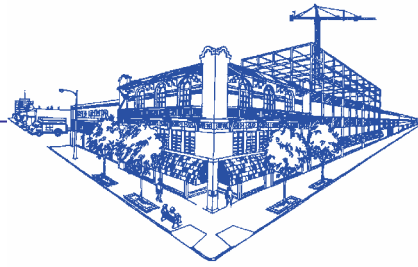


E. D. Hovee & Company, LLC

Economic and Development Services



ECONOMIC & FISCAL BENEFITS MEMORANDUM

To: Bill Lotto, Lewis County Economic Development Council
From: Eric Hovee & Paul Dennis, AICP
Subject: Economic & Fiscal Benefits of a Lewis County Wind Park Project
Date: June 11, 2008

Energy developers have identified potentially commercial wind power sites in western Washington including Lewis County. Recognizing the potential importance of this type of investment, the Lewis County Economic Development Council retained E.D. Hovee & Company, LLC to evaluate the economic and fiscal impacts of constructing and operating a wind power generation plant in Lewis County.

The study assumed development of a 100 megawatt (MW) wind park for ease of analysis. A location in western Lewis County was selected for the purposes of this study.

Specifically, E.D. Hovee & Company was asked to analyze impacts in two key areas:

- **Economic Impacts.** The wind power generation plant will create jobs and increase spending in the economy during the construction phase and during plant operations.
- **Tax Revenues.** The increase in jobs and local spending will also increase tax revenues for Lewis County, particularly property taxes both short and longer-term.

In addition, this report briefly describes other economic and community benefits not as readily measured – but no less important to the continued diversification of the Lewis County economy.

Topics covered by the remainder of this report memorandum are:

Summary Findings & Observations
Economic & Fiscal Impact Methodology
Economic Benefits
Fiscal Effects
Other Economic & Community Benefits

SUMMARY FINDINGS & OBSERVATIONS

Principal findings and observations resulting from this preliminary economic and fiscal benefit assessment are summarized as follows:

- A wind park facility proposed to be built in a rural area such as outside of Pe Ell with *energy generation capacity* in the range of 100 megawatts (MW) or approximately 50 turbines, would represent a total capital investment of approximately \$230 million.
- Direct and indirect employment created during *construction* of up to one year is estimated at 150 jobs with total payroll of \$14.1 million (and average overall wage of \$94,000). Local procurement generated directly and indirectly during the construction process is estimated at an added \$16 million to the Lewis County economy.
- An estimated 23 jobs will be directly and indirectly created during *on-going operations* of the wind park facility with payroll of \$884,000 per year (at an average of \$65,000 for facility employees or \$38,400 including employees of other businesses directly and indirectly affected throughout Lewis County). Business revenues generated in Lewis County will be increased by approximately \$28.6 million per year.
- *Fiscal effects* include an estimated \$2.0± million in annual property taxes to affected state and local jurisdictions during wind park operation. In addition, more than \$25,000 annually and nearly \$393,000 in one-time sales taxes (during construction) will be generated due to anticipated direct worker spending in Lewis County.
- Other less quantifiable but significant *economic and community benefits* include development of green energy in Lewis County, minimal anticipated added local public service requirements, introduction of wind power generation to western Washington, opportunity for linkages to Centralia College and the Lewis County Public Utility District, and continued higher wage diversification of the Lewis County economy.

ECONOMIC & FISCAL IMPACT METHODOLOGY

Representatives from private companies and public agencies have provided project information that was used to determine the amount of spending and employment for the proposed wind power generation plant. The information provided is consistent with conclusions reached by other researchers.¹ An input-output model developed by Minnesota IMPLAN Group has been combined with Lewis County specific data to estimate the economic impacts for both the construction phase and the operations phase of the proposed project.

Other general economic data was obtained from Washington State Employment Security. Tax rate information was provided by Washington State Department of Revenue and Lewis County Treasurer's Office.²

Background. A wind generation project with approximately 50 wind turbines capable of producing up to 100 MW of power. A wind park will cost an estimated \$230 million to construct; with approximately \$10.6 million procured directly from local suppliers. An estimated 95 full and part time workers will be employed during construction, earning approximately \$10.2

million in payroll. Approximately one-half of the construction workers' income is projected to be spent in the local economy for housing and other living expenses.³

Upon completion, an estimated 10 workers will be needed to directly operate the wind power generation plant over the life of the project, with each worker earning an average of \$65,000 per year (in 2007-08 dollars). Approximately 50% of worker income will be spent on taxable retail goods and services, another 30%-35% will be spent on housing and other related expenditures.

Economic Impacts. Multiplier estimates are made using the IMPLAN Input-Output economic model that measures inter-industry transactions between all segments of the Lewis County economy. The economic multiplier is defined as the total direct benefit plus indirect benefit divided by the direct effect.⁴ For example, a jobs multiplier of 2.0 means that one job could be created indirectly for every new job at the project site.

Note: the economic impact results discussed in this report rely on IMPLAN model data for Lewis County from 2004. The results reported have been adjusted for inflation to reflect 2007 dollars. While Lewis County has enjoyed economic growth since 2004, no significant structural changes have occurred in the local economy. Therefore, the 2004 economic multipliers should be representative of current conditions.

Fiscal Effects. As part of this benefit analysis, major fiscal revenue sources are estimated based on direct impacts only. Those taxes include sales tax, property by type of taxing district, and state B&O tax. Not estimated with this analysis are fiscal effects associated with indirect (or multiplier) activity or development exactions/fees.

What follows is a summary table depicting the quantitative assumptions utilized in this impact evaluation.

Figure 1. Economic & Fiscal Assumptions

Assumption	Value
Capital Investment:	
Construction Value	\$230,000,000
– Procured Locally	\$10,600,000
Annual Depreciation	5%
Construction Workers	95
Construction Payroll	\$10,200,000
Local Procurement by Construction Workers (% of Wages)	50%
Output Multiplier	1.51
Jobs Multiplier	1.55
Income Multiplier	1.38
Operations:	
Number of Workers	10
% Local Hires	100%
Average Compensation (includes benefits)	\$65,000
Taxable Retail Purchases (% of Wages)	50%
Power Production (Megawatts)	100
Number of Hours in a Year	8,760

Assumption	Value
% of Time Power is Produced	30%
Average Power Price per MWh	\$80
Output Multiplier	1.36
Jobs Multiplier	2.28
Income Multiplier	1.36
Fiscal Taxes Rates:	
State Sales Tax	6.5%
Local Sales Tax	1.2%
<i>Property Tax Levy Rates:</i>	
State Levy	\$2.17973
Lewis County General Fund	\$1.44971
Lewis County Road Fund	\$1.96740
Pe Ell School District	\$2.18411
Timberland Library	\$0.34150
Fire District #12	\$1.50000
Fire District #16	\$0.70938
Cemetery District #3	\$0.05721

Sources: Private firms and public agencies including Lewis County and E.D. Hovee & Company, LLC.

ECONOMIC BENEFITS

Economic benefits are categorized into two different phases – construction and ongoing operations. The economic benefits associated with the construction phase are substantial but expected to last over a relatively short time period of up to 12 months. Economic benefits estimated for the operations phase recur annually, lasting as long as the facility is in operation.

While the economic benefits calculated constitute only the activity occurring in Lewis County, companies interact with other firms on a regional, national, and/or global level, providing a broader economic benefit that reaches well beyond the jurisdictional boundaries of Lewis County.

Local Economy

According to the Washington State Employment Security Department, Lewis County has experienced economic growth over the last five years. In 2007, the unemployment rate fell from 9.4% (2003) to 7.0%; during this same time period the local labor force has expanded by only 2%, while the number of unemployed has fallen by 24%.

Over the same time period, employment in Lewis County has increased by 1,310 jobs (or by 5.4%). A substantial 50%+ portion (or 680 added jobs) of the job growth has occurred in the manufacturing sector followed by transportation & warehousing (+260 jobs), retail trade (+110 jobs), and all other services (+300 jobs). This recent growth reflects, in part, concerted local economic development effort to recapture high wage industrial jobs lost to Lewis County in prior years.

A typical worker in Lewis County earns \$32,800 per year plus benefits. The average wage in Lewis County has increased by 14% over the last three years. Highest paying sectors include construction at \$49,600 per year, manufacturing (\$41,700), and wholesale trade (\$39,000).

It is within this context of re-balanced and more vigorous, higher wage job growth for Lewis County that the evaluation of a major wind-generation facility is set.

Construction Phase

As identified in the assumptions section of this report, a 100 MW wind power generation facility would represent an investment value of \$230.0 million. Approximately \$10.6 million is anticipated to be procured within Lewis County. The local economy will be stimulated through indirect and induced effects by another \$5.4 million in added Lewis County business revenues for a total local economic benefit of \$16.0 million during construction.

The wind power generation investment is expected to support 95 full- and part-time jobs during construction. These jobs are phased in over the entire construction period. Construction jobs likely supported as much as another 55 jobs in the local economy for a total of 150 jobs over the duration of construction.

Based on information provided by pertinent public and private sources, construction workers, on average, will earn approximately \$107,400 per worker, generating a total construction payroll of \$10.2 million. This construction payroll is projected to stimulate another approximately \$3.9 million of household income within the Lewis County economy during the construction phase, for a total combined payroll benefit of \$14.1 million.

Construction workers are expected to spend \$5.1 million on local lodging and taxable retail goods/services. *Note:* the project average wage for construction workers significantly exceeds the countywide average of \$32,800 for all jobs in Lewis County.

Figure 2. Economic Benefits Associated with Construction (Cumulative)

Impact Category	Annual Economic Benefits		
	Direct	Indirect	Total
Capital Investment	\$230,000,000	–	–
– Locally Procured	\$10,600,000	\$5,400,000	\$16,000,000
Construction Jobs	95	55	150
Construction Payroll	\$10,200,000	\$3,900,000	\$14,100,000
– Average Wage	\$107,400	\$70,900	\$94,000
Local Procurement by Construction Workers	\$5,100,000	–	–

Note: All estimates subject to change. Indirect includes induced impacts resulting from added worker spending.

Source: Private firms and public agencies, E.D. Hovee & Company, LLC.

Operations Phase

It is assumed that the wind power generation facilities being considered will produce 100 megawatts (MW). The project is assumed to sell its power at an average price estimated in the range of \$80 per megawatt hour (MWh), generating an estimated \$21.0 million of direct annual gross business income.⁵ Another \$7.6 million will be generated at other local businesses in Lewis County for a total Lewis County business income benefit in the range of \$28.6 million.

The project will directly employ 10 workers. Another 13 jobs should be supported elsewhere in the local economy for a total jobs impact estimated at 23 during plant operations.⁶ This reflects a relatively high permanent employment multiplier of 2.3, due in large part to the comparatively high wage levels paid to operating employees of the wind park.

As noted, average annual wage for on-site workers is \$65,000. Total annual payroll for the proposed plant is \$650,000. As the wind power plant and its workers purchase local goods and services, another \$234,000 of income is indirectly supported elsewhere in the local economy. In total, the proposed wind power plant is projected to support an estimated \$884,000 of added household income in Lewis County.

Figure 3. Annual Economic Benefits Associated with Operations

Impact Category	Annual Economic Benefits		
	Direct	Indirect	Total
Business Revenues	\$21,024,000	\$7,568,600	\$28,592,600
Number of Jobs	10	13	23
Total Payroll	\$650,000	\$234,000	\$884,000
– Average Wage	\$65,000	\$18,000	\$38,400
Local Procurement by Workers	\$325,000	–	–

Note: All estimates subject to change.

Source: E.D. Hovee & Company, LLC using IMPLAN data.

FISCAL EFFECTS

If wind power generation facilities were to be developed in the Pe Ell area, considerable revenues will be generated for local and state government agencies. Primary tax revenues include state business & occupation (B&O) tax together with state and local sales and property taxes.

Construction Phase

The State of Washington offers a state sales tax exemption on construction of *Energy Generating Facilities* as long as the plant produces at least 200 watts of electricity. This exemption applies to both the state and local portions of sales tax on construction.⁷ However, affected state and local governments will receive revenues from taxable sales to construction workers during the construction period.

The State of Washington can be expected to receive an estimated \$331,500 in sales tax during the construction period and another \$21,125 annually from the permanent workforce during

operations. Local jurisdictions will receive an estimated \$61,200 in one-time sales tax revenue during the construction period, followed by \$3,900 annually from plant operations – from worker spending in Lewis County.

Operations Phase

Operations of the wind power generation plant will provide \$2.0± million in annual property taxes from the combined \$230 million capital investment less annual depreciation of 5%. This estimate assumes that all of the wind power generation plant assets are wholly owned within Lewis County.

Upon project completion, Lewis County can expect to receive an estimated \$746,600 per year for general fund and road repair & maintenance (in 2007-08 dollars). The state will collect \$476,300 for K-12 education. With this analysis, it is assumed that approximately one-half of the project would be located within Fire District 12, with the other half in Fire District 16 and with the project entirely sited in Cemetery District 3.

Figure 4. Fiscal Benefits of the Proposed Wind Power Generation Plant

Type of Tax	Direct Benefit	
	Construction	Operations
Sales Tax:		
Washington State	\$331,500	\$21,125
Local Area	\$61,200	\$3,900
Total Sales Tax	\$392,700	\$25,025
Property Tax:		
State Levy	\$0	\$476,271
County General Fund	\$0	\$316,762
County Road Fund	\$0	\$429,877
Pe Ell School District	\$0	\$477,228
Timberland Library	\$0	\$74,618
Fire District #12	\$0	\$163,875
Fire District #16	\$0	\$77,500
Cemetery District #3	\$0	\$6,250
Total Property Taxes	\$0	\$2,022,381

Note: All estimates are in 2007 dollars and subject to change.
Fiscal effects are based on current tax rates.

Source: E.D. Hovee & Company, LLC.

The benefits to local taxing jurisdictions are substantial, especially to local school districts. While the taxable assessed valuation of Lewis County increases by about 3%, the assessed valuation of the Pe Ell School District increases to nearly three times the current amount. Fire District 16 could also experience a similar increase in assessed valuation. Fire District 12 (which has a much larger existing tax base) experiences an increase of about 12%.

In effect, property tax represents the major potential fiscal benefit to state and local governments due to the capital-intensive nature of an electrical generation investment. If the power is sold on the open market by an “independent power producer (IPP),” the plant will be treated as entirely

within Lewis County, with primary fiscal benefits accruing to directly affected local jurisdictions in Lewis County.

However, if the project were developed and/or owned by an electric utility that operates in a multi-county or multi-state region, the value could be spread across the utility's operating system leaving less value for local property tax distribution.⁸ This is a topic suggested for further evaluation and verification should plans for an actual project develop.

OTHER ECONOMIC & COMMUNITY BENEFITS

In addition to the quantifiable economic and fiscal benefits outlined by this report, there are other potential economic and community benefits to be considered. These benefits are not as easily measured in quantitative terms but are nonetheless apparent with this proposal and may prove significant for Lewis County over the long term. Among the added economic and community benefits noted are the following:

- Development of *green energy* in Lewis County – at a time when there is growing need for independence from off-shore energy sources and recognition of the need to find alternatives to carbon fuels.
- Wind park construction and operation in a rural portion of Lewis County – requiring relatively little in the way of identified on-going local public service requirements.
- Introduction of wind power generation to western Washington – with opportunity to attract other providers of green energy resources and services.
- Opportunity for linkages to the Centralia College Center of Excellence for Energy Technology – including the Centralia College skills training program.
- Potential to help enable the Lewis County Public Utility District to comply with I-937 – the state law that requires utility resources to total 15% non-hydro renewable energy by 2020.⁹
- Continued diversification of the Lewis County economy – with emphasis on higher wage industrial and related development.

E. D. Hovee & Company, LLC appreciates the opportunity to provide this preliminary economic impact and fiscal benefit assessment on behalf of the Lewis County Economic Development Council. We would be happy to respond to questions regarding any aspect of this analysis.

END NOTES

- ¹ Background information useful for this analysis has included a similar report on *Economic Impacts of the Kittitas Valley Wind Project*, prepared by ECONorthwest as a report to the Economic Development Group of Kittitas County, updated as of August 11, 2006. Another reference is the Renewable Northwest Project, www.rnp.org.
- ² Information for this assessment has been obtained from sources generally deemed to be reliable. However, E. D. Hovee & Company, LLC does not guarantee the accuracy of information obtained from third party sources. Information is subject to change without notice. The findings and conclusions contained in this report are those of the authors. They should not be construed as the opinion of any other party prior to their express approval, whether in whole or part.
- ³ The proportion of construction work secured by local contractors is variable, depending on factors such as local procurement initiatives and labor union agreements. This is a conservative estimate compared to other facilities.
- ⁴ For purposes of this analysis, indirect benefits are defined to include induced impacts resulting from worker expenditures within the local economy of Lewis County.
- ⁵ Estimates of direct and indirect gross business revenue are based on a relatively conservative wholesale cost of power assumed to be in the range of \$80 per megawatt hour (MWh). This is based on information regarding projected levelized lifecycle costs (in 2006 \$) for established Washington/Oregon wind sites at \$78 per MWh in 2008, increasing to as much as \$102 by 2012, dropping somewhat thereafter reflecting a capital cost allowance for transmission reinforcement for projects entering service in 2012 and later (down to about \$86 by 2015).

Information is based on email correspondence from Jeff King, Northwest Power and Conservation Council, June 5, 2008. If long-term average pricing proves to average above \$80 per MWh overall figure assumed, gross business benefits can be expected to be correspondingly higher but with little impact anticipated for project-specific job generation.
- ⁶ This analysis assumes that most or all operations employees are either hired from within or relocate to Lewis County – thereby benefiting the Lewis County economy from direct, indirect and induced purchases.
- ⁷ Tax information is based on telephone contact with Beth Mills, Washington Department of Revenue, June 2008.
- ⁸ Based on email correspondence with Neal R. Cook, MAI, Washington Department of Revenue, May 2008.
- ⁹ The *energy cluster* has been identified as a business sector for special attention in Lewis County. In addition to a coal-fired power plant, Lewis County currently has two gas fire and two hydro facilities together with the only natural gas storage facility in the region (providing for winter peaking capabilities).

In addition to the Centralia College designation as a Center for Excellence in energy, the Pacific Mountain Private Industry Council has been awarded a WIRED grant to expand their program at Satsop. Cardinal Glass as a recent business recruit to Lewis County has also recently announced their entry into solar panel production.

E. D. Hovee & Company, LLC provides economic and development consulting services for private, non-profit and public agency clients primarily in the Pacific Northwest states of Washington and Oregon. Since 1984, our firm has conducted market and feasibility assessments, economic impact analyses and strategic business development planning services for natural resource, industrial, commercial, residential, mixed use and major public capital facilities projects.

Economic impact assessments have been prepared for clients including the U.S.D.A. Forest Service, Bureau of Land Management, and Bureau of Indian Affairs, Washington and Oregon Departments of Transportation, and economic development organizations in Lewis, Pacific, Clark, Skamania, Skagit, Okanogan and Yakima Counties. In Lewis County, the firm has provided consulting services for the Lewis County Economic Development Council, City of Centralia, and area school districts.