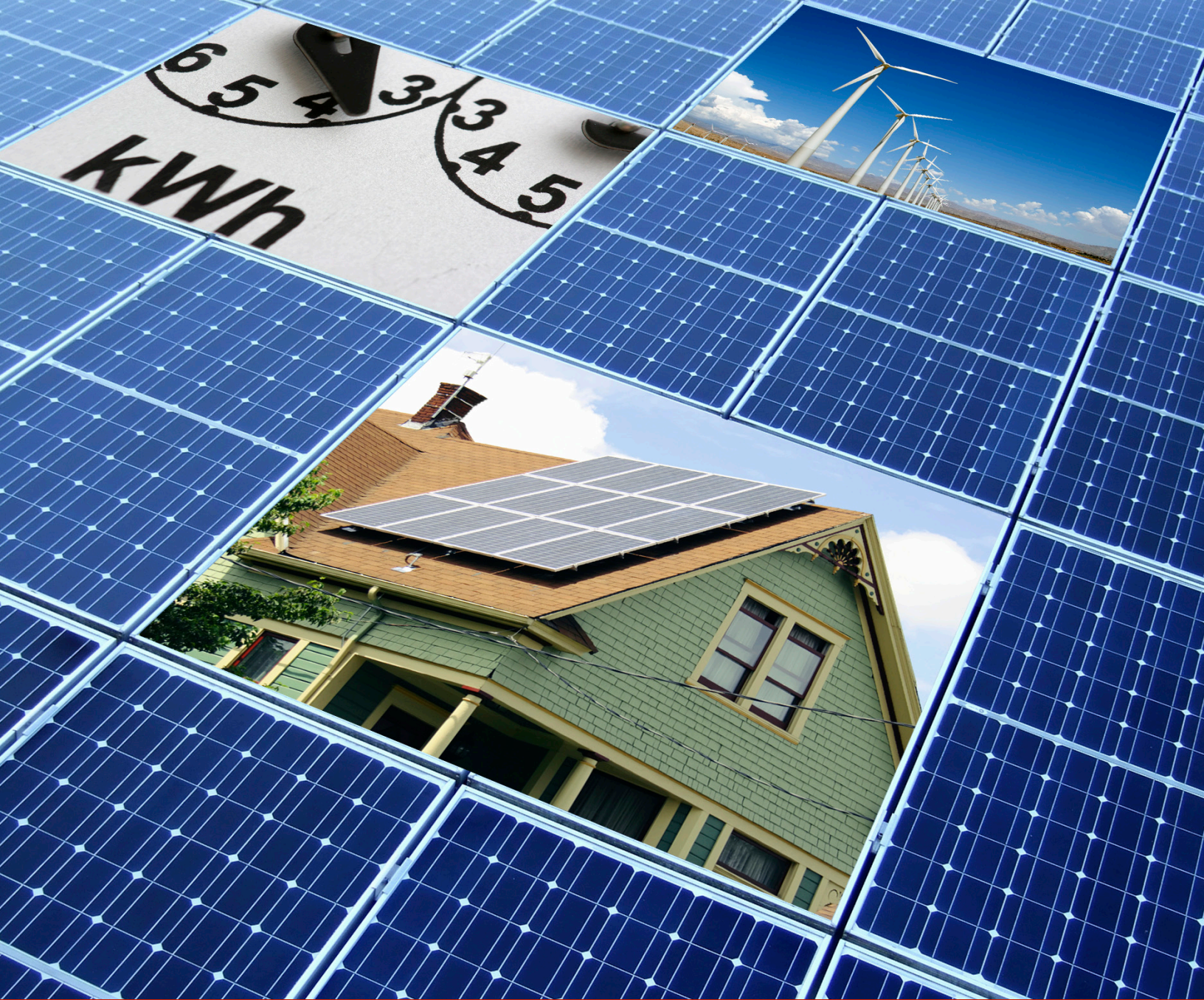


# NET METERING MODEL RULES

2009 EDITION







## IREC Model Net Metering Rules

<http://www.irecusa.org/NMmodel09>

### *Introduction*

IREC first developed its model rules in 2003 in an effort to capture best practices in state net metering policies. Since that time, there has been significant market growth for renewable distributed generation systems, in particular solar photovoltaics. To facilitate this growth, many states have either adopted net metering policies that capture some of the best practices that were identified in the IREC model rules or adopted rules that advance the policies contained in IREC's model. In addition, many of the states that were first adopters of net metering policies have since revisited and updated their policies. While many of the basic issues that are essential to a successful net metering policy have not changed, substantial developments in state net metering policies and the marketplace since 2003 mean an update to IREC's model is necessary to incorporate lessons learned to date and to continue the development and dissemination of best practices.

Among the most exciting state policy changes have been an increase in the size of systems eligible for net metering and expansion of program capacity caps. Several states have also made adjustments that allow customers with multiple meters on contiguous property to allow a single renewable system to offset the aggregate load measured on those meters. Moreover, as the markets for distributed renewable generation have evolved, there have also been some more novel modifications made to state net metering policies. For example, as third-party financing arrangements have become more common, so too have been updates to net metering policies to allow for third-party ownership of net-metered systems. These best practices have been incorporated into this update of IREC's model rules.

On significant points such as size of systems eligible for net metering, program capacity caps, and treatment of annual excess generation, there has been broad variation between states. In an effort to capture this variation, IREC's model rules now include footnotes that discuss the various approaches states have taken on these issues. IREC believes this discussion will be useful to stakeholders to show areas where states have deviated from IREC's best practices.

IREC welcomes the opportunity to work with state utility commissions and individual utilities to develop interconnection procedures; please contact IREC at [info@irecusa.org](mailto:info@irecusa.org) with inquiries. For more information on IREC's model rules and further elaboration of the changes contained in this update, please see [www.irecusa.org](http://www.irecusa.org).

## Net Metering

### (a) Definitions

- (1) “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>1</sup>
- (2) “Customer-generator” means any customer of an Electricity Provider that generates electricity on the customer’s side of the billing meter with Renewable Energy Generation that is primarily intended to offset part or all of the customer’s electricity requirements. A Customer-generator does not need to be the owner of the Renewable Energy Generation system.
- (3) “Electricity Provider” means the jurisdictional entity that is required to offer Net Metering service to eligible Customer-generators.
- (4) “Net Metering” means a methodology under which electric energy generated by or on behalf of a Customer-generator and delivered to the Electricity Provider’s local distribution facilities may be used to offset electric energy provided by the Electricity Provider to the Customer-generator during the applicable billing period.
- (5) “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.
- (6) “Renewable Energy Credit” means a tradable instrument that includes all renewable and environmental attributes associated with the production of electricity from a Renewable Energy Generation system.

### (b) Net Metering general provisions

- (1) All Electricity Providers shall offer Net Metering to Customer-generators with Renewable Energy Generation that is interconnected and operated in parallel pursuant to the interconnection rules in Section *[[reference state interconnection rules here]]*; *provided, however*, that the rated capacity of the Renewable Energy Generation does not exceed the Customer-generator’s service entrance capacity.<sup>2</sup>

---

<sup>1</sup> The definition of Biomass may need to be adjusted to reflect state renewable portfolio standard definitions.

<sup>2</sup> Some states do not impose limitations on the size of a Renewable Energy Generating system that may be Net Metered. For states that impose system size limitations, such limits vary from as

- (2) All Electricity Providers shall make Net Metering available to Customer-generators in a timely manner and on a first-come, first-served basis. An Electricity Provider shall not limit the cumulative, aggregate generating capacity of net-metered systems in any manner.<sup>3</sup>
- (3) Each Electricity Provider shall develop a net metering tariff that provides for Customer-generators to be credited in kilowatt-hours (kWh) at a ratio of 1:1 for any excess production of their generating facility that exceeds the Customer-generator's on-site consumption of kWh in the billing period.
- (4) The Electricity Provider shall carry over any excess kWh credits earned by a Customer-generator and apply those credits to subsequent billing periods to offset the Customer-generator's consumption in those billing periods until all credits are used.<sup>4</sup> Any excess kWh credits shall not reduce any fixed monthly customer charges imposed by the Electricity Provider.
- (5) An Electricity Provider shall offer a Customer-generator the choice of a time-differentiated energy tariff rate or a non-time-differentiated energy tariff rate, if the Electricity Provider offers the choice to customers in the same rate class as the Customer-generator. If a Customer-generator uses a meter and retail billing arrangement that has

---

low as 25 kilowatts to as high as 80 megawatts; however, most states appear to be coalescing at a 2-megawatt cap.

<sup>3</sup> 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. Moreover, aggregate caps ignore the fact that many large systems do not export energy yet disproportionately count towards meeting a cap, limiting the number of small systems that are eligible. For these reasons, IREC has not adopted an aggregate enrollment cap in these rules.

<sup>4</sup> States have explored various approaches regarding the treatment of annual net excess generation. The most common approaches allow an Electricity Provider either to retain the net excess generation free of charge or to provide payment for annual net excess generation at the Electricity Provider's avoided cost. However, more novel approaches have also been taken. At least one state directs annual net excess generation to a state low-income assistance program. These rules provide for perpetual rollover of excess generation credits. This approach has been adopted in a number of states and has been adopted as a best practice in these rules. This approach allows for maximum flexibility in sizing a system while assuring a minimum level of regulatory and administrative burden.

time differentiated rates, the Electricity Provider shall net any excess production against on-site consumption within the same time-of-use period in the billing period. Excess monthly kWh credits shall be based on the ratio representing the difference in retail rates for each time of use period.

- (6) If a Customer-generator terminates service with the Electricity Provider or switches Electricity Providers, the Electricity Provider is not required to provide compensation to the Customer-generator for any outstanding excess kWh credits.
- (7) A Customer-generator facility used for Net Metering shall be equipped with metering equipment that can measure the flow of electricity in both directions. For Customer-generator facilities less than 25 kilowatts (kW) in rated capacity, this shall be accomplished through the use of a single, bi-directional electric revenue meter that has only a single register for billing purposes.<sup>5</sup>
- (8) A Customer-generator may choose to use an existing electric revenue meter if the following criteria are met:
  - i. The meter is capable of measuring the flow of electricity both into and out of the Customer-generator's facility; and
  - ii. The meter is accurate with a degree of accuracy that the Electricity Provider requires when measuring electricity flowing from the Customer-generator facility to the electric distribution system.
- (9) If a Customer-generator's existing electric revenue meter does not meet the requirements of subsection (b)(8), the Electricity Provider shall install and maintain a new revenue meter for the Customer-generator at the Electricity Provider's expense. Any subsequent revenue meter change necessitated by the Customer-generator, whether because of a decision to stop Net Metering or for any other reason, shall be paid for by the Customer-generator.
- (10) The Electricity Provider shall not require more than one meter per Customer-generator. However, an additional meter may be installed under either of the following circumstances:
  - i. The Electricity Provider may install an additional meter at its own expense if the Customer-generator provides written consent; or
  - ii. The Customer-generator may request that the Electricity Provider install a meter, in addition to the revenue meter addressed in subsection (b)(8), at the Customer-

---

<sup>5</sup> This provision may need to be modified in states that are implementing advanced metering infrastructure (AMI) and require residential and small commercial customers to have AMI meters; provided, however, that any such meter does not result in an additional cost to a Customer-generator beyond the cost that would be paid in the absence of a customer having Renewable Energy Generation.

generator's expense. In such a case, the Electricity Provider shall charge the Customer-generator no more than the actual cost of the meter and its installation.

- (11) A Customer-generator owns the Renewable Energy Credits (RECs) associated with the electricity it generates, unless such RECs were explicitly contracted for through a separate transaction independent of any Net Metering or interconnection tariff or contract.
- (12) An Electricity Provider shall provide to Customer-generators electric service at non-discriminatory rates that are identical, with respect to rate structure, retail rate components and any monthly charges, to the rates that a Customer-generator would be charged if not a Customer-generator, including choice of retail tariff schedules.
- (13) An Electricity Provider shall not charge a Customer-generator any fee or charge; or require additional equipment, insurance or any other requirement not specifically authorized under this sub-section or the interconnection rules in Section *[[reference state interconnection rules here]]*, unless the fee, charge or other requirement would apply to other similarly situated customers who are not Customer-generators.
- (14) Each Electricity Provider shall submit an annual Net Metering report to the *[[insert name of state regulatory commission]]*. The report shall be submitted by *[[insert date]]* of each year, and shall include the following information for the previous year:
  - i. The total number of Net Metered Customer-generator facilities, by resource type;
  - ii. The total rated generating capacity of Net Metered Customer-generator facilities, by resource type;
  - iii. The total number of kWh received from Net Metered Customer-generators; and
  - iv. The total estimated amount of kWh produced by Net Metered Customer-generators, provided that this estimate does not require additional metering equipment.

(c) General Provisions

- (1) If a Customer-generator's Renewable Energy Generation system has been approved for interconnection under the interconnection rules in Section *[[reference state interconnection rules here]]*, the Electricity Provider shall not require a Customer-generator to test or perform maintenance on the Customer-generator's system except in the case of any testing or maintenance recommended by the system manufacturer.
- (2) An Electricity Provider shall have the right to inspect a Customer-generator's system during reasonable hours and with reasonable prior notice to the Customer-generator. If an Electricity Provider finds that the Customer-generator's system is not in compliance with the requirements of the interconnection rules in Section *[[reference state interconnection rules here]]* and the requirements of IEEE Standard 1547, and non-compliance adversely affects the safety or reliability of the Electricity Provider's facilities or of other

customers' facilities, the Electricity Provider may require the Customer-generator to disconnect the facility until compliance is achieved.

(3) Each Electricity Provider shall make Net Metering applications available through the Electricity Provider's website.<sup>6</sup>

(d) Meter aggregation

(1) For Customer-generators participating in meter aggregation, the following provisions apply:

- i. For the purpose of measuring electricity usage under these Net Metering rules, an Electricity Provider must, upon request from a Customer-generator, aggregate for billing purposes a meter to which the Net Metering facility is physically attached ("designated meter") with one or more meters ("additional meter") in the manner set out in this subsection. This rule is mandatory upon the Electricity Provider only when:
  - a. The additional meter is located on the Customer-generator's contiguous property;
  - b. The additional meter is used to measure only electricity used for the Customer-generator's requirements;
- ii. A Customer-generator must give at least 30 days notice to the Electricity Provider 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 must designate the rank order for the additional meters to which Net Metering credits are to be applied.
- iii. The Net Metering credits will apply only to charges that use kWh as the billing determinant. All other charges applicable to each meter account will be billed to the Customer-generator.
- iv. If in a monthly billing period, the Net Metering facility supplies more electricity to the Electricity Provider than the energy usage recorded by the Customer-generator's designated meter, the Electricity Provider will apply credits to additional meters in the rank order provided by the Customer-generator, and any remaining credits after doing so will be rolled over to the designated meter for use during the subsequent billing period.
- v. Customer-generators participating in meter aggregation do not have to have all meters on the same rate schedule.

---

<sup>6</sup> In states or jurisdictions where wet signatures are not required, Electricity Providers shall accept applications online.