

Impact of Wind Energy on Property Taxes in Nebraska



BAIRD HOLM^{LLP}
ATTORNEYS AT LAW

November 2013

Executive Summary

Nebraska suffers from a declining rural population and, as a result, an increasing property tax burden on landowners. As the population and tax base decrease in rural Nebraska, counties increase their property tax rate in order to produce enough revenue to cover necessary services, which, in turn, increases the burden on landowners.

Wind energy development provides significant property tax revenue by substantially increasing the property tax base, without increasing the current tax rate levied on landowners. As wind developers invest in rural Nebraska, they supplement county revenue by paying tax on their wind

facilities, related improvements, and the real property upon which these structures sit.

A 200 MW wind farm generates approximately \$1,325,200 in property tax revenue annually. In some of Nebraska's rural counties, the addition of a wind farm of this size could increase property tax revenue by approximately 39 percent.

In a typical rural Nebraska county, a 200 megawatt (MW) wind farm generates approximately \$1,325,200 in property tax revenue annually.¹ In Nebraska's rural counties, the new revenue would mean an approximately 39 percent increase in property tax revenue.² This is equivalent to approximately \$6,626 per MW per year to the county, of which approximately \$4,770 will be distributed to the local public schools.³

In this white paper, we examine Nebraska's current property tax problem and how wind energy development can help solve it. We specifically explain Nebraska's wind energy potential and how that potential means a substantial solution to Nebraska's property tax woes. Finally, we summarize how areas across the country are already benefitting from wind energy development and the numerous advantages to be obtained. Through commercial wind energy development, Nebraska can increase its overall property tax revenue and solve its mounting property tax problem.

¹ Nameplate Capacity Tax: \$703,600 = \$3,518 * 200 MW. Real Property Tax: \$621,600 = \$3,108 * 200 MW.

² 2012 Certificate of Taxes Levied Report, Nebraska Department of Revenue, Property Assessment Division, December 2012, http://www.revenue.ne.gov/PAD/research/valuation/avg_rates/avgrate2012.pdf. The average property tax revenue of \$3,395,027 is calculated from 2012 property tax revenue of Nebraska's 15 least populated counties (Arthur, Banner, Blaine, Garden, Grant, Hayes, Hooker, Keya Paha, Logan, Loup, McPherson, Rock, Sioux, Thomas, and Wheeler).

³ Real Property taxes per MW: \$6,626 = \$1,325,200 / 200; Real Property taxes to schools: \$4,770 = \$6,626 * 0.72.

Table of Contents

I. Wind Energy is a Substantial Solution to Nebraska's Property Tax Problem.....	1
A. Nebraska's Property Tax System Significantly Burdens Rural Landowners....	2
B. Wind Energy Development is a Significant Part of the Solution	3
II. Wind Energy Facilities Generate Significant Property Tax Revenue	6
A. The Nameplate Capacity Tax Contributes Substantially to Tax Revenue	7
B. Real Property Tax Revenue Increases Due to Land Improvements	7
C. Increased Property Tax Revenues Directly Benefit All Residents and County Governments.....	8
III. Nebraska Can Benefit Greatly From its Wind Energy Resource	9
A. Nebraska Has High Wind Energy Potential.....	9
B. A Hypothetical Wind Farm Generates Substantial Property Tax Revenue....	10
C. Knox County Benefits from Wind Energy Facilities	12
D. Broken Bow and Flatwater Wind Farms Drive Economic Growth	13
E. Nebraska's Neighbors Experience Even More Success	15
F. Across the Nation, States Are Utilizing Wind Energy	16
IV. State and County Governments Benefit from Wind Energy Development.....	18
A. The State Reaps Benefits From Wind Energy Development.....	18
B. County Residents Experience Numerous Indirect Benefits	19
V. Wind Energy Provides Substantial Property Tax Relief.....	21

I. Wind Energy is a Substantial Solution to Nebraska's Property Tax Problem

According to the Tax Foundation, Nebraska's property tax climate is ranked 39th in the nation.⁴ Two factors contribute to Nebraska's failed tax system: a decreasing tax base and an increasing tax rate. The decline in population and tax base of rural Nebraska forced county officials to increase the tax rate to support necessary public services. There is, however, a better solution to Nebraska's property tax problem: wind energy development. Nebraska's landscape makes it the perfect location to utilize wind energy resources. The county generates revenue from the developer, who pays taxes on the wind turbines and certain improvements associated with the facility. These taxes supplement the tax currently paid by landowners on real property based on agricultural land value. Tax revenue and the rural economy both grow as wind energy developers invest in rural Nebraska. Most significantly, the increased tax base allows counties to decrease the current property tax rate assessed on Nebraska's landowners.

Investment in wind energy development directly and indirectly benefits the county, the state of Nebraska, and its residents. Direct tax revenue comes in the form of the nameplate capacity tax, which is a tax on the wind facility personal property that generates approximately \$1,407,200 per year on a 400 megawatt (MW) wind farm.⁵ The developer additionally pays real property tax on the facility property, which increases in value due to land improvements such as equipment and access roads. On a 400 MW wind farm, the county receives additional real property tax revenue of approximately \$1,243,200 per year due to improvements. Thus, by investing in a 400 MW wind farm, a Nebraska county can expect about \$2,650,400 in new property tax revenue annually. As applied to the 15 most rural counties in Nebraska, property tax revenue would increase by just over 78 percent for the county.⁶

*The increased tax base gives counties the opportunity and ability to decrease the current property tax rate and thus **reduce the burden** on Nebraska's landowners.*

The landowners specifically benefit from annual lease payments from developers, which could approximate \$2,400,000 annually on a 400 MW wind farm.⁷ Landowners may also anticipate paying less property taxes, as the improved tax base

⁴ Scott Drenkard & Joseph Henchmen, *2014 State Business Tax Climate Index*, October 9, 2013, <http://taxfoundation.org/article/2014-state-business-tax-climate-index>. The Tax Foundation is a non-partisan tax research group based in Washington, D.C.

⁵ NEB. REV. STAT. § 77-6203(1) (Supp. 2011). The Nebraska nameplate capacity rate is \$3,518 per MW.

⁶ The 15 least populated counties in Nebraska levied an average \$3,395,027 in property taxes in 2012.

⁷ Dwight Aakre & Ron Haugen, *Wind Turbine Lease Considerations for Landowners*, North Dakota State University Extension Service, February 2009, <http://www.ag.ndsu.edu/pubs/agecon/market/ec1394.pdf> (finding that reports indicate payments of \$4,000 to \$6,000 per MW for fixed-compensation packages).

provides the county the ability to lower the property tax rate. Landowners will likely spend some of their additional revenue locally, generating spinoff economic activity and further increasing local government revenues.

Not only landowners who contract with developers benefit from wind energy. All county residents gain from the indirect advantages of wind energy development. Temporary and permanent construction and operations employment provide job opportunities and bring new wage-earners to the area. Due to substantially increased tax revenue, there is less strain on state tax resources, more funds available for schools and public services, and overall growth of the economy. Most importantly, the increased revenue gives county officials the ability to lower the current property tax rate. Through wind energy development, Nebraska can increase its overall tax revenue, without increasing the current property tax levied on landowners.

A. Nebraska's Broken Property Tax System Substantially Burdens Rural Landowners

Nebraska's current property tax system places a considerable burden on rural landowners. Agricultural land accounts for approximately one-third of property taxes paid across the state.⁸ Local governments levy Nebraska property tax based on an assessment of land value. Since 1930, the Nebraska property tax base grew only 70 percent as fast as Nebraska's economy.⁹ As a result, Nebraska counties stretched their tax revenue to cover more services. In rural Nebraska, where population is declining, landowners carry the burden of funding necessary government-provided services via property tax. Counties have increased property tax rates substantially to keep up with the growing needs of the economy. Property taxes levied on agricultural land increased by approximately 10 percent in each of the last four years.¹⁰ Due to these increases and a declining population, rural landowners carry the burden of property tax.

*As a result of the decreased tax base and growing economy, Nebraska counties stretched their tax revenue to cover more services. In rural Nebraska, where population is declining, **landowners carry the burden** of funding necessary government-provided services via property tax.*

⁸ David Hendee, *Ag land prices push up Nebraska's property tax valuation*, Omaha World Herald, April 12, 2013, <http://www.omaha.com/article/20130411/MONEY/704129997>.

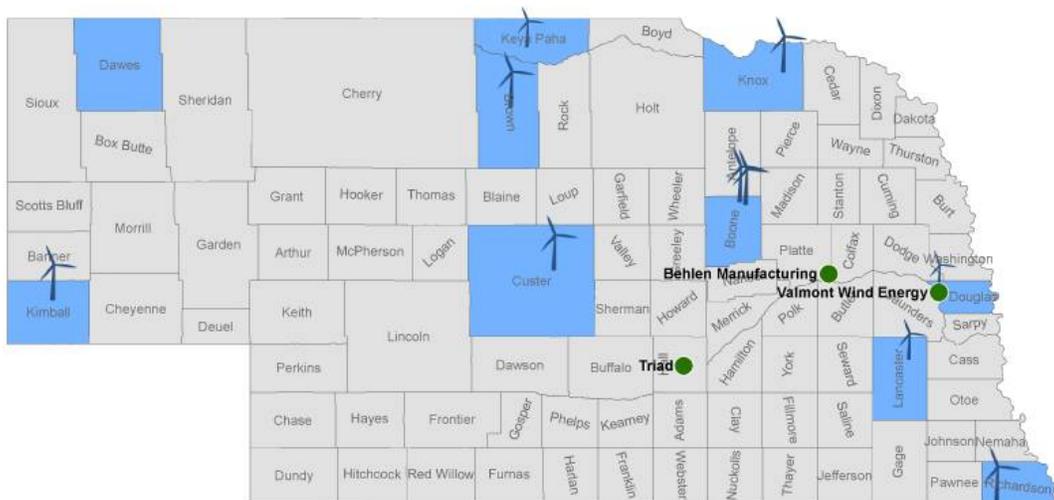
⁹ *Taxes in Nebraska: Property Taxes*, Nebraska Legislature, http://www.nebraskalegislature.gov/app_rev/source/proptax.htm.

¹⁰ *History of Valuation & Taxes Levied by Political Subdivisions 2002 to 2012*, Nebraska Department of Revenue Property Assessment Division, December 19, 2012, http://www.revenue.ne.gov/PAD/research/valuation/bycnty_taxvaluechg/histvt_proptype/histvt_proptype_state.pdf.

B. Wind Energy Development is a Significant Part of the Solution

Maximizing the state's wind resource is a significant solution to the property tax problem. Despite Nebraska's high rankings in wind resource, the state ranks 23rd in installed wind capacity.¹¹ Nebraska's 459 MW of installed capacity drastically lags behind that of neighboring states -- Iowa with 5,133 MW, Kansas with 2,713 MW, Colorado with 2,301 MW, and Wyoming with 1,410 MW.¹² Currently, wind energy provides 3.7 percent of Nebraska's electricity, or electricity for almost 166,000 average homes.¹³ Nebraska's wind potential could provide Nebraskans with their current electricity needs five to ten times over. Although Nebraska has an additional 350 MW of capacity in the construction or planning phase, this still does not reach the averages of surrounding states.

Figure 1. Nebraska Wind Farms and Manufacturing Facilities



Source: *State Wind Energy Statistics: Nebraska*, American Wind Energy Association, June 7, 2013, <http://awea.rd.net/Resources/state.aspx?ItemNumber=5210>.

Elkhorn Ridge, a wind farm located in Knox County near Bloomfield, Nebraska, began operation in December of 2008. The farm produces 81 MW of wind energy and should provide an estimated \$7,000,000 in local taxes and lease payments to the

¹¹ According to the Natural Resources Defense Council, Nebraska has the fourth largest wind resource. *Renewable Energy for America*, <http://www.nrdc.org/energy/renewables/nebraska.asp>. According to the American Wind Energy Association, Nebraska is ranked fourth in best wind resource by MWh and third for GWh. *State Wind Energy Statistics: Nebraska*, June 2013, <http://awea.rd.net/Resources/state.aspx?ItemNumber=5210>.

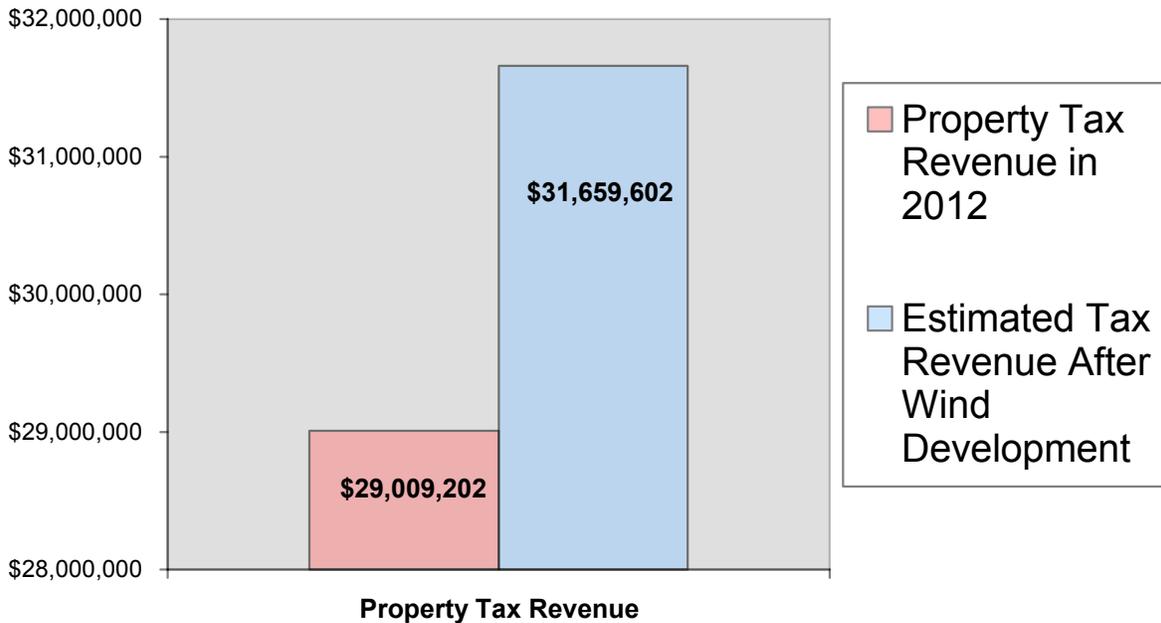
¹² *State Wind Energy Statistics*, American Wind Energy Association, June, 2013, <http://awea.rd.net/resources/statefactsheets.aspx?itemnumber=890>.

¹³ *State Wind Energy Statistics: Nebraska*, American Wind Energy Association, June 2013, <http://awea.rd.net/Resources/state.aspx?ItemNumber=5210>. *Wind Energy Generation in Nebraska*, Official Nebraska Government Website, <http://www.neo.ne.gov/statsthtml/89.htm>.

landowners over the life of the project.¹⁴ Property taxes levied on Elkhorn Ridge approximate \$285,000 in nameplate capacity tax and approximately \$251,000 in real property taxes. This increase of approximately \$536,000 paid annually to the county reflects a 2.85 percent increase in total property taxes levied in Knox County.

A wind farm proposed for Holt County will generate similar revenue and benefits. The subsequent graph illustrates the expected increase of property taxes generated by developers and paid to Holt County (Figure 2). Based on a 400 MW wind farm, the property tax revenue from both nameplate capacity and real property taxes would grow by a total of \$2,650,400, or 9.14 percent, calculated as follows: the amount of anticipated tax revenue is the sum of the taxes already levied on the land of \$29,009,202, the additional real property tax assessed on the facility of approximately \$1,243,200 due to improvements, and the nameplate capacity tax of \$1,407,200.¹⁵ This is an unprecedented boost in property tax revenue from a single project.

Figure 2. Property Tax Revenue for Holt County



Before: *Property Assessment Division 2012 Annual Report*, Nebraska Department of Revenue, page 35, http://www.revenue.ne.gov/PAD/research/annual_reports/2012/NE_RevenuePAD_annrpt2012_fullbook.pdf.

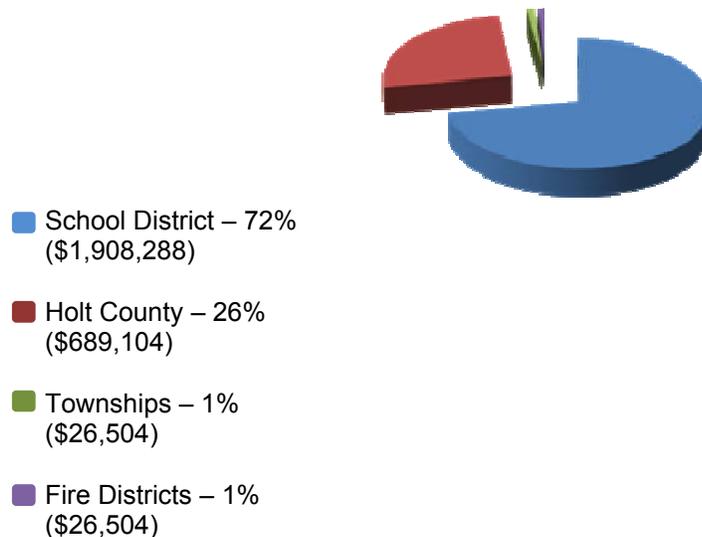
After: Sum of: 2012 property tax revenue \$29,009,202, additional real property tax assessed on the facility of approximately \$1,243,200, and nameplate capacity tax of \$1,407,200.

¹⁴ *Nebraska's Largest Wind Farm Now Selling Power to NPPD*, Nebraska State Paper, March 17, 2009, <http://nebraska.statepaper.com/vnews/display.v/ART/2009/03/17/49bf91cbb98b0>.

¹⁵ According to Nebraska Department of Revenue, Property Assessment Division, property taxes in levied on land Holt County were \$29,009,202, in 2012, http://www.revenue.ne.gov/PAD/research/valuation/avg_rates/avgrate2012.pdf. The real property tax on the facility is estimated to be \$1,243,200 ($\$3,108 \times 400 \text{ MW}$) each year and the nameplate capacity tax is \$1,407,200 ($\$3,518 \text{ per MW} \times 400 \text{ MW}$).

This increased tax base enables the county to lower the tax rate currently assessed on landowners and provide additional revenue for public services. Furthermore, the new revenue will not increase the demand for additional publically-funded services, as the population base did not change. Compared to constructing new homes and increasing the number of taxpayers, wind energy development increases tax revenue without increasing the need for additional services. There are essentially no additional residents requiring an increase in the capital investment of the county, thus the tax revenue is almost complete gain. Figure 3 illustrates the distribution of property taxes generated by a wind project and paid to Holt County.

Figure 3. Holt County Annual Property Tax Distribution

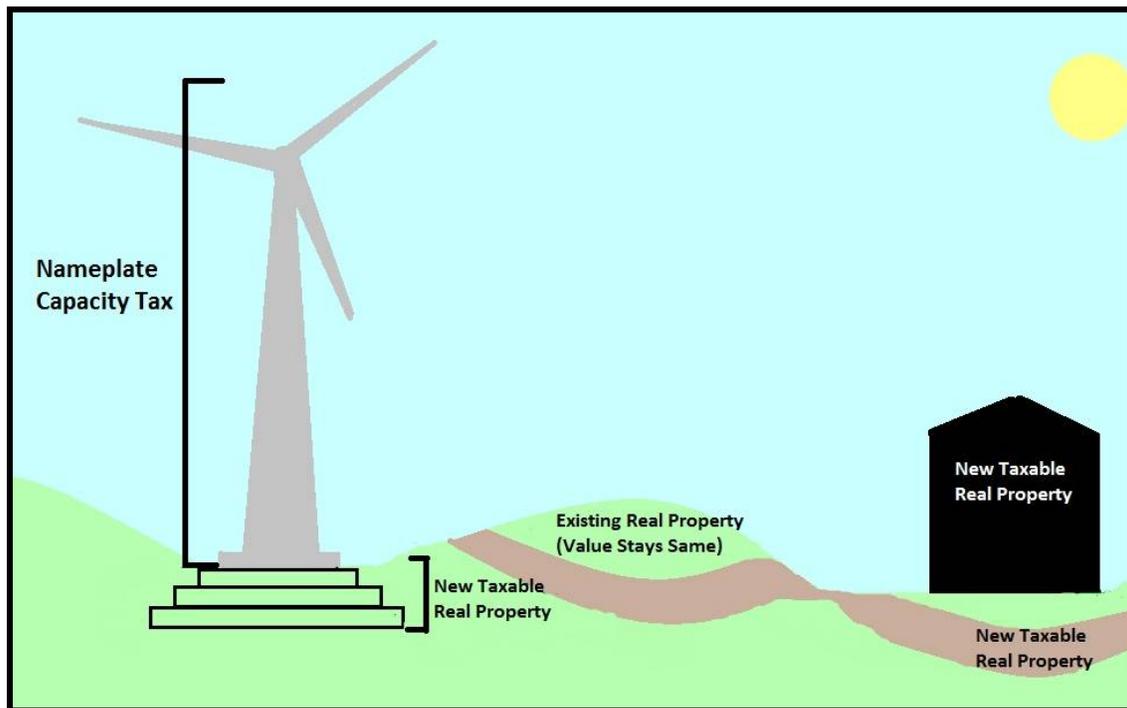


Developers pay both the nameplate capacity tax and real property tax while the current property tax paid by the landowner is unaffected. The increased revenue gives the counties the ability to lower the tax rate currently assessed on landowners. Moreover, the incidental benefits from the growth of the tax base increase the economic development of rural Nebraska. Expansion into wind energy development decreases the burden on the landowners, while increasing the overall tax base. Any resident in a county where a wind development project is located profits from economic growth as wind energy development may lead to decreased property taxes on all landowners. Wind energy development can provide the necessary relief to the rising property tax problem in Nebraska.

II. Wind Energy Facilities Generate Significant Property Tax Revenue

In Nebraska, property tax revenue from a wind energy facility consists of two components: (A) the nameplate capacity tax assessed on the turbine itself, and (B) the tax assessed on real property based on increased valuation from improvements. The landowner pays real property tax on land at agricultural value. There is no additional tax burden on landowners for having a wind generation facility on their land. Any depreciable tangible personal property used to generate wind energy is exempt from personal property taxes, as the nameplate capacity tax covers these items.¹⁶ The nameplate capacity tax is an excise tax assessed annually based on the total nameplate capacity of a commissioned wind turbine and at a rate of \$3,518 per megawatt.¹⁷ The developer also pays the real property tax on the foundation of the turbine, buildings, and access roads (Figure 4).

Figure 4. Taxes Assessed on a Wind Facility



¹⁶ 2011 Neb. Laws LB 360, § 11 (codified at NEB. REV. STAT. § 77-202(9) (Supp. 2011)).

¹⁷ NEB. REV. STAT. § 77-6203(1) (Supp. 2011). See also Floor Debate on LB 1048, 101st Neb. Leg., 2nd Sess. 6 (March 17, 2010) (Statement of Sen. Langemeier).

A. The Nameplate Capacity Tax Contributes Substantially to Tax Revenue

Until 2010, Nebraska levied personal property tax on depreciable tangible personal property of wind energy generation facilities with a five-year class life. As a result, such facilities paid a large personal property tax in the first year of operation, but, after five years, paid almost no personal property taxes. The Legislature, recognizing that this system caused local budgeting challenges and increased upfront costs for developers, replaced the personal property tax on wind energy generation facilities with an excise tax called the “nameplate capacity tax.”¹⁸

The term “[n]ameplate capacity’ means the capacity of a wind turbine to generate electricity as measured in megawatts.”¹⁹ The legislative history of LB 1048 states the nameplate capacity tax was implemented to “provide[] a new method for taxing projects that will benefit local communities and the developers by creating an alternative to the five-year accelerated depreciation of personal property tax schedule that [was] currently in place.”²⁰ The intent of the nameplate capacity tax is to provide the same amount of tax by a wind energy generation facility as would have been paid in personal property taxes over the life of a project, but in a manner which reduces the annual exaction and spreads payment out over the average life of a project, which will normally exceed 20 years.

B. Real Property Tax Revenue Increases Due to Land Improvements

In addition to the nameplate capacity tax, developers also pay real property tax on the property used for the facility, such as the land where turbines, equipment, and access roads are located.²¹ Unlike the real property tax paid by the landowner, the facility land substantially increases in value due to land improvements. Therefore, the county makes much more in real property tax revenue from land that has such improvements on it, as compared to land assessed at agricultural value.

In an average rural Nebraska county, real property tax revenue alone could result in an approximately 18 percent increase in total property tax revenue on a 200 MW wind farm.²² An 80 MW wind farm in a place like Knox County receives approximately \$248,640 in real property tax revenue per year. For a 400 MW wind farm, like the proposed farm in Holt County, the county receives about \$1,243,200 annually.²³

¹⁸ NEB. REV. STAT. § 77-6201(1) (Cum. Supp. 2010).

¹⁹ NEB. REV. STAT. § 77-6202(2) (Cum. Supp. 2010).

²⁰ Committee Records on LB 1048, 101st Leg., 2nd Sess. 1 (Introducer’s Statement of Intent) (February 24, 2010).

²¹ NEB. REV. STAT. § 77-103.

²² Real Property Tax: \$621,600 = \$3,108 * 200 MW. Compare this to the average property tax revenue of a rural Nebraska county, which is around \$3,400,000. *2012 Certificate of Taxes Levied Report*, Nebraska Department of Revenue, Property Assessment Division, December 2012, http://www.revenue.ne.gov/PAD/research/valuation/avg_rates/avgrate2012.pdf. The average property tax revenue of \$3,395,027 is calculated from 2012 property tax revenue of Nebraska's 15 least populated counties (Arthur, Banner, Blaine, Garden, Grant, Hayes, Hooker, Keya Paha, Logan, Loup, McPherson, Rock, Sioux, Thomas, and Wheeler).

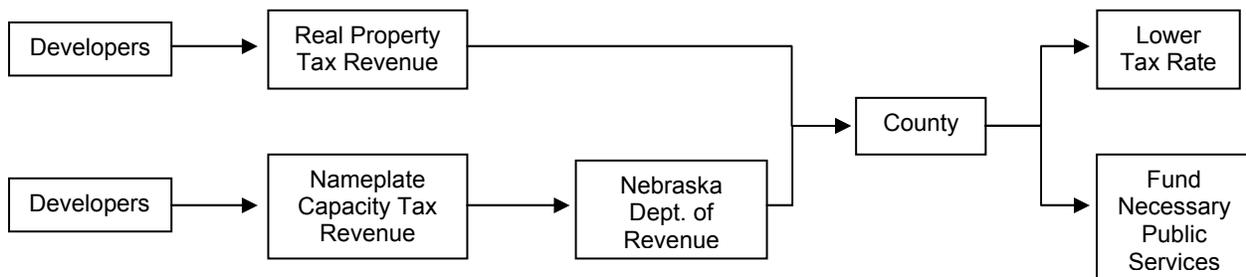
²³ Based on real property taxes of \$3,108 per MW generated annually.

Combining real property tax revenue and the nameplate capacity tax revenue, an average rural Nebraska county would receive \$1,325,200 in property tax revenue annually, which approximates a 39 percent increase in property tax revenue.²⁴ These two taxes, paid by developers, drastically change the available tax base and revenue for rural Nebraska counties.

C. Increased Property Tax Revenues Directly Benefit All Residents and County Governments

County governments levy property taxes. Real property taxes are remitted directly to the county. The nameplate capacity tax, on the other hand, is first remitted to the Nebraska Department of Revenue, which must approve the valuation of the land. The state then remits these funds to the county, which distributes them accordingly (Figure 5). In both instances, the county receives one hundred percent of what its residents pay. Unlike other state taxes, property taxes directly increase tax revenue for the county without losing a portion to the state. Therefore, revenue from both the real property tax and the nameplate capacity tax directly benefit every resident of the county. The growth gives the counties the ability to lower the current property tax rate, provide funds for economic growth, and reduce its dependence on state funding for public services.

Figure 5. Impact of Wind Energy Development on Nebraska Property Tax System



²⁴ 2012 Certificate of Taxes Levied Report, Nebraska Department of Revenue, Property Assessment Division, December 2012, http://www.revenue.ne.gov/PAD/research/valuation/avg_rates/avgrate2012.pdf. The property tax figure of \$16,000,000 is based on the average 2012 property taxes levied per county, subtracting values from the ten most populated and urban counties.

III. Nebraska Can Benefit Greatly From its Wind Energy Resource

Necessary county-provided services require funding, such as road maintenance, public education, and crime prevention. The county levies property taxes on landowners to generate funding by multiplying the assessed value of the property by the applicable tax rate. In many counties across Nebraska, the funding for services outweighs the revenue generated by property taxes. The variables of the formula provide three options. First, the county can cut the amount or extent of services provided, which would be an obvious detriment to the community. Second, the county can increase the tax rate, which hurts landowners. Or third, being the logical option, the county can increase the tax base. An increased tax base allows the county to reduce the current property tax assessed on landowners. It additionally provides greater revenues for the county and numerous indirect benefits that enhance economic growth. Wind energy development increases the tax base to provide additional property tax revenue, without hurting landowners.

Assessed Land Value of Tax Base	X	Applicable Tax Rate	=	Property Tax Revenue Available to County
------------------------------------	----------	------------------------	----------	--

A. Nebraska Has High Wind Energy Potential

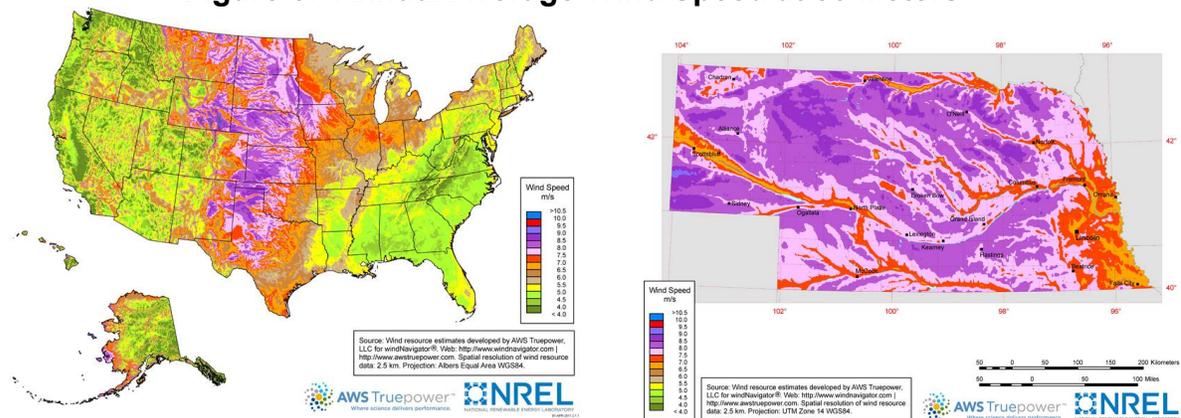
Wind generators typically require wind speeds of 10 miles per hour or greater. Shown in Figure 6, wind speeds in most of Nebraska (the portions in light and dark purple) average 17.9 miles per hour.²⁵ In comparison to the wind speeds across the country, Nebraska shows a high potential for wind energy. The National Renewable Energy Laboratory estimated that close to 92 percent of Nebraska land can be used for wind-powered electricity generation.²⁶ Nebraska's installed capacity is about 459 MW, a mere 3.7 percent of the state's total capacity.²⁷ Nebraska also has roughly 350 MW of wind energy development in construction, bringing our future total to 809 MW. Still, this almost doubled amount is not close to Nebraska's potential, nor the installed capacity of Nebraska's bordering states.

²⁵ The light and dark purple areas show wind speeds around eight meters per second, which can be converted to 17.9 miles per hour.

²⁶ *Nebraska State Profile and Energy Estimates*, U.S. Energy Information Administration, July 2012, <http://www.eia.gov/state/?sid=NE>.

²⁷ John A. "Skip" Laitner & Matthew T. McDonnell, *Securing Nebraska's Energy and Economic Future: Creating Jobs, New Economic Opportunities and Health Benefits through Productive Investments in Wind Energy and Energy Efficiency*, The Sierra Club, October 18, 2012, <http://www.sierraclub.org/windworks/downloads/Securing-NE-Economic-Future-2012-10-18.pdf>.

Figure 6. Annual Average Wind Speed at 80 Meters



Source: Energy Efficiency & Renewable Energy, Department of Energy, *Stakeholder Engagement & Outreach*, http://www.windpoweringamerica.gov/wind_resource_maps.asp?stateab=ne.

B. A Hypothetical Wind Farm Generates Substantial Property Tax Revenue

Nebraska currently experiences success in wind energy development. Nebraska is home to 260 operational wind turbines located on 11 sites with a total capacity of 459 MW, which can power approximately 166,000 average homes per year.²⁸ Using an average 200 MW wind farm and average Nebraska land values, this hypothetical explores the expected statistics for installation of a wind farm.

A coalition of farmers owns 10,000 acres of agricultural land worth around \$3,400,000 in land value in Windy County located in central Nebraska.²⁹ Windy County has an average wind speed of 18 miles per hour, thus suitable for a 200 MW wind farm containing 111 turbines, each turbine having a nameplate capacity of 1.8 MW. For total county property taxes, Windy County received property taxes of approximately \$3,400,000, before the installation of the wind farm.³⁰

The coalition of farmers is expected to earn approximately \$6,000 annually per MW of tower capacity in lease payments, totaling \$1,200,000 per year.³¹ The wind farm requires less than one acre per turbine, leaving most of their agricultural land suitable for farming or ranching. The farmers still pay real property tax assessed at agricultural

²⁸ *Wind Energy Generation in Nebraska*, Official Nebraska Government Website, <http://www.neo.ne.gov/statshtml/89.htm>.

²⁹ *Average Reported Value of Nebraska Farmland for Different Types of Land by Agricultural Statistics District*, University of Nebraska-Lincoln, Agricultural Economics, <http://agecon.unl.edu/realestate.html>. The study found the average value of Nebraska farmland is \$3,040 per acre.

³⁰ *2012 Certificate of Taxes Levied Report*, Nebraska Department of Revenue, Property Assessment Division, December 2012, http://www.revenue.ne.gov/PAD/research/valuation/avg_rates/avgrate2012.pdf. The average property tax revenue of \$3,395,027 is calculated from 2012 property tax revenue of Nebraska's 15 least populated counties (Arthur, Banner, Blaine, Garden, Grant, Hayes, Hooker, Keya Paha, Logan, Loup, McPherson, Rock, Sioux, Thomas, and Wheeler).

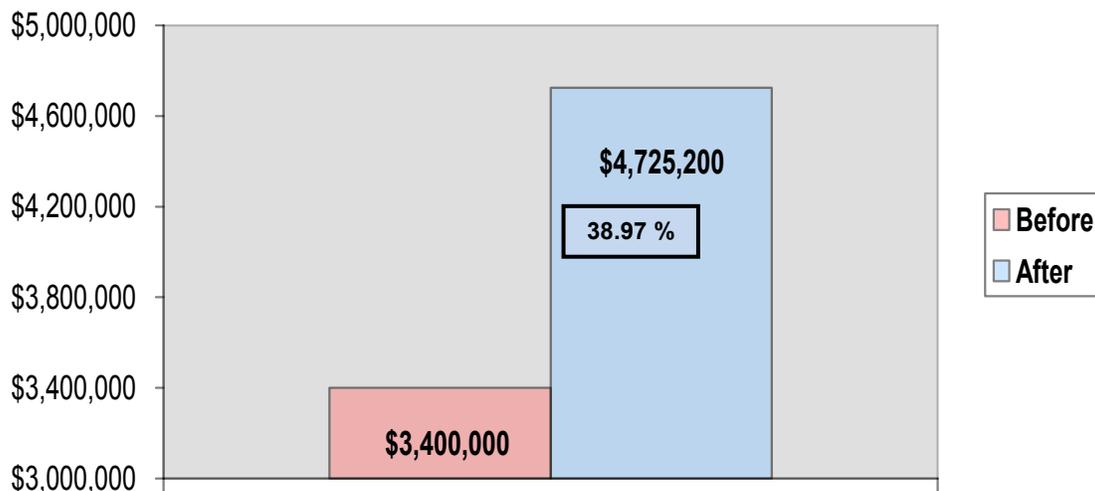
³¹ Dwight Aakre & Ron Haugen, *Wind Turbine Lease Considerations for Landowners*, North Dakota State University Extension Service, February 2009, <http://www.ag.ndsu.edu/pubs/agecon/market/ec1394.pdf>.

value, just as they did prior to the installation. Windy County additionally earns the nameplate capacity tax of \$703,600 annually, paid by the developer.³² In solely nameplate capacity tax, that is revenue of \$6,338 per turbine. Windy County also receives approximately \$621,600 in real property tax assessed on the turbine foundations, access roads, and buildings.³³ Windy County also collects \$5,600 in real property taxes for each such turbine, which is paid by the developer. In total property tax revenue, Windy County receives \$1,325,200 in property tax revenue, none of which was collected prior to the wind farm. This increase reflects an increase of property tax revenue of approximately 39 percent for Windy County (Figures 7 & 8).

Figure 7. Windy County Property Tax Revenue Comparison (200 MW)

	Before	After	Increase
Nameplate Capacity Tax Revenue	\$0	\$703,600 per year	-
Real Property Tax Revenue Paid by New Wind Farm	\$0	\$621,600 per year	-
Real Property Tax Revenue Received by Windy County	\$3,400,000 per year	\$4,021,600 per year	18.28 percent
Total Property Tax Revenue	\$3,400,000 per year	\$4,725,200 per year	38.97 percent

Figure 8. Property Tax Revenue in Windy County



Before: Estimated taxes levied by average Nebraska county (subtracting top 15 most populous counties).
After: Includes property tax assessed on agricultural land of \$3,400,000, real property tax from the facility improvements of \$621,600, and the nameplate capacity tax of \$703,600.

³² Nameplate Capacity Tax: \$703,600 = \$3,518 * 200 MW.

³³ Real Property Tax: \$621,600 = \$3,108 * 200 MW.

C. Knox County Benefits from Wind Energy Facilities

The Elkhorn Ridge wind farm greatly increased both the property tax revenue for Knox County as well as the economic stability of the county in general. The farm began operation in 2009 and has a total of 81 MW of nameplate capacity.³⁴ Much of the farmland is still used for agricultural purposes, as the 27 turbines are spread out over 3,400 acres.

In 2010, Elkhorn Ridge reported close to \$285,000 in nameplate capacity tax and also pays an estimated \$254,000 in real property taxes, for a total of almost \$536,000 each year. That increase reflects 2.83 percent of Knox County's total levied property taxes. As shown by the statistics below, both the county and the residents benefit from the wind farm (Figure 9). The augmented tax base empowers the county to reduce its current property tax rate, provides additional revenue for the county, and results in numerous indirect benefits to the county's economy.

Figure 9. Knox County Property Tax Revenue Benefits

Tax	Addition of Elkhorn Ridge
Nameplate Capacity Tax Revenue Generated Per Wind Farm Acre	\$83.81 per wind farm acre ³⁵
Nameplate Capacity Tax Revenue Generated Per County Resident	\$33.23 per county resident ³⁶
Total Annual Property Taxes Generated From Facility Per Wind Farm Acre	\$157.64 per wind farm acre ³⁷
Total Annual Property Taxes Generated From Facility Per County Resident	\$62.50 per county resident ³⁸

These statistics are merely the beginning of the benefits that Knox County receives over the lifetime of the Elkhorn Ridge wind farm. The growth of tax revenue in the county increased with the addition of a wind farm and remains at that increased point for the life of the project. Figure 10 illustrates in increase in property taxes shown in 2007 - before operation, 2008 - one month of operation, and 2009 - full year of operation. Both the real property tax and nameplate capacity tax contributed to increased tax revenue, with a 31.51 percent increase in total property tax revenue between before the wind farm and the first full year of operation.

³⁴ Midwest Wind Energy, <http://www.midwestwind.com/projects/show.php?ID=13>.

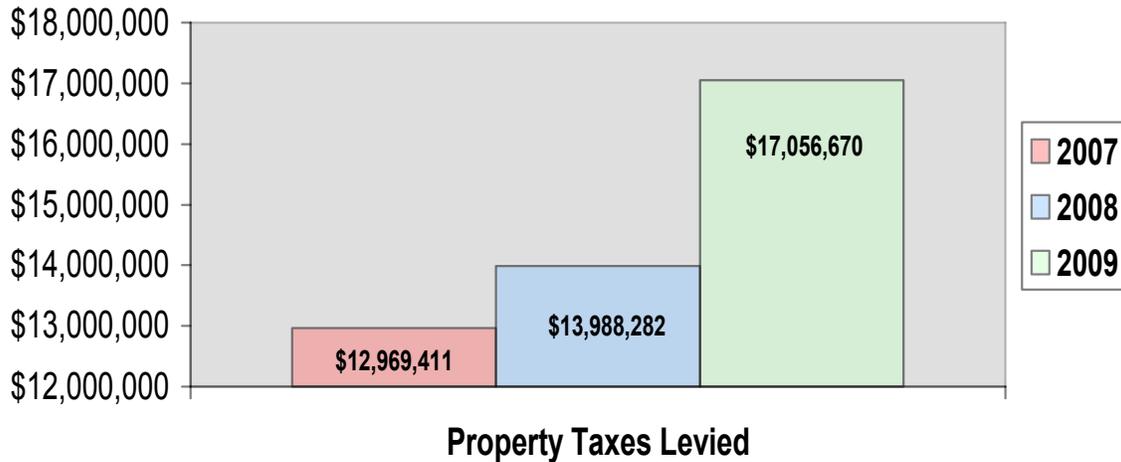
³⁵ Nameplate Capacity Tax Revenue Per Acre: $\$83.81 = (81 \text{ MW} * \$3,518) / 3,400 \text{ acres}$

³⁶ Nameplate Capacity Tax Revenue Per Resident: $\$33.23 = (81 \text{ MW} * \$3,518) / 8,575 \text{ residents}$

³⁷ Total Property Taxes Paid Per Acre: $\$156.76 = \$536,000 / 3,400 \text{ acres}$

³⁸ Total Property Taxes Paid Per Resident: $\$62.16 = \$536,000 / 8,575 \text{ residents}$

Figure 10. Growth of Property Taxes Levied in Knox County



Source: Property Assessment Division 2012 Annual Report, Nebraska Department of Revenue, page 36, http://www.revenue.ne.gov/PAD/research/annual_reports/2012/NE_RevenuePAD_annrpt2012_fullbook.pdf.

In addition to tax revenue growth, in 2009, the property valuation for all of Knox County increased by over 27 percent. Comparatively, the state-wide value of agricultural land only increased by 12 percent in the same year.³⁹ While there are many contributing variables, comparing the years prior to and after installation indicate that the wind farm contributed to the valuation increase. Valuation percentage changes from the preceding five years increased by only six percent on average.⁴⁰ And the percentage changes for the five years following installation averaged just over 10 percent.⁴¹

Knox County continues to enjoy the benefits of being home to a wind energy development facility. The increased property tax revenue base as well as the outflow of indirect benefits help the county achieve economic growth, without burdening its landowners.

D. Broken Bow and Flatwater Wind Farms Drive Economic Growth

Numerous counties across Nebraska experience similar success, increased revenue, and economic growth, just as Knox County does. The Broken Bow Wind Farm, located in central Nebraska, has 50 turbines spread across 11,000 acres, contributing a total of 80 MW in nameplate capacity. This \$145,000,000 project brought 100 construction jobs to the area and created approximately seven to ten permanent

³⁹ *History of Valuation & Taxes Levied by Political Subdivisions 2002 to 2012*, Nebraska Department of Revenue Property Assessment Division, December 19, 2012, http://www.revenue.ne.gov/PAD/research/valuation/bycnty_taxvaluechg/histvt_proptype/histvt_proptype_state.pdf.

⁴⁰ *History of Valuation & Taxes Levied by Political Subdivisions 2002 to 2012*, Nebraska Department of Revenue Property Assessment Division, December 19, 2012, http://www.revenue.ne.gov/PAD/research/valuation/bycnty_taxvaluechg/histvt_subdv/histvt_subdv_cnty_54.pdf.

⁴¹ 2008: 10.08 percent; 2009: 27.20 percent, 2010: -4.10 percent, 2011: 4.53 percent, and 2012: 16.63 percent.

jobs.⁴² The wind farm is subject to \$281,440 in nameplate capacity tax annually and expects to provide annual revenues of about \$900,000 in combined property and state income taxes. Based on estimates above, the wind farm adds roughly \$248,600 in real property tax each year. Furthermore, landowners receive around \$540,000 per year in lease royalties.⁴³

Located a mile from the Nebraska-Kansas border, the Flatwater Wind Farm began commercial operation on November 3, 2010. It consists of 40 turbines with a maximum capacity of 1.5 MW each for a total of 60 MW.⁴⁴ The turbines are able to provide enough energy to power an estimated 19,000 average homes. Flatwater is subject to a nameplate capacity tax in the amount of \$211,080 annually.⁴⁵ The farm also generates an estimated \$186,400 in real property taxes per year. A 20-year power purchase agreement with OPPD to purchase all 60 MW supports the wind farm. Again, the indirect benefits of the wind generation facility bolstered the county's economy. The farm added 150 jobs during construction and an estimated \$100,000 per week spent in the local economy during the five-month construction period.⁴⁶

Each of the current Nebraska wind farms added to both property tax revenue for their respective counties as well as economic growth. Additional wind energy development will only further that success.

E. Nebraska's Neighbors Experience Even More Success

Outside of Nebraska, the state falls behind its neighbors in terms of utilization of wind resources. While Nebraska ranks third in the country for best possible wind resource in MW and Iowa ranks 7th, Iowa substantially surpasses Nebraska in total MW installed.⁴⁷ Iowa is home to roughly 4,000 MW of installed capacity (as compared to Nebraska's 459 MW) and ranks 3rd for total MW installed in the country (Figure 11).

⁴² *Central Nebraska wind farm to fire up soon*, The Associated Press, October 17, 2012.

http://www.mercurynews.com/breaking-news/ci_21792175/central-nebraska-wind-farm-fire-up-soon. See also Midwest Wind Energy, <http://www.midwestwind.com/projects/show.php?ID=22> (stating the NPPD awarded a 20-year Power Purchase Agreement to make the project successful).

⁴³ *Edison Mission Group, Midwest Wind Energy and Nebraska Public Power District Announce Construction of New Nebraska Wind Farm*, Nebraska Public Power District, November 1, 2011, <http://www.nppd.com/2011/edison-mission-group-midwest-wind-energy-and-nebraska-public-power-district-announce-construction-of-new-nebraska-wind-farm/>.

⁴⁴ Algis J. Laukaitis, *\$165 million wind farm dedicated near Humboldt*, The Lincoln Journal Star, February 17, 2011, http://journalstar.com/news/state-and-regional/nebraska/million-wind-farm-dedicated-near-humboldt/article_05907e2b-60d7-55ce-a6ba-d43e62181316.html.

⁴⁵ NEB. REV. STAT. § 77-6203(1) (Supp. 2011). 40 turbines times 1.5 megawatts (81) times \$3,518 per megawatt equals \$211,080.

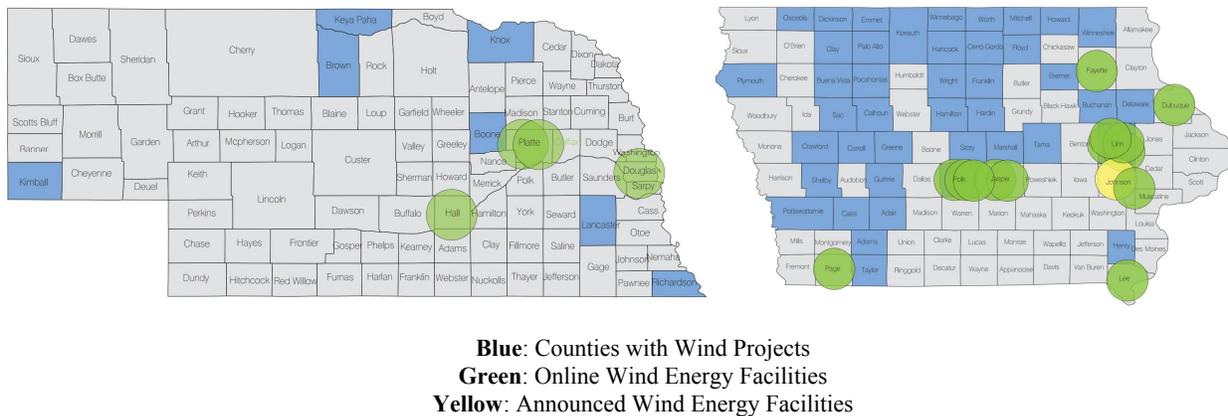
⁴⁶ Algis J. Laukaitis, *\$165 million wind farm dedicated near Humboldt*, The Lincoln Journal Star, February 17, 2011, http://journalstar.com/news/state-and-regional/nebraska/million-wind-farm-dedicated-near-humboldt/article_05907e2b-60d7-55ce-a6ba-d43e62181316.html.

⁴⁷ According to the Natural Resources Defense Council, Nebraska has the fourth largest wind resource. *Renewable Energy for America*, <http://www.nrdc.org/energy/renewables/nebraska.asp>. According to the American Wind Energy Association, Nebraska is ranked fourth in best wind resource by MWh and third for GWh. *State Wind Energy Statistics: Nebraska*, June 2013, <http://awea.rd.net/Resources/state.aspx?ItemNumber=5210>.

Iowa's installed capacity provides 24.5 percent of Iowa's electricity, while Nebraska's provides only 3.7 percent.⁴⁸

By 2015, Iowa plans to add 448 turbines across five counties, expecting to provide an additional 1,050 MW of energy.⁴⁹ The project is expected to create 460 construction jobs and 48 permanent jobs. Iowa Governor Terry Branstad anticipates that the project will provide \$360,000,000 in property tax revenue for local governments over the next 30 years. Furthermore, the American Wind Energy Association estimates current Iowa lease payments approximate \$16,000,000 annually to landowners.⁵⁰ While Nebraska's current plans include an additional 350 MW of energy, this does not come close to the installed capacity of Iowa (Figure 11).

Figure 11. Wind Farms Installed in Nebraska and Iowa as of 2012



Source: *Wind Energy Facts*, American Wind Energy Association, October 2012, <http://awea.files.cms-plus.com/FileDownloads/pdfs/3Q-12-Nebraska.pdf>.

Nebraska has the second highest property tax in the Midwest region and also reports a relatively high state income tax. In contrast, our neighbor to the west, Wyoming, has no state income tax. Nebraska purchases 65 percent of its energy from Wyoming or Montana coal resources and pays tax to both states on the coal.⁵¹ Effectively, Nebraska residents are subsidizing Wyoming's income tax.⁵² By decreasing Nebraska's reliance on coal, the state reduces the extent of Nebraska resident money going to Wyoming. Instead, Nebraskans can receive money from wind energy projects

⁴⁸ American Wind Energy Association, *State Wind Energy Statistics*, June 7, 2013, <http://awea.rd.net/resources/statefactsheets.aspx?itemnumber=890>.

⁴⁹ Rod Boshart, *Five Iowa counties will be home to Mid-American wind turbines*, The Gazette, Cedar Rapids, Iowa, August 12, 2013, <http://thegazette.com/2013/08/12/five-iowa-counties-will-be-home-to-mid-american-wind-turbines/>.

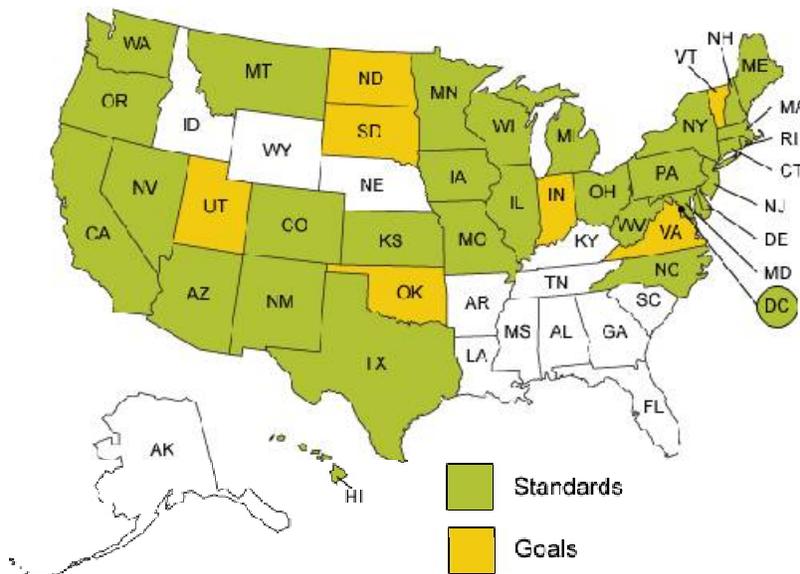
⁵⁰ *Wind Power Facts*, Iowa Wind Energy Association, <http://www.iowawindenergy.org/whywind.php>.

⁵¹ *Property Tax Rankings*, Nebraska Legislature, http://uniweb.legislature.ne.gov/app_rev/source/rankings_proptax.htm (reporting rankings from the U.S. Bureau of the Census, State and Local Collections (2006) that ranked Wyoming as having the fifth highest property tax per capita and Nebraska 18th).

⁵² *Coal*, Nebraska Power Association, <http://www.nepower.org/our-business/resource-mix/fossil-fuels/coal/>.

A Renewable Portfolio Standard is a requirement to increase the amount of energy that comes from renewable sources. Many states enacted such standards to encourage a quicker transition to the use of renewable resources (Figure 13). Some states use a percentage requirement in their standard. For example, California has a standard to increase the percentage of energy derived from renewable sources to 33 percent by 2020. Whereas other states, like Texas, adopted a certain number of MW of energy to be produced by renewable sources. In 2005, Texas amended its Renewable Portfolio Standard (RPS) to require production of 5,880 MW of renewable energy by 2015. Clearly, Texas achieved that goal as it currently houses 12,214 MW of installed capacity. As of January of 2012, 30 states maintain state-mandated renewable capacity policies, including Iowa (105 MW of generation from renewable sources), Kansas (20 percent of electricity come from renewable sources by 2020), and Colorado (30 percent of electricity come from renewable sources by 2020).⁵⁶

Figure 13. State-Mandated Renewable Portfolio Standards or Goals



Source: N.C. Solar Center at N.C. State University, *Database of State Incentives for Renewables and Efficiency* (July 2012).

*Nebraska's current goal is not state-mandated, but instead a goal adopted by NPPD, OPPD, and LES.

Nebraska has not adopted such a state-mandated standard. While NPPD, the Omaha Public Power District (OPPD), and Lincoln Electrical Systems (LES) have a goal of 10 percent by 2020, this goal is much less than neighboring states and is not a statutory requirement. If Nebraska public utilities revised its goal from 10 percent to 25 percent by 2020, once achieved, tax revenue from nameplate capacity alone would

⁵⁶ *Most states have Renewable Portfolio Standards*, U.S. Energy Information Administration, <http://www.eia.gov/todayinenergy/detail.cfm?id=4850>. *Renewable and Alternative Energy Portfolio Standards*, Center for Climate and Energy Solutions, <http://www.c2es.org/node/9340>. Rob Wile, *Here's How Much Your State Cares About Climate Change*, Business Insider, September 6, 2013, <http://www.businessinsider.com/map-of-renewable-portfolio-standards-2013-9>.

increase to \$10,909,318 each year.⁵⁷ Tax revenue from real property tax paid by the developer would increase to roughly \$9,637,908 annually. This provides total property tax revenue of \$20,547,226 each year, most of which was not previously available.

IV. State and County Governments Benefit from Wind Energy Development

Nebraska residents benefit from wind energy development because both the state and county governments receive an increase in revenue and decreased strain on resources. If Nebraska increased its installed capacity to a mere half of that of Iowa, Nebraska could increase property tax revenue by over \$17,000,000 each year.⁵⁸ Since this money goes to the county, the county gains the ability to reduce the current property tax rate levied on landowners. Apart from tax revenue, wind energy development results in increased lease payments to landowners. In Nebraska, the American Wind Energy Association estimates these lease payments to be over \$1,350,000.00 annually.⁵⁹ The increased revenue and lease payments to landowners are just the beginning of benefits of wind energy development.

A. The State Reaps Benefits From Wind Energy Development

While the county directly receives the tax revenue benefit, it is the state that receives the advantage of a more economically stable county. Nebraska can earn more tax revenue from manufacturers, companies, and individuals who decide to reside in rural Nebraska (via income tax, sales tax, etc.). Counties place a lesser burden on state funds and programs such as Medicaid, Head Start, and unemployment due to increased revenue. The state also reaps income and sales tax benefits from lease payments to landowners as these may lead to increased spending.

The increased tax revenue from wind energy development reduces the county's demand for TEEOSA funds from the state, making more funds available for other rural schools.

Specifically, Nebraska benefits as counties will be less reliant on the Tax Equity & Educational Opportunities Support Act (TEEOSA), the state's public school finance formula.⁶⁰ The TEEOSA fund is a state reserve financed by state income taxes.

⁵⁷ Current: 459 MW provide 3.7 percent of Nebraska's electricity. Future: Nebraska would need 3,101 MW to provide 25 percent. If done, $3,101 \text{ MW} * \$3,518 = \$10,909,308$ nameplate capacity tax revenue.

⁵⁸ Nameplate Capacity Tax: \$9,034,224 ($\$3,518 * 2,568 \text{ MW (half of Iowa installed capacity)}$) + Real Property Tax: \$7,981,344 = Total Property Tax Revenue: \$17,015,568.

⁵⁹ *State Wind Energy Statistics*, Nebraska, American Wind Energy Association, June 7, 2013, <http://awea.rd.net/Resources/state.aspx?ItemNumber=5210>.

⁶⁰ <http://schoolfinance.ncsa.org/>.

Schools in rural Nebraska, representing 87 percent of Nebraska school districts, are underfunded. When a rural school is in need of additional funding apart from what its county allocates, the school is able to use the TEEOSA fund. In 2011-12, Nebraska state aid via TEEOSA contributed over \$821,000,000 to schools across the state.⁶¹ In Holt County specifically, state aid to school districts was over \$2,700,000.⁶² The increased tax revenue from wind energy development reduces the county's demand for TEEOSA funds from the state. The reduction thus makes more funds available for other rural schools across Nebraska.

The state indirectly experiences similar benefits from additional property tax revenue as the county. Although none of the property tax goes to the state, Nebraska state government retains more of its revenue because counties place a lesser strain on state aid resources. Through wind energy development, both counties and states reap the benefits of additional property tax revenue.

*The growth of wind energy development and Nebraska's reputation as a "wind-friendly" state entices manufacturers to relocate in Nebraska which could lead to nearly **14,000** new jobs in Nebraska.*

B. County Residents Experience Numerous Indirect Benefits

Besides additional property tax revenues, Nebraska counties receive numerous indirect benefits of wind energy development such as economic growth, additional jobs, and increased spending in the county. Nebraska's farmers and ranchers are the future of rural Nebraska and the state must find a way to decelerate the depopulation that many Nebraska counties experience. One study showed that the more property taxes collected by the county on a per-capita basis, the greater decline in population.⁶³ Nebraska's population dropped in 70 counties between 2000 and 2005, with eight of those counties experiencing losses of over 10 percent.⁶⁴ In 80 non-metro counties, the population has decreased by over 10,000 people since 1890.⁶⁵

Wind energy development improves the tax climate of the county citizens, as well as affects Nebraska's competitive position relative to surrounding states, thus making rural Nebraska more appealing.⁶⁶ Wind energy development helps rural Nebraska grow

⁶¹ *Total State Tax Dollars Allocated to Local Governments*, Nebraska Department of Revenue, 2011-12, http://www.revenue.ne.gov/st_funds/stfund12/tax_dollars.pdf.

⁶² *Statement of State Tax Dollars Allocated to Local Governments Within the County: Holt County*, Nebraska Department of Revenue, 2011-12, http://www.revenue.ne.gov/st_funds/stfund12/holt.pdf.

⁶³ Berk Brown, *The Connection Between County Property Taxes and Population Trends*, The Platte Institute for Economic Research, October 22, 2010, <http://www.platteinstitute.org/research/detail/the-connection-between-county-property-taxes-and-population-trends>.

⁶⁴ *Demographic and Economic Profile*, Rural Policy Research Institute, May 2006. <http://www.rupri.org/Forms/Nebraska.pdf>.

⁶⁵ *Study Unveils Urban-Rural Split in Nebraska*, WOWT News, August 13, 2013. <http://www.wowt.com/home/headlines/Study-Unveils-Urban-Rural-Split-in-Nebraska-219471951.html>.

⁶⁶ *2014 State Business Tax Climate Index*, Tax Foundation, <http://taxfoundation.org/article/2014-state-business-tax->

due to increased tax revenue available for the county and increased revenue for landowners in the form of lease payments. Indirect benefits include construction and operations jobs, low long-term electricity rates, health costs savings from reduced air pollution, and water conservation. The growth of wind energy development and Nebraska's reputation as a "wind-friendly" state entices manufacturers to relocate in Nebraska which could lead to nearly 14,000 new jobs in Nebraska.⁶⁷ The total number of manufacturing facilities across the country for wind energy is about 550, but Nebraska is the home to only a few such facilities.⁶⁸ If Nebraska were home to more manufacturing facilities, not only would the number of wind energy projects increase, but economic growth would result due to the relocation of hundreds of people to rural Nebraska.

Google already invested a total of \$1,500,000,000 in the new data center in Council Bluffs, Iowa, a facility whose location was chosen in part due to its accessibility to renewable energy.

Increasing the availability of wind energy resources could also invite technology companies and other facilities to locate in Nebraska. Nebraska missed opportunities of investments by Google and Facebook, who chose Iowa over Nebraska, due in part to greater availability of renewable energy.⁶⁹ Technology companies like these are under pressure to reduce their energy consumption and therefore set their own goals of using a certain percentage of renewable energy, like wind, in their operations. Facebook set a goal of 25 percent, which required the location of its new data center to be in a location with accessible renewable energy.⁷⁰ Google entered into an agreement to purchase 114 MW from an Iowa wind farm and invested \$75,000,000 in another Iowa wind farm.⁷¹ Google already invested a total of \$1,500,000,000 in the new data center in Council Bluffs, Iowa, a facility whose location was almost within Nebraska's borders. If Nebraska became a more "wind-friendly" state, it could greatly increase its competitive advantage over neighboring states and take advantage of opportunities provided by relocating companies.

climate-index; October 9, 2013. The 2014 Index represents the tax climate as of July 1, 2013.

⁶⁷ John A. "Skip" Laitner & Matthew T. McDonnell, *Securing Nebraska's Energy and Economic Future: Creating Jobs, New economic Opportunities and Health Benefits through Productive Investments in Wind Energy and Energy Efficiency*, Sierra Club, <http://www.sierraclub.org/windworks/downloads/Securing-NE-Energy-Economic-Future-2012-10-18.pdf>.

⁶⁸ *State Wind Energy Statistics: Nebraska*, American Wind Energy Association, June 7, 2013, <http://www.awea.org/Resources/state.aspx?ItemNumber=5210>.

⁶⁹ *OPPD Announces Wind Energy Purchase*, 10/11 News, October 18, 2013, <http://www.1011now.com/centralnebraska/home/headlines/OPPD-Announced-Wind-Energy-Purchase-228235141.html>. Facebook specifically noted that Iowa's options for renewable energy was a deciding factor for the location of its new data center in Altoona, Iowa, instead of Kearney, Nebraska.

⁷⁰ Dan Haugen, *How wind energy helped Iowa attract Facebook's new data center*, Midwest Energy News, April 24, 2013, <http://www.midwestenergynews.com/2013/04/24/how-wind-energy-helped-iowa-attract-facebooks-new-data-center/>.

⁷¹ Jason Verge, *Google Pumps \$400 Million More into Iowa, Investment Now Tops \$1.5 Billion*, Data Center Knowledge, <http://www.datacenterknowledge.com/archives/2013/04/23/google-continues-to-spend-like-crazy-on-infrastructure-iowa-investment-tops-1-5-billion/>.

Apart from greater tax revenue and the chance to decrease the current property tax rate, these numerous indirect benefits entice both current residents to invest in their county and new workers and companies to relocate in rural Nebraska. Wind energy development in Nebraska results in economic growth across the state, thus helping to solve the property tax problem.

Wind energy development leads to potential for a lower property tax rate and growth of the tax base, thereby decreasing the current property tax levied on landowners.

V. Wind Energy Provides Substantial Property Tax Relief

Nebraska residents cannot continue to withstand increasing property taxes, especially if rural communities continue to decrease in population. However, the depopulation problem, lack of economic growth, and small property tax base can be resolved with the help of wind energy development. Nebraska clearly has the wind potential, but historically has not utilized its capacity. If Nebraska increased its installed megawatt capacity, counties would increase their tax revenue and reap the benefits of economic growth. Most importantly, the

increased tax base gives counties the opportunity to decrease the current property tax rate assessed on landowners.

To encourage development, the state must find a way to incentivize landowners to allow development, developers to locate in Nebraska, and public power districts to purchase the energy to be generated. Whether the incentive comes in the form of tax credits, increasing the renewable energy goal, or adopting a Renewable Portfolio Standard, the effect of utilizing this energy source drastically outweighs any initial costs.

Wind energy development leads to growth of the tax base, without increasing the current property tax levied on landowners. Additional tax revenue means more funds for residents and less strain on state funds. Both of these benefits multiply the economic growth of the county. And finally, the new revenue allows the county to decrease the property tax rate. Through commercial wind energy development, Nebraska can increase its overall tax revenue and solve its mounting property tax problem.



Adam R. Herink, Vice President
4360 Nicholas Street
Omaha, Nebraska 68131-1032
402.553.1804

BAIRD HOLM^{LLP}
ATTORNEYS AT LAW

David C. Levy
Amy L. Lawrenson
Hannah K. Fischer
1700 Farnam Street, Suite 1500
Omaha, Nebraska 68102-2068
402.636.8310