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<tr>
<th><strong>Docket Number:</strong></th>
<th>22-OII-01</th>
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<tbody>
<tr>
<td><strong>Project Title:</strong></td>
<td>Order Instituting Informational Proceeding on Distributed Energy Resources in California’s Energy Future</td>
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<td><strong>TN #:</strong></td>
<td>243406</td>
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<tr>
<td><strong>Document Title:</strong></td>
<td>Presentation - DER in California’s Energy Future Proceeding</td>
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<tr>
<td><strong>Description:</strong></td>
<td>5 - Presentation - Panama Bartholomy (Building Decarbonization Coalition)</td>
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<td><strong>Filer:</strong></td>
<td>Harinder Kaur</td>
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<td><strong>Organization:</strong></td>
<td>Building Decarbonization Coalition</td>
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Behind the ....Thermostat?

Lead Commissioner Workshop to Launch Distributed Energy Resources in California’s Energy Future Proceeding

California Energy Commission

June 1, 2022

Panama Bartholomy

Building Decarbonization Coalition
Figure ES-7: Direct Straight-Line Building Emission Trajectories of Scenarios Compared to 2045 Carbon Neutrality

- **Straight Line Carbon Trajectories** (Direct Emissions)

- **Y-axis**: Greenhouse Gas Emissions (MMTCO₂-e per year)
- **X-axis**: Years (2010 to 2045)

- **Legend**:
  - 2020-30 Direct Baseline
  - 20% Renewable Gas
  - Minimal Electrification
  - Moderate Electrification
  - Aggressive Electrification
  - Trajectory to carbon neutrality by 2045
Market Goals

Goal 1: Build customer, builder, contractor and policy-maker awareness and interest in decarbonization.

Goal 2: Ensure that customers receive a good value from adopting building decarbonization measures.

Goal 3: Ensure that building decarbonization provides a better value to builders and contractors than fossil-fuel heating.

Goal 4: Prepare supply-chains and delivery agents to meet rising demand for emission-free building technologies with a quality product.

Goal 5: Align Policy to meet other goals.
CA needs to aggressively scale heat pumps to meet Climate Goals

<table>
<thead>
<tr>
<th>SB 32: 40% GHG reduction below 1990 levels by 2030</th>
<th>CEC 2021 IEPR Target: 6 million heat pumps installed by 2030</th>
<th>SB 100: 100% clean electricity by 2045</th>
<th>Executive Order B-55-18: Economy-wide carbon neutrality by 2045 (In July 2021, Governor Newsom directed CARB to review feasibility of carbon neutrality by 2035)</th>
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<th>Technology and Equipment for Clean Heating (TECH)</th>
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<tr>
<th>Heat Pump Water Heating</th>
<th>Current: &lt; 2% market share</th>
<th>Needed by 2030: &gt; 30% market share</th>
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<tr>
<th>Heat Pump HVAC</th>
<th>Current: &lt; 10% market share</th>
<th>Needed by 2030: &gt; 30% market share</th>
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Estimates based on RASS 2019 data: [https://webtools.dnv.com/CA_RASS/](https://webtools.dnv.com/CA_RASS/)
Market Engagement

**Progress to date:**

- Enrolled over **750** contractors, **412** active participants
- Engaged major manufacturers and distributors on enrollment, marketing and training

**Results as of 4/4/2022**

(Chart showing contractors enrolled per month and cumulative enrollment, with data points for each month from September to March.)
TECH HPWH applications by month
(single family)
TECH Heat Pump application by month (multi-family, # of units)
Market Goals

Goal 1: Build customer, builder, contractor and policy-maker awareness and interest in decarbonization.

• Fund a large scale consumer education campaign
Market Goals

Goal 2: Ensure that customers receive a good value from adopting building decarbonization measures.

- Electricity rate reform
- Tariffed on bill financing
- Well designed incentive program
Market Goals

Goal 3: Ensure that building decarbonization provides a better value to builders and contractors than fossil-fuel heating.

• Well designed mid-stream incentives (e.g. TECH)
Market Goals

Goal 4: Prepare supply-chains and delivery agents to meet rising demand for emission-free building technologies with a quality product.

- Policy certainty
- Electrical panel upgrade program
Market Goals

Goal 5: Align Policy to meet other goals.
• Demand forecasts in alignment with our electrification goals
• Stop public subsidies of gas appliances and infrastructure
• All-electric new construction code
• Pragmatic gas appliance phase out dates
FUND TECH!!
Thank you

Panama@buildingdecarb.org