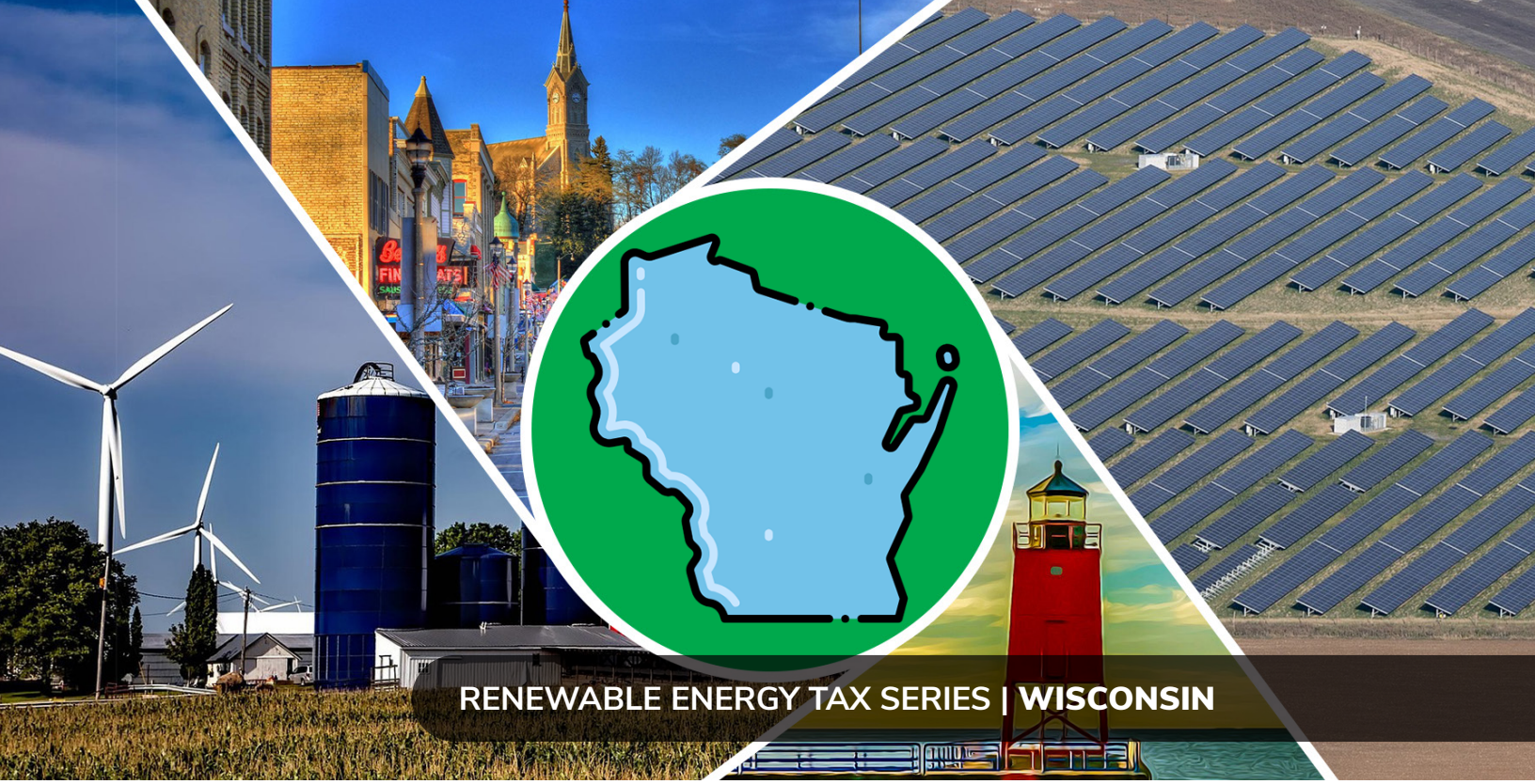

Local Property Tax Impacts of Large-Scale Wind and Solar Projects

Caroline Resor and Hayley Sakwa, advised by Sarah Mills
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About the Series

This state-specific series explores one key question: How do property taxes from large-scale wind and solar projects impact local government budgets?

Renewable energy projects can boost rural economies and fund community priorities, but assessing their tax impacts is often difficult. This series aims to provide stakeholders with clear, detailed, and accurate information.

This material is for informational purposes only and is not intended as legal advice.

Renewable energy projects are expanding nationwide as governments and industries respond to climate change and advancing technology. This growth is expected to continue for projects of all sizes, especially utility-scale developments that power thousands of homes by feeding electricity directly to the grid. Spanning thousands of acres, these large projects are most often built in rural places and frequently on agricultural land.

Like other properties, these projects pay taxes to local government units, including towns, schools, libraries, and others. Energy property taxes are usually much higher than farmland taxes, though the size of the difference depends on state tax laws. Large-scale wind and solar projects are typically taxed in one of two ways: ad valorem (based on land and equipment value, taxed at local rates) or as a Payment in Lieu of Taxes or PILOT (often a flat rate tied to the project's electricity production capacity).

State policymakers determine which tax system applies and how it is implemented, balancing the trade-offs between lower taxes to attract developers and higher taxes to benefit host communities. These policies—from the broad structures to the tiny details—shape the size and distribution of tax payments over a project's 20- to 40-year lifespan. Sometimes units like counties and schools may be affected differently, and some local residents may benefit more than others. Policymakers must also plan for decommissioning to prevent "boom/bust" revenue cycles that can occur when major taxpayers enter and exit. With many of these policies newly established, state and local officials are still learning their applications and impacts.

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Overview: Wind and Solar Property Taxes in Wisconsin

In Wisconsin, large-scale wind and solar projects are exempt from local property taxes.[1] Instead, projects pay taxes and fees to the Department of Revenue. The state then reimburses local governments via utility aid payments.[2] Utility aid payments are split between the municipalities and counties hosting the project.[3] The amount paid to each local unit is based on the type and size of the energy facility, and whether the project is located in a township or city/village.

When farmland is converted, counties and municipalities gain substantial tax revenue from utility aid payments and a one-time conversion fee. While schools and other units lose a small amount of revenue from the elimination of agricultural property taxes, developers may agree to reimburse units for the loss.[4]

- **Annual utility aid payments:** Utility aid payments typically total $5,000/per megawatt (MW) of project capacity per year, split between counties and municipalities in proportions dictated by state law.[5]
- **One-time conversion fee (Year 1):** Counties charge a fee for converting farmland, averaging $283/acre for 30+ acres, though fees vary widely based on agricultural land value.[6]
- **Loss of farmland property taxes:** Farm property taxes, based on current land use, no longer apply. Since schools and some local units do not receive utility aid or conversion payments, they may lose a small amount of annual revenue.

Example: 100 MW Project in Saint Croix County, Wisconsin

A 700-acre, 100 MW solar project anywhere in Wisconsin in 2024 would result in $5,000/MW annual utility aid payments to local units totaling $500,000 or $714/acre. In Year 1, a conversion charge applies, varying widely by county. Small annual losses occur from the elimination of agricultural property taxes. Though projects typically span multiple jurisdictions, this example assumes the project operates in one place (Emerald, Saint Croix County) to estimate total impact.

Table 1. Annual net impact and distribution for 100 MW solar project in Emerald, Saint Croix County.

	Total Impact	County	Town	Schools/Other
Annual utility aid payments (uniform statewide)	**$500,000**	$283,000	$217,000	$0
Annual farm property taxes eliminated (varies by locality)	**($2,500)**	($500)	($500)	($1,500)
Annual net impact	**$497,500**	**$282,500**	**$216,500**	**($1,500)**
Additional Year 1 impact from conversion charge (varies by county)	**$191,100**	**$95,550**	**$95,550**	**$0**

Property tax laws vary by state. While states often use similar terms, their applied definitions can differ from place to place. Below, these shared terms are defined according to Wisconsin's tax system.

Property Tax 101

- **Assessed value:** The taxable value of a property determined by the local tax assessor, based on a percentage of the property's market value or another valuation method specified by law.
- **Cost basis:** The original value of a property, including purchase price and certain acquisition costs, used to calculate capital gains or depreciation for tax purposes.
- **Depreciation:** The gradual loss of value of a property as it ages or gets used. If a property depreciates by 20%, then Taxable Value = Assessed Value x 80%.
- **Fair market value:** The market value of a property, representing the price it would sell for under normal conditions between a willing buyer and seller.
- **Gross tax/levy:** In Wisconsin, refers to the sum of the taxes levied on a property by all local taxing jurisdictions.[7]
- **Levy:** The total amount of property tax revenue that a taxing authority, such as a city, county, or school district, is authorized to collect in a given year.
- **Nameplate capacity:** Maximum amount of electricity in megawatts (MW) that a solar or wind farm could produce under perfect conditions. Sometimes called production or installed capacity.
- **Personal property:** Moveable items, not permanently affixed to or part of the real estate, like solar panels.
- **Real property:** Land and permanent improvements to land, such as buildings.
- **Taxing district:** A geographic area with a distinct set of overlapping taxing units. The total taxing district rate is determined by adding each of overlapping units' tax rates.
- **Tax liability:** The amount of taxes owed by a property owner to a government unit.
- **Tax rate:** A percentage at which a property owner is taxed on the value of their property.
- **Taxing unit:** Any government unit that imposes property taxes, such as counties, towns, school districts, and special districts.

Adapted from Lincoln Institute of Land Policy Property Tax Glossary.

Aerial view of a farm in Wisconsin. Madison, WI. (Pixabay/Canva)

Wisconsin: Key Concepts

- **Agricultural land grade:** Soil quality classification based on agricultural production capacity. Grade 1 is the most productive, Grade 2 is moderately productive, and Grade 3 is the least productive tillable land. A fourth category exists for untillable pasture.[8]
- **Conversion charge or use-value conversion charge:** A charge levied by local governments when agricultural land is converted to other uses, such as residential, manufacturing, or commercial (including renewable energy generation).[9]
- **Land use-value or agricultural use-value:** The value of rural or agricultural property based on its current use, instead of its **fair market value**. Calculating taxes based on use-value rather than market value typically reduces property tax payments for farmers.[10]
- **State utility aid payments:** A revenue-sharing program through which the state compensates local governments for hosting utility projects like renewable energy developments.[11] Localities receive payments from the state general fund for hosting utility projects that are subject to state taxation, which are exempt from local property taxes. This includes renewable energy projects with a **nameplate capacity** of at least 1 MW that are owned either by a public utility or by a qualified wholesale electric company (any company whose facilities have a total statewide capacity of least 50 MW).[12]

Deeper Dive: Wisconsin Property Tax Assessment Guidelines

Utility-scale wind and solar projects are exempt from local property taxes. Instead, local units receive **utility aid payments**, one-time conversion fees, and any locally negotiated agreements.

Utility Aid Payments

The Department of Revenue makes **utility aid payments** to local governments totaling $5,000/MW annually, for the project's lifetime. These payments are designed to replace local property taxes for utility projects that pay state taxation and are certified by the Department of Revenue.[13] Utility aid payments consist of several components, two of which apply to all solar and wind projects:

1. **Production or megawatt-based payment:** Localities that host utility projects built or repowered after 2003 receive a production payment based on **nameplate capacity**.
2. **Incentive payment:** Localities that host renewable energy projects with at least 1 MW of **nameplate capacity** receive additional payments per MW. Additional incentive payments apply for projects on brownfields (previously developed land that may have hazardous pollutants).

Table 2. Annual Utility Aid Payments Per Megawatt of Nameplate Capacity

Relevant Components	Total Annual Payment	Distribution to County	Distribution to Town
Production, capacity, or MW-based payment	**$2,000/MW**	$1,330/MW (66.7%)*	$670/MW (33.3%)*
Incentive payment for alternative energy source	**$3,000/MW**[14]	$1,500/MW (50%)	$1,500/MW (50%)
Total annual payment	**$5,000/MW**	**$2,830/MW**	**$2,170/MW**

**If the project is in a city or village, the proportion is flipped: the municipality receives two-thirds and the county receives one-third.*

The capacity payment is subject to a population cap: payments cannot exceed $425 per person for municipalities or $125 per person for counties. Incentive payments are exempt from the cap.[15] For projects spanning multiple jurisdictions, payments are divided proportionally based on the project's **nameplate capacity** in each jurisdiction.

Conversion Charge

The municipality and county evenly split[16] a one-time payment, applied per acre of agricultural land converted to other use. The DOR calculates and publishes **conversion charges** annually,[17] based on the difference between the county's average **fair market value** and its average **use-value** for agricultural land in the prior year.[18] This per-acre fee is reduced when more acres are converted.

Agricultural Property Taxes

Farmland owners pay local property taxes based on the potential income from renting the land for **agricultural use (use-value)**.[19] A local assessor classifies and assesses agricultural land per acre using use-values provided annually by the Department of Revenue's Farmland Advisory Council.[20] Use-value formulas, set by state law, estimate the 5-year average income and cost of corn production in the municipality.[21] Each county has a unique use-value for each **agricultural land grade**, with more productive farmland having higher use-values.[22] **Tax liability** = Acres x **Use-Value Basis** x **Local Gross Tax Rate**.[23]

For wind and solar projects, land that continues to be farmed is taxed as agricultural land. Typically, only land outside the perimeter of solar projects continues as agricultural, while a majority of the land surrounding wind turbines continues to be agricultural.[24]

Discussion of Impacts

Tax Revenue Distribution

County and municipal budgets benefit substantially from **utility aid payments** and **conversion charges**. However, primary schools, technical colleges, and other **taxing units** do not receive revenue from these sources. While the loss of farmland property taxes results in minimal revenue reductions for these units, some developers agree to offset the shortfall through annual direct payments to any affected units.[25]

Tax Payment Size

Project capacity is the primary factor in determining local revenue, as **utility aid payments** are based on **production capacity** (megawatts) and **conversion charges** on project size (acres). As conversion charges are based on use-value, land value also affects project tax payments. However, these differences are minimal after Year 1 since conversion charges apply only in the first year, while utility aid payments recur annually.

Net revenue gains are higher on land with low agricultural value because conversion charges are based on **land grade**, **agricultural use-value**, and **fair market value**. Lower-quality farmland also generates less property tax, minimizing revenue losses when converted to wind or solar. However, the conversion charge has the greatest impact, as farmland property taxes are relatively low.

In 2025, county conversion charges range from $57 (Douglas County) to $619 (Dane County). There are two outliers: Menominee County ($0), which consists primarily of tax-exempt federally recognized tribal land, and Milwaukee County ($785), which has little farmland but high property values.

Table 3. Influence of agricultural land value on conversion charges

Factor	How it Applies
Agricultural land grade	More productive farmland has a higher use-value
Agricultural use-value	Farmland with a high use-value has a smaller conversion charge
Fair market value	Farmland that has a low cash value if sold also has a lower conversion charge
Conversion charge	**High conversion charges result in a larger net gain in tax revenue in Year 1. The average charge in 2025 was $283/acre for conversions exceeding 30 acres.**

Impact of Farmland Preservation Tax Credits

Farmland may qualify for preservation tax credits if if it is primarily used for agriculture and either zoned accordingly or under a state agreement. Credits range from between $10 to $12.50 per acre.[26] While energy generation may be permitted in these zoning districts, it does not qualify as primarily agricultural use. Acres converted to wind or solar projects lose eligibility for these credits.[27] Since credits are issued through state income tax returns to landowners, local budgets are unaffected.

OBSERVATIONS ON IMPACTS ACROSS STATES

- **Closer neighbors benefit more:** Because projects pay taxes to overlapping **taxing units** (e.g., county, township, and school), those living nearest—who use all these public services—see the greatest economic impact.
- **Less populous areas benefit more:** Since tax benefits are distributed within the project's **taxing units**, counties and townships with fewer residents receive a higher per-person benefit.
- **Tax revenue becomes more concentrated:** A large taxpayer like a wind or solar farm shifts the tax base, increasing reliance on a single source. When the project is decommissioned, local units may struggle to replace the lost revenue.
- **Wind project revenue is more dispersed:** Wind farms retain most farmland, converting only 0.5 to 1 acre per turbine use. With turbines spread over many more acres than solar panels, less agricultural tax revenue is lost and and benefits are shared across more **taxing units**.

Calculation Steps

This example calculates the total tax impacts when 700 acres of Grade 2 agricultural land is converted to a 100 MW solar project in the town of Emerald, Saint Croix County, in Year 1. Tax data is from 2025. Numbers are rounded.

Step 1: Determine Annual Utility Aid Payments

A. Determine megawatt-based payments.

- Utility aid payments: $5,000/MW
- Project capacity: 100 MW

$5,000 x 100 = $500,000 total

B. Determine distribution between locality and county.

- If project is in town: $2,830/MW to county, $2,170/MW to town
- If project is in city or village: $2,170/MW to county, $2,830/MW to city or village
- Project capacity: 100 MW

$2,830 x 100 = $283,000 to county

$2,170 x 100 = $217,000 to town

Step 2: Calculate One-Time Conversion Charge Payments

A. Calculate conversion charge.

- Acres converted: 700
- Conversion charge (Saint Croix County, >30 acres): $273

$273 x 700 = $191,100 total

B. Determine distribution between locality and county.

- Conversion charges are split evenly between municipality and county

$95,550 to county

$95,550 to town

Step 3: Subtract Previous Farmland Property Taxes

A. Calculate farmland property value.

- Grade of agricultural land: Grade 2
- Agricultural use-value (Saint Croix County, Grade 2): $260
- Acres converted: 700

$260 x 700 = $182,000

B. Determine total farmland tax payment across all local units.

- Average total gross tax rate (Town of Emerald, Saint Croix County): 1.376%

$182,000 x 1.376% = $2,500

Step 4: Calculate Year 1 Property Tax Impacts and Distribution

Wisconsin reports total unit-wide tax revenue within each town but does not publish individual unit tax rates. The distribution below is based on average unit rates in Emerald.

	Year 1 Project Tax Payments	County	Town	School District
Utility aid	**$500,000**	$283,000	$217,000	$0
Conversion charge	**$191,100**	$95,550	$95,550	$0
Previous farmland property tax	**($2,500)**	($500)	($500)	($1,500)
Total Year 1 net impact	**$688,600**	**$378,050**	**312,050**	**(-$1,500)**

Step 5: Determine Total Tax Impacts and Distribution over Project Lifetime

A. Include supplemental tax revenue tools.

- Contact the county to determine whether the county or developer will reimburse local units for lost farmland property tax revenue.
- Contact the county to find out if economic development agreements, tax abatements, or other considerations apply.

B. Extend calculations to other taxing units and years.

- Use our published calculator for a complete multi-year analysis across all units.

CALCULATIONS FOR LARGE-SCALE WIND PROJECTS

To calculate the total impacts for a 100 MW wind project, follow the steps above but reduce the farmland acres converted to 33 acres (approximately 1 acre per 3 MW turbine, or 33 turbines for a 100 MW project).

CALCULATIONS FOR MULTIPLE TAXING DISTRICTS

This example assumes the project is entirely within one **taxing district** for simplicity. To determine benefits for a project spanning multiple taxing districts, repeat these steps for each portion of the project (either by megawatts or acreage, depending on the step) within each taxing unit.

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Scenic view in Wisconsin. (Canva/Pixabay)

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