THE WINDS OF CHANGE: HOW NEBRASKA LAW HAS STALLED THE DEVELOPMENT OF WIND ENERGY AND WHAT CAN BE DONE TO SPUR GROWTH

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I. INTRODUCTION

Strong prairie winds are a fact of life in Nebraska. Nebraskans have to cope with the common nuisance of blowing dirt, snow, and trash across the State. Gusts of fifty and sixty miles per hour winds have tipped semi-trucks, knocked down light poles, and caused power outages.¹ Unlike surrounding states, Nebraska has failed to fully utilize its abundant source of wind to generate energy. The State’s desire to provide consumers with electric services at the lowest overall cost possible has hindered the development of renewable energy, causing Nebraska to lag behind its neighboring states in generating wind energy.² While Nebraska has made some necessary changes to its laws,³ lawmakers must explore additional measures to reach Nebraska’s wind energy potential.

Public power and irrigation districts have been a staple of the energy industry in Nebraska since the passage of the Enabling Act in

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2. Nebraska Power Review Board Orientation Manual, Neb. Power Rev. Bd., http://www.powerreview.nebraska.gov/prbmanual/2.html, Neb. Rev. Stat § 70-1001 (2010). “In order to provide the citizens of the state with adequate electric service at as low overall cost as possible, consistent with sound business practices, it is the policy of this state to avoid and eliminate conflict and competition between public power districts, public power and irrigation districts, individual municipalities, registered groups of municipalities, electric membership associations, and cooperatives in furnishing electric energy to retail and wholesale customers, to avoid and eliminate the duplication of facilities and resources which result therefrom, and to facilitate the settlement of rate disputes between suppliers of electricity.” Id.

3. Over the past seven years, the Nebraska Legislature has eased up on rules restricting the private ownership of renewable energy facilities for the export of wind energy from the State. See L.B. 1048, 101st Leg., 2d Sess. (Neb. 2010).
1933. The Enabling Act granted the newly-created, publicly-owned power systems an exemption from property taxes and the ability to incur indebtedness that could be secured by the revenue they produced. In addition, the Enabling Act explicitly prohibited publicly-owned power systems, or any property owned by a publicly-owned power system, from becoming the property of a private utility company, even through foreclosure or bankruptcy. The creation of several hydroelectric, publicly-owned power systems occurred shortly after the passage of the Enabling Act. These publicly-owned power systems aided Nebraska farmers in irrigating their fields while generating hydroelectric power used to illuminate the State. The acquisition of privately held energy producers by publicly-owned power systems completed the State's conversion to public power in 1946.

Currently, Nebraska has the distinction as the only State in the country that generates and provides electricity to consumers entirely by publicly-owned power systems. Publicly-owned power systems have played a crucial role in keeping rates substantially lower than the national average and lower than the vast majority of the Midwest. In October 2013, the nation had an average energy price seventeen percent higher than Nebraska.

While public power has kept rates low, it has hindered the development of wind energy in Nebraska, even though the flat terrain and abundance of windy Nebraska days makes a perfect setting for the generation of wind energy. According to the National Renewable Energy Laboratory, Nebraska has the potential to produce over 3.2 million gigawatt-hours of wind energy each year, the third highest potential in the nation. As a result, wind power in Nebraska is capa-

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4. Don Schaufelberger & Bill Beck, The Only State: A History of Public Power in Nebraska 88 (2010). In 1933, the Nebraska Legislature passed Senate File 310, commonly known as “the Enabling Act,” which provided for the formation of public power and irrigation districts, organized as political subdivisions of Nebraska. Id.

5. Id.

6. Id.

7. Nebraska Power Review Board Orientation Manual, supra note 2 (“In 1946, the final transfer to Omaha Public Power District (“OPPD”) of the Nebraska Power Company, ordered to dissolve under the Public Utility Company Holding Act, was effected and the conversion to public power was complete.”).

8. U.S. Energy Info. Admin., Electric Power Monthly with Data for October 2013 123 (2013), available at http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_5_6_a . See id. (illustrating that the national average electric cost for all sectors in October 2013 was 10.01 cents per kilowatt-hour, and the West North Central region comprised of Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota had an average cost of 8.66 cents per kilowatt-hour while in Nebraska the average cost was 8.54 cents per kilowatt-hour).

9. Additional 80- and 100-Meter Wind Resource Potential Tables, U.S. Dept. of Energy, available at http://www.windpoweringamerica.gov/pdfs/wind_maps/wind_potential.pdf Estimating that Nebraska has the potential installed capacity of 917,998.7 megawatts that is capable of generating 3,540,370 gigawatt-hours per year. Id.
ble of producing over one hundred times the current electric needs of the entire State.\textsuperscript{10} However, in 2013, Nebraska ranked twenty-third in the nation for installed wind capacity.\textsuperscript{11} With a current wind capacity of 534 megawatts, Nebraska is utilizing a mere 0.06\% of its potential.\textsuperscript{12}

Part I of this Article discusses the history of public power in the State. Part II addresses how the protection of the public power system has affected the development of wind energy in Nebraska and caused recent changes in State law intended to spur development of such energy. Part III suggests additional measures the Nebraska Legislature should adopt to encourage further development of wind energy projects in Nebraska in order to carry out its stated policy objectives.\textsuperscript{13}

II. THE RISE OF PUBLIC POWER IN NEBRASKA

A. MUNICIPAL ELECTRIC SYSTEMS

Nebraskans at the end of the nineteenth century had two choices for how electric power would be generated and distributed to consumers: private ownership or public ownership.\textsuperscript{14} For much of America, private investment was the logical choice to provide electric service. It was, after all, private investment that was at the forefront of building steel mills, manufacturing plants, and railroads during the Industrial Revolution. However, many on the Great Plains had a growing uneasiness about "the unregulated nature of private capital in the 1890s" which many believed caused the Panic of 1893.\textsuperscript{15} Public ownership of electric systems would ensure the economic benefits of energy stayed


\textsuperscript{11} Id. As of March 2014, Nebraska had 313 wind turbines across 13 wind farms, with a combined installed wind capacity of 534 megawatts. Id.

\textsuperscript{12} If Nebraska has a current installed capacity of 534 megawatts and an estimated capacity of 917,998.7 megawatts, Nebraska is only utilizing 0.06\% of its wind energy potential.

\textsuperscript{13} Neb. Rev. Stat. 70-1001 (2013). With the adoption of L.B. 1048 in 2010, the Nebraska Legislature adopted the policy "to encourage and allow opportunities for private developers to develop, own, and operate renewable energy facilities intended primarily for export from the state under a statutory framework which protects the ratepayers of consumer-owned utility systems operating in the state from subsidizing the costs of such export facilities through their rates." L.B. 1048, 101st Leg., 2d Sess. (Neb. 2010).

\textsuperscript{14} Schaufelberger & Beck, supra note 4, at 22.

\textsuperscript{15} Id. at 24. "The Panic of 1893 was essentially a credit crunch, not unlike the liquidity crisis that global markers experienced in 2008. Under-funded entrepreneurs in places such as Omaha and Lincoln, who were in the process of developing the region’s railroad and meatpacking industries, found themselves unable to pay back loans to eastern financiers who had put up investment capital in the good times of the early 1890s. The resulting foreclosures and bankruptcies left many residents of the state unemployed and often broke." Id.
within the community. Private companies are in the business of maximizing investors' wealth by generating revenue. Conversely, publicly-owned power systems used any excess income for the benefit of the community.

As electricity became more popular, publicly-owned power systems, owned and operated by local municipalities, became the source of electricity for many. In 1880, Wabash, Indiana became the first municipality in the nation to own an electric generation system, which powered the city's arc street lighting system, and was designed to illuminate the streets of the city. Over the next few decades many municipalities followed Wabash's example. Crete, Nebraska became the first Nebraska community to own and operate a municipal light plant. The growth of municipally-owned power systems started slowly but quickly gained speed during the first two decades of the twentieth century. Fourteen years after the establishment of the Crete power system, Nebraska had eleven municipally-owned power systems, while nearly four times that many privately held power companies operated in the State. By 1910, the number of municipal electric systems grew to fifty-nine. The spread of public power flourished during the second decade of the twentieth century, and by 1926 the 282 municipally-owned power companies in the State constituted the largest in the nation.

Three major factors led to the rise of municipally-owned power companies in Nebraska. First, Nikolo Tesla and George Westinghouse's refinement of the alternating current system made it easier and more efficient to distribute energy generated at a central station generation plant to individual homes and businesses throughout a community. Alternating current, unlike direct current, could transmit electricity for miles without the loss of voltage, which plagued the

16. Id. at 22. "[A]n arc light consisted of a glass bulb enclosing two carbon rods with a gap of several inches between them. When power from a generator coursed through the light circuit, an electric arc shot across the gap between the two rods and created a brilliant light visible for blocks around." Id.
19. Id. at 27. Stating that in 1902, eleven municipally-owned electric companies and forty-three private utilities operated in the State. Id.
20. Id. at 39.
21. Id. at 43.
22. Allison Lantero, The War of the Currents: AC vs. DC Power, Dept of Energy, http://energy.gov/articles/war-currents-ac-vs-de-power. "Direct current [had one problem, it was] not easily converted to higher or lower voltages. Tesla believed that alternating current (or AC) was the solution to this problem. Alternating current reverses direction a certain number of times per second—60 in the U.S.—and can be converted to different voltages relatively easily using a transformer." Id.
direct current systems designed by Thomas Edison. "Alternating current was the underlying component that made possible the spread of electric power across Nebraska and the Great Plains in the first two decades of the twentieth century."

The early twentieth century brought prosperity to the State’s agricultural economy as a result of plentiful rainfall and consistently high commodity prices. The economic success in the region provided the spark needed to spur the growth of electric companies in the State. As a result of the growing progressive political movement in Nebraska, municipalities created municipally-owned power systems to meet the increasing demand for electric power. Private electric companies failed to provide adequate service for many small and rural cities. Numerous publicly-held electric companies fiercely competed with one another to serve larger Nebraska cities, such as Omaha and Lincoln. However, in many smaller cities, private electric companies refused to make necessary investments to increase electric power service. Cities such as Grand Island and Oshkosh voted to raise money to purchase the private electric companies serving their communities so that they could meet their growing demands.

In 1893, Fairbanks Morse Engine successfully marketed gasoline powered engines capable of generating sufficient energy needed to power a municipal light plant. The “Hot Bulb” or semi-diesel engine, developed by Fairbanks Morse Engine in 1914, allowed small cities across the State to generate reliable electric power at much lower costs than the steam plants previously used. The technological advances in gasoline and diesel powered engines aided in the rapid expansion of municipally-owned electric companies. The combination of the new technologies of the early twentieth century, the political climate, and the growing demand for energy across the State helped to

23. Schaufelberger & Beck, supra note 4, at 34–35.
24. Id. at 38.
25. Id. at 39.
26. Id. at 40. "The Progressive Movement was a more mainstream outgrowth of populism that gained strength in Nebraska during the 1910s. Progressives demanded good government on the local level and were particularly interested in improving municipal services. From the very beginning, progressives urged communities to own and maintain electric light plants and waterworks." Id.
27. Id.
28. Id. at 40–41. Stating that when the private electric companies serving Grand Island and Oshkosh refused to provide electric services twenty-four hours a day, voters in the cities overwhelmingly voted to approve the issuance of bonds to buy the private electric companies and allow the cities to own and operate the facilities. Id.
29. Id. at 43.
31. Schaufelberger & Beck, supra note 4, at 43.
create over 150 new municipally-owned electric companies between 1911 and 1920.32

B. GROWTH OF THE ELECTRIC INDUSTRY

Economies of scale33 in the electric industry went under a period of rapid change during the 1920s. Electric generation and transmission became more efficient during the era following the First World War. In 1903, the longest transmission line ran for approximately seventy-five miles from the Shawinigan Water and Power Company’s hydroelectric generator south through the province of Quebec and could route fifty thousand volts of electricity.34 The engineers realized that higher voltages could transmit larger amounts of electricity further than ever before. By 1923, engineers operated transmission lines capable of transmitting 110,000 volts due to advancements in suitable insulation for the utilization equipment.35 The transmission of electricity at higher voltages reduced the problem of line loss caused by the heating of line wires by the transmission of the current.36 In addition, the early twentieth century saw major technological advances in the use of coal to generate energy. The use of pulverized coal became an efficient and cost effective fuel for producing electricity.37 “By heating water to higher temperatures and under higher pressures, electrical engineers could dramatically increase thermal efficiency, getting more kilowatt-hours out of each ton of coal burned in the boilers.”38

Larger centralized coal burning electric plants utilized the advances in alternating current technology to transmit power to large groups of customers over vast areas.39 These larger plants harnessed the nation’s coal resources.40 The large supply of coal in America and the resulting low costs allowed coal to supply an overwhelming major-

32. Id. at 43. “By 1926, Nebraska boasted 282 municipal electric systems, the largest number of ‘munis’ in any state in the union.” Id.
33. Economy of scale is defined as “a reduction in unit costs brought about esp. by increased size of production facilities.” Merriam Webster’s Collegiate Dictionary 366 (10th ed. 1999).
34. Schaufelberger & Beck, supra note 4, at 50.
35. Id. Stating that electrical engineers have increased the voltages in the transmission lines by a factor of ten between the time Tesla and Westinghouse built the first alternating current transmission line to the mid-1920s. Id.
36. Id.
37. Id. at 53 (discussing the advancements made by electrical engineers at Commonwealth Edison and the Milwaukee Electric Railway and Light Company in the utilization of coal to generate energy).
38. Id.
ity of the energy in the United States. The need for local power-generating facilities started to diminish. Privately-held power companies that once refused to expand to small towns and less densely populated areas, now found it profitable to provide affordable electricity in these areas. A large centralized power plant could easily and affordably transmit electricity hundreds of miles to small towns.

The “Roaring Twenties” saw a great increase in wealth in the United States. Wall Street investment companies poured money into large utility holding companies, which fueled the spread of electricity across the nation. These holding companies utilized the infusion of Wall Street capital to build large modern generation stations and run transmission lines to outlying communities. The small municipally-owned electrical systems saw a decline as holding companies either bought the municipally-owned electrical systems or forced them out of business by providing more affordable and dependable service. The holding companies also gobbled up smaller private utility companies and consolidated the 148 private utility companies operating in Nebraska in 1917 to a mere forty-two in 1927.

C. Public Power Districts

Nebraska did not experience the same economic prosperity that many other states experienced during the 1920s. The agricultural industry experienced little recovery following the First World War. Prices for crops grown in Nebraska plummeted during the decade, and land prices dropped by fifty percent in some areas of the State. As a result, income generated by Nebraska farms decreased by half. During this period, numerous groups devised solutions for getting water to farmland. Hydro development projects in Nebraska often

41. Id. During the first twenty years of the twentieth century coal produced as much as ninety percent of the energy in the United States. Id.
42. Schaufelberger, supra note 4, at 47.
43. Id. at 55. “Until the formation of the public power districts in the 1930s, Nebraska holding companies were the only firms with the financial wherewithal to build bulk transmission lines hundreds of miles across the countryside.” Id.
44. Robert E. Firth, Public Power in Nebraska: A Report on State Ownership 10 (1962). Small-town municipally-owned electric systems could not to compete with holding companies and during the latter part of the 1920s 112 municipally-owned electric systems closed. Id.
45. Schaufelberger & Beck, supra note 4, at 57.
46. Id. at 44.
47. Id. at 44-45. Wheat went from $2 a bushel in 1919 to $0.83 a bushel in 1921 while corn dropped from $1.22 a bushel to $0.27 during the same time period. Id.
48. Id. at 46 (“Nebraska farmers had reported average net income after expenses of more than $3,000 during the war years. Ten years later, farm income averaged $1,795.”).
49. Firth, supra note 44, at 10-11 (discussing two proposed hydro development projects, one on the Loup and one on the Platte River, that served as the template for
failed to get the necessary financing for construction. Farmers in the State did not have the necessary financial resources to construct such projects, and State law restricted the use of county-level financing to subsidize the projects.

Given the state of the economy in Nebraska, proponents of irrigation and power projects realized they would require federal financing to fund their projects. The Stock Market Crash of 1929 and the ensuing depression provided the inspiration for federal investment in the nation’s power infrastructure. Realizing the scope of the growing crisis, President Herbert Hoover determined that utilizing federal funds on large public works projects could ease the loss of jobs and put Americans back to work. However, the Republican-controlled Congress presented a challenge to the creation of an additional government agency tasked with dispensing federal funds. The Reconstruction Finance Corporation (“RFC”), an independent agency of the federal government, provided a compromise that could pass in Congress. Lawmakers designed the RFC to supply government guaranteed loans to self-liquidating public works projects and to public organizations to provide work relief for the unemployed. Shortly after the creation of the RFC, representatives of the proposed hydro development projects met with the Nebraska Attorney General to discuss obtaining RFC financing.

Those seeking funds for hydro development projects realized that it was necessary to lobby for the passage of legislation enabling the groups to organize as political subdivisions of the State to obtain the much needed financing from the RFC. The Enabling Act, championed by Nebraska Governor Charles W. Bryan, authorized the creation of Public Power and/or Irrigation Districts (“Districts”) as public

the hydro development projects developed by the first Nebraska irrigation and power districts formed after the Enabling Act of 1933).

50. Schaufelberger, supra note 4, at 84.

51. Id. "In the best of years, Nebraska farmers did not have the financial where- withal to fund irrigation schemes, and the fact that such projects typically crossed county lines meant taxpayers in a single county were not able to use bonding mechanisms to pay for the projects." Id.

52. Id.

53. Id. Hoover and his advisors advocated the use of federal money to fund public works projects to put Americans to work, however, the Republican controlled House was against the creation of a federal agency that would dispense the federal money. Id.

54. Id.

55. Firth, supra note 44, at 36.

56. Schaufelberger & Beck, supra note 4, at 85-86. The steps taken by the proponents of the proposed hydro development projects took to research laws passed in other states and to prepare a bill which would enable the projects to organize as political subdivisions of the State in order to utilize financing from the RFC. Id.

57. Firth, supra note 44, at 36.
corporations and political subdivisions of the State. The newly created Districts would not have the power to tax the residents living within the area they serve, nor would any State agency have authority to levy taxes to pay the debts of any District. A District has the authority to borrow money and issue revenue bonds to secure the payment of its obligations in order to finance the District's operations. The Nebraska Legislature set up the Enabling Act with the intention that the Districts would be the exclusive providers of electric services in the State. To protect the public power system, the State prohibited District property from falling into the hands of private companies by sale, foreclosure, or bankruptcy.

By the mid-1930s, Districts were in the process of developing the infrastructure to power most of the State's electric needs. In 1935, President Franklin D. Roosevelt introduced the Public Utility Holding Company Act of 1935 ("PUHCA"), which sought to cure many of the problems and concerns plaguing consumers as a result of large private utility holding companies. PUHCA was a regulatory nightmare for investors and holding companies. As a result of the passage of PUHCA, holding companies had to register and file descriptive historical and financial data regarding their operations. The Federal Trade Commission scrutinized many transactions, including sales of securities, transactions with affiliates, and certain loans between affiliates. Despite the onerous regulations, Section II of PUHCA provided the real blow to holding companies. Section II of PUHCA limited a holding company to operate an integrated public-utility sys-

58. Id. at 44.
59. Id. at 45.
60. Id.
61. Id. at 49. "[The Enabling Act] is set up in such a manner that the possibility of private power agencies returning to Nebraska is highly improbable, for it provides that neither by sale, foreclosure, receivership, of bankruptcy proceedings may the property of a district become the property, or come under the control, of any private person, firm, or corporation engaged in the business of generating, transmitting, or distributing electricity for profit." Id.
62. See Schauffelberger & Beck, supra note 4, at 103. The three Districts created in Nebraska by 1936 would be able to provide 70% of the State's electric needs. Id.
64. Robert M. Blair-Smith & Leonard Helfenstein, A Death Sentence of a New Lease on Life? A Survey of Corporate Adjustments Under the Public Utility Holding Company Act, 45 U. Pa. L. Rev. 148, 153 (1946). The financial crisis of the 1930s illustrated the financial instability and other concerns of the large utility holding companies. Id.
65. Blair-Smith & Helfenstein, supra note 64 at 148. The opponents of the PUHCA called the law a "death sentence" and feared the remaining investors. Id.
66. Id. at 153.
67. Id.
tem in the same general area or region. As a direct result of the requirements of PUHCA, the Districts acquired all private utility companies operating in the State by 1946.

III. PUBLIC POWER STALLS THE DEVELOPMENT OF WIND ENERGY

A. GROWTH OF WIND ENERGY

Inventors harnessed the power of wind long before the electrical revolution of the late nineteenth century and early twentieth century. Windmills pumped water to irrigate farm lands, and to drive grist mills, tanneries, and circular saws. As electricity become more widespread, many farmers generated electricity from wind on a small scale. It wasn't until October 1941 that a large utility company utilized wind energy to sell to consumers. The Central Vermont Public Service Corporation became the first utility company to install a wind turbine as a backup source to generate energy. The company's single turbine was capable of producing 1.25 megawatts of electricity, until a strong 120 miles per hour wind caused the turbine to fail.

California became the wind energy pioneer during the 1970s, leading the world in the installation and development of wind turbines. Oil and gas prices surged seventy percent in October 1973 in the United States due to oil shortages. Wind energy provided a reliable alternative that reduced the rising electricity and energy costs caused by rising and often volatile prices of oil and gas that plagued the 1970s. In 1979, California authorized the issuance of Investment Tax Credits, which much like the Federal Investment Tax Cred-

68. Id. at 154.
69. SCHAUPFELBERGER & BECK, supra note 4, at 104. “By 1938, Nebraska’s public power districts were beginning to negotiate the purchase of a majority of the state’s investor-owned utilities.” Id.
70. See generally ASMUS, supra note 39, at 25-28 (discussing the evolution and development of windmills and their uses prior to the late nineteenth century).
71. Id. at 29.
72. Id. at 38-39. Farmers used wind turbines to generate direct current power on a small scale. Id.
73. Id. at 46.
74. Id. The purpose of the wind turbine was to use wind energy created on a windy day to conserve and store the electricity generated by water or other fossil power sources. Id.
75. Id.
76. See U.S. DEP’T OF ENERGY, 20% WIND ENERGY BY 2030 INCREASING WIND ENERGY’S CONTRIBUTION TO U.S. ELECTRICITY SUPPLY 6 (2008) (asserting that the start of the wind energy industry was in California during the 1970s).
77. ASMUS, supra note 39, at 52.
78. Id. Discussing steps taken by the U.S. Department of Energy to explore alternatives to oil and gas for the production of energy, which included the investment of millions into the development of reliable wind energy generation. Id.
its, would provide a twenty-five percent deduction for investments made in the development of wind energy in California.\textsuperscript{79} The federal and state Investment Tax Credits helped propel California to become the leader in wind energy development in the world.\textsuperscript{80}

The installation and development of wind energy slowed during the late 1980s following the expiration of the Federal Investment Tax Credits in 1985 and the California Investment Tax Credit one year later.\textsuperscript{81} In 1992, Congress enacted a Production Tax Credit.\textsuperscript{82} Due to low and stable oil and gas prices, it did little to revive the stagnated wind energy industry.\textsuperscript{83} Right before the expiration of the Production Tax Credit in 1999, investors poured money into the industry, creating nearly seven hundred megawatts of new wind generation in the final year of the tax credit.\textsuperscript{84} The growing popularity of the Production Tax Credit resulted in the revival of the credit following its expiration.\textsuperscript{85}

Wind energy has come a long way since the first commercial wind turbine utilized by the Central Vermont Public Service Corporation and even further since the turbines of the 1980s.\textsuperscript{86} The turbines installed as part of the wind development projects of the 1980s suffered many design defects. They were heavy, required extensive maintenance, and were difficult to integrate into the electrical grid.\textsuperscript{87} By the late 2000s, turbines had made great strides to reduce the problems of the past. Wind tunnel testing led to the creation of lighter and more efficient airfoils.\textsuperscript{88} In addition, developers realized that clustering turbines together generated turbulence for turbines downwind and

\textsuperscript{79} Id. at 75.

\textsuperscript{80} U.S. DEP’T OF ENERGY, supra note 76, at 6. “By 1986, California had installed more than 1.2 [gigawatts] of wind power, representing nearly [ninety percent] of global installations at that time.” Id.

\textsuperscript{81} ASMUS, supra note 39, at 137. There was a heavy blow dealt to the wind industry following the expiration of the tax credits and steep drops in oil and gas prices. Id.


\textsuperscript{83} U.S. DEP’T OF ENERGY, supra note 76, at 6.

\textsuperscript{84} Id.

\textsuperscript{85} Id. Congress extended the Production Tax Credit two brief periods, expiring in 2003, and reenacted the credit in 2004. Id. The Production Tax Credit expired at the end of 2013, and it appears there is little Congressional support to revive the tax credit. Ari Natter, Future of Tax Incentives for Renewable, Other Energy Programs Remains Unclear, BLOOMBERG BNA (Jan. 7, 2014), http://www.bna.com/future-tax-incentives-n17179881182/.

\textsuperscript{86} See U.S. DEP’T OF ENERGY, supra note 76, at 6 (stating “Turbines installed in 1998 had an average capacity [seven] to [ten] times greater than that of the 1980s turbines . . .”).

\textsuperscript{87} Id. at 28.

\textsuperscript{88} Id. Manufacturers construct the blades of the turbine out of lighter fiberglass composites and test the blades in wind tunnels to ensure optimal efficiency. Id.
blocked the wind for nearby turbines. To reduce wind blockage and disruptions for downwind facilities, wind turbines were placed further apart.89 Finally, the generators in the turbines could synchronize with the electric grid to reduce any energy loss.90

Wind energy has played a crucial role in the pursuit of clean energy. Both federal and state governments have made it a priority to increase to the use of renewable energy sources.91 “Moving forward, the U.S. wind industry remains a critical part of the Energy Department’s all-of-the-above energy strategy to cut carbon pollution, diversify [America’s] energy economy and bring the next-generation of American-made clean energy technologies to market.”92

B. NEBRASKA FALLS BEHIND

The State has adopted the policy “to provide for dependable electric service at the lowest practical cost to all of the citizens of the state, including the residents of cities and villages.”93 Fostering and protecting the public power systems in the State has helped in reaching the policy goals of the State regarding wind energy. Districts put the needs and interests of the rate-payers at the forefront of the decisions and do not have to worry about profits or investors.94 To aid in the development of the Districts and prevent duplication of facilities and resources, the Nebraska legislature created the Nebraska Power Review Board (“Power Review Board”).95 The Power Review Board has

89. Id. “[D]ensely packed arrays also often blocked the wind from neighboring turbines, producing a great deal of turbulence for the downwind machines. Reliability and availability suffered as a result.” Id.

90. Id. “The direct current (DC) alternator gave way to the grid-synchronized induction generator, which has now been replaced by variable-speed designs employing high-speed solid-state switches of advanced power electronics.” Id.


94. COMMITTEE ON NATURAL RESOURCES, NEBRASKA LEGISLATURE, INTERIM STUDY RELATING TO EXPANDED DEVELOPMENT OF WIND ENERGY IN NEBRASKA, White Paper Topic 1, at 1 (2009).

95. 1963 Neb. Laws c. 397, § 1, p. 1259. “In order to provide the citizens of the state with adequate electric service at as low overall cost as possible, consistent with sound business practices, it is the policy of this state to avoid and eliminate conflict and competition between public power districts, public power and irrigation districts, individual municipalities, registered groups of municipalities, electric membership associations, and cooperatives in furnishing electric energy to retail and wholesale customers, to avoid and eliminate the duplication of facilities and resources which result therefrom,
the responsibility to approve the construction of transmission lines and electric generation facilities.96

Nebraska law does not prohibit private investors from constructing electric generation facilities in the State.97 However, factors in Nebraska law have prevented private investors from developing electric generation facilities in Nebraska. Private investors are concerned about a District's condemnation power to acquire property that may be useful in the generation, transmission, or distribution of electricity.98 In addition, private investors must gain the approval of the Power Review Board prior to the construction of an electric generation facility.99 These barriers to entry have, in effect, preserved Nebraska’s status as the only State in the country that is exclusively served by publicly-owned power systems.

Prior to 2003, the Power Review Board had the authority to approve an energy project only after finding that the project is the most economical and feasible alternative.100 This requirement was a major detriment to the utilization of wind energy facilities by the publicly-owned power systems. Since the push to utilize available wind resources, wind energy was often a more expensive alternative to the traditional fossil fuels.101 As a result, the publicly-owned power systems in Nebraska failed to get the Power Review Board to approve large wind projects in the State.

To offset the higher costs of utilizing renewable energy resources, the federal government granted the tax credits to the entities that invested in or produced renewable energy.102 States also supplied additional incentives to induce the investment in renewable energy within their states.103 The publicly-owned power systems in Nebraska could


100. See L.B. 65, 98th Leg., 1st Sess. (Neb. 2003) (amending Neb. Rev. Stat. § 70-1014 to make an exception from the requirement that any electric generation facility must be most economical alternative for renewable energy facilitates).

101. Compare Bryce, *supra* note 40, at 262 (explaining the construction cost per kilowatt of capacity is $850 for Natural Gas and $2,300 of Coal), with S. Tegen et al., National Renewable Energy Laboratory, 2010 Cost of Wind Energy Review 6 (2010), available at http://www.nrel.gov/docs/fy10osti/52920.pdf (asserting the installed wind energy project cost per kilowatt has gone from over $4,500 in 1984 and has declined until the early 2000s).

102. See *supra* notes 70-85 and accompanying text.

103. See generally Oklahoma, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/incentives/index.cfm?re=0&ee=0&spv=0&st=0&
not capitalize on many of the incentives offered by the federal government. Since government subdivisions are exempted from federal tax, the utilization of tax credits would provide no benefit.

In 2003, the Nebraska legislature passed Legislative Bill 65, entitled “Provide Criteria for Consideration in the Electric Generation Facility Application Process.” Legislative Bill 65 amended Neb. Rev. Stat. § 70-1014 to permit the Power Review Board to allow publicly-owned power systems to construct small renewable energy facilities without needing approval or to construct larger facilities without first showing the facility is the most economical alternative, or both. Publicly-owned power systems took advantage of this grant and constructed a large scale wind farm in 2005, capable of generating sixty thousand kilowatts. Publicly-owned power systems’ interest in wind energy spurred interest in additional development of wind energy facilities in Nebraska. However, to allow for further growth and development of the wind industry in Nebraska, more was needed.

C. WINDS OF CHANGE SPARK THE DEVELOPMENT OF WIND ENERGY

1. Publicly-Owned Power Systems are Granted Authority to Contractually Limit Their Power of Eminent Domain

Near the end of the first decade of the twenty first century, Nebraska continued to lag behind in the generation of wind energy. Private developers, however, explored the opportunity to invest millions of dollars to develop wind energy in Nebraska. These potential investors wanted assurance that if they invested millions to construct wind energy projects, the projects would not be condemned and seized after completion of the project. Nothing in Nebraska law prevented publicly-owned power systems from entering into contracts promising to limit their exercise of eminent domain, a question loomed whether any such contract would be enforceable.

srp=1&state=OK (listing financial incentives for renewables and efficiency in Oklahoma).

105. Id.
106. SCHAUFELBERGER & BECK, supra note 4, at 348.
108. See id. at 14 (statement of Mike Donahue, Executive Vice President of Midwest Wind Energy) (explaining that without obtaining a waiver from publicly-owned power systems, private wind developers would be unable to obtain the necessary financing to fund wind generating facilities).
109. See id. at 7 (statement of Tom Richards, Manager of Governmental and Community Relations for the Omaha Public Power District) (asserting that among Nebraska’s over 160 publicly-owned power systems, some power systems claimed they had
To clear up any confusion among the publicly-owned power systems and potential private investors, Nebraska State Senator Steve Lathrop introduced Legislative Bill 561 with the purpose of clearly granting publicly-owned power systems the discretion to enter into binding contracts limiting their power of eminent domain.110 Legislative Bill 561 provided that a publicly-owned power system “may agree to limit its exercise of the power of eminent domain to acquire a project which is a renewable energy generation facility producing electricity with wind and any related facilities.”111 The available protections make it feasible for private investors to develop wind farms in Nebraska.112

2. Wind Energy for Export

Demand for renewable energy has grown across the county. President Obama and his predecessors for the past two decades have stressed the need for a more diversified energy portfolio.113 States have adopted more aggressive renewable energy standards as numerous companies seek renewable energy.114 Bruce Rew, Vice President of Engineering for the Southwest Power Pool, has estimated that the projected need for wind energy will be around eleven gigawatts in approximately twenty years.115 As of 2010, the Southwest Power Pool has just under four gigawatts of wind energy capacity.116 As demand for wind energy grew, Nebraska’s legislature saw the potential bene-

\footnotesize

110. Comm. on Nat. Resources, Statement of Intent for LB 561 1 (2009) (“The purpose of Legislative Bill 561 is to amend section 70-670 in order to allow public power districts to agree to limit their power of eminent domain over private energy generation facilities. Under L.B. 561, the public power districts could reach such agreements with businesses who build renewable energy generation facilities that produce electricity with wind.”).


112. The utilization of tax credits, such as the Investment Tax Credit or the Production Tax Credit, provides the incentive to invest in renewable energy. If a project is sized prior to the realization of all applicable tax credits, such seizure will substantially reduce the economic expectations of the investor and reduce any expected returns.

113. See, e.g., U.S. Dep’t of Energy, supra note 76, at 1 (stating “In 2006, President Bush emphasized the nation’s need for greater energy efficiency and a more diversified energy portfolio.”); and Energy, the White House, http://www.whitehouse.gov/energy (stating “We can’t have an energy strategy for the last century that traps us in the past. We need an energy strategy for the future – an all-of-the-above strategy for the [twenty-first] century that develops every source of American-made energy.”).


115. Id. at 105 (statement of Bruce Rew, V.P. of Engineering for S.W. Power Pool).

116. Id.
fits of attracting private developers to invest in generation of wind energy for export to meet the growing national demand.\textsuperscript{117}

Thus, the Nebraska Legislature enacted Legislative Bill 1048 in 2010, with the intention to encourage private investors to develop renewable energy facilities for the export of wind energy from Nebraska.\textsuperscript{118} To accomplish this goal, the Legislature provided mechanisms for the Public Review Board to review and approve potential renewable energy projects.\textsuperscript{119} The Legislature crafted the bill in a way to protect publicly-owned power systems. In order to gain approval for the facility, a developer must provide written evidence that an out-of-state purchaser or purchasers have an intention to purchase at least ninety percent of the energy generated for ten or more years.\textsuperscript{120} The bill also provided further assurances to investors that their investment would be protected from eminent domain for ten years.\textsuperscript{121} The Legislature intended the bill to open the State for significant development by private investments.

3. \textit{Nebraska Grants Wind Developers a Sales Tax Exemption}

With the passage of Legislative Bill 1048 in 2010, Nebraska was open for development of wind facilities by private investors. The State Senators who championed the bill hoped that with the gates open, investor money would flood into the State to capitalize on the vast wind energy potential. This hope was not realized.\textsuperscript{122} Instead, investors chose to develop wind facilities in states near Nebraska, such as Iowa, Minnesota, Kansas, and Oklahoma.\textsuperscript{123} While Nebraska had the capacity to absorb the facilities, investors chose states that offered higher tax incentives for the development of wind facilities.\textsuperscript{124}

Legislative Bill 104, introduced by Nebraska State Senator Steve Lathrop, sought to level the playing field. The Legislature drafted the

\begin{itemize}
    \item \textsuperscript{117} \textit{Comm. on Nat. Resources}, \textit{Statement of Intent for L.B. 1048} at 1 (2010).
    \item \textsuperscript{118} \textit{Id.}
    \item \textsuperscript{119} \textit{Id.}
    \item \textsuperscript{120} L.B. 1048, 101st Leg., 2d Sess. (Neb. 2010).
    \item \textsuperscript{121} \textit{Id.} A certified renewable export facility will not be subject to eminent domain by a publicly-owned power system if the purpose is to acquire the wind facility for electric generation or transmission. \textit{Id.}
    \item \textsuperscript{122} \textit{Floor Debate Apr. 24, 2013}, L.B. 104, 103d Leg., 1st Sess. 69–70 (Neb. 2013) (statement of Sen. Hadley) (asserting that Nebraska is behind other states with regards to wind development and is losing out on revenue for the State).
    \item \textsuperscript{123} \textit{Id.} at 70. State tax incentives are needed to send a strong message to investors that Nebraska will compete to offer competitive incentives like the states of Kansas, Oklahoma, Iowa, and Texas. \textit{Id.}
    \item \textsuperscript{124} See \textit{id.} at 68 (statement of Sen. Lathrop) (explaining that competing states have tax incentives that have attracted large wind farms and the extension of a sales tax refund could attract large wind developers looking to export wind energy from the State).
\end{itemize}
bill to allow wind developers to utilize the Nebraska Advantage Act,\textsuperscript{125} which provided up to a full refund of sales tax paid by an investor that develops new projects and creates jobs in the State.\textsuperscript{126} The enactment of Legislative Bill 104 led to the investment by private investors to develop wind energy projects in Nebraska.\textsuperscript{127} While Nebraska has taken many steps to make it an ideal choice for investors, more should be done.

IV. REACHING NEBRASKA’S WIND ENERGY POTENTIAL

A. REMOVE BARRIERS TO ENTRY

The public power system in Nebraska has presented many challenges to willing private investors that have sought to harness the abundant supply of wind in Nebraska. Nebraska has taken many steps to remove impediments in order to encourage and allow the development of wind energy in the State; however, barriers to entry still exist. During the Natural Resources Committee hearing regarding the passage of Legislative Bill 1048 potential investors raised two common concerns: (1) restrictions on a “certified renewable export facility’s” ability to sell energy on the wholesale market;\textsuperscript{128} and (2) the risk of condemnation should a facility be decertified.\textsuperscript{129}

Requiring an investor to line up a potential purchaser prior to approval, and restricting the sale of excess energy in the wholesale spot market can hinder the amount of wind developers that look to Nebraska. While long term power purchase agreements are common, requiring them at a point prior to approval could cause investors to shy away from Nebraska.\textsuperscript{130} Publicly-owned power systems demanded

\textsuperscript{125} L.B. 1118, 102d Leg., 2d Sess. (Neb. 2012).

\textsuperscript{126} L.B. 104, 103d Leg., 1st Sess. (Neb. 2013).

\textsuperscript{127} See Invenergy Completes Project Financing For Prairie Breeze Wind Energy Center in Nebraska, INVENERGY, LLC (Oct. 2, 2013), http://www.invenergyllc.com/Portals/0/102%20PrairieB%20FinRls%20FINAL%20.pdf (announcing the company’s plan to build the Prairie Breeze Wind Energy Center in Nebraska).

\textsuperscript{128} A “certified renewable export facility” is required to maintain one or more power purchase agreements with a term of at least ten years for the sale of at least ninety percent of the electricity produced. L.B. 1118, 102d Leg., 2d Sess. (Neb. 2012). Should a “certified renewable export facility” fail to meet all the requirements provided under the statute, the facility may only operate if the electricity generated at the facility is sold pursuant to a power purchase agreement. Id.

\textsuperscript{129} See Public Hearing on L.B. 1048 and Confirmation Before the Comm. on Nat. Resources, 101st Leg., 2d Sess. 8 (Neb. 2010) (statement of Tim Texel, Executive Director and General Counsel for the Nebraska Power Review Board) (voicing the concerns of potential investors wishing to develop wind energy in Nebraska).

\textsuperscript{130} The sale requirement essentially requires an investor to pour substantial time and money in securing a purchaser or purchasers and negotiating basic terms of the contract for a potential project that has yet to be approved. See Public Hearing on L.B. 1048 and Confirmation Before the Comm. on Nat. Resources, 101st Leg., 2d Sess. 72 (Neb. 2010) (statement of Nathan Geisert) (asserting that the ninety percent require-
the inclusion of this requirement to protect the revenue derived from the sale of excess energy in the wholesale market. 131 Publicly-owned power systems fear that excess energy generated in Nebraska sold on the wholesale market will drive down prices reducing their revenue. 132 This concern does not consider the fact that developers may build their projects in other states. States such as Iowa impose no requirement for an applicant to construct a facility to have a power purchase agreement or proof that a mutual intent to sell the electricity to a ready and willing buyer. 133 Preventing the potential sales of Nebraska wind energy on the wholesale market will result in fewer investments in Nebraska, reducing the potential tax income to the State. 134 Furthermore, preventing the potential sales of Nebraska wind energy on the wholesale market will do nothing from preventing wind energy developers in other states from selling power on the wholesale market and reducing Nebraska’s publicly-owned power systems’ revenue.

The fear of condemnation has played a major role in keeping investors out of Nebraska. 135 The issue of eminent domain has played a major role in the decision not to invest and construct a wind energy facility in Bloomfield, Nebraska. 136 Providing protection to any privately held wind energy facility for a set period of time will provide additional encouragement to private investors to build wind energy facilities in Nebraska. Obtaining financing is an extremely important aspect of the development of wind energy facilities. 137 Without eminent domain protections, an investor will be unable to secure the necessary financing to construct the facility. 138 To ensure Nebraska stays competitive in attracting wind energy developers, the Nebraska

131. Id. at 14-15 (statement of Ron Asche, President and CEO of Nebraska Public Power District) (stating that the volume of excess energy and the price received for such energy will be reduced by introduction of additional wind energy generated in Nebraska).

132. Id. at 15 (alleging that reduction in revenue received in the wholesale market will have an adverse effect on Nebraska ratepayers).

133. IOWA ADMIN. CODE r.199-24.1 et seq. (2010).


136. Id. at 27 (statement of Sen. Cap Dierks).

137. Id. at 14 (statement of Mike Donahue) (explaining that the use of financing of wind development projects is required to continue to develop additional projects).

138. Id. (statement of Mike Donahue) (indicating that lenders would be hesitant to provide financing with the looming threat of eminent domain over their collateral).
Legislature should ensure that the eminent domain protections contained in Legislative Bill 1048 apply to all wind energy facilities.

B. PROVIDE AID TO DEVELOPING THE INFRASTRUCTURE

Generating wind energy will serve no purpose unless the energy can be transmitted to where it is needed. The lack of transmission lines in the areas where wind development is ideal has posed an additional hurdle for investors.\textsuperscript{139} Transmission lines will need to be constructed from potential wind facilities to existing interconnected transmission lines connected to the electrical grid.\textsuperscript{140} As the law currently stands, private developers will be responsible for transmission upgrade costs needed to send the energy produced out of State via a publically-owned power system's transmission lines.\textsuperscript{141}

Nebraska has slowly developed transmission lines and interconnected Nebraska’s electric system with other states. The greatest concentration of transmission lines are around the major population centers in Nebraska.\textsuperscript{142} Western Nebraska and North-Central Nebraska contain very little transmission resources for connecting wind facilities to the established infrastructure.\textsuperscript{143} In addition, the current electric system has very little excess transmission capacity to support the additional generation of energy by wind facilities.\textsuperscript{144} Substantial investment will be needed to connect wind facilities in rural areas to existing transmission lines and to upgrade existing transmission lines to support the additional energy.

Nebraska should create an agency devoted to the operation, expansion, and improvement of the State’s electric transmission infrastructure. The burden of funding transmission systems in most states is the responsibility of the generators and the utility companies.\textsuperscript{145} However, states such as Kansas have tasked this responsibility to

\begin{itemize}
\item \textsuperscript{139} Committee on Natural Resources, Nebraska Legislature, Interim Study Relating to Expanded Development of Wind Energy in Nebraska, White Paper Topic 1, at 3 (2009).
\item \textsuperscript{140} The electrical grid is “[t]he grid of electric power lines . . . that move electricity around the country.” Energy in Brief, U.S. Energy Info. Admin., http://www.eia.gov/energy_in_brief/article/power_grid.cfm (Apr. 27, 2012).
\item \textsuperscript{141} Public Hearing on L.B. 1048 and Confirmation Before the Comm. on Nat. Resources, 101st Leg., 2d Sess. 9 (Neb. 2010) (statement of Tim Texel, Executive Director and General Counsel for the Nebraska Power Review Board) (explaining that the law requires a private developer to enter into a joint transmission development agreement that sets out the developer will pay for transmission upgrade costs required as part of the development).
\item \textsuperscript{142} Committee on Natural Resources, Nebraska Legislature, Interim Study Relating to Expanded Development of Wind Energy in Nebraska, White Paper Question 6, at 4 (2009).
\item \textsuperscript{143} Id. at 5.
\item \textsuperscript{144} Id.
\item \textsuperscript{145} Id.
\end{itemize}
state agencies that have authority to issue bonds to finance the construction, upgrading, and repair of transmission facilities.\textsuperscript{146} The Kansas Electric Transmission Authority was created to “further ensure reliable operation of the integrated electrical transmission system, diversify and expand the Kansas economy and facilitate the consumption of Kansas energy through improvements in the state’s electric transmission infrastructure.”\textsuperscript{147} The Kansas Electric Transmission Authority is not only given the authority to issue revenue bonds but also the authority to exercise the power of eminent domain.\textsuperscript{148}

The Nebraska Legislature should explore the creation of a similar authority in Nebraska. As the amount of electric generation grows in Nebraska, the existing transmission system in Nebraska will be pushed to its limits.\textsuperscript{149} Early developers will be required to finance the required transmission upgrade costs, while subsequent developers will be able to take advantage of the previously upgraded transmission facilities without the burden of upfront upgrade costs.\textsuperscript{150} The creation of a Nebraska electric transmission authority will help spread the costs of the infrastructure to all developers in a more equitable manner by charging operating fees to the users based on usage.\textsuperscript{151} Ensuring that there is no disincentives for early development of Nebraska wind energy facilities will jump start the flow of investment into Nebraska.

C. Provide Additional Financial Incentives

Financial incentives play a major role in the attraction of potential investors. As stated above, private companies are in the business of making profits for their investors. Tax credits on a national and state level have helped the growth of the wind industry across the nation.\textsuperscript{152} While Nebraska has extended the Nebraska Advantage Tax Credit to privately held wind developers,\textsuperscript{153} more should be done to stay competitive with states such as Oklahoma, Kansas, and Iowa.\textsuperscript{154}

\textsuperscript{146} KAN. STAT. ANN. § 74-99d09 (2009).
\textsuperscript{147} KAN. STAT. ANN. § 74-99d01 (2009).
\textsuperscript{148} KAN. STAT. ANN. § 74-99d08 (2009).
\textsuperscript{149} See supra note 144 and accompanying text.
\textsuperscript{150} See supra note 141 and accompanying text.
\textsuperscript{151} See KAN. STAT. ANN. § 74-99d07 (2009). The Kansas Electric Transmission Authority allows the authority to recover its costs of construction and maintenance through tariffs or other charges of the users of the transmission system under its control. Id.
\textsuperscript{152} See supra notes 70-92 and accompanying text.
\textsuperscript{153} See supra notes 122-27 and accompanying text.
\textsuperscript{154} Public Hearing on L.B. 104, L.B. 501, L.B. 572 and L.B. 627 Before the Comm. on Revenue, 103d Leg., 1st Sess. 20 (Neb. 2013) (statement of Richard Lombardi, Lobby-
The following section makes the argument that Nebraska should enact a more aggressive Production Tax Credit modeled after the federal Production Tax Credit and Nebraska should eliminate the Nameplate Capacity Tax imposed on wind energy facilities for the first five years of operation.

1. **Nebraska Should Enact a Nebraska Production Tax Credit**

Nebraska has adopted the policy to encourage the development of wind energy facilities in the State.\(^{155}\) However, Nebraska is losing the battle to attract investors to states such as Oklahoma.\(^{156}\) Oklahoma provides wind developers an exemption from sales and use taxes on major components,\(^{157}\) an exemption from property taxes for five years,\(^{158}\) and a production tax credit of five dollars per megawatt-hour of wind energy produced for a period of 10 years.\(^{159}\) "The combined impact of Oklahoma’s state policies lowers the cost of Oklahoma wind energy by approximately [twenty-five percent] over the life of a [twenty]-year [power purchase agreement]."\(^{160}\)

A more robust Production Tax Credit will make Nebraska more attractive for wind developers looking for sites to build wind energy facilities.\(^{161}\) The Federal Production Tax Credit\(^{162}\), prior to its expiration, provided investors who produce electricity from wind a 1.5 cent non-refundable tax credit per kilowatt-hour of electricity produced.\(^{163}\) This will work out to a tax credit of $15 per megawatt-hour. Inclusion of an aggressive tax credit will help in attracting large wind energy facilities.\(^{164}\) Opponents to the creation of a more aggressive tax credit

\(^{155}\) Neb. Rev. Stat. § 70-1001 (2013). "It is also the policy of the state to encourage and allow opportunities for private developers to develop, own, and operate renewable energy facilities intended primarily for export from the state . . ." Id.

\(^{156}\) Sunderman, supra note 134, at 15.

\(^{157}\) Id.


\(^{159}\) The Oklahoma Production Tax Credit provides that facilities are entitled a credit of $0.0050 per kilowatt-hour of electricity produced. Okla. Stat. tit. 68 § 2357.32A (2013). Since there are 1,000 kilowatts in one megawatt the tax credit equals $5 per megawatt-hour.

\(^{160}\) Sunderman, supra note 134, at 15.

\(^{161}\) Currently, Nebraska grants a production-based tax credit to any producer of electricity generated by wind. Neb. Rev. Stat. § 77-27,235 (2013). The credit is equal to .05 cent tax credit per kilowatt-hour of electricity produced, or $0.05 per megawatt-hour. Id. The total available tax credits are limited to $50,000. Id.

\(^{162}\) I.R.C. § 45(a) (2013).

\(^{163}\) I.R.C. § 45(d) (2013).

\(^{164}\) Public Hearing on L.B. 104, L.B. 501, L.B. 572 and L.B. 627 Before the Comm. on Revenue, 103d Leg., 1st Sess. 9-10 (Neb. 2013) (statement of James Williams, Wind Energy Developer for Invenergy) (explaining that lack of tax incentives will likely result in fewer wind projects in the State).
for wind energy producers claim that the adoption of new credits and incentives will decrease State revenue by giving tax breaks to out of State interests. This argument, however, is flawed. First, in order to utilize a non-refundable State tax credit, you must have a State tax liability, therefore only Nebraska tax payers will be able to utilize the benefits of the credit. Moreover, the adoption of a production tax credit will not reduce the State budget, since the credits will only be provided to new developers. Since the new investments will create tax revenue for the State by hiring employees, increasing property values, and paying the nameplate capacity tax, a production tax credit would be revenue neutral over the long term period of a project.

2. Nebraska Should Eliminate the Nameplate Capacity Tax for the First Five Years of Operation

To further attract wind developers, Nebraska provided an exemption from property tax for wind facilities. To offset the loss in revenue, the legislature enacted a Nameplate Capacity Tax of $3,518 per megawatt imposed on wind facilities for the life of the project. In order to stay competitive with Oklahoma, Nebraska should provide a five year exemption from the Nameplate Capacity Tax in order to match the property tax exemption Oklahoma provides to wind facilities located in Oklahoma.

Eliminating the Nameplate Capacity Tax for a period of five years will encourage further development of wind energy facilities in Nebraska. Wind developers view taxes that must be paid on their wind farms as an added cost to their project. Added taxes raise the cost


166. I.R.C. § 45(d) (2013). New wind projects will result in additional tax revenue for the State, by providing a production tax credit that equals the new tax revenue, the effect on the State budget will be neutral. Sunderman, supra note 134, at 17.

167. Wind facilities totaling one thousand megawatts of capacity could generate $5,563,000 in tax revenue a year or $111,260,000 over a twenty year period. Sunderman, supra note 134, at 17. So long as the total tax credits are limited to the expected increase in tax revenue, the tax credit will have no impact on the State’s budget.


170. Id.

171. OKLA. STAT. tit. 68 § 2902 (2013).

of wind projects, which may lead an investor to select a different state for their investment. Oklahoma has led the country in new wind energy facilities, announcing in 2013 the construction of facilities capable of producing over 1,500 megawatts.\textsuperscript{173} The combination of its tax incentives has played a major role in attracting new wind energy facilities.\textsuperscript{174} Nebraska must enact additional tax incentives, such as eliminating the Nameplate Capacity Tax to attract investors to develop wind energy facilities in Nebraska.

Opponents to the reduction of taxes will argue that additional tax incentives will place a strain on Nebraska's budget. Nebraska, however, has lost out on new tax revenue that may be gained from private wind energy facilities. Nebraska was long behind other states in encouraging the development of wind energy in the State.\textsuperscript{175} During this lag period, Nebraska has lost out on revenue that has gone to other states in the form of increased property taxes, increased employment, and income tax on new jobs, as well as income derived from lease payments to landowners who own the land where the wind facilities are located.\textsuperscript{176} Investing Nebraska resources in attracting wind energy facilities will eventually pay for itself in added revenue collected as a result of the benefits of the facilities.\textsuperscript{177} Failure to act and adopt legislation that will make Nebraska as appealing to wind developers as possible will result in the loss of substantial economic growth and tax revenue for the State. Therefore, Nebraska should provide a five year exemption from the Nameplate Capacity Tax for wind energy facilities.

V. CONCLUSION

If Nebraska wishes to encourage the growth of the wind energy industry, more should be done to attract investors to the State. The failure of the legislature to act has resulted in the loss of millions in

\textsuperscript{173} Sunderman, supra note 134, at 14.

\textsuperscript{174} Id. at 15.

\textsuperscript{175} See supra notes 70-92 and accompanying text.

\textsuperscript{176} Public Hearing on L.B. 104, L.B. 501, L.B. 572 and L.B. 627 Before the Comm. on Revenue, 103d Leg., 1st Sess. 6-7 (Neb. 2013) (statement of Sen. Hadley, member of Revenue Comm.) (discussing the economic impact of wind energy facilities in Nebraska, including long-term leases to landowners, new high paying jobs, and increased property values, and income generated by the operation of the wind energy facilities).

\textsuperscript{177} It is estimated that expanding the wind capacity in Nebraska by 1,000 megawatt capacity will result in a total annual revenue increase of a little over $5.5 million, made up of increases to personal income tax, property tax and nameplate capacity tax. Sunderman, supra note 134, at 17. If each megawatt of capacity produces 3,213 megawatt-hours per year, a production tax credit of $2.50 per megawatt-hour will result in approximately $80 million in tax credits over the ten year life of such credit, requiring a little over 14 years of added revenue to recover the additional tax credits. Id.
potential tax revenue. This extra revenue can be used to lower taxes on the residents of Nebraska, a goal of Governor Dave Heineman. Nebraska has made strides in allowing private investors to develop the growing wind energy in the State. However, the initial steps have not gone far enough. Nebraska's history of protecting its public power system has resulted in the lack of wind development in Nebraska. Protection of the State's public power system continues to have an adverse impact on the development of wind energy facilities in Nebraska. Publicly-owned power systems continue to create onerous regulations and requirements that serve as a disincentive to harness Nebraska's wind potential.

It is imperative that Nebraska remove the requirement that developers have a commitment to sell ninety percent of the energy produced to an outside facility. Furthermore, Nebraska should extend the protection from eminent domain for a period of ten years to all wind facilities located in Nebraska without any restrictions. Finally, Nebraska should adopt financial incentives that will attract large wind developments to the State. Failure to foster an environment that is conducive to the attraction, encouragement, and growth of the wind energy industry in Nebraska will result in the loss of millions in potential tax revenue, the failure to create jobs, and loss in economic growth for the State.

178. See supra note 167 and accompanying text.
180. See supra notes 107-27 and accompanying text.
181. See supra notes 93-106 and accompanying text.