Creating Quality Jobs through Energy Efficiency: What Is Needed?

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Background

- “Based on “California Workforce Education and Training Needs Assessment for Energy Efficiency, Distributed Generation and Demand Response”
- Funded by the ratepayers of California under the auspices of the CPUC
- Completed by third-party with process managed by the CPUC and IOUs
- Does not necessarily represent the viewpoints of the CPUC or the four IOUs.
Why Workforce Matters?

- Energy Efficiency Programs/Policies
- Work Quality
- Energy Savings
- Workforce Outcomes
Total Job Creation from EE Policies*

- Direct Jobs, e.g.,
  - New construction
  - Contractors
  - Manufacturing
  - Engineering
  - Management
- Indirect Jobs, e.g.,
  - Manufacturing
  - Accounting
- Induced Jobs, e.g.,
  - Grocery stores
  - Apparel

Total = 200,000 job person-years for California from $11 billion induced by EE policies in 2020

* EE policies include energy efficiency, “clean” distributed generation, and demand response
Work Quality Is Key to Energy Savings

- Poor work quality one explanation for low savings
  - HVAC studies have reported 30-50% of new systems installed improperly
  - 85% of HVAC replacements not done to quality spec
  - <10% of residential HVAC work done with a permit
High Road Markets Lead to Quality Work and Positive Outcomes

<table>
<thead>
<tr>
<th></th>
<th>High Road</th>
<th>Low Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Segments</td>
<td>Large commercial</td>
<td>Residential</td>
</tr>
<tr>
<td></td>
<td>Public buildings</td>
<td>Small commercial</td>
</tr>
<tr>
<td>Reported Quality Issues</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Permit Compliance</td>
<td>High</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Wages</td>
<td>Apprentices: $14-$22/hr</td>
<td>Entry level: $10-$15/hr</td>
</tr>
<tr>
<td></td>
<td>Prevailing: $25-$55/hr</td>
<td>Max: around $25/hr</td>
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<tr>
<td>Worker Turnover</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Training</td>
<td>5-year Apprenticeship</td>
<td>On-the-job, skills-specific</td>
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</tbody>
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What Is Needed?

- Support high road markets with recognized certifications and standards for workers and contractors and code enforcement.

- Facilitate planning and coordination among (1) energy and workforce agencies and (2) major education and training institutions.

- Include workforce quality and outcomes in design, implementation and evaluation of energy efficiency programs.
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