

# Measuring the Benefits of Renewable Energy Development

David Levy, *Baird Holm*

Patrick Waldron, *Nebraska Department of Revenue*

**Moderator:** Terry Hawley, *Terracon*



Nebraska  
Wind & Solar  
CONFERENCE & EXHIBITION

# Nebraska Wind & Solar Conference Lincoln, Nebraska

Impacts of Wind and Solar Energy Development on  
Property Taxes and Rural Economies in Nebraska

David C. Levy

October 24, 2023

# Summary

- Wind and solar energy development provides property tax relief by substantially increasing the tax base without increasing burdens on government. As renewable energy developers invest in Nebraska, they supplement local tax revenue.
- Renewable energy developers pay two forms of property tax in Nebraska: (i) a flat, statutory excise tax at a rate of \$3,518 per megawatt (“MW”) on the energy generating facility’s “nameplate” or energy-producing capacity, and (ii) ad valorem real property tax on real property improvements and leasehold interests in the underlying land. The nameplate capacity tax is fixed. Real property tax will vary depending on valuation and local levy rate.
- To estimate property tax revenues, a good rule of thumb is that a wind energy generating facility will generate approximately **\$5,000 annually** in new tax revenue per MW of nameplate capacity. A solar energy generating facility will generate approximately **\$4,000 annually** in new property tax revenue per MW.

# Summary

- A 200 MW wind energy generating facility, for example, could create approximately \$1,000,000 annually in estimated new property tax revenue. In some rural Nebraska counties, the new tax revenue could mean an increase of over 20 percent of the pre-project annual property tax revenue. Local public schools typically receive approximately two-thirds of property tax revenue, subject to local levy.
- Local public schools typically receive \$650,000 annually from the facility in this example.
- Nebraska counties and other local taxing jurisdictions receive the remainder.
- Renewable energy developers also provide direct lease payments to local landowners, attract businesses and create jobs. Those landowners, businesses and employees purchase local goods and services, generating spinoff economic activity. Thus, renewable energy development results in economic growth across the state.

# Renewable Energy Provides Property Tax Relief

Example

	Before	After	Increase Due to Wind Energy Facility
New real property tax revenue	\$0	\$296,400 per year	-
New nameplate capacity tax revenue	\$0	\$703,600 per year	-
Total tax revenue to county	\$4,733,604 per year	\$5,733,604 per year	21 percent

# Renewable Energy Provides Property Tax Relief

Through renewable energy development, Nebraska can increase its overall tax revenue and revive rural economies without increasing the current property tax burdens. Substantially increased tax revenue reduces strain on state tax resources and more funds available for schools, public services and overall economic growth.

Increased tax base allows counties to decrease the current property tax rate for landowners and to increase services.

# History of the Nameplate Capacity Tax

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

# Total Revenues Today

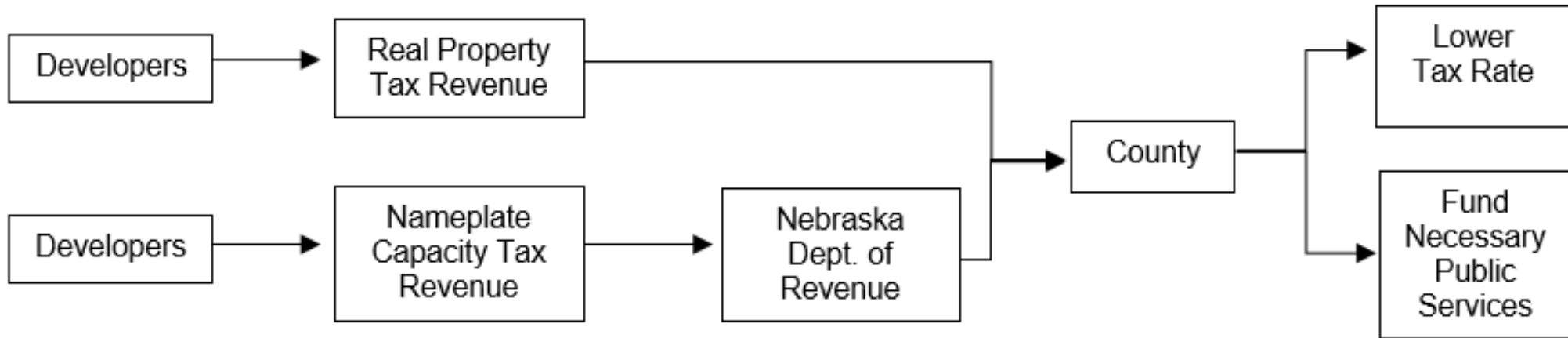
- Nebraska counties received over \$8,350,000 in nameplate capacity tax revenue alone in 2021. As renewable energy development grows, nameplate capacity tax revenue increases proportionally.



# Real Property Tax Revenue Increases Due to Land Improvements

- Developers also pay ad valorem real property tax on real property improvements underlying a renewable energy facility. Improvements such as foundations, equipment, fencing, access roads, operations and maintenance buildings and the value of leases with landowners are all subject to local assessment at 100 percent of actual value.
- Nebraska law prohibits any value change from affecting the landowner's valuation, and thus their taxes.

# Flow of Revenues



# TEEOSA Impact

- The Nameplate Capacity Tax is an excise tax, so it does not affect a school district's qualification for funds under the Tax Equity & Educational Opportunities Support Act ("TEEOSA").
- Some schools in Nebraska have greater needs than resources. When a rural school is in need of additional funding apart from what its county allocates, the school receives state TEEOSA funds. In 2021-2022, Nebraska state aid via TEEOSA contributed \$1,047,006,024 to schools across the state.
- The increased tax revenue from renewable energy development reduces the reliance on state TEEOSA funds. The reduction makes more funds available for other rural schools across Nebraska and for other necessary allocations.
- Nebraska has begun utilizing its renewable energy potential. As Nebraska continues to increase its renewable energy development, the state will also increase its tax revenue and reap the benefits of economic growth.

# Holt County Example

- Holt County, Nebraska experienced success, increased revenue and economic growth due to wind energy development. The Grande Prairie wind energy generating facility, located near O'Neill, Nebraska, greatly increased the property tax revenue and general economic stability of Holt County. Initial planning for the project began in 2008. Construction commenced in 2015 and the facility became operational in 2016.
- Grande Prairie has 400 MW of nameplate capacity. It is the largest single wind energy generating facility in Nebraska. The facility spans approximately 45,000 acres of farm and grazing land. Many of the turbines are located in the corners of the irrigated crop circles to minimize impact on agricultural production.
- In 2020, Grande Prairie paid \$1,407,200 in nameplate capacity tax. If Grande Prairie pays an estimated \$592,800 in real property taxes, it will pay a total of approximately \$2,000,000 each year. That is an estimated increase of about five percent of Holt County's total levied property taxes. As shown by the statistics below, both the county and its residents benefit from the wind energy generating facility.

# Holt County Example

## Tax Breakdown

<b>Tax</b>	<b>Increase Due to Grande Prairie</b>
Nameplate capacity tax added per acre	\$31.27 <sup>36</sup>
Nameplate capacity tax added per county resident	\$138.27 <sup>37</sup>
Total annual property tax added per acre	\$44.44 <sup>38</sup>
Total annual property tax added per county resident	\$196.52 <sup>39</sup>

# Land Payments Supplement Household Income and Local Economies

- Landowner lease payment amounts for land underlying renewable energy projects are contractual and proprietary. They vary between developers and locations and are often confidential between the parties. They typically range between \$3,000 and \$7,000 annually per MW. Payments for solar energy generating facilities represent the higher end. The payments also typically increase two to three percent annually.
- Landowner lease payments help farmers and ranchers derive maximum benefit from their land via passive income. The payments also provide farmers and ranchers financial flexibility in the form of retirement funds, diverse land use and income streams and the ability to keep land in the family if a younger generation does not wish to pursue agriculture.
- For a 200 MW wind or solar energy generating facility, landowner lease payments could total over \$1,400,000 annually. This money does not exist in the local economy without renewable energy development. Landowners return it to the local economy.

# Renewable Energy Provides Economic Benefits

- In 2019, Google built a \$600,000,000 data center in Papillion. This created about 120 permanent operations and maintenance jobs and nearly 65 percent of the property taxes generated from the facility go to local public school districts. Google is building an additional \$750,000,000 data center in Sarpy County, which it estimates will more than double the amount of Google jobs in Nebraska.
- In 2021, Monolith, a manufacturer of clean hydrogen, ammonia and “carbon black” (a strengthening and coloring material used in everything from tires to electrical equipment) obtained a loan for approximately \$1,000,000,000 from the US Department of Energy to expand its production facilities in Hallam, Nebraska. The expansion project will create approximately 1,000 temporary jobs. Once complete, “the facility will create approximately 260 direct and 600 indirect, high paying, highly skilled, green energy jobs to support its operations.”
- Monolith desires to use 100 percent renewable energy to convert natural gas into clean hydrogen and carbon black. These Nebraska facilities, and the substantial economic benefits and tax revenue they generate, would not exist without renewable energy development.

# Renewable Energy Provides Economic Benefits

National Renewable Energy Laboratory Model: A 200 MW Wind Energy Generating Facility Could Add Over \$180,000,000 of Value to the Local Economy Over its Lifecycle.

- According to the Jobs & Economic Impact Model from the National Renewable Energy Laboratory (“NREL”), a 200 MW wind energy generating facility could result in local spending of over \$50,000,000 during construction and approximately \$2,000,000 annually during operation. This money flows into the local economy for landowner lease payments, labor, materials and related services.
- Per this model, the facility could cumulatively add over \$40,000,000 of value to the local economy during construction and \$4,000,000 annually during operation. Thus, the facility could add over \$180,000,000 of value to the local economy over a 35-year lifecycle.



# Questions?

David C. Levy, Esq.

Baird Holm LLP, Omaha, Nebraska

Phone: 402-636-8310 (O) / 402-213-9063 (C)

Website: [www.bairdholm.com](http://www.bairdholm.com)

Email: [dlevy@bairdholm.com](mailto:dlevy@bairdholm.com)