

**Analysis of Payments in Lieu of Tax by Wind Turbine Plants
and an Analysis of Job Creation through Property Tax
Exemptions for Wind Turbine Plants**

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Estimate of Appropriate Level of Payments in Lieu of Taxes on Wind Turbine Equipment

Table 1 provides a comparison of taxes on wind turbines in Ohio and the 5 surrounding states. These figures are based upon data provided in sponsor testimony relating to SB 232. Additional calculations were made by Driscoll & Fleeter.

Table 1: Comparison of Tax Per MW If Ohio Taxes or Exempts Personal Property of Wind Turbines

State	Total Taxes Per MW If Ohio Taxes Personal Property	Total Taxes Per MW If Ohio Exempts Personal Property
Ohio	\$42,241	\$2,551
Illinois	\$10,620	\$10,620
Indiana	\$18,122-19,575	\$18,122-19,575
Michigan	\$6,078	\$6,078
Pennsylvania	\$4,997	\$4,997
West Virginia	\$23,695	\$23,695

Source: S.B. 232 Sponsor Testimony Slide Presentation (Slide #5) and Driscoll & Fleeter

Table 1 shows that the proposed HB 464 exemption of wind turbines from the Ohio personal property tax would reduce Ohio from highest to lowest in total tax burden per MW. (The amount shown for Indiana on the table averages over 30 years the benefit of that state's locally approved personal property tax exemption with a 10 year duration. According to SB 232 testimony on March 24 2010, this exemption also includes a \$7000 PILOT payment for 10 years. However, once the personal property tax exemption expires taxes are expected to return to normal levels for the remaining 20 years of the turbines expected 30 year life span.)

The figures in Table 1 imply that Ohio could add a payment in lieu of taxes up to \$15,571-\$17,024 per megawatt and still remain only the third highest in total taxes plus PILOT payments per MW.

The U.S Department of Energy provides another point of comparison. In at least one analysis of the comparative benefits of wind and coal powered generating plants, researchers for the U.S. Department of Energy used property tax parameters from \$2,900 to \$21,400 per MW. *Variables Affecting Economic Development of Wind Energy*, E. Lantz and S. Tegen, 2008. This paper used the Job and Economic Development Impact (JEDI) model to develop its comparisons.

Assuming Ohio completely eliminates personal property taxes on wind turbines as proposed in HB 464, Ohio could add payments in lieu of taxes up to \$18,849 and remain within the property tax parameters used in the JEDI model.

It is important to understand that the JEDI model incorporates property taxes as an *outcome of investment*. In the JEDI model property taxes amount to a benefit from investment. The model does not treat them as a hindrance to investment. Thus, the number of projected jobs and other economic

benefits projected by the model must include assumptions related to the benefit from and use of property taxes. Abatement of the property taxes would cause the output to shrink and undermine the projected number of jobs and other economic benefits.

Important note about the estimates in Table 1

The total tax per MW as shown in the first column of the table relies upon an estimate that the personal property tax in Ohio would impose a burden of \$39,690 per MW on wind turbine generating equipment. Expert analysis of this estimate shows that it assumes statewide average tax rates in mills or, at least, much higher tax rates than exist in most rural locations where the turbines will be sited. Also, the estimate on the table ignores the fact that over time depreciation will lower the tax each year because it lowers the true value of the property upon which the taxable value is determined. *In other words, the estimate on the table used the absolute worst case scenario to inflate the impact of the personal property tax.* School organizations have criticized these grossly exaggerated tax projections. However, rather than debating the estimated tax impact and the fine points of such estimates, we accept the estimate above for the purpose of determining a more appropriate PILOT amount.

Analysis of the 6 Proposed Wind Projects in Ohio

Table 2 provides a summary of the six wind power projects either approved by the Ohio Power Siting Board for construction or pending approval before that board. Information on the project cost per KW and capacity of the projects in the application documents allows for an estimation of the total project cost for each of the 6. The estimated total cost of these 6 projects is \$2.347 billion. The application documents also contain information on the number of permanent jobs which will result from each of the 6 proposed projects. This information is shown in the rightmost column of Table 2.

Table 2: Summary of Proposed Wind Power Projects in Ohio

Project	Cost Per KW	Number of Turbines	MW Capacity	County	Total Project Cost in Millions	Permanent Jobs
Blue Creek	\$1,931	175	350	Paulding/VWert	\$676	17
Timber Road	\$2,120	35	73.5	Paulding	\$156	10
Buckeye Wind	\$1,920	70	175	Champaign	\$336	12
Hardin Wind	\$2,200	200	300	Hardin	\$660	29
North Hardin	\$2,325	27	50	Hardin	\$116	5
Blackfork	\$2,000	112	201.6	Crawford/Richland	\$403	11
Total			1,150.1		\$2,347	84

Source: Application documents filed with the Ohio Power Siting Board

Using property class percentages from an AWEA “prototype” wind farm, the cost estimates shown in Table 2 can be used to compute a much more realistic long term projection of estimated property taxes. These estimates are shown in Table 3. These estimates assume that over the long term, the average "percent good" upon which the actual taxable value is determined over 30 years will equal about 52% of

the original investment (this percentage is based on the Ohio Department of Taxation depreciation schedule for this class of property). Table 3 also uses average tax rates in the 6 rural counties where these projects will be located.

Table 3: Estimated Average Taxes Charged against Six Wind Power Facilities Based on Average Tax Rates in Rural Counties and Depreciated Values

Class of Property	Wind Power Investment	Average Value after Depreciation	Assessed Value	Tax Rate in Mills	Taxes Charged	Taxes Charged Per MW*
Generating	\$1,830,753,600	\$951,991,872	\$228,478,049	60	\$13,708,683	\$11,920
T&D	\$281,654,400	\$146,460,288	\$124,491,245	60	\$7,469,475	\$6,495
Real	\$234,712,000	\$234,712,000	\$82,149,200	55	\$4,518,206	\$3,929
Total	\$2,347,120,000	\$1,333,164,160	\$435,118,494		\$25,696,364	\$22,343

*Taxes charged divided by 1,150.1 MW

Source: Application documents filed with the Ohio Power Siting Board and computations by Driscoll & Fleeter

Table 3 shows that the total estimated property taxes of these 6 properties would be \$25.7 million annually averaged over the expected 30 year life of the wind power facilities. This figure equals \$22,343 on a per MW basis.

In contrast, the data upon which Table 1 is based show that property taxes on wind generation projects in Ohio would be \$41,615 per MW, nearly twice the figure shown in Table 3. When the 1,150.1 MW capacity of the 6 proposed wind projects is multiplied by this \$41,615 per MW figure, a total tax amount of \$47.9 million is reached. This comparison furthers suspicions that the figures in Table 1 are not accurately computed for Ohio.

The cost per permanent job in foregone property tax revenues

The value of a tax exemption equals the number of dollars of taxes foregone as a result of its enactment. Therefore, if a tax exemption wipes out the taxes on a plant where the taxes charged would have equaled \$25.7 million, then the value of that tax exemption equals \$25.7 million. For a given project, the cost for each permanent job created at that project equals the value of the tax exemption there divided by the number of jobs created there.

In this manner, the figures shown in Table 3 can be used to estimate the cost per job created in foregone revenues of the HB 464 personal property tax exemption. Of the \$25.7 million in average taxes to be paid annually by the 6 wind projects, \$21.2 million (all but \$4.5 million for real property taxes) would be exempted under HB 464. However, a pilot payment of up to \$8000 per MW would also be required under the terms of HB 464. Considering the 1,150.1 MW total capacity of the 6 projects, the maximum

PILOT payment would be \$9.2 million. Therefore the combined real property taxes and PILOT payments received by schools and other local governments would thus be \$13.7 million. This means that the net value of the tax exemptions authorized in HB 464 would be \$12.0 million. On a per job basis this is \$142,588 in tax subsidy per job created.

Similarly, an \$8000 per MW PILOT payment and \$1,925 per MW in real taxes paid would imply that the HB 464 tax exemption would reduce the \$41,615 per MW tax figure from Table 1 to \$31,690 per MW. This results in a net tax exemption of \$36.4 million using these figures. This is a subsidy of \$433,889 per job created.

Table 4 shows the cost per job associated with the six proposed wind power plants in Ohio for both of these methods of estimation.

Table 4: Cost of Tax Exemptions Per Permanent Job at Wind Power Plants Based on Two Different Estimates of the Value of the Tax Exemption

	SB 232 Tax Estimate	ETPI Tax Estimate
Taxes Exempted Less PILOT	\$36,446,669	\$11,977,358
Permanent Wind Project Jobs	84	84
Exemption Value Per Job	\$433,889	\$142,588

Source: Application documents filed with the Ohio Power Siting Board; S.B. 232 sponsor testimony; computations by Driscoll & Fleeter for ETPI

Effects of Temporary Jobs from the Construction of Wind Turbine Facilities

Table 5: Estimated Effects of Construction of Wind Turbine Facilities

	Number of Construction Jobs	Construction Jobs Payroll Estimate	Months Needed for Construction of Project	Annualized Number of Jobs
Champaign Buckeye Wind	182	\$10,000,000	18	273
Hardin Invenergy	250	\$8,000,000*	12	250
Hardin JWGL	100	\$3,300,000	8	67
Crawford Richland Black Fork	109	\$6,400,000	24	218
Paulding Van Wert Blue Creek	250	\$20,000,000	36	750
Paulding Timber Road	108	\$7,400,000	9	81
Total	999	\$55,100,000		1,639

Source: Company filing with Ohio Power Siting Board

*Estimated payroll extrapolated from other projects by Driscoll & Fleeter

Table 5 shows the information about construction jobs obtained from filings by the companies with the Ohio Power Siting Board. In some instances, the companies projected a range of jobs, payroll, or months needed for construction. The table used the highest amount from each range in order to give the companies the benefit of the doubt. The companies project a number of construction jobs and the payroll associated with those jobs. The problem is that the projections do not use a standard construction period as shown in the third column of data. In order to make the numbers comparable the table annualizes them. The number of months needed for construction was divided by 12, then the result was multiplied by the number jobs projected in the first column.

For example, JWGL projected 100 construction jobs over a period of 8 months. Since 8 months equals 2/3 of a year, the number annualized jobs equates to 67. Another way to think about the annualized number of jobs is that it represents the number of person years involved in construction. For example, if the Blue Creek project employs 250 construction workers for 3 years each, the result would equal 3 time 250 or 750 person years. It is not clear from the filings if all 250 workers each would work for three years, but, again, the estimates attempt to take the most optimistic view of the company claims.

The Invenergy payroll estimate was extrapolated by Driscoll & Fleeter from the other estimates on the table. Therefore, the Wind Energy industry would spend about \$55.1 million to pay 1,639 person years or full-time jobs for one year over a span of time from 8 months to 36 months.

Assuming an \$8,000 per MW PILOT, the net tax exemption benefit received by the companies would equal somewhere between \$12 million (Driscoll & Fleeter) and \$36 million (Wind Energy Association). Over 30 years, the value of the exemption would equal between \$360 million and \$1,080 million. Both amounts far exceed the payroll amount shown on the table. This implies a per job cost of \$219,691 per construction job in foregone taxes over 30 years if the foregone tax revenues equal the net amount of \$360 million, and \$659,000 per construction job if the foregone revenue over 30 years equals \$1,080 million.

What about multiplier effects?

While the investment in the wind power projects will result in additional indirect or induced employment, no method exists to tie these additional jobs to the local governments affected by the exemptions. These permanent jobs created in addition to the 84 jobs shown on the table could exist outside of the counties in which the projects are located, outside of Ohio, and even outside of the United States. The JEDI model economic impact estimates do appear to include these indirect or induced jobs, however the JEDI model estimates are global rather than local in nature. Similarly, while documents filed with the Ohio Power Siting Board pledge that the hiring for construction jobs will attempt to hire local workers first, the extent to which multiplier effects from construction jobs will increase local economies is speculative.