

“The Answer Is Blowin’ in the Wind”: A Case for Illinois to Increase Production of Sustainable Wind Energy

Michael Norton*

“The answer my friend, is blowin’ in the wind, the answer
is blowin’ in the wind.”

—Bob Dylan¹

“A house divided against itself, cannot stand.”

—Abraham Lincoln²

I. Introduction

Despite the warning of Illinois’s most famous son, electricity markets in the Land of Lincoln remain divided.³ Illinois’s coal-generating past is speckled with competing interests.⁴ This, coupled with the push for more renewable energy procurement, continues to drive conflicts between lawmakers and electricity market stakeholders.⁵ Although attempts to fix parts of Illinois’s broken regulatory system have been met with varying degrees of success, the divide remains.⁶ The

people most hurt by the lack of comprehensive reform are the citizens of Illinois. The state has a renewable energy problem, but one answer (my friend) is “blowing in the wind.”⁷

During the Illinois legislature’s 2016 sessions, lawmakers focused much of their attention on the development of solar energy production.⁸ This baby-step approach to renewable energy might have satisfied some, but left the wind energy market collecting dust.⁹ These new standards¹⁰ left wind power behind, despite the fact that some wind energy advocates repeatedly referred to Illinois as one of the most important states in the country for the future of wind power.¹¹ A 2015 report conducted by the Department of Energy found that Illinois’s cumulative installed wind power capacity stood at 3,842 megawatts, ranking it fifth in the country.¹² In this same report, however, the data showed that the percentage of instate electricity generation from wind power rests at 5.5%—putting the state twentieth in the country.¹³

* Michael Norton is a J.D. Graduate of The George Washington University Law School class of 2018. He received his B.A. in History from The University of Illinois at Urbana—Champaign. He would like to thank his family and friends for their support and encouragement, as well as all of his writing teachers throughout his life.

1. BOB DYLAN, *Blowin’ in the Wind*, on THE FREEWHEELIN’ BOB DYLAN (Columbia Records 1963).
2. Abraham Lincoln, Address at the Illinois Republican State Convention (June 17, 1858), reprinted in ABRAHAM LINCOLN: SELECTED WRITINGS 134 (2013) (quoting Matthew 12:25 (“Every kingdom divided against itself will be laid to waste, and every city or household divided against itself will not stand.”)).
3. See Steven Daniels, *Why Is Nuke Giant Exelon Touting a Subsidy for Coal-Fired Power Plants?*, CRAIN’S CHI. BUS. (Sept. 10, 2016), <http://www.chicagobusiness.com/article/20160910/ISSUE01/309109997/why-is-uke-giant-exelon-touting-a-subsidy-for-coal-fired-power-plants> (implying divide between Chicago’s green policy initiatives and southern Illinois coal plant subsidies).
4. *Id.*
5. *Id.*
6. See Kari Lydersen, *Illinois Coal’s Last Stand*, CHI. READER (June 15, 2016), <http://www.chicagoreader.com/chicago/future-coal-mining-energy-illinois/Content?oid=22523058> (describing Exelon and ComEd’s interests in sponsored bill, neglecting completely the interests of Ameren Illinois, “the utility serving downstate customers”). See also Daniels, *supra* note 3 (Exelon, the nation’s largest nuclear power generator, with six plants in Illinois, has traditionally been opposed to new wind farms in the state, arguing they are compet-

ing unfairly with its financially pressured nukes). *But see* Peter Maloney, *How Illinois Energy Reform “Fixed” the State’s RPS, Promising a Renewables Boom*, UTILITYDIVE.COM (Dec. 22, 2016), <http://www.utilitydive.com/news/how-the-illinois-energy-reform-fixed-the-states-rps-promising-a-renewab/432877/>.

7. See DYLAN, *supra* note 1.
8. See Kari Lydersen, *In Illinois, New Rules Expected to Make Solar Faster and Cheaper*, MIDWEST ENERGY NEWS (Oct. 19, 2016), <http://midwestenergynews.com/2016/10/19/in-illinois-new-rules-expected-to-make-solar-faster-and-cheaper/> (On October 11, 2016, Illinois lawmakers approved new interconnection rules for solar panels, streamlining the process for installing new solar capacity throughout the state).
9. See Kevin Borgia, *Advocates Eye Upcoming Legislative Session to Fix RPS Bill*, N. AM. WINDPOWER (Nov. 2016), <http://issues.nawindpower.com/article/advocates-eye-upcoming-legislative-session-to-fix-rps-bill/> [<https://perma.cc/4F6S-SHES>].
10. The new standards mimic the Federal Energy Regulatory Commission’s best practices for streamlining solar interconnection processes and eliminating time-wasting approval and study requirements where unnecessary. See Lydersen, *supra* note 6.
11. See Kevin Borgia, *A Plan to Fix Illinois’ Renewable Energy Portfolio Standard*, 10 N. AM. WINDPOWER, Apr. 2013 (citing reasons for characterization as Illinois being home to more than 3.5 GW of wind turbines and “major wind energy firms . . . [like] Invenergy, Acciona, Mainstream, Goldwind, Nordex, Suzlon and Broadwind Energy.”).
12. See U.S. DEP’T OF ENERGY, WIND TECHNOLOGIES MARKET REPORT FOR 2015 9 (2016), <https://energy.gov/sites/prod/files/2016/08/f33/2015-Wind-Tech-nologies-Market-Report-08162016.pdf>.
13. See *id.* (Iowa, Illinois’s direct neighbor to the west, ranks first with its 6,209 megawatts of installed capacity accounting for 31.3% of its instate generation).

Still absent from these new standards governing Illinois's electricity market is perhaps one of the state's greatest assets for establishing a renewable energy future: wind.¹⁴

Current legislation guiding renewable energy within the electricity markets in Illinois is seriously flawed, leading to confusion and the formation of impenetrable monopolies by traditional utilities. This approach threatens to ensure that investment in wind energy in Illinois will never reach its full potential, while also preventing the state from reaching its own renewable portfolio standard mandate. While Illinois's renewable portfolio standard reflects strong public policy in favor of renewable energy, the language of the statute that mandates compliance for major players in the electricity markets makes future renewable energy projects, particularly major wind power lines on and offshore, stagnant if not impossible. In order for Illinois to meet its renewable energy goals, state lawmakers must amend the Illinois Power Agency Act to strengthen long-term investment in wind energy on land and offshore.

Part II of this Note addresses the environmental benefits of wind power and how wind energy development has grown in the last three decades in the United States and specifically within Illinois. Part II also includes a discussion of offshore wind energy development and its place in Illinois's renewable energy future. Part III discusses the regulatory landscape for the electricity market in Illinois starting generally with a discussion of renewable portfolio standards and the legislation that has been enacted to meet the Illinois mandate. Additionally, Part III compares and contrasts Illinois's methodology of meeting its ambitious RPS compared to other states. Part IV highlights the issues with Illinois's regulatory scheme, both the flaws within the statute and the practical effects of these flaws. Part V argues that the Illinois Power Agency Act must be amended to ensure that future development of wind projects in Illinois can move forward. This part of the Note also addresses arguments against amending the renewable portfolio standard, in particular, whether the state should adopt different measures. Part VI concludes that Illinois must amend its renewable portfolio standard to ensure long-term investment in wind energy projects both on land and off the coast of Lake Michigan.

II. Wind Energy Overview

Since the 1970s, wind power has become an increasingly important part of the fight against climate change.¹⁵ The following Sections provide a general outline of how wind produces electricity as well as the environmental benefits of electricity generation through wind power, the status

14. See Borgia, *supra* note 11.

15. See *Electricity Explained*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/energyexplained/index.cfm?page=electricity_in_the_united_states [https://perma.cc/UMH7-3DZ6] (last updated Mar. 29, 2016) [hereinafter *Electricity Explained*] (explaining that wind power accounts for 5% of electricity generation in the U.S. today).

of wind power in the United States and more specifically, within Illinois including the recent developments in offshore wind farms.

A. Harnessing Wind Energy for Electricity

The process for turning a renewable source of energy like wind into electricity requires several complex steps. The process begins as the sun warms the atmosphere.¹⁶ The heating of the uneven terrain, coupled with the rotation of the Earth, cause bursts of kinetic energy, more commonly known as wind.¹⁷ Next, wind turbines, typically consisting of two or three blades that face into the wind or “upwind,” spin and capture kinetic energy of the wind and convert it into mechanical power.¹⁸ Historically, the mechanical energy from the spinning wind turbines powered simple but industrious purposes.¹⁹ More modern wind turbines can hook up to sophisticated generators that convert the wind power into electricity.²⁰ Electricity generation is measured in kilowatts (kW) for large turbines or megawatts (MW), 1000 kW, for even larger generators.²¹ Whereas the largest utility-scale turbines can generate 5-8 MW of electricity standing alone,²² a more typical utility-scale (1.5 MW generating capacity) wind turbine has the capacity to generate close to 3.4 million kilowatt hours per year (kWh/yr) of electricity, commensurate with what 300 American households require annually for electricity.²³

Finally, these turbine-connected generators can tap into an electrical grid.²⁴ Although utility companies on the supplier side traditionally own the grids, the federal govern-

16. See *How Do Wind Turbines Work*, U.S. DEP'T. OF ENERGY, <https://energy.gov/eere/wind/how-do-wind-turbines-work> [https://perma.cc/GQ9F-8ZYN] (last visited Jan. 7, 2016) [hereinafter *How Do Wind Turbines Work*] (explaining how wind is generated on earth as a form of solar energy).

17. See *id.*

18. See *id.*

19. See *Wind Explained: History of Wind Power*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/energyexplained/index.cfm?page=wind_history [https://perma.cc/8P7K-9KGD] (last updated Jan. 7, 2016) (listing the following historical examples of wind energy usage: 5000 B.C.—to propel boats down the Nile; 200 B.C.—wind-power water pumps, used for grinding grain; American colonists—used to power sawmills).

20. See *How Do Wind Turbines Work*, *supra* note 16.

21. The process described here is simplified. See *How Do Wind Turbines Work*, *supra* note 16; *Energy Explained: Measuring Electricity*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/energyexplained/index.cfm/data/index.cfm?page=electricity_measuring [https://perma.cc/VZC4-KZ2J] (last updated Jan. 7, 2016) (“Electricity generation capacity is often measured in multiples of kW, such as megawatts (MW) and gigawatts (GW). One MW is 1,000 kW, and one GW is 1,000 MW.”).

22. See *Wind Explained: Types of Wind Turbines*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/energyexplained/index.cfm/data/index.cfm?page=wind_types_of_turbines [https://perma.cc/Q584-D4NN] (last updated Nov. 21, 2016) (“Small wind turbines that can power a single home may have an electricity generating capacity of 10 kilowatts. The largest turbines have generating capacities of 5,000 to 8,000 kilowatts.”).

23. See DAVID R. WILBURN, U.S. DEP'T. OF THE INTERIOR, *WIND ENERGY IN THE UNITED STATES AND MATERIALS REQUIRED FOR THE LAND BASED WIND TURBINE INDUSTRY FROM 2010 TO 2030* 3 (2011), <https://pubs.usgs.gov/sir/2011/5036/sir2011-5036.pdf> (citations omitted) (assuming an individual household use of 11,300 kWh/yr).

24. See *How Do Wind Turbines Work*, *supra* note 16.

ment, through the Federal Energy Regulatory Commission (“FERC”), as well as state governments regulate the grids.²⁵ The grid distributes electricity to connected households, municipalities, and commercial properties.²⁶ Stand-alone smaller wind turbines, like those used to power individual homes, do not require connection to an electrical grid.²⁷ Utilities customarily employ more cost-effective measures by grouping larger wind turbines into what are commonly known as wind farms.²⁸ Wind farms exist on land or offshore, where faster, more robust, and more consistent winds blow.²⁹ Regardless of installation location, these farms provide the majority of the renewable power supply to the electrical grids.³⁰

Due to the nation’s heterogeneous climate and diverse landscape of mountainous regions and flat plains, the amount and the speed of wind is not consistent across America.³¹ However, wind turbines can adapt to these different needs including varying wind speed classes because of their assorted sizes and shapes, serving multiple purposes inland and offshore.³² In fact, turbine manufacturers like General Electric (“GE”) offer an array of turbines to accommodate

a diverse range of wind conditions.³³ For instance, GE sells turbines that can capture energy in low wind environments, as well as others that are specifically built for the higher wind speeds found offshore.³⁴ The purpose of having a wide variety of options to fit a variety of needs is apparently GE’s optimistic foray into the “green energy” market to assist anyone and everyone looking to reduce their greenhouse gas emissions.³⁵

B. The Benefits of Wind Power

Since 1900, greenhouse gas³⁶ emissions have risen significantly.³⁷ As of 2016, EPA found that electricity generation accounted for roughly one-third of all greenhouse gas emissions in the United States.³⁸ Electricity generators in the United States rely on fossil fuels, like coal and natural gas, contributing to a rise in greenhouse gas emissions.³⁹ According to data gathered by the World Meteorological Organization, 2016 was the hottest year ever recorded on earth in terms of global temperatures.⁴⁰ While a variety of factors contributed to this rise in global temperature, increased greenhouse gases in the atmosphere have also risen to levels higher than any previously recorded year.⁴¹ Furthermore, these increases in global temperature and greenhouse gas emissions have occurred despite efforts around the world to mitigate the impact of climate change on the environment.⁴² As cleaner technology has advanced and become more widespread throughout the world, so has electricity consumption,

25. See *What FERC Does*, FED. ENERGY REGULATORY COMM’N, <https://www.ferc.gov/about/ferc-does.asp> [<https://perma.cc/56HB-QWMM>] (last updated May 24, 2016) (stating that among its responsibilities in regards to electric transmission grids, FERC “regulates transmission and wholesale and sales of electricity in interstate commerce,” and “protects the reliability of the high voltage interstate transmission system [grid] through mandatory reliability standards”) See also *How Do Wind Turbines Work*, *supra* note 16.
26. See *How Do Wind Turbines Work*, *supra* note 16; *Wind Explained: Electricity Generation From Wind*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/energyexplained/index.cfm?page=wind_electricity_generation [<https://perma.cc/N6VY-DPSN>] (last updated April 27, 2015).
27. See *How Do Wind Turbines Work*, *supra* note 16.
28. See WILBURN, *supra* note 23, at 3 (“Most utility-scale turbines are installed in arrays of 30 to 150 units; when these units provide power to the utility grid as a single source of electricity, they are collectively termed a wind powerplant [sic] or wind farm.”) See also U.S. DEP’T. OF ENERGY, *How Do Wind Turbines Work*, *supra* note 16.
29. See *Offshore Wind Energy*, BUREAU OF OCEAN ENERGY MGMT. [hereinafter *Offshore Wind Energy*], <https://www.boem.gov/renewable-energy-program/renewable-energy-guide/offshore-wind-energy.aspx> [<https://perma.cc/2DXS-XYBQ>] (last visited Dec. 27, 2016) (“Offshore winds tend to blow harder and more uniformly than on land. The potential energy produced from wind is directly proportional to the cube of the wind speed. As a result, increased wind speeds of only a few miles per hour can produce a significantly larger amount of electricity. For instance, a turbine at a site with an average wind speed of 16 mph would produce 50% more electricity than at a site with the same turbine and average wind speeds of 14 mph.”).
30. See *How Do Wind Turbines Work*, *supra* note 16 (“Larger wind turbines . . . are grouped together into wind farms, which provide bulk power to the electrical grid.”).
31. See *Utility-Scale Land-Based 80-Meter Wind Maps*, U.S. DEP’T. OF ENERGY [hereinafter *Utility-Scale Land-Based 80-Meter Wind Maps*], http://apps2.eere.energy.gov/wind/windexchange/wind_maps.asp [<https://perma.cc/8GVK-56A8>] (last updated Dec. 9, 2014) (providing, for example, that the average wind speed in northwest Iowa falls between 7.5 and 9 meters per second, while in northwest California, the wind speeds range from 3 to 4 meters per second); WILBURN, *supra* note 23, at 5 (“A wind turbine that is found to be efficient and economical from a technical standpoint in one location may not be in another location because of variation in the characteristics of wind resources at each location.”).
32. See *GE Wind Turbine Portfolio*, GEN. ELEC. RENEWABLE ENERGY, <https://www.gerenewableenergy.com/wind-energy/turbines.html> [<https://perma.cc/6HMN-FGM2>] (last visited Jan. 18, 2017) (listing for utility companies and consumers “a full suite of turbines created for a variety of wind environments . . . to meet the needs of a broad range of wind regimes”); *How Do Wind Turbines Work*, *supra* note 16 (explaining how the size of a turbine reflects its generating capacity).

33. GEN. ELEC. RENEWABLE ENERGY, *supra* note 32.

34. See *id.*

35. See The Benefits of Wind Power, *infra* section II.B for discussion on how turbines reduce greenhouse gas emissions and why that is important for not just companies like GE, but the entirety of civilization.

36. Greenhouse gases are gases that trap heat in the atmosphere and include carbon dioxide, methane, nitrous oxide, and other fluorinated gases. See *Overview of Greenhouse Gases*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/ghgemissions/overview-greenhouse-gases> [<https://perma.cc/U5QM-G5HJ>] (last visited Apr. 4, 2017).

37. *Global Greenhouse Gas Emissions Data*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data> [<https://perma.cc/C5W9-C9QT>] (last updated Aug. 9, 2016) (“[E]missions from fossil fuel combustion and industrial processes contribut[e] 78% of the total greenhouse gas emissions increase from 1970 to 2011.”).

38. See *Sources of Greenhouse Gas Emissions*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> [<https://perma.cc/6NM3-JSYZ>] (last visited Aug. 27, 2018) (citing *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2014*, U.S. ENVTL. PROTECTION AGENCY (2016), <https://www.epa.gov/sites/production/files/2016-04/documents/us-ghg-inventory-2016-main-text.pdf>) (estimating that electricity generation accounts for 30% of all GHG emissions in the U.S., compared to 26% from transportation, 21% from industry, 12% from commercial and residential, and 9% from agriculture).

39. See *Electricity Explained*, *supra* note 15 (explaining that in 2015, coal accounted for 33% of electricity generation and natural gas accounted for 33%, as well).

40. Tara John, *2016 On Course to Be Hottest Year Ever Recorded*, TIME (Nov. 14, 2016), <http://time.com/4569522/climate-change-hottest-year-ever-2016/>.

41. See *id.*

42. See, e.g., *Global Warming Solutions: Reduce Emissions*, UNION OF CONCERNED SCIENTISTS, <https://www.ucsusa.org/our-work/global-warming/solutions/global-warming-solutions-reduce-emissions#.XG3VTuhKjIU> [<https://perma.cc/4DW5-RE4M>] (last visited Feb. 20, 2019); Michael Astor, ASSOCIATED PRESS, *Paris Climate Change Agreement Is Now International Law*, POPULAR MECHANICS, <https://www.popularmechanics.com/science/energy/a23715/paris-climate-agreement-law/> [<https://perma.cc/82JT-2WT4>] (citing the “landmark deal” between 96 countries to combat climate change by committing to reducing their GHG emissions).

leading to higher levels of required generation that can offset advances made by governments to mitigate climate change.⁴³

The replacement of traditional power generation sources, such as coal fired power plants, with renewable sources of energy like wind power addresses both the increased need for electricity and the equally, if not more compelling, need to combat climate change.⁴⁴ Besides creating new jobs,⁴⁵ as well as providing economic incentives for communities that capture wind energy,⁴⁶ wind turbine technology reduces dependence on carbon-emitting electricity sources.⁴⁷ These turbines are not only emission-free, but require little to no water for cooling like other electricity-generating sources.⁴⁸ Additionally, the environmental costs—the materials and energy used to build and install wind farms—are relatively low compared those required for use in construction and road maintenance projects.⁴⁹

Although increased utilization of wind for electricity has many benefits, wind turbine technology is complicated, and can sometimes cause unwanted side effects.⁵⁰ Both advocates and opponents of wind energy are concerned about the efficiency of wind farms.⁵¹ New wind farms tend to operate at less than half of their capacity, around forty percent, due to

stoppages caused by low wind speeds and routine maintenance over the course of a year.⁵² Coal-fired electricity plants, which are not reliant on weather patterns and geography to spur generation, operate at as much as eighty percent capacity.⁵³ Despite this disparity, turbines located in higher altitudes and offshore have higher operating capacities because the wind is more constant and stronger in these zones.⁵⁴

Like other renewables, wind power has some negative impacts on the natural environment.⁵⁵ Some opponents of wind turbines complain about the unattractiveness of the large machines or the unwanted noise the spinning blades produce.⁵⁶ Environmental groups and concerned citizens object to the fact that wind turbines can kill birds and bats that inadvertently fly into the spinning blades.⁵⁷ However, advancements in technology have led to improvements in turbine design, significantly reducing the number of bird and bat deaths.⁵⁸ Additionally, the placement of turbines in wide open prairies, near mountain ranges, or offshore in lakes and oceans mitigates the impact of turbines on the flight patterns of birds and bats.⁵⁹ Placement in rural areas and long distances offshore also helps alleviate the aesthetic displeasure that some find with larger turbines.⁶⁰ Furthermore, the amount of electricity produced with little contribution to the rise in global temperatures helps to justify the increased use of wind turbines.⁶¹ As more people have studied and witnessed the benefits of wind power firsthand, energy producers have tapped into states such as Illinois, traditionally

43. Cf. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, WORKING GROUP III, FIFTH ASSESSMENT REPORT: MITIGATION OF CLIMATE CHANGE—SUMMARY FOR POLICYMAKERS 6 (2014), https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_summary-for-policymakers.pdf.
44. See *id.* at 20–21.
45. See U.S. Wind Power Jobs Hit Record, Up 20 Percent in 2016, AM. WIND ENERGY ASS'N (Apr. 12, 2016), <http://www.awea.org/MediaCenter/pressrelease.aspx?ItemNumber=8736> [<https://perma.cc/4T99-6RPF>] (“American wind power supported a record 88,000 jobs at the start of 2016—an increase of 20 percent in a year.”).
46. See *The Impact of Wind on County-Level Income and Employment: A Review of Methods and an Empirical Analysis*, U.S. DEP'T. OF ENERGY (Sept. 2012), <http://www.nrel.gov/docs/fy12osti/54226.pdf> (“... on average, wind power installations within the study area and occurring between 2000 and 2008 resulted in an increase in total county-level personal income of approximately \$11,000 per megawatt (MW).”).
47. See *Wind Energy Benefits*, U.S. DEP'T. OF ENERGY (Jan. 2015), <https://www.nrel.gov/docs/fy15osti/62823.pdf> (“Researchers estimate that wind energy in the United States in 2013 reduced direct power-sector carbon dioxide emissions by 115 million metric tons, equivalent to eliminating the emissions of 20 million cars during the year. An estimated 157,000 metric tons of sulfur dioxide emissions and 97,000 metric tons of nitrogen oxides were also avoided.”).
48. See *Wind Explained: Wind Energy & The Environment*, U.S. ENERGY INFO. ADMIN. [hereinafter *Wind Explained: Wind Energy & The Environment*], http://www.eia.gov/energyexplained/index.cfm?page=wind_environment [<https://perma.cc/ZY3A-KMX6>] (last updated September 23, 2015); *Wind Energy Benefits*, *supra* note 47 (“Researchers estimate that wind power generation in 2013 reduced power-sector water consumption by 36.5 billion gallons.”).
49. See WILBURN, *supra* note 23, at 16 (“Achieving the goal of using wind energy as the source for 20 percent of the electricity-generating capacity of the United States by 2030 would require an average annual consumption of about 6.8 Mt of concrete, 1.5 Mt of steel, 310,000 t of cast iron, 40,000 t of copper, and 380 t of the rare-earth element neodymium. With the exception of neodymium, the annual material requirements represent less than 3 percent of the U.S. apparent consumption of these materials for 2008.”).
50. See, e.g., *Wind Explained: Wind Energy & The Environment*, *supra* note 48 (citing visual impact, noise pollution, fires, leaks, and the death of animals).
51. Compare WILBURN, *supra* note 23, at 5 (“Although modern utility-scale wind turbines typically operate 65 to 90 percent of the time, turbines installed in 2009 had capacity factors ranging from 15 to 45 percent . . . [s]ince 1999, the megawatt capacity of wind turbines has been increasing, which can be attributed primarily to increasing hub heights and larger rotor diameters relative to nameplate capacity.”); with *FAQ-Output*, NAT'L WIND WATCH, <https://www.wind-watch.org/faq-output.php> [<https://perma.cc/XTY7-LTX3>] (last visited Jan. 20, 2017) (“The turbine’s ‘capacity factor’ is its actual average output as a fraction of its full capacity. This is usually between 15% and 30%.”).

52. See RYAN WISER & MARK BOLINGER, U.S. DEP'T. OF ENERGY, 2015 WIND TECHNOLOGIES MARKET REPORT 42 (2015), https://eta.lbl.gov/sites/all/files/publications/2015-windtechreport.final_.pdf (“The average 2015 capacity factor among projects built in 2014 reached 41.2%, compared to an average of 31.2% among all projects built from 2004–2011, and 25.8% among all projects built from 1998–2003.”). See, e.g., *FAQ-Output*, NAT'L WIND WATCH, <https://www.wind-watch.org/faq-output.php> [<https://perma.cc/XTY7-LTX3>] (last visited Jan. 20, 2017); WILBURN, *supra* note 23, at 5.
53. See WILBURN, *supra* note 23, at 5 (noting fossil fuel-powered plants operate most of the time unless “idled by equipment problems or scheduled maintenance”).
54. See Leanna Garfield, *Here's How Much of the US Would Need to Be Covered in Wind Turbines to Power the Nation*, BUS. INSIDER (Sept. 26, 2016, 10:00 AM), <http://www.businessinsider.com/wind-turbines-to-power-earth-2016-9> (“Wind turbines can also now be built taller and larger than ever, allowing them to harness more power than in years past, Hensley says. Offshore wind farms, in which turbines are installed in oceans rather than on land, can offer about 33% more power than onshore ones, since there is more wind blowing over the sea than on land.”).
55. See, e.g., *Wind Explained: Wind Energy & The Environment*, *supra* note 48 (citing visual impact, noise pollution, fires, leaks, and the death of animals).
56. See *id.* (citing visual impact and noise pollution as major concerns of residents in close proximity to wind farms and individual turbines).
57. See *id.* (citing increased bird and bat deaths as some of the frequent civilian and environmental complaints regarding wind turbines).
58. See *Wildlife and Environment*, WIND ENERGY FOUNDATION, <http://windenergyfoundation.org/wind-at-work/wildlife-environment/> (last accessed Jan. 20, 2017) (“Impacts on birds are not unique to wind power and are small relative to other causes of bird mortality. For example, in a 2007 study the National Academy of Sciences estimated that wind power was responsible for less than 0.003% (3 of every 100,000) of bird deaths caused by humans and pets.”); see also BOARD ON ENVIRONMENTAL STUDIES AND TOXICOLOGY, *Environmental Impacts of Wind-Energy Projects (2007)* 72 <https://www.nap.edu/read/11935/chapter/5#72> [<https://perma.cc/R7F4-C35Z>].
59. See *Wind Explained: Wind Energy & The Environment*, *supra* note 48.
60. See WILBURN, *supra* note 23, at 6.
61. See *Wind Explained: Wind Energy & The Environment*, *supra* note 48 (“A wind turbine has a small physical footprint relative to the amount of electricity it can produce.”).

reliant on coal, to expand the reach of the environmentally friendly technology.

C. Illinois Energy

Historically, Illinois relied on coal mining not only for the majority of its electricity generation, but also for the jobs that the industry created.⁶² Today, twenty-two coal mines operate in-state, making Illinois the fifth-largest coal producer in the country.⁶³ Although coal used to be mined throughout the entire state, most of the coal mining and electricity generation from coal comes from Central and Southern Illinois communities.⁶⁴ These downstate communities depend on coal mining and its high paying jobs.⁶⁵ Such jobs are on the decline as coal mining induced flooding and soil degradation severely damaged nearby towns and farms.⁶⁶

Illinois's reliance on coal-fired power thus has significantly decreased in the last twenty years.⁶⁷ Since natural gas production has increased nationwide, and renewable energy advocates are calling for alternatives to fossil fuels, coal mines and their associated jobs continue to fall.⁶⁸ Despite this decline in coal production, coal-fired power plants still account for over one-third of the electricity generated in Illinois.⁶⁹ In addition to coal, Illinois has become the nation's leader in nuclear power electricity generation.⁷⁰

Despite these ties to coal and other non-renewable sources of energy, Illinois's diverse landscape—including large swaths of farmland, mid-sized city centers, and Lake Michigan—offers vast opportunities for renewable energy growth.⁷¹ The

policy initiatives enacted in Chicago, the state's largest city,⁷² show that despite the historical dependence on coal,⁷³ Illinois can shift toward a more renewable energy-dominated future.⁷⁴ This task has become increasingly difficult, however, due to opposition from traditional power generators and suppliers.⁷⁵ Corporate giants like the Commonwealth Edison Company and its parent company Exelon Corporation (headquartered in Chicago) rely on Illinois lawmakers to protect their interests in state electricity markets.⁷⁶

D. The Development of Wind Energy Beyond Illinois

While harnessing energy from the wind for practical uses dates back to 200 B.C., modern wind turbines and wind farms only gained popularity in the United States beginning in the late twentieth century.⁷⁷ In the 1970s and 1980s, oil shortages coupled with a new concern for the negative effects of fossil fuels on the environment led to a fresh focus on alternative forms of energy from renewable sources, including solar, wind, and hydroelectric power.⁷⁸

The first wind farm in Illinois became operational in 2003.⁷⁹ Today, the state has forty-seven wind projects that account for over 4,000 MW of installed capacity, with 490 MW of capacity currently under construction.⁸⁰ Despite having vast swaths of flat prairie land, ideal for higher wind speeds,⁸¹ the wind in Illinois has not been the major driv-

62. See Lydersen, *supra* note 6 (“Illinois is the first place coal was discovered by Europeans in North America, in 1673 along the Illinois River. Coal was once mined across the state, even in the Chicago region, hence place names like Coal City, Carbon Hill, and Carbondale.”).

63. See *id.*

64. See *id.*

65. See *id.*

66. See *id.* at 6 (highlighting “longwall mining”—a technique used primarily to extract coal in Illinois—as a technique that has caused job loss and degradation to soils, causing runoff onto nearby farms).

67. See *id.* (“In 2002 . . . 46 percent of the electricity generated [in Illinois] was from coal. In 2015, 38 percent of the electricity generated in Illinois came from coal.”).

68. See *id.* (explaining “low natural gas prices” and “energy efficiency . . . holding down electricity demand in the U.S.” and China's declining interest in Illinois coal as various reasons for mine closures and coal mining job loss). See also John Keilman, *As Illinois' Coal Country Teeters on Brink, Next President May Tip Balance*, CHI. TRIB. (Sept. 18, 2016, 9:18AM), <http://www.chicagotribune.com/news/ct-coal-bust-illinois-met-20160918-story.html> (“Illinois mining companies have shed more than 1,200 jobs over the last year as strict new environmental regulations and cheap natural gas have encouraged utilities to drop their reliance on coal. Only about 2,800 jobs remain, the lowest tally in decades.”).

69. See *Electric Power Monthly With Data for August 2016*, U.S. ENERGY INFO. ADMIN. (October 2016), <http://www.eia.gov/electricity/Monthly/pdf/epm.pdf> (Tables 1.3B and 1.4B, indicating Illinois's total electricity generation is 125,549 megawatt hours, with 40,079 coming from coal as of August 2016).

70. See *id.* at Table 1.9B (Illinois generated 65,382 megawatt hours of electricity from January to August 2016; the next closest state was Pennsylvania with 55,254 megawatt hours over the same time).

71. See *Corporate Clean Energy Procurement Index: State Leadership & Rankings*, INFO. TECH. INDUS. COUNCIL 20 (Jan. 2017), <http://www.itic.org/dotAsset/f9040bd1-7681-455a-9a64-5a518c16551d.pdf> (“For a state with a considerable amount of nuclear and coal-fired power, in a region with few bordering renewable energy leaders, Illinois has emerged as one of the strongest states for corporate clean energy deployment and policies.”).

72. See CHICAGO CLIMATE ACTION PLAN, CITY OF CHICAGO (2008), <http://www.chicagoclimatereport.org/filebin/pdf/finalreport/CCAPREPORTFINALv2.pdf> (enacting city-wide measures to reduce greenhouse gas emissions by adopting five strategies to reach the broad goal: energy efficient buildings, clean and renewable energy sources, improved transportation options, reduced waste and industrial pollution, and adaptation).

73. See Lydersen, *supra* note 6 (discussing coal plants in Chicago neighborhoods Pilsen and Little Village, as well as non-Clean Air Act complaint coal plant in nearby Waukegan, IL).

74. See generally INFO. TECH. INDUS. COUNCIL, *supra* note 71, at 20.

75. See Daniels, *supra* note 3.

76. See Steven Daniels, *Illinois Drops in U.S. Wind Power Ranks*, CRAIN'S CHI. BUS. (Jan. 28, 2015), <http://www.chicagobusiness.com/article/20150128/NEWS11/150129792/illinois-drops-in-u-s-wind-power-ranks> (“Exelon, the nation's largest nuclear power generator, with six plants in Illinois, is opposed to new wind farms in the state, arguing they are competing unfairly with its financially pressured nukes.”). See also Kari Lydersen, *Surprise Illinois Energy Bill Turns Up Heat On Nuclear, Solar Debates*, MIDWEST ENERGY NEWS (May 5, 2016), <http://energynews.us/2016/05/05/midwest/surprise-illinois-energy-bill-turns-up-heat-on-nuclear-solar-debates/> [<https://perma.cc/B6XC-JEAH>].

77. See WILBURN, *supra* note 23, at 1 (“Simple windmills were used to pump water in China before 200 B.C. Technological advancements in the use of wind energy to produce electricity accelerated in the 1970s . . .”). See also *Wind Explained: Electricity Generation From Wind*, *supra* note 26 (“The share of U.S. electricity generation from wind in 1990 was less than 1%.”).

78. See *Wind Explained: Electricity Generation From Wind*, *supra* note 26.

79. Jameel Naqvi, *Illinois Emerges as One of the Country's Leaders in Wind Energy*, DAILY HERALD (Dec. 20, 2009), <http://prev.dailyherald.com/story/?id=345484>.

80. See *Illinois Wind Energy*, AM. WIND ENERGY ASS'N, <http://awea.files.cms-plus.com/FileDownloads/pdfs/Illinois.pdf> (last visited Nov. 1, 2016). See also WISER & BOLINGER, *supra* note 52, at 7 (“States distantly following Texas in cumulative installed capacity include Iowa, California, Oklahoma, Illinois, Kansas, Minnesota, Oregon, and Washington—all with more than 3,000 MW.”).

81. See Jim Angel, *Average Wind Speed in Illinois*, ILLINOIS STATE CLIMATOLOGIST OFFICE, <http://www.isws.illinois.edu/atmos/statecli/wind/wind.htm> [<https://perma.cc/5YUQ-PGGW>] (last visited Nov. 14, 2016) (noting that “Illinois is not one of the windiest states”). See also WILBURN, *supra* note 23, at app. 2 (highlighting technological advancements like longer turbine blades and elevated platforms that can be used at sites with lower wind speeds increase energy capture).

ing force for wind energy investment. The state's service and access to two electrical grids that serve the Midcontinent Independent System Operator⁸² and PJM Interconnection⁸³ markets makes Illinois attractive for wind energy generation.⁸⁴ Although a state like North Dakota has much higher overall wind speeds than Illinois,⁸⁵ the lack of connection and service to these electrical grids is one component that keeps new wind power investment at bay in those states.⁸⁶ Grid connectivity might attract future in-state wind energy procurement, but Illinois boasts one resource that remains largely untapped: Lake Michigan.

E. Offshore Wind

According to the U.S. Department of Energy, the United States has an estimated offshore wind capacity of four million MW—quadruple the collective current generating capacity of all U.S. electric power plants.⁸⁷ Offshore wind farms have the benefits of higher, more consistent wind speeds compared to inland wind farms.⁸⁸ Moreover, depending on how far out into the water the turbines are placed, offshore wind farms take care of one of the major, albeit non-environmental concerns, of wind turbines: the aesthetic eyesore for some waterfront homeowners.⁸⁹

Europe and Asia have seen widespread and successful growth of offshore wind.⁹⁰ As recently as 2016, the United States completed its first offshore wind farm off the coast of Rhode Island.⁹¹ Federal money for offshore wind power in the form of funding for studies and subsidies for utility investors consistently goes toward eastern and western coastal

projects.⁹² While those projects warrant funding, the wind speeds off the coast of Lake Michigan and even further offshore, compare favorably to the wind speeds offshore of the cities along the Atlantic and Pacific Oceans.⁹³ Indeed, some of the most powerful and consistent concentrations of energy in the United States come from the winds that blow over the Great Lakes.⁹⁴ These powerful winds over Lake Michigan make a place like Chicago an attractive location for offshore wind energy development.⁹⁵

III. State Electricity Requirements

The Illinois legislature enacted laws to fit renewable energy into the state electricity market's regulatory landscape in response to calls from renewable energy advocates.⁹⁶ The following Sections highlight this legislation and compare and contrast Illinois's methodology for meeting its ambitious renewable portfolio standards with other states. The last Section discusses the public trust doctrine and its implications regarding offshore wind energy development.

A. Illinois Power Agency Act and Municipal Aggregation

In 2007, Illinois legislators passed the Illinois Power Agency Act to regulate the state's complicated electricity markets in the new era of renewable energy technology.⁹⁷ The stated goals of the Act reveal the delicate balance between procuring more renewable sources of energy and keeping the costs of electricity down for the average consumer.⁹⁸ The Act's main provisions established the Illinois Power Agency ("IPA"), authorizing the agency to procure renewable energy facilities through purchases, acquisitions, sales, and exchanges of property.⁹⁹ The IPA was also permitted to provide loans for utility companies looking to build renewable structures like wind turbines and solar cells.¹⁰⁰ The IPA, through these authorizations, gained the responsibility of

82. Known today as MISO, and described as "an essential link in the safe, cost-effective delivery of electric power" across much of North America" including "all or parts of 15 U.S. states and one Canadian province." MISO ENERGY, INC., <https://www.misoenergy.org/> [<https://perma.cc/ZD2G-VABG>]; *About MISO*, MISO ENERGY, INC., <https://www.misoenergy.org/about/> [<https://perma.cc/MUY4-RWTZ>] (last visited Mar. 18, 2018).

83. "PJM Interconnection is a regional transmission organization that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia." *Who We Are*, PJM INTERCONNECTION, <http://www.pjm.com/about-pjm/who-we-are.aspx> [<https://perma.cc/LD27-8PLP>] (last visited Apr. 4, 2017).

84. See Borgia, *supra* note 9. See also *Illinois State Profile and Energy Estimates*, U.S. ENERGY INFO. ADMIN., <http://www.eia.gov/state/analysis.cfm?sid=IL> (last updated, Mar. 17, 2016) ("Illinois is served by two electrical grids, one of which spans the northern portion of the state, including the major urban areas in and around Chicago, and interconnects with the Mid-Atlantic states.").

85. See *Utility-Scale Land-Based 80-Meter Wind Maps*, *supra* note 31 (North Dakota's average wind speed at 80 meters ranges from 7.0 to 9.5 meters per second, whereas Illinois's wind speeds top out at 7.5 meters per second).

86. See Borgia, *supra* note 9.

87. See Julie Grant, *Developers Face Obstacles to Offshore Wind Farms in Great Lakes*, MICHIGAN RADIO (June 19, 2014), <http://michiganradio.org/post/developers-face-obstacles-offshore-wind-farms-great-lakes>.

88. See Justin Gillis, *America's First Offshore Wind Farm May Power Up a New Industry*, N.Y. TIMES (Aug. 22, 2016), http://www.nytimes.com/2016/08/23/science/americas-first-offshore-wind-farm-may-power-up-a-new-industry.html?_r=0.

89. See *id.*

90. See Ian Baring-Gould, *Offshore Wind Energy Market Overview*, NAT'L RENEWABLE ENERGY LABORATORY (2014) <https://www.boem.gov/NREL-OSW-Market-Overview/> [<https://perma.cc/UR8U-GH2S>].

91. See Gillis, *supra* note 88 ("The technology has been proved in Europe, where offshore wind farms as large as 300 turbines are being developed . . .").

92. See *Offshore Wind Energy*, *supra* note 29 ("Abundant offshore wind resources have the potential to supply immense quantities of renewable energy to major U.S. coastal cities, such as New York City and Boston, and Los Angeles."); Grant, *supra* note 87 (explaining how offshore wind project in Cleveland was scrapped because funding went to projects on east and west coasts).

93. See *Utility-Scale Land-Based 80-Meter Wind Maps*, *supra* note 31.

94. See ILLINOIS DEP'T OF NAT. RES., LAKE MICHIGAN OFFSHORE WIND ENERGY ADVISORY REPORT (2012), http://www.cityofevanston.org/sustainability/renewable_energy/LMOWEFinalReport62012.pdf.

95. See *id.* at 5 ("Few places in the United States have so large a renewable energy resource positioned so accessibly close to metropolitan population centers.").

96. See Mark Pruitt, *How Electricity Markets Work in Illinois*, THE POWER BUREAU LLC 3 (July 17, 2012), http://renewableenergy.illinoisstate.edu/downloads/speaker_presentations/071712_iwvw_annual_conference/071712_PM_0100_Mark_Pruitt.pdf (highlighting ineffective historical methods of generating renewable energy growth for electricity utilities as a cause of the 2007 Illinois Power Agency Act).

97. See 20 ILL. COMP. STAT. 3855 (2007).

98. See *id.* at § 1–5 (The stated goals include: (A) Develop electricity procurement plans to ensure adequate, reliable, affordable, efficient, and environmentally sustainable electric service at the lowest total cost over time, taking into account any benefits of price stability . . . ; (C) Develop electric generation and co-generation facilities that use . . . renewable resources . . . financed with bonds issued by the Illinois Finance Authority . . .).

99. See *id.*

100. See *id.* at § 1–20 ("General Powers of the Agency").

establishing and collecting charges and fees associated with compliance and non-compliance with the Act's renewable energy requirements for utilities and municipalities.¹⁰¹ The Act further established the Illinois Power Agency Renewable Energy Resources Fund ("RERF"), administered by the IPA with the sole purpose of procuring renewable energy-generating sources.¹⁰² This fund does not help drive investment in additional wind energy power.¹⁰³ Instead, the RERF helps utilities and other electricity suppliers to comply with the other requirements of the Act by allowing them to purchase Renewable Energy Credits ("RECs").¹⁰⁴ On the other hand, the Renewable Energy Resources Trust Fund ("RERTF"), established under the 2006 amendments to the Renewable Energy, Energy Efficiency, and Coal Resources Development Law of 1997, provides grants, loans, and other incentives to foster investment in and the development and use of renewable energy resources.¹⁰⁵

The Illinois legislature passed another important piece of the Illinois Power Agency Act in 2010, effectively allowing municipal aggregation.¹⁰⁶ Under municipal aggregation, whole cities and towns, or groups of cities and towns, can decide where residents will receive electricity.¹⁰⁷ They could choose to stick with an incumbent utility¹⁰⁸ or switch to a competitive supplier, usually at a lower cost.¹⁰⁹ When the concept of municipal aggregation was introduced in 2010, more than 450 communities in Illinois switched from their incumbent utility to a competitive supplier.¹¹⁰ In the first years of operation, Commonwealth Edison ("ComEd"), Ameren Illinois Company d/b/a Ameren Illinois ("AIC"), and MidAmerican Energy Company ("MidAmerican") lost between 60% and 90% of their previous supplier load because of the switching.¹¹¹

B. Renewable Portfolio Standard and Compliance

The readily apparent benefits of wind power¹¹² and the problems caused by reliance on traditional fuel sources in

the 1970s and 1980s¹¹³ spurred governmental action in the United States.¹¹⁴ The federal government, in conjunction with a few state governments, began voluntarily incentivizing "green power."¹¹⁵ These incentives took the form of tax credits for utility companies that sourced some of their electricity supply from renewable sources such as wind.¹¹⁶ These incentives, paired with state laws mandating that certain percentages of electricity generation come from renewable sources, led to a rapid increase in renewable technology—currently projected to increase gradually over time.¹¹⁷

The driving forces behind wind energy development throughout the country are various states' renewable portfolio standards (RPS).¹¹⁸ Although not required by federal law, twenty-nine states mandate that utility companies procure a specific percentage of their energy from renewable sources.¹¹⁹ Companies can comply by generating the energy themselves or by purchasing the renewable energy from other utilities, so long as mandated percentages of renewable energy are provided to consumers.¹²⁰ The permitted alternative sources of energy in Illinois, for example, consist of wind and solar-powered systems as well as biodiesel, biomass, tree waste, and water-powered systems.¹²¹ The states that have mandated RPS vary in how aggressively respective percentages are set.¹²²

The Illinois Power Agency Act authorized the Planning and Procurement Bureau, a branch of the IPA, to set the RPS for Illinois.¹²³ Illinois's RPS "requires large investor-owned electric utilities and alternative retail electric suppliers ("ARES") to source 25% of eligible retail electricity sales from renewable energy by 2025."¹²⁴ At least seventy-five percent of the renewable energy requirement must come from photovoltaic projects including but not limited wind energy.¹²⁵ These "carve outs" for different kinds of renewable energy also require procurement of renewable energy from facilities located in Illinois before seeking the same from adjacent

101. See *id.* ("The Agency has all the powers necessary . . . to establish and collect charges and fees as described in this Act.")

102. *Id.* at § 1–56.

103. Pruitt, *supra* note 96, at 10 ("Renewable Energy Resources NOT Renewable Energy").

104. See 20 ILL. COMP. STAT., 3855/1-56 ("Procurement of renewable energy resources from distributed renewable energy generation devices shall be done on an annual basis through multi-year contracts of no less than 5 years, and shall consist solely of renewable energy credits." (emphasis added)); Pruitt, *supra* note 96, at 10.

105. See 20 ILL. COMP. STAT. 687/6-4 (2006).

106. See 20 ILL. COMP. STAT. 3855/1-92 (2010).

107. See *id.* See also Borgia, *supra* note 9 ("Under a municipal aggregation system, entire cities, towns and counties can vote to leave the incumbent utility and seek another supplier en masse. Cities can even require ARES to bid on the contract to provide renewable power (although this usually means purchasing cheap renewable energy credits (RECs) via one-year contracts."))

108. See *Understanding the Utility's Electric Supply*, ILL. COMMERCE COMM'N (2014), <https://www.pluginillinois.org/fixerate.aspx>.

109. See 20 ILL. COMP. STAT., 3855/1-92 (2010). See also Borgia, *supra* note 9.

110. See Borgia, *supra* note 9.

111. See *id.*

112. See The Benefits of Wind Power, *supra* section II.B for discussion on the benefits of wind power that caused states to become interested in wind power.

113. See The Development of Wind Energy Beyond Illinois, *supra* section II.D for the history of wind power.

114. See *Wind Explained: Electricity Generation from Wind*, *supra* note 26.

115. See *id.*

116. See *id.*

117. See *Renewable Energy Explained*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/index.php?page=renewable_home [<https://perma.cc/TS3H-Z5X8>] (In 2017, about 11% of total U.S. energy consumption and 17% of electricity generation was from renewable energy sources.)

118. See *Wind Generation Share Exceeded 10% in 11 States in 2015*, U.S. ENERGY INFO. ADMIN. (Oct. 26, 2016), <http://www.eia.gov/todayinenergy/detail.php?id=28512> ("state level renewable portfolio standards (RPS) have led states to build more wind capacity.")

119. See Ronald Brownstein, *The Winds Are Changing for Renewable Energy*, THE ATLANTIC (July 7, 2016), <http://www.theatlantic.com/politics/archive/2016/07/are-the-winds-changing-for-renewable-energy/490250/>.

120. See *Renewable Portfolio Standard*, DSIRE.org, <http://programs.dsireusa.org/system/program/detail/584> [<https://perma.cc/C59A-S753>] (last updated June 18, 2018).

121. See *id.*

122. Compare CAL. PUB. UTIL. CODE § 399.15(b)(2)(B) (2013) (setting California's RPS at 33% by 2020), with ARIZ. ADMIN. CODE § R14-2-1804(B) (2011) (setting Arizona's RPS at 15% by 2024).

123. See 20 ILL. COMP. STAT. 3855/1-75(c) (2007).

124. See *Renewable Portfolio Standard*, *supra* note 120.

125. See 20 ILL. COMP. STAT. 3855 1-75(c) (2017).

states.¹²⁶ The in-state requirement has since expired.¹²⁷ The RPS in a few states, but not Illinois, contain a separate carve out or other incentive for offshore wind energy.¹²⁸

Despite the strong public policy in favor of renewable energy and wind energy, Illinois electricity markets are fully deregulated.¹²⁹ Accordingly, Illinois allows individuals, residential customers and businesses, commercial, or industrial customers to buy their electricity from one of three traditional investor-owned utilities: ComEd, AIC, or MidAmerican¹³⁰ or “one of the more than 80 [ARES]”¹³¹ licensed to operate in the state.¹³² In other words, suppliers of electricity must comply with the IPA and the state’s RPS.¹³³

Incumbent utilities comply with Illinois’s RPS through procurement plans administered by the IPA.¹³⁴ These plans typically include a combination of cheap RECs and a requirement that some of the electricity used to supply its customers comes from renewable generation.¹³⁵ The compliance payments made to the IPA’s RERF provide funding to ensure enforcement of the procurement plans.¹³⁶ The newly enacted Future Energy Jobs Act, signed into law by Governor Bruce Rauner in December of 2016 and effective as of June 1, 2017, leaves the RPS itself unchanged.¹³⁷ However, the Act, among other revamps, sends unused RERF money to new community solar projects.¹³⁸

126. *Id.* at 1-56(b) (“Prior to June 1, 2011, resources procured pursuant to this Section shall be procured from facilities located in Illinois, provided the resources are available from those facilities. If resources are not available in Illinois, then they shall be procured in states that adjoin Illinois. If resources are not available in Illinois or in states that adjoin Illinois, then they may be purchased elsewhere.”).

127. *See id.* (“Beginning June 1, 2011, resources procured pursuant to this Section shall be procured from facilities located in Illinois or states that adjoin Illinois. If resources are not available in Illinois or in states that adjoin Illinois, then they may be procured elsewhere.”).

128. See Jocelyn Durkay, *State Renewable Portfolio Standards and Goals*, NAT’L CONF. OF ST. LEGIS., <http://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx> [https://perma.cc/L6U5-TZNR] (Maine, Maryland, and New Jersey have carve outs for offshore wind energy but also are based on future goals, not yearly progress). See also Steven Ferrey, *Threading the Constitutional Needle With Care: The Commerce Clause Threat to the New Infrastructure of Renewable Power*, 7 TEX. J. OIL GAS & ENERGY L. 59, 83, 113 (2012) (discussing Rhode Island’s “Renewable Energy Development Fund” which reserves funds for the development of offshore wind projects, and Delaware’s RPS which allows up to 350% credit for offshore wind facilities as a part of the state’s compliance mechanism).

129. See Borgia, *supra* note 9.

130. See ILL. POWER AGENCY, *supra* note 108.

131. As of 2018, the amount of ARES has increased to about 100. See *Alternative Retail Electric Suppliers (ARES)*, ILL. COMMERCE COMM’N (2017), <https://www.icc.illinois.gov/Electricity/authorities/ARES.aspx> [https://perma.cc/VQD3-89N5] (“An ‘alternative retail electric supplier’ means every person, cooperative, corporation, municipal corporation, company, association, joint stock company or association, firm, partnership, individual, or other entity, their lessees, trustees, or receivers appointed by any court whatsoever, that offers electric power or energy for sale, lease or in exchange for other value received to one or more retail customers, or that engages in the delivery or furnishing of electric power or energy to such retail customers, and shall include, without limitation, resellers, aggregators and power marketers . . .”).

132. Borgia, *supra* note 9, at 2.

133. See generally *id.*

134. Pruitt, *supra* note 96, at 10.

135. See *id.* at 11.

136. 20 ILL. COMP. STAT. 3855/1-56 (2007).

137. See 20 ILL. COMP. STAT. 3855/1-75(c) (2017) (amended by the Future Energy Jobs Act, Ill. Pub. Act. 99-0906, § 5 (S.B. 2814) (2016)).

138. See *id.* See also Peter Maloney, *How Illinois Energy Reform “Fixed” the State’s RPS, Promising a Renewables Boom*, UTILITYDIVE.COM (Dec. 22,

ARES can comply through bilateral agreements or procurement of renewable sources (included in their electricity supply), capped at fifty percent of the total of the RPS.¹³⁹ A maximum of fifty percent of the RPS compliance may be completed through payments to the IPA.¹⁴⁰ These payments, known as “alternative compliance payments” exist in a separate fund from the RERF and RERTF.¹⁴¹ This form of compliance has the benefit of flexibility because utilities do not necessarily have to generate their own renewable energy in order to comply with the RPS.¹⁴² It also reduces the financial burden of implementation because utilities do not have to transmit energy generated from renewable sources if they own enough RECs to cover compliance.¹⁴³ Compliance was made simpler in 2017 when the Future Energy Jobs Act and amendments to the Public Utilities Act made RERF the sole fund for all compliance payments.¹⁴⁴ Despite this progress, the state has neglected a potential renewables boom off the shores of Lake Michigan.

C. Offshore Wind and the Public Trust Doctrine

In 2011, the Illinois legislature passed the Lake Michigan Offshore Wind Energy Advisory Council Act that created the Lake Michigan Offshore Wind Energy Council (“The Council”).¹⁴⁵ The act instructed the Council to work with the Illinois Department of Natural Resources (“Illinois DNR”) to explore and evaluate the multifaceted issues facing wind farm development of Lake Michigan.¹⁴⁶ The Council found that an important component of the development of offshore wind in Illinois was the public trust doctrine.¹⁴⁷ The public trust doctrine, established by federal and state common law,¹⁴⁸ recognizes that a government may hold public water resources in the “public trust” for the benefit and the use by its citizens.¹⁴⁹ The Council recognized the importance of

2016) [hereafter Maloney, *How Illinois Energy Reform “Fixed” the State’s RPS*], <http://www.utilitydive.com/news/how-the-illinois-energy-reform-fixed-the-states-rps-promising-a-renewable/432877/>; Peter Maloney, *Illinois Power Agency Seeks Comments on New Procurement Rules*, UTILITYDIVE.COM (Oct. 2, 2017), <http://www.utilitydive.com/news/illinois-power-agency-seeks-comments-on-new-procurement-rules/506302/>.

139. See Pruitt, *supra* note 96, at 11; Borgia, *supra* note 9.

140. See Borgia, *supra* note 9.

141. See *id.*

142. See JOSHUA P. FERSHÉE, *THE LAW OF CLEAN ENERGY* 80 (Michael Gerrard, ed., 2011).

143. See *id.*

144. See Maloney, *How Illinois Energy Reform “Fixed” the State’s RPS*, *supra* note 138.

145. See 20 ILL. COMP. STAT. 895 (2011) (repealed in 2012).

146. See ILLINOIS DEP’T OF NAT. RES., *supra* note 94, at 6.

147. See *id.* at 7 (“Although not a topic specifically identified in the Lake Michigan Offshore Wind Advisory Council Act, one issue of primary concern in the analysis of any questions involving construction on or over the bed of Lake Michigan is the public trust doctrine.”).

148. See Ill. Cent. R.R. v. Illinois, 146 U.S. 387, 453 (1892) (holding that Illinois’s transfer of lakebed property for a railroad company was invalid because “[t]he state can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them, so as to leave them entirely under the use and control of private parties . . . than it can abdicate its police powers in the administration of government and the preservation of the peace.”). See also Lake Mich. Fed’n v. U.S. Army Corps of Eng’rs, 742 F. Supp. 441, 442 (N.D. Ill. 1990) (rejecting a university’s proposal to expand into Lake Michigan as violating the public trust).

149. See ILLINOIS DEP’T OF NAT. RES., *supra* note 94, at 7 (“As trustee, the State owes the public a duty to not act inconsistently with the rights of its citizens

the public trust doctrine for potential offshore wind development.¹⁵⁰ Since Illinois holds the lakebed of Lake Michigan in the public trust, any lease of the lakebed for an offshore wind farm would have to comply with the doctrine.¹⁵¹ However, the Council neglected to analyze the problems associated with satisfying the doctrine, particularly off the coast of Lake Michigan.¹⁵² The Council went dormant shortly after making its findings, leaving the questions of the feasibility of offshore wind largely unanswered.

The courts in Illinois have been reluctant to grant lakebed leases for private purposes where environmental benefits would only be peripheral.¹⁵³ In *Scott v. Chicago Park District*, 360 N.E.2d 773, 781 (Ill. 1977), the Illinois Supreme Court refused to accept that the jobs and economic development that came with the building of an industrial steel plant, on approximately 200 acres of Lake Michigan, would truly benefit the public.¹⁵⁴ Instead, the court focused on the impact of such projects on future generations, stressing a need to conserve, protect, and improve the natural environment beyond strictly economic benefits.¹⁵⁵ Even when a proposed Lake Michigan development included specific environmental benefits, such as the construction of a new park, with additional private benefits, courts were reluctant to approve the projects.¹⁵⁶ In *Lake Michigan Federation*, the United States District Court for the Northern District of Illinois held that a permit to expand a university, with the public benefits of research and an accessible park, violated Illinois's public trust doctrine.¹⁵⁷ The court strictly interpreted the doctrine to say that any conveyance of lakebed property to a private party, regardless of its public benefits, violates this public trust doctrine.¹⁵⁸ Overall, the reluctance of these courts to find that public-minded, economically stimulating projects comply with the public trust doctrine restricts lakebed leasing for wind power projects.

in matters relating to public waters resources. As the beneficiary of this trust, the public has the right to seek the reversal of any such inconsistent actions by the State.”).

150. *Id.*

151. *Id.*

152. *Id.* at 8 (“A formal analysis of the public trust doctrine’s consistency with potential development of offshore wind power facilities in Lake Michigan is not provided in this Report because any analysis would likely turn on specific facts developed pursuant to vigorous debate before a court of competent jurisdiction and any such analysis is beyond the charge of the Lake Michigan Offshore Wind Advisory Council Act.”).

153. See *Scott v. Chi. Park Dist.*, 360 N.E.2d 773, 781 (Ill. 1977) (invalidating a 200-acre conveyance for a steel company to build an industrial plant because lease did not comply with public trust doctrine).

154. See *id.* at 781.

155. See *id.* at 780 (highlighting that public trust need in “conserving natural resources and in protecting and improving our physical environment” as taking precedence over the public trust need of economic benefits).

156. See *Lake Mich. Fed’n v. U.S. Army Corps of Eng’rs*, 742 F. Supp. 441, 445 (N.D. Ill. 1990).

157. See *id.* at 449–50.

158. The court saw no distinction between a corporation seeking space for expansion and a research institution looking to expand its facilities and build a park for the surrounding community. See *id.* at 450.

IV. Evaluating Effects of RPS on Wind Power Development

The complexities of the electricity markets in Illinois as well as competing visions of what is best for its renewable energy future have made the state’s ambitious RPS all but impossible to achieve.¹⁵⁹ Despite the passage of reform directed toward compliance mechanisms for the RPS, it remains unclear whether attempts to fix the state’s RPS will actually lead to more wind energy facilities.¹⁶⁰ The following sections highlight the problems with Illinois’s regulatory scheme, discussing both the flaws within the statute and the practical effects of these flaws.

A. Effects of Municipal Aggregation

Municipal aggregation has led to serious practical concerns regarding the funding for long-term renewable wind energy projects. Aggregation drastically reduced the funds for utility compliance under the RPS in the IPA.¹⁶¹ Municipal aggregation has led to some positive results for consumers, specifically, lower electricity costs and the ability to switch between suppliers based on price competition.¹⁶² However, the unintended consequences of allowing communities to switch back and forth between utilities and ARES at any time have stagnated renewable energy growth.¹⁶³ Banks, renewable energy investors, and the government only want to invest in projects with the assurance that the municipalities will commit to an energy supplier.¹⁶⁴ Thus, companies looking to invest in the procurement of new wind power sources dislike when municipalities switch from year to year. The companies and banks that would provide funding for these projects remain reluctant even though they are aware of the potentially high risk that once the projects are built they will not be utilized. Therefore, without the guarantee of long-term commitment to a renewable energy supply, private and government investments in new sources of wind energy on and offshore will remain non-existent.

B. Compliance Flaws

Although the new Illinois reforms move money derived from compliance payments into a single fund,¹⁶⁵ there is no guarantee that utility companies will use the retained funds for further development of renewable energy facilities, particularly

159. See Borgia, *supra* note 9.

160. But see Maloney, *How Illinois Energy Reform “Fixed” the State’s RPS*, *supra* note 138.

161. See Pruitt, *supra* note 96, at 12 (“Current projections indicate a 25-50% reduction in RPS funding.”).

162. See generally Borgia, *supra* note 9, at 2.

163. See Borgia, *supra* note 9 (“[L]enders are not usually interested in financing a renewable energy project if it lacks a long-term power-purchase agreement (PPA) or other offtake arrangement. But with both utilities and ARES operating on a short-term basis, such PPAs are impossible to find in Illinois’s power market today.”).

164. See *id.*

165. See Maloney, *How Illinois Energy Reform “Fixed” the State’s RPS*, *supra* note 138 (arguing that a single fund will purportedly clear up confusion for consumers and reduce the likelihood of the money being diverted by the legislature).

wind farms, in Illinois. Under the current scheme, a utility company purchases RECs from the secondary market with help from the IPA procurement plans. By purchasing from the secondary market, current approaches fail to encourage the addition of new sources to displace older, higher greenhouse gas-emitting energy facilities. While Illinois energy suppliers can become compliant with the RPS by purchasing RECs, the growth of renewable energy projects, wind power projects in particular, remains stagnant.

The RPS also fails to fully enforce compliance. For instance, if a utility buys some RECs and includes some renewable energy in its supply portfolio there is no penalty even if this purchase fails to meet Illinois's RPS requirements. While some utilities and suppliers may feel that they have an obligation to consumers to build more renewable energy into their supply, others can choose to escape full compliance to benefit their bottom lines. The new and old reforms rely too heavily on the good will of the utility companies who delayed new energy legislation specifically to obtain bailouts for coal and nuclear power plants.¹⁶⁶

The RERTF operates separately from the IPA to develop new renewable wind energy facilities (i.e. turbines, farms) but only receives funding through the appropriations process in the General Assembly.¹⁶⁷ However, due to political processes and budgetary shortfalls, this fund is routinely subject to legislative sweeps in which the government takes money assessed for one purpose and puts it into the state's general fund to be spent elsewhere.¹⁶⁸ When that money is "swept," as it was in 2016, there is no incentive for private consumers or large-scale utilities to invest in renewable energy projects.

The RERF—administered through the IPA to help utilities and ARES meet their renewable energy mandates—has also been subject to legislative sweeps.¹⁶⁹ Although specific language in the statute bars the government from taking money from the fund and placing it into the general fund.¹⁷⁰ Compliance with the IPA fractures the money from alternative compliance payments and from utility purchases of RECs.¹⁷¹ The fund established for the alternative compliance

payments reached \$128 million in April 2015.¹⁷² However, a separate fund sweep for the 2016 Illinois State budget wiped out those funds entirely.¹⁷³ The ever-existing possibility of fund sweeps looms large for investors of new renewable energy projects like new, utility-scale wind farms.¹⁷⁴ These investors lack confidence in the government's ability to secure funding or reimbursement for new projects, causing a paralysis of all new large-scale wind projects in Illinois.¹⁷⁵ While the Future Energy Jobs Act purports to change this compliance mechanism and call for adding more renewable capacity, the Act's focus has been on adding solar capacity through community solar projects.¹⁷⁶

The recent legislation does nothing to address legislative sweeps except try to keep the compliance funds in the hands of the utility companies themselves until the IPA needs the money. Theoretically, this would allow utility companies rather than the legislature to spend money on new renewable-generating projects. As with the other compliance measures, however, there is nothing to mandate that the pool of money from a monthly charge to customers goes toward procuring new resources instead of propping up a utility's other energy commitments (i.e., coal and nuclear power plants that are failing and in need of a bailout). This compliance mechanism also does not adequately address sweeps because once the money is transferred to the IPA it is subject to diversion for other purposes. The state's financial crisis does not help keep legislators at bay, when funding for other programs takes precedence. Accordingly, until there are specific requirements for utilities to install new wind energy facilities, girded in high penalties for failure to comply, new wind energy in Illinois will remain stagnant.

C. No Carve-Out or Incentive for Offshore Wind and Potential Public Trust Violations

Unlike Maine, Maryland, and New Jersey, Illinois has no carve-out for offshore wind energy as part of its renewable portfolio standard.¹⁷⁷ While these states only include offshore wind energy carve-outs as mere "goals" (and are not mandated as part of the standard)¹⁷⁸ Illinois has neither a goal nor mandate. Pursuant to the lack of enforceability of the RPS, calling a carve-out for wind energy a mandate or a goal only reinforces public policy, resembling no significant

166. See Daniels, *supra* note 3. See also Annika Kolasa, *The Future Energy Jobs Act Shaft: How Illinois' New Zero Emission Standard Is Anticompetitive, or, Why Some Environmentalists Oppose the Clean Power Plan*, U. ILL. J.L. TECH. & POL'Y 177 (2017) (explaining how part of the compromise with nuclear energy producers ends up favoring failing power plants at the expense of further renewable procurement).

167. See 20 ILL. COMP. STAT. 687/6-4(c) (2006).

168. See Kari Lydersen, *Illinois Governor Seeks to Slash Efficiency, Energy Programs*, MIDWEST ENERGY NEWS (Mar. 2, 2015), <https://energynews.us/2015/03/02/midwest/illinois-gov-rauner-seeks-to-slash-efficiency-energy-programs/> ("That money is collected from ratepayers on their utility bills, and by law it is supposed to be used exclusively for specific energy projects, namely the Energy Efficiency Portfolio Standard (EES) fund and the Renewable Energy Resources Trust Fund. The efficiency fund is used for energy efficiency projects on government buildings and for low-income residents, including in public housing. The renewable energy trust fund provides rebates to residents for wind and solar installations.")

169. See *id.* ("It is generally understood that funds from specific programs which are 'swept' to cover a budget gap are meant to be replaced at a later date. But with the state in such crisis, experts aren't confident that the energy efficiency and renewable energy funds will be restored any time soon.")

170. See 20 ILL. COMP. STAT. 3855/1-56 (2007).

171. See Borgia, *supra* note 9.

172. *Renewable Portfolio Standard*, *supra* note 120.

173. See Borgia, *supra* note 9.

174. See *id.*

175. See Pruitt, *supra* note 96, at 12.

176. See David J. Unger, *Illinois Utilities Begin to Design Community Solar Programs Under New Energy Law*, MIDWEST ENERGY NEWS (Sept. 14, 2017), <https://energynews.us/2017/09/14/midwest/illinois-utilities-begin-to-design-community-solar-programs-under-new-energy-law/> (highlighting how Illinois utility companies have been empowered by the new legislation to meet the Future Energy Jobs Act's "ambitious plans for adding [2,700 megawatts of] solar capacity statewide . . . by 2030 . . . with about 50 percent . . . [coming] from distributed and community solar.")

177. See Durkay, *supra* note 128 (Maine, Maryland, and New Jersey have carve outs for offshore wind energy but also are based on future goals, not yearly progress).

178. See, e.g., ME. REV. STAT. ANN. 35-A § 3401 (Maine's goal for 8,000 MW of installed wind power capacity by 2030 including 5,000 MW from offshore wind).

legal difference. Additionally, none of these states have actually met offshore energy procurement goals.¹⁷⁹

The only current, operational wind farm in the United States was recently completed off the coast of Rhode Island.¹⁸⁰ This wind farm will only supply offshore power to Rhode Island, specifically, an island off its coast called Block Island. Rhode Island, like Illinois, has an ambitious RPS, but unlike Illinois, it was able to facilitate the installation of offshore wind through a separate fund within its renewable energy fund, specifically dedicated to offshore wind energy procurement.¹⁸¹ Although funding for the construction and installation of the turbines came largely from major investments of renewable energy companies, the state's offshore wind energy fund provided vital funding for feasibility studies and the collection of scientific data.¹⁸²

Without any such pool of money backed by the legislature, Illinois cannot study the feasibility and eventually attract investments in new renewable technology off the shores of Lake Michigan. The funds used for procurement of the Block Island Wind Farm not only helped spur investment in the project, but also encouraged research on project viability and the necessary permitting requirements.¹⁸³ Since there is no such fund in Illinois, the ambitious RPS, coupled with regulatory uncertainty, lacks a sufficient incentive for private investment in the development of offshore wind energy.¹⁸⁴ In other words, private investors need the financial and regulatory help of state and local governments before putting their money into large scale wind projects—help they cannot get it Illinois without a separate dedicated fund.

The development of offshore wind energy faces a major legal hurdle regarding the public trust doctrine.¹⁸⁵ Standing in the way is the obstacle of the reluctance of Illinois courts to uphold lakebed leases. Offshore wind projects would receive public and private investment, but would be built, maintained, and utilized by large energy corporations expanding into new waters. New projects would have to get around the Illinois Supreme Court's decision in *Scott v. Chicago Park District* that struck down a 200-acre lease for a large steel

corporation's expansion.¹⁸⁶ Proponents of leasing the lakebed for offshore wind would have to prove that the projects conserve, protect, and improve the natural environment in addition to providing perceived economic benefits (i.e., jobs).

Should Illinois choose to pioneer the harnessing of power by tapping into Lake Michigan's expansive wind energy potential, leasing the lakebed to utility companies will require more than mere representations that offshore wind benefit the public interest.¹⁸⁷ As the court held in *Lake Michigan Federation v. U.S. Army Corps of Engineers*, legislatures, universities, and other public bodies' motivation to explore use of the lakebed does not guarantee that offshore projects comply with the public trust doctrine.¹⁸⁸ Indeed the court made an overbroad assumption that would characterize any leasing of the lakebed, for any purpose—no matter how environmentally beneficial—as a violation of the public trust.¹⁸⁹ Since Illinois has yet to explore the benefits of offshore wind energy through legislative means, some say there is insufficient information to prove the public benefits of offshore wind energy exist, without assuring some collateral payments to consumers that any offshore wind farms would affect.¹⁹⁰

V. Recommendations for the Illinois General Assembly

A. Amend the IPA

The Illinois legislature must amend the IPA to lessen the unintended but detrimental effects of municipal aggregation. Allowing communities to switch back and forth between utilities and ARES fails both entities amidst efforts to obtain more renewable energy sources and meet Illinois's RPS. Amending the IPA to require longer-term contracts for municipal aggregates will attract new investments. Accordingly without switching, investors will be more willing to enter into longer term power purchasing agreements for new wind farms. Tougher enforcement of the RPS should be established through legislative amendment, not via stricter penalties or higher fines for non-compliance (indeed, most utilities and ARES comply) but through raising the bar for compliance. Appropriate compliance can be achieved by lowering the maximum RECs that utilities can buy to comply with the RPS. In doing so, measures would focus more on developing new wind energy, perhaps over time, instead of relying on neighboring states to provide RECs available for purchase annually. In this way, the state would have the ability to ensure that newer renewable sources are built as

179. See Gillis, *supra* note 88.

180. See *id.*

181. See Ferrey, *supra* note 128, at 83, 113 (discussing Rhode Island's "Renewable Energy Development Fund" which reserves funds solely for the development of offshore wind projects).

182. See Gillis, *supra* note 88. See also Evan Ridley, *Rhode Island Offshore Wind Farm Marks U.S. Milestone in Energy Development*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN., <https://seagrant.noaa.gov/News/Article/ArtMID/1660/ArticleID/458/Rhode-Island-Offshore-Wind-Farm-Marks-US-Milestone-in-Energy-Development> [<https://perma.cc/Z9Q3-Z3PM>] last visited March 18, 2019) (highlighting the role that Rhode Island's renewable energy funds played in facilitating the permitting process and scientific research).

183. See Ridley, *supra* note 182.

184. Cf. Hanna Conger, Comment, *A Lesson From Cape Wind: Implementation of Offshore Wind Energy in the Great Lakes Should Occur Through Multi-State Cooperation*, 42 LOY. U. CHI. L.J. 741, 777–86 (2011) (highlighting the issues regarding the Great Lakes being state waters and thus the question of jurisdiction for permitting purposes arises between the U.S. Army Corps of Engineers and the Illinois Department of Natural Resources).

185. See *id.* at 758 ("Every future offshore wind farm must contend with the relevant state's Public Trust Doctrine, since each state is obligated to abide by the Doctrine.") (citing Douglas L. Grant, *Underpinnings of the Public Trust Doctrine: Lessons From Illinois Central Railroad*, 33 ARIZ. ST. L.J. 849, 849–50 (2001)).

186. See *People ex rel. Scott v. Chi. Park Dist.*, 360 N.E.2d 773, 780 (Ill. 1976).

187. See *Envtl. Law & Policy Ctr. v. U.S. Nuclear Reg. Comm'n*, 470 F.3d 678, 683 (7th Cir. 2006) (holding that indiscriminately adopting the applicant's goals fails to allow for full consideration of alternatives).

188. See *Lake Mich. Fed'n v. U.S. Army Corps of Eng'r*, 742 F. Supp. 441, 449 (N.D. Ill. 1990).

189. See *id.* at 450.

190. See Conger, *supra* note 184, at 758.

opposed to relying on RECs that contribute little to developing Illinois's footing in the renewable energy market.

Further amendment is necessary to revitalize the market for new sources of renewable energy in Illinois. The now-expired compliance requirement that utilities procure their renewable energy generation from in-state sources before they source from out of state should be extended. Expansion of this requirement would force utilities and ARES to consider adding to the renewable energy portfolio of Illinois. Instead of hiding behind RECs, which can be purchased from out of state renewable energy generating companies, requiring homegrown generation would add more turbines and wind farms in state. This would serve the original purpose of the IPA and the state's RPS more effectively than does current legislation. Illinois's stagnant growth in installed capacity would be a thing of the past as more utilities would decide to build their own wind energy generating facilities in the state, on and offshore.

Even with the recent reforms, there are neither penalties for failure to comply with Illinois's RPS, nor are there any guarantees that utilities will meet the mandate. The most recent reform calls for 1,300 MW of new wind power capacity in Illinois by 2030.¹⁹¹ The IPA, in conjunction with other state enforcement agencies, should enforce a penalty against utilities that fail to comply with the RPS. The penalty should be in the form of a fee, adjusted to address the degree to which a utility fails to comply. The fee would be analogous to damages in an unjust enrichment lawsuit in which a utility cannot receive any economic benefits for failing to comply with environmental regulations. When a utility fails to purchase enough RECs or fails to supply electricity to the consumer with the minimum percentages of renewable energy, the company might save money, but this behavior causes detriment to the environment and should not escape punishment. At the very least, these utilities should not be rewarded with subsidies.

B. Eliminate Exception to Ban on Fund Sweeps

Budgetary restrictions can be impossible to overcome, especially in a state like Illinois, in dire economic crisis.¹⁹² Even though the Illinois Power Agency Act requires that money that has been swept from the separate compliance funds for renewable energy must be replenished by the state, there are virtually no signs of that happening. A ban on fund sweeps would ensure that money raised through compliance payments made to the IPA could be immediately used by the agency to invest in new wind turbines, on and offshore. If the legislature has trouble passing a ban on fund sweeps, that would not mean voters could not change the way money

was collected for renewable source generation. For instance, voters in Illinois approved a measure known as a "lockbox amendment" designed to force money raised through taxation related to roads, tolls, and transportation, to be used by the state solely for transportation improvements.¹⁹³ A similar measure should be put to vote in Illinois regarding renewable energy resources in the electricity markets. Since compliance payments are subsidized through a utility tax, the state would have to reserve those funds for new transmission lines or new sources of energy. Although coal still provides a viable interest for many in Illinois, some of the money raised from that tax would still have to be devoted to the development of cleaner energy sources, such as wind farms.

C. A Carve-Out for Offshore Wind and Compliance With the Public Trust Doctrine

In addition to enacting more specific and enforceable penalties, the legislature should consider expanding the state's RPS to include offshore wind as a priority for future renewable energy projects. Illinois should do what Maine, Maryland, New Jersey, Delaware, and Rhode Island have done and either create a separate fund from the RERTF to be used solely for the investment in new offshore wind farms, or add a separate carve out for offshore wind. This carve out could include a specific goal, measured in MW by a certain year, or could require utilities and ARES to obtain a certain percentage of their renewable energy from offshore wind sources. This reform would only work, however, if strong penalties are in place to ensure utilities will explore offshore options. These penalties would not have to be burdensome fines, but instead should require utility companies and alternative suppliers to prove that they are working toward expanding offshore wind portfolios. In combination with the aforementioned reforms, this could spur interest and ultimately growth in the offshore wind capacity of Lake Michigan for Illinois and other Great Lakes states.

The state legislature can and has attempted to issue licenses for use of the lakebed for the public benefit, but the courts have continued to stand in the way of new offshore wind farms. First, the *Lake Michigan Federation v. U.S. Army Corps of Engineers* case need not be overruled in its entirety, but should be restricted in its application.¹⁹⁴ As discussed, the district court seemed to erroneously create a broad ban on any conveyance of the lakebed.¹⁹⁵ In that case, it was a private university acting to expand its campus into Lake Michigan for new private sports facilities and some acreage for marine biology research. Although more rigorous development of offshore wind energy will require both private and public investment, with some research, the benefits of wind power can be proven.

191. See Maloney, *How Illinois Energy Reform "Fixed" the State's RPS*, *supra* note 138.

192. See, e.g., Richard Lehmann, *Illinois: A State in Crisis*, FORBES (July 10, 2017, 8:25 AM), <https://www.forbes.com/sites/investor/2017/07/10/illinois-a-state-in-crisis/#5930cba12138>; Natasha Korecki, *How Illinois Became America's Failed State*, POLITICO (June 10, 2017, 9:50 AM), <http://www.politico.com/story/2017/06/10/illinois-debt-deficit-budget-election-239384>; Whet Moser, *Where Illinois' Fiscal Crisis Came From*, CHICAGO MAG. (Aug. 16, 2016), <http://www.chicagomag.com/city-life/August-2016/Where-Illinois-Fiscal-Crisis-Came-From/>.

193. See Rummana Hussain, *Illinois Voters Approve Safe Roads Amendment*, CHI. SUN TIMES (Nov. 8, 2016 8:26 AM), <http://chicago.suntimes.com/news/safe-roads-amendment-inching-way-toward-approval/>.

194. See *Lake Mich. Fed'n v. U.S. Army Corps of Eng'rs*, 742 F. Supp. 441, 449 (N.D. Ill. 1990).

195. See *id.*

Furthermore, offshore wind seeks to conserve, protect, and improve the physical environment in the context of lakebed leasing, as required under *Scott v. Chicago Park District*.¹⁹⁶ Offshore wind does not elicit the same noise and visual complaints that onshore farms do. Instead, offshore wind, as a concept, is designed to conserve the natural environment by harnessing higher wind speeds. With more offshore wind power, reliance on greenhouse gas-emitting sources could be reduced, and the natural environment sustained while decreasing the widespread effects of rising global temperatures.

Since funding has dried up for studying the feasibility of offshore wind, the state should ensure that the new reforms include a reserve for helping investors and energy companies build offshore wind farms. Decreasing Illinois's dependence on fossil fuels and spurring renewable energy procurement will require lease approval. While some may argue that investing in renewable energy offshore is largely a private use, and thus a lease would violate the public trust doctrine, the benefits of offshore wind stand to benefit the public at large. Although investors in wind energy would receive

economic benefits—as the prospective steel plant owners would have in Scott—the decrease in fossil fuels and the cleaner air are primarily for the public benefit. With climate change leading to ever-increasing global temperatures, each day that Illinois ignores opportunities for further renewable energy facilities, the state continues to violate its position within the public trust.

VI. Conclusion

Today, the state of Illinois stands at an important crossroads. Although the state remains poised to take on new renewable energy development and off the shores of Lake Michigan, legislators must consider that critical action is needed. Without further legislative remedies to address the problems facing the electricity markets and Illinois's wind energy procurement, growth will continue to stagnate while other, savvier states take advantage of new opportunities. Even though the new legislation promotes renewable energy as a whole, a new divide may be forming between solar and wind energy advocates. The “house divided” can be divided no more.

196. See *People ex rel. Scott v. Chi. Park Dist.*, 360 N.E.2d 773, 780 (Ill. 1976).