

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF OREGON**

In the Matter of Revising Net Metering Rules Regarding  
Aggregation of Meters on Different Rate Schedules

Docket No. AR 548

**OPENING COMMENTS OF THE  
INTERSTATE RENEWABLE ENERGY COUNCIL**

**I. Introduction**

On January 14, 2011, the Oregon Public Utilities Commission (Commission), after holding two workshops, issued a Notice of Proposed Rulemaking in Docket No. AR 548 regarding the revision of Oregon's net metering rules. Specifically, the Commission is seeking feedback on proposed changes to OAR 860-039-0065 that allow the aggregation of meters that are on different rate schedules, among other proposed revisions.

IREC appreciates the opportunity to comment in this proceeding. IREC has worked as a non-profit organization for nearly three decades to accelerate the sustainable utilization of renewable energy resources. As part of those efforts, we have participated in proceedings before over 30 state utility commissions concerning net metering, interconnection and community renewables policies. To assist stakeholders in their efforts, IREC has developed model interconnection standards and net metering rules that present best practices in these vital areas.<sup>1</sup> Moreover, IREC has worked with utilities, solar developers, community members, and other stakeholders from throughout the United States to develop model rules that can be used as a

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<sup>1</sup> IREC's *Model Interconnection Standards and Procedures for Small Generator Facilities* are available at [http://irecusa.org/fileadmin/user\\_upload/ConnectDocs/IREC\\_IC\\_Model\\_October\\_2009.pdf](http://irecusa.org/fileadmin/user_upload/ConnectDocs/IREC_IC_Model_October_2009.pdf). IREC's *Model Net Metering Model Rules* are available at [http://www.irecusa.org/fileadmin/user\\_upload/ConnectDocs/IREC\\_NM\\_Model\\_October\\_2009-1.pdf](http://www.irecusa.org/fileadmin/user_upload/ConnectDocs/IREC_NM_Model_October_2009-1.pdf).

starting point for a successful community renewables program.<sup>2</sup>

IREC is generally supportive of the Commission's proposed revisions in that they open participation in net metering to a broader range of customers. In turn, this will allow Oregon to grow its already successful renewable energy market. IREC offers the following comments on the proposed revisions to the rules and on Oregon's net metering program more generally.

## **II. Aggregation of Meters on Different Rate Schedules**

IREC supports the proposed modification to OAR 860-039-0065 to allow for the aggregation of meters on different rate schedules because we agree with the Commission that the benefits outweigh the costs. Based on IREC's review and synthesis of studies performed for major utilities in California, Arizona and Texas in the past decade,<sup>3</sup> the benefits of net metering include utilities' avoided fuel expenses, avoided line losses, and some degree of capacity benefits, which in turn suggest various secondary benefits, such as those described by the Commission. The costs are typically understood to be the utilities' lost revenue and any administrative costs. In many situations, once a careful analysis of the relevant costs and benefits is performed, these benefits exceed costs. Therefore, we support the Commission's assessment of the benefits and costs of the change included in its Notice of Proposed Rulemaking—although there may be minor costs to utilities, the benefits to ratepayers, businesses, and the State will outweigh them.

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<sup>2</sup> IREC's *Community Renewables Model Program Rules* are included as Attachment A to provide additional context to our comments in this docket. They are also available at [http://irecusa.org/wp-content/uploads/2010/11/IREC-Community-Renewables-Report-11-16-10\\_FINAL.pdf](http://irecusa.org/wp-content/uploads/2010/11/IREC-Community-Renewables-Report-11-16-10_FINAL.pdf).

<sup>3</sup> These studies are: (1) Hoff et al., *The Value of Distributed Photovoltaics to Austin Energy and the City of Austin* (2006, revised 2008); (2) R.W. Beck, Inc., *Distributed Renewable Energy Operating Impacts and Valuation Study* (2009); and (3) Cal. Pub. Utils. Comm'n, *Decision Adopting Cost-Benefit Methodology for Distributed Generation*, Decision No. 09-08-026, Docket No. R.08-03-008 (2009).

Moreover, IREC agrees with the Commission's understanding that the relevant statute, ORS 757.300, does not support the current prohibition on aggregating across rate schedules. We appreciate the Commission's explanation of the complaints it has received regarding the current prohibition. IREC believes that the reasons that the Commission has laid out offer ample support for the modifications it proposes. In addition, we offer the following recommendations that we believe could further improve Oregon's rules regarding meter aggregation.

**A. Refine Definition of "Contiguous"**

OAR 860-039-0065(1)(a), as revised, requires that "[t]he aggregated meter is located on the customer-generator's premises or property that is contiguous to the premises associated with the designated meter." Therefore, the meaning of "contiguous" is key to the implementation of meter aggregation and IREC commends the Commission's efforts to include a specific definition of the word. Based on our review of the definitions of "contiguous" in several states' net metering statutes and rules, and our work in California related to aggregated net metering and virtual net metering, IREC believes that the definition in OAR 860-038-0005(60)(b)(C) is appropriate. Specifically, it allows for customers to aggregate meters on a wide range of contiguous properties while also providing a limit on the geographic boundaries of aggregation that should minimize concerns regarding use of the distribution system. However, we recommend that the Commission insert the language from OAR 860-038-0005(60)(b)(C) into OAR 860-039-0005(3)(d) rather than referencing OAR 860-038-0005(60)(b)(C) as proposed, since OAR 860-038-0005(60)(b)(C) is subject to change independent of revisions to the net metering rules. Thus, IREC proposes that OAR 860-039-0005(3)(d) would read:

"Contiguous" means a single area of land that shall be considered to be contiguous even if there is an intervening public or railroad right of way, provided that rights of way land on which municipal infrastructure facilities exist (such as street lighting, sewerage transmission, and roadway controls) shall not be

considered contiguous ~~has the meaning given on OAR 860-038-0005(60)(b)(C).~~

We also urge the Commission to remain open to suggestions from other stakeholders that may offer language more appropriate for Oregon's net metering program.

**B. Define "Premises"**

As with the meaning of "contiguous," IREC believes that the meaning of "premises" is similarly key to the implementation of meter aggregation under proposed OAR 860-039-0065(1). However, there is currently no definition of premises in the net metering statute or proposed rules, nor could we find an adequate definition in other Oregon statutes or rules. As with definitions of "contiguous," IREC has reviewed the definitions of "premises" in several states' net metering statutes and rules, and has addressed the issue in depth in our work in California on aggregated and virtual net metering. Based on these efforts, we recommend the following language as OAR 860-039-0005(3)(r), with the following subsections renumbered accordingly:

"Premises" means all of a customer's owned, leased or rented real property and apparatus employed on contiguous parcels of land and managed as part of the same property. This includes, but is not limited to, condominium projects, community associations, business parks, merchant associations, farms, and campuses.

IREC's proposed definition would ensure that a wide range of properties can participate in renewable power while still providing geographic boundaries that should minimize concerns related to distribution system use. Our proposed definition would also encompass property owned by a single customer, such as a shopping mall or business park, that appear to be a single piece of property but actually sit on multiple parcels that for whatever reason have not been formally combined into a single parcel.

**C. Clarify at What Point in Time OAR 860-039-0065(1)(c) Applies**

Because the configuration of the distribution system may change over time, IREC

believes it is important to clarify within the rules that the requirement that meters must be on the same primary feeder be applied only at the time of application for meter aggregation. It is especially important that Oregon's meter aggregation rules are clear on this point because renewable energy systems are long-lived assets. Over time, should the configuration of the distribution system change such that the meters a customer has already aggregated would no longer qualify because they are no longer on the same primary feeder, a customer should still be allowed to engage in meter aggregation. In our proposed changes to OAR 860-039-0065 at the end of these comments, we offer additional language in OAR 860-039-0065(1)(c) that addresses this concern.

**D. Remove Meter Ranking Requirement**

Consistent with IREC's *Net Metering Model Rules*, IREC recommends that the Commission eliminate OAR 860-039-0065(5), which requires a customer to rank his meters within certain parameters, and adjust related provisions accordingly. Allowing customers as much flexibility as possible in ranking their meters allows them to do so in the way that best fits their individual situation.<sup>4</sup> At the same time, it should not be any more difficult for the customer's utility to administer. Our proposed change to OAR 860-039-0065 at the end of these comments reflects this suggestion.

**E. Pluralize "Aggregated Meter" to Read "Aggregated Meters" Throughout**

In its proposed revisions to OAR 860-039-0065, the Commission sometimes refers to "aggregated meter" in the singular. IREC believes it is more appropriate to use the plural—"aggregated meters"—since customers may frequently be aggregating more than one meter. In our proposed changes to OAR 860-039-0065 at the end of these comments, we include this

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<sup>4</sup> See Interstate Renewable Energy Council, *Net Metering Model Rules* § (b)(1) (2009).

suggested change, as well.

### **III. Change in System Size Cap**

IREC supports the Commission's proposed language in OAR 860-039-0010(1)(b) raising the size limit on residential customers' net metering facilities to two megawatts (MW) when the customer requests aggregated metering. Depending on the individual situation, the meters being aggregated may include meters on commercial, industrial and/or agricultural tariffs with greater loads than seen in a typical home. In this situation, we agree that it makes sense to allow the net-metered system serving these meters to be larger since they will likely be serving a larger load. The relevant statutory provision, ORS 757.300(8), permits the Commission's proposed revision since it allows the Commission to provide by rule "for a higher limit [than 25 kW or less] for customers of a public utility."

In addition, IREC encourages the Commission to consider joining the five other states that, instead of implementing a capacity size limit, have opted to require systems to be sized based on a customer's historical consumption. Usually this concept is expressed as a percentage of a customer-generator's load, ranging from 100 percent to 150 percent. Three of these states—Colorado, New Jersey and Arizona—have eliminated the capacity cap entirely and use only the percentage requirement.<sup>5</sup> In general, IREC supports this move because the size of a net metered system should be determined only by a customer's load and demand characteristics, and by the

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<sup>5</sup> Arizona allows systems to be sized up to 125 percent of a customer's total connected load. *See* A.A.C. § 14-2-2302(13). Colorado allows systems to be sized up to 120 percent of a customer's average annual consumption. *See* 4 C.C.R. § 723-3; Rule 3664(a). New Jersey allows systems to be sized up to 100 percent of customer's annual on-site energy consumption. *See* N.J.A.C. § 14:8-4.3. Delaware allows systems to be sized up to 110 percent of a customer's expected aggregate consumption; however, it also has system capacity caps ranging from 25 kW to 2 MW depending on the type of customer. *See* Del. Code tit. 26, § 1014(d)(1), (5). Nevada allows systems to be sized up to 150 percent of a customer's peak demand; however, it also has a system capacity cap of one MW. *See* N.R.S. § 704.771.

nature of the grid, not by an arbitrary cap.<sup>6</sup> Furthermore, ORS 757.300(d)(D) requires that a net metering facility be “intended primarily to offset part or all of the customer-generator’s requirements for electricity.” This requirement addresses any concerns related to the oversizing of net metering facilities by focusing the size of a facility on the customer-generator’s requirements for energy.

IREC believes that there is no policy justification for limiting system size to an arbitrary level. In fact, in certain cases, capacity caps can prevent customers from correctly sizing their systems to meet their own demand, thus undermining one of the primary drivers of net metering and distributed generation. Moving to a facility size limit based on connected load will allow customers with loads above two MW, such as universities, military installations or corporate campuses, to participate in Oregon’s net metering program. Therefore, IREC urges the Commission to consider a cap on system size that refers only to a customer’s load as discussed in IREC’s *Net Metering Model Rules*.<sup>7</sup>

#### **IV. Meter Aggregation on Multitenant Properties**

IREC believes that one potentially beneficial application of meter aggregation could occur in a situation where a multitenant building owner or landlord, or other entity such as a condominium association, installs a renewable energy facility and allows tenants to aggregate their meters with his own, in order to jointly participate in greening their energy supply. Under such a scenario, a renewable energy facility could be physically attached to the “designated

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<sup>6</sup> Network for New Energy Choices, The Vote Solar Initiative, Interstate Renewable Energy Council & N.C. Solar Center, *Freeing the Grid: Best Practices in State Net Metering Policies and Interconnection Procedures* 9 (2010), available at <http://www.newenergychoices.org/uploads/FreeingTheGrid2010.pdf>.

<sup>7</sup> See Interstate Renewable Energy Council, *Net Metering Model Rules* § (b)(1) (2009). Service entrance capacity is based on the equipment at the point where electrical service enters a building, including the main junction box, circuit breakers and/or fuses, and meters.

meter” measuring common load but would be sized to offset up to all of the load of participating tenants or other occupants of the premises. The utility serving the premises could apportion the excess energy that the facility would generate to the designated meter and aggregated meters based on allocations or rankings of meters provided by the landlord or other designated entity.<sup>8</sup>

To facilitate such arrangements, we believe the Commission should clarify that aggregation of occupant and common area load by a landlord, building owner or other designated entity as part of Oregon’s meter aggregation program is permitted in order to allow occupants of multitenant buildings to take advantage of the benefits of net metering and renewable energy generation.

California faced a similar question regarding the aggregation of tenants’ meters in the context of its Multifamily Affordable Solar Housing (MASH) program,<sup>9</sup> and its approach to the issue may be instructive for the Commission. As the California Public Utility Commission (CPUC) explained in its Order adopting the MASH program, “[t]he VNM [virtual net metering] concept is designed to overcome the challenge of allocating benefits from a single solar energy system to tenants in a multifamily housing whose units are individually metered.”<sup>10</sup> Parties in that proceeding took a range of stances on VNM, some in support and some in opposition. Ultimately, the CPUC adopted VNM because it “facilitates the flow of benefits to tenants . . .

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<sup>8</sup> California called such a situation “virtual net metering” (VNM) because the renewable energy facility would not be physically attached to the tenants’ meters even though the tenants would receive net metering credits for excess energy produced by the facility as if it were physically attached to their meters. This term has become commonly used around the country when described the process of allocating credits to multiple meters used by customers.

<sup>9</sup> Established in 2008, California’s MASH Program provides solar incentives to qualifying affordable housing multifamily dwellings. The MASH program is part of the larger California Solar Initiative (CSI) Program, which the California Public Utilities Commission oversees. For more detail on the MASH Program, see <http://www.cpuc.ca.gov/PUC/energy/Solar/mash.htm>.

<sup>10</sup> Cal. Pub. Utils. Comm’n, *Decision Establishing Multifamily Affordable Solar Housing Program within the California Solar Initiative*, Decision No. 08-10-036, Docket No. R.08-03-008, at 33 (2008), available at [http://docs.cpuc.ca.gov/word\\_pdf/FINAL\\_DECISION/92455.pdf](http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/92455.pdf).



without master metering hardware or site-specific infrastructure upgrades, which may be cost prohibitive.”<sup>11</sup> As part of its decision, the CPUC concluded that VNM was permitted under existing California net metering law. Specifically, it concluded that a tenant met the definition of an “eligible customer-generator”<sup>12</sup> by finding that tenants are “users” of the electrical generating facility.<sup>13</sup>

IREC believes that the statutory definition of customer-generator is flexible enough to permit occupants of a multitenant building or other premises to be customer-generators, or “users of a net metering facility,” just as in California. Similarly, IREC believes that the definition of “net metering facility” in ORS 757.300(1)(d) and referred to in proposed OAR 860-039-0005(3)(o) is sufficiently flexible to accommodate VNM. Oregon’s definition is quite similar to the definition in California, particularly in combination with IREC’s proposed definition of “premises,” which allows for a customer’s premises to be owned, leased or rented. Finally, from a policy perspective, permitting VNM comports with notions of fairness in that it extends the benefits of net metering to customers in multitenant buildings. In addition, allowing tenants to participate in net metering and thus broadening the scope of Oregon’s program will allow for an increase the state and local benefits associated with net metering, which are discussed above.

IREC recognizes that the Commission Staff expressed a different understanding of the Oregon statute in the most recent net metering rule revision.<sup>14</sup> IREC urges the Commission and

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<sup>11</sup> *Id.* at 34.

<sup>12</sup> Cal. Pub. Util. Code § 2827(b)(2) defines an “eligible customer-generator” as a customer “who uses a solar or a wind turbine electrical generating facility, or a hybrid system of both, with a capacity of not more than one megawatt that is located on the customer’s owned, leased, or rented premises, and is interconnected and operates in parallel with the electric grid, and is intended primarily to offset part or all of the customer’s own electrical requirements.”

<sup>13</sup> Cal. Pub. Util. Comm’n, *supra* note 10, at 35.

<sup>14</sup> See Or. Pub. Util. Comm’n, *Disposition: New Rules Adopted*, Order No. 07-319, Docket No. AR 515, at 5-7 (2007).

its staff to reconsider this position.

Based on the above discussion, we recommend that the Commission clarify that tenants or other occupants of a premise can be “customer-generators” and suggest that the proposed definition in OAR 860-039-0005(3)(e) of “customer-generator” continue to mimic the statutory definition, instead of the new language proposed. Therefore, we recommend the following language for OAR 860-039-005(3)(e):

“Customer-generator” means a user of a net metering facility ~~the person who is the user of a net metering facility and who has applied for and been accepted to receive electricity service at a premises from the serving public utility.~~

IREC realizes this suggestion goes beyond the currently proposed rules for meter aggregation and we believe additional rules would have to be developed to address a situation where net metering credits were applied to tenant accounts. IREC looks forward to discussing the issue of VNM and multitenant meter aggregation with the Commission and other stakeholders at the upcoming workshop. As a starting point for discussion, IREC offers the following modifications to OAR 860-039-0065 as proposed by the Commission. Our proposed language includes the modifications discussed above in Section II.

(1) For the purpose of measuring electricity usage under the net metering program, a public utility must, upon request from a customer-generator, aggregate for billing purposes the meter that is physically attached to the net metering facility (“designated meter”) with one or more meters (“aggregated meter” or “aggregated meters”) in the manner set out in this rule. Aggregated meters can include meters associated with multiple customer-generators. This rule is mandatory upon the public utility only when:

(a) ~~The~~Any aggregated meters are is located on the customer-generator’s premises associated with the designated meter or property that is contiguous to the premises associated with the designated meter;

(b) The electricity measured by the designated meter and any aggregated meters is primarily for ~~the~~ a customer-generator’s requirements, where requirements do not include electricity for charging electric vehicles that are not owned by or rented for the use of the customer-generator;

(c) The designated meter and any aggregated meters are served by the same primary feeder at the time of the application.

(d) If any entity received an Oregon Business Energy Tax Credit for the a customer-generator's net metering facility, meters beyond those in the approved tax credit are subject to a non-residential rate schedule.

(2) A The customer-generator associated with the designated meter, or their designee, must give at least 60 days notice to the utility to request that additional meters be included in meter aggregation. The specific meters must be identified at the time of such request. In the event that more than one additional meter is identified, the customer-generator associated with the designated meter must designate the rank order as described within the categories in section (5) of this rule for the aggregated meters to which net metering credits are to be applied, in accordance with sections (3) and (4) of this rule. At least 60 days in advance of the beginning of the next annual billing period, a customer-generator may annually amend the rank order for the aggregated meters.

(3) The aggregation of meters will apply only to charges that use kilowatt-hours as the billing determinant. All other charges applicable to each meter account will be billed to the customer-generator associated with the meter. If the number of kilowatt-hours of generation applied to the meter equals the number of kilowatt-hours of use for the meter for the billing period, kilowatt-hour charges will be zero for the meter. Unless otherwise specified by the rate schedule for the meter, the average per kilowatt-hour charge that would have applied, absent kilowatt-hour credits for the billing period, will be used to credit kilowatt-hours to the applicable billing period in section (4) of this rule.

(4) If in a monthly billing period the net metering facility supplies more electricity to the public utility than the energy usage recorded by the customer-generator's designated meter, the utility will provide credits to be applied to the customer's or customers' next monthly billing period for the excess kilowatt-hours. The utility will first apply the kilowatt-hour credits to the charges for the designated meter, and then to the charges for aggregated meters in rank order as established under section (5) of this rule.

(5) The customer-generator associated with the designated meter will establish a rank order for the application of kilowatt-hour credits to all ~~The rank order of aggregated meters.~~ is as follows:

~~(a) All meters subject to the same rate schedule as the designated meter;~~

~~(b) All non-residential meters if the designated meter is a non-residential meter;~~  
~~and~~

(e) All other meters:

~~(6) After the first 12-month billing period, the customer-generator associated with designated meter may modify the rank order established under section (5) of this rule once in any following 12-month billing period. The customer-generator must notify the utility of any change to the rank order at least 60 days in advance of the change. If the designated meter or any aggregated meter becomes subject to a different rate schedule, the utility will amend the rank order of the aggregated meters to be consistent with section (5) of this rule. If the rank order changes, the utility will provide a timely notice of the change to the customer-generator and provide an opportunity to change the rank order within the categories in section (5) of this rule. The customer-generator must notify the utility of any changes within 60 days of the notice from the utility.~~

(7) With the Commission's prior approval, a public utility may charge the customer-generator requesting to aggregate meters a reasonable fee to cover the administrative costs of this provision pursuant to a tariff approved by the Commission.

In addition, IREC refers the Commission and stakeholders to the California investor-owned utilities' VNM tariffs<sup>15</sup> as additional resources for informing consideration of our proposal.

## V. Conclusion

IREC appreciates the opportunity to submit these comments. In sum, we support the Commission's decision to allow customers to aggregate meters on different tariffs and we offer the following recommendations to the Commission:

1. Further revise the meter aggregation rules in OAR 860-039-0065 as described in Sections II and IV, including revisions to allow for VNM so that customers in multitenant buildings can participate in and benefit from net metering;
2. Refine the definition of "contiguous" in OAR 860-039-0005(3)(d) as described in Section II.A;

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<sup>15</sup> The Pacific Gas & Electric (PG&E) VNM tariff is located at [http://www.pge.com/tariffs/tm2/pdf/ELEC\\_SCHS\\_NEMVNMA.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHS_NEMVNMA.pdf). The Southern California Edison (SCE) VNM tariff is located at <http://www.sce.com/NR/sc3/tm2/pdf/CE313.pdf>. The San Diego Gas & Electric (SDG&E) tariff is located at [http://www.sdge.com/tm2/pdf/ELEC\\_ELEC-SCHS\\_VNM-A.pdf](http://www.sdge.com/tm2/pdf/ELEC_ELEC-SCHS_VNM-A.pdf).

3. Define “premises” OAR 860-039-0005(3)(r) as described in Section II.B; and
4. Consider a size requirement in 860-039-0010(1)(b), that is a percentage of a customer-generator’s load instead of a capacity size limit as described in Section III.

Respectfully submitted this 31th day of March 2011.

/s/ Joseph F. Wiedman

Joseph F. Wiedman

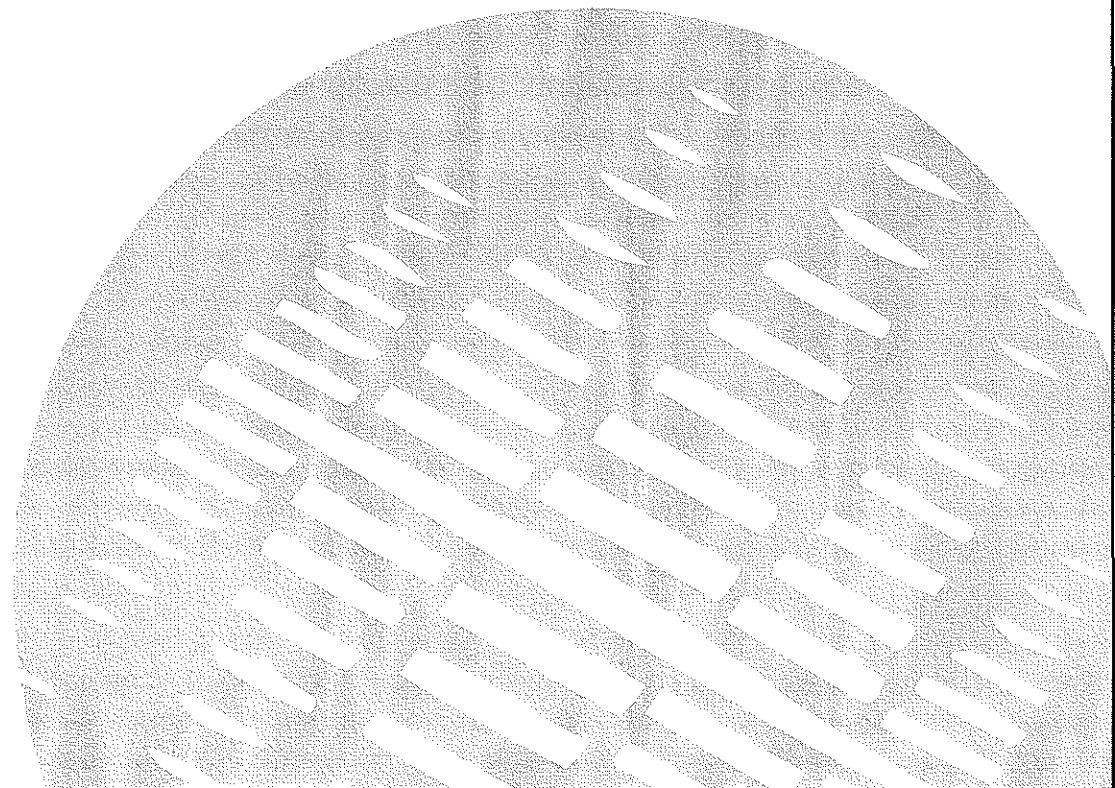
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# **ATTACHMENT A**

## **IREC Community Renewables Model Program Rules**

# COMMUNITY RENEWABLES

MODEL PROGRAM RULES



 **IREC** Interstate Renewable Energy Council

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[www.irecusa.org](http://www.irecusa.org)

## **About the Interstate Renewable Energy Council**

The Interstate Renewable Energy Council (IREC) is a non-profit organization accelerating the use of renewable energy since 1982. IREC's programs and policies lead to easier, more affordable connection to the utility grid; fair credit for renewable energy produced; best practices for states, municipalities, utilities and industry; and quality assessment for the growing green workforce through the credentialing of trainers and training programs.

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# GUIDING PRINCIPLES

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Over the course of the last year, the Interstate Renewable Energy Council (IREC) has worked closely with The Vote Solar Initiative to develop model program rules for community-scale renewables that consider many of the basic issues facing community renewables programs. IREC's model program rules address such issues as renewable system size, interconnection, eligibility for participation, allocation of the benefits flowing from participation, net metering of system production, and other essential features of a community renewables program. The goal of this effort is to provide stakeholders with program rules they can tailor to the individual circumstances and policy preferences of their state without having to reinvent the wheel at each turn.

The first part of this process was the development of a Community Renewable Power Proposal (Proposal) to generate stakeholder input on best practices in this emerging policy area. As part of the development of the Proposal, IREC reviewed current efforts at developing community renewables programs taking place at the municipal and state level in such places as Massachusetts, Colorado, California, Washington, and Utah.

Two key principles greatly influenced the development of the Proposal and IREC's consideration of the various policy choices available in designing a community renewables program.

**As a foundational matter, IREC believes it is important that participants in a community renewables program should have an experience that is as similar as possi-**

**ble to that of customers investing in on-site renewable energy.** Several factors motivate this belief. First, on-site programs in many states have been very successful in motivating energy consumers to invest in solar energy. Replicating the program elements that spurred this motivation seemed a logical choice. For example, many customers appear to be highly motivated to zero out their monthly energy bill as a part of their choice to invest in solar. Net metering is an essential element of this process because it offers a simple and intuitive means that allows customer-generators the ability to self-generate power and offset utility power purchases with every kilowatt-hour (kWh) of electricity generated on-site. Moreover, customers participating in solar programs have been shown to install more energy efficiency measures than nonparticipants and are also highly motivated to reduce their energy bills.<sup>1</sup> On-bill net metering for community solar systems can maintain participating customer's motivations to reduce their energy bill via participation in community solar programs and engagement in energy efficiency measures.

**Community renewables programs should be additive to successful on-site renewable energy programs.**

Over the previous decades, renewable energy companies have invested considerable resources in building their businesses. This private investment in time and resources has helped expand markets for renewable energy in partnership with government incentive programs. For this reason, it makes little sense to undermine successful on-site programs, and the business based upon these programs, when seeking to expand options for customer participation in renewable energy programs.

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<sup>1</sup> See CPUC California Solar Initiative 2009 Impact Evaluation, Final Report, Section 10, published June 2010, available at <http://www.cpuc.ca.gov/PUC/energy/Solar/eval09.htm>.

# IREC'S MODEL PROGRAM RULES

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IREC's Proposal generated significant feedback from utilities, industry participants, and other stakeholders, which was used to develop IREC's Model Program Rules. As noted previously, the Model Program Rules make a number of decisions on basic program elements after consideration of many viewpoints. For example, the Model Program Rules specify a renewable system size cap of two megawatts (MW). This size cap was chosen because a two-MW system maintains economies of scale both in the installed cost of the system and in the participation/marketing costs for a business engaged in developing community renewables systems (i.e., a two-MW system allows for a significant number of community members to participate in the system), and still allows for relatively low-cost interconnection on most utility distribution systems.<sup>2</sup> Another program element – the minimum number of participants – can have important program impacts. If a program requires too many participants, gathering up the minimum number of participants can make participation by smaller systems difficult. On the other hand, if a program requires just one participant, then the “community” aspect of a community renewables program is taken out of the picture. In considering these two concerns, IREC has chosen to require a minimum of two participants in a community renewables system. This requirement will allow duplex owners, small apartment buildings, and small commercial establishments to participate.

Five areas deeply impact the Model Program Rules and deserve special attention:

1. Method of allocating the benefits of participation
2. Valuation of the energy produced by the community renewables system
3. Utility compensation for program administration
4. Financing options for community renewables
5. Program administration

<sup>2</sup> Most state interconnection procedures specify 2 MW as the cutoff for Level 2 “Fast Track” interconnection procedures. Systems interconnecting at the distribution level that are able to take advantage of Level 2 interconnection procedures will generally proceed in a relatively quick and inexpensive fashion through the utility interconnection process.

## **Allocating the Benefits of Participation**

Allocating benefits to program participants is a critical element of a successful renewables program – whether community oriented or on-site. For obvious economic reasons, enthusiasm to participate in a community renewables program will be dampened for many potential participants if the benefits of participation are siphoned off in taxes or fees. Accordingly, it is important to avoid structuring a program in a manner that might trigger income tax liability. Community renewables programs that structure payments similar to wholesale energy sales could find those payments categorized as taxable income. Therefore, IREC has chosen to avoid a program structure that allocates benefits in this manner and instead uses virtual net metering (VNM) to allocate the benefits of participation onto a customer's monthly electric bill. Additionally, as noted above, many customers are motivated to offset their energy bills through their participation in on-site renewables programs. Most states' existing net metering programs accommodate this desire by placing net metering credits on a customer's monthly bill. VNM would maintain a direct relationship between customers' participation in renewable energy programs and a reduction in their monthly energy bills. Lastly, consistent with the principles outlined above, VNM provides a similar experience for customers installing on-site renewable energy systems and community renewable program participants.

## **Valuation of the Energy Produced by the Renewable System**

Closely related to the method chosen to allocate the benefits of participation to community renewables program participants is the valuation of the energy produced by the community renewables system. As a threshold matter, a decision must be made on whether the net metering credits generated by a community renewables system should be transferred to participants as a 1:1 kWh offset on the customer's utility bill or whether the kWhs should

be given a monetary value based on some retail rate. This is important because it determines whether the value of a credit can be administratively determined or whether the value will be different for each participant and be based on the amount that a participant would otherwise pay for a kWh of electricity provided by a utility.

Under most state net metering programs, the value of enrollment takes the form of a kWh credit. Electricity generated by an on-site, net-metered system is used to directly offset kWhs purchased from a utility. Any excess electricity that is produced beyond what is immediately needed on-site is given a kWh credit that allows a customer-generator to make a kWh-for-kWh swap with a utility on future bills.

Although this structure works well for net metering where most electricity produced by an on-site system is immediately used on-site, it can be more difficult to administer this arrangement once a generation source is separated from the participants who would like to receive electricity from that system. Providing kWh credits can be particularly difficult to track if a customer is on a time-of-use rate structure because kWh production would have to be tracked within time periods and applied to the customer's bills within time periods. This can produce a real administrative burden if credits are allocated by hand.

Another option is to denominate kWh credits in dollar terms. Net metering credits denominated in dollars and cents are often much easier for utilities to administer and often require fewer billing software changes because billing software is generally able to handle issuance of dollar credits on some level.

Considering these factors, especially the possible ease of administration by utilities, allowing kWhs generated by a community renewables project to be given a monetary value that can be applied to participants' bills appears to make the most sense. Three approaches to determine the appropriate monetary value to assign to kWh credits are currently in use for community renewables programs: (1) the "Massachusetts Approach," which values a kWh credit based on the retail rate in effect where the community renewables system is located; (2) the "California Approach,"

which values the kWh credit based on a the participant's retail rate; and (3) the "Maine Approach," which values the kWh credit based at the wholesale value of power production (or possibly some other valuation).

After considering these options, the second approach offered a number of positive outcomes. First, the California Approach maintains the ability of the renewable energy to act as a price hedge against future utility rate increases. Second, the California Approach maintains an outcome that is as close as possible to the experience participants would have if they installed a solar energy system on-site. Finally, the California Approach allows customers whose rate tariffs contain demand charge components to have the grid benefits stemming from their participation in a community renewables program to be recognized by valuing their kWh credits at a "total aggregate retail rate" containing all of their rate components.<sup>3</sup>

### **Compensating Utilities for Program Administration**

One of the thorniest issues related to development of successful community renewables programs is setting an appropriate compensation rate for utilities to administer programs. Most would probably agree that utilities should be allowed to recoup their administrative costs in the same manner in which they recoup such costs for on-site renewable energy programs. However, allowing utilities to recover costs for distribution service from renewable energy program participants has generated more controversy. In the context of community renewables programs, California and Massachusetts have taken different paths.

Under Massachusetts' "neighborhood net metering program," net metering credits generated by a neighborhood net-metered facility do not contain the distribution portion of a fully bundled retail rate.<sup>4</sup> As a result, participants in Massachusetts' community renewables program continue to pay distribution charges to their utility. Because neigh-

<sup>3</sup> Utah recently recognized that customer-generators on retail rate tariffs with demand charges would be inadequately compensated if they only received the generation component of their retail rate. See Report and Order Directing Tariff Modifications, Docket No. 08-035-78, Public Service Commission of Utah, issued February 12, 2009.

<sup>4</sup> See Database for State Incentives for Renewable Energy (DSIRE), Massachusetts Net Metering Program page, available at [www.dsireusa.org](http://www.dsireusa.org).

borhood net-metered facilities' participating customers may be located anywhere within a distribution utility's service territory, Massachusetts' approach seems reasonable. Moreover, utilization of the transmission system will be minimal because systems are limited to 2 MW, and, therefore, utilities only need to be compensated for use of the distribution system.<sup>5</sup>

In California, net metering credits are valued at a participant's fully bundled retail rate. This outcome also appears sensible at this time because only occupants of affordable multi-tenant buildings can participate in California's VNM program. Under this framework, participants will be on the same distribution circuit (i.e., located within the same building), which results in little or no use of the utility's distribution system.

As noted above, both California and Massachusetts take a reasonable approach to recovery of distribution system costs based on the particulars of their respective community renewables programs. Based on these concepts, IREC's Model Program Rules specify that the kWh credits received by customers located on the same distribution circuit as the community renewables project should be valued at the participant's full retail rate. For other participants, a stakeholder process will determine an appropriate level of compensation for use of a utility's distribution system once locational benefits stemming from the community renewables system are taken into account.

### **Financing Community Renewables**

Because renewable energy systems represent a significant investment, IREC's Model Program Rules support direct ownership, third-party ownership, and utility ownership of community renewables systems. Allowing a multitude of ownership options will maximize the availability of funding and ensure federal, state and local incentives are used to their fullest extent. Of particular note, third-party ownership of a renewable energy system can be essential to fully utilizing available federal tax credits in many instances. In fact, the efficient utilization of federal tax credits can result

in a reduction in the cost of renewable energy by almost fifty percent. Recognizing the important role third-party ownership can play in increasing access to renewable energy, thirteen states have explicitly authorized third-party ownership of onsite renewable energy systems. Moreover, legislation enacting community renewables programs in Colorado, Massachusetts, Delaware and Washington has clarified that third-party owners of community renewable energy systems are not subject to public utility regulation.

While utility ownership of community renewables represents an important avenue of funding for these systems, to maintain a level-playing field between utility-owned systems and privately-owned systems, utilities must be required to include all system purchase costs, operation and maintenance costs, necessary investment returns, and other costs related to a utility-owned system in their offerings to potential participants. This requirement will ensure that all of the costs incurred by a utility to operate a community renewable system are recovered from program participants (the same as occurs with other competitive providers) and not non-participating ratepayers.

### **Program Administration**

Program administration is another critical component of successful renewables programs. Existing community renewables programs have taken two approaches to program administration. Vermont's group billing program relies on customer representatives, whereas other programs rely on utilities. IREC believes the best approach is to allow utilities to administer a community renewables program. IREC takes this view because utilities have significant experience in administering complex energy programs and a community renewables program on the scale envisioned in IREC's Model Rules will potentially have many participants. At this point in time, utilities seem to be best suited to administer such complex programs. Moreover, use of a utility administrator avoids creditworthiness concerns that might be associated with a third-party customer representative handling collection of participants' utility bills.

<sup>5</sup> Colorado's legislation, House Bill 10-1342, appears to require a similar outcome. However, the Colorado Public Utilities Commission just began implementation of Colorado's program in Docket 10R-674E, where this detail and others are still being addressed.

## I. Definitions

As used within these rules, unless the context otherwise requires:

- a. **“Biomass”** means a power source that is comprised of, but not limited to, combustible residues or gases from forest products manufacturing; waste, byproducts, or products from agricultural and orchard crops; waste or co-products from livestock and poultry operations; waste or byproducts from food processing, urban wood waste, municipal liquid waste treatment operations, and landfill gas.<sup>6</sup>
- b. **“Community Energy Generating Facility”** means Renewable Energy Generation that is interconnected at the distribution system level and that is located in or near a community served by an Electricity Provider where the electricity generated by the system is credited to the Subscribers to the facility. A Community Energy Generating Facility may be located either as a stand-alone facility, called herein a stand-alone Community Energy Generating Facility, or behind the meter of a participating Subscriber, called herein a hosted Community Energy Generating Facility. A Community Energy Generating Facility may be no larger than two megawatts (MW). A Community Energy Generating Facility must have at least two Subscribers.
- c. **“Electricity Provider”** means the jurisdictional entity that is required to offer Net Metering service to Subscribers pursuant to [code section for applicable Net Metering rules].
- d. **“Locational Benefits”** mean the benefits accruing to the Electricity Provider due to the location of the Community Energy Generating Facility on the distribution grid. Locational Benefits include such benefits as avoided transmission and distribution system upgrades, reduced transmission and distribution level line losses, and ancillary services.
- e. **“Net Metering”** means a methodology under which electric energy generated by or on behalf of a Subscriber and delivered to the Electricity Provider's local distribution facilities may be used to offset electric energy provided by the Electricity Provider to the Subscriber during the applicable billing period.
- f. **“Renewable Energy Credit”** means a tradable instrument that includes all renewable and environmental attributes associated with the production of electricity from a Community Energy Generating Facility.
- g. **“Renewable Energy Generation”** means an electrical energy generation system that uses one or more of the following fuels or energy sources: Biomass, solar energy, geothermal energy, wind energy, ocean energy, hydroelectric power, or hydrogen produced from any of these resources.
- h. **“Subscriber”** means a retail customer of an Electricity Provider who owns a Subscription and who has identified one or more individual meters or accounts to which the Subscription shall be attributed. Such individual meters or accounts shall be within the same Electricity Provider's distribution service territory as the Community Energy Generating Facility.
- i. **“Subscriber Organization”** means an organization whose sole purpose is to beneficially own and operate a Community Energy Generating Facility for the Subscribers to the Community Energy Generating Facility. A Subscriber Organization may be any for-profit or non-profit entity permitted by [state] law. The Community Energy Generating Facility may also be built, owned, and operated by a third party under contract with the Subscriber Organization.
- j. **“Subscription”** means an interest in a Community Energy Generating Facility. Each Subscription shall be sized to represent at least one kilowatt of the Community Energy Generating Facility's generating capacity; provided, however, that the Subscription is sized to produce no more than 120% of the Subscriber's

<sup>6</sup> The definition of Biomass may need to be adjusted to reflect state renewable portfolio standard definitions.

average annual electrical consumption. For Subscribers participating in meter aggregation, 120% of the Subscriber's aggregate electrical consumption may be based on the individual meters or accounts that the Subscriber wishes to aggregate pursuant to these rules. In sizing the Subscription, a deduction for the amount of any existing Renewable Energy Generation at the Subscriber's premises or any Subscriptions owned by the Subscriber in other Community Energy Generating Facilities shall be made.

- k. **"Total Aggregate Retail Rate"** means the total retail rate that would be charged to a Subscriber if all electric rate components of the Subscriber's electric bill, including any riders or other additional tariffs, except for minimum monthly charges, such as meter reading fees or customer charges, were expressed as per kilowatt-hour (kWh) charges.

## II. General Provisions

- a. Subscriptions in a Community Energy Generating Facility may be transferred or assigned to a Subscriber Organization or to any person or entity that qualifies to be a Subscriber under these rules.
- b. New Subscribers may be added at the beginning of each billing cycle. The owner of a Community Energy Generating Facility or its designated agent shall inform the Electricity Provider of the following information concerning the Subscribers to the Community Energy Generating Facility on no more than a monthly basis: (1) a list of individual Subscribers by name, address, and account number; (2) the proportional interest of each Subscriber in the Community Energy Generating Facility; and (3) for Subscribers who participate in meter aggregation, the rank order for the additional meters or accounts to which Net Metering credits are to be applied.
- c. A Subscriber may change the individual meters or accounts to which the Community Energy Generating Facility's electricity generation shall be attributed for that Subscriber no more than once quarterly, so long

as the individual meters or accounts are eligible to participate.

- d. An Electricity Provider may require that customers participating in a Community Energy Generating Facility have their meters read on the same billing cycle.
- e. If the full electrical output of a stand-alone Community Energy Generating Facility or the excess generation from a hosted Community Energy Generating Facility is not fully allocated to Subscribers, the Electricity Provider shall purchase the unsubscribed energy at a kWh rate that reflects the full value of the generation. Such rate shall include the avoided cost of the energy, including any Locational Benefits of the Community Energy Generating Facility.
- f. If a Subscriber ceases to be a customer within the distribution service territory within which the Community Energy Generating Facility is located, the Subscriber must transfer or assign their Subscription back to their Subscriber Organization or to any person or entity that qualifies to be a Subscriber under these rules.
- g. If the Subscriber ceases to be a customer of the Electricity Provider or switches Electricity Providers, the Electricity Provider is not required to provide compensation to the Subscriber for any unused Net Metering credits.
- h. A Community Energy Generating Facility shall be deemed to be located on the premises of each Subscriber for the purpose of determining eligibility for state incentives.
- i. Neither the owners of, nor the Subscribers to, a Community Energy Generating Facility shall be considered public utilities subject to regulation by the [responsible agency having regulatory oversight] solely as a result of their interest in the Community Energy Generating Facility.
- j. Prices paid for Subscriptions in a Community Energy Generating Facility shall not be subject to regulation by the [responsible agency having regulatory oversight].

- k. A Subscriber owns the Renewable Energy Credits (RECs) associated with the electricity allocated to the Subscriber's Subscription, unless such RECs were explicitly contracted for through a separate transaction independent of any Net Metering or interconnection tariff or contract. For a Community Energy Generating Facility located behind the meter of a participating Subscriber, the host Subscriber owns the RECs associated with the electricity consumed on-site, unless the RECs were explicitly contracted for through a separate transaction independent of any Net Metering or interconnection tariff or contract.
- i. The dispute resolution procedures available to parties in the Electricity Provider's interconnection tariff shall be available for the purposes of resolving disputes between an Electricity Provider and Subscribers or their designated representatives involving the Electricity Provider's allocation of Net Metering credits to the Subscriber's electricity bill consistent with the allocations provided pursuant to Rule II.b. The Electricity Provider shall not be responsible for resolving disputes related to the agreements between a Subscriber, the owner of a Community Energy Generating Facility, and/or a Subscription Organization or any other party. This provision shall in no way limit any other rights the Subscriber may have related to an Electricity Provider's provision of electric service or other matters as provided by, but not limited to, tariff, decision of [responsible regulatory body or agency], or statute.

### III. Net-Metering Provisions

- a. An Electricity Provider shall not limit the cumulative, aggregate generating capacity of Community Energy Generating Facilities.<sup>7</sup>
- b. For a Community Energy Generating Facility, the total amount of electricity expressed in kWh available for allocation to Subscribers, and the total amount of RECs generated by the Community Energy Generating Facility and allocated to Subscribers, shall be determined by a production meter installed and paid for by the owner(s) of the Community Energy Generating Facility. It shall be the Electricity Provider's responsibility to read the production meter.
- c. For a hosted Community Energy Generating Facility, the determination of the quantity of kWh credits available for Net Metering to Subscribers to that facility, including the host Subscriber, shall be based on any energy production of the Community Energy Generating Facility that exceeds the host Subscriber's instantaneous on-site consumption during the applicable billing period and the Subscribers' Subscriptions in that Community Energy Generating Facility.
- d. For a stand-alone Community Energy Generating Facility, the determination of the quantity of kWh credits available to each Subscriber to that Community Energy Generating Facility for Net Metering shall be based on the total exported generation of the Community Energy Generating Facility and each Subscriber's Subscription in that Community Energy Generating Facility.

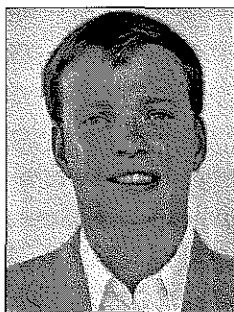
<sup>7</sup> This program rule is based upon IREC's Net Metering Model Rule (b)(2), which specifies that the cumulative, aggregate generating capacity Net Metered by on-site renewable generation facilities shall not be arbitrarily limited. Some states cap the total amount of aggregate Renewable Energy Generation that can be Net Metered for a particular Electricity Provider. Most commonly, aggregate enrollment caps are expressed as a percentage of an Electricity Provider's peak demand based on the aggregate of nameplate capacity of the generation systems (though it should be noted that capacity calculations are not standardized in their methodology across or even within states). Such percentages can vary from as low as 0.1% to as high as 20%. IREC believes aggregate caps arbitrarily and unnecessarily limit private investment in Renewable Energy Generation and needlessly curtail the flow of benefits that are associated with customer-side Renewable Energy Generation. For states that place an aggregate enrollment cap on Net Metered generation, that cap should be removed or expanded to ensure that community renewables programs do not undermine successful on-site programs.

- e. For Subscribers that host a Community Energy Generating Facility or where participating Subscribers are located on the same distribution feeder as the Community Energy Generating Facility, the value of the kWh credits for the host Subscriber and those Subscribers on the same distribution feeder shall be calculated by multiplying the Subscriber's share of the kWh electricity production from the Community Energy Generating Facility by the retail rate for the Subscriber. For Subscribers on tariffs that contain demand charges, the retail rate for the Subscriber shall be calculated as the Total Aggregate Retail Rate for the Subscriber.
- f. For all other Subscribers to a Community Energy Generating Facility, the value of the kWh credits allocated to each Subscriber shall be calculated by multiplying the Subscriber's share of the electricity production from the Community Energy Generating Facility by the retail rate as charged to the Subscriber, minus a reasonable charge as determined by the [responsible agency having regulatory oversight] to cover the Electricity Provider's costs of delivering the electricity generated by the community electricity generating facility to the Subscriber's premises after taking into account the Locational Benefits and other benefits<sup>8</sup> provided by the Community Energy Generating Facility. The [responsible agency having regulatory oversight] shall ensure that this charge does not reflect costs that are already recovered by the Electricity Provider from the Subscriber through other charges. In no event, shall the charge, if assessed, be greater than the Subscriber's distribution service charge as determined on a per kWh basis.
- g. The Electricity Provider shall carry over any excess kWh credits earned by a Subscriber and not used in the current billing period to offset the Subscriber's consumption in subsequent billing periods until all credits are used. Any excess kWh credits shall not reduce any fixed monthly customer charges imposed by the Electricity Provider.

<sup>8</sup> These benefits can often include capacity payments or energy market payments obtained by the Electricity Provider as provided for under the relevant independent system operator's tariff.

## ABOUT THE AUTHOR

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**Joseph Wiedman** is a partner with the law firm Keyes & Fox. Mr. Wiedman represents IREC in state-level rulemakings on many topic areas essential to building sustainable markets for renewable energy including net metering rules, interconnection standards, and community renewables. Mr. Wiedman is also involved in IREC's efforts to shape emerging program areas such as wholesale distributed generation market design, smart grid, and plug-in electric vehicles to ensure those programs support the continued growth of renewable energy markets.

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