

INDUSTRY ON THE PRAIRIE: MINNESOTA WIND ENERGY PRODUCTION TAX IMPACT STUDIES



A REPORT BY MOLLY MALONE,
CENTER FOR RURAL AFFAIRS



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RURAL AFFAIRS

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October 2022

Industry on the Prairie:
Minnesota Wind Energy Production Tax Impact Studies

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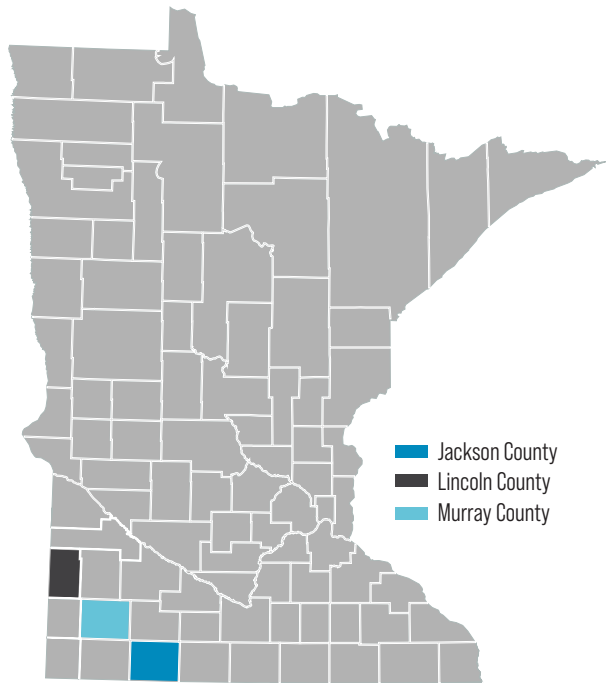
CONTENTS

1	I. Introduction
3	II. Stymied opportunity
4	III. What is a levy?
6	IV. Impact study: Murray County
6	A. Important numbers
6	B. Uses
7	C. Impact
7	D. Looking ahead
9	V. Impact study: Lincoln County
9	A. Important numbers
9	B. Uses
10	C. Impact
11	D. Looking ahead
12	VI. Impact study: Jackson County
12	A. Important numbers
12	B. Uses
13	C. Impact
14	D. Looking ahead
15	VII. Acknowledgements

FIGURES AND TABLES

1	Figure 1. Minnesota impact study counties
2	Figure 2. Minnesota 80-meter wind resource map
4	Figure 3. Curtailment diagram
5	Figure 4. Makeup of total county budget example
5	Table 1. 2022 Jackson County Property Taxes—Wind Energy Production Impact
6	Table 2. Wind energy production and total production tax revenue over the years in Murray County
8	Table 3. County township levy: with and without wind energy production tax revenue
9	Table 4. Wind energy production and total production tax revenue over the years in Lincoln County
11	Table 5. County township levy: with and without wind energy production tax revenue
12	Table 6. Wind energy production and total production tax revenue over the years in Jackson County
14	Table 7. County township levy: with and without wind energy production tax revenue

FIGURE 1. MINNESOTA IMPACT STUDY COUNTIES



I. INTRODUCTION

The Great Plains is an excellent location for renewable energy resources. The wind that steadily blows an open field of prairie grass also moves the blades of wind turbines. As rural populations decline, tax revenue from wind energy production helps offset lower revenues from the shrinking tax base.¹

The geography and space of rural areas are often well-suited for wind energy. In 2021, 28 rural counties in Minnesota received \$14.1 million in combined revenue from the wind energy production tax.² More than 85% (\$12 million) of the revenue went to the top eight producing counties—Lincoln, Mower, Nobles, Jackson, Pipestone, Murray, Rock, and Cottonwood—all in southern Minnesota. The median income of communities in this area falls below the state average, so the supplemental revenue is even

1 Asche, Kelly. “2020 State of Rural Minnesota report.” Center for Rural Policy and Development, July 14, 2020, ruralmn.org/2020-state-of-rural-minnesota-report. Accessed September 2022.

2 “County Energy Production.” Minnesota Department of Revenue, January 2022, mndor.state.mn.us/ReportServer/Pages/ReportViewer.aspx?/Property%20Tax/Property_Tax_Energy_County. Accessed September 2022.



The geography in rural areas is often well-suited for wind energy. Wind revenue generated is considered personal property tax by the Minnesota Department of Revenue, which means the money stays in the communities in which the revenue is created, for example, Lincoln County, Minnesota, pictured.

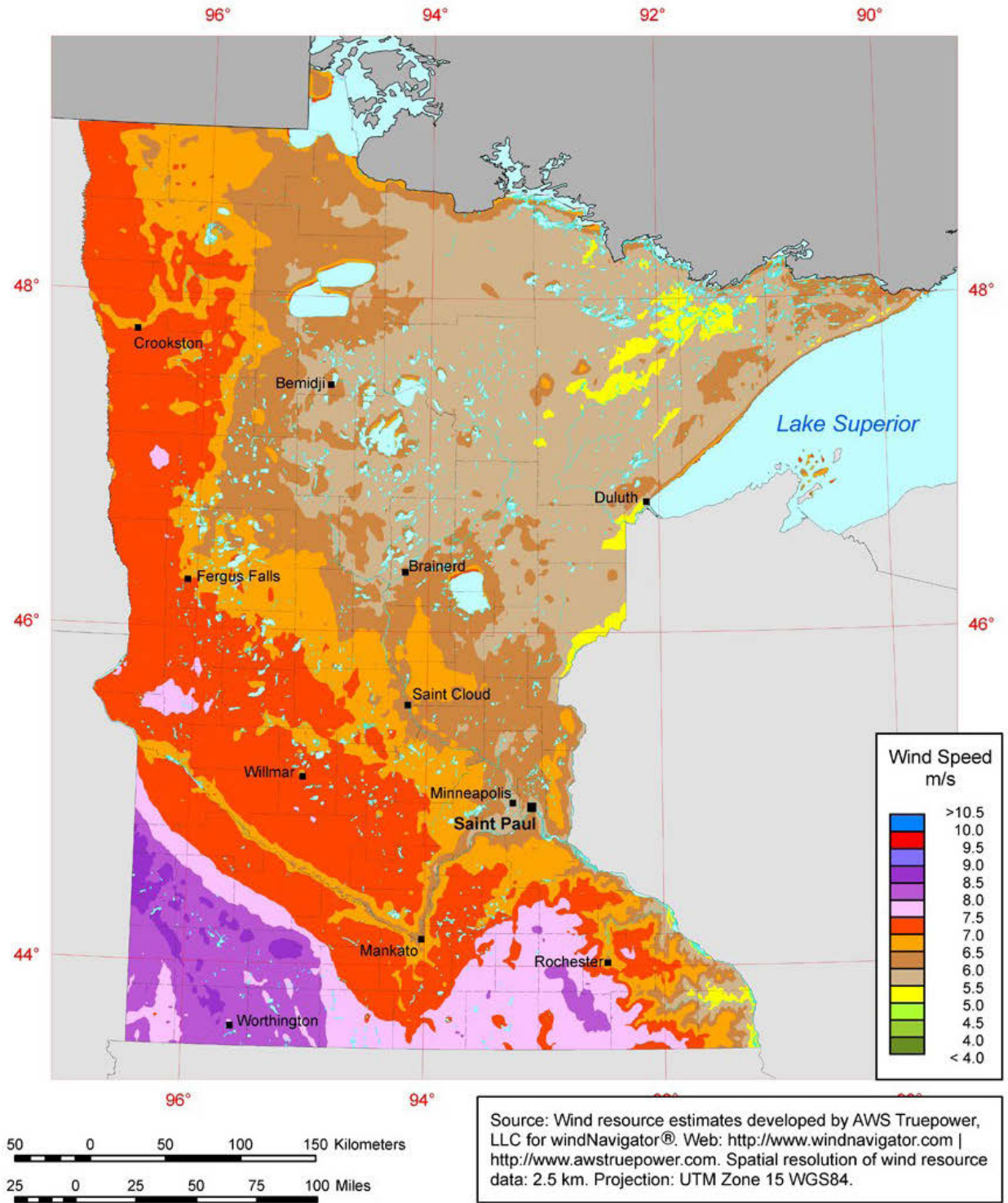
more critical. See Figure 1 for a visual representation of the three counties of focus within this publication.

Anyone who has spent time in southwest Minnesota knows it’s almost always windy. The geography of Buffalo Ridge—a 60-mile stretch of rolling hills sitting roughly 1,900 feet above sea level—is the reason. The geographic characteristics of the ridge, in combination with the surrounding flat lands, ensure the wind will not be dying down any time soon.³ See Figure 2 on page 2.⁴

3 “Why are there strong winds at night near the Buffalo Ridge in southwest Minnesota?” National Weather Service, National Oceanic and Atmospheric Administration, weather.gov/fsd/news_buffaloridgewind. Accessed September 2022.

4 “Minnesota 80-Meter Wind Resource Map.” WIND-Exchange, U.S. Department of Energy, Office of Energy

FIGURE 2. MINNESOTA 80-METER WIND RESOURCE MAP



The revenue generated from taxation of wind energy companies is considered personal property tax by the Minnesota Department of Revenue, which means the money stays in the communities where the energy is created.⁵

And it's relatively unrestricted. Energy production tax revenue can be added to the general fund to cover county or township costs, such as payroll and utilities, or put into rainy day funds. That gives counties and townships local control and the flexibility to use the money as needed. We interviewed auditor-treasurers from three of the top wind energy-generating counties to demonstrate how the funds have been used to benefit their communities over the past couple of decades. The spending trends among these counties were:

- 1. Property tax relief.** Every county and most townships used the revenue to directly benefit taxpayers by reducing the levy, thus lowering the tax burden (see “What is a levy” on page 4).
- 2. Aging infrastructure.** Local governments in the region were all established in the mid- to late 1800s. While some updates have been made, aging infrastructure is a substantial burden to rural governments. Therefore, the additional revenue from the production tax has been used by each community, to some extent, to move forward with and accelerate repairs and upgrades to aging infrastructure that otherwise would have been delayed.
- 3. Quality of life.** Notably, many of the funds were applied to initiatives that improve quality of life and ensure the communities are great places to live. Improvements to recreational and historical spaces and high-quality internet access enable residents to spend their time in their communities. Quality-of-life improvements are particularly important as each of these rural communities has declining populations that are trending older. These initiatives help retain and recruit new residents.
- 4. Saved for a rainy day or government shutdown.** Counties are responsible for carrying out costly mandates from the Legislature, including social services. These mandates are supposed to be funded, at least in part, by County Program

Efficiency & Renewable Energy, windexchange.energy.gov/maps-data/63. Accessed September 2022.

5 “Wind Energy Production Tax.” Minnesota Department of Revenue, revenue.state.mn.us/wind-energy-production-tax. Accessed September 2022.

Aid (CPA), which is also meant to offset levies. However, CPA historically has not been reliable or kept up with inflation.⁶ CPA was \$100 million more in 2002 (\$264 million) than it is today, when accounting for inflation. From 2008 to 2011, CPA payments were reduced due to state budgetary conditions. This left county governments scrambling to make up for the lack of aid.⁷ There have been attempts to stabilize CPA in the state Legislature, but until something significant passes, many counties maintain substantial reserves to cover costs if CPA continues to fall behind inflation.⁸ Government shutdowns over budget disagreements also require counties to use reserves to cover the costs while state-level leaders negotiate.⁹

II. STYMIED OPPORTUNITY

History and data demonstrate that existing wind turbines in the region could produce more energy. However, fully functional towers are shut down because there is not enough capacity on the grid to transport the energy out to where it can be used by consumers. This forced reduction in energy production from congestion is known as curtailment. See Figure 3 on page 4. As more wind farms are brought online, the region suffers from increased curtailment, resulting in lower wind energy production taxes paid. In July 2022, Midcontinent Independent System Operator (MISO), which these communities rely on for transmission, approved a grid expansion plan it says will resolve curtailment issues, but it will not come online until 2028.

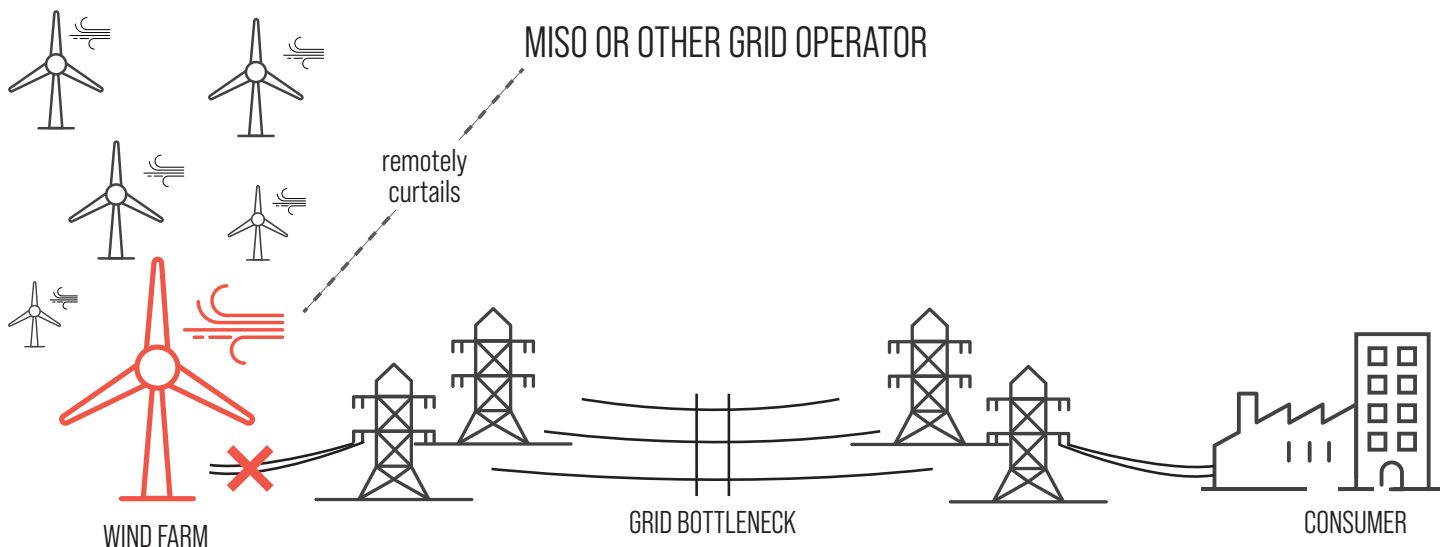
6 “Committees Race to Meet First Deadline This Friday.” Association of Minnesota Counties, March 21, 2022, mailchi.mp/mncounties.org/amc-update-21mar22. Accessed September 2022.

7 Swanson, Jared. “County Program Aid.” Minnesota House Research, July 2022, house.leg.state.mn.us/hrd/pubs/ss/sscpa.pdf. Accessed September 2022.

8 “House Property Tax Division, HF4399 – Increasing County Program Aid (CPA).” Minnesota Inter-County Association, Association of Minnesota Counties, March 23, 2022, mcusercontent.com/d85fe43c87a1670a89464c472/files/8b406083-39aa-d59a-e7a6-60b22ca7db43/SF4138_HF4399_Powerpoint.pdf. Accessed September 2022.

9 Olson, Dan. “Counties try to cope with effects of state shutdown.” Minnesota Public Radio, July 6, 2011, mprnews.org/story/2011/07/06/shutdown-county-impact. Accessed September 2022.

FIGURE 3. CURTAILMENT DIAGRAM



MN Wind Production Tax Rate

Large-scale system (>12 MW):
\$1.20 per megawatt hour

Medium-scale system (>2 ≤ 12):
\$0.36 per megawatt hour

Small-scale system (>.25 ≤ 2):
\$0.12 per megawatt hour

Systems generating >.25 and those owned by cities, towns, and other political subdivisions are exempt from paying the tax.¹⁰

Revenue disbursement
County 80%
City/townships 20%

Of the revenue generated for a county from the wind energy production tax, 80% goes to the county and 20% goes to the cities and townships where the energy is produced.¹¹

III. WHAT IS A LEVY?

Local governmental units in Minnesota have control of one primary source for revenue: property tax. Therefore, money not available from other revenue sources, such as grants and state aid, must be raised through the property tax levy. After listing all the anticipated non-property tax revenue, including state aid, grants, and production tax, the governmental unit subtracts that total from the budget to calculate the levy for the year. In most communities, this leaves a substantial amount of money to raise. The levy varies from year to year. See Figure 4 on page 5.

To illustrate the impact, Table 1 on page 5 shows how much more different types of property classifications would have to pay in 2022 in the absence of wind energy production in Jackson County.¹²



10 “2021 Minnesota Statutes, 272.029 Wind Energy Production Tax.” Office of the Revisor of Statutes, Minnesota Legislature, revisor.mn.gov/statutes/cite/272.029. Accessed September 2022.

11 “Wind Energy Production Tax.” Minnesota Department of Revenue, revenue.state.mn.us/wind-energy-production-tax. Accessed September 2022.

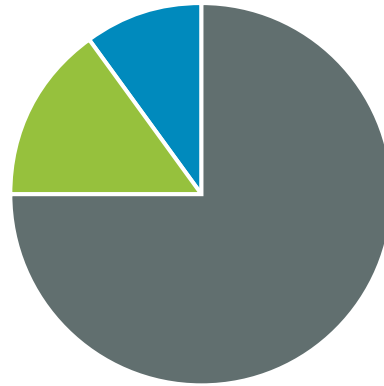
12 Personal communication, Jackson County Auditor-Treasurer Kevin Nordquist, Aug. 4, 2022.

FIGURE 4. MAKEUP OF TOTAL COUNTY BUDGET EXAMPLE

**WITHOUT WIND ENERGY
PRODUCTION TAX REVENUE**



**WITH WIND ENERGY
PRODUCTION TAX REVENUE**



- State general purpose funding, grants, County Program Aid, departmental revenue (fines, fees, etc.)
- Property tax/levy
- Wind energy production tax revenue

TABLE 1. 2022 JACKSON COUNTY PROPERTY TAXES—WIND ENERGY PRODUCTION IMPACT

Property type	Market value	Tax*	Tax if no wind production tax revenue	Difference
Primary residence (homestead)	\$200,000	\$698	\$733	\$35
Ag homestead	\$1,000,000	\$1,930	\$2,028	\$98
Ag non-homestead	\$1,000,000	\$3,859	\$4,055	\$196
Commercial	\$1,000,000	\$7,183	\$7,575	\$392

* This is only the county portion of property tax. It does not include the levy from schools, cities, townships, etc.



IV. IMPACT STUDY: MURRAY COUNTY

A. IMPORTANT NUMBERS¹³

Total production, 2003-21: 17,606,865 mWh
Total tax payable, 2004-21: \$19,313,915 tax
Total number of turbines as of 2021: 252
Per capita lifetime revenue: \$2,361

TABLE 2: WIND ENERGY PRODUCTION AND TOTAL PRODUCTION TAX REVENUE OVER THE YEARS IN MURRAY COUNTY

Year	Wind production (mWh)	Wind production tax revenue*
2003	41,320	\$26,234
2004	411,230	\$426,322
2005	426,660	\$448,483
2006	456,330	\$458,239
2007	583,790	\$568,598
2008	1,141,650	\$1,252,131
2009	1,069,220	\$1,117,405
2010	1,076,800	\$1,187,119
2011	1,259,180	\$1,389,901
2012	1,189,510	\$1,280,542
2013	1,151,400	\$1,250,705
2014	1,230,720	\$1,348,927
2015	1,209,860	\$1,358,327
2016	1,228,843	\$1,382,798
2017	1,173,138	\$1,323,936
2018	1,089,950	\$1,236,112
2019	1,012,880	\$1,149,781
2020	1,113,488	\$1,273,941
2021	740,896	\$834,414
Total	17,606,865	\$19,313,915

*Taxes paid the following year

13 “County Energy Production.” Minnesota Department of Revenue, mndor.state.mn.us/ReportServer/Pages/ReportViewer.aspx?/Property%20Tax/Property_Tax_Energy_County. Accessed September 2022.



The Dinehart-Holt House was purchased with wind revenue dollars in 2007, and serves as a cultural investment in Murray County.

Murray County in southwest Minnesota has a population of 8,179. County officials have primarily used production tax funds for levy relief, to pay for county-owned infrastructure, to build reserves, and to fund projects to improve the quality of life. The county was one of the early sites of wind energy production, ranking as the No. 1 producer of wind energy in Minnesota from 2004 to 2008. As an early adopter, it has some of the oldest towers in the region. These older towers, primarily from one wind farm of 117 turbines, get curtailed more than new projects. The financial impact of curtailment became more alarming with the 2021 production year and a 34% drop in wind energy production tax revenue. See Table 2.

B. USES

Murray County has focused substantially on infrastructure projects. The county put \$750,000 in wind revenue toward replacement of the courthouse HVAC system in 2020-21. If this had been financed through a bond, there would have been an interest rate of roughly 2% interest. The regional Health and Human Services building was also constructed in 2009-10 for approximately \$850,000 in production tax funds.

Infrastructure investments double as cultural investments in the case of the historic Dinehart-Holt House, which was purchased with wind revenue in 2007 for \$169,000.¹⁴ The revenue also paid for several repairs that complied with requirements for a historic site, which are more costly as they must meet historically accurate standards. Now this property is used as a museum and event space.

14 “The Dinehart-Holt House.” Murray County Historical Society, 2016, murraycountyhistoricalsociety.org/the-dinehart-holt-house. Accessed September 2022.



Infrastructure upgrades in Murray County included redoing the grandstands in the fairgrounds in 2008. Wind revenue covered this \$452,562 expense.

County assets extend to the fairgrounds, which needed significant updates in 2008. This included redoing the grandstands and concessions for \$452,562. Ongoing miscellaneous repairs and updates include sidewalk and building repairs.

In 2019, when an opportunity to support broadband expansion arose, the county contributed \$100,000 of wind revenue as matching funds for the Minnesota Office of Broadband Development border-to-border grant program. This project provided fiber to approximately 100 unserved locations, including 75 households, 9 businesses, 13 farms, and 3 community institutions in the town of Iona, with 1 gigabits per second (Gbps) symmetrical internet speeds.¹⁵ The county intends to support similar projects to achieve comprehensive fiber coverage in the community.

15 “Governor Walz Announces 39 New Border-to-Border Broadband Grants.” Office of Gov. Tim Walz & Lt. Gov. Peggy Flanagan, Jan. 28, 2021, mn.gov/governor/news/?id=1055-466593. Accessed September 2022.

C. IMPACT

According to the 2020 Census, clean energy production tax revenue has been worth \$2,361 per person in Murray County over the lifetime of the wind energy production.¹⁶

For those who live in townships where turbines are located, the tax relief is even greater. Not only are county property taxes reduced, but township levies are a fraction of what the townships without wind energy production tax revenue pay. For example, Chanarambie Township, with 56 towers, levied \$10,000 across all property owners in 2021.¹⁷ The township has a population of just more than 200 people. Similarly sized Mason Township has zero towers and levied 14 times as much at \$140,000. The trend repeats with other townships in the county. See Table 3 on page 8.¹⁸

D. LOOKING AHEAD

Wind energy production tax revenue will continue to grow in Murray County through three large projects on the horizon. Plum Creek Wind Farm and Box Car Wind Farm will both contribute to additional production within the county.^{19,20} These farms are scheduled to be built along the north and east borders of the county, with roughly 800 megawatts (MW) in production capacity total, only part of

16 “QuickFacts, Murray County, Minnesota.” U.S. Census Bureau, census.gov/quickfacts/fact/table/murraycountyminnesota/POP010220. Accessed September 2022.

17 “County Energy Production.” Minnesota Department of Revenue, mndor.state.mn.us/ReportServer/Pages/ReportViewer.aspx?/Property%20Tax/Property_Tax_Energy_County. Accessed September 2022.

18 “County Energy Production.” Minnesota Department of Revenue, mndor.state.mn.us/ReportServer/Pages/ReportViewer.aspx?/Property%20Tax/Property_Tax_Energy_County. Accessed September 2022.

19 “Plum Creek Wind Farm and Associated 345 kV Transmission Line Project.” Minnesota Commerce Department, April 12, 2021, mn.gov/eera/web/project/13894. Accessed September 2022.

20 Peterson, Per. “Wind project touted as potential economic driver for area cities.” Tracy Area Headlight Herald, Feb. 23, 2022, headlightherald.com/2022/02/23/wind-project-touted-as-potential-economic-driver-for-area-cities. Accessed September 2022.

TABLE 3. COUNTY TOWNSHIP LEVY: WITH AND WITHOUT WIND ENERGY PRODUCTION TAX REVENUE

Township	2021 final levy	Number of wind towers as of 2021	Production tax generated in dollars, 2021 (20% to township, 80% to county)
Chanarambie*	\$10,000	55	\$282,281.54
Moulton*	\$30,000	66	\$366,262.01
Fenton*	\$36,000	56	\$326,835.60
Cameron*	\$38,240	56	\$272,596.38
Leeds*	\$65,000	8	\$2,245.22
Ellsborough*	\$75,000	5	\$23,504.84
Belfast	\$75,000	0	-
Bondin	\$75,262	0	-
Iona	\$80,500	0	-
Holly	\$82,500	0	-
Lowville	\$85,000	0	-
Slayton	\$85,000	0	-
Des Moines River	\$88,000	0	-
Lake Sarah	\$96,000	0	-
Dovray	\$100,000	0	-
Shetek	\$110,000	0	-
Skandia	\$110,000	0	-
Murray	\$116,000	0	-
Lime Lake	\$130,000	0	-
Mason	\$140,000	0	-

* Denotes townships that have wind towers

which will be within the county lines. Additionally, the Northern Wind Repower Project, planned for placement entirely within the county, will take down 65 1.5 MW turbines and replace them with 45 new, higher capacity turbines with the capacity of 2.5 to 2.8 MW each, ultimately resulting in increased energy production.²¹

The No. 1 barrier to increased wind farm development in Murray County is transmission capacity. The Box Car project is slated to begin in 2027 because construction of additional transmission capacity is planned to support a nearby Xcel gas

peaker plant, which will increase capacity for adding additional wind turbines.²²

Because Murray County was one of the early adopters of wind development, it is also facing the additional concern of how to decommission old turbines. Repower plans and new development will fill the gaps in transmission capacity and wind energy tax base left by old towers being taken off the grid.

21 “Northern Wind Repower Project.” Minnesota Commerce Department, March 1, 2022, apps.commerce.state.mn.us/eera/web/project/14173. Accessed September 2022.

22 Peterson, Per. “Wind project touted as potential economic driver for area cities.” Tracy Area Headlight Herald, Feb. 23, 2022, headlightherald.com/2022/02/23/wind-project-touted-as-potential-economic-driver-for-area-cities. Accessed September 2022.



V. IMPACT STUDY: LINCOLN COUNTY

A. IMPORTANT NUMBERS²³

Total production, 2003-20: 16,361,320 mWh
Total tax payable, 2004-21: \$20,839,211 tax
Total number of turbines as of 2021: 600
Per capita lifetime revenue: \$3,695



The most notable use of wind energy revenue in Lincoln County has been broadband expansion, allowing many households and businesses that were not able to access reliable internet previously, to benefit from fiber.

TABLE 4: WIND ENERGY PRODUCTION AND TOTAL PRODUCTION TAX REVENUE OVER THE YEARS IN LINCOLN COUNTY

Year	Wind production (mWh)	Wind production tax revenue*
2003	489,080	\$454,797
2004	451,620	\$385,665
2005	465,400	\$409,973
2006	516,310	\$444,805
2007	529,020	\$442,317
2008	876,750	\$872,163
2009	805,880	\$795,855
2010	784,270	\$786,279
2011	858,600	\$871,682
2012	942,060	\$958,114
2013	855,730	\$858,920
2014	958,230	\$1,029,127
2015	911,270	\$982,378
2016	883,230	\$1,003,774
2017	944,184	\$1,084,569
2018	1,378,630	\$1,614,419
2019	1,567,556	\$1,836,333
2020	2,143,500	\$2,515,229
2021	2,958,351	\$3,492,812
Total	16,361,320	\$20,839,211

Lincoln County leads the state with the most wind towers, the most wind energy production, and, therefore, the most wind energy production tax revenue. In fact, one can easily see the wind turbines spin from the courthouse. This small county of 5,641 residents has put its revenue windfall to work for the community, ensuring it remains a great place to live long into the future.

B. USES

The county puts as much as \$850,000 annually toward levy relief, which previously meant committing 100% of the production tax revenue toward reducing property taxes. As more generation came online in 2014-15, tax revenue surpassed the \$850,000 mark and has since been used for other projects as well. See Table 4.

The biggest and most notable use of this revenue has been broadband expansion. Lincoln County committed to provide fiber to households and businesses not currently served. After a failed attempt to get a state grant, the county chose to bond for funds when interest rates were exceptionally low, from 1.4% to 2.2%. The project was done in partnership with an internet provider. The total cost to Lincoln County was \$6 million, which is being paid for with wind revenue. The county expects to pay this bond off in full at the seven-year mark.

This new broadband connection is evenly distributed and creates an equal playing field for community members. The county removed financial barriers that often hold back the most disadvantaged residents. Nobody is charged a connection fee for fiber to their home or business, a tremendous benefit to the community.

*Taxes paid the following year

23 “County Energy Production.” Minnesota Department of Revenue, mndor.state.mn.us/ReportServer/Pages/ReportViewer.aspx?/Property%20Tax/Property_Tax_Energy_County. Accessed September 202

The project came at a critical time—the COVID-19 pandemic. In 2020, 40% of Lincoln County residents had access to high-speed internet and ranked 84th out of 87 Minnesota counties for internet access. In 2021, mid-pandemic, 99% of the county had high-speed access and now ranks 7th in the state.²⁴

With nearly \$1 million more in production tax revenue than the previous year, the county can also address general maintenance of aging infrastructure. Planned projects include reroofing the courthouse, redoing the roof and stucco on the sheriff's department building, and reconstructing stucco on the highway department building at a total cost of about \$213,000. Additional projects include updating county intersection signs at a cost of \$55,755. The county has also made a commitment to contribute \$150,000 annually to Hole in the Mountain County Park, which has 1,000 acres of woodland and prairie used for camping, hiking, and horseback riding.²⁵

	\$3,492,812.00
	(Production tax payable 2022)
×	.80
	(80% county portion)
	\$2,794,249.60
	\$850,000.00
	(Direct levy relief)
	\$150,000.00
	(Hole in Mountain County Park)
	\$1,794,249.60
	(Production tax revenue for county projects 2022)

C. IMPACT

The 2021 budget for Lincoln County was \$20,439,539. The county received \$14,536,893 in revenue from outside the tax base (state aid, grants, fees, etc). That leaves a difference of \$5.9 million for the levy to be paid by property owners. Counties have the option to either reduce expenses or increase the levy to make up the difference.

24 Treacy, Ann. “Lincoln County Broadband Profile 2021: Red rating: Ranking out 7 of 87.” Blandin Foundation, Oct. 11, 2021, blandinonbroadband.org/2021/10/11/lincoln-county-broadband-profile-2021-red-rating-ranking-out-7-of-8. Accessed September 2022.

25 “Hole in the Mountain Park Masterplan.” Lincoln County, Minnesota, 2021, lincolncounty-mn.us/HITM%20Master%20Plan21JAN21.pdf. Accessed September 2022.



Lincoln County has made a commitment to contribute \$150,000 of wind production revenue annually to Hole in the Mountain County Park, which includes 1,000 acres of woodland and prairie used for camping and other outdoor recreation activities.

Without wind energy production tax revenue, the levy would have been \$850,000 more and many improvements would not have happened. In recent years, the levy has increased 1% to 2%, whereas a decade ago, increases were 5% to 7%. Local leaders are cost-conscious, especially when it comes to raising taxes on an aging populace, many of whom are on fixed incomes. According to the 2020 Census, 25% of the county is older than 65; in the state overall, 16.7% of the population is older than 65.²⁶ Additionally, there is not a lot of other industry that expands the tax base, so residents feel tax increases directly. See Table 5 on page 11.²⁷

26 “QuickFacts, Lincoln County, Minnesota.” U.S. Census Bureau, census.gov/quickfacts/lincolncountyminnesota. Accessed September 2022.

27 “County Energy Production.” Minnesota Department of Revenue, mndor.state.mn.us/ReportServer/Pages/ReportViewer.aspx?/Property%20Tax/Property_Tax_Energy_County. Accessed September 2022.

TABLE 5. COUNTY TOWNSHIP LEVY: WITH AND WITHOUT WIND ENERGY PRODUCTION TAX REVENUE

Township	2021 final levy	Number of wind towers as of 2021	Production tax generated in dollars, 2021 (20% to township, 80% to county)
Drammen*	\$5,000	172	\$401,092.52
Limestone*	\$10,000	53	\$463,148.40
Shaokatan*	\$30,000	74	\$420,951.60
Lake Stay*	\$37,000	26	\$227,205.60
Marble*	\$50,000	20	\$188,740.80
Verdi*	\$50,000	40	\$224,239.64
Marshfield	\$50,000	0	-
Alta Vista	\$54,000	0	-
Hendricks*	\$57,200	52	\$502,940.40
Ash Lake*	\$60,000	28	\$247,992.00
Lake Benton*	\$60,000	9	\$18,430.89
Royal*	\$60,000	40	\$353,307.60
Hope	\$60,000	0	-
Hansonville*	\$70,000	34	\$328,845.60
Diamond Lake*	\$85,000	8	\$57,430.95

* Denotes townships that have wind towers

D. LOOKING AHEAD

Planned expansion includes the Buffalo Ridge Wind project to build 40 wind turbines producing 109 megawatts southeast of the city of Lake Benton, which will increase wind revenue further for Lincoln County.^{28,29}

Although recent wind energy production has increased rapidly, Lincoln County wind farms still suffer from curtailment. Curtailment is more complicated to demonstrate with whole production revenue figures because the number of towers has also increased, masking losses, but Lincoln County has missed out on hundreds of thousands of dollars in revenue due to curtailment. For example, Limestone Township’s 53 turbines brought in substantial revenue in 2021—\$463,148. While that figure is impressive, the same 53 towers generated \$540,900 in wind energy production tax revenue the year before. Similarly, Drammen Township wind revenue dropped by \$64,937 in 2021.

28 “Wind Farm Projects.” Great River Energy, greatriverenergy.com/renewables/wind-farm-projects. Accessed September 2022.

29 “Project Search.” Minnesota Commerce Department, mn.gov/eera/project-search.xhtml. Accessed September 2022.



With substantial wind energy production tax revenue, Lincoln County has been able to maintain aging infrastructure, like the roof of the county courthouse.



VI. IMPACT STUDY: JACKSON COUNTY

A. IMPORTANT NUMBERS³⁰

Total production, 2003-20: 17,977,695 mWh
Total tax payable, 2004-21: \$20,717,876 tax
Total number of turbines as of 2021: 349
Per capita lifetime revenue: \$2,074

TABLE 6: WIND ENERGY PRODUCTION AND TOTAL PRODUCTION TAX REVENUE OVER THE YEARS IN JACKSON COUNTY

Year	Wind production (mWh)	Wind production tax revenue*
2003	160	\$19
2004	19,790	\$2,374
2005	35,210	\$23,420
2006	157,450	\$161,316
2007	160,210	\$168,256
2008	246,800	\$219,419
2009	504,630	\$521,894
2010	538,560	\$545,125
2011	1,054,920	\$1,153,006
2012	1,346,890	\$1,499,836
2013	1,286,980	\$1,449,498
2014	1,371,860	\$1,634,531
2015	1,444,730	\$1,710,985
2016	1,678,053	\$1,991,885
2017	1,853,192	\$2,202,936
2018	1,797,267	\$2,131,884
2019	1,724,478	\$2,042,764
2020	1,539,261	\$1,823,269
2021	1,217,253	\$1,435,459
Total	17,977,695	\$20,717,876

*Taxes paid the following year

30 “County Energy Production.” Minnesota Department of Revenue, mndor.state.mn.us/ReportServer/Pages/ReportViewer.aspx?/Property%20Tax/Property_Tax_Energy_County. Accessed September 2022.



In 2020 and 2021, the wind energy production tax enabled a 12,000 square foot expansion to the Human Services space in the government center in Jackson County, pictured.

Jackson County is on the southern end of Buffalo Ridge and borders Iowa. This area is a great location for wind energy development due to geography, favorable policy, and proximity to key infrastructure. With a population of fewer than 10,000 people, the county received more than \$4.5 million in property tax revenue from the transmission and wind energy industry in 2022. Renewable energy benefits the community not only through energy production tax, but also through substantial high-voltage transmission (>200 kilovolt). Unlike other counties in the region, the largest taxpayer in Jackson County is not the combined wind energy developments, but the transmission owners. In 2021, transmission companies paid \$3.1 million in property taxes to the county.

B. USES

When wind energy production tax revenue started to ramp up in Jackson County about a decade ago, the county board of commissioners approved resolutions outlining how the funding would be allocated. This organized approach led to two primary designations for the funding: tax relief and capital improvements.

The county has committed to putting \$350,000 to \$400,000 toward levy relief annually. The remaining revenue goes into a capital improvement fund. The amount put into the fund fluctuates depending on wind production. At its peak in 2017, more than \$800,000 was deposited in one year. As of December 2021, the fund balance was \$2.9 million.

In addition to covering costs of general maintenance and caring for aging infrastructure, the capital



In 2020 and 2021, Jackson County's historic courthouse was refurbished with \$2.5 million in wind revenue funds. This project included fixing and replacing the copper dome and statue on top of the building, roof work, and tuck pointing.

improvement fund has paid for two substantial projects. In 2020 and 2021, the historic courthouse was refurbished for \$2.5 million. This included taking down, fixing, and replacing the copper dome and statue that sits atop the structure. The rest of the roof was also redone, along with tuck pointing all the mortar to historical standards, and building an addition to the adjacent human services building.

Additionally, the county, in partnership with the city of Jackson, built a \$12 million public works campus in 2013. The campus houses departments responsible for engineering and road maintenance, drainage and ditch maintenance, Geographic Information Systems (GIS), equipment maintenance, and parks and trails. The city of Jackson is paying one-third of the cost, with the county covering two-thirds. Bond payments are \$900,000 per year total, and the county's \$600,000 per year portion has all been paid for with wind production tax revenue.

C. IMPACT

If Jackson County did not have production tax revenue in 2022, the levy would have increased by an additional 8.26% or +\$944,729, the 80% county portion of 2021 production tax revenue. The 8.6% would be in addition to the 3.64% increase, for a total levy increase of 11.9%. The average preliminary increase at the county level in Minnesota in 2022 was 3.7%.³¹ That kind of tax increase would have been difficult for businesses, farmers, and homeowners to bear, so the county would likely have cut services and progress in order to mitigate the tax. See Table 7 on page 14.

31 "Preliminary 2022 Property Tax Levies." Minnesota Department of Revenue, 2022, revenue.state.mn.us/preliminary-property-tax-levies. Accessed September 2022.

TABLE 7. COUNTY TOWNSHIP LEVY: WITH AND WITHOUT WIND ENERGY PRODUCTION TAX REVENUE

Township	2021 final levy	Number of wind towers as of 2021	Production tax generated in dollars, 2021 (20% to township, 80% to county)
Christiania*	\$50,000	12	\$86,473.93
Heron Lake*	\$50,000	66	\$173,725.20
Hunter*	\$50,000	68	\$178,989.60
Weimer	\$55,000	0	-
Enterprise*	\$65,000	80	\$311,783.91
Kimball*	\$67,500	88	\$565,390.83
Belmont	\$80,000	0	-
LaCrosse	\$80,000	0	-
Minneota	\$80,000	0	-
Ewington*	\$85,000	26	\$85,644.21
Des Moines*	\$90,000	3	\$7,896.00
Delafield	\$90,000	0	-
Middletown	\$90,000	0	-
West Heron Lake	\$90,000	0	-
Round Lake	\$97,500	0	-
Rost	\$100,000	0	-
Wisconsin*	\$100,000	5	\$24,693.47
Alba*	\$125,000	1	\$861.84
Petersburg	\$130,000	0	-
Sioux Valley	\$130,000	0	-

* Denotes townships that have wind towers

D. LOOKING AHEAD

The county and community is amenable to further wind energy development. However, as demonstrated by Table 6 on page 12, Jackson County has paid the price for severe curtailment. In 2017, wind energy production tax revenue peaked at \$2,202,936; it decreased to \$1,435,459 by 2021—a drop of \$767,477, or 35%. The county has had the same 349 towers since 2017, and as new turbines are built nearby, Jackson County’s turbines have been turned off more and more, paying out less and less. Despite insufficient transmission, further development is on the horizon in Jackson County. EW Wind Holdings, LLC, plans to repower a recently acquired wind farm to larger towers and reduce

the number from 10 to 9.³² An even larger project expected to bring 200 to 280 megawatts online in 2024 is Three Waters Wind.^{33,34} This final project size is yet to be determined.


32 “Proceedings of the County Board of Jackson County, Minnesota.” Jackson County, Minnesota, Aug. 3, 2021, co.jackson.mn.us/vertical/sites/%7B47B68709-5081-4D2D-A79C-49891B025171%7D/uploads/08_03_2021.pdf. Accessed September 2022.

33 “Three Waters Wind Farm.” Minnesota Commerce Department, Aug. 18, 2020, mn.gov/eera/web/project/13761. Accessed September 2022.

34 “Wind Farm Projects.” Great River Energy, greatriverenergy.com/renewables/wind-farm-projects. Accessed September 2022.

VII. ACKNOWLEDGEMENTS

Thank you to Murray County Auditor-Treasurer Heidi Winter, Lincoln County Auditor-Treasurer Deb Vierhuf, and Jackson County Auditor-Treasurer Kevin Nordquist. We thank you for your commitment to transparency, your professionalism, and your demonstrated competency in your roles.



About the Center for Rural Affairs

Established in 1973, the Center for Rural Affairs is a private, nonprofit organization with a mission to establish strong rural communities, social and economic justice, environmental stewardship, and genuine opportunity for all while engaging people in decisions that affect the quality of their lives and the future of their communities.