

Community, virtual and aggregate net metering, oh my! A look at net metering variations around the country, including Arizona

The essentials

- [Basic net metering](#) requires an agreement between an electrical utility and an individual customer. That customer must have a single meter that is connected to a single, on-site renewable energy system.
- Under current net metering rules, Arizona allows community net metering but not aggregated and virtual net metering.
- Several states have revised their net metering policies to allow a broader swath of utility customers to participate in net metering. These customers include municipalities with multiple buildings, tenants in multi-family buildings and stores in shopping malls.

POLICY DETAILS

Under a [basic net-metering policy](#), a homeowner with a photovoltaic rooftop system that produces more electricity than the home uses in a month is credited by the utility for that extra electricity; credits are rolled over to the following month and any credits left at the end of year are paid out to the customer. Because basic net metering requires an agreement between a single utility customer with a single meter connected to a single, on-site single renewable energy system other customers—such as apartment-dwellers, retailers in a shopping mall, and municipal government buildings—often cannot participate. Some states, recognizing this policy limitation, and have revised their net metering policies to expand net metering to utility customers in a variety of situations. Each of these states has developed its own policy outlines; no two state policies are exactly the same, but they can be generally categorized as aggregate metering, virtual net metering, and community net metering.¹

Aggregate net metering

The situation: A single utility customer who owns multiple buildings located in close proximity to one another and a single renewable energy system on-site.

Example: A municipality with several buildings on one property and a solar covered parking lot. The municipality would like to aggregate the electrical load of those buildings and offset the aggregate load with the generation credits from the solar covered parking lot.

¹ Goodward, Jenna. July 2011. World Resources Institute. “The Bottom Line On Emerging Solar Metering Policies.”

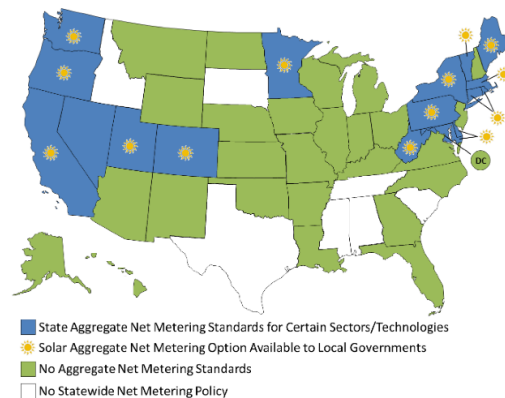


Fig 1. Source: Barnes, Chelsea. July 2013. [Aggregate Net Metering: Opportunities for Local Governments.](#)

State policy variation examples:

- Washington: In a billing month, after the primary meter’s utility bill is offset, any excess credits are credited equally to the customer’s remaining meters for the following month.²
- Oregon: The customer must designate a meter hierarchy for the distribution of credits.³ Credits left over at the end of each billing year are either allocated to the utility to distribute to low-income assistance eligible customers or back to the customer-generator or redistributed for some other use as determined by the regulating body of the customer-generator’s utility.⁴
- Massachusetts: Credits can be applied to a “unique community of interests” in a particular geographical area.
- Rhode Island: Municipalities are excepted from the general net metering requirement that a qualifying system must be owned by a single customer and located on-site, and are able to participate in a “municipal net metering financing arrangement.”⁵
- New Jersey: Only public entities including local governments and school districts are permitted to aggregate meters. The host meter receives credit at retail rates and the other meters are credited annually at a wholesale rate.⁶

Virtual net metering:

The situation: Multiple utility account holders jointly share the benefits of a single renewable energy system without being physically connected to the system, although they are usually in close proximity to the system.⁷ In some states, the account holders do not have to be located on contiguous properties. Virtual net metering customers sharing an electricity generation

² [R.C.W. §80.60.30\(4\)\(c\)](#)

³ [O.A.R. §860-039-0065\(3\)](#)

⁴ [O.R.S. §757.300\(3\)\(c\)](#)

⁵ [R.I. Gen Laws §39-26.4-2](#)

⁶ [N.J. Rev. Stat. §48:3-51](#)

⁷ <http://www.renewableenergyworld.com/rea/news/article/2013/08/california-solar-energy-apartments-virtual-net-metering-allows-energy-savings-one-tenant-at-a-time>

source do not need to be under same rate schedule (in most states).⁸ Under virtual net metering, credits are allocated to participants at a predetermined percentage.⁹

Example: A municipality installs a photovoltaic system at a remote warehouse and uses excess generation to offset the electric load of an office building two miles down the road. Or, a shopping mall or apartment building installs solar covered parking in the parking lot and offsets the electric load of its multiple tenants.

State policy variation examples:

- California: The virtual net metering policy was initially crafted to allow low-income tenants in multi-family buildings to participate and has since been expanded to all multi-tenant or multi-metered properties.¹⁰
- Maryland: Limits virtual net metering to agricultural customers, non-profits and municipal governments or affiliates.¹¹
- Rhode Island: Municipalities may “enter into an agreement for the purpose of co-owning a renewable generation facility or entering into a financing arrangement.”¹²

Community net metering

The situation: Multiple utility customers in close physical proximity share the benefit of a single renewable generation system installed in the immediate community.¹³

Example: A small neighborhood of single-family homes invests in a solar installation in the community park

State policy variation examples:

- Colorado: Policy encourages solar gardens, which are facilities that generate no more than two MW and is located near a community with at least ten subscribers to the generating facility.¹⁴
- Washington D.C.: The City Council recently passed community solar legislation, and two city agencies are currently developing rules for community net metering. For all net metering participants, any excess credits remaining at the end of the year are reallocated to LIHEAP beneficiaries.¹⁵

COULD AGGREGATE, VIRTUAL OR COMMUNITY NET-METERING BE IMPLEMENTED IN ARIZONA?

Community net metering for solar is allowed and is offered by several utilities in Arizona. For instance, under the Salt River Project’s (SRP) community solar policy, SRP owns the system and

⁸ Woodward, Jenna. July 2011. World Resources Institute. [“The Bottom Line On Emerging Solar Metering Policies.”](#)

⁹ *Id.*

¹⁰ [CPUC Decision D.08-10-036](#) and [CPUC Decision D.11-07-031](#)

¹¹ <http://www.ilsr.org/virtual-net-metering/>

¹² [R.I. Gen. Laws §39-26.4-2\(6\)](#)

¹³ Generally, the main difference between community net metering and virtual net metering are the types of benefits that are offered to customers. Both offer credits that offset the customer’s account, but customers under community net metering can also receive direct wholesale payments or incentive payments. Woodward, Jenna. July 2011. World Resources Institute. [“The Bottom Line On Emerging Solar Metering Policies.”](#)

¹⁴ <http://www.solargardens.org/legislation-news-2/colorado-community-solar-gardens-act/>

¹⁵ [The Community Renewable Energy Act of 2013](#)

customers can buy “blocks” of energy produced and wheeled onto the grid. Customers are limited to purchasing 50 percent of their annual energy from the community solar project.¹⁶

Aggregate and virtual net metering are not allowed under Arizona’s current net metering rules, so the ACC would have to engage in new rulemaking to allow regulated utilities such as APS and TEP to offer them.¹⁷ In 2010 ACC Staff recommended implementing an aggregate net metering pilot program, which does not require new rulemaking. The pilot program recommendations included crediting only the kWh part of a customer’s bill, as in the basic net metering policy, and limiting program participation to local governments and agricultural enterprises, since they would likely receive the most benefit. Self-regulated utilities, such as the Salt River Project, also do not currently allow aggregate or virtual net metering, and would have to revise their own policies to do so.

Concerns

The ACC’s staff report on aggregated net metering in Arizona includes concerns from utilities that the expanded net metering policy would strain their Renewable Energy Standard and Tariff (REST) budgets. Utilities were also concerned about cost recovery and cost shifting onto non-participants if customer-generators could apply net metering credits to their entire bill as opposed to limiting credit application to the kWh portion. The concern about cost recovery and shifting was reiterated in the recent hearing to revise APS’s net metering policy. In its decision the ACC officially recognized that net metering shifts some costs from utility customers who are net metering participants to non-net metering customers.¹⁸ The ACC plans on addressing this issue in-depth during APS’s next rate case, which is scheduled for 2015.

Renewable Energy Credit (REC) ownership may be ambiguous under virtual net metering policies for systems that are owned by third parties. Some states explicitly allow third party owners to keep their RECs under virtual net metering. Several states, however, have not addressed REC ownership for third party owned systems.¹⁹

Learn more

- The ACC explored implementing an aggregated net metering policy in 2010. Some instructive documents include:
 - [Vote Solar Initiative, Sept 1, 2010, RE: In the Matter of the Commission’s Inquiry into Aggregated Net Metering \(ANM\) for Electric Services and Possible Modification of Net Metering Rules, Docket No. E-00000J-10-0202.](#)
 - [APS, Dec 20, 2010. RE: In the Matter of the Commission’s Inquiry into Aggregated Net Metering \(ANM\) for Electric Services and Possible Modification of Net Metering Rules, Docket No. E-00000J-10-0202.](#)
 - [NARUC for the Arizona Corporation Commission. November 2010. *Aggregated Net Metering in Arizona: Analysis and Recommendations.*](#)

¹⁶ <http://www.srpnet.com/environment/communitysolar/faq.aspx>

¹⁷ NARUC for the Arizona Corporation Commission. November 2010. [Aggregated Net Metering in Arizona: Analysis and Recommendations.](#)

¹⁸ [A.C.C. Decision 74202](#), E-Docket [E-01345A-13-0248](#)

¹⁹ Ferrey, Steven. *Virtual Nets and Law: Power Navigates the Supremacy Clause*. 24 Geo. Int’l Envtl. L. Rev. 267 (2011-2012).