Exhibit to Agenda Item #10
Brief the Board on SMUD’s Zero Carbon customer programs.

Board of Directors Meeting
Thursday, September 15, 2022, scheduled to begin at 5:30 p.m.
Virtual Meeting (online)
Zero Carbon Customer Programs by Portfolio

**Building Electrification & Energy Efficiency**
Encourages customers to decarbonize their homes and workplaces by converting from gas to efficient electric equipment and optimize and manage their electricity use.

**Transportation Electrification**
Incentives, information, and special rates that help customers purchase and charge electric vehicles for homes and businesses.

**Load Flexibility & Battery Storage**
Programs and options for customers to participate in building our Virtual Power Plant to help shift and manage loads during times when energy is needed or when excess energy is available.

**Green Pricing**
Gives SMUD customers the ability to conveniently satisfy their desire to achieve and maintain a highly renewable or zero carbon power supply.
Building Electrification & Energy Efficiency
How do I electrify my HVAC or Hot Water System?

Building Electrification & Energy Efficiency

Customer searches for available rebates and participating contractors

Customer selects a participating contractor & requests cost estimate for HVAC or HW conversion

Contractor reserves qualifying rebates

Customer signs installation contract

Contractor completes installation & sends documentation to SMUD

SMUD reviews/approves project & pays rebate
How do I decarbonize my home?

Building Electrification & Energy Efficiency Residential Programs

Advanced Home Solutions Contractor Network

- Seal and insulate
- Heat pump HVAC
- Heat pump water heaters
- Panel upgrade
- Circuit upgrade

Retailer Partnerships

- Washers & dryers
- Refrigerator & freezers
- Air cleaners
- Room air conditioners
- Advanced power strips
- Refrigerator recycling

Customer Rebates and Information

- Induction cooktops
- SMUD Energy Store
  - Smart thermostats
- Informational Programs
  - Home Electricity Reports

smud.org/rebates
### How do I decarbonize my business?

**Building Electrification & Energy Efficiency Commercial Programs**

<table>
<thead>
<tr>
<th>Approach</th>
<th>Solutions</th>
<th>Resources</th>
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<tbody>
<tr>
<td><strong>Self-Service</strong></td>
<td>Express Energy Solutions</td>
<td>smud.org/ees</td>
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<td><strong>Approach</strong></td>
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<td><strong>Turnkey</strong></td>
<td>Complete Energy Solutions</td>
<td>smud.org/ces</td>
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<td><strong>Approach</strong></td>
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<td><strong>Specialized</strong></td>
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<td>smud.org/custom</td>
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<td><strong>Approach</strong></td>
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<td><strong>Property Owners/Managers</strong></td>
<td>Multifamily retrofit</td>
<td>smud.org/multifamily</td>
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<td><strong>Builders/Developers</strong></td>
<td>Commercial Integrated Design Solutions</td>
<td>smud.org/ids</td>
</tr>
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<td></td>
<td></td>
<td>smud.org/smarthomes</td>
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</table>
# Key Metrics & Milestones

## Building Electrification & Energy Efficiency

<table>
<thead>
<tr>
<th></th>
<th>2021 Final</th>
<th>2022 July Actual</th>
<th>2022 EOY Forecast</th>
<th>2022 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Pump HVAC Conversions</td>
<td>2,575</td>
<td>1,888</td>
<td>3,224</td>
<td>2,600</td>
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<tr>
<td>Heat Pump Water Heater Conversions</td>
<td>958</td>
<td>622</td>
<td>1,357</td>
<td>1,380</td>
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<tr>
<td>New Homes &amp; Multifamily Units Constructed</td>
<td>578</td>
<td>713</td>
<td>1,200</td>
<td>1,300</td>
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<tr>
<td>Cumulative Carbon Reduction (metric tons)</td>
<td>53,421</td>
<td>59,950</td>
<td>74,026</td>
<td>71,106</td>
</tr>
</tbody>
</table>

## Future Activities

- **Launch Home Electricity Reports**
- **Expand SMUD Contractor Network to Commercial Installers**
- **Integrate Community Impact Plan Offerings**
Future Activities and Program Expansions

Residential

- Neighborhood focus: providing bundle offerings to increased # of customers
- Multifamily: increased incentives for affordable housing property managers

Commercial

- Neighborhood approach for small/medium-sized businesses: providing energy bundles for Zero Carbon Plan programs
Transportation Electrification
How do I electrify my personal vehicle?

Transportation Electrification

1. Searches for EV info
   smud.org/driveelectric

2. Test drives an EV
   Ride & Drive Events

3. Researches which EV and home charger is most appropriate
   PlugStar Online Tools
   SMUD EV Support Program
   support@pluginamerica.org

4. Visits a dealership
   Dealer Engagement

5. Makes EV purchase
   CA Clean Fuel Reward Program

6. Purchases and installs a home charger
   SMUD Energy Store
   SMUD Charge@Home Incentives
   Sacramento Clean Cars for All Partnerships

7. Wants to save money when charging at home
   EV Rate Credit (Time-of-Day)

8. Enrolls in Managed Charging pilot
   smud.org/driveelectric
How do I electrify my company fleet?

Transportation Electrification

1. Reviews EV Fleet options
   - smud.org/driveelectricbusiness
   - Talk to Commercial EV Staff

2. Develops plan for fleet electrification
   - Commercial EV Program
   - SMUD eFuel AdvisorSM

3. Develops plan & install chargers
   - Commercial EV Program
   - SMUD eFuel SolutionsSM

4. Makes EV purchases
   - Commercial EV Program

5. Examines ways to reduce demand charge burden
   - Commercial EV Pilot Rate
Residential (smud.org/DriveElectric)

- Drive Electric Program
  - Individual EV Support
  - Ride & Drive Events
  - Dealer Engagement
  - PlugStar Online Tools
- SMUD Charge@Home Program
- Residential EV Rate Credit
- Sacramento Clean Cars for All Partnership
- Community Partnerships
- EV Managed Charging Pilot

Commercial (smud.org/DriveElectricBusiness)

- Commercial EV Program
  - Light, Medium, and Heavy-Duty vehicle incentives
  - Level 1, 2 and fast charger incentives
- SMUD eFuelSM
  - Advisor
  - Solutions
- Commercial EV Pilot Rate
- CALeVIP Partnership
Key Metrics & Milestones
Transportation Electrification

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</tr>
</thead>
<tbody>
<tr>
<td>Residential EV Chargers</td>
<td>N/A</td>
<td>486</td>
<td>833</td>
<td>800</td>
</tr>
<tr>
<td>Commercial EV Chargers</td>
<td>266</td>
<td>129</td>
<td>320</td>
<td>300</td>
</tr>
<tr>
<td>Cumulative Residential EV Rate Participants</td>
<td>12,176</td>
<td>15,156</td>
<td>16,500</td>
<td>16,376</td>
</tr>
<tr>
<td># of Light Duty EV's in Service Territory</td>
<td>23,421</td>
<td>24,816</td>
<td>27,385</td>
<td>25,879</td>
</tr>
</tbody>
</table>

Future Activities

- SMUD Contractor Network to install SMUD Charge@Home projects launching October 2022
- Expanded e-mobility incentives and EV home charger installations for EAPR and income qualified customers
- Add additional electric vehicle manufacturers to Managed Charging pilot
- SMUD eFuel Solutions℠ program offering launch by year end
- In depth consultation services helping customers right size home EV charging solutions
- Investigating Universal Charging
Load Flexibility & Battery Storage
How can I help build my “Virtual Power Plant”? 
Load Flexibility & Battery Storage

1. Online search for qualifying smart thermostats
2. Purchases smart thermostat at SMUD Energy Store
3. Enrolls smart thermostat in My Energy Optimizer Partner
4. Receives $50 enrollment rebate and Critical Peak Pricing information
5. Receives notifications around Peak Event Days
6. Home preconditioned during Peak Event Days
7. Receives $25 participation rebate at the end of season or Critical Peak Pricing bill savings
How can I help my community build a virtual power plant?

Load Flexibility & Battery Storage

**Rate Arbitrage**
- My Energy Optimizer Starter
  - Battery Storage

**Residential Summer Peak Days**
- My Energy Optimizer Partner
  - Thermostat
  - Battery Storage

**Residential Year Round**
- My Energy Optimizer Partner+
  - Battery Storage

**Summer Emergency Events**
- Peak Corps (Air Conditioner Load Management)

**Commercial Summer Peak Days**
- PowerDirect

**Research Pilots**
- EV Managed Charging
- PowerMinder Water Heaters

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smud.org/storageres
myenergyoptimizer.org
smud.org/storageres
smud.org/peakcorps
smud.org/powerdirect
# Key Metrics & Milestones

## Load Flexibility & Battery Storage

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<th>2022 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Energy Optimizer Smart Thermostats</td>
<td>NA</td>
<td>4529</td>
<td>6500</td>
<td>5600</td>
</tr>
<tr>
<td>My Energy Optimizer Battery Customers</td>
<td>NA</td>
<td>33</td>
<td>100</td>
<td>368</td>
</tr>
<tr>
<td>PowerDirect (MW)</td>
<td>15.6</td>
<td>17.9</td>
<td>18.0</td>
<td>17.7</td>
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<tr>
<td>Load Flexibility Portfolio (Total MW)</td>
<td>74</td>
<td>113</td>
<td>182</td>
<td>206</td>
</tr>
</tbody>
</table>

## Future Activities

- **Increase PowerDirect® Small-Medium Business Participation**
- **Grow My Energy Optimizer Partner Thermostat Participation**
- **Implement My Energy Optimizer Partner Battery and Partner+ Events**
- **Launch Next Gen Air Conditioning Load Management Offering**
Green Pricing
How do I participate in Residential Greenergy™?

Green Pricing

Becomes aware of Greenergy

Start Electrical Service
Social Media Campaign
Media Advertising

Moves into home, finds Greenergy option via the start service interaction

smud.org/move

Selects Greenergy participation level

Smud.org/move
Smud.org/going-green

Receives welcome letter with information about choice and impact

Receives 1st year thank you letter and information on upgrading to Greenergy Neighbor or Climate Advocate

Annual Power Content Label & Letter
## Residential and Commercial Programs

### Green Pricing

#### Residential Greenergy
- Updated - January 2022
  - Standard
  - California Renewable
  - Local Renewable
- New options - June 2022
  - Neighbor
  - Climate Advocate

[smud.org/greenergy](smud.org/greenergy)

#### Sacramento Shade
- Partnership between SMUD and Sacramento Tree Foundation
- Up to 10 free trees for residential customers

[smud.org/shadetrees](smud.org/shadetrees)

#### Commercial Greenergy
- Partner Plus
  - 100% California-based carbon free generation
- Custom Blend
  - Tailored based on customer needs

[smud.org/greenergy](smud.org/greenergy)

#### Community Solar/Storage
- Neighborhood SolarShares
- Commercial StorageShares

[smud.org/going-green/neighborhood-solarshares](smud.org/going-green/neighborhood-solarshares)
## Metrics & Milestones

### Green Pricing

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<tr>
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<th>2022 Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential Greenergy customers</strong></td>
<td>68,000</td>
<td>66,000</td>
<td>67,000</td>
<td>71,000</td>
</tr>
<tr>
<td><strong>Commercial Greenergy customers</strong></td>
<td>2,128</td>
<td>1,215</td>
<td>1,700</td>
<td>1,700</td>
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<tr>
<td># of trees distributed</td>
<td>11,628</td>
<td>6,047</td>
<td>12,250</td>
<td>12,250</td>
</tr>
<tr>
<td># of Neighborhood SolarShares homes enrolled</td>
<td>16</td>
<td>1809</td>
<td>2100</td>
<td>2500</td>
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</tbody>
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### Future Activities

- **2023 - Planning and development of Commercial Greenergy California Renewable Offering**
- **2024 - Planning and development of Commercial Renewable Shares Offering**
- **2023 – Update Sacramento Shade Contract**
# Zero Carbon Program Resources

<table>
<thead>
<tr>
<th>Program</th>
<th>Email address</th>
<th>Phone</th>
<th>Web Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Home Solutions</td>
<td><a href="mailto:AdvancedHomeSolutions@smud.org">AdvancedHomeSolutions@smud.org</a></td>
<td>916-732-5732</td>
<td>smud.org/rebates</td>
</tr>
<tr>
<td>Express Energy Solutions</td>
<td><a href="mailto:Express.EnergySolutions@smud.org">Express.EnergySolutions@smud.org</a></td>
<td>916-732-5095</td>
<td>smud.org/ees</td>
</tr>
<tr>
<td>Complete Energy Solutions</td>
<td><a href="mailto:CES@trccompanies.com">CES@trccompanies.com</a></td>
<td>844-529-4084</td>
<td>smud.org/ces</td>
</tr>
<tr>
<td>Advanced Commercial Solutions</td>
<td><a href="mailto:CustomRetrofit@smud.org">CustomRetrofit@smud.org</a></td>
<td>916-732-5095</td>
<td>smud.org/custom</td>
</tr>
<tr>
<td>Integrated Design Solutions</td>
<td><a href="mailto:IntegratedDesign@smud.org">IntegratedDesign@smud.org</a></td>
<td>916-732-5095</td>
<td>smud.org/ids</td>
</tr>
<tr>
<td>Multifamily Go Electric</td>
<td><a href="mailto:multifamily@smud.org">multifamily@smud.org</a></td>
<td>916-732-6359</td>
<td>smud.org/multifamily</td>
</tr>
<tr>
<td>All Electric Smart Homes</td>
<td><a href="mailto:mc@trccompanies.com">mc@trccompanies.com</a></td>
<td>916-732-5300</td>
<td>smud.org/smarthomes</td>
</tr>
<tr>
<td>My Energy Optimizer</td>
<td><a href="mailto:MyEnergyOptimizer@smud.org">MyEnergyOptimizer@smud.org</a></td>
<td>916-732-7400</td>
<td>myenergyoptimizer.org</td>
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<tr>
<td>PowerDirect® ADR</td>
<td><a href="mailto:powerdirect@smud.org">powerdirect@smud.org</a></td>
<td>916-732-6950</td>
<td>smud.org/powerdirect</td>
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<tr>
<td>Drive Electric</td>
<td><a href="mailto:Support@PlugInAmerica.org">Support@PlugInAmerica.org</a></td>
<td>877-EV-HELP-1</td>
<td>pluginamerica.org/sacramento-ev-support-program</td>
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<tr>
<td>Charge@Home</td>
<td><a href="mailto:evincentives@smud.org">evincentives@smud.org</a></td>
<td>916-732-4800</td>
<td>smud.org/driveelectric</td>
</tr>
<tr>
<td>Commercial Electric Vehicles</td>
<td><a href="mailto:commercialev@smud.org">commercialev@smud.org</a></td>
<td>916-732-5095</td>
<td>smud.org/driveelectricbusiness</td>
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<tr>
<td>Greenergy</td>
<td><a href="mailto:greenergy@smud.org">greenergy@smud.org</a></td>
<td>888-742-7683</td>
<td>smud.org/greenergy</td>
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<tr>
<td>Shade Trees</td>
<td><a href="mailto:shadetrees@sactree.com">shadetrees@sactree.com</a></td>
<td>916-924-8733</td>
<td>smud.org/shadetrees</td>
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Thank You