

PG&E To Code Pilot

Lessons Learned

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Together, Building
a Better California



Second Pilot Design

- **PG&E-only modified DI HVAC (Roof-top unit AC, split system AC, furnace and boiler) replacement program**
 - SMB customers
 - Target customers based on usage
 - Co-pay required
 - Considered a DI only (no incentive) level to determine if below code potential could be reached without incentives
- **Issues**
 - Almost identical program in SMUD service territory succeeded with HVAC controls but achieved minimal HVAC retrofits
 - Potentially high costs to achieve a small number of HVAC retrofits



74 meetings and many research hours later...

Back to the drawing board



Other Designs Considered

- Residential HVAC & Windows
- Commercial Motors
- Commercial Customer Side Transformer
- Commercial Boilers
- Commercial & Residential HVAC Controls
- Residential Building Envelope



Lessons Learned

- **Budget**—audit cost to achieve statistical significance
- **Sample size**—challenging to get thousands of customers to agree to an onsite audit in a prescribed timeframe
- **Identifying customers**—lack of information on customers with specific technologies with below code efficiency
- **Measure eligibility** – Average equipment efficiency in the marketplace
- **Customer motivation**—stranded potential is difficult to capture and greater incentives may not be sufficient to reach these savings
- **Project complexity**—replacing HVAC units can be complicated (permitting, cranes, street closures)
- **Cost**—expensive to run a randomized control trial with sufficient statistical validity



Information Needs

- Identifying specific customers with stranded potential
- What types of equipment in which market segments offer cost effective to-code potential?
- Is the barrier incentives?
- Is it logistics (cranes and boilers built into basements and such)?
- It is the scarcity of attention of the decision-maker? Where is the potential in the market?
- What strategies will unlock that potential?
- Smaller pilots to identify successful approach before moving into a randomized control trial or quasi-experimental design



Thank you

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