PG&E Supply-side Pilot
Frequently Asked Questions (FAQ)

What is the Pilot?

PG&Es Supply-side Pilot (SSP) fosters the participation of demand response in the CAISO wholesale market using the Proxy Demand Resource (PDR) product. The SSP enables bidding and settlement with the market based on performance, while monthly capacity payments provide a consistent source of revenue for all customers that fulfill monthly pilot requirements. As Pilot administrator and CAISO Scheduling Coordinator (SC), Olivine simplifies market participation with training, documentation and support.

General Program Information:

Who Can Participate?

Subject to an enrollment cap, the Pilot is open to any individual customers or aggregators within PG&E service territory who can meet the requirements. The Pilot is open to both bundled and direct access customers.

How long will the Pilot last?

The SSP is currently scheduled to run through December 2016.

Will the Pilot transition into a formal program?

The intention of the Pilot is to test out certain aspects of integrating DR with the wholesale market. At this time it is too early to tell whether this will transition into a formal program.

What are the participation requirements?

It is expected that each participant will enroll a single resource composed of a single aggregation with one or more locations. This aggregation will be registered into the wholesale market as a Proxy Demand Resource (PDR). Each resource must:

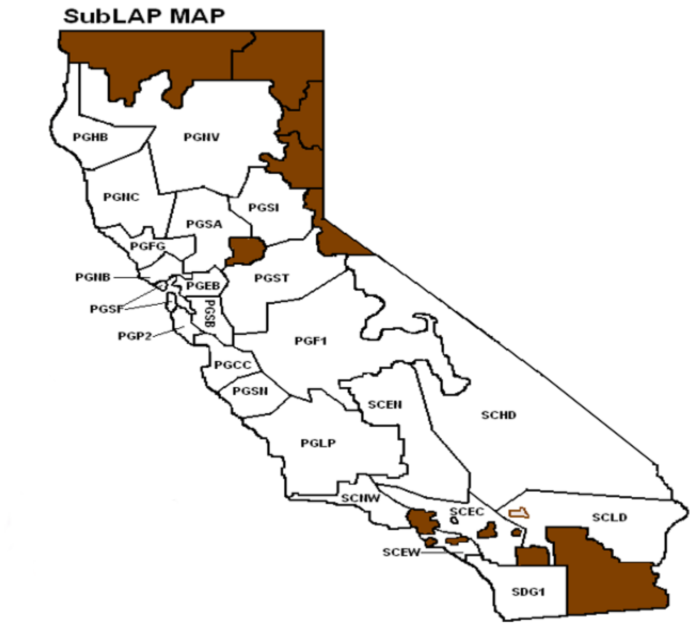
- Include customers from a single Sub-LAP
- Be served by a single Load-Serving Entity (LSE)
- Be able to achieve a minimum load shed of 100 kW, for a minimum of 4 hours

There are also minimum bidding requirements that must be fulfilled in order to earn a capacity payment. These are discussed in more detail below.

Can we enroll a larger set of customers and then nominate only a portion of the total possible capacity?

Yes, although this may entail unwanted impacts since all enrolled customer locations are measured when calculating baselines and measuring performance during awards.

What is a Sub-LAP?



Sub-LAP is short-hand for a Sub-Location Aggregation Point. Although PG&E service territory is divided into 16 distinct Sub-LAP regions, CAISO market resources cannot include locations from different Sub-LAPs. Olivine assists participants in determining the correct Sub-LAP for a customer location during enrollment.

Note that the Sub-LAP designations were updated on January 1, 2017 but PG&E has not published a new map. In summary, the changes are that PGLP was removed and split into PGZP and PGKN; PGNV was merged into PGNP; and PGSA was removed and merged into PGSI and PGNP.

What is a Load-Serving Entity (LSE)?

The LSE is the entity responsible for procuring electricity for their customers. For Bundled customers, the LSE is Pacific Gas & Electric. For Direct Access customers, the LSE is an Energy Service Provider (ESP). The LSE is important because individual CAISO Demand Response resources cannot include customer locations served by different LSEs.

Does it matter who my LSE is?

Yes. CAISO individual Demand Response Resources cannot include customer locations served by different LSEs. The LSEs themselves must also fulfill certain requirements set by the CAISO in order for their customers to participate in the market. These involve the LSE registering in the CAISO Demand Response System and signing a DRP Agreement with Olivine. For these reasons, any resources including LSEs other than PG&E may require additional time to bring online.

How much capacity can I enroll?

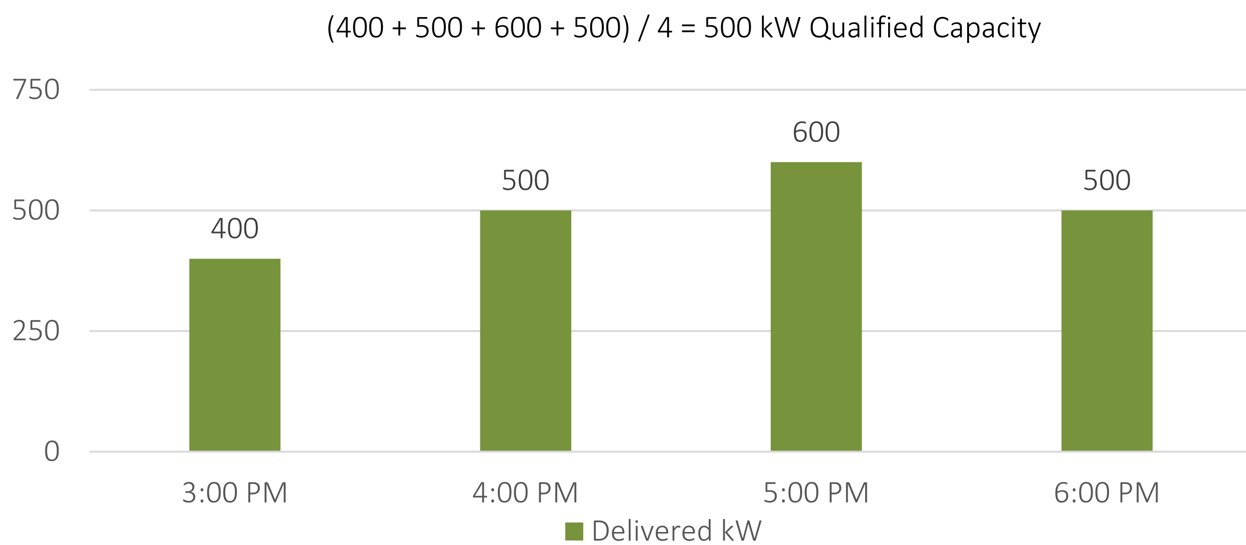
The general intention is to distribute capacity to encourage a group of diverse participants, with each enrolling a single PDR. Allocations will take into account the needs of the Pilot, and the unique specifics of the participant's resource. Of course, the amount of capacity that can be registered will be subject to the geographic and LSE limitations of a PDR[1].

[1] For more detail, see CAISOs PDR Frequently Asked Questions: http://www.caiso.com/271e/271ee8df2c760.pdf

Nomination & Bidding:

What is Qualified Capacity?

All resources will be tested for four contiguous hours outside of the wholesale market to determine their *Qualified Capacity* before becoming operational. To determine this value, the total average energy delivered over the period will be subtracted against the PDR baseline:



Can I change my Qualified Capacity?

Participants may request a change in their Qualified Capacity up to the maximum curtailable load as specified when registering service accounts. If the request is approved by the Pilot Administrator, it will be granted provisionally until the test is performed. If the test is successful, this will also become the nomination for that month.

How much can I nominate?

Once tested, participants make a monthly nomination between 100 kW and their Qualified Capacity. The monthly nomination is the basis for capacity payments.

When are nominations for the following month due?

Nominations are made monthly and must be provided to Olivine by noon on the 3rd to last business day of the month. Olivine may send reminders to complete the monthly nomination, however it remains the sole responsibility of the participants to do so. If no nomination is received by the deadline, the previous nomination value will be used.

What are the ongoing pilot requirements?

After having the qualified capacity value and nomination, participants must meet both the bidding and awards requirements to earn a monthly capacity payment.

To fulfill the bidding requirements, participants must make bids for the following number of hours per month on unique days:

- 4-hour blocks x 18 unique days = 72 bid hours

Bids are subject to a bid ceiling and floor set at the current CAISO-specified Net Benefits Test[2] value. Each bid quantity must be greater than or equal to the nomination (i.e., a qualified bid). A resource earning 24 market awards at any point during the month will be considered to have met the monthly bid requirement and is no longer required to make the block bids. Note that real-time dispatches at or above the nomination quantity do count towards meeting this requirement.

What are the operational hours of the Pilot?

Like the ISO markets, the Pilot is operational 24 hours a day, 7 days a week. Participants may choose to bid any of these hours, and may change these bids as needed (subject to the deadlines outlined below).

When must market bids be submitted?

To be consistent with other PG&E Programs and compatible with CAISO timelines, day-ahead (DA) market bids must be provided to the Pilot Administrator by 8:30am the day before the trade date. The awarded DA market bids will generally be announced by 2pm the same day, unless delayed by the ISO.

Real-time bids may be placed up to two hours in advance of the real-time trade hour.

Are bids into the CAISO market financially binding?

Yes. Although PG&E will cover the ISO administrative fees, participants will be financially responsible for their activity in the wholesale market. As such, participants will be paid by the market for awarded energy plus any over-delivery, and will pay the market for any under-delivery. These payments and charges will be paid by Olivine.

Can I be awarded non-contiguous hours?

Yes. Although participants must make qualifying bids in 4-hour contiguous blocks, awards can be for an entire block, or for any subset of those hours. For example, one may bid in a 4-hour block and only be awarded for the first and last of the three hours.

How is load drop be measured?

Load drop is calculated according to the baseline methodology set forth by CAISO in the Proxy Demand Resource (PDR) product. The baseline is a “10 in 10” calculation, taking the average of the most recent 10 non-event days subject to a 20% morning-of adjustment.

What is the relationship between Qualified Capacity, a qualified bid and a nomination?

The *Qualified Capacity* is a tested kW value that has been demonstrated as achievable by the resource. The *nomination* is a capacity commitment to the program, at or below the Qualified Capacity. *Qualified bids* are made at or above the given nomination.

---

[2] The NBT is the Net Benefits Test, a price at which Demand Response is determined to be cost effective given the current market conditions identified by the ISO.

Capacity Payments

What are the program requirements to be eligible for capacity payments?

Participants must have a qualified capacity, nomination and make the required number of bids per month to earn a capacity payment:

4-hour blocks x 18 unique days = 72 bid hours

The quantity for all these bids must be at or above the nomination value. If a resource has awards totaling 24 or more hours in a month, the participant may cease bidding.

There are no penalties associated with ineligibility for capacity payments.

I don't understand the requirement and the related exceptions

The requirement states how often you bid and at what quantities:

1. Participants must make bids in connecting blocks of four hours on 18 separate days throughout the month
2. The quantity of all bids must be at or above the nomination (i.e., they are qualifying bids)
3. In the event that the resource is awarded for 24 hours within a month, no further bidding is required
4. If there are no awards and 1-3 are fulfilled, the participant is awarded a full capacity provided that all other pilot requirements are met

How are the capacity payments calculated?

Raw hourly performance is calculated as the hourly delivery divided by the lower of the nomination or the hourly market award. Hourly delivery will be measured using an average of the intra-hour metered quantities minus the hourly PDR baseline.

Raw Performance	Adjusted Performance
$0.75 < x$	1.00
$0.50 < x \le 0.75$	0.75
$0.25 < x \le 0.50$	0.50
$0 < x \le 0.25$	0.25
$x \le 0$	0

The performance values are rounded up according to the tiers from the table above. A weighted average of all performance for the entire month will then be calculated and multiplied by the customers' nomination value and the capacity price ($10/kW-month) to determine the monthly settlement value.

How often does settlement occur?

Settlements occurs monthly roughly 120 days after the trade month; actual payment dates will be based on final wholesale baseline data from the CAISO.

The CAISO Day-Ahead Market:

Are there intra-hour ramping requirements?

In the DA market, your average delivery over the hour will be measured and used for determining over or under-supply compared to your DA award.

At what price are over and under-delivery paid/charged?

While awarded bids will be paid the day-ahead energy price, any deviations from this award are settled at the at the real-time uninstructed energy imbalance price. All such prices are determined by market mechanisms.

What are the multiple participation limitations?

There is no dual participation with other full programs while in the SSP. As such, customers enrolled in Peak Day Pricing (PDP), AMP, CBP or any other DR program must first be removed from such programs before they can be enrolled in the SSP. It is the sole responsibility of the participant to coordinate the removal of the customers with PG&E and any other parties involved. The related pilot, the PG&E Excess Supply Pilot or XSP does allow for dual participation.