Vermont Group Net Metering Information & Guidelines

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2. Executive Summary

Vermont is a *national leader* in the concept and application of net metering. There are now over 1,300 small renewable power systems that have been approved for net metering within the State. Although a total of 40 states have legislatively implemented net metering, the specific policies are wide ranging. Many states limit the maximum capacity to less than 50 kW, or limit the annual output as a percentage of the individual's consumption. Vermont also imposes limitations on net meter projects, but, to encourage additional renewable energy generation, Vermont expanded the concept to include "group net metering."

Group net metering allows individual accounts holders within one utility service territory to form a group, to construct and operate a renewable power project, and to distribute net metering credits to individual participants. This is advantageous to all parties—it helps to minimize interconnection agreements, brings economy of scale to project pricing, and allows individuals who do not have optimal sites to fund their own renewable generation project.

In order to help Vermonters embark on the group net metering journey, Vermont's Clean Energy Development Fund (CEDF) and Powersmith Farm supported the creation of this document. The CEDF funds utilized were through a US Department of Energy program supported by the *American Recovery and Reinvestment Act of 2009*. This document provides information and guidelines to those interested in starting or joining group net metering projects. It will begin with a history and review of Vermont regulations and requirements that promote the ability of multiple customers within one electric utility service territory to join together in ownership of a central renewable power generation system of up to 250 kW.

This document then reviews an example project—Community-Owned Renewable Energy (CORE) and includes an example of a membership agreement. The document also includes an economic *pro forma* that provides sample financial information for a CORE project.

This document also reviews possible legal structures and outlines the pros and cons of the group net metering approach. Some initial issues are liquidity of ownership (what it takes to purchase, sell, or transfer your share), appetite for certain tax incentives, operation, maintenance, and administrative responsibilities, and resolution of billing and credit disputes.

Group net metering is an opportunity to engage those who are willing to invest in a self-generated renewable power project, but who do not have an optimal site, the knowledge to access tax incentives, or the individual funds to secure an advantageous price for the system. By aggregating these individuals as participants in a larger project—a *Community-Owned Renewable Energy project*—Vermont has a substantial

¹ Database of State Incentives for Renewables & Efficiency, *Net-Metering*, http://www.dsireusa.org/solar/solarpolicyguide/?id=17

tool to expand its renewable power generation capacity to the benefit all Vermonters. Each project will produce local jobs for installers & electricians, the power generated means more dollars stay in the community, and the ongoing CORE relationship brings communities together around the common purpose of clean generation of electricity

3. Background of Net Metering

In 1998, the Vermont Legislature authorized net metering, which allows customers to generate renewable energy and feed it into the electric grid. Within each billing cycle, the customer's utility company subtracts the amount of energy that the customer produces from the energy that the customer uses, for a reduced "net metered" bill.

Originally, the legislation limited net metering to a maximum capacity of 15kW or 150 kW for farm methane generation. In 2006, the rules were modified to include small hydro generation. The rules also included a requirement that Vermont utilities accept net metered generation up to 1% of peak demand.

To encourage additional renewable energy generation, the Vermont Legislature established additional rules, including allowing *group net metering*. These rules were most recently amended in 2009. Group net metering allows individual electric account holders within a single utility service territory to band together to construct and operate a community scale renewable power project, and distribute the net metering credits to participants. Presently, the legislation limits the max capacity of a net metered system to 250 kW, and Vermont utilities are required to accept net metered generation up to 2% of peak demand (at their option to accept beyond that level).

Group net metering brings economy of scale to renewable energy projects, allows individuals who do not have optimum sites to engage in the process of generating their own power, and helps minimize interconnection agreements.

The group as a whole receives a single, itemized bill from the local electric utility, and they decide how to divide the generation credits amongst one another. Although group net metering provides many incentives, setting up a group can be complicated—especially as the group becomes larger or adds and removes members. This document intends to provide general guidance for groups wishing to initiate a project.

Several states other than Vermont allow group net metering, and several successful groups have formed around the country—most notably, the Ellensburg, Washington Community Solar project spearheaded by Gary Nysted. The Ellensburg facility (which includes both solar and wind generation) currently serves members in Ellensburg's utility district with a max capacity of around 50 kW.² The Ellensburg project is slightly different from options available in Vermont, because the local public utility district manages the Ellensburg group and facility. In that sense, the group functions like a municipal electric utility. The benefit of that structure is that a pre-existing agency can address all administrative matters. Vermont net metering groups, on the other

² For detailed information, see http://nwcommunityenergy.org/solar/solar-case-studies/chelan-pud

hand, must address their own administrative tasks (or engage the professional services of a firm or individual with expertise in group net metering management).

To officially set up a net metering group in Vermont, the members must successfully apply for a Certificate of Public Good (CPG) from Vermont's Public Service Board (PSB). The PSB granted the first CPG for a net metering group in 2009, and has since granted approximately 20 additional group net metering CPGs. As of the end of 2010, most group net metered projects are single utility customers with multiple meters; however, some groups contain multiple customers.

When forming a group, valuable information—beyond this document—may be found in the structure and plans of previously established groups. There are many ways to successfully set up a group and the structure most fitting in one circumstance may not be most fitting in another. By perusing the information from other groups, emerging groups may find additional appealing options. The PSB orders, available for viewing on their website, provide general information about the structure, but also indicate where and by whom the group was set up.

As mentioned previously, several Vermonters and electricity customers around the country have taken advantage of group net metering; however, the process of establishing a group is not without challenges. This document attempts to address most of the foreseeable complications to make the process as simple as possible.

³ Vermont Public Service Board, http://www.state.vt.us/psb/

4. Group Net Metering Regulations Overview

As stated in the Vermont Statute that currently defines and regulates Group Net Metering (30 V.S.A. § 219a. *Self-generation and net metering*), those seeking to establish a GROUP NET METERING system must fulfill the following requirements:

- System Size: group net metering systems may have a generation capacity of no more than 250 kW.
- Facility Site: The renewable energy production facility must be sited within the same utility service area as all of the net-metering group's members.
- Participants: group net metering systems may include members with any
 metered facility within the same utility service area. Participating member
 facilities do not necessarily need to be located on contiguous property.
- Certificate of Public Good: group net metering systems require a certificate of public good, issued by the Public Service Board. (see section X below)
- Interconnection: A group net metering system is responsible for funding its grid interconnection.
- Group Administrator: group net metering systems must have a dedicated point of contact, responsible for managing communications between the group and their utility or the Public Service Board or the Department of Public Service.
- Bill Management: Rather than issue individual bills to group net metering participants, the utility will issue a single bill, which includes an account of kilowatt-hour credits produced as well as electricity usage by all system participants over the same time period. Group net metering systems are responsible for managing the allocation of energy production credits among the members. The group administrator is also responsible for collection of the members' individual payments and the group's aggregate payment to the utility.
- Conflict Resolution System: group net metering systems must establish a conflict resolution protocol for resolving conflicts between system participants that does not rely on the servicing utility, the Public Service Board or the Department of Public Service.
- *Insurance*: groups are required to carry \$100,000 of liability insurance for residential sites or \$300,000 for non-residential.

5. Group Net Metering Issues

A variety of issues were addressed in the original group net metering legislation, and additional issues that the legislation either did not address, or that have been insufficiently addressed until now, were identified through the research carried out by this project. They are listed and briefly explained below.

The uptake of group net metering by Vermonters has been slow, suggesting the persistence of obstacles of an administrative, legal, public awareness, attitudinal, or other non-technical nature.

Issues Addressed by Current Legislation

- **Distributed generation** of electricity is encouraged, potentially leading to a more robust, resilient statewide energy infrastructure.
- **Economies of scale** are encouraged, since it is less expensive per unit of power generated to build and operate larger energy production systems.
- The broad application of **best available technology** is encouraged (e.g., smart meters, last-mile distribution infrastructure).
- Given a trend toward distributed, small-scale net-metered generation, group net metering reduces the potential number of interconnection points for such systems.
- Optimization of sites: collaboration among a group with diverse access to land and buildings can lead to **optimal placement** of solar and wind installations, maximizing the use of the available resources.
- The development of community-scale renewable energy solutions is encouraged, with the technical robustness not available to smaller single-household/singlebusiness energy systems, and the extension of financial benefits among wider segments of communities, including people who do not own appropriate sites or possess much investment capital for renewable energy investment, supporting greater social equity.
- There is a need to make group net metering opportunities available to groups consisting of members who do not own **contiguous** properties, and may not even own the properties at which they pay for electricity.
- The interest is served of achieving **broad-based social and environmental benefits** (i.e., stimulating the increased use of climate-friendly, non-fossil energy sources; keeping dollars in the local economy; stimulating local jobs and technical expertise).

Additional Issues Identified by this Project

- Consumers must perceive the **legal and financial aspects** of group net metering as clear, simple, and attractive.
- Aggregate billing policies (i.e., for a net-metered group) must be clarified for situations where members of the group are billed at different rates, such as general service rate for residential rate-payers vs. time-of-day rates for other rate-payers.
- The legal and financial risks posed by partial ownership of an energy-producing capital asset must be clear, manageable, and insurable for small investors.
 Such risks include, but are not limited to:
 - Technical failure
 - Business failure, bankruptcy
 - Lawsuits among group net metering system members
 - Lawsuits relating to public nuisances
 - Natural disasters
 - Theft, sabotage, vandalism
- The viability and cost-effectiveness of interconnection for the utility must be maximized; this is achieved by locating generation sites on land owned by municipalities or community organizations that tends to be close to major transmission infrastructure.
- There will always be a potential need among group net metering system members for some members to leave the arrangement and transfer their shares, with compensation, to new members who replace them in the group net metering system.
- The opportunity must be facilitated for small, non-incorporated groups of local rate-payers/investors to access state and federal grants and tax credit incentives for investment in renewable energy generation (e.g., the Federal Renewable Investment Tax Credit (ITC), Modified Accelerated Cost-Recovery System (MACRS) depreciation) that they would otherwise not be eligible for. These can significantly reduce the capital cost of the project for the owners.
- It may also be possible to structure a group net metering arrangement so that
 entities with significant tax appetites can gain access to financial losses
 generated through application of MACRS which small investors/ group net
 metering members cannot make use of.
- The opportunity is created for groups of smaller investors to participate in markets for the **Renewable Energy Certificates** (RECs) demanded in states where legislation requires utilities to purchase them (if they do not invest in expanding their own direct renewable energy generation capacity).

6. Community Scale Project Example

The group net metering legislation provides a great deal of flexibility in the establishment of each system. It has been used by farms, groups of neighbors, and some small businesses. The blueprint that follows is an example of how group net metering can be leveraged by those interested in community-scale renewable energy systems.

Community Owned Renewable Energy (CORE) Program

While group net metering requires no more than two meters, this report is intended to provide a blueprint for those seeking to establish renewable energy facilities that serve the broadest number of potential participants. Specifically, the CORE program is modeled to fill a gap in Vermont's renewable energy profile: community-scale renewable energy. With few exceptions, there are no programs that fit this profile.

Currently, those interested in pursuing renewable generation electricity may either invest in a privately owned, on site renewable energy facility (e.g. home solar systems) or they may choose to pay a premium for renewable generation electricity provided by their utility on a per kilowatt hour basis (e.g. the Central Vermont Public Service *CowPower* program).

CORE programs would allow any ratepayer, including small businesses, homeowners, and renters, to invest in local renewable energy production, similar to a home solar system, but at a lower entry price point and without many of the limiting factors of privately owned renewable energy systems.

The CORE system is modeled as a 250 kilowatt capacity solar array. The 250 kilowatt size was chosen to maximize its potential to serve Vermont communities with locally owned, locally sited renewable energy production facilities. It is modeled as a photovoltaic system due to the relative technical and financial flexibility of photovoltaics in comparison with other renewable energy sources at this time.

In addition, the 250 kilowatt capacity provides a reasonable balance point between individual community electricity needs and the renewable electricity needs of Vermont as a whole. At this time, utilities are required to support no more than 2% of total energy production through group net metering. By limiting the recommended facility size to 250 kilowatts, this model can be adopted by a number of communities across Vermont without crossing the 2% production capacity threshold.

For Community Benefit

The goal of the CORE model is to increase community member access to locally owned renewable energy systems. A key component of the CORE program is the intentional inclusion of the community (e.g., municipality, land trust, non-profit foundation) itself as an intended beneficiary of the system. This is integrated into the model through the recommendation that CORE groups prioritize sites owned by municipalities or not-for-profit (NFP) entities. In exchange for entering into a lease with the CORE system, the municipality or NFP entity may be offered a cash payment and/or membership in the group.

Partnering with the town or equivalent offers the entity establishing the CORE system a financial advantage, as well. Preliminary research suggests such potential members' sites are often situated in more densely populated or commercially developed areas, where electric transmission infrastructure such as substations and high-voltage transmission lines are already located.

CORE Program Participation

CORE participation is calculated in production facility memberships. One membership includes rights to a percentage of array production in accordance with the relative size of the project. For example, in a 100 kilowatt array, a one kilowatt membership would be credited with 1% of all electricity generated through the system. Participants who are net energy producers may be financially compensated by net energy consumers within the group for the use of excess kilowatt credits.

The CORE program may include a blend of households and small businesses. It is recommended that the system maintains a membership level such that total annual electricity consumption exceeds total production until such time as the group can be assured cash compensation for net production. The group may choose to identify a high electricity usage business to absorb excess kilowatt hour credits on a monthly basis to avoid carrying credits over multiple months.

Participants may choose to leave the system at any time. They will be reimbursed for their membership at a rate determined by the group. The group administrator will alert the utility to the status change of the exiting participant, at which point the former member will become wholly responsible for their electricity bill.

Group Administrator

The CORE system anticipates a manager or management entity to facilitate the system. This individual or entity will be responsible for:

- Acting as the utility liaison
- Tracking system kilowatt hour production
- Receiving aggregate bills from the utility and determining energy proration
- Distributing net energy bills to group members
- Paying utility bills for group net consumption
- Managing membership flow into and out of the group
- Resolving intergroup conflicts in alignment with conflict resolution protocols
- Maintaining any required legal documents
- Managing financing relationships
- Managing expansion projects
- Supervising infrastructure operations and maintenance

Given the potential complexity of management responsibilities, it is the recommendation of this report that groups that anticipate entering into external financing relationships, including a large number of members, or pursuing expansion

projects enter into a management contract with an experienced group management entity. Management would incur fees relative to anticipated complexity.

The CORE system is modeled under a multilateral contract when under 20 participants.

For groups with more than 20 participants, the CORE system may function better as a cooperative.

7. Legal Structure and Requirements

Structure Options

There are many formation options available depending on the circumstances a particular CORE group faces. The first, and most important, is the status of the land where the facility will be sited. For instance, if the land is being donated for the purpose of a CORE project, the CORE participants can consider creating a trust to hold the land and assets, with defined units being controlled by each member who would also be appointed as a trustee. However, our assumption is that land will be held by an individual or municipality who will lease the land for an agreed term in exchange for offset utility bills.

Additionally, we assume that the project will be more financially feasible if CORE participants can take advantage of the tax benefits associated with purchasing renewable solar generation. For this reason, most incorporation models (such as the cooperatives, limited liability corporations, low-profit limited liability corporations, and limited partnerships) were considered but dismissed. Incorporation models, although providing limited liability, are largely inflexible in preserving tax benefits for multiple parties. The parties would be required to execute a complicated, delayed conveyance of their assets to the corporation at a later date, since incorporating and purchasing the facility through the incorporation would disqualify the purchase from individual incentives and require that the entity have a tax appetite to satisfy any benefit. Therefore, preservation of the tax benefits for multiple parties and not just the direct asset purchaser requires that the facility components be purchased directly by individuals seeking the tax benefit. This cannot be satisfied by incorporation models.

Lastly, the purpose of the model contract was to make the formation of a CORE group an easy, self-executing process. CORE projects should be available to any and all persons who want to participate, regardless of constraints due to costly legal drafting particular to a given situation.

For these reasons—and after considering several different models to establish the required relationship between the landowner, members, and the facility's management and operation, set forth below—we advocate the use of a multilateral licensing agreement. A model multilateral licensing agreement is set forth at Appendix B.

Benefits: Tax

Using a multilateral licensing agreement to establish CORE projects allows considerable flexibility. First, it can be designed to benefit either single or multiple tax-advantaged investors who purchase the solar photovoltaic system and receive the investment credit with limited paperwork and headache from the Internal Revenue Service. To use an incorporated entity without engaging in a somewhat complicated conveyance of the facility by CORE members to the new entity some time after purchase, the entity itself would receive the tax benefits. Individual members would not receive the benefits for personal use. The entity could also not use the benefits unless it has an "appetite," or enough taxes owed to trigger the tax benefit. This is

unlikely to be the case for any entity formed for a CORE purpose. Therefore, the use of a contract is best to preserve tax incentives.

Benefits: Tailored Administration

A contract allows for CORE members to define how they would like their relationship to be governed. We have recommended the use of a single Group Administrator who has the group's authority to pay bills, distribute offsets, and collect membership fees. The Administrator is also responsible for the operation and maintenance of the facility and for handling any correspondence from the utility. This position is elected at the inception of the CORE group, with three year terms subject to no confidence votes.

Benefits: Easier Execution at Lower Cost to Members

Using a contract to form the relationship between CORE members provides a streamlined, easier execution. There are no legal costs involved and the process is less opaque than incorporation into a limited liability entity. Furthermore, because the Vermont Public Service Board requires an insurance policy before CPG approval, and the group—at their discretion—could increase the amount of coverage, the limited liability benefits of incorporation are not compelling enough to outweigh the ease of using a simple contract.

Contract Basics

The nature of a contract that initiates the project depends largely on the relationship between the parties to the contract. However, in a circumstance like group net metering, where parties may change throughout the life of the project, Members should ensure that they are comfortable with the security of the contract.

The first and most important clause of the contract should name the parties to the contract. Because the contract creates a relationship between the members, it is important for participants to consider how the members are selected and admitted into the group. For the original founding members of the group, this means also that they must vet one another to ensure reliability.

The next significant portion of the contract deals with the Group Administrator. As mentioned previously, the Administrator plays a very important role. The administrator handles all of the group's communications, payment of electric utility bills, management of accounts, etc. Because this may be a time consuming role, the Administrator may wish to hire outside assistance. The group may also decide to structure the contract such that the administrator position is filled by a hired professional; however by electing a group member as the administrator, the group has more control over the process, the administrator has a strong interest in the group's successful operation, and decisions are streamlined. Depending on the size of the group and the group members' familiarity with one another, groups should also consider electing a deputy administrator to act in the administrator's absence.

Another key Member to the project is the landowner who provides the site for installation of the project. A group should select this member carefully for several reasons. First, because the site will greatly impact the operation of the facility; second, because a landowner who moves (such that ownership changes) may impact

the success of the group; and third, landowners declaring bankruptcy may have a negative impact on the group. Thus, it is in the Members' best interest to fully evaluate the selection of the landowner and to insure that the landowner has a significant interest in the success of the group.

Significantly, for the founding members of the group (based on the structure of the contract provided in Appendix B) all of the founding members should sign the same contract on the same day but may do so on different signature pages, as long as those signature pages are identical. This will be important for tax rebates as well as for the election of the first Group Administrator.

Certificate of Public Good

As mentioned previously, utility customers must successfully apply for a Certificate of Public Good (CPG) from the Public Service Board (PSB) before taking advantage of net metering. Group net metering customers fill out and submit one joint application. Importantly, there are two separate procedures to apply for a CPG depending on the size of the generation facility. If the facility's maximum capacity is less than 150 kW, the process is much simpler than facilities with a capacity between 150 kW and 250 kW.

Facilities less than 150 kW

For facilities with maximum capacities of less than 150 kW, the CPG process involves an application form, which is available for download from the PSB website, ⁴ and is also included for reference in **Appendix A**. To ensure the most current/accurate application is used, downloading the form directly from the PSB website is strongly encouraged.

Vermont's PSB is a quasi-judicial licensing and regulatory board with authority over public services such as electricity.⁵ As the name suggests, the purpose of the CPG application process is to ensure that the project serves the general good of the state. In issuing a certificate, the PSB considers such factors as the utility/reliability of the project, environmental and aesthetic impacts, financial impacts on the state/region, etc.⁶ As such, net-metering groups should be conscious of the impacts of their facility—not just on the electric grid, but also environmentally and aesthetically—and address any potential concerns as early as possible. Potential concerns may include, but are not limited to: impact on adjacent wetlands, run-off and rainfall management, impact on adjacent property values, etc.

To facilitate prompt and successful processing, the CPG application should include several items:⁷

⁴ See Vermont Public Service Board, Net Metering,

http://psb.vermont.gov/utilityindustries/electric/backgroundinfo/netmetering

⁵ See Vermont Public Service Board, http://www.state.vt.us/psb/

⁶ For more information, see 30 V.S.A. § 248 (2009), available at

http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=30&Chapter=005&Section=00248

⁷ For reference, refer to Appendix A.

1. Cover Letter

Though not required, is helpful in outlining the purpose of the project and any concerns that may come up (for example, if the generation facility is located adjacent to a wetland, this should be noted and addressed in the cover letter as well as Section 8 of the application). (See Appendix A for an example)

2. Group Net Metering application form

<u>Section 1</u>: Information about the applicant & landowner. Note that the "applicant" need not be the Group's dedicated point of contact (indicated in Section 7).

Section 2: Information about the installer.

<u>Section 3</u>: Certification Section. This section should be filled out with utmost caution. The group must ensure that all of the pertinent criteria are met.

<u>Section 4, 5 and/or 6</u>: Basic technical information about the system. Recall that the maximum capacity for the total system shall not exceed 250 kW. Note that Note also the notification requirements listed in these sections

<u>Section 7</u>: This section requires the specific information required by statute and Rules and can be completed in the following manner:

a. The meters to be included in the group- example table as below:

	<the utility=""> Account #</the>	Physical Address	Member Name
1		## Street	First Last
2	1		First Last
3			First Last
4	12348	## Street	First Last

b. A method for adding and removing meters included in the group:

Meters will be added or removed from the system by application to the <group name> to verify that the system's and the groups requirements are met. After the new member or departing member agrees to the terms of <group name>'s contract and after the administrator approves the addition or removal, and 30 days before the change is to become effective, the administrator will provide notice to <group's utility company>, the department of public service and the public service board.

c. A designated person:

Include full name & address.

d. Dispute resolution clause:

"In the event of any dispute, the group members and parties to the group's contract will be bound by the terms of the contract, which include provisions dictating remedies for dispute resolution and limiting any recourse to the public service board, department of public service or utility."

The applicant must also include a map showing the location of the generation system and the group members' properties. This map should be included as an attachment to the application. Most easily, this map should be a satellite image with markers indicating the various sites. For an example of such a map, see Appendix A.

Section 8:

In part (1), if there is a question about whether the facility is "near" one of the listed areas (such as a stream), attach a separate sheet indicating the distance between the stream and the closest construction near the stream. Also include a statement of the group's plan to minimize any impact on the stream (such as runoff or erosion control, both during construction and during use).

In part (2), the group should explain that they considered the visual and aesthetic impact of the generation facility. The group should also explain that how they plan to minimize any negative impact, for example, by planting shrubbery between the facility and an adjacent landowner or the road, or by planting small trees throughout (as long as they do not shade the array).

3. Attachments:

- List of parties notified (per instructions in Sections 4,5,6)
- Satellite image indicating the proposed location of the generation facility, lockable disconnect switch, and the locations of all group members' metered facilities (per instructions in Sections 4,5,6)
 - Would also be helpful to include a CAD drawing indicating the proposed configuration & location of the system.
- Environmental Impact (per instructions in Section 8)
- Visual and Aesthetic Statement (per instructions in Section 8)

Facilities under 250 kW

Groups proposing facilities with generation capacity over 150 kW but under 250 kW must formally petition the PSB for a CPG under 30 V.S.A. § 248. Because of the unique details of every group, it is highly encouraged that groups falling in this category hire a lawyer to complete the petitioning process.

Again, the purpose of the petitioning process is for the PSB to determine if the project will serve the general good of the State. The PSB considers factors ranging from reliability of the system (and the systems impact on grid stability), economic

and aesthetic impacts, environmental impact, etc. Petitioners must provide detailed information about the project, include pre-filed testimony, and anticipate a range of questions about the system, site, construction process, etc. The application process also requires the PSB to conduct both nontechnical public and technical evidentiary hearings about the proposed facility unless the PSB determines that the facility will be of limited size and impact. 9

The petitioner must provide copies of the application to the Attorney General, the department of public service, the department of health, agency of natural resources, historic preservation division, scenery preservation council, state planning office, agency of transportation, the agency of agriculture, food and markets and to the chairperson or director of the municipal and regional planning commissions and the municipal legislative body for each town and city in which the proposed facility will be located. ¹⁰ Each of these parties, as well as other interested parties, will have the opportunity to comment on the project and participate in the hearings.

Again, due to the nature and complexity of the petitioning process, legal assistance is highly encouraged.

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⁸ For more information, see 30 V.S.A. § 248 (b), available at

http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=30&Chapter=005&Section=00248

⁹ See 30 V.S.A. § 248 (j), available at

http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=30&Chapter=005&Section=00248 ¹⁰ 30 V.S.A. § 248(4)(c), available at

http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=30&Chapter=005&Section=00248

8. Financial Incentives

Note: One of the most comprehensive and current sources of information regarding incentives for renewable power is from The North Carolina State University Energy Center and their web site **www.Dsireusa.org**, the "Database of State Incentives for Renewables and Efficiency." Most information on incentives in this guidebook comes directly from the DSIRE reports and other portions have been tailored to groups following the CORE model. The specific web addresses are listed at the end of each section.

Vermont Business Solar Tax Credit

As of October 2010, the Clean Energy Development Fund (CEDF) is accepting applications for the <u>wait list</u> only, in the event that additional funding is released to support the Business Solar Tax Credit. See the program web site for updates.

Beginning in 2009, Vermont began offering the "Business Solar Tax Credit" for installations of solar energy equipment on business properties. The credit is equal to 100% of the "Vermont-property portion" of the federal business energy tax credit for solar. In effect, this constitutes a 30% state-level credit for systems and equipment that use solar energy to generate electricity. Any unused tax credit may be carried forward for no more than five years.

The full 30% credit expires for individual taxpayers (those with an individual financial interest in partnerships and other pass through entities) in 2011, leaving a 7.2% Vermont investment tax credit that stays in effect until 2016.

Any taxpayer who receives funding from Vermont's Clean Energy Development Fund is not eligible to claim the tax credit for the project (for investments made on or after January 1, 2009). Corporate taxpayers who take the Federal Treasury grant in lieu of investment tax credit are not eligible for Vermont's Business Solar Tax Credit.

The Vermont Department of Taxes issued Technical Bulletin 45 (July 2009) with additional guidance, including information about which forms to complete for individual and corporate filers. Corporate filers should use tax for BA-404 available on Vermont Department of Taxes website. Technical guidance should be available on the Vermont Taxes website when revisions to the code are instituted.¹¹

Vermont Sales Tax Exemption

Vermont's sales tax exemption for renewable-energy systems applies to systems up to 250 kilowatts (kW) in capacity that generate electricity using eligible "renewable

¹¹ Information in this section was adapted from the DSIRE website and can be found at: Database of State Incentives for Renewables and Efficiency, *Vermont: Business Tax Credit for Solar*, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=VT31F&re=1&ee=1

energy" resources to micro-combined heat and power (CHP) systems up to 20 kW, and to solar water-heating systems. Vermont's sales tax rate is 6%. 12

Vermont Small Scale Renewable Energy Incentive

Vermont's Small Scale Renewable Energy Incentive Program provides funding for new solar electric (photovoltaic) and wind turbines installations that can be part of Group Net Metering systems. Future funding of this incentive is based on the availability of ARRA grants. PV incentives *cannot* be taken if the Vermont Business Solar Tax Credit is also taken. In addition, for entities categorized as "Special" these incentives cannot be taken if the entity has received a Clean Energy Development Fund grant or loan or other ARRA grant for the same project. Incentives are as follows:

Solar Photovoltaic (PV)

Residential PV: \$0.75/Watt (W) generating capacity (DC) up to 10 kilowatts (kW). Maximum customer cap is \$ 24,000 over 2 years from 2/2010 thru 2/2014.

Commercial PV: \$0.75/W DC up to 10 kW, \$0.60/W DC for next 15 kW (up to 25 kW), maximum \$16,500.

Special Category (government, non-profit, schools, hospitals, low-income multifamily) PV: \$2.50/W DC up to 10 kW, \$1.50/W DC for next 50 kW (up to 60 kW), and \$1.00/W DC for next 90 kW (up to 150 kW), maximum incentive up to 35% of project costs.

In July 2010, 750 kW in capacity had been reserved during this sixth round of funding under the residential and commercial categories, and the PV base incentive levels were reduced from \$1.50/W to \$1.25/W. In September 2010, the next 750 kW in capacity had been reserved, triggering the second step-down and incentive levels were reduced further from \$1.25/W to \$1.00/W. In addition, the "Special Category" reservations reached their 250 kW reserved milestone and PV incentive base levels were reduced from \$3.00/W to \$2.50/W. As of October 2010, no projects above 59.9 kW will be eligible for incentives.¹³

Phone: (877) 888-7372

E-Mail: rerc@veic.org

Public Information (RERC)
Renewable Energy Resources Center
255 S. Champlain Street, Suite 7
Web Site: http://www.rerc-vt.org
Burlington, VT 05401

Green Mountain Power PV Power Incentive:

Green Mountain Power, an investor-owned electric utility operating in Vermont, offers a bonus payment to customers with net-metered photovoltaic (PV) systems. In addition to the benefits of net metering, Green Mountain Power customers with a PV

http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=VT17F&re=1&ee=1

¹² See DSIRE, Vermont: Renewable Energy Systems Sales Tax Exemption, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=VT01F&re=1&ee=1

¹³ See DSIRE, Vermont Small-Scale Renewable Energy Incentive Program,

system receive a payment of \$0.06 per kilowatt-hour (kWh) of electricity generated by the system. This payment is available to all customers of Green Mountain Power, which serves roughly one-quarter of Vermont's population. The incentive does not have a specified duration or expiration date.

In order to net meter, customers must first apply for and receive a "Net Metering Certificate of Public Good" from the Vermont Public Service Board (PSB). Net metering in Vermont is generally limited to systems up to 250 kilowatts (kW) in capacity. An additional meter must be installed to record each system's output. Green Mountain Power will reimburse customers for up to \$300 of the expenses associated with the additional meter. Customers retain ownership of the renewable-energy credits (RECs) associated with the electricity generated by PV systems. ¹⁴

Phone: (888) 835-4672

Customer Service - GMP Green Mountain Power 163 Acorn Lane

Web Site: http://www.greenmountainpower.com

Colchester, VT 05446

Federal Tax- Accelerated Depreciation

Under the federal Modified Accelerated Cost-Recovery System (MACRS), businesses may recover investments in certain property through depreciation deductions. The MACRS establishes a set of class lives for various types of property, ranging from three to 50 years, over which the property may be depreciated. The 5-year schedule for most types of solar and wind property has been in place since 1986.

In December 2010 the provision for bonus depreciation was amended and extended yet again by *The Tax Relief*, *Unemployment Insurance Reauthorization*, *and Job Creation Act of 2010 (H.R. 4853)*. Under these amendments, eligible property placed in service after September 8, 2010 and before January 1, 2012 qualifies for 100% first-year bonus depreciation. For 2012, bonus depreciation is still available, but the allowable deduction reverts from 100% to 50% of the eligible basis.

To qualify for bonus depreciation, a project must satisfy these criteria:

- The property must have a recovery period of 20 years or less under normal federal tax depreciation rules;
- The original use of the property must commence with the taxpayer claiming the deduction;
- The property generally must have be acquired during the period from 2008 2012;
 and
- The property must have be placed in service during the period from 2008 2012.

If property meets these requirements, the owner is entitled to deduct a significant portion of the adjusted basis of the property during the tax year the property is first placed in service. As noted above, for property acquired and placed in service after September 8, 2010 and before January 1, 2012, the allowable first year deduction is

¹⁴ See DSIRE, Vermont: Green Mountain Power – Solar GMP, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=VT34F&re=1&ee=1

100% of the adjusted basis. For property placed in service from 2008 - 2012 for which the property placed in service date does not fall within this window, the allowable first-year deduction is 50% of the adjusted basis. In the case of a 50% first year deduction, the remaining 50% of the adjusted basis of the property is depreciated over the ordinary MACRS depreciation schedule. The bonus depreciation rules do not override the depreciation limit applicable to projects qualifying for the federal business energy tax credit. Before calculating depreciation for such a project, including any bonus depreciation, the adjusted basis of the project must be reduced by one-half of the amount of the energy credit for which the project qualifies.

For more information on the federal MACRS, see *IRS Publication 946, IRS Form 4562:* Depreciation and Amortization, and Instructions for Form 4562. ¹⁵

Public Information - IRS Phone: (800) 829-1040

Web Site: http://www.irs.gov

Federal Tax- Investment Tax Credit (or Grant)

Note: The American Recovery and Reinvestment Act of 2009 allows taxpayers eligible for the business ITC to receive a grant (also known as a 1603 grant) from the U.S. Treasury Department instead of taking the business ITC for new installations. The grant is only available to systems where construction begins prior to December 31, 2011. The Treasury Department issued Notice 2009-52 in June 2009, giving limited guidance on how to take the federal business ITC instead of the federal renewable electricity production tax credit.

The federal business energy investment tax credit available under 26 USC § 48 was expanded significantly by the <u>Energy Improvement and Extension Act of 2008</u> (H.R. 1424), enacted in October 2008. This law extended the duration -- by eight years -- of the existing credits for solar energy, fuel cells and micro turbines; increased the credit amount for fuel cells; established new credits for small wind-energy systems, geothermal heat pumps, and combined heat and power (CHP) systems; allowed utilities to use the credits; and allowed taxpayers to take the credit against the alternative minimum tax (AMT), subject to certain limitations. The credit was further expanded by <u>The American Recovery and Reinvestment Act of 2009</u>, enacted in February 2009.

In general, credits are available for eligible systems placed in service on or before December 31, 2016:

• Solar: The credit is equal to 30% of expenditures, with no maximum credit. Eligible solar energy property includes equipment that uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat. Hybrid solar lighting systems, which use solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight, are eligible. Passive solar systems and solar pool-heating systems are

¹⁵ See DSIRE, Federal: Modified Accelerated Cost-Recovery Systems (MARCS) + Bonus Depreciation (2008-2012), http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US06F&re=1&ee=1

not eligible. (The Solar Energy Industries Association has published a document that provides answers to frequently asked questions regarding the federal tax credits for solar energy.)

- Small Wind Turbines: The credit is equal to 30% of expenditures, with no maximum credit for small wind turbines placed in service after December 31, 2008. Eligible small wind property includes wind turbines up to 100 kW in capacity. (In general, the maximum credit is \$4,000 for eligible property placed in service after October 3, 2008, and before January 1, 2009. The American Recovery and Reinvestment Act of 2009 removed the \$4,000 maximum credit limit for small wind turbines.)
- Combined Heat and Power (CHP): The credit is equal to 10% of expenditures, with no maximum limit stated. Eligible CHP property generally includes systems up to 50 MW in capacity that exceeds 60% energy efficiency, subject to certain limitations and reductions for large systems. The efficiency requirement does not apply to CHP systems that use biomass for at least 90% of the system's energy source, but the credit may be reduced for less-efficient systems. This credit applies to eligible property placed in service after October 3, 2008.

In general, the original use of the equipment must begin with the taxpayer, or the system must be constructed by the taxpayer. The equipment must also meet any performance and quality standards in effect at the time the equipment is acquired. The energy property must be operational in the year in which the credit is first taken.

The American Recovery and Reinvestment Act of 2009 repealed a previous restriction on the use of the credit for eligible projects also supported by "subsidized energy financing." For projects placed in service after December 31, 2008, this limitation no longer applies. Businesses that receive other incentives are advised to consult with a tax professional regarding how to calculate this federal tax credit. 16

* The American Recovery and Reinvestment Act of 2009, which allows PTC-eligible facilities to use the 30% ITC, has implications for some technologies that were already potentially eligible for either incentive in some form. Certain geothermal and open- or closed- loop biomass systems (including biomass CHP projects) now qualify for a 30% tax credit through December 31, 2013, the in-service deadline for these technologies under the PTC. Wind-energy systems of all sizes -- not only systems of 100 kW or less -- also now qualify for the 30% ITC through the wind-energy PTC in-service deadline of December 31, 2012. Applicants should refer to the eligibility definition contained in the PTC to determine if and how their project might qualify for this treatment.

Public Information - IRS Phone: (800) 829-1040

Web Site: http://www.irs.gov

¹⁶ See DSIRE, Federal: Business Energy Investment Tax Credit (ITC), http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US02F

USDA- Rural Energy for America Program (REAP)

The Food, Conservation, and Energy Act of 2008 enacted by Congress in May 2008, converted the federal Renewable Energy Systems and Energy Efficiency Improvements Program,* into the Rural Energy for America Program (REAP). Similar to its predecessor, the REAP promotes energy efficiency and renewable energy for agricultural producers and rural small businesses through the use of (1) grants and loan guarantees for energy efficiency improvements and renewable energy systems, and (2) grants for energy audits and renewable energy development assistance. Congress has allocated funding for the new program in the following amounts: \$55 million for FY 2009, \$60 million for FY 2010, \$70 million for FY 2011, and \$70 million for FY 2012. REAP is administered by the U.S. Department of Agriculture (USDA). In addition to these mandatory funding levels, there may also be discretionary funding issued each year.

Of the total REAP funding available, approximately 88% is dedicated to competitive grants and loan guarantees for energy efficiency improvements and renewable energy systems. These incentives are available to agricultural producers and rural small businesses to purchase renewable energy systems (including systems that may be used to produce and sell electricity) and to make energy efficiency improvements. Funding is also available to conduct relevant feasibility studies, with approximately 2% of total funding being available for feasibility studies. Eligible renewable energy projects include wind, solar, biomass and geothermal; and hydrogen derived from biomass or water using wind, solar or geothermal energy sources. These grants are limited to 25% of a proposed project's cost, and a loan quarantee may not exceed \$25 million. The combined amount of a grant and loan guarantee may not exceed 75% of the project's cost. In general, a minimum of 20% of the funds available for these incentives will be dedicated to grants of \$20,000 or less. The USDA likely will announce the availability of funding for this component of REAP through a Notice of Funds Availability (NOFA).

The USDA will also make competitive grants to eligible entities to provide assistance to agricultural producers and rural small businesses "to become more energy efficient" and "to use renewable energy technologies and resources." These grants are generally available to state government entities, local governments, tribal governments, land-grant colleges and universities, rural electric cooperatives and public power entities, and other entities, as determined by the USDA. These grants may be used for conducting and promoting energy audits; and for providing recommendations and information related to energy efficiency and renewable energy. Of the total REAP funding available; approximately 9% is dedicated to competitive grants for energy technical assistance. 17

Public Information - RBS U.S. Department of Agriculture Rural Business - Cooperative Service USDA/RBS, Room 5045-S, Mail Stop 3201 Phone: (202) 690-4730

Web Site:

http://www.rurdev.usda.gov/rbs

1400 Independence Avenue SW, Washington, DC 20250-3201

¹⁷ See DSIRE, Federal: USDA – Rural Energy for America Program (REAP) Grants, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US05F&re=1&ee=1

9. Interaction with Vermont Utilities

The two most pertinent regulations for Group Net Metering are PSB Rule 5.100, which lays out the general terms for Net Metering Systems and PSB Rule 5.500 which is specific for Net Metering Systems over 150 kW in size.

The maximum size for a Net Metered renewable power system is currently 250 kW (AC). In addition the PSB includes Net Metering for fossil fueled combined heat and power system (Cogeneration), but the maximum size is 20 kW.

To protect baseload capacity requirements and preserve grid power quality, Vermont utilities are only required to accept Net Metering projects that total up to a capacity of 2% of the utilities reported peak demand from 1996 or more recent years-whichever is greater. So if a large number of Net Metering projects come online in the future, when overall Net Metered capacity meets the 2% threshold, then the utilities can refuse to allow additional interconnections. Accepting additional net metered projects beyond this level is at the utilities option.

There are two major submittals needed before installing a Net Metered system. The first is the application for a Certificate of Public Good, discussed previously in Section 7. If the application is reviewed and approved, the result is a Certificate of Public Good.

The Certificate is forwarded to the proper utility, however the current CPG format does not inform the utility if the project is an individual Net Metered entity or a Group Net Metered system, nor does the CPG include the specific member account information.

In addition to the CPG, an *Interconnection Agreement* must be made with the utility for any project evaluated under Rule 5.500. The utility may deem it necessary to employ Rule 5.500 for <u>any</u> size project, though it is only mandatory for projects over 150 kW. The application for this agreement is standardized and available from each utility. It is imperative that the application for the agreement is complete when submitted. There are "Net Metered Technical Specifications" that are required to be met to ensure the security of the grid and safety of operators.

Net-metered PV (solar electric) systems must conform to applicable electrical safety, power-quality and interconnection requirements established by the National Electrical Code (NEC), the Institute of Electrical and Electronic Engineers (IEEE) and Underwriters Laboratories (UL).

All systems must have a utility-accessible, lockable disconnect switch unless waived by the host utility.

The Group Administrator must be identified with all pertinent contact information. This person (or organization) will be responsible for timely payments of the monthly aggregated bill as well as the Point of Contact for any issues that arise.

Systems must be tested upon installation and every two years to determine that controls are functioning correctly to de-energize the system if the grid is shut down (called *anti-islanding* controls).

Utilities can always interconnect the Group Net Metered system, what is at issue is how the interconnection affects the existing grid, and the associated costs involved to make the interconnection viable. The utility needs to protect the integrity of the power grid for all its customers, and the safety of its workers. Net Metered systems that meet certain technical screening criteria are eligible for the "fast track" interconnection process, which requires no special studies. Systems not eligible for "fast track" interconnection may require a feasibility study, a system-impact study, and/or a facilities study. The utilities will estimate the cost of these studies, and it is the applicant who is responsible to cover the cost. Reasonable, specific timelines apply to "fast track" interconnection and general interconnection.

The Group Net Metered Project is also responsible for any grid infrastructure changes necessary for a viable interconnection.

During the interconnection process, either party may petition the PSB for resolution of a dispute.

The PSB has developed model interconnection documents, including a feasibility study agreement, a system impact study agreement, a facilities study agreement, an interconnection agreement, technical requirements and operator protocols. The utilities are not required to use the PSB models, but do have substantially similar templates.

Suggestions when Working with Your Utility

Talk to your **Point of Contact** (POC) at the utility early and often-open communication is important to streamlining the process-think of your utility as your **partner** in this endeavor.

Submit only a complete application! This includes all correct information regarding account holders, including proper names and addresses. Incomplete applications will be given a "healing" period outlined in Rule 5.500, but missing information delays the approval process.

Have an open and early discussion about site options- this can greatly affect the degree and complexity of grid integration studies as well as the level of grid upgrades that may be required to accommodate the interconnection.

In general it is more cost effective to:

- Be close to a major transmission line
- Have 3 phase power at the site
- Not be towards the end of a power line

Let the Utility POC know the status of the project- if it has been delayed, cancelled and most importantly- when it is ready to be put into service.

The Utility staff must be able to access to the main disconnect switch at the site so they can turn the generation equipment off if needed. This is important to consider if the system is roof mounted, fenced in or otherwise secured. Work out an access plan with the Utility early in the process.

The Group Administrator is the person <u>solely responsible</u> for educating the members regarding any rate changes and other implications due to joining the group- the utility does not have this responsibility. The excess power is credited at a standard rate, and does NOT include any *Time of Use* or **Demand** values (Peak/Off Peak).

The Administrator must have enough reserve funds to ensure prompt payment to the utility (if members are late in payment to Project Manager). If the Administrator is late in payment, <u>all</u> members get late notices and possible disconnection (with all associated costs).

The Administrator must send the change of membership account notice to the utility should be no less than 30 days. The actual change to membership should only occur at the end of a billing cycle.

Information on some of the Vermont Utilities

Green Mountain Power

Point of Contact: Pam Allen

Title: Electrical Engineer Phone: (802) 655-8766

Email: Allen@greenmountainpower.biz

Address: 163 Acorn Lane, Colchester, VT 05446-6611

Regarding rollover credits:

If there is excess power produced over a 12 month period, it at Green Mountain Power's *option* to roll over the credit, pay the Group Net Metered project the value of the credit, or cancel the credit.

Payment Actions:

Payment is due upon receipt of the invoice. There is no penalty if paid before the next invoice is delivered (typically 28 days). If invoice is not paid in next billing cycle then commercial rate accounts are charged 1%/month over the original invoice. If the invoice is not paid by the end of the next billing cycle then a *disconnect notice* will be sent to all account holders.

Service Charges:

Green Mountain Power has the right to charge group net metered accounts for additional services including: individual meter reading, manual compilation of account groups, as well as any other activity beyond the normal simple billing procedure. They are currently not charging for these services but retain the right to charge for them in the future.

Washington Electric Cooperative Inc.

Point of Contact: Bill Powell

Title: Director, Products & Services

Phone: 802.223.5245 x 329 Email: bill.powell@wec.coop

Address: P.O. Box 8, East Montpelier VT 05651

Regarding rollover credits:

If there is excess power produced and not used within a 12 month period, the value of the power reverts to Washington Electric Cooperative without compensation to the Net Group Metering customers

Payment Actions: per PSB rule 3.100.

Services Charges:

Washington Electric Cooperative has the right to charge group net metered accounts for additional services including: individual meter reading, manual compilation of account groups, as well as any other activity beyond the normal simple billing procedure. They are currently not charging for these services but retain the right to charge for them in the future.

WEC PLANS to work with their billing software vendor on enabling master account billing. Both WEC & VEC use the same billing cooperative/vendor (NISC). This will allow us to bill various member accounts with a single invoice. The billing format that WEC has selected should provide all of the individual accounts billing details on the master bill.

Central Vermont Public Service

Point of Contact: Larry Dodds

Title: Power Systems Specialist III

Phone: (802) 747-5456 Email: LDodds@CVPS.com

Address: 77 Grove Street, Rutland, VT 05701

Regarding rollover credits:

If there is excess power produced and not used within a 12 month period, the value of the power reverts to Central Vermont Public Service without compensation to the net group metering customers,

Payment Actions:

Payment is due upon receipt of the invoice. There is no penalty if paid before the next invoice is delivered (typically 30 days). If the invoice is not paid by the end of the next billing cycle then a *disconnect notice* will be sent to <u>all</u> account holders. If invoice is not paid within 45 days then members can be disconnected, and are responsible for any and all reconnect costs.

Service Charges:

Central Vermont Public Service has the right to charge group net metered accounts for additional services including: individual meter reading, manual compilation of account groups, as well as any other activity beyond the normal simple billing procedure. They are currently not charging for these services but retain the right to charge for them in the future.

Vermont Electric Cooperative, Inc.

Point of Contact: Dave Lahar

Title: Key Accounts Manager

Phone: (802) 730-1214

Email: dlahar@vermontelectric.coop

Address: 42 Wescom Road, Johnson, VT 05656-9579

Regarding rollover credits:

If there is excess power produced and not used within a 12 month period, the value of the power reverts to Vermont Electric Cooperative without compensation to the Net Group Metering customers.

Payment Actions:

Payment is due upon receipt of the invoice. There is no penalty if paid before the next invoice is delivered (typically 30 days). If invoice is not paid within 45 days then all members will receive a **Disconnect Notice**. After receiving the Disconnect Notice, if payment is not made within 5 days (summer) or 8 days (winter) the members may be disconnected, and are responsible for any and all reconnect costs.

Service Charges:

Vermont Electric Cooperative has the right to charge group net metered accounts for additional services including: individual meter reading, manual compilation of account groups, as well as any other activity beyond the normal simple billing procedure. They are currently not charging for these services but retain the right to charge for them in the future.

VEC has been working with their billing software vendor on enabling master account billing. This will allow us to bill various member accounts with a single invoice. The billing format that we have selected should provide all of the individual accounts billing details on the master bill.

For group net metering, we will add the generation meter account to the master bill. The generation account customer service charges and generation dollar credits will be calculated at the non-demand general service (commercial) rates.

10. Conclusion

There are many different options for approaching a renewable energy project, but this document is specifically intended to provide an overview and sufficient guidance for Vermonters to establish a community-scale renewable energy project. Groups that are interested in forming a CORE project should consult the Public Service Board website and Vermont legislation to determine if there have been any procedural changes to group net metering since this document was written. If a group has any additional questions, the Department of Public Service and the Public Service Board are both excellent resources.