxford*.[191]

Relying on a treatise by W. Page Keeton and William Lloyd Prosser, the Law Court endorsed an approach largely consistent with the Restatement approach discussed above.[192] As in the Restatement, the Law Court required the interference to be intentional, substantial, and unreasonable in order to be actionable.[193] The

183. *Id.* § 827, § 827 cmts. c–d, f–g.

184. DUKEMINIER ET AL., *supra* note 163, at 783. *But see, e.g.*, Rose v. Chaikin, 453 A.2d 1378, 1381–82 (N.J. Super. Ct. Ch. Div. 1982) (using an ad hoc approach to balancing the utility of the conduct and gravity of the harm).

185. *See* RESTATEMENT (SECOND) OF TORTS §§ 821F–822.

186. *See*, *e.g.*, Boomer v. Atl. Cement Co., 257 N.E.2d 870, 875 (N.Y. 1970) (remanding the case to a lower court to set the level of damages the defendant would have to pay in order for the court to lift an injunction on its land use); Estancias Dall. Corp. v. Schultz, 500 S.W.2d 217, 221–22 (Tex. Civ. App. 1973) (upholding the lower court's grant of an injunction against the defendant).

187. *See* Hays, *supra* note 119, at 266.

188. Town of Stonington v. Galilean Gospel Temple, 1999 ME 2, ¶ 15, 722 A.2d 1269.

189. JACK H. SIMMONS ET AL., 1 MAINE TORT LAW § 14.02 (2020); *see also* Norcross v. Thoms, 51 Me. 503, 504 (1863).

190. CHARLES K. LEADBETTER ET AL., UNIFORM MAINE CITATIONS 36 (2021).

191. *See* Charlton v. Town of Oxford, 2001 ME 104, ¶ 36, 774 A.2d 366.

192. *Compare Charlton*, 2001 ME 104, ¶ 36, 774 A.2d 366 (explaining the Law Court's nuisance analysis), *with supra* Section II.A.2 (explaining the Restatement's nuisance analysis). *See generally* W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 87, 622–23 (5th ed. 1984) (providing the framework for the Law Court's opinion in *Charlton*).

193. *Charlton*, 2001 ME 104, ¶ 36, 774 A.2d 366.

Law Court even approved of the same expansive view of intentionality; however, its opinion departed from the Restatement with respect to the elements of substantiality and unreasonableness.[194]

In articulating the substantiality requirement in *Charlton*, the Law Court required "a showing that the land [was] reduced in value because of the defendant's conduct."[195] It was the failure to meet this substantiality requirement that caused the plaintiff's claim to fail in *Charlton*,[196] and the property value diminution requirement has endured as an element of Maine's substantiality analysis ever since.[197] In a more recent case, *West v. Jewett & Noonan Transportation, Inc.*, the Law Court clarified that a showing of diminution in property value is required only when the interference complained of is a "mere physical discomfort or mental annoyance."[198] An interference that "affects the physical condition of . . . land" is per se substantial and need not be accompanied by a showing of diminished property value.[199] Although they were readily recognized as nuisances before the Law Court heightened the substantiality requirement in *Charlton*, the *West* decision leaves an open question as to whether interferences that affect the physical health of the property's occupants would be similarly exempted from a showing of diminished property value.[200] An injury of that nature would not affect the physical condition of the land, but it would also seem to constitute more than mere physical discomfort. Therefore, it would not fit neatly into either of the two categories of injury established in *West*, and the need for a showing of diminished property value would be uncertain.

Although the Law Court has not cited the opinion, favorably or otherwise, the United States District Court for the District of Maine suggested in *Darney v. Dragon Products Co.*, based on its reading of a Maine superior court opinion, that a reduction in property value could be shown in more ways than just "overall

194. *Compare id.* at ¶¶ 36, 37 n.11 (describing the Law Court's nuisance analysis), *with* RESTATEMENT (SECOND) OF TORTS §§ 821F, 826 (describing the nuisance analysis under the Restatement).

195. *Charlton*, 2001 ME 104, ¶ 36, 774 A.2d 366 (quoting KEETON ET AL., *supra* note 192). Although the United States District Court for the District of Maine noted that Keeton and Prosser's treatise uses a showing of property value diminution as a working rule for determining *unreasonableness*, Darney v. Dragon Prods. Co., 640 F. Supp. 2d 117, 121 n.2 (D. Me. 2009), this requirement has remained associated with the substantiality requirement in Maine's nuisance jurisprudence, *see, e.g.*, Johnston v. Me. Energy Recovery Co., 2010 ME 52, ¶ 15, 997 A.2d 741.

196. *See Charlton*, 2001 ME 104, ¶ 38, 774 A.2d 366.

197. *See Johnston*, 2010 ME 52, ¶ 15, 997 A.2d 741 (describing the substantiality element as "substantial such that it cause[s] a reduction in the value of the land").

198. West v. Jewett & Noonan Transp., Inc., 2018 ME 98, ¶¶ 15–16, 189 A.3d 277 (quoting KEETON ET AL., *supra* note 192, § 88 at 627).

199. *Id.*

200. *Compare* Barnes v. Hathorne, 54 Me. 124, 125, 128 (1866) (stating in dicta that defendant's use of a tomb close to plaintiff's home would have constituted a "very serious nuisance" if the corpses' effluvia had persisted at levels that would have been injurious or fatal), *and* Monk v. Packard, 71 Me. 309, 312 (1880) (referring to a very similar land use condition as a potential nuisance if it "naturally . . . interfere[d] with the ordinary comfort physically, of human existence"), *with West*, 2018 ME 98, ¶ 15, 189 A.3d 277 (agreeing with Prosser and Keeton's opinion that depreciation in market or rental value of land is a good guide rule for determining substantiality of harm when the physical condition of the land is not affected).

depreciation in a property's estimated market value."[201] In *Darney*, the District of Maine advanced two alternative means of proving diminished property values: (i) presenting "evidence that the magnitude of the property's appreciation was less than it would have been but for the defendant's conduct," and (ii) presenting "evidence of the costs of repairing the nuisance."[202] Under the *Darney* court's expanded conception of substantiality, and debatably under the Law Court's baseline conception as well, an interference that resulted in physical injury to a neighboring property owner could potentially satisfy the substantiality requirement, since the injury would be more than mere mental discomfort and would ostensibly lead to a reduction in property value if the property were to be sold on the open market while the condition persisted.

The Law Court's deviation from the Restatement's approach to unreasonableness is more subtle. The elements established in *Charlton* listed nature, duration, and amount of the interference as factors a court should consider when assessing unreasonableness.[203] These are all recognized factors for establishing gravity of harm under the Restatement approach as well.[204] However, the only time the Law Court appeared to explicitly consider one of the Restatement's utility of conduct factors when determining unreasonableness was in *Sprague v. Sampson*, back in 1921, when it considered whether a defendant could have avoided interfering with his neighbors' use and enjoyment of their property.[205] As a result, it appears that gravity of the harm is the primary consideration for the unreasonableness of a land use and that the utility of conduct has a negligible role to play in determining whether a land use is a nuisance.

4. Maine Statutory Scheme

Common law is only one half of the picture when it comes to nuisance law in Maine.[206] States' broad-reaching police power gives them "authority to declare what will be deemed nuisances and to provide for their suppression" subject to constitutional limits.[207] Generally, a state legislature is operating within its authority when it "declare[s] anything to be a nuisance that is detrimental to the health, morals, peace, or welfare of the citizens of the state."[208] The police power also allows states to "authorize or legalize nuisances and provide for nuisance immunity for certain uses of property."[209]

Section 2701 of the Maine Revised Statutes gives an injured party a statutory cause of action for damages against the party who injured them "in [their] comfort, property or the enjoyment of [their] estate by a common and public or a private

201. Darney v. Dragon Prods. Co., LLC, 640 F. Supp. 2d 117, 121 (D. Me. 2009).

202. *Id.*

203. Charlton v. Town of Oxford, 2001 ME 104, ¶ 36, 774 A.2d 366.

204. *See* RESTATEMENT (SECOND) OF TORTS § 827 (Am. L. Inst. 1979).

205. *See* Sprague v. Sampson, 120 Me. 353, 353, 114 A. 305, 306–07 (1921).

206. *See* 17 M.R.S. §§ 2701–2859 (2022) (providing an extensive statutory framework for nuisance actions in Maine).

207. 58 AM. JR. 2D *Nuisances* § 38 (2022).

208. *Id.* § 39.

209. *Id.*

nuisance."[210] Additionally, section 2702 provides the court with discretion to abate such a nuisance if deemed appropriate under the circumstances.[211] With respect to what constitutes a "common and public" or a "private nuisance," Title 17 of the Maine Revised Statutes has a chapter devoted to declaring particular land uses per se nuisances and exempting others from consideration as such.[212] This kind of legislation, which the Restatement refers to as "crystallization[s] of legal opinion as to [unreasonableness]," increase regulatory certainty with respect to investments and alleviate the liability exposure concerns of developers and investors.[213]

Section 2741 of the Maine Revised Statutes declares that the operation of establishments where intoxicating liquors or scheduled drugs are sold, supplied, or used in "any manner not provided for by law" are "common nuisances," and establishes that such acts are Class E crimes.[214] Maine statutes also list a wide variety of land uses that present "particular nuisances," including blasting rocks after sunset without reasonable notice, directing bright lights into roadways, and keeping poisonous snakes without constant confinement.[215] Despite this extensive statutory framework, common law nuisances have not been completely supplanted.[216] The Law Court has held that a plaintiff can plead a private nuisance pursuant to section 2701 by either showing that the activity falls under section 2802 or by simply pleading the common law elements.[217] Maine also uses its police power to ensure that certain land uses are not subject to potential nuisance litigation. Maine statutes extend nuisance immunity to certain land uses, including farming, agricultural composting, and commercial fishing operations, provided they are performed according to applicable state and federal laws, rules, regulations, ordinances, and permitting and licensing conditions.[218]

B. The Merits of Grid-Scale Wind Energy as Nuisance Under Maine Law

With an understanding of Maine's statutory and common law approach to nuisance, as well as the characteristics of wind farm operation that potentially interfere with neighbors' use and enjoyment of their property, this Comment will explore the relative likelihood that each basis for nuisance claim litigation has of succeeding in a Maine court of law.

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210. 17 M.R.S. § 2701 (2022). There are circumstances when an action can only be brought against a certain nuisance by a particular party, such as a municipality being the only party that can bring a nuisance action against a land use alleged to be a nuisance on the basis of violating a municipal land use ordinance. *See* 30-A M.R.S. §§ 4302, 4452(4) (2022).

211. 17 M.R.S. § 2702 (2022).

212. *See id.* §§ 2701–2859.

213. RESTATEMENT (SECOND) OF TORTS § 826 cmt. e (Am. L. Inst. 1979). The Restatement technically refers to "crystallization of legal opinion as to gravity and utility," but in a jurisdiction (like Maine) that does not consider utility of conduct, the law would represent a crystallization of legal opinion as to only the former.

214. 17 M.R.S. § 2741(1)(A), (5), (7) (2022).

215. *See id.* §§ 2791–2808.

216. *See* Johnston v. Me. Energy Recovery Co., 2010 ME 52, ¶ 14, 997 A.2d 741; *see also* 58 AM. JR. 2D *Nuisances* § 47 (2022).

217. *See Johnston*, 2010 ME 52, ¶ 14, 997 A.2d 741.

218. *See* 17 M.R.S. § 2807 (2022); 7 M.R.S. § 153 (2022).

1. Diminution in Property Value

As a preliminary matter, the elements for a common law nuisance claim in Maine, as articulated and clarified by state common law, clearly require a showing of diminution in property value to satisfy the substantiality requirement for all interferences with use and enjoyment of property that do not physically affect the land.[219] This most likely presents an insurmountable barrier to recovery against a properly permitted grid-scale wind energy project in Maine if it has no physical effect on its neighbors' property.[220] In a 2018 report, the Maine Wind Energy Advisory Commission found that "[t]he majority of the information reviewed . . . did not suggest that wind power projects are having a negative effect on property values."[221] A nation-wide study by the Lawrence Berkeley National Laboratory reached the same conclusion, but noted that "the possibility that individual homes or small numbers of homes have been or could be negatively impacted cannot be dismissed."[222]

Even if substantiality was demonstrated by clearly diminished property values, such diminution would still have to be causally connected to a legally recognized interference with the use and enjoyment of property.[223] Diminished property values alone do not generally constitute such an interference.[224] However, diminution in property value is only required as proof of substantiality when a land use causes "mere physical discomfort or mental annoyance."[225] Plaintiffs may be able to avoid that difficulty by pleading that the noise, visual impacts, or safety failures of a project caused actual physical injury to its neighbors and not just discomfort.[226] The reasoning of *West v. Jewett & Noonan Transportation, Inc.* suggests the possibility that actual harm to plaintiffs may take the interference out of the category of "mere physical discomfort or mental annoyance" and give it the same per se substantially as it does for interferences that "affect[] the physical

219. *See* Charlton v. Town of Oxford, 2001 ME 104, ¶ 36, 774 A.2d 366; West v. Jewett & Noonan Transp., Inc., 2018 ME 98, ¶ 15, 189 A.3d 277.

220. *See, e.g.*, Off. of Energy Efficiency & Renewable Energy, *Wind Energy Projects and Property Values*, ENERGY.GOV, https://windexchange.energy.gov/projects/property-values [https://perma.cc/HB2K-W3YQ] [hereinafter *Wind Energy Projects and Property Values*] (describing the lack of evidence for a statistically significant connection between wind energy facilities and lower surrounding property values).

221. ME. WIND ENERGY ADVISORY COMM'N, *supra* note 65, at 28; *see also Wind Energy Projects and Property Values*, *supra* note 220 ("[I]f property value impacts exist, they are too small and/or too infrequent to result in any widespread, statistically observable impact.").

222. *Wind Energy Projects and Property Values*, *supra* note 220.

223. *See Charlton*, 2001 ME 104, ¶ 36, 774 A.2d 366 (listing interference and substantiality as separate elements of a nuisance claim under Maine common law).

224. *See, e.g.*, Burch v. NedPower Mount Storm, LLC, 647 S.E.2d 879, 892 (W. Va. 2007) ("[A]n activity that diminishes the value of nearby property values and also creates interferences to the use and enjoyment of nearby property may be abated.").

225. West v. Jewett & Noonan Transp., Inc., 2018 ME 98, ¶ 15, 189 A.3d 277 (quoting KEETON ET AL., *supra* note 192, § 88 at 627).

226. *See supra* Section II.A.3.

condition of . . . land," removing the need for a showing of diminished property value.[227]

2. Noise

Although limited, noise complaints have enjoyed the most success as a basis for nuisance claims against wind projects.[228] In the 1980s, a New Jersey Superior Court enjoined operation of a single turbine in a residential area, weighing the gravity of the harm against the utility of the conduct and declaring that its sound output constituted an actionable nuisance.[229] The plaintiffs presented evidence that the turbine's noise output exceeded the permitted level for the residential area, and testified that they had experienced "stress-related symptoms when the windmill was operational," including "nervousness, dizziness, loss of sleep and fatigue."[230] The court held that the turbine's limited social value as a personal source of energy production was outweighed by its unsuitability to the locality and the physical harm that it caused.[231] In a more recent case dealing with a commercial wind project, West Virginia's highest court reversed a judgment on the pleadings, holding, in part, that turbine noise could constitute a nuisance to property-owners miles away if it "prevent[ed] sleep" or "materially [disturbed their] rest and comfort."[232]

Maine case law recognizes noise as an actionable basis for nuisance claims,[233] but the substantiality requirement necessitates a noise level sufficient to reduce property value or possibly cause physical harm to neighbors.[234] Sound pressure levels above seventy-five A-weighted decibels (dBA) can cause hearing impairment under certain circumstances, and low-frequency noise at certain levels can cause severe ear pain and elevated "blood pressure, pulse rate, and serum cortisol levels."[235] However, studies show that wind turbine noise is not loud enough to trigger these health effects.[236] In fact, "sound pressure levels for modern wind turbines at distances greater than 400 meters are typically less than 40 [dBA], which is comparable to the lowest limit of urban ambient sound."[237]

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227. *See West*, 2018 ME 98, ¶ 15, 189 A.3d 277 (quoting KEETON ET AL., *supra* note 192, § 88 at 627); *see also supra* Section II.A.3.

228. *See, e.g.*, Rose v. Chaikin, 453 A.2d 1378 (N.J. Super. Ct. Ch. Div. 1982).

229. *Id.* at 1382–83.

230. *Id.* at 1380.

231. *Id.* at 1382–83. The Court stated that violation of the municipal ordinance was an "alternative basis for granting injunctive relief." *Id.* at 1384. *But see* Rassier v. Houim, 488 N.W.2d 635, 638–39 (N.D. 1992) (affirming a lower court's decision that operation of a wind turbine in a residential area was not a nuisance despite evidence of noise-related interference with neighbors because there was no ordinance and the "coming-to-the-nuisance" defense applied).

232. Burch v. NedPower Mount Storm, LLC, 647 S.E.2d 879, 885, 891 (W. Va. 2007) (quoting Ritz v. Woman's Club of Charleston, 173 S.E. 564, 565 (W. Va. 1934)).

233. *See, e.g.*, Town of Stonington v. Galilean Gospel Temple, 1999 ME 2, ¶ 15, 722 A.2d 1269.

234. *See* Charlton v. Town of Oxford, 2001 ME 104, ¶ 36, 774 A.2d 366 (establishing the Law Court's position on substantiality); West v. Jewett & Noonan Transp., Inc., 2018 ME 98, ¶ 15, 189 A.3d 277 (opening the door to physical harm to occupants as a showing of per se substantiality).

235. Hays, *supra* note 119, at 254–55.

236. CHIEF MED. OFFICER OF HEALTH OF ONT., THE POTENTIAL HEALTH IMPACT OF WIND TURBINES 6 (2010).

237. *Frequently Asked Questions About Wind Energy*, *supra* note 62.

Although studies suggest that persistent turbine noise can cause adverse health outcomes like sleep disturbances, researchers have largely been unable to establish a causal connection between proximity to turbines, noise exposure, and physiological health effects.[238] In fact, other studies suggest that the auditory impacts of wind projects are really "expression[s] of personal experience and visual perceptions rather than . . . objective response[s] to wind turbine sound level."[239] Over time, developments in turbine design have further reduced the risk of adverse health effects by greatly reducing turbines' mechanical and aerodynamic noise output.[240] Furthermore, state and local land use regulations often contain provisions that help keep noise below actionable levels.[241] For example, DEP's Site Law rules contain specific sound level standards that apply to all grid-scale wind energy development in the state.[242]

DEP's Site Law rules set three sound level limits for wind projects: (i) "75 dBA at any time of day at any property line of the . . . development or contiguous property owned or controlled by the . . . developer"; (ii) "55 dBA between 7:00 a.m. and 7:00 p.m." at any protected location; and (iii) "42 dBA between 7:00 p.m. and 7:00 a.m . . . . at any protected location."[243] Protected locations include various lands preserved by the state or federal government; lands designated as protected locations by the Bureau of Public Lands; and properties containing residences, planned residences, approved residential subdivisions, religious facilities, academic facilities, or medical facilities when a Site Law permit is sought.[244]

The rule contains very specific provisions for tonal and short duration repetitive sounds (SDRS), as well as detailed measurement procedures and limited discretion for granting variances.[245] The developer must both present the DEP with extensive information about a project's sound levels at the outset and perform periodic monitoring and reporting throughout the project's life, as well as upon DEP request, in order to ensure regulatory compliance.[246] The Site Law also expressly provides that municipalities may adopt stricter noise regulations than the DEP.[247]

Overlapping regulation at the state and municipal level virtually ensures that permitted wind energy projects will not produce noise at levels that will cause negative health effects. If a plaintiff is unable to prove that turbine noise has physically injured them, the argument that diminished property value is unnecessary to prove substantiality will be unavailable to them. As a result,

238. Hays, *supra* note 119, at 252–53.

239. T. Ryan Haac et al., *Wind Turbine Audibility and Noise Annoyance in a National U.S. Survey: Individual Perception and Influencing Factors*, 146 J. ACOUSTICAL SOC'Y AM. 1124, 1139 (2019).

240. Mortensen, *supra* note 39, at 179, 189–90.

241. *See, e.g.*, 06-096 C.M.R. ch. 375, § 10(I) (2016); ME. STATE PLANNING OFF., GUIDEBOOK FOR THE MAINE MODEL WIND ENERGY FACILITY ORDINANCE 16–17 (2010).

242. 06-096 C.M.R. ch. 375, § 10(I)(1) (2016). These sound level limits apply to grid-scale wind energy development regardless of whether it occurs in expedited permitting areas that are also subject to WEA rules. *See id.*

243. *Id.* § 10(I)(2).

244. *See id.* § 10(G)(16).

245. *Id.* § 10(I)(3), (4), (6), (8).

246. *Id.* § 10(I)(7), (8)(e)–(f).

247. 38 M.R.S. § 484(3)(C) (2022).

aggrieved neighbors would be largely unable to bring a noise-based nuisance claim against a wind energy project under Maine law.

3. Visual Impacts

Aesthetics have been an even less successful basis for nuisance claims against wind projects.[248] For example, a neighboring landowner's objections to a wind energy project's obstruction of their viewshed featured prominently in a nuisance action brought before an appellate court in Texas.[249] The court in *Rankin v. FPL Energy, LLC* acknowledged that the development interfered with the plaintiffs' enjoyment of their property but held that their "injury" amounted to an emotional reaction that was too insubstantial to support a nuisance action.[250] Although the *Rankin* court did not mention any case by name, it condemned the practice of "includ[ing] aesthetics as a condition in connection with other forms of interference," maintaining that "[a]esthetical impact either is or is not a substantial interference."[251] This may have been a rebuke of West Virginia's earlier opinion in *Burch*, where the court expressed willingness to abate an "unsightly activity . . . when it occurs in a residential area and is accompanied by other nuisances."[252]

Maine is generally unsupportive of aesthetics as a basis for a nuisance action.[253] As far back as 1906, the Law Court has held that Maine law does not recognize a cause of action for "the annoyance caused by the proximity or ugliness of otherwise harmless structures upon the land of another."[254] In *Whitmore v. Brown*, the Law Court held that no legal right would be impaired even if the market value of the property was lessened.[255] If Maine common law does not recognize aesthetics as a valid basis for a nuisance action, even when accompanied by diminished property value, then a plaintiff would definitely be unable to succeed on a nuisance claim against a land use that has no impact on property values, such as the operation of a wind turbine.[256] Even the argument that the project's "shadow flicker" causes physical injury is probably doomed on account of the fact that shadow flicker "occurs at a frequency of 0.3–1.1 Hertz (Hz), which is well below the threshold known to elicit seizures in those with epilepsy."[257]

To an even greater degree than with noise, Maine's permitting framework protects landowners from the visual impacts of wind projects more than nuisance law does.[258] The Site Law and WEA have different regulatory schemes for mitigating the visual impacts of grid-scale wind energy projects, but the programs have converged somewhat since the 2007 amendments to the Site Law, which required Site Law-regulated wind projects to be "designed and sited to avoid

248. *See, e.g.*, Rankin v. FPL Energy, LLC, 266 S.W.3d 506, 512–13 (Tex. App. 2008).
249. *Id.* at 511–13.
250. *Id.*
251. *Id.* at 512.
252. Burch v. NedPower Mount Storm, LLC, 647 S.E.2d 879, 892 (W. Va. 2007).
253. *See, e.g.*, Charlton v. Town of Oxford, 2001 ME 104, ¶ 33, 774 A.2d 366.
254. Whitmore v. Brown, 102 Me. 47, 57, 65 A. 516, 520 (1906).
255. *Id.*
256. *See supra* Section II.B.1.
257. *Frequently Asked Questions About Wind Energy*, *supra* note 62.
258. *See* 06-096 C.M.R. ch. 375, § 14 (2016); 06-096 C.M.R. ch. 382, §§ 3–4 (2018).

unreasonable adverse shadow flicker effects." [259] Site Law regulations prohibit a wind project from having an "unreasonable effect on scenic character," and to that end, require that the project be "designed and landscaped to minimize [its] visual impact."[260] In order to receive DEP approval, a Site Law application must satisfy these conditions, and DEP has authority to ensure that it does so by imposing and enforcing "any reasonable requirement" as a condition of approval.[261]

Since WEA applies in parts of the state that have been designated as desirable for wind project development, the WEA rules regulate projects' scenic impacts with a lighter touch.[262] The WEA standard is that projects "must not significantly compromise views from a Scenic Resource of State or National Significance (SRSNS)."[263] WEA defines an SRSNS as including "national natural landmarks, certain historic places, national or state parks, great ponds, and other places of scenic significance."[264] DEP's analysis of scenic impacts under WEA assigns SRSNSs high, medium, or low significance based on their characteristics, scenic value, and potential for degradation from incompatible development in their viewshed.[265] The higher the SRSNS's significance, the lower the threshold for a finding of unreasonable adverse effect on scenic character.[266] This unreasonableness determination depends on the existing character of the surrounding area, the expectations of the typical viewer, the purpose and context of the wind energy project, the public use and enjoyment of the affected SRSNS, and the scope and scale of the potential effect.[267] A WEA-regulated project's associated facilities are assessed under Site Law's stricter standards if DEP determines that applying WEA would have "unreasonable adverse effects due to the scope, scale, location or other characteristics of the associated facilities."[268]

Although the text of the Site Law quires DEP to ensure that grid-scale wind energy projects outside of expedited permitting areas are "designed and sited to avoid unreasonable adverse shadow flicker effects," the implementing regulations for the Site Law do not contain specific provisions on that topic.[269] The WEA regulations are more specific. They require a developer to demonstrate that their project will cause no more than thirty hours of shadow flicker on "any occupied building located on [another's] property," unless the developer does one of the following: (i) obtains a lease or easement from the property owner, (ii)

259. 38 M.R.S.A. § 484(10) (2022) (bringing the Site Law's aesthetic regulations closer to WEA's). *Compare* 06-096 C.M.R. ch. 375, § 14 (2016), *with* 06-096 C.M.R. ch. 382, § 3 (2018) (laying out DEP's approach to reviewing visual impacts under the Site Law and WEA respectively).

260. 06-096 C.M.R. ch. 375, § 14, 14(B)(3) (2016).

261. *Id.* § 14(C)–(D).

262. *See* 06-096 C.M.R. ch. 382, § 3 (2018).

263. *Id.*

264. Champlain Wind, LLC v. Bd. of Env't Prot., 2015 ME 156, ¶ 4, 129 A.3d 279; *see also* 35-A M.R.S. § 3451(9) (2022).

265. 06-096 C.M.R. ch. 382 § 3(I) (2018).

266. *Id.*

267. *Id.* § 3(C)–(G).

268. *Id.* § 3(A).

269. *Id.* § 4. *See generally* 06-096 C.M.R. ch. 375 (2016) (omitting specific provisions regarding shadow flicker mitigation).

demonstrates that the property is used seasonally, or (iii) shows that its occupants will not experience more than thirty hours of shadow flicker in a given year.[270]

Although Maine's common law nuisance jurisprudence is unsympathetic to aesthetic complaints against neighbors' land uses,[271] its statutes and rules regarding wind projects' visual impacts afford far greater protection to neighboring landowners. Additionally, DEP's Board of Environmental Protection is given substantial deference in interpreting WEA and rendering decisions as to projects' compliance with regulations.[272]

4. Safety

Notwithstanding certain high profile turbine failures, concerns about turbine safety are often disproportionate to the actual danger presented.[273] As of 2014, there were 40,000 wind turbines installed in the United States and only 40 turbine failures.[274] It has been well recognized for at least a decade that any mechanical dangers that wind projects present to their neighbors can be effectively mitigated by regular maintenance, installation of vibration and temperature sensors to avoid icing and blade throws, routine blade testing, and automatic braking systems to prevent operation in high winds.[275] DOE acknowledges that mechanical safety issues were more common in the technology's early years, but after hundreds of thousands of hours of operating experience, blade throws are now "virtually non-existent on today's turbines."[276]

The Restatement contemplates injunction of land uses that threaten significant harm "although no harm has yet resulted," and some jurisdictions regard an interference with use and enjoyment of land as actionable if it "creat[es] or maint[ains] . . . a condition having a natural tendency to cause injury."[277] However, Maine case law does not support an anticipatory approach to nuisance claims.

Although mechanical safety concerns do not give rise to a cause of action for nuisance against wind projects under Maine common law, Site Law and WEA regulations offer neighbors protection against this potential externality.[278] The WEA rules require developers of grid-scale wind energy projects in expedited permitting areas to show that their project "will be constructed with setbacks . . . adequate to protect public safety" for the express purpose of minimizing the risk of "throw, blade shear, tower collapse, and fire."[279] The 2007 amendments to the Site

270. 06-096 C.M.R. ch. 382, § 4 (2018).

271. *See* Whitmore v. Brown, 102 Me. 47, 57, 65 A. 516, 520 (1906).

272. *See* Champlain Wind, LLC v. Bd. of Env't Prot., 2015 ME 156, ¶ 19, 129 A.3d 279.

273. *Compare Giant Wind Turbine Collapse to Be Investigated*, *supra* note 135, *with Wind Energy Projects and Safety*, *supra* note 136.

274. *Wind Energy Projects and Safety*, *supra* note 136.

275. Salkin & Ostrow, *supra* note 39, at 1075.

276. *See Wind Energy Projects and Safety*, *supra* note 136.

277. *See* RESTATEMENT (SECOND) OF TORTS § 821F cmt. b (Am. L. Inst. 1979); *see also* 66 C.J.S. *Nuisances* § 31 (2022).

278. *See* 38 M.R.S. § 10(B) (2022); *see also* 06-096 C.M.R. ch. 382, § 5 (2018).

279. 06-096 C.M.R. ch. 382, § 5, 5(B) (2018).

Law use similar language to require setbacks for grid-scale wind energy projects *outside* of expedited permitting areas as well.[280]

Both the WEA rules and the Site Law statute require developers to obtain setback distance recommendations from a licensed professional civil engineer and from the manufacturer of the turbine,[281] but the WEA rules establish a minimum setback of the distance "dictated by local municipal zoning ordinance . . . or 1.5 times the sum of the hub height plus the rotor diameter, whichever is greater."[282] A project is permitted to be set back as far as the applicable zoning ordinance requires but only less than "1.5 times the sum of the hub height plus the rotor diameter" if the developer "obtain[s] safety easements from all affected landowners."[283] Again, although Maine common law nuisance jurisprudence does not accommodate an action against grid-scale wind energy projects on the basis of speculative safety concerns, the Site Law and WEA permitting processes address the issue and provide neighboring landowners with greater protection than nuisance law.

C. Continued Availability of a Cause of Action for Nuisance

The Site Law and WEA effectively regulate the characteristics of grid-scale wind energy projects that could arguably give rise to nuisance actions.[284] However, a private cause of action may still be available to neighbors who oppose the project.[285] Although compliance with a Site Law or WEA permit should theoretically mitigate a wind project's impacts enough to preclude it from being an actionable nuisance, the Law Court has stated that activities are not "necessarily immune from private actions" just because they are "conducted pursuant to a license."[286] Therefore, developers remain vulnerable to private legal actions despite the time and effort required to obtain a license to construct and operate grid-scale wind energy projects under WEA or the Site Law. This issue arose in *Burch*, where the Supreme Court of Appeals of West Virginia held that, absent statutory language to the contrary, its Public Service Commission did not have the power to abrogate civil litigants' right to a common law cause of action for nuisance by licensing a wind energy project.[287]

Plaintiffs have had limited success bringing nuisance claims against wind turbines in the United States, and the case law suggests they would fare no better under Maine nuisance law.[288] However, even if a claim has little chance of success, it will delay the project and subject the developer to the financial burden of mounting a defense, thereby creating a disincentive to wind energy development.[289]

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280. *See* 38 M.R.S. § 484(10)(B) (2022).

281. *See* 06-096 C.M.R. ch. 382, § 5(A)–(C) (2018); 38 M.R.S. § 484(10)(B) (2022).

282. 06-096 C.M.R. ch. 382, § 5(B) (2018).

283. *Id.* § 5(B)–(C).

284. *See supra* Section II.B.

285. *See, e.g.*, Johnston v. Me. Energy Recovery Co., 2010 ME 52, ¶ 17, 997 A.2d 741; Burbank v. Bethel Steam Mill Co., 75 Me. 373, 382 (1883).

286. *Johnston*, 2010 ME 52, ¶ 17, 997 A.2d 741.

287. *See* Burch v. NedPower Mount Storm, LLC, 647 S.E.2d 879, 887, 889 (W. Va. 2007).

288. *See supra* Section I.B.

289. *Cf.* Goeringer, *supra* note 116 (describing the involved litigation arising from these claims).

D. Statutory Nuisance Immunity

WEA unambiguously declares the social value of grid-scale wind energy by stating that "it is in the public interest to explore opportunities for and encourage [its] development, where appropriate."[290] The Act goes on to state "that it is in the public interest 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 when considered broadly at the landscape level."[291] However, there is still *some* potential for negative impacts on neighboring landowners from turbines' noise output, visual impacts, and potential mechanical failure.[292] While the licensing requirements under DEP's Site Law and WEA regulations do not eliminate those impacts from a wind project, they mitigate the harm to a level justified by the conduct's utility, effectively defusing the merits of a potential nuisance claim. This licensing process is an administrative procedure for identifying and mitigating nuisance conditions that is far more attentive to neighboring landowners' interests than the state's common law cause of action for nuisance. Furthermore, these processes have the additional benefit of simultaneously reviewing the project's environmental impacts.[293]

Although a cause of action for nuisance remains available to landowners, the rigor of the substantiality requirement, as established by the Law Court's opinion in *Charlton*, makes it virtually certain that a permitted wind project's interference with neighbors' use and enjoyment of their property will not rise to the level of an actionable nuisance. DEP's licensing process for grid-scale wind energy gives neighbors far greater protection than Maine's nuisance jurisprudence because it mitigates wind projects' impact to levels well below those considered substantial at common law.

Increased grid-scale wind energy development is essential to meeting Maine's energy needs while minimizing contributions to global climate change and rising global sea levels.[294] Therefore, Maine's legislature should consider insulating developers from private legal actions that have enough merit to be advanced, yet insufficient legal support to prevail. To this end, the legislature should grant grid-scale wind energy projects nuisance immunity when operating in compliance with applicable federal, state, and local laws (including all statutes, regulations, ordinances, and permitting and licensing requirements). Maine has similar statutes, such as those that immunize commercial fishing, farming, and agricultural composting operations from nuisance claims when they are conducted in conformity with all applicable laws.[295] An equivalent statute for grid-scale wind energy projects would effectively bar neighboring landowners from bringing

290. 35-A M.R.S. § 3402 (2022).

291. *Id.* § 3402(2).

292. *See supra* Section I.G.3.

293. *See, e.g.*, 38 M.R.S. § 484(3)–(7) (2022); 35-A M.R.S. § 3452-A (2022) (providing special protection for a particularly vulnerable species of bird).

294. *See supra* Sections I.C–D.

295. 17 M.R.S. § 2807(2) (2022) (commercial fishing operations); *see also* 7 M.R.S. § 153 (2022) (farms, farm operations, or agricultural composting operations).

private civil actions against the developer, and instead encourage them to get involved and have their voices heard in the early DEP review and licensing stages.

The current regulatory framework provides opportunities for public involvement.[296] In determining whether the Site Law's visual impact standards should be applied to a project in an expedited permitting area instead of WEA's standards, DEP accepts any relevant information that interested persons provide "within [twenty] days of acceptance of the permit application as complete."[297] This provision allows users of an SRSNS to heighten the requirements for mitigating a project's visual impact by expressing the way in which it adversely impacts their use and enjoyment of particular land.[298]

DEP's requirements with respect to noise limits and safety setbacks can also be heightened through passage of local municipal ordinances with lower sound limits and greater setback distances.[299] If a municipality is supportive of requiring wind projects to achieve lower sound limits, less obtrusive visual impacts, and larger safety setbacks than called for by DEP licensing, then the municipality can enact ordinances that address these issues.[300] Although this approach calls for collective action to an extent that private nuisance litigation does not, it provides communities that are particularly sensitive to or unsupportive of wind energy development with a means of heightening restrictions without subjecting developers to the caprice, expense, and uncertainty of neighboring landowners' private causes of action.

CONCLUSION

A sustained transition from traditional energy generation to increased wind energy production is crucial to avoiding some of the environmental and economic damage that continued global climate change and rising sea levels present to Maine.[301] Although Maine is a regional leader in wind energy development, recent years have seen decreased construction of new grid-scale wind energy projects in the state.[302] President Biden has identified territorial waters off the coast of Maine as a desirable area for offshore wind energy leasing,[303] but Maine should not wait for, or solely rely on, this means of providing clean energy to its residents. Immunizing a contentious land use from nuisance suits when it complies with applicable regulation may seem like a radical step to take in support of climate change mitigation. However, these suits are practically impossible to win given Maine's nuisance jurisprudence,[304] and the state has already extended similar protection to other land uses.[305] The continued availability of a nuisance action

296. *See, e.g.*, 06-096 C.M.R. ch. 382, § 3 (2018).
297. *Id.* § 3(A).
298. *Id.* § 3(A)–(B).
299. *See id.* § 5(B); *see also* 38 M.R.S. § 484(3)(C) (2022).
300. *See* 30-A M.R.S. § 3001 (2022) (granting municipalities broad power to enact ordinances).
301. *See supra* Section I.C.
302. *See supra* Section I.F.
303. *See Biden-Harris Administration*, *supra* note 91.
304. *See supra* Section II.B.
305. *See* 17 M.R.S. § 2807(2) (2022); 7 M.R.S. § 153 (2022).

only serves to increase developers' uncertainty as to the probable timeline and cost of bringing new grid-scale wind energy projects online in Maine.[306]

The Maine Legislature has expressed its support for a transition to 100% clean energy by 2050 and expedited wind energy development in appropriate locations in order to achieve those goals.[307] The proposal in this Comment would take this support a step further and improve the State's chance of meeting its ambitious target. Global sea level rise realistically cannot be stopped in the foreseeable future, and only the best-case emission reduction scenarios would be able to meaningfully slow its rise.[308] However, it would be imprudent to take this state of affairs as a reason not to make efforts to achieve that ideal. Maine is already a regional leader in wind power generation,[309] and it has the potential to become a national leader in accommodating development. The current state of its nuisance jurisprudence effectively gives grid-scale wind energy de facto nuisance immunity. Since the DEP's regulatory framework effectively protects those landowners who may be tempted to bring a claim, the Maine Legislature should promote wind energy development and bolster developer confidence by granting statutory immunity to projects in compliance with the relevant regulations.

306. *See supra* Section II.C.

307. 35-A M.R.S. §§ 3210(1-A), 3402 (2022).

308. *See* IPCC, *supra* note 3, at 21, 30.

309. *See U.S. Installed and Potential Wind Power Capacity and Generation*, *supra* note 27.