

# Statewide Aggregator- Driven Demand Response *Results from the 2008 Process Evaluation*

*Prepared for:*



CALIFORNIA  
ENERGY  
COMMISSION



CALIFORNIA  
PUBLIC UTILITIES  
COMMISSION

*Presented by:*

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# PROGRAMS INCLUDED

- **Statewide Capacity Bidding Program (CBP)**
  - Operating in the territories of all three IOUs
- **Aggregator Managed Portfolio (AMP)**
  - Operating in PG&E territory
- **Demand Response Resource Contracts (DRC)**
  - Operating in SCE territory

# PROCESS EVALUATION TASKS

- **Logic model and program theory**
- **In-depth interviews with program staff and representatives of CSPs**
- **Participant phone surveys**
- **Post-event surveys with sub-set of “consistent” and “inconsistent” load providers**

# METHODOLOGY AND POPULATIONS

## → In-depth interviews:

- 7 staff representing 5 programs at 3 utilities
- Contacts at 14 of 16 registered CSP (4 of 5 inactive, 10 of 11 active)

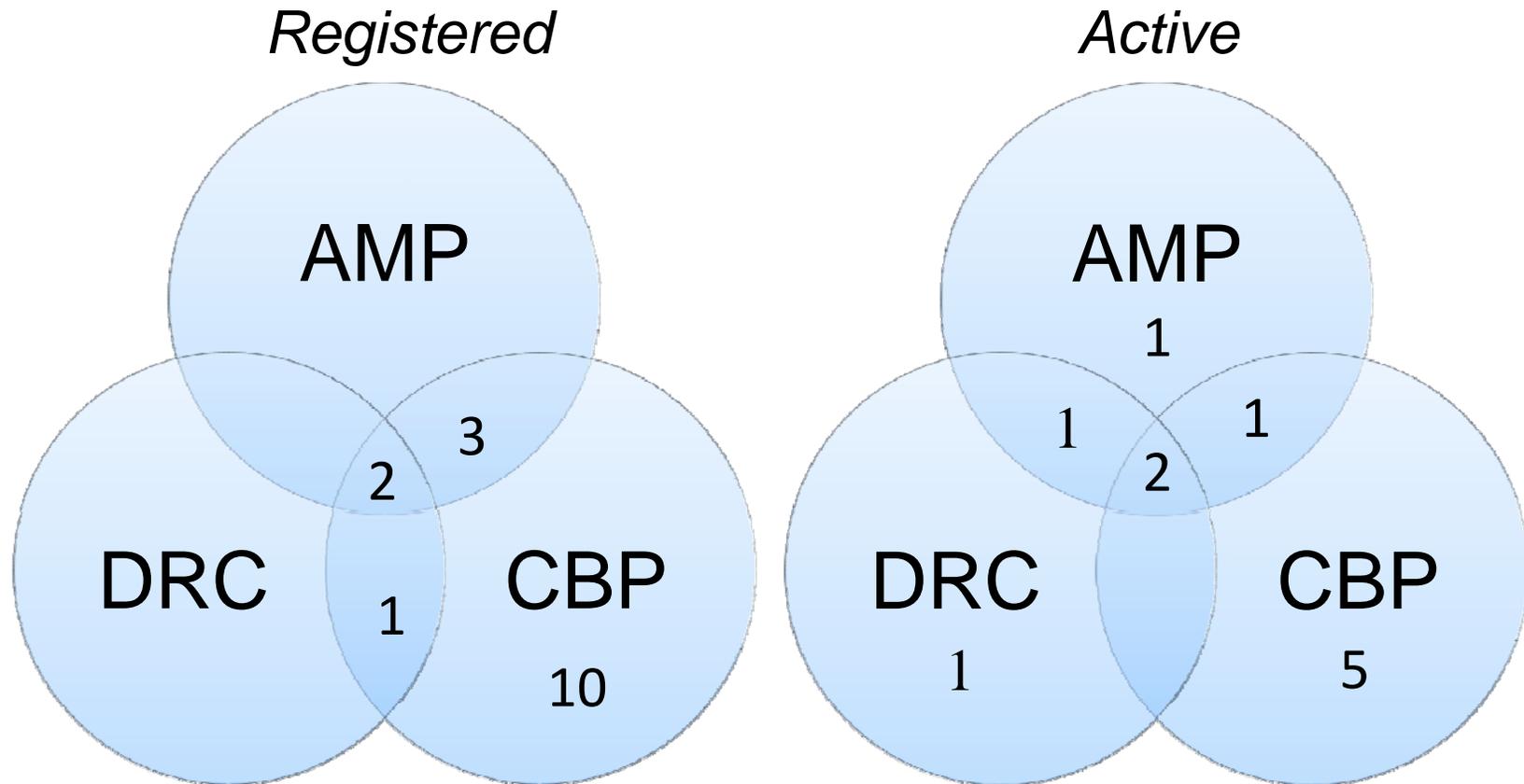
## → Surveys:

- 246 phone surveys
- 24 post-event interviews

# PROGRAM COMPONENTS

| <b>Component</b>                 | <b>CBP</b>                                 | <b>AMP</b>  | <b>DRC</b>  |
|----------------------------------|--|---|---|
| <b>Utilities Offering</b>        | Statewide (All)                            | PG&E  | SCE   |
| <b>Prices Established By</b>     | Tariff                                     | Contract  | Contract  |
| <b>Trigger</b>                   | Called by procurement, (heat rate trigger) | Called by procurement at utility discretion                 | Called by procurement at utility discretion                 |
| <b>Aggregator Only</b>           | Not in 2008                                | Yes   | Yes   |
| <b>Collateral Required</b>       | SCE, SDG&E only                            | Yes   | Yes   |
| <b>Penalties</b>                 | Yes<br>(Less than 50% of nominated load)   | Yes<br>(Less than 50% of contracted load)                   | Yes<br>(After first missed megawatt)                        |
| <b>Who Calculates Settlement</b> | APX with utility input                     | Utility   | Utility   |
| <b>Eligible Customers</b>        | Over 20 kW: must have an IDR               | Size not specified: must have IDR meter and Internet access | Size not specified: must have IDR meter and Internet access |
| <b>Season</b>                    | May-October                                | May-October   | Year-round (usually called in the summer)                   |

# REGISTERED VS. ACTIVE CSP



*All firms were registered for CBP. 8 of the 11 active firms nominated load to CBP in 2008. All contracted CSPs nominated load in 2008.*

# POPULATION

| Population                                      | PG&E       |            | SCE       |            | SDG&E     | Multi     | Total      |
|---|------------|------------|-----------|------------|-----------|-----------|------------|
|   | CBP        | AMP        | CBP       | DRC        | CBP       |           |            |
| CSPs Enrolled                                   | 12         | 5          | 13        | 4          | 7         |           | 16*        |
| Active CSPs                                     | 6          | 5          | 6         | 4          | 5         |           | 11*        |
| Participant Contact<br>Names Received           | 402        | 439        | 167       | 113        | 199       |           | 1320       |
| <b><i>Total Unique<br/>Participant Orgs</i></b> | <b>243</b> | <b>216</b> | <b>22</b> | <b>108</b> | <b>52</b> | <b>10</b> | <b>651</b> |

\*CSP firms can be enrolled in multiple programs even within the same territory, so the total is not additive.

\*Customer contact information for three uncooperative CSPs was provided by utility staff after numerous attempts to obtain the information from the CSP

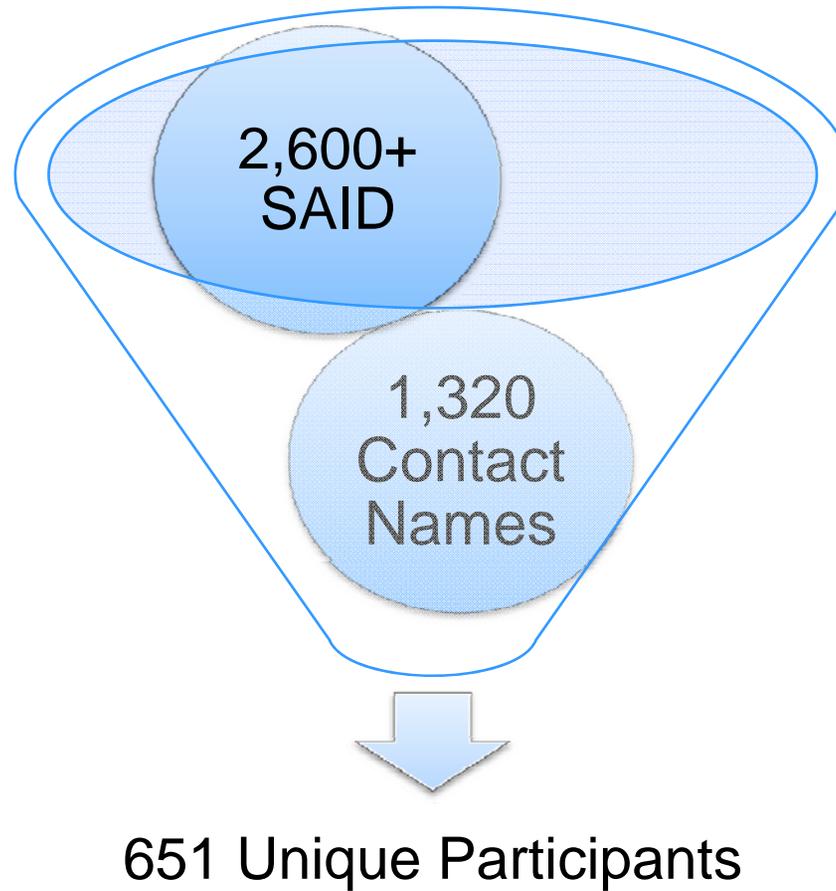
# DATA CHALLENGES

- **CSP firms possess the information about their load providers: appropriate contact name, expected load curtailment, curtailment strategies and number/location of sites enrolled**

# DATA CHALLENGES

- **Utilities track participation by SAID**
  - **SAIDs do not necessarily reflect the number of meters nor the account numbers**
    - *One SAID can have multiple meters*
    - *One account number can have multiple SAIDs*

# PARTICIPANT POPULATION



# PARTICIPANT CATEGORIZATION

| Program       | General Participant Survey |            |            | Post-Event Survey |              | Total Sampling Frame |
|---------------|----------------------------|------------|------------|-------------------|--------------|----------------------|
|               | Small kW                   | Large kW   | Unknown    | Consistent        | Inconsistent |                      |
| Multi Utility | 0                          | 6          | 0          | 3                 | 1            | 10                   |
| PG&E CPB      | 85                         | 29         | 112        | 8                 | 8            | 242                  |
| PG&E AMP      | 38                         | 109        | 49         | 4                 | 4            | 204                  |
| SCE CBP       | 8                          | 4          | 2          | 4                 | 4            | 22                   |
| SCE DRC       | 12                         | 17         | 71         | 4                 | 4            | 108                  |
| SDG&E CBP     | 16                         | 14         | 14         | 4                 | 4            | 52                   |
| <b>Total</b>  | <b>159</b>                 | <b>179</b> | <b>248</b> | <b>27</b>         | <b>25</b>    | <b>638</b>           |

\*Median cut off for large and small was approximately 500 kW. Larger than the 200 kW cut off used for the programs.

\*\*Consistent/Inconsistent status based on LI Coefficient as determined by Impact Team

\*\*\* We were able to match kW information for 62% of the unique contact names with data provided by the impact team.

\*\*\*\*High quality list ultimately created, few invalid numbers. Removing invalid numbers left us with sample frame of 638

# KEY FINDINGS: PROGRAMS

- **Program processes had become more streamlined and routine**
  - **Components new in 2007 resolved by 2008**
  - **CSPs more familiar with California**
  - **Utility staff and CSPs have solid working relationships**

# KEY FINDINGS: PROGRAMS

- **CSPs are valued for their expertise and marketing**
  - **Ability to recruit new DR participants (utility)**
  - **Acknowledged ability to recommend and install communication and curtailment tech (utility and load providers)**

# KEY FINDINGS: AGGREGATORS

- **CSPs considered the price per enrolled kWh and the potential risk**
- **CSPs with contracts have a choice**
- **CSPs enroll load providers in the program that:**
  - **Pays the best price for capacity; and**
  - **Represents the least risk**
- **CBP used for overflow by some firms**

# KEY FINDINGS: PARTICIPANTS

- **Participants were generally satisfied**
- **Reported that:**
  - **The notification strategy worked well**
  - **Payment amounts met or exceeded their expectations**
  - **Payments were received within expected timeframe**
  - **They intend to participate in 2009**

## **MORE KEY FINDINGS: PARTICIPANTS**

- Consistent responders significantly more likely to have specific curtailment plan**
- Enabling technology often installed, but most participants rely on manual curtailment activities**
- DRC participants significantly more likely to report CSP had installed techs (PIB, sub-meter, and communication)**

## **MORE KEY FINDINGS: PARTICIPANTS**

- Participants (76%) believe their response to curtailment request is optional**
- Few (5%) are turning to backup generation**
- Post-event surveys were too far removed from actual events to provide detailed information about curtailment actions**

# CONCLUSIONS AND RECOMMENDATIONS

- **Eligibility screening and enrollment could be simplified**
  - Consider on-line eligibility check by SAID, account number, or customer name
  - Replace CISR with form developed for DR
- **APX interface not designed for CSPs in 2008**
  - Improve default options for CSPs

# CONCLUSIONS AND RECOMMENDATIONS

- **The settlement process could be expedited**
  - **Compare initial meter data with SQMD**
  - **Nominal difference could provide option to speed up settlement with a true-up adjustment**
  - **Align billing dates and meter readings with settlement periods to avoid delays**

# CONCLUSIONS AND RECOMMENDATIONS

- **Difficult for customers to determine DR program eligibility and assess program options**
  - **SAID look up for eligibility**
- **CBP's heat-rate trigger is opaque; difficult for CSPs to explain or predict. Participants believe they are curtailing because of grid reliability issues.**
  - **Clarify reasons for DR and include social and individual benefits**

# PROJECT CONTACT

**Thank you!**

**For more information:**

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