# Comverge Presentation to CEC

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# Comverge Introduction

- Comverge is a leading provider of both Residential/Small Commercial and C&I Demand Response.

- On the Residential side:
  - Over 5M devices in the field
  - Recruited over 1.25 M customers for Direct Load Control Programs
  - Installed 220,000 devices in a single year
  - Provided control to 32 GW of peak energy in 2012
  - Achieved penetration rates over 30% of addressable market

- Worked with all 3 Ca. utilities

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# Our program experience

*Comverge has experience with multiple program types and multiple technologies.*

| Prog/Technology | Thermostats | AC Switches | Pool/Water Heat. |
|---|---|---|---|
| Turnkey Direct Load Control | X | X | |
| Price Response (CPP) | X | | X |
| Pay for Performance DLC | | X | |
| Real Time Pricing DLC | | X | |

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# Residential Market Considerations

- Residential/Small Commercial (R/SC) has attractive attributes
  - Significant driver of the peak
  - Incremental capacity addition from day 1
  - Resource increases with temperature
  - 100% automated for fast dispatch and reliability
  - Load only, no generation
  - Available for many hours (>50/yr)
  - Proven for years across the country

- Residential program has higher initial cost vs. C&I but lower long-term costs.
- R/SC substantially less than a peaker with comparable operational capabilities.
- R/SC DR has strong potential for EE synergies.

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# What we've learned

- Given a choice between Switches and PCT's, majority (60%-40%) choose Switches.

- If participants in DLC can opt out easily, they will (30% opt out at PCT, vs. <1% by calling).

- Pricing (CPP) has fewer event opt outs but variable pricing is a harder sell than DLC.

- Too many options cause confusion and inhibit sign ups.

- Residential programs have qualified for WECC ancillary services (<10 min. response, guaranteed quantity).

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# What we recommend

- Since market potential is limited (15-25% initially)
    - Recruit into highest value program (guaranteed, fast response, predictable) first.
    - Then add other programs over time.
    - Plan the rollout in advance, multiple messages add confusion.
    - Customer education plan that meshes with goals.
- 3rd party outsourced, Pay for Performance model for both customers and for Curtailment Service Provider, ( i.e. pay for delivered kW only).
- Provide mechanism to value synergy between EE and DR.

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