Agenda

• Call to order / Roll Call

• Public Comment

• Action to set the agenda and approve consent items
Regular Agenda

1. Chair Report (Discussion)
Regular Agenda

2. CEO Report (Discussion)
Regular Agenda

3. Review Draft Board Retreat Agenda (Discussion)
Draft Board Retreat Agenda 9-26-20

8:30 – 8:45  Call to Order / Roll Call
  Public Comment
  Action to Set Agenda and Approve Consent Agenda Items

8:45 – 8:50  Citizens Advisory Committee Report

8:50 – 9:30  Strategic Plan Update
  - Review and Discussion of Strategic Plan Dashboard

9:30 – 10:10  High Level Review & Discussion of Market Research Results

10:10 – 10:20  Break

10:20 – 11:00  Financial Status/Scenarios/Risks

11:00 – 11:45  Review of Approved Energy Programs Budgets/Allocations

11:45 – 12:00  Conclusions and Wrap-Up
4. Discuss Curbside Charging Program (Discussion)
Curbside Charging Pilot Update

Executive Committee
September 14, 2020
**High-Level Roadmap: Transportation**

### Transportation Electrification

**Current**
- EV Ride & Drive Campaign
- New EV Incentive Program
- Low Income Used EV Program
- EV Ready (EV Charging Infrastructure Program)

**Pilots**
- Smart Charging
- Low Power Charging

**Forthcoming**
- Ride-Hailing Electrification
- Curbside Charging Pilot
- Local Gov Fleets
- E-bikes
Curbside Charging

Streetlight or ground-mounted EV chargers in public right of way, connected to streetlight electrical circuit.

LED streetlight retrofits provide surplus power availability.

Improved charging access to:
- MUD residents
- Renters
- Drivers who lack off-street parking

Curbside charger in Los Angeles
Process To-Date

1. Originally authorized June 2018 for $1M as part of DOE grant opportunity
   • Grant was not approved

2. Split into two projects:
   • Low Power Pilot (ongoing)
   • Curbside Pilot

3. Monitoring other curbside pilots
   1. Berkeley and Palo Alto: residential curbside
   2. LA Dept. Water and Power: 130 installed
   3. EBCE: Exploring the concept
Key Issues to Evaluate

1. Potential scale
2. Options and Costs
3. Asset ownership
4. Submetering
5. Regulatory (ADA, etc.)
6. Competing uses for curbside
7. Local approvals (RoW, city, etc.)
8. Community concerns

Curbside charger in downtown Los Angeles, blocking a newly constructed bicycle lane.
Phases

Phase 1: $98,000
• **Objective**: Feasibility analyses for 2-3 cities that includes projected costs, identified barriers, scaling analysis, and opportunities for implementation.
• **Consultant**: ARUP. Providing technical & cost assessment, issues analysis, scaling potential, and facilitation.

Phase 2: $500,000
• **Objective**: 2+ curbside charging demonstrations at 1-2 partner agencies.
  o 2 of these demonstrations would be for on-road electric vehicles (with at least 1 focusing on underserved communities)
  o Optional: 1 would be an innovation demonstration of new e-mobility or other electrification uses.
• Project report that summarizes findings and analyzes ongoing operating costs and station utilization with recommendations for future opportunities.
Timeline

Phase 1
Q4 2020
- PCE: Project coordination with Arup
- Arup: Hiring and contract
- Partners: Site suitability assessment and mapping
- Installer: Host city recruitment and consultation

Phase 2
Q1 2021
- Project design and procurement
- Demo and evaluation
- Community partners, CAC, etc. recruited and consulted during site assessment

Q2 2021
- Feasibility and cost analysis

Q3 2021
- RFP response or PWA selection

Q4 2021
- Install
Agency Opportunity

PCE currently seeking:

1. 2 – 3 interested cities to participate in feasibility analysis & pilot

2. Commit Public Works or other appropriate staff familiar with:
   • Streetlight infrastructure
   • Curb quality
   • Curb and other right of way policies

Estimated staff commitment per agency: 1 meeting/month over 6 months
5. Discuss Constraints for Organization and Event Sponsorships (Discussion)
Regular Agenda

6. Review Existing Building Electrification Incentives (Discussion)
Existing Buildings
Appliance Incentives

Executive Committee
September 14, 2020
Agenda

1. Emissions breakdown
2. Building electrification plans recap
3. Retrofit costs for space & water heating
Residential natural gas appliances

- Water Heater
- Space Heater
- Clothes Dryer
- Cooktop
Natural Gas Emissions Breakdown in SMC

Sources:
2018 PG&E Gas data
2010 California Residential Appliance Saturation Survey,
2006 California Commercial End-Use Survey

Residential is Largest Segment
High-Level Roadmap: Buildings

2018 | 2019 | 2020 | 2021

**NEW BUILDINGS**
- Reach codes
- Technical assistance for building industry members

**EXISTING CONSTRUCTION**
- Heat Pump Water Heater Incentives (forthcoming)
- Low Income Home Upgrade Program (forthcoming)
- Harvest Thermal Pilot (forthcoming)

**OTHER**
- Awareness & education campaign (forthcoming)
## Water Heating Retrofit Costs

<table>
<thead>
<tr>
<th>Vintage</th>
<th>Heat pump</th>
<th>Gas</th>
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</thead>
<tbody>
<tr>
<td>1990s</td>
<td>$4,662 - $4,952</td>
<td>$2,598</td>
</tr>
<tr>
<td>Pre 1978</td>
<td>$4,662 - $4,662</td>
<td>$2,598</td>
</tr>
</tbody>
</table>

- Typical appliance life: 8-12 years
- Current available incentive: $1,000 through BayREN Home+
- Prospective incentive: ~$2,000 ($1,000 from PCE, $1,000 from Home+)
  - Additional PCE incentive: $1,500 for panel upgrade

Source: E3 2019 Study “Residential Building Electrification in California”
# Space Heating Retrofit Costs

<table>
<thead>
<tr>
<th>Vintage</th>
<th>Heat pump*</th>
<th>Gas*** Without AC install</th>
<th>Gas With AC install</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990s</td>
<td>$16,772 - $17,985</td>
<td>$15,000</td>
<td>$18,468</td>
</tr>
<tr>
<td>Pre 1978</td>
<td>$20,056 - $23,376**</td>
<td>$22,000</td>
<td>$25,331</td>
</tr>
</tbody>
</table>

- Typical appliance life: 15-20 years
- Current available incentive: $1,000 through BayREN Home+

* Assumes no existing AC in the home
** Assumes panel upgrade required (~$2.5k)
*** Estimated AC cost (~$3.5k)

Source: E3 2019 Study “Residential Building Electrification in California”
Backup slides
# Water & Space Costs

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<thead>
<tr>
<th>Year</th>
<th>NC</th>
<th>$9,683</th>
<th>$12,041</th>
<th>$10,587</th>
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<tbody>
<tr>
<td>HP HVAC</td>
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<td>$16,772</td>
<td>$17,985</td>
<td>$17,273</td>
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<td>1990s</td>
<td></td>
<td>$20,056</td>
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<td>$21,355</td>
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<td>Pre 1978</td>
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<td>$4,358</td>
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<tr>
<td>HP WH</td>
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<td>$4,662</td>
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- Assumes NO existing AC (save ~$1.5k) and no panel upgrade

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- Assumes NO existing AC (save ~$1.5k) and includes panel upgrade estimated at $800

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</tr>
</tbody>
</table>

- Assumes NO existing AC and that AC is added ($3.5k of the cost is AC alone)
# 4 YR Budget Breakdown

<table>
<thead>
<tr>
<th></th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
<th>FY 2024</th>
<th>4 yr Total</th>
<th>% of Total budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives</td>
<td>$ 500</td>
<td>$ 450</td>
<td>$ 750</td>
<td>$ 1,100</td>
<td>$ 2,800</td>
<td>46%</td>
</tr>
<tr>
<td>Low Income</td>
<td>$ 450</td>
<td>$ 400</td>
<td>$ 550</td>
<td>$ 600</td>
<td>$ 2,000</td>
<td>33%</td>
</tr>
<tr>
<td>Load Shaping</td>
<td>$ 50</td>
<td>$ 50</td>
<td>$ 100</td>
<td>$ 250</td>
<td>$ 450</td>
<td>7%</td>
</tr>
<tr>
<td>Innovation Pilots</td>
<td>$ 250</td>
<td>$ 50</td>
<td>$ 50</td>
<td>$ 100</td>
<td>$ 450</td>
<td>7%</td>
</tr>
<tr>
<td>Admin &amp; Other</td>
<td>$ 150</td>
<td>$ 50</td>
<td>$ 50</td>
<td>$ 150</td>
<td>$ 400</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Total Budget</strong></td>
<td><strong>$ 1,400</strong></td>
<td><strong>$ 1,000</strong></td>
<td><strong>$ 1,500</strong></td>
<td><strong>$ 2,200</strong></td>
<td><strong>$ 6,100</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*1000s of $s
Existing Buildings Electrification Plan Summary

In May 2020, the Board approved a four-year $6.1 million Existing Building Electrification plan. Initial programs outlined were:

1. **Heat Pump Water Heater (HPWH) Program**
   - Gas to HPWH replacement incentives. Combine with BayREN incentives.

2. **Low Income Home Upgrade Program**
   - Turnkey no-cost home upgrades, energy efficiency, and electrification for low-income residents.

3. **Harvest Thermal Technology Pilot**
   - Pilot combined space and water heating system with load shifting thermal storage and potentially lower cost than separate retrofits.
Regular Agenda

7. Committee Members’ Reports (Discussion)
Regular Agenda

Adjourn