DRAFT

REPORT TO THE LEGISLATIVE JOINT FISCAL OFFICE OF THE VERMONT GENERAL ASSEMBLY

PROPERTY TAXATION OF WIND GENERATION PROJECTS – H.520

Submitted By

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This Report is being submitted in fulfillment of our obligations under the Contract for Professional Services, dated April 12, 2007. The Scope of Services under this contract was as follows:

1. Review the analysis and data provided to legislative committees pertaining to H.520. This will be provided to the Consultant by the Joint Fiscal Office.

2. Provide committees an analysis and specific suggestions of options for taxing wind generation facilities in Vermont. Discuss alternatives that could replace the current system of a property tax based on the fair market value, such as a generation-based tax. This should include information on appropriate income valuation methods. Additionally, provide information on incentive alternatives – if required, how much, and how best to provide incentives for developers of wind generation faculties. Discuss the importance of predictability and stability of taxation for this industry.

3. Provide testimony by telephone to legislative committees explaining your findings and discussing options.

1. Context

One of the unintended consequences of the deregulation of wholesale and to a more limited degree retail electricity markets has been to complicate the valuation of generation plants for property tax purposes. Prior to deregulation, electricity generation was the sole prerogative of vertically integrated utilities where it was closely regulated by public utilities commissions. This arrangement established the value of generation plants for the purposes of setting rates and revenues – values that were easily assigned by property tax assessors for purposes of determining the appropriate amount of property taxes each generation plant should pay.

Deregulation has upset this process. Today, the economic value of a generation plant is determined by market forces and not by regulatory bodies. As a result, a generation plant's fair market value is influenced by a host of factors, chief among which are market prices for electricity and related outputs it is capable of producing, its costs of operation and its operating performance. Of course, these are precisely the same factors that affect the fair market value of any capital investment such as an office building, a production factory or a warehouse. The primary difference, however, is the inherent variability (and thus instability) in the market prices of electricity and related products. Given swings in the price of electricity of 50% or more over relatively brief periods of time, the fair market value of generating plants will be highly volatile.

The flip-side of the difficulty that this situation presents to tax assessors is the problem it creates for project developers and owners. Generation plants, such as wind projects, are capital intensive, and as such often have long amortization periods. Uncertainties in their operating or ongoing cost structures that cannot be insured against create significant risks for project developers and can act as a financial disincentive to their development.

The Vermont Legislature recognizes this problem and is examining options for valuing and taxing wind generation projects that reflect the fair market value of such projects, yet that are relatively easy to implement and administer, on the one hand, and remove some of the cost uncertainty and therefore the disincentive to their development, on the other.

We believe that we have developed an option that accomplishes these multiple objectives. This option defines a project's property tax obligation as a certain percent of revenues received, where such revenues are based on indices that are independent from the operation of any individual wind project. Below, we discuss our development of this option, including a look at a variety of other options, and how this option could be implemented by Vermont.

2. Standards for Valuing Property

There are a number of standards that assessors use to value property, each of which is designed to yield an estimate of the property's "fair market value". These standards include:

a. Original Cost plus Renewals less Depreciation
b. Replacement Cost
c. Comparable Sales
d. Income-Valuation Method

Each of these standards works well under certain circumstances, but the Income-Valuation Method works well in all circumstances. The problem with this standard is that its information requirements are often difficult or costly to obtain and can require subjective interpretation. Nevertheless, it is the best place to start.

The Income-Valuation Method applied to a wind generation project defines a value that a willing buyer would pay a willing seller for the right to obtain the future net income generated by the project. This value may have no relationship to the original cost to construct the project or to the project's Net Book Value at that point in time. It may also have no relationship to the cost to replace the project. What it does depend on are those factors noted earlier - market prices for electricity and related outputs the project is capable of producing, the project's costs of operation and its operating performance.

To help in evaluating how thee factors impact the value of a wind generation project, we have developed a financial model for a single 1.5 MW wind turbine machine as a part of a "typical" wind project. (We use the term "Project" to refer to this wind turbine.) The capital costs for this Project are shown in the Appendix as Figure 1. The total installed cost for this Project is a little above $1,800 per kW of nameplate capacity, inclusive or all equipment, site work, grid interconnection, interest during construction, working capital and other related costs.[1]

The operating performance and operating costs of this Project are shown in Figure 2. Our modeling is based on an average wind speed of 14.5 mph and thus a unit capacity factor of 30%. The operating cost parameters are shown for this Project based on average operating conditions and consistent with sites with an average wind speed of 14.5 mph.[2] We have also included a Salvage Value after 15 years equal to 25% of the Project's initial capital cost to reflect additional economic value associated with continued operation of the Project and/or the value of

[1] Obviously, each project will have its own unique features, and these will impact total installed costs. For example, mountain top projects may require much higher site preparation costs to install the required access roads, while large-scale projects will have more turbines across which permitting, interconnection and other fixed costs can be allocated. The costs in this Figure 1 are intended to be representative only.

[2] For example, a project operating 10 miles offshore or above 3,500 feet in New England is likely to have higher operating costs than in our model, but that project would also have a higher capacity factor offsetting these higher costs.

site work, permitting and engineering that can be applied against the installation of a new turbine/generator on the site, if this is economically feasible.
The Project derives revenues from three sources – the sale of energy into the wholesale electricity market in New England, the sale of capacity into the Forward Capacity Market (FCM) in New England and the sale of Renewable Energy Credits (RECs). In all instances the Project is a pure price-taker, with prices for these various products determined by market conditions. In our modeling we have made certain assumptions with respect to each of these prices. These are shown in the financial pro forma for the Project in Figure 3 of the Appendix.

Finally, we have used a capital structure for the Project that is 40% equity and 60% debt, with the debt at 8% for 15 years.

Based on these assumptions, the Project returns an after-tax return to equity of a bit over 17%, which is a healthy return for this type of project, but not that much beyond what is necessary, on a pro forma basis, for project development. The Project is an economically viable project, with property taxes based roughly on the economic value of the Project as defined below.

3. The Value of the Project

We now reverse-engineer the above analysis by computing the amount of money a willing buyer would pay a willing seller for the right to the free cash flows generated by the Project. To compute this, we look at total revenues and subtract operating expenses (not including property taxes – which we include in the capitalization rate). The results are shown in Figure 4 in the Appendix. Free cash flows range from a low of about $340,000 to a high of almost $536,000, in the first year when the value of RECs is the highest.

These free cash flows can be "capitalized" to determine an asset value. For this purpose, we use a "capitalization rate" of 19.8% as shown in Figure 4. This capitalization rate is consistent with the assumptions in the financial model of the Project and have incorporated the rates for Depreciation/Recapture and Property Taxes used in the models previously provided to the Legislative Committees. The results of the application of this capitalization rate indicate a fair market value (less Salvage Value) of the Project in each of the 15 years of from a little over $2.7 million in year 1 to about $1.7 million in the later years. The average of these values plus the Salvage Value is shown as $2.757 million, which is a little higher than the total installed capital costs of $2.711 million. This is not surprising, since the economic return to equity from the Project is higher than the target return used in the capitalization rate – 20% on a before tax basis.

This computation shows the volatility of trying to determine the economic value (fair market value) of the Project. Depending on operating costs and market conditions, the economic value varies by more than 50% from the lowest to the highest value, and this is in a financial model

that incorporates a great deal of stability with respect to expected future events in the energy market. If these future events are not so stable – for example, if the price of natural gas moves outside the $8 - $10 per MMBtu range, the economic value of the Project will exhibit even greater year-to-year volatility.

4. Valuation Options

Using a tax rate of $1.38 per $100 of valuation (1.38%), we next examine a variety of possible property valuation and tax structures. The results of these are shown in Figure 5 in the Appendix. The options shown are as follows:

- Net Book Value – this is computed as original cost less depreciation, which for our purposes was a 15-year straight-line method. This shows the property tax payments at $1.38 per $100 beginning at around $37,000 and falling over the 15 year period to zero as the Project becomes fully depreciated, at least for accounting purposes.

- Replacement Cost – this is computed as original cost inflated at 1% per year, each year over the 15 year term. The 1% inflator is somewhat arbitrary, but is designed as the difference between a 3% annual inflation rate and a 2% per year gain in technology in the design and construction of wind turbines. This shows property tax payments rising gradually from about $37,000 to about $41,000 over the term.

- Per kWh – this is computed as a flat amount per kWh of annual output. The amount for this example is $0.007 per kWh and results in a constant $28,000 a year in property tax payments.

- Percent of Revenues – this is computed as 6% of the Project's gross revenues, and falls gradually from about $32,000 to $27,000 over the term, given the assumptions in the financial model.

- Fair Market Value – this is computed as $1.38 per $100 of the economic value of the Project using the capitalization method discussed in the previous section. As free cash flows fall over the term of the Project, the economic value falls and so do property tax payments – from a high of about $38,000 to a low of about $23,000.

If we adopt the capitalization methodology as a reasonable approximation of fair market value, it is clear that neither Net Book Value nor Replacement Cost is a good proxy for valuation. By this same measure, however, both the Per kWh and Percent of Revenues approaches track Fair Market Value reasonably well, at least at the levels chosen for each - $0.007 per kWh and 6% of revenues, respectively. Of course, for a different Project with different performance

characteristics and different market conditions, the levels chosen here might bear much less of a relationship to fair market value.

To see this, we examined what would happen to property tax payments under the per kWh and Percent of Revenue approaches if the price of natural gas doubled or fell by 50%. Changes in the price of natural gas by these amounts will have a significant impact on the price of electricity in the New England market and therefore on the free cash flows for the Project. This, in turn, will result in major changes in the fair market value of the Project based on the capitalization rate methodology used above.

The results are shown in Figure 6 in the Appendix. The top chart shows the effect of a doubling in the price of natural gas; the bottom chart shows the effect of a 50% reduction in the price of natural gas. These two charts show that the Percent of Revenues proxy responds reasonably well to changes in the Fair Market Value of the Project, and certainly much better than a fixed charge per kWh, for example. This is not surprising, since the free cash flows on which the fair market value is based are determined overwhelmingly by revenues. In our base case, for example, revenues are around $0.130 per kWh, while costs are around $0.023 per kWh. Thus, changes in revenues have a direct and significant impact on free cash flows and therefore on fair market value.

5. Recommendation

Based on our analysis of typical wind turbine projects, we believe that any valuation methodology for purposes of assessing property tax obligations that is not based explicitly on the fair market value of the projects should be based on the revenues generated by the project and not on any measure of the project's installed costs or on an amount per kWh of output. Further, we recommend that a reasonable percentage of revenues is around 6%; that is, annual property tax assessments should be set at 6% of annual project revenues, as discussed further in the Implementation section below. For "typical" wind projects, this will result in property tax payments reasonably close to what the project will pay based on fair market value at a tax rate of $1.38 per $100 of assessed value.[3]

Whenever any figure is chosen to represent a wide range of circumstances, that figure is a more accurate and a better reflection of its purpose for some situations than others. The 6% level recommended is a good proxy for wind generation projects with an annual capacity factor of about 30%. As the annual capacity factor increases, the 6% of revenues figure becomes more conservative and results in property tax payments that are below what would otherwise result

[3] As we have noted, our analysis is based on this property tax rate. Should it be changed significantly – either up or down – the percent of revenue figure would also need to be changed. This is not a difficult computation to make based on the financial model and methodology we have developed.

from a fair market value standard, all other things being equal. Similarly, if the annual capacity factor is below 30% - that is, the wind site is not as good a site, the 6% figure will result in more property taxes being paid than the project would otherwise pay based on the fair market value standard – again, all other things being equal.[4]

6. Implementation

We have extended our Scope of Services somewhat to include this section in our report. One of the attractive features of our recommendation to assess property tax payments as 6% of gross revenues is the ease with which this can be implemented and administered. Unlike the fair market value standard in which it is necessary to know the operating costs of a project, the Percent of Revenues methodology can be implemented without the need to obtain project-specific information that is not generally available. Here is how we propose to compute property tax payments owed under this methodology:

a. Each wind generation project would report to the Tax Office[5] each year its total MWh of generation as measured at its point of interconnection to either the grid or to load and its nameplate rating as measured in MW. These figures would be reported by February 1st of each year for the prior calendar year. During the first calendar year or part of the year of operation, the project would report its nameplate rating multiplied by 30% multiplied by the hours in the period in lieu of MWhs of generation.

b. On or before February 15th of each year, the Department of Public Service would report to the Tax Office the simple average of the energy clearing price for the prior calendar year. This price, "ECP", would be for the Vermont load zone or some successor designation as reported by ISO-NE, and would be expressed as $/MWh.

c. On or before February 15th of each year, the Department of Public Service would report to the Tax Office the average value for capacity for the prior calendar year. This price, "FCM", would be for the Vermont load zone or some successor designation as reported by ISO-NE, and would be expressed as $ per kW per month.

[4] Accordingly, one modification to a single standard could be a standard where the percent of revenues is set at 5% for projects with capacity factors of less than 25%, 6% for projects with capacity factors of 25% to 35% and 7% for projects with capacity factors of greater than 35%. This introduces an additional complication to the implementation of this methodology, so we have not recommended it at this time.

[5] We are not sure of the name of the office that administers Vermont's statewide property tax and refer to that office in this report as simply the "Tax Office".

d. On or before February 15th of each year, the Department of Public Service would report to the Tax Office the average value for RECs from wind projects located in Vermont or, if there are none or too few to determine that value, in New England, for the prior calendar year. This price, "REC", would be expressed as $ per MWh.

e. Prior to reporting the figures for b, c and d above, the Department of Public Service would be required to take comments from interested parties and issue its report in the form of a rule that would be subject to the usual types of appeals.

f. Once all of the above information is received by the Tax Office, the Tax Office would compute the "revenues" for each project as the sum of three factors, using MWh and nameplate rating (MW) from the same calendar year:

    i. ECP x MWh
    ii. FCM x 12 x 1000 x MW
    iii. REC x MWh

g. The Tax Office would then compute property tax payments owed as Revenues x 0.06. These payments would be owed for the then current year; that is, the computations would always be a year in arrears.

h. The Tax Office could also compute the implicit fair market value of the project as the property tax payments owed divided by 0.0138, which is the mill rate.

If we assign values to the factors noted above for calendar year 2006 as:

- ECP $65.00
- FCM $3.05
- REC $53.50

and we use the total MWh from the Project of 3,942 during calendar year 2006, then total revenues would be $522,027. Property tax obligations for the tax year beginning in 2007 would be 6% of this figure or $31,321.62 and the imputed assessed value for this same tax year would be $2,269,683.

We are available to discuss our recommendations and the substance of this report at your convenience.

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APPENDIX

Figure 1 Project Capital Costs

Pro Forma - Wind Project

Sources and Uses of Funds

USES OF FUNDS	1	Per Unit	Total	$ per kw	Pct
Turbine & Works					
Purchase price (includes tower)	1.5	$ 1,500,000	$ 1,500,000	$ 1,000.00	55.32%
Sales tax	5%		$ 75,000	$ 50.00	2.77%
Transportation of turbine to site		$ 150,000	$ 150,000	$ 100.00	5.53%
Cold weather package		$ 12,000	$ 12,000	$ 8.00	0.44%
GE 2-year parts-only warranty		$ 30,000	$ 30,000	$ 20.00	1.11%
FAA Lighting		$ 12,000	$ 12,000	$ 8.00	0.44%
			$ 1,779,000	$ 1,186.00	65.61%
Site Preparation & Installation					
Access Roads		$ 30,000	$ 30,000	$ 10.00	0.55%
Concrete Pads		$ 30,000	$ 30,000	$ 10.00	0.55%
Foundation		$ 250,000	$ 250,000	$ 83.33	4.61%
Electrical Infrastructure		$ 100,000	$ 100,000	$ 33.33	1.84%
Crane Rental & Operator Fees		$ 40,000	$ 40,000	$ 13.33	0.74%
			$ 450,000	$ 300.00	16.60%
Utility Interconnection					
Application, Eng., Distr. Review Fees		$ 25,000	$ 25,000	$ 16.67	0.92%
Power Lines and Substation		$ 200,000	$ 200,000	$ 133.33	7.38%
			$ 225,000	$ 150.00	8.30%
Other Costs					
Construction Management		$ 50,000	$ 50,000	$ 33.33	1.84%
Legal & permitting		$ 20,000	$ 20,000	$ 13.33	0.74%
Insurance (transportation, construction)		$ 25,000	$ 25,000	$ 16.67	0.92%
			$ 95,000	$ 63.33	3.50%
Interest During Construction			$ 87,500	$ 58.33	3.23%
Working Capital		$ 75,000	$ 75,000	$ 50.00	2.77%
TOTAL USES OF FUNDS:			**$ 2,711,500**	$ 1,807.67	100.00%
SOURCES OF FUNDS					
Equity	40%		1,084,600		
Debt	60%		1,626,900		
			$ 2,711,500		
TOTAL SOURCES OF FUNDS			$ 2,711,500		
TOTAL USES OF FUNDS			**$ 2,711,500**		
EXCESS (GAP)			$ -		

Figure 2 Model Input Parameters

Wind Power Project

Turbine Production Estimates for 1.5 MW GE turbine on 80 meter tower

		Low Wind	Average Wind	High Wind
Capacity	MW	1.5	1.5	1.5
Rotor diameter	meters	77	77	77
Rotor radius	meters	38.5	38.5	38.5
Swept area	sq. meters	4,656	4,656	4,656
Annual kw/h production	kWh	3,285,000	3,942,000	4,599,000
Capacity Factor	%	25%	30%	35%
Annual average wind speed	mph	13.5	14.5	15.5

Cost Assumptions

		Yr 1	Inflation
O&M Costs	$/kWh	$0.0100	3.0%
Warranty Costs	per unit	$15,000	3.0%
Tax and Audit	per unit	$5,000	3.0%
Land Lease	per unit	$2,000	3.0%
Property Taxes	per unit	Mkt Value	n.a.
Insurance	per unit	$10,000	0.0%
Property Tax Rate	%	1.38%	
Salvage Value	%	25%	

Figure 3 Financial Pro Forma Results

Pro Forma - Wind Project

4/17/07

	Period	1	2	3	4	5	6	7	8	9
INCOME STATEMENT	**Year**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
REVENUE										
Generation	kWh	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000
Capacity Factor	35%									
Capacity	kW	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Capacity for FCM Purposes	25.0%	375	375	375	375	375	375	375	375	375
Mkt Energy Price	$/kWh	$ 0.07574	$ 0.07138	$ 0.06710	$ 0.06775	$ 0.06949	$ 0.07128	$ 0.07080	$ 0.07157	$ 0.07343
Renewable Energy Credits (RECs)	$/kWh	$ 0.05500	$ 0.04000	$ 0.04000	$ 0.03500	$ 0.03500	$ 0.03000	$ 0.03000	$ 0.02500	$ 0.02500
Capacity - FCM Payment	$/kW/mo	$ 3.75	$ 4.05	$ 8.00	$ 8.24	$ 8.49	$ 8.74	$ 9.00	$ 9.27	$ 9.55
Total Revenue		$ 532,251	$ 457,282	$ 458,181	$ 442,111	$ 450,082	$ 438,575	$ 437,867	$ 422,425	$ 430,993
OPERATING EXPENSES										
Operations & Management		39,420	40,603	41,821	43,075	44,368	45,699	47,070	48,482	49,936
Warranty Service Contract		15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002
Other		17,000	17,210	17,529	17,863	18,213	18,578	18,961	19,361	19,780
Property Taxes (equipment)		37,339	31,985	31,908	30,644	31,051	30,096	29,888	28,648	29,076
Total Operating Expenses		108,759	105,248	107,172	107,974	110,514	111,762	113,829	114,939	117,793
EBITDA		**423,493**	**352,034**	**351,009**	**334,137**	**339,567**	**326,813**	**324,038**	**307,486**	**313,200**
Depreciation		175,767	175,767	175,767	175,767	175,767	175,767	175,767	175,767	175,767
Interest Expense		130,152	125,359	120,182	114,591	108,552	102,031	94,988	87,381	79,166
Net Income (Loss) before taxes		117,574	50,909	55,061	43,780	55,249	49,016	53,284	44,338	58,267
Income Tax Expense	41.0%	48,205	20,873	22,575	17,950	22,652	20,096	21,846	18,179	23,890
Federal Production Tax Credit	$0.0190	74,898	74,898	74,898	74,898	74,898	74,898	74,898	74,898	74,898
Net Income (Loss)		144,267	104,934	107,384	100,728	107,495	103,817	106,335	101,057	109,276
STATEMENT OF CASH FLOW										
CASH FLOWS FROM OPERATING ACTIVITES:										
Net Income (Loss)		144,267	104,934	107,384	100,728	107,495	103,817	106,335	101,057	109,276
Depreciation (net Accumulated Depreciation)		175,767	175,767	175,767	175,767	175,767	175,767	175,767	175,767	175,767
CASH FLOWS FROM OPERATIONS		320,033	280,701	283,151	276,495	283,261	279,584	282,102	276,824	285,042
CASH FLOWS FROM INVESTMENT ACTIVITES:										
Organization Development Costs		0	0	0	0	0	0	0	0	0
Property & Equipment		0	0	0	0	0	0	0	0	0
CASH FLOW FROM INVESTMENTS		0	0	0	0	0	0	0	0	0
CASH FLOWS FROM EQUITY ACTIVITES:										
Salvage Value										
Members Equity		0	0	0	0	0	0	0	0	0
CASH FLOWS FROM EQUITY ACTIVITES:		0	0	0	0	0	0	0	0	0
CASH FLOW BEFORE DEBT SERVICE		320,033	280,701	283,151	276,495	283,261	279,584	282,102	276,824	285,042
DEBT SERVICE (Principal)										
Note Payable		(59,918)	(64,711)	(69,888)	(75,479)	(81,518)	(88,039)	(95,082)	(102,689)	(110,904)
TOTAL LONG TERM LIABILITIES		(59,918)	(64,711)	(69,888)	(75,479)	(81,518)	(88,039)	(95,082)	(102,689)	(110,904)
TOTAL CASH FLOW		260,115	215,989	213,262	201,016	201,744	191,545	187,020	174,135	174,138
NET CASH FLOWS	(1,084,600)	260,115	215,989	213,262	201,016	201,744	191,545	187,020	174,135	174,138
Return on Invested Equity (After Taxes)		**17.36%**								

10	11	12	13	14	15
2018	2019	2020	2021	2022	2023
3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000
1,500	1,500	1,500	1,500	1,500	1,500
375	375	375	375	375	375
$ 0.07534	$ 0.07616	$ 0.07762	$ 0.07910	$ 0.07937	$ 0.08031
$ 0.02500	$ 0.02500	$ 0.02500	$ 0.02000	$ 0.02000	$ 0.02000
$ 9.84	$ 10.13	$ 10.44	$ 10.75	$ 11.07	$ 11.41
$ 439,814	$ 444,365	$ 451,485	$ 439,049	$ 441,562	$ 446,735
51,434	52,977	54,566	56,203	57,890	59,626
19,572	20,159	20,764	21,386	22,028	22,689
20,218	20,677	21,157	21,660	22,186	22,736
29,516	24,432	24,742	23,683	23,659	23,814
120,740	118,246	121,230	122,933	125,763	128,866
319,074	**326,120**	**330,256**	**316,116**	**315,800**	**317,869**
175,767	175,767	175,767	175,767	175,767	175,767
70,294	60,712	50,363	39,186	27,116	14,079
73,013	89,641	104,126	101,163	112,917	128,023
29,935	36,753	42,692	41,477	46,296	52,489
74,898					
117,976	52,888	61,434	59,686	66,621	75,534
117,976	52,888	61,434	59,686	66,621	75,534
175,767	175,767	175,767	175,767	175,767	175,767
293,742	228,655	237,201	235,453	242,388	251,300
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
					677,875
0	0	0	0	0	0
0	0	0	0	0	677,875
293,742	228,655	237,201	235,453	242,388	929,175
(119,776)	(129,358)	(139,707)	(150,884)	(162,954)	(175,991)
(119,776)	(129,358)	(139,707)	(150,884)	(162,954)	(175,991)
173,966	99,297	97,494	84,569	79,434	753,184
173,966	99,297	97,494	84,569	79,434	753,184

Figure 4 Free Cash Flows

Pro Forma - Wind Project
Free Cash Flows

Period		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Year		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Production	kWh	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000	3,942,000
Revenues																
Energy	$	298,566	281,377	264,501	267,061	273,919	280,977	279,089	282,141	289,458	296,988	300,211	305,963	311,828	312,890	316,567
Capacity	$	16,875	18,225	36,000	37,080	38,192	39,338	40,518	41,734	42,986	44,275	45,604	46,972	48,381	49,832	51,327
RECs	$	216,810	157,680	157,680	137,970	137,970	118,260	118,260	98,550	98,550	98,550	98,550	98,550	78,840	78,840	78,840
Production Tax Credits	$	74,898	74,898	74,898	74,898	74,898	74,898	74,898	74,898	74,898	74,898	0	0	0	0	0
Total Revenues	$	607,149	532,180	533,079	517,009	524,980	513,473	512,765	497,323	505,891	514,712	444,365	451,485	439,049	441,562	446,735
Revenues (per kWh)	$/kWh	$0.1540	$0.1350	$0.1352	$0.1312	$0.1332	$0.1303	$0.1301	$0.1262	$0.1283	$0.1306	$0.1127	$0.1145	$0.1114	$0.1120	$0.1133
Expenses																
O&M	$	39,420	40,603	41,821	43,075	44,368	45,699	47,070	48,482	49,936	51,434	52,977	54,566	56,203	57,890	59,626
Land Lease	$	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460	2,534	2,610	2,688	2,768	2,852	2,937	3,025
Insurance	$	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Other	$	20,000	20,600	21,321	22,069	22,844	23,649	24,484	25,350	26,248	27,180	28,148	29,152	30,195	31,277	32,400
Total Expenses	$	71,420	73,263	75,263	77,330	79,463	81,666	83,941	86,291	88,718	91,224	93,813	96,487	99,250	102,103	105,051
Expenses (per kWh)	$/kWh	$0.0181	$0.0186	$0.0191	$0.0196	$0.0202	$0.0207	$0.0213	$0.0219	$0.0225	$0.0231	$0.0238	$0.0245	$0.0252	$0.0259	$0.0266
Free Cash Flows	$	535,729	458,917	457,816	439,680	445,517	431,807	428,824	411,032	417,174	423,487	350,552	354,998	339,799	339,459	341,683
Per kWh	$/kWh	$0.1359	$0.1164	$0.1161	$0.1115	$0.1130	$0.1095	$0.1088	$0.1043	$0.1058	$0.1074	$0.0889	$0.0901	$0.0862	$0.0861	$0.0867
Capitalization Rate																
Depreciation/ Recapture	5.0%															
Property Taxes	2.0%															
Debt rate	8.0%															
Debt % of project	60.0%															
Equity rate (Before Taxes)	20.0%															
Equity % of project	40.0%															
Total	**19.8%**															
Fair Market Value	$	2,705,704	2,317,764	2,312,201	2,220,605	2,250,084	2,180,843	2,165,778	2,075,917	2,106,938	2,138,825	1,770,464	1,792,919	1,716,157	1,714,439	1,725,673
Avg (Plus Salvage Value)	$	2,757,496														
Property Tax Rate	1.38%	37,339	31,985	31,908	30,644	31,051	30,096	29,888	28,648	29,076	29,516	24,432	24,742	23,683	23,659	23,814
Per kWh	$/kWh	$0.0095	$0.0081	$0.0081	$0.0078	$0.0079	$0.0076	$0.0076	$0.0073	$0.0074	$0.0075	$0.0062	$0.0063	$0.0060	$0.0060	$0.0060
Property Taxes - Pct of Revenues	%	6.1%	6.0%	6.0%	5.9%	5.9%	5.9%	5.8%	5.8%	5.7%	5.7%	5.5%	5.5%	5.4%	5.4%	5.3%

Figure 5 Comparison of Property Tax Payment Methodologies

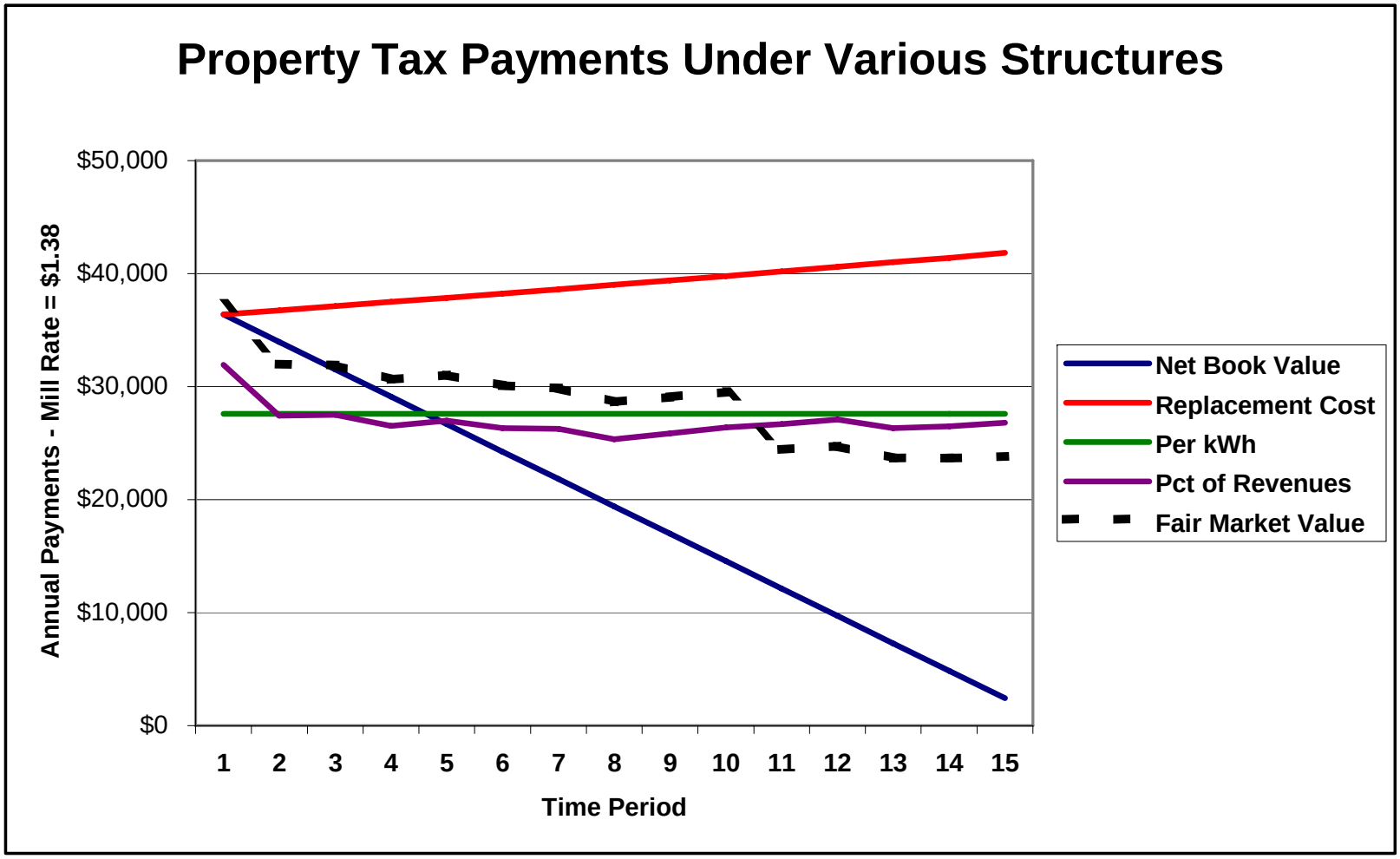
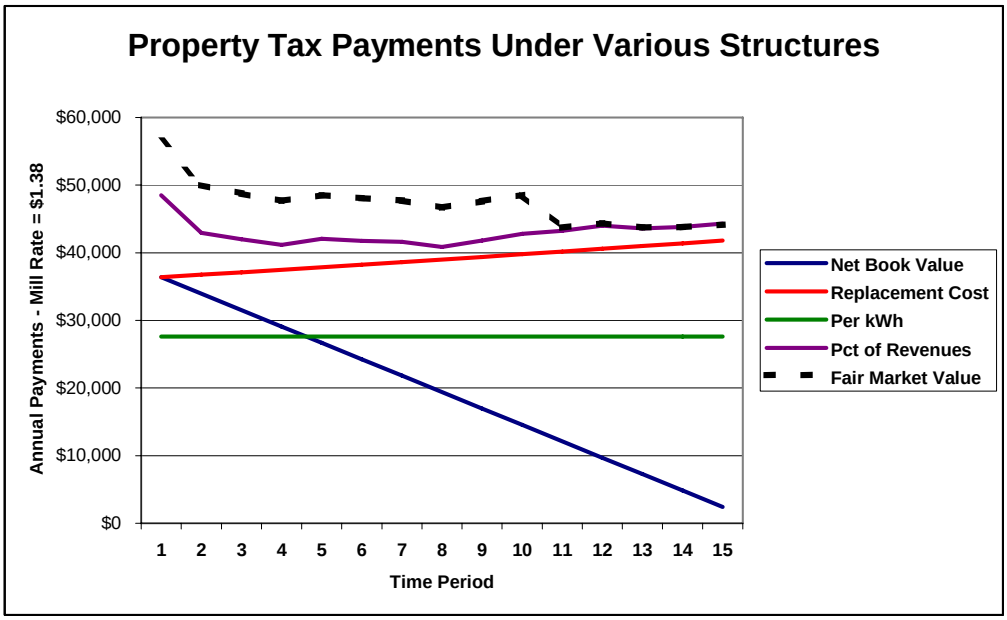


Figure 6:

Price of Natural Gas doubled compared to Base Case:



Price of Natural Gas reduced by 50% compared to Base Case: