Flipped Constitutional Supremacy: Inferior Local Law Blocking Federal Policy

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FLIPPED CONSTITUTIONAL SUPREMACY: INFERIOR LOCAL LAW BLOCKING FEDERAL POLICY

Steven Ferrey*

TABLE OF CONTENTS

INTRODUCTION........................................................................................................66
I. TECHNOLOGICAL CHANGE AND SITING SUSTAINABLE INFRASTRUCTURE ....73
   A. Climate Change, Changing Generation Technologies ................................. 73
   B. Ascending Wind Power Generation ............................................................. 77
   C. Wind Cost Decreases, Maximizing Efficiency as Turbine Size Increases,
      but Increasing Local Resistance to Wind Siting ....................................... 78
   D. Scaling Wind Against Land Use ................................................................. 82
II. SITING SUSTAINABLE WIND POWER INFRASTRUCTURE: LOCAL
   POLICE POWER AND STATE ENERGY SITING LAW ................................... 83
      A. Local Implementation of ‘Aesthetic’ Zoning to Bar Sustainable Power .... 84
         1. Environmental Overlay Zones .............................................................. 84
         2. Municipal ‘Aesthetic’ Zoning-Out of Sustainable Wind
            Power Turbines ...................................................................................... 85
      B. Deference to Local Zoning on Aesthetics of Infrastructure Siting .......... 88
      C. ‘Aesthetic’ Wind Zoning Challenged in the Courts ................................ 90
III. NO FEDERAL ROLE AND LIMITED STATE ROLE TO PREEMPT
    LOCAL LAND-USE ........................................................................................ 94
      A. Uniquely Bifurcated Legal Regulation of U.S. Power ............................ 94
      B. Supreme Court: Lack of Federal Energy Preemptive Authority .......... 96
      C. State Preemption as the Antidote to Supreme Court Limitation
         on Federal Authority to Preempt ............................................................. 100
IV. SUPREMACY CLAUSE INVERSION: INNOVATIVE SOLUTIONS SUCCESSFULLY
    TO SITE RENEWABLE POWER UNDER EXISTING FEDERAL, STATE,
    AND LOCAL LAW ....................................................................................... 108
      A. Stepping Beyond All Locally Controlled Land ........................................ 110
         1. Prioritizing Use of a Distinct 30% of U.S. Land ................................. 110
         2. Avoiding Land and Local Land-Use Control ...................................... 112
      B. Shifting Legal Burdens: Special Permits in Lieu of Local ‘Aesthetic’

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The Biden Administration in 2021 successfully enacted unprecedented landmark infrastructure legislation investing hundreds of billions of dollars to address global warming on an expedited emergency basis with sustainable energy infrastructure.\(^1\) Further, the Biden Inflation Reduction Act added an unprecedented $369 billion more of renewable energy climate mitigation spending.\(^2\) However, these ‘marquee’ legislative successes of President Biden’s term in office advancing historic federal climate change infrastructure spending is already eclipsed by municipal governments legally ‘zoning out’ such sustainable infrastructure. This extraordinary legal elevation of lower-level municipal law resurrected to overrule national policy occurs despite the Constitution’s Supremacy Clause,\(^3\) which preempts inferior-level government actions. Nonetheless, Supreme Court decisions recently support inferior-level local control over sustainable infrastructure.\(^4\) Tens of thousands of inferior-level municipal governments in the United States (U.S.) now exercise the final legal veto on critical U.S. climate policy and infrastructure.\(^5\)

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1. See Brooksany Barrowes, Robert S. Fleishman, Brian C. Greene, Marcia Hook & Raya B. Treiser Massive Bipartisan Infrastructure Bill Includes Billions in Funding and Process Improvements for Energy and Infrastructure, KIRKLAND & ELLIS ENERGY BLOG (Nov. 7, 2021), https://www.kirkland.com/publications/blog-post/2021/08/bipartisan-infrastructure-bill [https://perma.cc/YF6V-PNKB]; see also Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, § 40105, 135 Stat. 933 (2021) (adding additional criteria for the federal designation of national interest electric transmission corridors (NIETCs), and amending section 216 of the Federal Power Act requirements to allow the federal government to interfere with state transmission citing authority when a state commission fails to act within one year or denies certain transmission applications under applicable law).
3. U.S. CONST., art. VI, cl. 2 (“This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.”).
4. See infra Part III.
5. See infra Part II & III.
The Biden Administration’s unprecedented legislative initiatives on infrastructure and climate do not address the critical-path legal bottleneck created by the unfettered discretion of 35,000 separate cities and towns in the U.S. Pursuant to the Tenth Amendment of the Constitution, and enforced by recent Supreme Court decisions, tens of thousands of towns exclusively control whether sustainable infrastructure can or cannot be sited on their land. Numerous cities and towns now are rolling out and deploying ‘aesthetic’ local zoning to deny cost-effective renewable energy a place on their land.

This Article analyzes how municipal governments are frustrating U.S. sustainable infrastructure policy by deploying inferior-level ‘aesthetic’ zoning despite the Constitution’s Supremacy Clause and the warming climate. Notwithstanding criticism from Representative Alexandria Ocasio-Cortez calling this Biden plan “not nearly enough,” from Representative Nicole Malliotakis that the plan will hurt the “middle class and hard-working Americans,” and from Senator Ben Sasse calling such unprecedented spending “wildly out-of-touch,” U.S. success addressing climate change is not dependent solely on the amount of federal money provided. While a decade or more ago, renewable power infrastructure was expensive and required federal and state subsidies; this is not the challenge today. With renewable energy technologies to arrest climate warming now the least expensive energy options, the financial incentives and subsidies in

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7 See infra Part III.B.

8 See infra Part II.


12 See infra notes 74–76 and accompanying text.

13 See id.
the Biden Administration infrastructure law and Inflation Reduction Act do not address nor solve the legal bottlenecks imposed by inferior levels of government.

The Third Branch of government does not provide its usual solution: The Supreme Court’s recent opinion in Virginia Uranium v. Warren declares that the federal government cannot preempt local government land-use regulations related to low-carbon electric power production.14 Distant neighbors, even when they do not experience any conventional legal nuisances, can and do prevent renewable wind turbines from being sited that alter those neighbors’ existing distant scenic views over property they do not own.15 Municipal ‘aesthetic’ zoning is no longer an obscure legal footnote. It is elevated and unilaterally enables any of more than 35,000 local governments counted in the U.S. census to frustrate national sustainable climate policy and law without any federal checks or balances. The legal choreography analyzed in this Article has international climate repercussions.

Much is at stake. The international science panel on world climate concluded that emission of CO₂ and other global warming greenhouse gases (GHGs) from burning fossil fuels for electricity production in lieu of the use of renewable energy technologies is pushing the world’s climate to the tipping points “that will alter regional and global environmental balances . . . that are irreversible within the time span of our current civilization.”16 The Biden Administration’s strategy on climate states that a delayed transition to renewable power would entail a “higher likelihood of reaching catastrophic damages or ‘tipping points’ and potentially irreversible economic impacts.”17 Controlling the warming climate will require a rapid 45% diminution of global GHG emissions from 2010 levels, resulting in net-zero GHG emissions by 2050.18 In response, the Biden Administration pledged to replace all electric power generation using fossil fuels with renewable energy by 2035,19 and

15 These “affected” neighbors often are not close enough to distant wind turbines to have any “nuisance” impact from renewable wind energy noise, strobe effect, or ice throws from moving blades. See infra Part IV.D.
16 UNITED NATIONS ENVIRONMENT PROGRAMME, UNEP YEAR BOOK 21 (Catherine McMullen & Thomas Hayden, eds., 2009).
the U.S. rejoined the Paris Climate Agreement along with all world nations, which requires an unprecedented rapid deployment of renewable wind power.20

Electric power is one of humanity’s three most important inventions21 and a technology essential to the American economy. Since first harnessed by Thomas Edison in 1876 and first deployed at the end of the nineteenth century,22 electric power infrastructure has enjoyed exceptions to traditional local zoning through the exercise of legal eminent domain power.23 Notwithstanding, numerous communities in the U.S. now ‘aesthetically’ zone-out wind power turbines24 despite these turbines being the most significant new source of renewable electric power generation in the country.25 This Article critically examines how ‘esthetic’ local zoning law in numerous communities across the U.S. is now blocking siting of new sustainable technology. This inversion of authority:

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Contravenes the Supreme Court’s prohibition in *Dean Milk* against burdensome state regulatory restrictions on interstate commerce, 26 notwithstanding that the Supreme Court found electricity to be an article of interstate commerce, which triggers federal, rather than local, jurisdiction; 27 and

Disregards common law in each of the fifty states that can address these issues. 28

Local governments derive all of their powers from their states. 29 Thus, states have the residual power to preempt the enactment of non-sustainable laws and practices by their local communities regarding climate change and infrastructure. 30 However, the Supreme Court recently deferred to local zoning by-laws to determine what can and cannot be developed on land in each town and city. 31 The Biden Administration 2021 infrastructure law and 2022 Inflation Reduction Act do not address these barriers to implementing sustainable renewable power. After analyzing this reality, this Article develops alternatives within the structure of existing U.S. law. 32

With plentiful sustainable renewable technologies available now at competitive costs, 33 how the courts interpret the separation of powers of different levels of government will determine whether the U.S. and the world successfully control the rapidly warming climate. Part I examines sustainable technology infrastructure: its recent competitive advantages, declining costs, and critical role in reducing climate change. Yet, new, taller wind turbines on elevated ridge lines—where maximum wind power can be captured—require more land per unit of energy produced than other energy sources; this can trigger local zoning laws.

Part II analyzes the constitutional maze within the separation of U.S. legal power. Part II.A analyzes the cascade of Supreme Court precedents incapacitating federal government preemption of local siting of renewable infrastructure. Part II.A also examines recent unsuccessful federal attempts to preempt lower-level local jurisdiction on energy siting. Part II.B deconstructs court precedents affording deference to local zoning. Part II.C takes the final step analyzing why long-

26 See infra Part IV.D.1.
28 See infra Part IV.D.
30 See infra Part III.C.
32 See infra Part IV.
33 See infra Part I.C.
recognized implied ‘conflict preemption’ has not been applied successfully by courts to enjoin inferior-level local municipal regulation blocking use of local land to site sustainable power.

For almost a century since the enactment of the Federal Power Act, U.S. law has divided legal power over electricity. Part III.A examines controversial, unique constitutional precedents segregating federal, state, and local legal authority regarding U.S. electric infrastructure. Part III.B analyzes recent Supreme Court decisions deferring to inferior-level local control regarding land use for new energy infrastructure. Given the role of state law, Part III.C undertakes a detailed analysis of each of the fifty states’ preemptive powers over their local municipalities’ land-use siting power for electric infrastructure:

- In twenty-two states, there is no state power generation siting authority; rather, local zoning controls;
- Independent “merchant” power generation facilities, which in recent years have dominated new wind power facility development in the U.S., are not included within the exercise of state siting authority in twelve more of these states;\(^3\)
- Five states that regulate energy projects also require that they separately obtain local zoning and land-use approvals, which provides local government an effective “veto” over states;
- Twenty states exercising state energy siting authority exercise jurisdiction only over large power facility projects that do not include typically smaller wind turbine projects;
- Only four of the fifty states exercise any effective preemptive power on energy infrastructure, notwithstanding that many other states have 100% sustainable clean energy goals as state legal policy.\(^3\)

This Article’s analysis concludes and demonstrates that rather than more than half the states exercising power over their cities regarding siting of renewable energy, in reality, only four of the fifty states exercise state power preemptively over

\(^{3}\) Compare Ind. Code § 8-1-8.5-7 (exempting construction of electric generating facilities primarily for that person’s own use), with Mo. Rev. Stat. § 386.020(15) (noting exemptions including electricity generated for railroads, and private use of private land).

\(^{35}\) See Table of 100% Clean Energy States, Clean Energy States All., https://www.cesa.org/projects/100-clean-energy-collaborative/table-of-100-clean-energy-states/ [https://perma.cc/5VW8-WQDD] (last visited Aug. 3, 2022) (showing 15 of the 17 states that are members of the Clean Energy States Alliance do not effectively preempt local ‘aesthetic’ zoning which can frustrate wind project infrastructure in their states).
35,000 local U.S. municipalities. This void in the remaining forty-six states creates a fundamental conflict and friction between traditional local land-use ‘police power’ juxtaposed against national imperatives immediately on an expedited basis to control climate change. This void in forty-six states—potentially frustrating national climate policy—begs for innovative and creative legal solutions.

Part IV identifies and analyzes six innovative legal solutions, without changing current U.S. law, to circumvent local zoning that is zoning-out sustainable renewable power. All six options can be implemented within the accelerated time frame set by the Biden Administration:

- Two of these six solutions re-locate wind facilities to not be within any municipal jurisdiction to avoid barriers created by inferior-level local zoning law;
- Two have the twenty-eight states that have state energy siting laws re-focus how they apply that law and introduce special permits to supersede local ‘aesthetic’ zoning;
- Two reactivate and utilize common law mechanisms in lieu of local restrictive ‘aesthetic’ zoning to address any nuisances or injuries related to sustainable infrastructure.

Without utilizing these six innovative ‘workarounds’ presented in Part IV, local and state governments legally retain all power under the Tenth Amendment not expressly granted to the federal government in the Constitution. This Article analyzes this reserved power of 35,000 cities and towns to control and frustrate national policy on climate change. It identifies several alternative mechanisms under existing U.S. law to successfully navigate these otherwise intractable legal bottlenecks. Each of these strategic legal paths circumvents existing local barricades to site sufficient amounts of necessary sustainable energy infrastructure within the tight time frames of the accelerated Biden Administration pledges regarding the climate.

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36 Id.; see also infra Part IV.C.
37 See supra note 19 and accompanying text.
38 U.S. CONST. amend. X.
39 See infra Part III.A–B.
40 See infra Part IV.D.1.
I. TECHNOLOGICAL CHANGE AND SITING SUSTAINABLE INFRASTRUCTURE

“Climate change is the most complex problem in history. We won’t solve it with technology alone, but we also can’t solve it without technology.”

—Derek Thompson

A. Climate Change, Changing Generation Technologies

The Paris Agreement is the international legal commitment to mitigate climate change. The U.S. is distinguished as one of the world’s two largest emitters of GHGs, second only to China, as shown in Figure 1. In response to climate change, the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) in December 2015, with 186 nations of the 197 world nations attending, agreed to do everything necessary to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and “[to pursue] efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.” The Paris Agreement requires nations to set


42 See The Paris Agreement, supra note 18 (“The Paris Agreement is a legally binding international treaty on climate change adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.”).

43 Global Greenhouse Gas Emissions Data, U. S. ENV’T PROT. AGENCY (Feb. 25, 2022), https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data [https://perma.cc/UM82-5HQC] (“In 2014, the top carbon dioxide (CO₂) emitters were China, the United States, the European Union, India, the Russian Federation, and Japan. These data include CO₂ emissions from fossil fuel combustion, as well as cement manufacturing and gas flaring. Together, these sources represent a large proportion of total global CO₂ emissions.”).

annual, nationally determined contributions for greenhouse gas emission standards.\footnote{The Paris Agreement, supra note 18 (noting that the nationally determined contributions (NDCs) are gradually progressive, meaning states are supposed to lower their greenhouse gas emissions progressively and continually from each year to the following year).}

Most recently, in 2021, the COP26 held in Glasgow did not achieve the pledges necessary to arrest rapid climate change, according to the leader of the United Nations.\footnote{Laura Quiñones, COP26 Closes with ‘Compromise’ Deal on Climate, but It’s Not Enough, Says UN Chief, UN NEWS (Nov. 13, 2021), https://news.un.org/en/story/2021/11/1105792 [https://perma.cc/SB74-ZEAL].} Instead, COP26 agreed on several softer and less enforceable general agreements among all countries to report progress annually and that smaller groups of countries would either shift away from the use of coal, control methane emissions, halt and reverse deforestation, or any combination of the three options.\footnote{Id.}

One of the problems plaguing international climate agreements has been transparency and verification. Many nations under-report their GHG emissions and exaggerate their mitigating actions, which results in exaggerated data “equivalent to between the amount of emissions produced in a year by a major industrialized nation (8.5 billion metric tons of greenhouse gases) and on the upper end almost a quarter of humanity’s total annual contribution to the climate crisis (13.3 billion metric tons).”\footnote{Report Exposes the Shaky Data Undermining the World’s Progress on Climate Change, GRIST (Nov. 8, 2021), https://grist.org/cop26/report-exposes-the-shaky-data-undermining-the-worlds-progress-on-climate-change/ [https://perma.cc/P6R6-5FZZ]. A significant amount of under-reporting was due to over-reporting CO$_2$-absorbing contributions of local forests and systemic under-reporting of methane and fluorinated gas emission, each of which is a more powerful warming emission than CO$_2$. Id. Regarding methane emissions, see Steven Ferrey, The Second Element, First Priority, 24 B.U. J. SCI. & TECH. L. 41 (2018); see also Steven Ferrey, Unforced Errors, Legal Fulcrum & International Climate, 20 MINN. J.L. SCI. & TECH. 115 (2018); see generally World Energy Outlook 2021, INT’L ENERGY AGENCY (2021).} Notwithstanding inaccurate claims, even if all announced country pledges were fully realized on time, the world would end up with at least a 2.1°C warmer world climate by the end of the century according to the International Energy Agency.\footnote{World Energy Outlook 2021, supra note 48.
The electric power generation sector is among the most significant contributing source of GHG emissions in the U.S. More than 99% of GHG emissions in the power sector emanate from burning fossil fuels. The electric power sector responsible for this dominant percentage of GHGs is a key target for legal policy and inevitably must reduce a disproportionate percentage of national emissions.

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53 AMERICA’S PLEDGE INITIATIVE ON CLIMATE, FULFILLING AMERICA’S PLEDGE: HOW STATES, CITIES, AND BUSINESSES ARE LEADING THE UNITED STATES TO A LOW-CARBON
If dramatic changes to site and deploy sustainable generation technologies are not achieved, at current rates of energy development, energy-related CO₂ emissions in 2050 would be 137% of recent levels under the existing pattern of power development and expansion, instead of dramatically lowered, as required by international agreements. 54 Renewable technologies that dramatically mitigate carbon emissions exist and are commonly used. 55 Renewable power can generate power at a lower cost than conventional power generation. 56 Renewable energy also improves local health by emitting fewer or no criteria air pollutants 57 compared to conventional fossil fuel electric power generation. 58

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B. Ascending Wind Power Generation

Wind power is a story of old and new refinements of a millennia-old technology. The fundamental principle of harnessing wind power has been similar for two millennia. No later than 200 B.C., simple horizontal windmills were used to pump water in China, the Middle East, and Persia; vertical-axis windmills with sails made from woven reeds were used to grind grain. In Egypt, wind power was harnessed to move boats in the Nile River as early as 5000 B.C. The first wind turbines appeared in Denmark in 1890.

Wind and natural gas generation have recently dominated new sources of electric energy deployed in the U.S. In 2012, wind energy in the U.S. was the most installed new electricity generation source, at 43% of all new annual electric generation. In 2015, more than half of new generating capacity was wind energy. U.S. total annual electricity generation from wind in the U.S. increased from about 6 billion kilowatt-hours (kWh) in 2000 to approximately 300 billion kWh in 2019, constituting about 7.3% of total U.S. utility-scale electricity generation. In 2019, electricity generation from wind surpassed renewable hydropower, previously the

60 Id.
61 Id.
62 Id.
64 Energy Dept. Reports, supra note 63.
66 Wind Explained: Electricity Generation from Wind, supra note 25 (“Utility scale includes facilities with at least one megawatt (1,000 kilowatts) of electricity generation capacity.”).
dominant renewable power resource in the U.S. and is now the most-used source of renewable energy for electricity generation on an annual basis in the country.⁶⁷

Renewable energy sources are forecast to overtake natural gas as the dominant source of electricity generation in the U.S. in 2031, even without the continuation of current federal tax subsidies, as wind and solar generation costs plunge.⁶⁸ In 2017, renewable energy and increased energy efficiency were the primary sources of the 4.2% decrease in power sector carbon emissions.⁶⁹ Due to wind power additions, the U.S. now has the second most installed wind generation capacity in the world.⁷⁰

C. Wind Cost Decreases, Maximizing Efficiency as Turbine Size Increases, but Increasing Local Resistance to Wind Siting

Cost matters. The capital cost of wind power projects has decreased to be competitive with the cost of more traditional fossil fuel resources for electricity generation.⁷¹ Wind projects in the U.S. generate electricity at an average cost of $45 per megawatt-hour (MWh) for capacity and energy without other subsidies,⁷² and

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⁷² Jim Efstatthiou Jr. & Brian K. Sullivan, Smarter Wind Turbines Try to Squeeze More Power on Each Rotation, BLOOMBERG L., (May 9, 2018, 6:25 AM), https://www.bloomberglaw.com/product/blaw/bloomberglawnews/bloomberg-law-news/X4P6l7CG0000000?bce=WIsiU2VhcmNoICGYgQnJvd3NlIwiiaHR0cHM6Ly93d3cuYmxvb21iZXJnbgF3LmNvbS9wcml6dWN0L2JlsYXcve2VhcmNoL3Jic3VsdHMvM2Q3ZmExMGQyZWRzNmJYTdjNGQ3ZDQ4MjdhMzc0Y2EiXV0--9308749b6df9ae7ce6911a01902ee
some large wind power projects can produce power at a very low cost of $10-20/MWh.\textsuperscript{73} Between 2008 and 2015, the average cost of building capacity for land-based wind power in the U.S. decreased by 41%.\textsuperscript{74} In a recent study, unsubsidized wind power and utility-scale solar projects came in at lower price ranges than any other analyzed resource, including gas, coal, and nuclear power; “[u]nsubsidized wind ranges from $28–$54 per megawatt-hour . . . . [while] [f]actoring in subsidies, wind prices plunge to $11–$45/MWh.”\textsuperscript{75} Wind power is forecast by the U.S. Department of Energy to be cheaper than electricity produced from natural gas by 2025, even without a continuing federal production tax credit incentive.\textsuperscript{76}

\textsuperscript{73} Advantages and Challenges of Wind Energy, supra note 71.


\textsuperscript{75} Marcacci, supra note 74 (comparing wind prices to solar, gas, coal, and nuclear).

However, there is another aspect. Some of this continuing decrease in the cost per unit of wind power generated results from exponentially increased kinetic power capture with increasing turbine height which permits a larger diameter turbine rotor blade to be used. “For example, the typical turbine’s generating capacity, blade length, and elevation of the mast have increased rapidly over time, making wind speeds at higher elevations more accessible and improving wind generation capacity factors and reducing generating costs.”77 As the blade lengthens, the swept area of the turbine blade creates added power generation by the square of that change in the length of the blade.78 Taller wind turbines capture stronger winds with speed not impaired by trees on the land or offshore in water, as shown over time in Figure 2; the amount of power produced increases at the rate of the cube of the wind speed hitting the blades.79

46576 [https://perma.cc/82AH-THH8] (“The U.S. production tax credit (PTC), a per-kilowatthour (kWh) credit for electricity generated by eligible renewable sources, was first enacted in 1992 and has been extended and modified in the years since. At the end of December 2020, Congress extended the PTC at 60% of the full credit amount, or $0.018 per kWh ($18 per megawatthour), for another year through December 31, 2021.”).

77 Joskow, supra note 27, at 6.


79 THE LAW OF INDEPENDENT POWER, supra note 78, at § 2:12:20.
Therefore, a modest increase of 10% for a 100-foot blade to 110 feet achieves a ten-squared 100% increase in power. Similarly, a location higher on a ridge line capturing only a 10% greater wind speed at that greater height, such as capturing a wind speed averaging 16.5 mph instead of 15 mph, exponentially cubes the power output by 1000%. Together, a taller turbine mast which captures a 10% increase in wind speed at a greater height, coupled with a 10% longer blade, results in a 1,100% increase in effective electric power generation.

As noted by one observer, “the typical turbine’s generating capacity, blade length, and elevation have increased rapidly over time, making wind speeds at higher elevations more accessible, and this creates opportunities to improve wind generation capacity factors and to reduce generating costs.” Thus, larger, more visible wind turbines can create substantially more sustainable power generation, although added height and blade span also have a more scenic visual impact. And here lies the confrontation with local ‘aesthetic’ overlay zoning.

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81 Joskow, supra note 27, at 6.
D. Scaling Wind Against Land Use

Wind power requires a lot of land. Wind power is much less dense than fossil-fuel or nuclear energy sources. To site wind turbines requires four times more land area than a gas-fired fossil-fuel-fired power plant that would generate similar kilowatt-hour amounts of power. The U.S., based on current wind power operating experience and technology, would require approximately 460,000 onshore wind turbines—seven times the current installed wind turbine base to produce 50% of the U.S. electricity supply.

Wind power turbines, often sited on mountain ridgelines to harness the strongest winds, can obstruct view sheds. Wind power requires more U.S. land

82 See Uma Outka, The Renewable Energy Footprint, 30 STAN. ENV’T L. J. 241, 243 n.7 (2011) (citing Robert I. McDonald, Joseph Fargione, Joe Kiesecker, William M. Miller & Jimmie Powell, Energy Sprawl or Energy Efficiency: Climate Policy Impacts on Natural Habitat for the United States of America, 4 PLOS ONE 1, 4 fig.3 (Aug. 2009)).


because capacity wind generation factors range from 0.26 to 0.52, with a fleetwide average capacity factor of 0.35. This U.S. factor compares to a wind capacity factor of 0.21 to 0.279 in the United Kingdom. Intermittent wind power generation with low average capacity factors needs additional land to produce sufficient power. Such intermittent capacity at uncontrollable times does not contribute significantly to power system reliability.

All of the forces of international and national climate imperatives, a U.S. market economy, public perception, and one constant factor, land, are interacting in an interesting mix. As the need for non-carbon-emitting renewable wind power has increased to address climate change, its costs have decreased, making it cost-effective. However, this has been achieved by capturing the exponential efficiency and cost advantages of wind turbines being designed as larger and taller, thereby becoming more visible and affecting more people on more land. A key variable is that wind generation is dramatically more land-intensive than conventional fossil-fuel-fired power generation. And as the next Parts set forth, the use of land for wind power is a local, not international or national, area of legal discretion, and there is local resistance to local wind power.

II. SITING SUSTAINABLE WIND POWER INFRASTRUCTURE: LOCAL POLICE POWER AND STATE ENERGY SITING LAW

Notwithstanding numerous federal and state incentives for developing wind energy projects, the needle to thread for wind generation involves the significant amounts of land required to generate a megawatt of wind power. When land is

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87 Wind Energy Factsheet, supra note 85.
88 THE LAW OF INDEPENDENT POWER, supra note 78, at § 2:6 tbl. 2.1.
89 Id. § 2:12.20.
required, local governments are positioned to create a formidable barrier to locating wind projects across the U.S. This Part examines: (A) the use of local ‘aesthetic’ zoning to bar siting of renewable energy projects; (B) courts’ deference to municipalities on ‘aesthetic’ zoning; and (C) the deferential outcomes of challenges to such zoning in courts.

A. Local Implementation of ‘Aesthetic’ Zoning to Bar Sustainable Power

1. Environmental Overlay Zones

Overlay zones impose protective limitations and restrictions on a land area, notwithstanding the area’s basic physical zoning district, in order to protect environmentally sensitive areas. Overlay districts are superimposed and overlaid on existing zones. Overlay districts can attempt to protect specific environmental features such as fresh water supply, wetlands, coastal protection, or agricultural production capabilities. Notably, most of these environmental features and values

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93 Local communities may also identify and protect through zoning ordinances, wellhead and sole source aquifers. A wellhead protection area is “surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well . . . .” 42 U.S.C. § 300h-7(e). Identifying critical aquifer protection areas requires considering “[t]he vulnerability of the aquifer to contamination . . . . The number of persons or the proportion of population using the ground water as a drinking water source . . . [and] The economic, social and environmental benefits [and] . . . costs . . . that would result to the area from maintenance of ground water of high quality.” 42 U.S.C. § 300h-6(d).

94 Wetlands include swamps, marshes, bogs, and bottom lands and are usually found along rivers, lakes, and coastal waters. LINDA A. MALONE, ENVIRONMENTAL REGULATION OF LAND USE § 4:2, at 4-3 (1990). The wetlands zone may include fresh water and tidal wetlands. Id. §§ 4:29–4:30, at 4-133 to 4-138. They are habitats for a vast amount of wildlife and plant life and serve a role in water quality improvement. Id. § 4:2, at 4-4. The most common purposes of local regulation of wetlands “are control of surface water pollution, preservation of groundwater quantity and quality, flood protection, protection of fisheries, shellfish and wildlife habitats, recreation and aesthetics.” Id. § 4:29, at 4-134.

95 ENVIRONMENTAL LAW, supra note 29, at 536.

96 States and local governments have adopted and implemented many regulations designed to protect agriculture and farmland. See generally MALONE, supra note 94, at 6-1 to 6-104. Through the use of zoning and right-to-farm laws, the preservation of farmland can be an obstacle for a potential project developer. Id. § 6:1, at 6-3. There are two general types of relevant zoning: nonexclusive agricultural zoning and exclusive agricultural zoning. Id. § 6:26–6:36, at 6-55 to 6-69.
are not necessarily negatively impacted by the judicious location of modern wind
turbines in or proximate to the overlay zone.97

One feature of modern wind turbines is their height, as shown in Figure 2. A
well-established line of precedent allows local zoning ordinances to block tall
structures.98 A town could use—and towns have used—overlay districts to attempt
to prohibit wind power turbines. A town may define overlay districts for aesthetic
character or scenic vistas, designed to protect the aesthetics and character of hilltops
and ridgeline open-space views.99 These higher hills and ridgelines make taller wind
power turbines most productive in many eastern U.S. land regions.100 Such an
overlay zone may restrict or prohibit siting wind power turbines by expressly
prohibiting wind towers in the overlay districts or by limiting structural height.

2. Municipal ‘Aesthetic’ Zoning-Out of Sustainable Wind Power Turbines

Several cities and towns in the U.S. have enacted Ridgeline and Hilltop Overlay
Districts to protect hills and other elevated land areas from any aesthetic impacts of

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98 Dowdell v. Bloomquist, 847 A.2d 827, 830 (R.I. 2004) (enjoining tree planting and holding that a row of trees was a “fence”); MJD Props., LLC v. Haley, 358 P.3d 476, 482 (Wash. Ct. App. 2015) (holding that a single tree artificially located and planted may constitute a structure); Tranfield v. Arcuni-English, 215 A.3d 222, 224–26 (enjoining neighbor who planted approximately twenty-four arborvitaes that were ten to twelve feet tall).
99 See infra Part II.A.2; see also infra note 136.
100 See supra notes 77–79 and accompanying text. As noted above, the amount of wind power captured is a function of the square value of the swept blade area of the wind turbine which is fostered by taller, more visible turbine masts going higher to allow longer blades sweeping a wider area; wind power captured also is a function of the cubed value of the wind speed which is greater on ridgelines as the wind hits the ridgeline and compresses at greater speed, a priori.
wind turbine projects. In North Carolina, the Mountain Ridge Protection Act of 1983 allows counties to prohibit any ridge-top placement of wind turbines that have a total capacity of 3 megawatts (MW) or greater; this would exclude a single large on-shore wind turbine shown in Figure 2, or several smaller wind turbines sited at the same facility, or very modest turbine heights on taller hills or mountains. Watauga County, North Carolina, was the first local government to adopt a restrictive wind energy system ordinance.

Likewise, county boards of Commissioners in Kansas can enact ordinances restricting or banning the aesthetic impacts of the development of large-scale wind facilities. Controversy erupted in communities along the Connecticut River Valley, where developers proposed wind turbines on hilltops and ridgelines traversing local communities. Towns enacted ridgeline and hilltop overlay districts to prohibit wind towers and turbines and to address concerns that commercial wind turbines would degrade view-sheds of uplands around the town.

Hampden, Massachusetts, enacted Aesthetic Ridgeline Overlay Districts as part of the town’s zoning master plan and zoning by-laws. Wilbraham, Massachusetts, enacted ridgeline overlay districts barring “windmills” from obstructing the view from public ways or any development that “interferes[s] with or degrades [the ridge line’s] scenic attractiveness as viewed from either a public highway or Public Vantage Point.” Once a wind project was proposed in its boundaries, Kirby,

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101 For example, Hampden and Wilbraham, Massachusetts, which are located along ridgelines of central Massachusetts, have enacted Ridgeline and Hilltops Overlay districts. See infra notes 107–108.
102 Cf. N.C. GEN. STAT. §§ 113A-205, -206, -209 (prohibiting the construction of buildings or structures with a height of more than 40 feet on mountains of 3,000 feet above sea level that stand 500 feet above the adjacent valley floor).
104 See Zimmerman v. Bd. of Cnty. Comm’rs, 218 P.3d 404, 417 (2009); Housley Carr, Kansas Supreme Court Backs County Ban on Wind Farms Based on Aesthetic Reasons, ELEC. UTIL. Wk. (Nov. 9, 2009). Challenges to this were based on a takings argument as well as a commerce clause challenge. Id.
106 See Mitchell, supra note 103; Carr, supra note 104.
107 HAMPDEN, MASS., ZONING BYLAW § 6.10, https://www.hampdenma.gov/sites/g/files/vyhlf656/uploads/final_copy_of_zoning_bylaws_10-28-19-_special_town_meeting.pdf [https://perma.cc/TAF2-75EF]. The ridgeline district included upland areas with steep slopes averaging a 15% grade or greater for 200 feet, unique landforms, and any land at an elevation of 600 or more feet above sea level. Id. § 6.103.
Vermont changed its by-laws to limit large wind generation facilities unless they are in commercial and light industry municipal zones.109

In Vermont, aesthetic aspects can constitute a nuisance and are a primary consideration in gaining a certificate of public good necessary to site small land-based wind projects and are employed by courts in resolving related disputes.110 The Vermont Public Service Board denied a certificate of public good for the 6 MW East Haven Wind Farm proposed to be sited on an abandoned Air Force radar base because it would obstruct aesthetic views.111

Various federal district courts hold that a town can enact a temporary ban or moratorium to block additional wind generation facilities for aesthetic reasons.112 In New York, a federal district court found that the plaintiffs failed to meet the burden required to challenge a local zoning ordinance entitled to significant court deference:113 “Plaintiff thus has the heavy burden ‘to negative every conceivable basis which might support’ the Moratorium.”114 The court declared that aesthetic considerations were a rational basis for local zoning regulation.115 Additional examples of municipal ‘aesthetic’ zoning ordinances and legal challenges are detailed below.116 The resilience of local zoning ordinances starts with a presumption of validity, making a challenge a significant undertaking.117

110 See VT. STAT. tit. 30, § 248.
111 Vermont Wind Project Shot Down over Impact on Landscape After Five Years of Planning, ELEC. UTIL. WK. (Mar. 20, 2006).
113 Ecogen, 438 F. Supp. 2d. at 156, 158 (placing the burden on the plaintiff to show “that the Moratorium [on constructing new wind turbines] . . . bears no rational relationship to any legitimate governmental purpose” and then holding that the plaintiff failed to meet that burden).
114 Id. at 158 (quoting Heller v. Doe, 509 U.S. 312, 320 (1993)).
115 Id. (“Aesthetics is generally a valid subject of municipal regulation and concern” (quoting Sprint Spectrum L.P. v. Willoth, 176 F.3d 630, 645 (2d Cir. 1999))); id. (“In New York, aesthetics can be a valid ground for local zoning decisions.” (quoting Cellular Tel. Co. v. Town of Oyster Bay, 166 F.3d 490, 495 (2d Cir. 1999))).
116 See infra Part II.C.
117 See infra Part II.B.
B. Deference to Local Zoning on Aesthetics of Infrastructure Siting

Local governments can regulate local land use pursuant to their traditional police power. The most fundamental tool available to a local government and its citizens to influence wind power project siting in the community is the local zoning ordinance and zoning map. Any zoning amendment, even if restrictive of wind projects, benefits from a presumption of its legal validity for the inferior-level local agency if it is later challenged in court. Municipal land-use decisions are entitled to court deference because a “local board of appeals brings to the matter an intimate understanding of the immediate circumstances, of local conditions, and the background and purposes of the entire by-law.”

Zoning amendments are categorized as local legislative actions, passed in many cases by a supermajority of the local zoning authority. Thus, a community not supportive of wind turbines can enact a highly restrictive amendment to its zoning ordinance that makes the community unattractive or cost-prohibitive to wind or other renewable power generation projects of a certain size, certain configuration, or based on aesthetic or other qualities. Should a prospective wind developer challenge a restrictive zoning amendment, the legal burden is placed on the wind developer, as plaintiff, to prove by a preponderance of the evidence that the zoning amendment is arbitrary, capricious, an abuse of local discretion, and unreasonable, or substantially unrelated to the public’s health and safety. This is a difficult standard for any affected developer of a tall, moving wind project to satisfy to overturn a restrictive zoning law.

A municipality has discretion to adopt a variety of physical lot sizes and structures and allowed use requirements to restrict development within its borders. In the category of physical lot characteristics are significant lot line setbacks, maximum restrictions on the percentage of area of the lot that can be built or used, a limit on the number of separate structures and/or buildings allowed on each parcel, and height restrictions—all of which directly affect and restrict modern wind turbines. An important legal determination regarding wind project development under a local zoning ordinance is whether wind turbine towers are deemed “structures” under zoning codes. The exercise of local siting power over new

120 E.g., MASS. GEN. LAWS ch. 40A, § 5 (“Except as provided herein, no zoning ordinance or by-law or amendment thereto shall be adopted or changed except by a two-thirds vote . . . .”).
122 See ENVIRONMENTAL LAW, supra note 29, at 519–562.
sustainable wind technology in a municipality can hinge on this definitional question.

Broad local and state zoning ordinances regulating or preserving aesthetic characteristics now are deemed constitutionally permissible provided they “have any reasonable tendency to promote the public morals, health, or safety, or the public comfort, welfare, or prosperity.”\(^{123}\) This recognition of aesthetic consideration evolved in the post-World War II era. Prior to 1954, aesthetic concerns alone were insufficient to pass constitutional muster, although courts recognized that municipal zoning laws were available to control through local police power regulation.\(^{124}\) In 1954, with the landmark decision in *Berman v. Parker*, the Supreme Court opened the door for permissible ‘aesthetic’ zoning regulations:

> Public safety, public health, morality, peace and quiet, law and order—these are some of the more conspicuous examples of the traditional application of the police power to municipal affairs. Yet they merely illustrate the scope of the power and do not delimit it. . . . The concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, aesthetic as well as monetary.\(^{125}\)

Since zoning is a function of local law, state courts render the majority of zoning decisions. The Massachusetts Supreme Judicial Court held that “aesthetics alone may justify the exercise of the police power; that within the broad concept of ‘general welfare,’ cities and towns may enact reasonable billboard regulations designed to preserve and improve their physical environment.”\(^{126}\) The court acknowledged the “changing community notion that towns and cities can and should be aesthetically pleasing.”\(^{127}\) It held that a community may enact local zoning deemed to produce a “visually satisfying environment” contributing to the welfare of residents.\(^{128}\)

The standard for the constitutionality of local ‘aesthetic’ zoning laws is whether they are “clearly arbitrary and unreasonable, having no substantial relation to the


\(^{124}\) *E.g.*, Goldman v. Crowther, 128 A. 50, 63 (Md. 1925) (“If any kind or degree of aesthetic regulation is ever to be within the legitimate powers of government, the principle controlling it cannot be formulated as yet, and we are not authorized to declare it to be so.”).

\(^{125}\) *Berman v. Parker*, 348 U.S. 26, 32–33 (1954) (emphasis added) (citation omitted).


\(^{127}\) *Id.*

\(^{128}\) *Id.*
public health, safety, morals, or general welfare." 129 In the aftermath of the Supreme Court decision in Berman, municipalities began to enact ‘aesthetic’ zoning elements designed to protect neighborhood character and scenic view sheds, and maintain property values and effective tax bases. 130

C. ‘Aesthetic’ Wind Zoning Challenged in the Courts

Based on the precedents above, a court can uphold a local zoning board’s ruling that a wind power project would interfere with municipal view sheds and is prohibited, assuming that the challenged by-law reasonably relates to the protection of public safety. 131 This zoning discretion of the inferior local municipality dominates even the superior host states’ subsidy of wind power 132 through renewable portfolio standard wind subsidies that exist as state law in twenty-nine U.S. states. 133 If overly broad or not tailored as narrowly as possible, a local


130 Across New England, states vary on whether regulating aesthetics in zoning laws is constitutional. New Hampshire has made explicit their stance that aesthetics alone are sufficient to pass constitutional zoning regulations. Asselin v. Town of Conway, 628 A.2d 247, 250 (N.H. 1993) (“[M]unicipalities may validly exercise zoning power solely to advance aesthetic values, because the preservation or enhancement of the visual environment may promote the general welfare.”). In other states, it is unclear whether aesthetics alone may serve as justifications for zoning. See Stewart v. Inhabitants of Durham, 451 A.2d 308, 311 (Me. 1982) (“[A]esthetic considerations, fear of deterioration in the value of neighboring properties, and concern over an adverse impact on the town’s tax base are legitimate reasons for enacting a[n] . . . ordinance . . . .” (citing Warren v. Mun. Officers of Gorham, 431 A.2d 624, 628 (Me. 1981))).

131 But see Cleveland Area Bd. of Realtors v. City of Euclid, 88 F.3d 382, 388 (6th Cir. 1996) (holding that an ordinance banning all yard sale signs was illegitimate because it was not narrowly tailored to serve the government’s alleged interest of preserving aesthetic beauty and vistas).


ordinance could be stricken, or if there are less discriminatory means not utilized for local regulation by the municipality.\(^134\)

For instance, a federal court in New York found that aesthetic considerations are a rational basis for zoning regulation.\(^135\) There is precedent for denying state siting permits for wind projects when they would obstruct aesthetic views.\(^136\)

In Sheffield, Vermont, wind project developers reduced the proposed number of wind turbines by approximately 40% to be permitted.\(^137\) Neighbors challenged a proposed single 100-foot tall wind turbine approximately 450 feet from owner neighbor Halnon’s property line intruding on the neighbor’s distant view.\(^138\) Proponent Halnon’s certificate of public good was denied when the Vermont Public Service Board determined that “the net metering system as proposed, would have an undue adverse effect on the aesthetics and scenic and natural beauty of the area in which it is proposed,” finding that Halnon’s wind turbine would be “offensive and shocking to the Rimonneas [neighbors] and the average person in a similar situation.”\(^139\) The Supreme Court of Vermont ultimately affirmed the State Board’s decision to deny Halnon’s small wind project, which determined that the Board had properly applied the Quechee test.\(^140\) Under this test, “a determination must first be made as to whether a project will have an adverse impact on aesthetics and the scenic

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\(^{134}\) Dean Milk Co. v. City of Madison, 340 U.S. 349, 354 (1951) (“Madison plainly discriminates against interstate commerce. This it cannot do, even in the exercise of its unquestioned power to protect the health and safety of its people, if reasonable nondiscriminatory alternatives, adequate to conserve legitimate local interests, are available.”). Utilization of the least burdensome alternative for regulating commerce is still good law cited by courts for the last seven decades. See, e.g., Hunt v. Wash. State Apple Advert. Comm’n, 432 U.S. 333, 353 (1977); West Lynn Creamery, Inc. v. Healy, 512 U.S. 186, 192 (1994); Am. Beverage Ass’n v. Snyder, 745 F.3d 362, 369 (6th Cir. 2013).

\(^{135}\) Ecogen, LLC v. Town of Italy, 438 F. Supp. 2d 149, 158–59 (W.D.N.Y. 2006); see also Martin v. Corp. of Presiding Bishop of Church of Jesus Christ of Latter-Day Saints, 747 N.E.2d 131, 136, 152 (Mass. 2001) (holding aesthetics confer standing to challenge a zoning decision, and is “among the factors to be considered in deciding whether a zoning requirement ‘impairs the character’ of a proposed exempt use”).

\(^{136}\) Vermont Wind Project Shot Down, supra note 111.

\(^{137}\) Louis Porter, Kingdom Wind Project Downsizes; Sheffield Wind Developers Cut 10 Turbines in Effort to Address Various Concerns, WINDACTION (Sept. 25, 2006), https://www.windaction.org/posts/4845 [https://perma.cc/3D8U-H296].

\(^{138}\) In re Halnon, 811 A.2d 161, 161 (Vt. 2002).

\(^{139}\) Id. at 162–63.

\(^{140}\) Id. at 166.
and natural beauty of an area because it would not be in harmony with its surroundings.\footnote{141}

In \textit{Bomba v. Zoning Board of Appeals of Town of Princeton}, two neighbors challenged the local zoning board of appeal’s (ZBA’s) decision which allowed the local municipal utility and a private wind developer to construct two test towers to assess whether the land would be a cost-effective location for wind turbines.\footnote{142} The local Princeton ZBA had decided that the test towers were exempt from the local zoning by-law, which restricted the heights of structures because the test towers were considered “public buildings” to which the ZBA’s decision was entitled to deference.\footnote{143} The Land Court judge was not persuaded by the ZBA’s arguments that wind turbines qualified for the “public buildings” exception in the local by-law.\footnote{144} Thus the court held that the ZBA’s decision was made on “legally untenable” grounds and ruled for the project’s opponent.\footnote{145}

This case presented procedural and substantive issues regarding the difficulty of challenging local zoning board decisions regarding wind zoning issues. Procedurally, the court determined that the plaintiffs lacked statutory standing in their status as wind turbine site abutters and abutters of abutters within approximately 300 feet of the proposed turbine site.\footnote{146} However, the court found standing because winter ice throws from the turbine blades could pose a hazard to the plaintiffs walking on a nearby public way.\footnote{147}

Additionally, the court found that a noise nuisance was sufficient to grant standing.\footnote{148} However, for a noise nuisance from a wind turbine, one must be

\footnote{141}Id. at 163. If the project would adversely impact aesthetics, the courts will look to (1) whether or not the project violates a clear, written community standard intended to preserve the aesthetics, scenic, and natural beauty of the area; (2) whether or not the project offends the sensibilities of the average person; and (3) if the applicants failed to take generally available mitigating steps that a reasonable person would take to improve the harmony of the proposed project with its surroundings. \textit{Id.}


\footnote{143}Id. at *2 (explaining that wind turbines do not fit neatly into any existing town zoning law).

\footnote{144}Id. at *6; Section VI.2(A) of the local bylaw states that the height restriction “does not apply to a . . . public building,” but the bylaw does not explicitly define “public” or “building.” \textit{Id.} at *5.

\footnote{145}Id. at *8 (disagreeing with ZBA’s analogy of a wind turbine to a public building).

\footnote{146}\textit{Id.; see also} MASS. GEN. LAWS ch. 40A (defining requirements for standing to challenge permits to abutters).


relatively near. The court in *Bomba* rejected standing based on obstruction or aesthetic nuisance alone without other nuisance factors present. It remains undecided in a community zoned for aesthetic considerations if aesthetics alone cannot form the basis of a private common law nuisance claim. A distant obstruction by wind turbines of a ridgeline or mountain top that one does not own is less immediate than other nuisance factors of noise, vibration, flicker, or ice throws.

In 2005, Plymouth, Massachusetts approved a by-law allowing large wind turbines on municipally owned lots larger than five acres. The by-law, however, was invalidated by the State Attorney General because the by-law gave an unfair advantage to the town. After that, the town approved a by-law allowing wind turbines up to 350 feet tall on any lots of five acres or more to be permitted through the town’s special permit procedure. The height restriction is such that larger-scale commercial turbines can be constructed in town on privately owned and municipally owned land. As a second example, Billerica, Massachusetts, after a proposal of a power plant to be sited in town, enacted a restriction requiring additional local agency approval for siting a power facility, which the State Attorney

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150 *Bomba*, 2005 WL 2106162 at *4 (citing Martin v. Corp. of Presiding Bishop of the Church of Jesus Christ of Latter-Day Saints, 434 Mass. 141 (2001)).

151 *See generally* Wernke v. Halas, 600 N.E.2d 117, 121–22 (Ind. Ct. App. 1992) (“[I]t is well-settled throughout this country that, standing alone, unsightliness, or lack of aesthetic virtue, does not constitute a private nuisance” (citations omitted)); Oliver v. AT&T Wireless Services, 90 Cal. Rptr. 2d 491, 500 (Cal. Ct. App. 1999) (“The displeasing height and shape of the new tower cannot, in and of itself, make it a nuisance to those who sit on the other side of the property line.”); Ness v. Albert, 665 S.W.2d 1, 1–2 (Mo. Ct. App. 1983) (“It is generally recognized that unsightliness, without more, does not create an actionable nuisance.”).


153 *Id.*

General’s municipal division disallowed under its review authority of local by-law changes because a supermajority vote did not enact it.  

Many local governments have limited or prohibited the siting of wind turbines based on ‘aesthetic’ zoning reasons. The Supreme Court defers to local government on land-use issues, and many courts uphold aesthetic land-use zoning-out of wind turbines if proper procedure is followed. Higher levels of government than localities can preempt lower levels of government. The next Part analyzes how the federal government has been found not to have preemptive power over local land use, while states have this power, but most have not utilized it.

III. NO FEDERAL ROLE AND LIMITED STATE ROLE TO PREEMPT LOCAL LAND-USE

A. Uniquely Bifurcated Legal Regulation of U.S. Power

Electric power is the most regulated industry in the world and in the U.S. Regulatory authority over electric infrastructure is expressly split between state and federal government agencies in the U.S. Through the Federal Energy Regulatory Commission (FERC), the federal government exercises exclusive legal authority over wholesale and interstate transactions in electric power. FERC exercises this authority pursuant to Sections 205 and 206 of the Federal Power Act; this authority has been validated by federal courts.

FERC has exclusive jurisdiction over the “transmission of electric energy in interstate commerce” and over “all facilities for such transmission or sale of electric energy.” The Supreme Court holds that “Congress meant to draw a bright line...”
easily ascertained,” without individual case analysis, between state and federal jurisdiction.\footnote{161} Federal authority of the Constitution’s Supremacy Clause preempts inferior state regulation.\footnote{162} FERC does not have any federally assumed or delegated power to regulate the construction of any transmission facilities themselves: FERC regulates only economic tariffs and terms for transactions moving power over transmission facilities.\footnote{163}

Local governments exclusively retain authority under the Tenth Amendment and exercise police power over all-electric facility land-use and siting.\footnote{164} Distribution of power, as opposed to the transmission of power,\footnote{165} is regulated by the states exclusively.\footnote{166} A state could expressly or impliedly preempt local discretion over wind power siting infrastructure; this would cause some cities to argue that this would impermissibly interfere with the residual local police power over land use.\footnote{167} Approximately half of the states also add state regulation over certain power facility siting, depending on whether this additional state layer preempts local siting.\footnote{168} However, such state siting authority often does not apply to typical smaller wind power projects.\footnote{169}

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\footnote{165} THE LAW OF INDEPENDENT POWER, supra note 78, at § 5:10; ENVIRONMENTAL LAW, supra note 29, at 627; THE NEW RULES, supra note 22, at 23–24, 46–47.
\footnote{167} For a discussion of preemption principles, see ENVIRONMENTAL LAW, supra note 29, at 184–196.
\footnote{168} See infra Part III.C.
\footnote{169} See id.
B. Supreme Court: Lack of Federal Energy Preemptive Authority

Courts determine whether there is any interstate commerce or other federal basis for the federal government to exercise control over local land-use. The Tenth Amendment reserves all constitutionally undesignated powers to the states and localities. It is well-settled that zoning for land use is among the “police powers” that municipalities retain under the Tenth Amendment as local authorities, unless explicitly reserved or excepted by state statute. Underscoring deference to local zoning, in the most recent decision construing local zoning laws, the Supreme Court in *Murr v. Wisconsin* entirely deferred to local zoning by-laws as controlling construction permits on land. This local zoning power has regulatory implications for the siting of electric power generation; this power is exacerbated by the lack of federal preemption in the area.

No area of energy is more thoroughly regulated at the superior national level than civilian use of nuclear energy for power production. In *Virginia Uranium v. Warren*, the Supreme Court considered whether the Atomic Energy Act (AEA) preempts Virginia’s outright ban on uranium mining on land and its land use within the Commonwealth. While the state had not banned new nuclear power plants, as California had, it did ban the mining of uranium within the state. In its 2019 decision, the Court explained that while it might be appropriate to examine state legislative intent for a law that prohibited something regulated by the federal government, the Court would not do so when something did not fall under state authority. The Gorsuch majority opinion stated that it was the norm in a federal preemption analysis for the Court to not examine state legislative purpose and to defer to state regulatory discretion.

In *Virginia Uranium*, the Court affirmed state and local control over nuclear-related land use, notwithstanding federal regulation of nuclear health and safety, explaining that while the AEA “gives the Nuclear Regulatory Commission significant authority over the milling, transfer, use, and disposal of uranium, as well as the construction and operation of nuclear power plants,” the federal statute “leave[s] untouched the States’ historic authority over the regulation of mining

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170. U.S. CONST. amend. X.
171. See supra Part II.B.
173. See ENVIRONMENTAL LAW, supra note 29, at 607–11.
175. See ENVIRONMENTAL LAW, supra note 29, at 185; see also CAL. PUB. RES. CODE §25524.1.
177. Id. at 1905–07.
178. Id.
activities on private lands within their borders.” In dissent, regarding the deference that the Court showed to municipalities, Chief Justice Roberts (joined by Justices Breyer and Alito) pointed out that the federal AEA recognizes that states continue to have authority “to regulate activities for purposes other than protection against radiation hazards.”

The tripartite split of the majority opinion, the concurring opinion, and the dissent in this most recent Supreme Court opinion adjudicating federal preemption of energy siting all conceded that there was no broad federal implied preemption of power plant siting. The opinion is consistent with the lack of federal preemption found in **PG&E v. California**, decided approximately thirty-five years before, which found no federal preemption of California’s authority to regulate economic and police power elements of proposed new nuclear power generation facilities. Congress attempted unsuccessfully to extend federal preemptive authority over certain electric energy siting matters. A provision of the Energy Policy Act of 2005 (EPAct 2005) attempted to expand the powers of the federal Department of Energy and FERC to exercise federal siting authority over interstate electric power line transmission projects in certain circumstances:

- It mandated that the Department undertake a transmission congestion study every three years, the third of which was completed in 2015;
- It allowed the Department to designate congested transmission corridors, National Interest Electric Transmission Corridors (NIETCs) in “any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers;” and

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180 *Id.* at 1920 (Roberts, C.J., dissenting) (quoting 42 U.S.C. § 2021(k)).
It established an expedited process for FERC to approve new electric transmission projects to obtain all federal siting permits within one year, providing FERC “backstop authority” to issue construction permits for projects in NIETCs if states withhold approval for more than a year, and established eminent domain rights, otherwise within state authority, for these NIETC projects.\(^{184}\)

The U.S. Department of Energy designated two NIETCs since the enactment of EPACT 2005; federal courts in the eastern and western U.S. overturned both exercises of federal siting jurisdiction.\(^{185}\) After a state failed for twelve months to approve the transmission permit for a new line to carry additional power to New York and other cities, a federal court of appeals blocked FERC from granting a federal permit after the state had considered but not approved it.\(^{186}\) Under the law, the state was only required to take some action on the application within the year, which in this case was the denial of the permit. That denial did not allow FERC to intercede to supersede state authority on siting electric infrastructure.\(^{187}\) Subsequently, the Ninth Circuit ruled that the U.S. Department of Energy failed to properly consult with affected states in preparing its required Congestion Study and failed to consider environmental effects pursuant to the National Environmental Policy Act in the process of designating NIETCs for corridors in mid-Atlantic and Southwestern states.\(^{188}\) These two federal circuit court opinions arrested federal authority to site electric power infrastructure in the U.S. or to countermand inferior level of government decisions denying such electric infrastructures siting.

Where plenary state or federal regulation is present, regulation by a lower, inferior level of government potentially could create an effective veto of the higher-level government standards. Generally, a state or local government regulation impliedly can be preempted by conflict preemption. In California Coastal Commission v. Granite Rock Co., the Supreme Court found no preemption of inferior state law where the state added environmental regulation as not an impermissible exercise of state land-use planning reserved authority.\(^{189}\) However while not finding preemption on the Granite Rock facts, the Court established the

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\(^{185}\) Cal. Wilderness Coal., 631 F.3d at 1107.

\(^{186}\) Piedmont Env’t Council v. FERC, 558 F.3d 304, 320 (4th Cir. 2009).

\(^{187}\) Id.

\(^{188}\) Cal. Wilderness Coal., 631 F.3d at 1107.

\(^{189}\) 480 U.S. 572 (1987) (discussing whether state environmental regulation conflicted with the National Forest Management Act).
principle prohibiting ‘conflict’ preemption where a state or local law could not unilaterally negate a federal permit.\footnote{190}{Cf. id. at 588–89, 593–94 (noting that since Granite Rock brought a facial challenge to the California permitting requirement, and since it could not show that “any possible set of conditions” were invalid, its challenge failed).}

In a limited subset of locations where the federal government has an ownership interest, there can be federal preemption of local land-use permitting decisions. The federal government generally controls land use permitting for development on federal lands.\footnote{191}{U.S. Const., art. IV, § 3, cl 2; see also United States v. City & Cnty. of San Francisco, 310 U.S. 16, 29 (1940) (finding that the Property Clause gives Congress authority over federal property generally and explaining that the Supreme Court has described Congress’s power to legislate under this Clause as being “without limitations”); see generally Michael C. Blumm & James A. Fraser, Coordinating with the Federal Government: Assessing County Efforts to Control Decisionmaking on Public Lands, 38 Pub. Land & Res. L. Rev. 1 (2017) (outlining the case law on federal preemption of local land use decisions, and arguing that local governments have minimal control over federal lands). But see Cal. Coastal Comm’n v. Granite Rock Co., 480 U.S. 572, 585–89 (1987) (assuming, without deciding that FLPMA and NFMA preempt state and local land use plans on federal land, but holding that states may still impose environmental regulations).}

For very limited matters involving privately-owned local land, federal preemption may overrule state and local control over certain development proposals, including telecommunications towers providing personal wireless services to local areas.\footnote{192}{See 47 U.S.C. § 332(c)(7) (disallowing states and local government from prohibiting the provisioning of wireless services).}

Other than this, federal statutory enactments have failed to buttress any federal preemptive power over electric energy facility siting. In addition, recent holdings of the Supreme Court defer to local zoning determinations, as well as to local authority on energy facility land-use matters.\footnote{193}{See Murr v. Wisconsin, 137 S. Ct. 1933 (2017); see also Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894 (2019).}

Notwithstanding incentives promoting wind energy projects,\footnote{194}{See Outka, supra note 82.}

local government’s exclusive authority to regulate land use aesthetically can operate as a unilateral, locally imposed barrier.\footnote{195}{See The Law of Independent Power, supra note 78, at §§ 3:59.10, 3:59.40, 10:114–10:115.30.}

\footnote{196}{See Green & Sagrillo, supra note 91, at 1 (“Prospective distributed wind buyers frequently encounter the dilemma that existing zoning ordinances do not address wind turbines, nor do they typically allow structures taller than 35 ft.”).}
C. State Preemption as the Antidote to Supreme Court Limitation on Federal Authority to Preempt

The Supreme Court has articulated that states exercise “traditional and primary power over land and water use.”\(^{197}\) State governments create local power.\(^{198}\) Pursuant to states being superior to their municipalities, each state should be able to preempt its local governments’ exercises of zoning power to frustrate renewable energy and address climate change.

Legally, the state-local relationships vary. Thirty-nine states follow Dillon’s Rule, which Withholds from local governments any authority that is not expressly delegated by state legislative statute to the localities.\(^{199}\) In the alternative to Dillon’s Rule, eleven states are Home Rule states, which vests all powers not expressly reserved by state statute in the localities.\(^{200}\) The former type of state legal system is preemptive at the superior state level of government, while the latter vests localities with extensive reserved power unless the state conscripts such powers by legislation.

A state, from which cities derive their powers, can directly preempt local land-use laws.\(^{201}\) States can exercise a similar indirect power by not approving changes to local regulations, as occurred in Plymouth\(^{202}\) and Billerica,\(^{203}\) Massachusetts. In such instances, a state with such powers could elect not to approve a particular change to a local zoning by-law that restricts certain renewable power generation siting decisions. Some states also preempt siting of certain electric generation facilities.\(^{204}\)

Energy facility siting of both electric transmission lines and generation infrastructure remains jurisdictionally vested in local and state governments rather than the federal government.\(^{205}\) States could preempt local government siting authority for electric power infrastructure, since local governments obtain their governing power from state government.\(^{206}\) In Dillon’s Rule states, states can change the scope of local delegation of renewable infrastructure siting power. In Home Rule states, because electricity is in intra-state commerce and because all states that have

\(^{198}\) ENVIRONMENTAL LAW, supra note 29, at 185.
\(^{199}\) Id.
\(^{200}\) Id.
\(^{201}\) MASS. GEN. LAWS ch. 40B, § 21; id. ch. 40A, § 3 (providing an example of a state that has partially preempted local regulation of siting facilities regarding affordable housing for lower-income persons and for child-care facilities).
\(^{202}\) See supra notes 152–154 and accompanying text.
\(^{203}\) See supra notes 155 and accompanying text.
\(^{204}\) See MASS. GEN. LAWS ch. 164, § 69H; see generally 980 MASS. CODE REGS. 1–12.
\(^{205}\) See supra Part III.A.
\(^{206}\) ENVIRONMENTAL LAW, supra note 29, at 185.
private utilities have state public utilities commissions207 with regulatory jurisdiction over the electric power sector of the economy, states can regulate electric power infrastructure siting if they so choose. But there is a split on which states have so chosen and their current effective reach.

An analysis of at what level each of the 50 states allocates electric energy generation facility siting authority illustrates several models balancing local land-use control and superior government state preemption:

- In twenty-three states, there is no state electric energy generation siting authority exercised as a matter of law for new power generation facilities to be sited and constructed. In this group, siting electric power facilities is exclusively a local determination operating in the void of state siting authority.208

- The remaining twenty-seven states plus the District of Columbia209 exercise state authority over power facility siting, with some having divested some of their energy infrastructure siting authority to localities, as noted below: Arizona, California, Connecticut, District of Columbia, Florida, Iowa, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Montana, Nebraska (note: which has no investor-owned utilities in state to regulate), Nevada, New Hampshire, New Jersey, New York, New Mexico, North Carolina, North Dakota, Ohio, Oregon, Rhode Island, South Dakota, Vermont, Virginia, Wisconsin, and Washington.

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209 See infra 213–276 and accompanying text; cf. State Approaches to Wind Facility Siting, supra note 208.
In addition to which level of state or local government exercises energy facility siting, there is a key differentiation regarding the type of wind energy project developer. As Figure 3 shows, 80% of new generation facilities each year are constructed by unregulated non-utility independent power producers (IPPs) rather than regulated utilities. This dominant IPP role is forecast to continue as renewable power generation accelerates. As a side note, twelve of the twenty-

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three states that do not exercise state energy facility siting authority also have statutes that exempt from state authority any independent non-utility IPP electric infrastructure, which is now dominant in U.S. wind power development: Alabama,\(^\text{213}\) Arkansas,\(^\text{214}\) Colorado,\(^\text{215}\) Delaware,\(^\text{216}\) Indiana,\(^\text{217}\) Idaho,\(^\text{218}\) Kansas,\(^\text{219}\) Michigan,\(^\text{220}\) Mississippi,\(^\text{221}\) Missouri,\(^\text{222}\) Texas,\(^\text{223}\) and Wyoming.\(^\text{224}\) In these twelve states, independent non-utility companies which dominate wind power generation


\(^{214}\) ARK. CODE § 23-3-201 (noting utilities must obtain certificate stating public convenience and necessity require construction); see Electric Section, ARK. PUB. SERV. COMM’N, http://www.apsccservices.info/electric.asp [https://perma.cc/VM5K-UJ56] (last visited Aug. 5, 2022) (noting the Arkansas Commission will not regulate municipally owned utilities, public power agencies, or exempt wholesale generators (Independent Power Producers)).

\(^{215}\) See COLO. REV. STAT. § 40-5-101 (certifying public utilities intending to construct a new facility).

\(^{216}\) See DEL. CODE tit. 26, § 201(a) (giving jurisdiction of energy facilities to Delaware Public Service Commission); but see id. § 203A(a)(3) (allowing construction of facility within utilities existing territory).

\(^{217}\) IND. CODE § 8-1-8.5-7 (noting public utility may not begin construction without certificate).

\(^{218}\) IDAHO CODE §§ 61-526–61-528 (mandating that only regulated utilities that seek certificate merchant plants need environmental and local approval).

\(^{219}\) KAN. STAT. § 66-101 (giving the Kansas State Corporation Commission jurisdiction over electric public utilities).

\(^{220}\) See MICH. COMP. LAWS § 460.502.

\(^{221}\) MISS. CODE § 77-3-14(6) (clarifying electric generation facilities built for person’s own use do not require certification).

\(^{222}\) Missouri law states that all electric corporations must obtain a certificate, but defines “electric corporation” to exclude producers generating electricity for private use on private land. See MO. REV. STAT. § 386.020(15); see also MO. ANN. STAT. § 393.170.


\(^{224}\) WYO. STAT. § 37-2-205 (requiring Commission certificate for construction of most new lines or plants).
development must only satisfy routine local land-use and zoning authorities for basic construction permission.

Thus, of these initial twenty-seven states and the District of Columbia that have state energy siting laws, five of these states also require the applicant project developer of a wind facility separately to obtain all local land-use approvals from the local municipalities: New Jersey, Nevada, North Carolina, Wisconsin, and Virginia. Three of these five states allow local regulations to be preempted only under limited special circumstances: New Jersey, Nevada, and Wisconsin.

This leaves twenty-two of the original twenty-seven states, plus the District of Columbia, that, on siting an energy facility, otherwise could preempt any conflict with local municipal land-use authority: Arizona, California, Connecticut, District of Columbia, Florida, Iowa, Kentucky, Maine, Maryland, . . .

226 NEV. REV. STAT. § 704.890.
228 See The Brattle Group, supra note 223, at 5–8; see also STATE OF WIS. DEP’T OF NAT. RES., ELECTRIC UTILITY PRE-CPCN APPROVAL AND APPLICATION (2004).
229 See VA. CODE § 56-234.3 (stating requirements for utilities).
231 See NEV. REV. STAT. § 704.890.
232 The Brattle Group, supra note 223, at 10.
233 ARIZ. REV. STAT. § 40-360.05(2) (allowing “each county and municipal government and state agency interested in the proposed site” to become a party to the certification proceedings at the state, rather than local, level).
234 See Garofano, supra note 225, at 744; CAL. PUB. RES. CODE § 25500.
235 See CONN. GEN. STAT. §§ 16-50ij.
236 See D.C. CODE §§ 34-301 to 34-302.
237 See FLA. STAT. §§ 403.502, 403.506, 403.508(f) (“The board may, if it determines . . . that it is in the public interest to authorize the use of the land for a site or associated facility, authorize a variance or other necessary approval . . . .”).
238 See IOWA CODE § 476A.5 (“The failure of a facility to meet zoning requirements established pursuant to chapters 329, 335 and 414 shall not preclude the board from issuing the certificate . . . .”).
239 See KY. REV. STAT. § 278.704(1). The statute allows some local set-back control over siting short of blanket restriction. Id. § 278.704(3) (“If the merchant electric generating facility is proposed to be located in a county or a municipality with planning and zoning, then setback requirements from a property boundary, residential neighborhood, school, hospital, or nursing home facility may be established by the planning and zoning commission.”).
240 See ME. REV. STAT. tit. 35-A, § 3453 (giving the Maine Land Use Planning Commission primary authority over wind energy siting); see also id. tit. 12, § 685-A.
241 See MD. CODE REGS., § 20.79.01.04; see also Bd. of Cnty. Comm’rs of Washington Cnty. v. Perennial Solar, LLC, 212 A.3d 868, 888 (Md. 2019) (“[T]he ultimate decision-maker is the PSC, not the local government or local zoning board.”).
Massachusetts, Minnesota, Montana, Nebraska, New Hampshire, New Mexico, New York, North Dakota, Ohio, Oregon, Rhode Island, South Dakota, Vermont, and Washington. Three other jurisdictions are uniquely positioned: The District of Columbia has no state-level authority with its non-state political structure and status; Montana explicitly does not exercise state siting over wind generation projects among energy projects regulated; and Nebraska, because no power plants are investor-owned in the state, does not regulate

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242 See Mass. Gen. Laws, ch. 164, § 69K (“The board shall, upon petition, consider an application for a certificate of environmental impact and public interest if it finds that any state or local agency has imposed a burdensome condition or limitation on any license or permit which has a substantial impact on the board’s responsibilities. . . .”).

243 See Minn. Stat. § 216E.03 subdiv. 1; Minn. Stat. § 216E.05 subdiv. 1; see also Minn. Stat. § 216E.10 (“Such permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose government.”).

244 See Mont. Code. §§ 75-20-103, 401.


247 See N.M. Stat. § 62-9-3(G) (allowing the state to approve siting even when it violates municipal land use regulations when the “regulation is unreasonable restrictive and compliance with the regulation is not in the interest of the public convenience and necessity”).

248 See N.Y. Pub. Serv. Law § 168(3)(e) (“The board may elect not to apply, in whole or in part, any local ordinance, law, resolution or other action or any regulation issued thereunder or any local standard or requirement. . . .”).


250 Ohio Rev. Code. § 4906.13; see also Garofano, supra note 225, at 748–49.

251 See Or. Rev. Stat. § 469.401(3) (noting certificate binds all state entities, counties, and cities to the approval of the site).


253 S.D. Codified Laws § 49-41B-7.


256 See Mont. Code § 75-20-104(9) (regulating only “generating facilities that produce electricity from coal-fired steam turbines, oil or gas turbines, or turbine generators driven by falling water”).
these non-existent entities. This reduces effective state-level preemption to twenty states.

Moreover, in these twenty states that preempt local regulation of utility energy facilities, state siting authority misses many wind projects because there are minimum size thresholds for the state to exercise jurisdiction that are set too high to include modest-sized on-shore wind turbine in twenty states, plus three of the five states that also preserve and require necessary local permitting (Nevada, North Carolina, Wisconsin) do not regulate smaller power projects that dominate wind and other renewable projects. Of these twenty-three states:

- Iowa, New York, and Oregon mandate commission approval and certification for electric generation plants with a generation capacity of 25 MW or more;
- New Hampshire exercises jurisdiction over facilities of at least 30 MW;
- Rhode Island may exercise siting jurisdiction over facilities of 40 MW or more;
- Minnesota, North Dakota, and Ohio exercise jurisdiction over new plants of 50 MW or more;
- Maryland and Nevada regulate new facilities of 70 MW or more;
- Florida regulates new electric generation facilities of 75 MW or more;

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258 See IOWA CODE § 476A.1.5.
259 See NY PUB. SERV. LAW § 172; PATRICIA E. SALKIN, 2 N.Y. ZONING LAW & PRAC., § 11:23. MUNICIPALLY OWNED UTILITIES.
260 See OR. REV. STAT. § 469.300.
262 R.I. GEN. LAWS §42-98-3 (defining major energy facility as capable of operating at 40 MW or more).
263 MINN. STAT. § 216B.2421 (defining what size power plants and transmission lines will be subject to this process).
264 N.D. CENT. CODE § 49-22-03.
265 OHIO REV. CODE. § 4906.04.
266 MD. CODE ANN., PUB. UTIL. § 7-207.1; MD. CODE REGS. 20.79.01.03 (exempting plants that do not meet the definition listed in § 7-207.1).
267 NEV. REV. STAT. § 704.860.
268 See FLA. STAT. § 403.506.
• Arizona, California, Massachusetts, South Dakota, and Wisconsin exercise siting authority over facilities of 100 MW or more.
• New Mexico, North Carolina, and Washington set jurisdiction at new facilities of 300 MW or more.

Indeed, “[u]tility-scale wind turbines typically range from 1.5 to 3.5 [MW] . . . and the average installed size is 2.2 MW.” Many land-based wind projects, adding the cumulative output of all turbines proposed, often do not exceed 25 MW, 50 MW, or 100 MW in capacity such that state law would trigger relevant preemptive state jurisdiction over the project. This leaves only local land-use control. For example, 25 MW of generation typically will power the entire campus, research labs, dormitories, and on-campus demands of large university campuses, such as Harvard University or the Massachusetts Institute of Technology. Such smaller wind energy projects in fifteen of these twenty-three states (including the District of Columbia) are not subject to state jurisdiction by virtue of their size. This reduces the earlier twenty states by an additional net seventeen states not exercising siting authority over smaller renewable energy projects.

Thus, analyzing the twenty-seven states and D.C. with any state-level statutory electric power generation facility siting authority that could, in theory, preempt local ‘aesthetic’ zoning that bars new wind electric power facilities (with some states having multiple factors below each negating effective state authority):

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271 See Mass. Gen. Laws ch. 164 § 69J.
272 S.D. Codified Laws § 49-41B-2.
273 See Wis. Stat. § 196.491.
274 See N.M. Stat. §§ 62-9-3(A), (G).
275 N.C. Gen. Stat. § 62-110.1 (requiring certificate for any person generating utility sold to the general public); 4 N.C. Admin. Code 11.R8-61 (clarifying that plants that produce over 300 MW or are included in the rate base are subject to greater scrutiny).
276 See Wash. Code §§ 80.50.20(14), 80.50.060.
277 State Approaches to Wind Facility Siting, supra note 208.
• Five require that the project also separately obtain local zoning and land-use approvals which provides the local government an effective permit veto;
• Three are exempted for unique reasons;
• Nineteen can exercise jurisdiction only over larger power facility siting projects that do not include many wind projects; and
• Not every state includes authority over the 80% of wind projects developed by independent ‘merchant’ developers.

With the three above-bulleted realities, only four states retain significant authority over typically-sized land-sited wind projects: Connecticut, Kentucky, Maine, and Vermont.

What initially appears to be twenty-seven states plus the District of Columbia—a majority—that are already legally structured to preempt their municipalities’ local power infrastructure siting authority, are significantly narrowed when that authority is scaled against the size reality of renewable energy projects. Screened out of nineteen states’ legal reach are wind projects of small or modest size or capacity, and in some states the substantial majority of wind projects developed by independent non-utility developers, and there are five states that still require that a local permit be independently granted by the town or city rather than preempted at the state level. These factors net to less than a handful of states with preemptive state-level wind infrastructure siting authority for sustainable new wind power generation siting.

Thus, exclusive local jurisdiction over typical wind electric power generation project siting remains the U.S. norm by default in more than 90% of the states. Since there is no expeditious way to change the Constitution, nor will the foundational legal separation of U.S. powers between federal, state, and local jurisdiction be restructured in the near term, this Part strategically develops six innovative legal mechanisms within the parameters of current U.S. law and precedent to circumvent local ‘aesthetic’ wind zoning in time to meet U.S. climate change goals and commitments.

IV. SUPREMACY CLAUSE INVERSION: INNOVATIVE SOLUTIONS SUCCESSFULLY TO SITE RENEWABLE POWER UNDER EXISTING FEDERAL, STATE, AND LOCAL LAW

Against the existing local zoning bottleneck, there are innovative legal workarounds to circumvent local zoning that blocks renewable, sustainable infrastructure siting. Since there is no expeditious way to change the Constitution, nor will the foundational legal separation of U.S. powers between federal, state, and local jurisdiction be restructured in the near term, this Part strategically develops six innovative legal mechanisms within the parameters of current U.S. law and precedent to circumvent local ‘aesthetic’ wind zoning in time to meet U.S. climate change goals and commitments.

279 See Piedmont Env’t Council v. FERC, 558 F.3d 304, 310 (4th Cir. 2009).
For context on federal climate-related initiatives, the Biden Administration infrastructure law authorizes $65 billion over the next five years for energy projects that could include certain electricity transmission projects. But these expenditures are also devoted to preventing outages, research and development of grid reliability and resilience, developing technologies to enhance grid flexibility, and funds for state energy programs. The 2022 Inflation Reduction Act provides an additional $369 billion of extended tax credits and loans for zero-carbon generation projects, but does not add additional significant amounts of federal authority outside of the financial benefits contained in extended tax credits, tax rules, and federal money devoted to generation projects.

Princeton University researchers found that addressing new renewable wind energy transmission needs would require a 60% expansion of the U.S. high-voltage transmission network by 2030, with capacity of power tripled by 2050. The capital cost of these new power lines is estimated at $360 billion within the next eight years and $2.4 trillion by 2050. The Biden Administration funding would address only a fraction of this need. While this offers some funding, the Biden Administration infrastructure bill contains one attempt to reinvigorate a previously court-stricken mechanism to attempt to overcome municipal ‘aesthetic’ zoning restrictions that bar wind turbines. And that provision is likely to face state challenge as usurpation of their traditional siting authority.


283 E&E News Staff, supra note 281.

284 Id.

285 The Biden Administration’s proposed infrastructure bill also would attempt to reinvigorate the EPACT 2005 federal authority to compel high-priority transmission siting through states that resist it by interceding if state agencies reject the proposals or fail to act on them within a year. Id. However, before interceding, FERC would need to consider whether the applicant for a transmission project had “engaged states and non-federal entities in good faith consultations and in a timely manner.” Id. This potential might preempt a very limited number of state barriers to new transmission facilities to move renewable power.
This Part introduces ways to address this remaining significant legal obstacle by identifying strategic openings within existing U.S. law to circumvent local ‘aesthetic’ restrictions on necessary renewable wind power infrastructure. Section A reviews possible solutions to step beyond local control, including prioritizing development on federal land, and prioritizing offshore development—each relocates wind facilities to not be within any municipal jurisdictions or control. Section B discusses the use of a local special use permit in lieu of ‘aesthetic’ zoning, thus retaining but narrowing local control to operate on a case-by-case basis rather than blanket zoning prohibitions. Section C discusses the twenty-seven states and D.C. extending their existing state preemption of local zoning, and illustrates potential pitfalls with Massachusetts’ experience. Finally, Section D examines state integration of the Supreme Court Dean Milk requirement for local ordinances and reactivating common law nuisance claims.

Because each of these provisions below requires no change in existing U.S. law, these can create a legal ‘road map’ to meet the Biden Administration’s timelines and help stabilize global warming.

A. Stepping Beyond All Locally Controlled Land

1. Prioritizing Use of a Distinct 30% of U.S. Land

The first opportunity to avoid local ‘aesthetic’ zoning restrictions identifies and prioritizes for use 30% of U.S. land that is likely not subject to conflicting local, county, or municipal control. More than 600 million acres, or 30% of the U.S. land, are owned by the federal government and under its public management: 58% of which is restricted but allow for multiple uses.

286 While the Supreme Court has held that the Property Clause itself does not preempt state and local regulation of federal land, it has assumed, without deciding, that federal land use statutes preempt state 287

286 John D. Leshy, Still made for You and Me?, 89 AM. SCHOLAR 34, 36 (2020) (explaining that 25% of American land is congressionally protected in manners that make it more difficult to develop, but allow multiple use. A remaining 33% is protected by prior executive branch decisions, that can be reversed by future presidents, unless subsequently prohibited by Congress).

287 See Kleppe v. New Mexico, 426 U.S. 529, 542–43 (1976) (“While Congress can acquire exclusive or partial jurisdiction over lands within a State by the State’s consent or cession, the presence or absence of such jurisdiction has nothing to do with Congress’ powers under the Property Clause. Absent consent or cession a State undoubtedly retains jurisdiction over federal lands within its territory, but Congress equally surely retains the power to enact legislation respecting those lands pursuant to the Property Clause. And when Congress so acts, the federal legislation necessarily overrides conflicting state laws under the Supremacy Clause.”); Cal. Coastal Comm’n v. Granite Rock Co., 480 U.S. 572, 580 (1987) (holding that the Property Clause does not categorically exempt all federal lands from all state regulation).
and local land use controls on federal land.288 State environmental regulations, however, are not preempted.289 Thus, where a local government sought to prohibit renewable development in conflict with federal land management agency’s actions, it would be preempted.290 The Biden Administration could prioritize the best wind sites on this 30% of U.S. land for renewable power development during the next few years, within the rapid time frame necessary to transition to low-carbon electric energy by 2030. This can be accomplished with no additional legislation and no change of laws.

The next subsections address the remaining 70% of U.S. land not federally owned by identifying mechanisms and pathways to expedite renewable power siting and mitigate global warming without amending U.S. law. The Infrastructure Investment and Jobs Act attempts to do this using an approach somewhat similar to a prior federal statute to expedite siting which was stricken by federal courts and requires new legislative enactments:291 Amending Section 216 of the Federal Power Act to grant FERC authority to supersede traditional state siting decisions for electric transmission projects:

- When the state energy regulatory authority has not made a determination on a transmission permit application for more than one year;
- When the state energy authority adds conditions to approval to not significantly reduce transmission capacity constraints or congestion; or
- When the state energy authority denies the siting permit.

The final bullet above represents a wholesale preemption of any state siting approval discretion if it does not please the current presidential administration. This will create additional controversy with state authority as well as additional barriers: Federal actions to intercede will require preparation of environmental impact statements under the National Environmental Policy Act, which takes years of

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288 See Granite Rock, 480 U.S. at 585–86. See also S.D. Mining Ass’n v. Lawrence Cnty., 155 F.3d 1005, 1009–11 (8th Cir. 2016) (holding local zoning regulations that per se prohibited mining on federal land were preempted); Bohmker v. Oregon, 903 F.3d 1029, 1040–1051 (9th Cir. 2018) (holding state regulations related to fish habitat, which prohibited certain mining, were not preempted).

289 Granite Rock, 480 U.S. at 585–589.

290 See Lawrence Cnty., 155 F.3d 1009–11; Blumm & Fraser, supra note 191, at 36–48 (arguing that federal law either field preempts or conflict preempts municipal land use directives on federal land).


292 Id. § 40105(b)(1)(C).
additional time prior to any construction activities. As well, there are currently no required prerequisite U.S. Department of Energy DOE-designated NIETC corridors to empower FERC authority pursuant to Section 216.

The mechanisms below avoid this. Moreover, local law enacted in 35,000 communities is too disaggregated and dispersed to alter on a municipality-by-municipality basis. Avoiding these limitations, each solution below identifies mechanisms operating through state law at the intermediate level of authority in the U.S. federalist system. The next subsection below maps how to avoid local land-use regulation by exiting the land to capture the wind.

2. Avoiding Land and Local Land-Use Control

Once three miles from shore in the oceans along U.S. coasts, the federal government exercises exclusive authority over wind power siting on the continental shelf and in the U.S. The continental shelf is the seaward extension of the below-water continental land mass, delineating the border between the ocean’s crust and the continental crust, including for the U.S. approximately 760,000 square nautical miles. The Bureau of Ocean Energy Management (BOEM) in the Department of the Interior (DoI) regulates the permit process for offshore wind. In contrast, the Federal Energy Regulatory Commission regulates the permit process for ocean oil and gas under the Department of Energy. BOEM has a four-step process for its permitting offshore wind development on the outer continental shelf: (1) planning and analysis, (2) lease issuance, (3) site assessment, and (4) construction and operations. There are leases already granted for many thousands of megawatts of capacity for offshore wind installation. Figure 4 below shows the Department of

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293 See 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1502.1–1502.24; see also Cal. Wilderness Coalition, 631 F.3d at 1105.


295 See, e.g., Mass. Gen. Laws ch. 40A, § 3 (2017) (prohibiting municipalities from unreasonably regulating “the installation of solar energy systems . . . except where necessary to protect the public health, safety or welfare.”). The statute defines solar energy systems as “a device or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection, storage and distribution of solar energy for space heating or cooling, electricity generating, or water heating.” Mass. Gen. Laws ch. 40A, § 1A.

296 Environmental Law, supra note 29, at 541.


Interior BOEM Atlantic Ocean federal wind power lease areas, which are in various stages of development.\textsuperscript{300}

**Figure 4\textsuperscript{301}**

\textsuperscript{300} See supra Figure 1.

Local governments have no jurisdiction three miles beyond a city’s most seaward land boundary.\textsuperscript{302} As shown by Figure 5, the offshore areas of the U.S. have the some of the best wind velocities in the U.S. to harness. With exclusive federal control over 30% of U.S. land, over all ocean areas more than three miles off the state coasts, and in the U.S. portion of the Great Lakes, all of which exhibit some of the best wind velocities in the U.S.,\textsuperscript{303} there is a substantial portion of Earth surface area of water and under exclusive U.S. jurisdiction on which to site wind power resources with no local or state legal zoning or regulatory control.

Figure 5\textsuperscript{304}

\textbf{B. Shifting Legal Burdens: Special Permits in Lieu of Local ‘Aesthetic’ Zoning Ordinances}

A second opportunity utilizing existing law for legal ‘triage’ would be for local governments to be limited by their states to require a local case-by-case special

\textsuperscript{302} \textsc{Adam Vann}, \textit{Wind Energy: Offshore Permitting 1–2} (2021), https://sgp.fas.org/crs/misc/R40175.pdf [https://perma.cc/M5XH-82TH] (“The Submerged Lands Act of 1953 assured coastal states control over the lands beneath coastal waters in an area stretching three miles from the shore in most places, and nine miles in others.” (citations omitted)).

\textsuperscript{303} See infra Figure 5.

permit for siting energy infrastructure, instead of imposing a blanket ‘aesthetic’ zoning restriction that does not consider particular circumstances or cases.\textsuperscript{305} Since local governments derive their power from their states, state law could require municipalities to utilize a project-specific special permit, with conditions included to reduce any excessive proximate noise, vibration, visual flicker, or reduce and buffer nuisance impacts (as created in a proposed Massachusetts wind-siting amendment)\textsuperscript{306} as a more targeted and less burdensome municipal tool than the use of a blanket ‘aesthetic’ zoning law.\textsuperscript{307} Special permits are issued only if a project is found to meet specific development criteria outlined in the local zoning by-law.\textsuperscript{308}

For instance, Minuteman Wind, a Massachusetts wind developer, was required to obtain a special permit to site and develop its proposed 12.5 MW wind project in Savoy, Massachusetts.\textsuperscript{309} Likewise, in Wisconsin, Navitas Energy, Inc. was required to first secure a special conditional use permit from the Manitowoc County Board of Adjustment to build a 49-turbine wind energy park.\textsuperscript{310} If states were to exercise their authority to require smart environmental siting criteria and sufficient nuisance mitigation measures for specific projects—rather than ‘aesthetic’ zoning regulations a priori taking out of use large tracts of municipally controlled land—more non-federal land would be opened for potential evaluation of wind project location.

\begin{itemize}
\item \textsuperscript{305} \textit{Enviornmental Law, supra} note 29, at 559.
\item \textsuperscript{306} \textit{See infra} note 322.
\item \textsuperscript{307} \textit{Green \\& Sagillo, supra} note 91, at 2, 4 (demonstrating an example of aesthetic approval regarding wind turbine approval and showing that fewer communities allow for turbines as permitted (as-of-right) uses).
\item \textsuperscript{308} Criteria may be very broad, including additional levels of environmental protection, noise avoidance, visual appearance, traffic impact, compatibility with surrounding areas, municipal planning objectives, and more. \textit{See generally What Is a Special Permit? TOWN OF SEEKONK, MASS.,} \url{https://www.seekonk-ma.gov/zoning-board-appeals/faq/what-special-permit} [https://perma.cc/WV8U-M2N8] (last visited Aug. 1, 2022).
\item \textsuperscript{309} \textit{See Larry Parnass, Savoy Wind Turbine Project Concedes Defeat, BERKSHIRE EAGLE} (Aug. 21, 2018), \url{https://www.berkshireeagle.com/archives/savoy-wind-turbine-project-concedes-defeat/article_171edc77-6495-5f9a-be9e-f59a6f542bec.html} [https://perma.cc/2KXX-W8X6]. While the developer prepared the special permit application, the community considered a bylaw that would thereafter limit the height of wind turbines to 350 feet. Given that the developer was proposing five 420-foot turbines, this proposed ordinance, if passed, could frustrate the development. \textit{See Patrick G. Rheame, Turbine Project Exempt? BERKSHIRE EAGLE} (July 7, 2006), \url{https://www.berkshireeagle.com/headlines/ci_4022589/} [https://web.archive.org/web/20060710011147/https://www.berkshireeagle.com/headlines/ci_4022589/].
\item \textsuperscript{310} \textit{Roberts v. Manitowoc Cnty. Bd. of Adjustment, 721 N.W.2d 499, 502 (Wis. Ct. App. 2006); see also Shippee v. Zoning Bd. of Appeals of Town of Old Lyme, 466 A.2d 328 (Conn. Super. Ct. 1983) (affirming local ZBA’s granting of special permit for wind project consistent with local ordinance).}
C. Adopting Preemptive State Wind Energy Siting Law

As documented above, twenty-seven states and the District of Columbia already have reserved some statewide jurisdiction over power generation siting. However, of this group, nearly all either do not preempt local government land-use siting jurisdiction, do not exercise state siting jurisdiction over typically-sized wind power projects, or do not provide themselves authority over independent non-utility “merchant” projects which undertake 80% of wind power developments. When analyzed in this Article, only four states exercise effective preemptive power over local ‘aesthetic’ zoning, which frustrates sustainable wind power infrastructure siting. This is reductio ad absurdum.

This failure to exercise state control includes most U.S. states that have adopted a 100% clean energy goal. A state can preemptively block certain new municipal laws that would restrict additional wind power infrastructure. A third mechanism to change the current dynamic of local control by tens of thousands of municipal governments over whether or not sustainable renewable energy can be sited and operated is for states to exercise authority over the power that their localities derive from the state. In the majority of states which utilize Dillon’s Rule, states can exercise state control over local siting of power generation because electricity is in intra-state commerce and serves a statewide extra-municipal function.

For example, that approximately one-third of states that have 100% renewable energy goals, or even those states with renewable goals less than 100%, might preempt local ‘aesthetic’ zoning, which eliminates wind turbines on a generic blanket basis, and instead require an injured party to demonstrate proximate receptor noise or similar nuisance. As a second example, the size designation in the statute could be amended to include smaller-size wind technology project siting for the twenty states that do not extend state jurisdiction coverage to smaller-size energy projects that characterize many land-based wind generation projects.

Massachusetts attempted the latter option—providing an example of how this does or does not work. In 2008, Massachusetts passed the Green Communities

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311 See supra Part III.C.
312 Id.
313 Id.
314 Id.
315 Id.
316 See Table of 100% Clean Energy States, supra note 35 (case law from these states is discussed later in this Article).
318 See ENVIRONMENTAL LAW, supra note 29, at 185.
319 Id.
320 See infra Part IV.D.2 (describing treatment of common law nuisance doctrine regarding wind turbine projects).
321 See supra notes 233–255 and accompanying text.
Act, and as part of this Act, a commission was formed to study why it was so difficult to successfully develop on-shore wind projects in Massachusetts. The commission discerned that the current siting process for Massachusetts required prospective developers to get permits at the local and state levels.

At the local level, a developer would typically need three permits: a zoning permit, a building permit, and approval from the local conservation commission established pursuant to state law which protects wetlands resources. Each permit involves a separate process before a separate agency of local government in the host town and each permit is subject to its separate appeal. This creates a lengthy process to obtain the local permits required to begin wind turbine construction.

Beyond the local level, at the state level, the developer would then need to obtain up to five permits, ranging from a Massachusetts Environmental Policy Act (MEPA) certificate, Department of Public Utilities (DPU) zoning exemption, approval for the transmission interconnection line from the wind project to connect to the electrical grid, Department of Environmental Protection (DEP) environmental permit, and possibly a permit pursuant to the endangered species management plan if endangered species were present or had potential or actual habitats in the project siting area. Any state permit that is received is subject to appeal.

This state commission studied six wind projects in Massachusetts and found that the time elapsed from development to ready-to-build took anywhere from four years to eleven years. These extreme time frames made it almost impossible to convince developers to invest time and money into renewable on-shore wind energy projects in Massachusetts. The commission recommended a more streamlined consolidated permit process similar to the existing approach used for in-state power generating facilities over 100 MW in Massachusetts. Generating facilities over 100 MW already have a consolidated review process before the state Energy

323 Id. at § 12.
325 Id. at 4-24.
326 Id. at 4-3.
327 Id. at 2-3.
328 Id. at 4-29–30.
329 Id. at 3-1 (“Developers generally perceive Massachusetts as a difficult state to permit wind facilities due in large part to the multiple permits that must be granted and the many levels of appeal available to protect opponents.”).
330 Id. at 5-1.
However, on-shore wind projects typically are not of this large size and thus are blocked from using this consolidated state procedure. In an effort to alter the current process, Massachusetts unsuccessfully attempted to enact new legislation to streamline the permitting process for land-based wind projects. These changes were aimed at wind generating facilities up to 100 MW in size, which otherwise did not qualify because they were not greater than the Massachusetts existing law 100 MW threshold. The proposed bills attempted to consolidate the local review into one preemptive state process instead of having to obtain multiple local permits and would establish a specific time frame for a decision and appeals process to keep projects from lingering for many years.

That proposed wind siting reform would break the process into two one-permit steps: local review and a state permit. The bill first had the state Department of Energy Resources (DOER) designate “significant wind resource areas” in order to determine where physically the state should attempt to promote wind turbine projects. Once a municipality area had been designated as a “significant wind resource area,” it would be required to establish a local wind energy permitting board within 30 days of receiving an application for a wind project.

Each step in the permitting process would have exact time deadlines. The municipality would have 60 days to determine if the wind application is complete from the date it receives the application. If the application is complete, the next step would be a 60-day window for the local permitting board to hold a public

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331 MAss. Gen. LAws ch. 40A, § 3.
333 See sources cited supra note 332.
334 S.B. 1666, 187th Gen. Assembly, Reg. Sess., § 1 (Mass. 2011) (“This act shall be construed in a manner to achieve its public purposes, which are to encourage the development of clean, renewable, electric generating plants and ancillary facilities powered by wind, ensure that such facilities are sited in appropriate locations based on clear, predictable and protective environmental, cultural and historic resource standards and streamline the permitting of such facilities at the state and local level and reduce delays associated with appeals of such permits.”).
335 Id. at § 2. Before a municipality is designated as such, they are allowed to hold a public meeting and a period for public comment, but it is unclear what kind of ability a municipality will have to stop the designation. Id.
336 Id. at § 3. The bill calls for the wind energy permitting board to be made up of either three or five members and to consist of at least one member each of the zoning board, planning board, and conservation commission. Id. The mayor or city manager will appoint these positions. Id. The municipality can decide it is not feasible to have a wind energy permitting board, but in that case the planning board would take the role the wind permitting board was going to and must take input from the other local boards. Id.
337 Id. at § 4(c).
Once the application had been determined to be complete, a 120-day period would begin in which the permitting board has to reach a final determination on whether to issue a permit for the wind project. If the board does not decide in 120 days, it would be considered a constructive approval of the wind project application. This deadline restricts the length of the entire process at the local level to a cumulative 180 days.

At the state level, the process would follow a similar procedure. Once the state Energy Facilities Siting Board received an approved application from the local board, it would have forty-five days to determine if the application is complete and then 60 days to hold a public hearing and take comments from other state boards and agencies that would have typically issued permits under the current system. The Energy Facilities Siting Board would have to make a final decision within a cumulative 275 days of determining that the application is complete. The overall length of the process, including the local and state level processes together, would be about a year and a half, much shorter than the four- to eleven-years projects were found to require to obtain all the necessary permits for wind projects under the existing system in Massachusetts.

Groups complained that this reform legislation would pressure towns to fast-track wind projects. The opposition groups also did not like the new permitting board’s ability to waive local zoning laws. The commission’s study found that many of the delays and appeals that affected these projects were not initiated by residents or local groups but by outside third parties who were not directly affected

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338 S.B. 1666, 187th Gen. Assembly, Reg. Sess., Section 4(d) (Mass. 2011). During this period the board can take comments from residents and other local boards, but the final decision rests with the permitting board. Id. The permitting board is still required to enforce all applicable local laws, but can waive zoning and non-zoning requirements, such as height and noise restrictions that opponents of wind farms have historically used to block development. Id. at Section 4(e).

339 Id. at § 4(f).

340 Id.

341 Id. at § 69V(c).

342 Id. at § 69V(f).

343 See TRC, NOBLE & WICKERSHAM LLP, & MEGDAL & ASSOC., supra note 324, at 4-29.


345 Id.
by the wind projects.\textsuperscript{346} The reform proposal did not limit the permitting boards’ abilities to deny an applicant.\textsuperscript{347}

Another significant change the Wind Siting Reform Bill would have made is in the appeal process regarding wind project proposals. Without any provision in law consolidating appellate rights, currently, each permit a developer is required to obtain individually is subject to its separate appeal.\textsuperscript{348} The proposed reform bill would have consolidated and truncated the appeal process, only allowing one consolidated appeal at the local level and one at the state level. At the local level: The local appeal of a decision approving a project would go to the state Energy Facilities Siting Board rather than to court.\textsuperscript{349} An appeal of a local decision denying a project would go to the Massachusetts Superior Court or Land Court.\textsuperscript{350}

At the state level: An appeal of a state permit approval would proceed directly to the Massachusetts Supreme Judicial Court.\textsuperscript{351} This system would reduce the total number of possible appeals to two that a project would have to contend with. Also, if there was an appeal of a local decision, the EFSB was directed to include that appeal in its proceedings as part of the state review and record.\textsuperscript{352} This process combined the state approval step with the local appeal process so that a project would not get delayed sequentially by any local appeal. Questions existed as to the local government board’s ability to effectively or decisively deny wind projects if a wind developer could appeal the local decision to the state board, which was looking at the same wind project with a state board rather than local decision-makers.\textsuperscript{353}

After many towns and cities complained to their elected state representatives that this proposed state level of regulation of small power generation projects was a usurpation of their inherent local land-use and siting authority, this legislation did not pass in the state legislature.\textsuperscript{354} In recognition of the fact that a major barrier to

\textsuperscript{346} See TRC, NOBLE & WICKERSHAM LLP, & MEGDAL & ASSOCs., supra note 324, at 3-3.


\textsuperscript{348} See infra text accompanying note 355. At the local level, a developer would typically need three permits: a zoning permit, building permit, and approval from the local conservation commission established pursuant to state law which protects wetlands resources, each subject to it a separate appeal. See supra text accompanying note 325. At the state level, the developer would need to obtain up to five permits, ranging from a Massachusetts Environmental Policy Act (MEPA) certificate, Department of Public Utilities (DPU) zoning exemption, approval for the transmission interconnection line from the wind project to connect to the electrical grid, Department of Environmental Protection (DEP) environmental permit, and possibly a permit pursuant to the endangered species management plan if endangered species were present or had potential or actual habitats in the project siting area. Id.


\textsuperscript{350} Id.

\textsuperscript{351} Id.

\textsuperscript{352} Id.

\textsuperscript{353} Id.

\textsuperscript{354} Id.
developing wind projects is local zoning laws, the Massachusetts Executive Office of Environmental Affairs and the Division of Energy Resources created and published a model zoning ordinance that, if adopted by communities, would allow wind facilities to be sited if they obtained a local special use permit.\textsuperscript{355} Requiring a special use permit enables communities to continue making case-by-case determinations about projects,\textsuperscript{356} with the rules of the game more balanced and clearer for all involved.

With this proposed shift to state-level small wind project siting failing, Massachusetts subsequently now is seeking an ongoing massive investment in offshore large wind generation projects sited in federal waters in the Atlantic Ocean off the Massachusetts coast, which would connect by undersea cable to the Massachusetts power transmissions system.\textsuperscript{357} Off-shore ocean siting outside of any local jurisdiction or zoning\textsuperscript{358} or use of special permitting on a case-by-case basis at the local level\textsuperscript{359} in lieu of ‘aesthetic’ zoning is discussed in the sections above.

States retain an option to preempt, either totally or in part, the scope of zoning powers that localities are allocated in Dillon’s Rule states or retain in Home Rule states. For the twenty-seven states and the District of Columbia that already exercise energy infrastructure siting power, this would constitute some shifting of regulatory authority to the superior state level. In the other twenty-three states that have yet to exercise state facility siting power, state siting power could be preemptive of local authority. Massachusetts’ experience illustrates a less than fully preemptive mechanism and ultimately successful political resistance from municipalities wanting to retain full authority. A special permit option was set forth in Part IV.B\textsuperscript{360} and here as a means for states to re-format local land-use decisions for wind power

\begin{itemize}
\item \textsuperscript{356} \textit{See supra} Part IV.B.
\item \textsuperscript{358} \textit{See supra} Part IV.A.2.
\item \textsuperscript{359} \textit{See supra} Part IV.B.
\item \textsuperscript{360} \textit{See supra} note 306.
\end{itemize}
siting on a case-specific basis. Below are ways for a Supreme Court decision and for common law to shoulder and supplant some local ‘aesthetic’ zoning laws.

D. Using the Supreme Court Dean Milk Requirement; Reserving Common Law Nuisance to Address Wind Generation Project Impacts

1. Supreme Court Minimum “Burden” Requirement

The Supreme Court held in *Dean Milk* that local governments using police power should select the least restrictive means to implement local regulation for public health and environmental purposes. The Court found that the city of Madison’s expressed concern for milk pasteurization was merely a guise to exclude Illinois milk from the Wisconsin market. The Court concluded that less burdensome alternatives were available to the city of Madison with no effect on interstate commerce. This *Dean Milk* requirement for a state or locality to justify its regulation as implementing the least burdensome alternative has endured and been elevated through federal court precedent for three-quarters of a century since the Supreme Court decision.

As one option going forward, a state could require its local communities’ zoning ordinances to comport with the Supreme Court decision in *Dean Milk* to be the least restrictive regulatory ordinances. A broad exclusionary ‘aesthetic’ zone prohibiting or restricting all wind power turbines for the benefit of distant citizens’ views is not the least restrictive form of regulation of environmental or aesthetic interests. A less burdensome option for renewable energy commerce is to resort instead to the local zoning special permit. Or, if a wind turbine project has a conventional nuisance impact, conventional nuisance actions can be employed to address or compensate for that impact on any specific injured citizens.

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362 *Id.*
363 *Id.* at 354–55 (1951) (“If the City of Madison prefers to rely upon its own officials for inspection of distant milk sources, such inspection is readily open to it without hardship for it could charge the actual and reasonable cost of such inspection to the importing producers and processors.”); *id.* (“A city cannot discriminate against interstate commerce even in exercise of unquestioned power to protect health and safety of people, if reasonable and non-discriminatory alternatives, adequate to conserve legitimate local interests, are available.”).
365 *See supra* Part IV.B.
366 *See supra* Part IV.D.2.
2. Reactivating Common Law Nuisance Doctrine

There is a reason not to supplant common law nuisance rights by blanket ‘aesthetic’ zoning prevention of all wind turbines: Not all community citizens oppose wind turbines. Data shows that “[t]hose who moved into the community prior to [wind] project construction were less positive about the turbines’ fit with the landscape . . . . The proportion who hold the perception that there is a negative effect on property value is more than two and a half times greater among pre-construction neighbors than post-construction neighbors.”367 This data suggests that new neighbors are more positive about living in the vicinity of an operating wind project. ‘Aesthetic’ wind zoning never allows the wind project to be sited and thus does not accommodate more positive citizen values developed after construction of the project. Common law always allows those who believe their property is injured to make their individual case; ‘aesthetic’ zoning prohibitions never provide sustainable technology a chance to be sited even on others’ distant land even if they constitute no conventional nuisance.

Overlaying ‘aesthetic’ zoning to protect all views of distant people over lands they do not own has the final effect of, and is akin to, a blanket determination that wind turbines constitute a prohibited public nuisance. In common-law nuisance claims, a plaintiff has the burden of proof and must demonstrate that actions are (1) an invasion of another’s interest in the private use and enjoyment of land; (2) intentional and unreasonable; or (3) unintentional and otherwise actionable under the rules of controlling liability.368 Under both private and public nuisance law, the plaintiff must prove that the defendant’s activity unreasonably interfered with the use or enjoyment of the plaintiff’s protected interest and caused the plaintiff substantial harm.369 Public nuisance actions have enjoined or remedied one’s property damage by third-party hazardous waste,370 water pollution, noise pollution,371 noxious odors,372 and chemical contamination.373 However, a view shed in the distance that is not part of one’s property does not damage one’s property or the ability to productively use one’s property.

368 RESTATEMENT (SECOND) OF TORTS § 822 (AM. L. INST. 1965).
372 See Baptiste, 965 F.3d.
Localities now employ ‘aesthetic’ zoning as an equivalent route to the outcome achieved after a successful public nuisance action enjoining another’s otherwise legal use of his or her land. ‘Aesthetic’ zoning fundamentally alters the delicate legal balance. Nuisance claims against wind turbines have been made based on their proximate noise, vibrations, and any “strobe” or “flicker effect” of sunlight relating to the wind project. In cold climates, wind turbines may throw ice from their blades over a distance of several hundred meters onto adjacent properties when spinning in winter. Wind power projects have been opposed at the local level in many states because of alleged significant negative environmental impacts, including alleged negative aesthetic and view impacts or the placement of wind turbines in locations that could reduce the value of nearby property.

A study by Lawrence Berkeley National Laboratory assessed the impacts on residential property values of proximate wind power projects. The perceived

374 See supra Part II.A, II.C.


377 See Eric Rosenbloom, The Low Benefit of Industrial Wind, AWEO (Jan. 20, 2006), https://www.aweo.org/LowBenefit.pdf [https://perma.cc/RDF5-A2] (addressing results of a study of Irish wind power generation—specifically, that the “three problems that mitigate the benefits of wind power” are a “large amount of extra energy required to start up thermal generators that would otherwise not have been turned off[,] mechanical stresses of more frequent ramping of production levels up and down[,] and increased prices of energy necessary to pay for any lower usage of thermal plants”).

378 See id. (noting the size of wind turbines and indicating the necessity of flashing lights for airplane safety).


380 Ben Hoen, Ryan Wiser, Peter Cappers, Mark Thayer & Gautam Sethi, The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis, 33 J. REAL ESTATE SCH. 279 (2009); see also Allan Chen, No Evidence of
impacts are described as area stigma, scenic vista stigma, and nuisance stigma.\textsuperscript{381} Large impacts on property value from proximate wind turbine construction were not documented.\textsuperscript{382} Those impacts that do occur are projected to occur within an approximately one-half mile distance where turbines can be seen and heard.\textsuperscript{383} Stigma impacts are a function of distance from wind turbines: The Lawrence Berkeley Laboratory Study concluded that if there is no view of a turbine and one is more than one mile away, there is no documented area stigma.\textsuperscript{384} They also found an absence of scenic vista stigma or nuisance stigma uniquely attributable to residents in homes.\textsuperscript{385}

States could restrict local ‘aesthetic’ wind zoning use by municipalities as long as state common law nuisance remedies remain available on a case-by-case basis. When a nuisance suit is filed, most courts utilize a balancing test to evaluate it.\textsuperscript{386} The test can vary pursuant to weighing the seriousness of the harm caused to a neighbor by the nuisance against the social utility of the activity causing the harm.\textsuperscript{387} Where the harm caused outweighs the social utility, a nuisance occurs and is found.\textsuperscript{388} To determine the severity of the harm, courts typically consider several factors. When assessing the greater public utility of the nuisance-causing activity, the court considers the extent of the harm involved, the suitability of the conduct to the character of the locality, and the impracticability of preventing or avoiding the invasive harm.\textsuperscript{389}


\textsuperscript{381} Hoen et al., supra note 380.

\textsuperscript{382} Id.

\textsuperscript{383} Id.

\textsuperscript{384} Id. (noting that the study analyzed more than 7,500 home sales near 24 wind facilities in nine U.S. states and did not uncover any impacts to nearby home property values).

\textsuperscript{385} Id.


\textsuperscript{387} Id. (citing RESTATEMENT (SECOND) OF TORTS § 826 (AM. L. INST. 1979)).

\textsuperscript{388} Id.

\textsuperscript{389} Id. (citing RESTATEMENT (SECOND) OF TORTS § 828 (AM. L. INST. 1979)).
3. Distinguishing Common Law Nuisance from Zoning

The standard view of states’ common law holds that aesthetics alone cannot form the basis of nuisance. There is nuisance law precedent surrounding wind turbines. Non-view elements associated with wind turbines—noise, vibration, flicker, or ice throws—could constitute a nuisance in a particular case. In Rose v. Chaikin, the court held that the wind turbine was an actionable nuisance because its particular output of noise was offensive due to its character, volume, and duration. Coming to a location after the nuisance is sited and operates makes it less likely to exhibit a basis to require abatement of the nuisance. In Rassier v. Houim, with a wind generator on his residential lot, it was held that anyone who comes to a nuisance, as did the plaintiff, thereafter “has a heavy burden to establish liability.”

Case decisions construing alleged public nuisance claims have not found the ‘special interest’ required to fashion remedies when the owner of land puts it to new permissible uses and no immediate conventional physical nuisance affecting a distant plaintiff is created. In Sowers v. Forest Hills Subdivision, after testimony that the wind turbine would obstruct some view, the court concluded that, “a district court may consider the aesthetics of the wind turbine only if factors other than unsightliness or obstruction of views are claimed.” Where the noise from the wind turbine did not exceed an increase of 5 dBA over background levels measured at a receptor located 100 feet from the turbine, however, the seventy-five feet height close to the plaintiff’s property amounted to a nuisance and was entitled to a remedy.

In Burch v. NedPower Mount Storm, LLC, various plaintiff homeowners lived one-half mile to two miles from the planned 200 wind turbines. The Court held

390 See generally Wernke v. Halas, 600 N.E.2d 117, 121–22 (Ind. Ct. App. 1992) (“[I]t is well-settled throughout this country that, standing alone, unsightliness, or lack of aesthetic virtue, does not constitute a private nuisance”) (citations omitted); Oliver v. AT&T Wireless Services, 90 Cal. Rptr. 2d 491, 500 (Cal. Ct. App. 1999) (“The displeasing height and shape of the new tower cannot, in and of itself, make it a nuisance to those who sit on the other side of the property line.”); Ness v. Albert, 665 S.W.2d 1, 1–2 (Mo. Ct. App. 1983) (“It is generally recognized that unsightliness, without more, does not create an actionable nuisance.”).


395 Id.

396 647 S.E.2d 879 (W. Va. 2007).
that flicker or “strobe” effects from wind turbines and other aesthetic considerations alone usually provide insufficient grounds for an actionable nuisance; noise is sufficient to establish a nuisance, depending on its time, locality, and degree. 397 In Rankin v. FPL Energy, LLC, a key distinction between a traditional physical nuisance invasion of a plaintiff’s real property by light, sound, odor, or foreign substances was compared to an ‘aesthetic’ nuisance of a non-invasive interference with the long-distance view from the plaintiffs’ property which was found alone not to substantially interfere with the use and enjoyment of plaintiff’s land. 398

Where Rankin did not find conventional physical interference nuisance claims against a wind project, additional ‘aesthetic’ view claims alone were insufficient. 399 The court in NedPower determined that a noise nuisance from a wind turbine alone was a sufficient nuisance, and that ‘aesthetic’ view concerns alone are not a sufficient nuisance factor, although once a physical noise nuisance is otherwise established, such aesthetic concerns can be considered as an additional factor in determining infringement on use and enjoyment of one’s land. 400 Each of these nuisances is a function of physical proximity to an operating wind turbine that exerts palpable physical effects that could appropriately be determined on a case-by-case basis in a nuisance action.

‘Aesthetic’ zoning of a ridgeline, thus prohibiting wind turbine placement, effectively presumes turbines are a nuisance and is not based on any case-by-case application or plaintiffs sustaining a burden of proof of injury based on specific wind project proposals or facts. Moreover, a local ‘aesthetic’ zoning ordinance shifts the common law nuisance burden of proof placed on the allegedly affected plaintiff instead to the wind property owner otherwise following the law on the use of its land, who must undertake the extremely difficult task of taking on the entire city law to overturn an established municipal zoning ordinance. 401 ‘Aesthetic’ zoning can function as a more burdensome regulatory intrusion in search of a problem already capably addressed by nuisance law. 402 At a time when there is national and international pressure urgently to address climate change by rapidly implementing renewable power projects, local ‘aesthetic’ zoning laws apply a legal sledgehammer when there are more precise tools available as mandated by the Court’s Dean Milk precedent. 403

397 Id.
399 Id.
400 See NedPower, 647 S.E.2d at 891.
402 See supra notes 381, 384, 385 and accompanying text.
403 See supra Part IV.D.1.
CONCLUSION

All cities and towns in the U.S. utilize electric power.\(^{404}\) Electric power needs to be generated. Now, energized by larger issues of rapid climate change, the U.S. and all nations must transition to lower-carbon-emission sources of power generation, of which wind power currently is the most prominent and used technology. Any community hostile to wind power can pass a highly restrictive amendment to its zoning ordinance that makes the community unattractive or cost-prohibitive to wind or other power generation projects. There is no requirement under state law for states to allow tens of thousands of cities and towns *carte blanche* to elect to ‘zone-out’ the most prevalent renewable power generation technology through ‘aesthetic’ zoning unless that specific wind power project also always presents a legally recognized conventional nuisance injury to proximate citizens or their properties. Ironically, the use of land for wind turbine power capture leaves that land as open space without human habitation and increases the property tax base realized and enjoyed by the town.

Each of the six innovative alternative pathways identified in Part IV could be implemented within existing state authority without amending U.S. federal law or the Constitution. Each would flexibly allow renewable electric power infrastructure siting to proceed on a case-by-case basis, preserving all stakeholders’ rights under existing common law and/or through requirements for developers to obtain local land-use special permits. These innovative legal tools can support states to contribute to decarbonizing the U.S. electric system at the rapid pace required to rescue and preserve the world climate.