

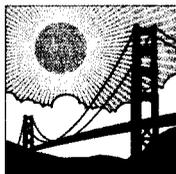
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THE  
Vote Solar  
INITIATIVE

ARIZONA CORPORATION COMMISSION  
DOCKET CONTROL  
August 31, 2010

Docket Control Center  
Arizona Corporation Commission  
1200 West Washington Street, Suite 108  
Phoenix, Arizona 85007

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.  
E00000J- 10-0202*

Dear Sir or Madam:

Please accept the Vote Solar Initiative's REQUEST TO BE INCLUDED ON SERVICE LIST for  
the above captioned proceeding.

Address:  
Adam Browning  
The Vote Solar Initiative  
300 Brannan Street, Suite 609  
San Francisco, CA 94105

adam@votesolar.org

Thank you for your attention.

Yours truly,

Adam Browning

Arizona Corporation Commission  
DOCKETED  
SEP 1 2010

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RESPONSE OF THE VOTE SOLAR INITIATIVE TO THE  
WORKSHOP ON AGGREGATED NET METERING  
(DOCKET NO. E-00000J-10-0202)

1. Please define aggregated net metering.

At its most basic, meter aggregation is an expansion of traditional net metering that allows expanded customer participation by delinking the physical connection between load and generation, facilitating optimal siting of generating systems. Such programs generally allow a customer to generate bill credits from a PV system in one location and apply those bill credits to additional billing accounts in other locations that are under a single customer's name. Policies differ in how far away meters may be from a site where a renewable system is located. Some policies require that meters be located on property that is adjacent or on contiguous property to where the generating facility is located, other jurisdictions allow for a geographic limit (e.g. two miles apart).

2. What is your understanding of ANM? Compare and contrast with 1) virtual net metering; 2) community net energy metering; and 3) Community Choice Aggregation concepts

In our understanding, virtual net metering and community net energy metering are very similar to aggregate net metering, and there may be overlap depending on how the Commission defines these policies. However, these concepts can generally be differentiated by the number of customers, the customers billing account(s), the location of renewable energy system(s), and the geographic boundaries associated with them (i.e. whether the customers, accounts, and renewable energy systems are on contiguous or non-contiguous property), and whether the generating system is owned by more than one entity.

As we understand it, aggregate net metering (ANM) involves a single customer that applies net metering credits to multiple utility accounts. An example would be a school that installs a PV system on the gymnasium, where there is a low electricity load. The system generates excess credits, which can be applied to the school's library electric bill. These programs are often restricted to accounts on contiguous or nearby property.

Virtual net metering (VNM) and community net energy metering (CNEM) are terms of art with no official definition. However, as we understand them, each refer to concepts that are closely related to aggregated net metering but with varying degrees of freedom in terms of restrictions on location of the generator in relation to the load being served, and as well as the number of participating customers.

VNM, for example, has been used in some jurisdictions to solve the problem of installing solar on multi-unit housing. In California, the Multi-family Affordable Solar Housing program provides for VNM to allow multifamily housing owners to use a single system to effectively serve multiple tenant accounts:

“Virtual Net Metering (VNM) allows MASH participants to install a single solar system to cover the electricity load of both common and tenant areas connected at the same service delivery point. The electricity does not flow directly to any tenant meter, but rather it feeds directly back onto the grid. The participating utility then allocates the kilowatt hours from the energy produced by the solar PV generating system to both the building owner's and tenants' individual utility accounts, based on a pre-arranged allocation agreement. The intent of VNM is to help low income multifamily residents receive direct benefits of the building's solar system, rather than all of the benefits going to the building owner. VNM also gives the building owners the option of installing a single solar system to cover both common area and tenant load without master-meters and site-specific upgrades that are potentially cost-prohibitive.”<sup>1</sup>

Similarly, CNEM has been used by some states to allow groups of ratepayers to collectively share the output of a single renewable energy system. Massachusetts, for example, has a neighborhood net metering program by which 10 or more residential customers in a neighborhood can team up to share the benefits of a single generating system.<sup>2</sup>

Unlike VNM, CNEM or ANM, Community Choice Aggregation (CCA) is not specifically a metering concept. Certain states allow municipalities, or groups of municipalities, to aggregate the buying power of its residents in order to negotiate power contracts on their behalf. The power purchased under a CCA may or may not be local, may or may not be renewable, and will generally come from a number of different generation sources in order to meet 100% of that community's load. Under the CCA structure, the jurisdiction's investor-owned utility continues to distribute and transmit the electricity and provide the customer billing.

3. Please address the following ANM policy design issues:

a. What customer classes should be eligible for ANM?

ANM would be particularly beneficial to agricultural customers and municipal governments. However, we would support making it available to any customer that is currently eligible for net metering and has multiple utility accounts.

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<sup>1</sup> <http://www.cpuc.ca.gov/PUC/energy/DistGen/vnm.htm>

<sup>2</sup> <http://tinyurl.com/283yfub>

- b. What are the minimum and maximum system sizes that should be eligible for ANM?

Maximum system size could be established using the current net metering limitations, as applied to the aggregated customers' connected load (i.e. as if each designated meter could accommodate an on-site system that meets current net metering requirements).

- c. What metering and other equipment will need to be installed or modified to implement ANM?

A time-based production meter would be necessary.

- d. Should all participating ANM accounts be within the same location as their generation source, or can ANM loads and generation sources be in separate geographic locations?

For a single customer, we would support allowing ANM loads and generation sources to be in separate geographic locations, but within the same utility service territory. This would be of particular benefit to municipalities, which commonly face a situation where the good sites for a renewable generating system (e.g. a municipal airport or wastewater treatment facility) are not proximal to their heaviest energy loads (e.g. city hall).

- e. Should all participating accounts be owned and operated by the same entity?

Yes. However, this question may need to be re-addressed in the future.

- f. How does a customer designate participating accounts, and how often can a customer change account designations?

The customer would designate the participating account by contacting the utility and providing sufficient account information (e.g. by utility account number, meter number and address). A customer should be able to adjust the account designations on a monthly or quarterly basis.

- g. How many accounts may a customer designate to participate in a single ANM system?

As many as a customer has. The customer should provide a rank order in which the ANM credits will apply to each account.

- h. If ANM credits will be allocated to multiple accounts, how does a utility determine how many ANM credits to allocate to each account?

For simplicity, the credits should be fully applied to the accounts in the rank order provided by the customer. If the credits should zero out the first designated account, then the remaining credits would be applied to the successive accounts listed in the same manner.

- i. Can participating accounts be on any retail tariff?

Yes.

- j. Should all participating accounts on a certain ANM generation source be on the same retail tariff?

No, this should not be a requirement.

- k. Can (or should) an ANM generator serve on-site electrical demand? If so, what would be allocated to other accounts, instantaneous excess generation or monthly excess generation?

Yes, the ANM generator could serve on-site electrical demand. Monthly excess generation would be allocated to other accounts.

- l. What charges, if any, should be assessed to customers enrolling in ANM?

We do not believe that the net costs of implementing an ANM program, as compared to the benefits, would warrant additional charges.

- m. What effect would the implementation of an ANM policy have on existing Net Metering Rules?

The existing rules should stay the same. Their application, however, may change. For some customers, the availability of ANM would impact the current limitation on month-to-month rollover of credits, and current load-sizing restrictions.

- n. Will adoption of an ANM policy increase the installation of distributed renewable facilities in AZ?

Generally, ANM provides additional opportunities for distributed renewable facilities in AZ. The more detailed answer to this question depends on whether the question refers to RES-defined 'Distributed Renewable Energy Requirement' as per R14-2-1802 (B), or generic 'distributed renewable facilities.' If the former, the answer would depend on the type of rules ultimately allowed. If the latter, the

answer is likely in the affirmative. Done right, an ANM policy could increase renewable energy opportunity in Arizona.

- o. What distribution costs, if any, are incurred in an ANM program?

Distribution costs should not be an issue, particularly if designated accounts are on the same property.

In addition, for customers that pay for distribution costs through demand charges, ANM credits would not offset such charges.

- p. How does the utility company aggregate all of the billing data for multiple "customers" in order to make ANM work? What are the anticipated IT costs?

Utility company would aggregate billing data for multiple "accounts" rather than multiple "customers" under ANM. It is difficult for someone not familiar with the utility companies' current IT system capabilities to comment definitively, but even so, it is hard to imagine this being an issue of such significance as to be a barrier to the benefits that ANM might provide. Utilities in other states have not found administrative costs to be a barrier.

- q. Does ANM require "totalizing" of meters in order to work?

No, it doesn't have to require it.

- 4. What, if any, technical considerations should the ACC consider in determining whether to adopt ANM?
  - a. How would introduction of an ANM program impact load research, cost allocation and rate design?

Very little. The effect would be similar to traditional net metering.

- b. Would ANM change the way loads are metered?

Not necessarily.

- c. What are the potential impacts to utility system reliability and safety?

The technical questions relating to utility system reliability and safety are adequately handled by Arizona's existing interconnection procedures. These procedures assume the renewable energy system is a fully exporting generator, which is the worst case scenario of what an ANM generation source would act like.

5. Are there any additional technical or cost issues to be considered in relation to adopting an ANM policy?

The allocation of net metering credits appropriately to the relevant customer will be the most complicated issue, along with a review of any associated administrative and delivery costs.

6. What, if any, cost shifting issues should the ACC consider in determining whether to adopt ANM?

This issue is similar to traditional net metering. Any examination of the costs should also concurrently weigh the benefits. Indeed, strategic location of such resources may improve grid reliability and reduce costs.

7. What are the potential positive impacts of adopting an ANM policy?

Increased adoption for certain customer such as agricultural customers and government customers removes disincentive to energy efficiency where systems produce more than the on-site load. In addition, ANM would allow those customers with less than ideal roofs to be able to take advantage of clean resources with known costs, providing a valuable hedge.

8. What are the potential negative impacts of adopting an ANM policy?

Well, we do admit to a certain program complexity. However, such minor inconveniences are outweighed by the benefits.

9. Should the ACC adopt ANM? Why or why not?

Yes, ANM will broaden the benefits of participating in the solar economy to a wider class of customers.

For example, according to the Arizona Solar Electric Roadmap study done by the Arizona Department of Commerce, only 27% of the available residential roofspace in the state is suitable for hosting a solar system, and 60% of the commercial roofspace.<sup>3</sup> While this study is not specific to the customer classes we believe would be most interested in participating in ANM, it does indicate that there are many load centers that are not suitable to host their own generating system, and policies that de-link load and generation may be useful.

10. If the ACC decides to adopt ANM, should it be implemented on a trial or pilot basis?

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<sup>3</sup> [http://www.azcommerce.com/doclib/energy/az\\_solar\\_electric\\_roadmap\\_study\\_full\\_report.pdf](http://www.azcommerce.com/doclib/energy/az_solar_electric_roadmap_study_full_report.pdf), pg 107

ANM should be made available to all customers. However, a pilot project to work through implementation issues makes sense.