

PG&E's Support for Community-Scale Renewable Energy

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- **PG&E'S 2015 Electric Distribution Resources Plan**
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Introduction





CA legacy of environmentally driven energy policy

Per capita energy use nearly flat over 30+ years



*State Energy Action Plan:
“Loading Order” of preferred resources*

- 1 Energy efficiency
- 2 Demand response
- 3 Renewables and clean distributed generation
- 4 Cleanest available fossil-fired generation

33% RPS by 2020 bill signed by Governor Brown in 2011



50% RPS by 2030 bill passed in legislature in Sept 2015





CA a clear leader in roof-top solar PV and large scale renewables

TOP 10 SOLAR STATES
COUNTDOWN

1 California

California installed more solar in 2014 than the entire country did from 1970-2011.

4316 MW installed in 2014, enough to power 1,049,000 homes.

40 YEARS SEIA Solar Energy Industries Association®
Learn more: SEIA.org/smi

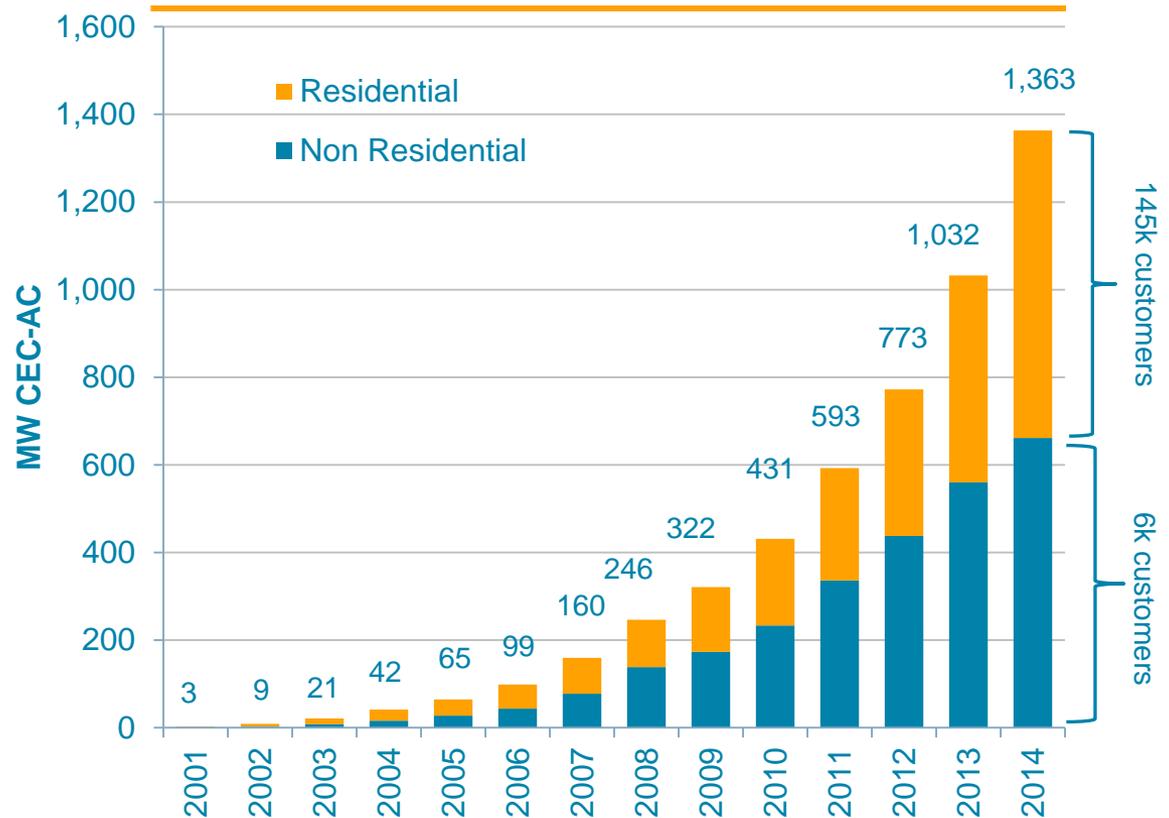
Opportunity remains in pursuing community-scale renewable energy projects, which benefit from economies of scale and are sited close to load



CA a clear leader in roof-top solar PV and large scale renewables

- PG&E has more solar than any other utility in the U.S.
- 25% of U.S. rooftop solar in PG&E service area
- 175,000+ solar customers
- Industry-leading interconnection times
- New solar customer interconnection every 11 minutes

Cumulative DG Solar Capacity



Opportunity remains in pursuing community-scale renewable energy projects, which benefit from economies of scale and are sited close to load

Community Solar Choice Plans





Why Offer a Shared Renewables Program?

Providing Choice for Customers

- 6 PG&E studies over the past 7 years have consistently shown that customers want more renewable energy options.
- Approximately **49% of residential customers**, including renters and those with unsuitable roof space, lack access to rooftop solar today.¹



PG&E's Solar Choice Plans will allow customers a way to purchase 100% solar power that...

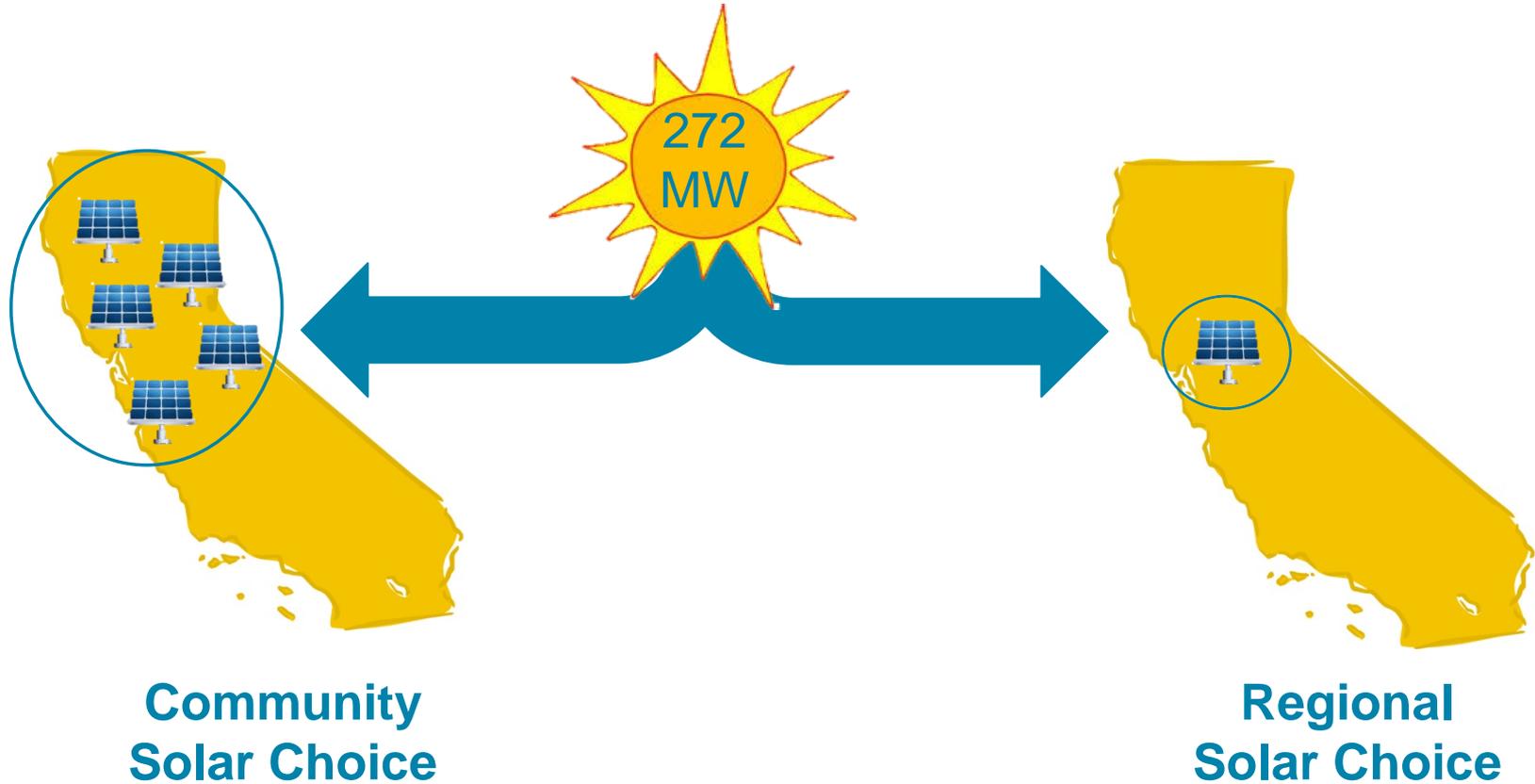
- Ensures new incremental solar will be developed
- Requires minimal effort on the part of the customer
- Has no cost-shift to non-participants

¹April 2015 NREL Report, "Shared Solar: Current Landscape, Market Potential, and the Impact of Federal Securities Regulation".



Two Options

PG&E bundled electric customers will be able to purchase electricity from new solar projects within PG&E's service area in one of two ways:





Comparing Plans

| Community Solar Choice | | Regional Solar Choice |
|------------------------|------------------|--|
| Pool of Solar Projects | Energy Source | Single Solar Project |
| .5 to 20 MW | Project Size | .5 to 3 MW |
| PG&E Service Area | Project Location | PG&E Service Area* |
| 50 or 100% of usage | Enrollment Level | Customer-Developer arrangement of choice, up to 120% of annual usage |
| PG&E Bill | Transaction | Customer-Developer Agreement, PG&E Bill |

* "Community Interest" needed to initiate the project must come from customers in the same county or within 10 miles of the project location.



Community Solar Choice Plan Pricing

Customers may enroll for 50% or 100% of their electric usage and **remain on their regular rate schedule** (e.g. E-1, E-19, E-20, etc.)

In addition to regular charges, customers are assessed the following charge on enrolled kWh every month:

| Component | Illustrative Pricing | Basis |
|-------------------------------------|-----------------------------------|--|
| Solar Charge | ~10 cent/kWh | Weighted average price of delivering solar resources, from 0.5 to 20 MW |
| Program Charge | ~ 1cents/kWh | CPUC-mandated charges to ensure non-participants are held indifferent ¹ |
| Power Charge Indifferent Adjustment | ~1-2 cents/kWh | PCIA is set to ensure stranded generation costs are not shifted to non-participating customers |
| Generation Credit | (~8-9 cents)/kWh | Avoided costs of PG&E's standard generation (based on class average generation rate) |
| Estimated Net 2016 Cost | ~2-4 cents/kWh² | Net cost per kWh |

¹Resource Adequacy, Marketing, Admin, CAISO and WREGIS fees, less solar value adjustments.

²Varies by customer class. Final rates pending CPUC approval and will change over time.



Regional Solar Choice Features

Customer-Developer Agreement (CDA)

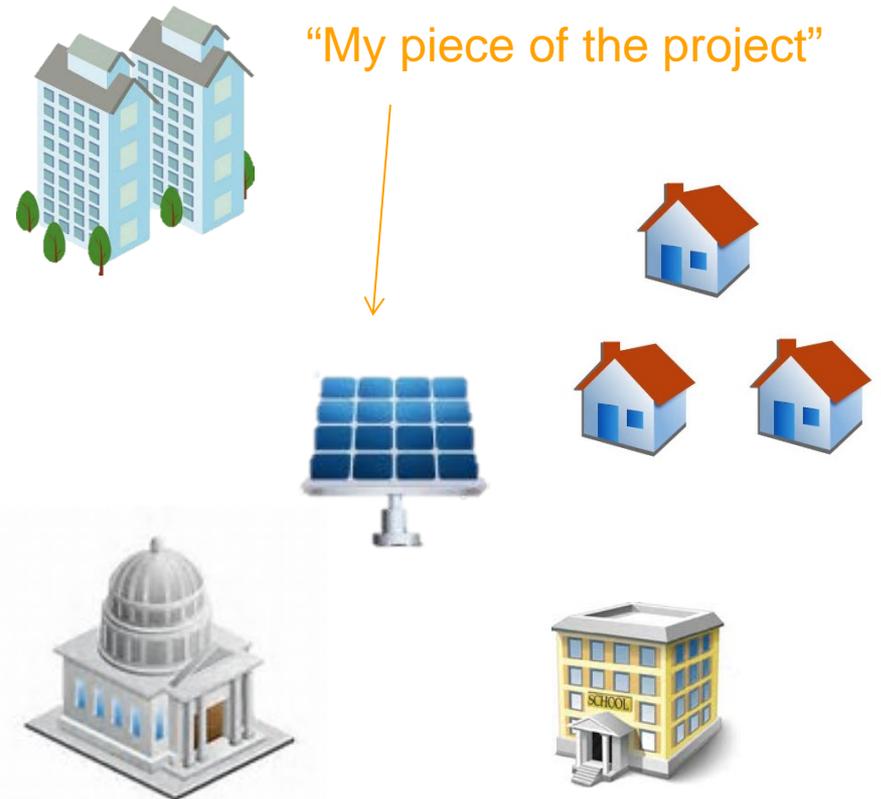
- Customers can contract for a share of the project's output (e.g., customers pay \$X for X kW).

PG&E Tariff

- Participating customers receive a PG&E bill credit aligning with the output of the subscribed portion of the Regional Solar Choice project.

Power Purchase Agreement (PPA)

- PG&E PPA with Developer to off-take all energy output (kWh) from the system and pay the developer for unsubscribed energy only.
- “Community Interest” is required to obtain PPA, where local customers* commit to enroll in 30% of project capacity or expressions of interest equaling 51% subscription rate.



*Local customers must be within same county or 10 miles of the Regional Solar Choice project.



Regional Solar Choice Plan Pricing

The developer and customer are free to design their own CDA transaction structure.

Customers remain on their regular rate schedule (e.g. E-1, E-19, E-20, etc.) In addition to regular charges, once projects are operational (approx. 2 years from PPA signing), customers are assessed the following credit on the **kWh output** associated with their subscription every month.

| Component | Illustrative Pricing | Basis |
|-------------------------------------|-------------------------------------|--|
| Program Charge | ~ 1 cents/kWh | CPUC-mandated charges to ensure non-participants are held indifferent ¹ |
| Power Charge Indifferent Adjustment | ~1-2 cents/kWh | PCIA is set to ensure stranded generation costs are not shifted to non-participating customers |
| Generation Credit | (~8-9 cents)/kWh | Avoided costs of PG&E's standard generation (based on class average generation rate) |
| Estimated Net 2016 Credit | ~(5-7 cents)/kWh² | Net credit per kWh |

¹ Resource Adequacy, Marketing, Admin, CAISO and WREGIS fees, less solar value adjustments.

² Varies by customer class. Final rates pending CPUC approval and will change over time.

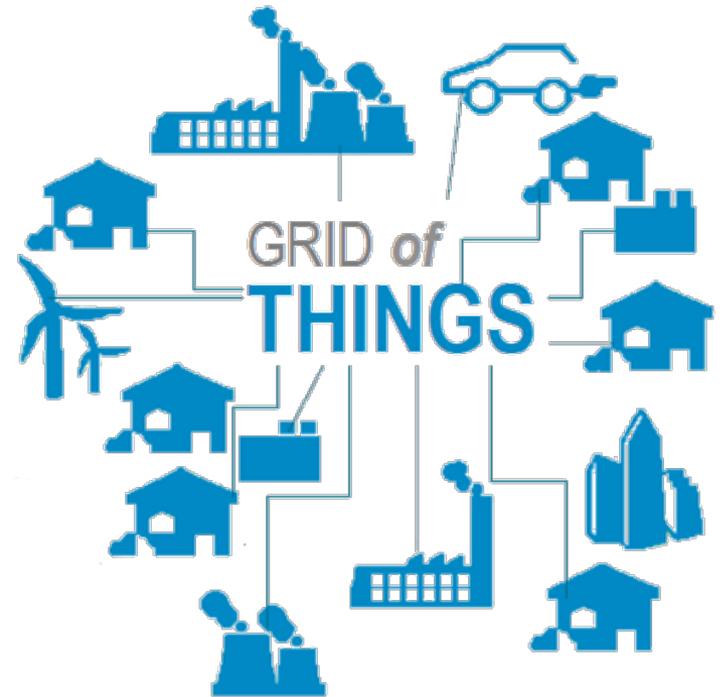
PG&E's 2015 Electric Distribution Resources Plan (DRP)





PG&E's DRP Paves the Way for Greater Community-Scale RE Integration

- DRP will enable significant DER integration and supports California's Clean Energy Vision
- PG&E's initial DRP serves as the technical foundation for integrating DERs focusing on:
 - Interconnection and integration efficiency
 - Transparent locational benefits and costs evaluation
 - Development of short & long-term scenarios of capacity and resource needs
 - Effectively managing overlapping initiatives
 - Fair and transparent processes for DER deployment and integration



PG&E Supports Community Renewables with Data Access Options



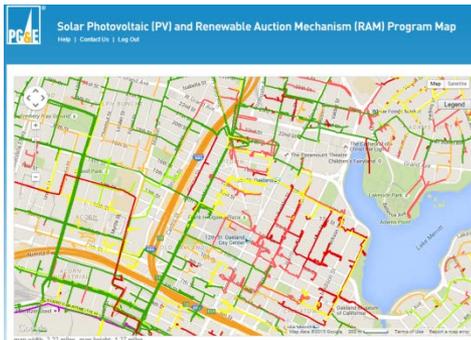


Data Access and Sharing



Share my Data

<http://www.pge.com/en/myhome/addservices/haremydata/index.page>



Solar PV and Renewable Auction Mechanism (RAM) Program Map

<http://www.pge.com/en/b2b/energysupply/wholesaleelectric-suppliersolicitation/PVRFO/pvmap/index.page>



PG&E Energy Data Request-Public Data Sets

View and download PG&E's public data sets, updated quarterly.

[Public Data Sets](#)

Electric Usage

+ [PGE_2014_ElectricUsageByZip](#)

[PGE_2015_Q1_ElectricUsageByZip](#)
[PGE_2015_Q2_ElectricUsageByZip](#)

Public Data Sets

https://pge-energydatarequest.com/public_datasets

Thank You

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