

Report on the Valuation of Renewable Energy Property
To
The House Committees on Ways and Means, Commence and Development and
Natural Resources and Energy and the Senate Committees on Finance, Economic
Development, Housing and General Affairs and Natural Resources and Energy

By

Vermont Department of Public Service
and Vermont Department of Taxes

January 15, 2012

Authorization

This study is authorized by Section 12 of Act 45 of the 2011 Session. Section 12 reads:

Sec. 12. EXAMINATION OF RENEWABLE ENERGY PROPERTY TAX ISSUES

(a) The director of property valuation and review and the commissioner of public service shall undertake a joint examination of issues regarding the taxation of real property that includes a renewable energy plant. The examination shall consider the goals of Title 30 Chapter 89 relative to promoting in-state renewable energy resources, and in doing so shall consider whether the current method of property taxation of electric generation plants disproportionately burdens renewable energy plants.

(b) No later than January 15, 2012, the director of property valuation and review and the commissioner of public service shall report findings and analysis to the house committees on ways and means, on commerce and economic development, and on natural resources and energy, and the senate committees on finance, on economic development, housing and general affairs, and on natural resources and energy. The report shall include specific recommendations with respect to whether the current method of property taxation of renewable energy plants should be continued or whether there are other methodologies that could be more appropriate. The report should detail both the positive and negative aspects associated with each methodology and make a recommendation as to which method the director and commissioner deem to be the best option for each type of renewable energy. The types of renewable energy generation that are to be addressed in the report shall include solar (both PV and solar thermal), woody biomass (both electric generation and pure thermal) and farm methane plants (designed to supply wholesale electricity into the grid). Among the factors that should be considered in making this determination, the report should address whether renewable energy plants that are on leased land should be taxed differently from renewable energy plants that are on land owned by the plant owner as well as other factors deemed important by the director and the

commissioner. As part of the examination of this issue, parties of interest from both municipal government and the field of renewable energy development shall be consulted.

(c) For the purpose of this section, the terms “plant” and “renewable energy” shall have the same meaning as under 30 V.S.A. § 8002.

Report Introduction

The Vermont property tax, including the state Education property tax is based on the assessed value of real property. In nearly all cases, municipal listers and assessors have the responsibility to assign property values based on the properties’ fair market value. There are several appropriate methodologies commonly used to assign a fair market value on real property, including those properties with an income stream such as electric generating properties.

Vermont, like other states, is witnessing the growth of investment in renewable energy production facilities and these renewable energy properties are real property for the purpose of property taxation (refer to 32 V.S.A. §3602a). Based on current law, listers use standard valuation procedures to assign fair market values to these properties and the developers of renewable energy frequently assert that these valuations result in an onerous degree of tax burden which can forestall the build out of renewable energy sources. Given the unique nature of renewable energy properties combined with public policy benefits of renewable energy, it becomes important to consider alternative valuation methodologies that can encourage development of these facilities.

This report offers recommendations to the Vermont Legislature for providing specific mechanisms to determine how taxes could be assessed for solar, farm methane and biomass renewable energy properties. These recommendations were jointly produced by the Vermont Department of Taxes (Division of Property Valuation and Review) and the Department of Public Service to meet the following objectives.

- Provide certainty to individuals investing in renewable energy properties
- Provide certainty to municipalities in terms of tax revenues from renewable energy properties
- Establish an equitable and consistent tax rate for renewable energy properties that are similar in nature
- Provide an incentive for the investment in renewable energy properties consistent with the Comprehensive Energy Plan recently released by the Department of Public Service
- Provide revenue to maintain the Vermont Education Fund

Study Recommendations

1. Threshold for valuing solar and farm methane projects.

There currently are hundreds of small scale solar installations throughout Vermont. Despite their prevalence, to date there is no market evidence suggesting that the presence of small scale solar and farm methane projects increase the value of real estate. Given this, we recommend that the Legislature consider exempting solar installations with a nameplate capacity of equal to or less than 10 kW and farm methane generators of less than 100 kW.¹ Not only is this supported by the current lack of evidence that small scale solar and farm methane projects result in increased valuation, but this also means that there should be little or no loss of education or municipal property tax revenues due to the exemption.

While we support the exemption of these property-types at this time, it is conceivable that in the future these energy sources could materially contribute to the value of the associated property and hence affect market value. Given this and the likelihood that solar technology will evolve and improve over time, we recommend that the exemption be limited to a time period not to exceed 10 years. If after this time period there is evidence indicating that these types of small scale installations materially contribute to an increase in value of associated real estate, then it would be appropriate for the Legislature to consider ending this exemption. During this time period, the Division of Property Valuation and Review will monitor national, regional and Vermont market research that looks at whether the presence of small scale solar and farm methane facilities materially contributes to the value of real estate.

In public meetings with stakeholders conducted as part of this study, municipal representatives including listers agreed that assigning a zero value to the small photovoltaic installations probably was appropriate at this time.

2. Maintain municipal responsibility for renewable energy property assessment

The treatment of renewable energy properties for the municipal property tax (as opposed to the education tax) should remain in the hands of local listers and should not be affected by state energy policy unless the voters in the town choose to exempt or stabilize the value of such properties (refer to 24 V.S.A. § 2741 and 32 V.S.A. § 3845).

Renewable energy properties contribute to the state policy of increasing renewable energy supplies as identified in the recently published Comprehensive Energy Plan. A state mandated valuation policy imposed on the municipal grand list will result in a decrease in revenues for

¹ Within the context of this report the name-plate capacity of a facility will be the capacity assigned to a facility by the Public Service Board as part of the certificate of public good.

municipalities without appropriate deliberation in those municipalities. Further, it is likely that some municipalities will be less prone to support the location of renewable energy properties within their borders if the resulting revenue stream is significantly limited. This is different than adjusting the method of taxation for statewide funding of education. Since the passage of Act 68, the state has the authority to establish education tax rates on all properties in the state and a statewide policy that affects the Education Fund is appropriate for the Legislature to determine.

In meetings with stakeholders, municipal representative supported the continued assessment of renewable energy properties based on the current property tax system. Representatives of the renewable energy community expressed mixed sentiments about this recommendation.

The Division of Property Valuation and Review recommends that municipalities use an income based approach for valuing renewable energy properties. To facilitate this, an option could be that annually the Division would recommend a capitalization rate or a range of rates for use by municipalities. It would then be up to each jurisdiction as to whether they wanted to use the recommended rate(s). However, consistent with the recommendation above, this report recommends that small scale solar installations designed with a name-plate capacity equal to or less than 10 kW of electricity and farm methane facilities with a capacity of less than 100 kW be exempted from the property tax for a period of about 10 years.

3. Options for municipalities to exempt or stabilize the value of renewable facilities

As indicated in the last recommendation, municipalities currently have the option of voting to exempt (refer to 32 V.S.A. § 3845) or stabilize (refer to 24 V.S.A. § 2741) “alternative” energy properties. At this time, few municipalities exercise these options. The fact that few cities and towns have adopted these types of agreements is in part a function of current law in that municipalities are statutorily required to “make up” the foregone education revenues that result from nearly all locally approved exemptions and stabilizations. If the Legislature was to enact an Education Fund tax for specific types of renewable energy projects that was not based on a grand list valuation, the Legislature arguably should remove those types of properties from the education grand list as defined in Title 32, Chapter 135.² If larger scale solar or farm methane projects were removed from the education grand list, municipalities would no longer be required to raise foregone education tax revenues associated with a locally approved exemption or stabilization for these property-types thus removing this possible impediment to a community’s decision to offer these properties a lower municipal tax burden. Given this, the Departments recommend that the Legislature consider amending the current local agreement statutes affecting renewable energy properties to provide municipalities with more effective mechanisms for

² This would be consistent with removal of wind powered generation facilities with a capacity of at least five megawatts from the education grand list. 32 V.S.A. § 5401(10)(J).

providing incentives for development through lower municipal property taxes. Consistent with our last recommendation, we believe that local agreements affecting the tax burden of renewable energy properties should be at the discretion of municipalities.

4. Valuation methodology recommended by this report

After reviewing the possible mechanisms for valuing renewable energy properties, the Department of Public Service and the Department of Taxes agree that the best approach for levying the education fund tax on solar installations (greater than 10 kW name-plate capacity) and farm methane generation (greater than 99 kW name-plate capacity) is the nameplate capacity of each generation property.³ This means that the legislature should determine a rate that would be levied based on kW capacity. Furthermore, the rate should result in a tax burden that is less than the comparable tax burden resulting from a traditional property tax based on an income approach to fair market value for a solar or farm methane property. The need for a lower rate was advanced by the renewable energy community and substantiated after a review of existing and proposed project financing. It appears clear that taxation of these projects based on name-plate capacity at a rate that would result in a tax burden commensurate with taxes based on full fair market value would likely discourage development of many solar facilities at this time.

The choice of a capacity-based approach for taxation is based on:

- The ease of administration of the resulting tax
- The promotion of more efficient installations

Other possible approaches for calculating the Education Fund tax considered for this report were:

- Generation
- Income approach (providing a discount to the value as an incentive)
- Replacement cost
- Comparable sales

The difficulties in using these approaches are summarized, below.

Generation

A property tax based on the quantity of electricity generated from each renewable energy property is difficult because generation data is not available for some current facilities. In the case of some net metering facilities, a single meter provides information on the electricity

³ Within the context of this report the name-plate capacity of a facility will be the capacity assigned to a facility by the Public Service Board as part of the certificate of public good.

produced by the generator minus the electricity used by the generating property. When a net positive quantity of electricity is generated, the utility provides a cash credit to the customer, when more electricity is consumed than generated; the customer pays the utility for the net electricity consumed. It is not our intention to recommend a taxation methodology that requires additional monitoring equipment on net metering facilities.

Furthermore, a capacity based tax provides additional incentives to property owners to design, locate, operate and maintain their systems to maximize the electricity generated. The tax will be fixed based solely on the capacity of the system and therefore better productivity will not be penalized by higher taxes as would be the case in a generation-based tax. Therefore, a capacity-based tax encourages the use of the most efficient technologies available that will degrade less over time and the choice of optimal locations for projects.

Income approach

As with the generation approach, an income approach to establishing value requires significant data to complete the assessment. While, in general, an income based approach is a valuable methodology for valuing income producing properties and in fact is the approach used by the Division of Property Valuation and Review for valuing some types of generating plants such as hydroelectric facilities, the complexities of relatively small solar and farm methane installations does not favor such an approach.

Replacement cost new less depreciation

Replacement cost new is a longstanding approach for estimating the value of property; however, unless the property is depreciated appropriately it can result in values that significantly exceed market value. Given that people investing in commercial property typically rely on an estimated revenue stream for a given property to calculate its return on investment, replacement cost generally will not be the most appropriate way to gauge the value of properties with significant income streams.

Comparable sales

The sales approach is an essential approach to the valuation of residences and typical commercial buildings, but the sale of renewable energy properties is infrequent, therefore until more sales data becomes available, this approach to value does not provide a practical means for valuation of solar or farm methane properties.

5. Farm methane

The state of Vermont is already the host to 10-12 farm methane projects. The valuation of these properties is not currently consistent across the different municipalities hosting the facilities. It is the recommendation of this report that a single approach to valuation and taxation be put in place for all these facilities. Currently, it is possible that some of the existing facilities are being taxed

as current use properties while others are either not being taxed at all or are being valued in a way that does not consider their generation of electricity. The inconsistent treatment of these properties for tax purposes should be eliminated in part because electric generation facilities are not eligible for enrollment in the state's current use program as farm buildings. Beyond this, it is important to tax comparable properties consistently. The use of a capacity based system for the determination of state education taxes would achieve this goal while, at the same time, providing certainty as to education tax burdens for owners of farm methane facilities. If municipalities used an income based approach for their municipal tax assessments of methane facilities, this would end the taxation of any farm methane projects at use value and also remove them from the state's current use hold harmless reimbursement to municipalities.

6. The rate used to calculate the capacity tax and its effective date

The Education Fund tax rate assigned to renewable energy properties is important for the viability of new projects being considered, designed and constructed in Vermont. A rate that is too high will discourage development of new projects while a rate that is too low will not provide the Education Fund sufficient revenues.

Ultimately, it is up to the Legislature to develop a tax rate that meets the objectives of providing revenue for the Education Fund and providing the necessary incentive to encourage investment in renewable energy properties. As the result of input from the renewable energy community and a review of tax rates for renewable energy properties in other states, we offer the following range of rates for consideration.

Solar Photovoltaic installations (greater than 10kW nameplate capacity)

\$4 - \$10 per kW

Farm methane installations (greater than 99kW nameplate capacity)

\$15 – \$25 per kW

In considering the possible implementation of a capacity based tax, it would be our recommendation that the tax become effective prospectively for solar facilities and not apply to solar projects that have already been commissioned and are currently on the tax rolls. The rationale for this is twofold. First, the projects currently commissioned received incentives that are unlikely to benefit most of the projects that have yet to be developed. Second, the projects that have already come on line have been valued based on an income approach to value and to now change this to a capacity based tax with a rate set to serve as an incentive for development would result in lost education fund revenues.

With regard to the effective date for farm methane installations greater than 99 kW, we believe it would be appropriate to use a capacity based tax for all existing facilities. The distinction in the effective date for solar and farm methane results from the limited incentives that were available to spur the development of existing farm methane facilities. Beyond this, there are limited sites in the state where large farm methane facilities are viable and to a significant extent, it is unlikely that many more large farm-based methane facilities will be developed.

7. Property tax treatment of biomass-fueled electricity generation

The Comprehensive Energy Plan promotes the further development of solar photovoltaic and farm methane generation of electricity. The Plan recognizes the mixed benefits of biomass-fueled electricity generation. Consistent with the findings in the Energy Plan, the Department of Public Service and Division of Property Valuation and Review agree that only solar and farm methane properties should be the subject of property tax incentives. Therefore, biomass-fueled electricity generating property should continue to be assessed at fair market value using an income based approach.

8. Renewable energy for thermal production

Both solar and biomass facilities are capable of producing thermal energy as well as electricity. Typically, the production of thermal heat is considered a necessary part of real property improvements like homes and plays a limited role in the overall valuation of the property. On-site thermal production should not affect property values any differently than the installation of a new furnace or other heating source and does not require special treatment for property valuation purposes.

In the future, there may be cases of renewable energy facilities that sell thermal heat to off-site users. There is currently no regulatory practice for this business model and a consideration of the proper method for property taxation is premature at this point.

9. Leased land v. owned land

We see no policy reason to treat renewable energy property differently if located on leased land as opposed to land owned by the renewable energy property operator. Pursuant to statute (refer to 32 V.S.A. § 3602a), all electric generating facilities are treated as real property, therefore there should be no differentiation of assessed value of any electric generating improvements on leased versus fee owned land.