Residential Energy Efficiency Incentive Programs: Supporting Local Governments
## Residential Programs in the Bay Area

<table>
<thead>
<tr>
<th>Org.</th>
<th>Territory</th>
<th>Single Family</th>
<th>Multifamily</th>
</tr>
</thead>
</table>
| PG&E         | Northern CA                                   | • Advanced Home Upgrade  
              • Energy Savings Assistance  
              • Plug Loads & Appliances  
              • Residential HVAC       | • Multifamily Upgrade (MUP)  
              • Energy Savings Assistance (ESA)  
              • ESA Common Area Measures  
              • Multifamily EE Rebates       |
| BayREN       | 9 Bay Area Counties                           | • Home+  
              • Home Energy Advisor  
              • Home Energy Score       | • Bay Area MF Building Enhancements (BAMBE)  
              • Bay Area MF Capital Advance Program (BAMCAP)       |
| MCE          | Marin, Napa, & certain jurisdictions within Contra Costa & Solano Counties | • Smart Thermostat Pilot  
              • Advanced Energy Rebuild  | • Multifamily Program  
              • LIFT (Low-Income Families and Tenants)       |
| SCP          | Sonoma County (and Mendocino County)          | • Advanced Energy Rebuild                                                   |                                                                            |
| State and National Agencies | Statewide                                      | • Weatherization Assistance Program (WAP)                               | • LIWP (Low-Income Weatherization Program)                               |
| SVCE         | Certain Jurisdictions within Santa Clara County | • Heat Pump Water Heater Pilot (partially funded by BAAQMD grant)          | • Heat Pump Water Heater Pilot (partially funded by BAAQMD grant)          |
Energy Efficiency - beyond conservation

- CO2 Emissions
- Resilience
- Health
- Equity
- Affordability
- Government Capacity
Bay Area Multifamily Building Enhancements

Program impacts as of year-end 2018:

Since September 2013, 450+ participating properties totalling over 31,000 units have received over $23 million in rebates.

Participants have saved over
- 12.8 million kWh
- 936,000 therms
  = 14,000 metric tons of CO₂

Meanwhile...

- Housing affordability becomes a major problem
- Wealth gap grows
- Impacts of climate change manifesting

And!

- Business plan approval
- Arrival of CCAs
Resilience

Pilot in Sonoma County
BAMBE & Resilience

BAMBE Resilience Pilot in Sonoma County:

- Resilience audits conducted on **5 properties** enrolled in BAMBE
- Identifying synergies between EE & resilience audits

Common Recommendations

- Permanent emergency back-up power generators
  - For properties considering solar, solar + storage systems with islanding capabilities are recommended
- Enhance and communicate emergency and evacuation procedures
- Identify a means for providing a safe room or shelter on site
- Improve the envelope of the building

**TOP HAZARD CONCERNS FOR PILOT SITES**

- Extreme heat
- Power disruption
- Air pollution (from wildfires)
<table>
<thead>
<tr>
<th>Resilience Benefit</th>
<th>Attic, Floor, Wall Insulation &amp; Air Sealing</th>
<th>Title 24 Compliant Windows</th>
<th>LED Lighting w/ Emergency Backup</th>
<th>High Efficiency Water Heating</th>
<th>Recirculation Pump Controls</th>
<th>High Efficiency HVAC</th>
<th>Duct Sealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection from extreme weather</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Enhanced visibility &amp; safety during power outage</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced energy load when back up generation is needed</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Improvement of Indoor Air Quality</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Resident Health

Improving Measure Specifications
BAMBE and Health

Program Changes Made

- Minimum performance specifications updated to include healthier:
  - Insulation
  - Domestic hot water heaters
  - Ducted HVAC filters
  - Outdoor lighting
Expanding Local Government Capacity

Ordinance Compliance
Berkeley’s Building Energy Saving Ordinance (BESO)

- Effective July 2018 for Multifamily buildings (5+ units, and 50k+ sq ft)
- Requires either an energy assessment, or completing an energy upgrade
- Enrolling in BAMBE will exempt building from the first cycle of assessments
- Energy Star’s Portfolio Manager Benchmarking is required for large buildings
- Scores of 80+ exempt the building (must be verified by an assessor or the City)
- Exemptions for substantial renovation or new construction
- Buildings 25k – 49K will begin July 2019
Carbon Emissions Reduction
Bay Area Air Quality Management District Heat Pump Pilot
# Heat Pump Rebates from the Bay Area Air Quality Management District

<table>
<thead>
<tr>
<th>BAAQMD adders</th>
<th>Rebate</th>
<th>Per</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Unit HPWH</td>
<td>$1,000</td>
<td>each</td>
</tr>
<tr>
<td>In-Unit Heat Pump HVAC</td>
<td>$1,000</td>
<td>each</td>
</tr>
<tr>
<td>Laundry HPWH</td>
<td>$1,000</td>
<td>each</td>
</tr>
<tr>
<td>Pool HPWH</td>
<td>$1,500</td>
<td>each</td>
</tr>
<tr>
<td>Central HPWH (per 2-30 apts served)</td>
<td>$800*</td>
<td>per apt served</td>
</tr>
<tr>
<td>Central HPWH (each unit&gt;30)</td>
<td>$600*</td>
<td>per apt served</td>
</tr>
<tr>
<td>Central HPWH (each unit &gt;60)</td>
<td>$400*</td>
<td>per apt served</td>
</tr>
<tr>
<td>Central HPWH (each unit &gt;90)</td>
<td>$200*</td>
<td>Per apt served</td>
</tr>
</tbody>
</table>
Making EE Programs Work for Local Govs

Aligning goals through:
- Coordination
- Layering and integration
- Marketing and outreach
- Key performance indicators
Many thanks

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