

# On-Farm Clean Energy

## Using Net Energy Metering Aggregation to lower costs and improve the efficiency of your renewable energy system

NET ENERGY METERING AGGREGATION allows electrical customers greater flexibility in their siting and usage of renewable energy facilities. It can significantly reduce your electricity costs and make a renewable energy installation more economical.

This new feature of California's Net Energy Metering program was added early in 2014 through the passage of Senate Bill 594 (Wolk) and the advocacy of CalCAN and other agriculture representatives.

### How does it work?

NEMA allows renewable energy that is connected to the grid through one meter (the 'Generating Account') to be credited against electricity use on other meters ('Aggregated Accounts'). For example, energy produced through a solar PV system on the roof of a barn could be used as a 'credit' for energy consumed within the same billing period by an ag pump on a faraway field.

### What are the advantages of NEMA?

There are two major advantages to NEMA that could lower your energy costs:

1. Get full retail credit for ALL of your renewable energy. Without NEMA, any energy you produce that isn't consumed on the Generating Account during a 'True-Up' period is forfeited to the utility or compensated at a rate well below retail value. Under the new NEMA, you can now redistribute that energy across meters and properties so you don't have cash in for much less than the energy is worth.
2. Build a system to offset ALL of your energy usage. NEMA is a cost-effective way to build a larger system that offsets electricity consumed on ALL of your eligible properties and meters. With NEMA, a single large rooftop PV system has the same practical effect as several smaller systems spread across multiple fields and may be a more efficient way to design your renewable energy project.

### What are the basic requirements?

All renewable energy producers who connect to the grid through Net Energy Metering can apply for NEMA. The following restrictions apply to NEMA meter arrangements:

1. All meters must be on land owned, leased, or rented by the same customer. You will be asked to submit parcel maps to prove this.
2. All meters must be on parcels that touch, in an unbroken chain, the parcel of the Generating Account. Parcels divided only by a road are allowed.
3. One Generating Account is permitted per NEMA arrangement. If you have more than one system, create a separate NEMA arrangement for each system.

### How do I apply for NEMA?

NEMA is currently open to PG&E customers; the other utilities are expected to launch the program in mid-2014. Each meter requires a \$25 sign-up fee (max. \$500) and a \$5/month billing charge.

If applying for a new system: Consult a system installer to determine the appropriate system design, rate, and tariff parameters, then follow the steps below.

If aggregating meters on an existing system:

1. Complete the NEM Load Aggregation Appendix (PG&E Form 79-1153). You can find form online at [http://www.pge.com/tariffs/tm2/pdf/ELEC\\_FORMS\\_79-1153.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_FORMS_79-1153.pdf)
2. Assemble parcel maps of all parcels to be involved in the NEMA arrangement.
3. Submit your application. For systems < 30 kW: email forms and maps to [gen@pge.com](mailto:gen@pge.com). For systems ≥ 30 kW apply online at <http://www.pge.com/mybusiness/customerservice/nonpgeutility/generateownpower/>.



# Net Energy Metering Aggregation for Farmers: Frequently Asked Questions

## Which of my parcels that contain meters are eligible to become part of an aggregation arrangement?

The diagram at right shows a fairly complex parcel arrangement. All parcels must be (1) solely owned, leased, or rented by the same customer; and (2) touching the Generating Account's parcel or in an unbroken chain from it (roads do not break the chain).

## I have meters on different rates (e.g. Residential, Agricultural, and Commercial). Can they be tied together in an aggregation arrangement?

Yes. All meters, regardless of the rate class or Otherwise-Applicable-Rate Schedule (OAS), can be tied together. If any of your meters are on Time-of-Use rates, you may need a meter upgrade (see below).

## Are there any requirements for the type of meter equipment I use to track energy production?

You may need to pay for an upgrade to your Generating Account meter if any of your Aggregated meters are on Time-of-Use rates. The Generating Account's meter must separately measure the kWh export to the smallest time interval used for billing on ANY of the Aggregated Accounts.

## Can I interconnect my system to a meter that doesn't consume energy (has no load)?

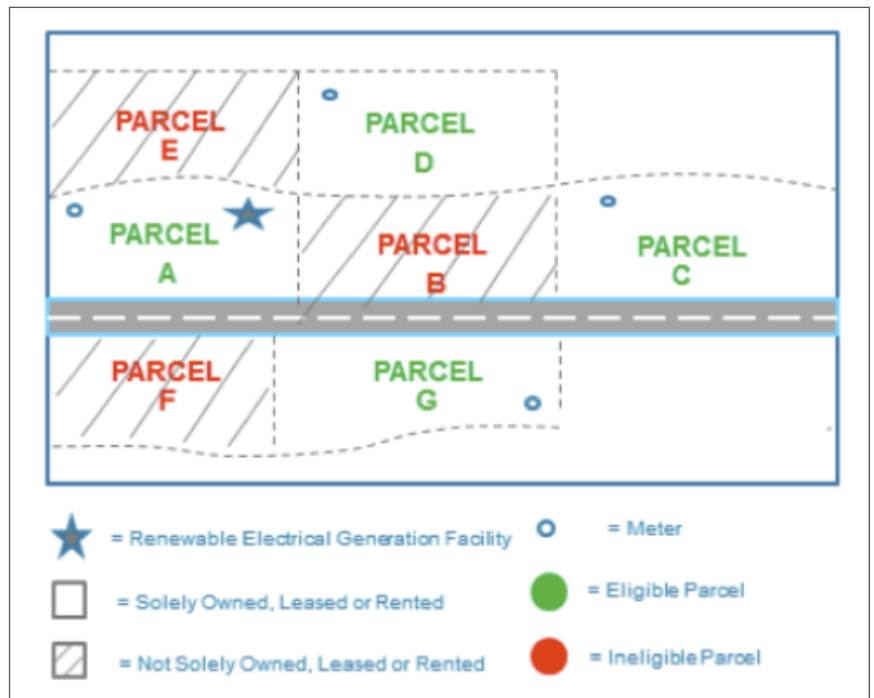
Yes. Under NEMA, your Generating Account can be solely for the purposes of tracking energy generation. In this case, all kWh generated will be allocated to the other meters in the aggregation arrangement.

## Does creating a NEMA arrangement require installing any additional equipment for distribution upgrades?

Adding NEMA to an existing system usually will not create additional electrical load or require distribution upgrades. However, sizing a new system that is large enough to carry the load across multiple meters may mean you will need more equipment than what a smaller system would require. This could add significant cost to your initial installation.

## Will NEMA have an effect on my Demand Charges?

For existing systems, unless you make a significant change to your energy usage patterns, your Demand Charges should remain the same. For new systems, we suggest interconnecting your



Source: PG&E

renewable energy system to the meter with the highest demand to directly reduce Demand Charges.

## Is NEMA available for customers currently interconnected under NEM-MT (Multiple Tariffs), such as those with a fuel cell AND a PV system on the same meter?

In some cases, yes, but it depends. We recommend getting in touch with a PG&E representative to explain your unique system set-up to find out if you qualify.

## How is electricity I produce allocated to my different meters for billing purposes?

Energy you produce is first used to offset any kWh consumed on the Generating Account. Any kWh left over after serving the on-site load is then recorded and allocated to the load aggregation accounts. PG&E's billing system uses a calculation each month based on each aggregated account's proportion of that month's cumulative aggregate load and cumulative generation since the beginning of each 12-month True-Up period. ■

*Created by CalCAN for informational purposes only. Please contact your electric utility before taking any action pertaining to your renewable energy system. For additional questions, call PG&E at (877)743-4112 or email [gen@pge.com](mailto:gen@pge.com).*

# Net Energy Metering Aggregation Resources

Net Energy Metering Aggregation (NEMA) allows electrical customers greater flexibility in their siting and usage of renewable energy facilities. It can significantly reduce electricity costs and make a renewable energy installation more economical.

This new feature of California's Net Energy Metering program was added early in 2014 through the passage of Senate Bill 594 and the advocacy of CalCAN and other agriculture representatives. While it is currently only available to PG&E customers, the other Investor-Owned Utilities are expected to add the program by mid-2014.

The following resources are intended to demonstrate the benefits and logistics of NEMA, but be sure to contact your electric utility representative with any questions or concerns.

## CalCAN Press Release on Approval of Meter Aggregation Rules

CalCAN supported the passage of SB 594 to create Net Energy Metering Aggregation, then worked with the California Public Utilities commission to make sure the Aggregation rules meet the needs of agricultural customer-generators.

<http://calclimateag.org/meter-aggregation-rules-approved/>

## How Does Net Energy Metering Work?

An informative video presentation on the fundamentals of how Net Energy Metering can work for business and agricultural electricity customers.

<http://www.pge.com/en/mybusiness/save/solar/nembill.page>

## PG&E NEM Aggregation Tariff Overview – Slide Presentation

This presentation from PG&E includes an overview of how NEMA works, including some useful diagrams and links.

[http://www.pge.com/includes/docs/pdfs/shared/solar/solareducation/net\\_energy\\_metering\\_billing\\_res.pdf](http://www.pge.com/includes/docs/pdfs/shared/solar/solareducation/net_energy_metering_billing_res.pdf)

## PG&E Net Energy Metering (under 30 kW) Webpage

Links and information on PG&E's Net Energy Metering program for systems under 30 kW in size.

<http://www.pge.com/mybusiness/customerservice/nonpgeutility/generateownpower/netenergymetering/standardnem/>

## PG&E Net Energy Metering (30 kW to 1 MW) Webpage

Links and information on PG&E's Net Energy Metering program for systems between 30 kW and 1 MW in size.

<http://www.pge.com/mybusiness/customerservice/nonpgeutility/generateownpower/netenergymetering/expandednem/>

## PG&E NEM Aggregation Load Appendix Form

Fill out this form to apply for Net Energy Metering Aggregation through PG&E. For systems under 30 kW, send it to [gen@pge.com](mailto:gen@pge.com). For systems between 30 kW and 1 MW in size, submit the form via the online application portal.

[http://www.pge.com/tariffs/tm2/pdf/ELEC\\_FORMS\\_79-1153.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_FORMS_79-1153.pdf)

## The California Climate & Agriculture Network

The California Climate and Agriculture Network (CalCAN) is a collaboration of California sustainable agriculture organizations. We cultivate farmer leadership to face the challenges of climate change and to serve as California's sustainable agriculture voice on climate change policy.

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



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May 2014