



2023 OVERVIEW

# Community Energy Programs

Rafael Reyes

Director of Energy Programs

# Strategic Objectives

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**Organizational Priority:** *Contribute to our region reaching its goal to be 100% greenhouse gas-free by 2035*

**Community Energy Programs:** *Implement robust energy programs that reduce greenhouse gas emissions, align energy supply and demand, and provide benefits across the community.*

- A. Decarbonization Programs:** Develop market momentum for electric transportation and initiate the transition to clean energy buildings
- B. Distributed Energy Resources:** Support decarbonization and local power development
- C. Community Benefits:** Deliver tangible benefits throughout our diverse communities
- D. Innovation and Scale:** Leverage leadership, innovation and regulatory action for scaled impact

# Programs Responsibilities

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## Manage **customer-facing programs**

- Develop **strategies** to advance strategic objectives
- Issue RFPs and manage **contracts with providers**
- Approve **rebate applications** and respond to inquiries
- **Analyze** needs and results to improve impact
- Serve as subject matter **experts to policy** teams
- Address **compliance** reporting requirements

# Programs Team

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Rafael Reyes, Director of Programs  
Strategic direction, partnerships and policy

Phillip Kobernick, Programs Manager  
Transportation Electrification

Blake Herrschaft, Programs Manager  
Building Electrification

Peter Levitt, Programs Manager  
Distributed Resources

Alejandra Posada, Associate Programs Manager  
Building Electrification

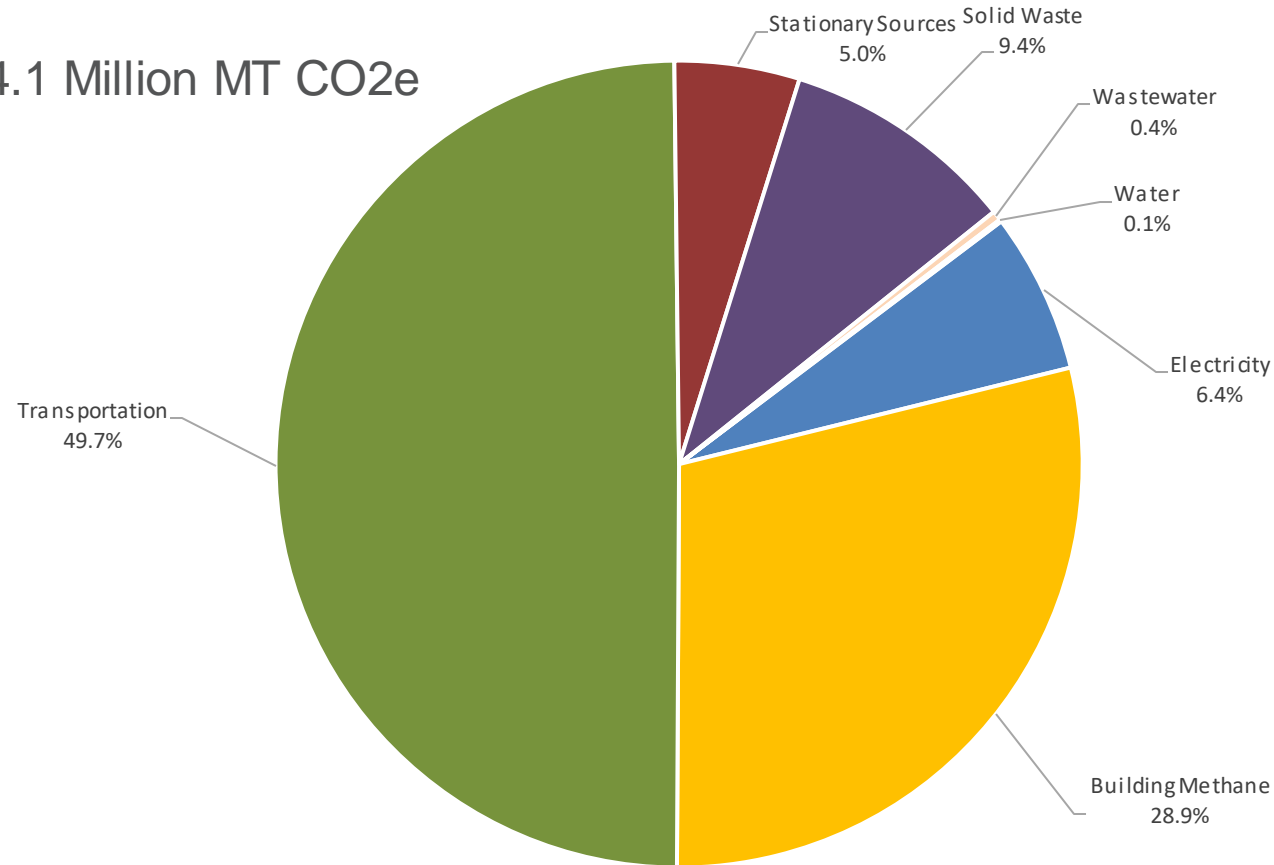
Joe Ficalora, Associate Programs Manager  
EV Infrastructure

Carlos Moreno, Programs Specialist  
Transportation Electrification and other



# San Mateo County 2019 GHG Emissions

Total Emissions: 4.1 Million MT CO<sub>2</sub>e



- Leakage emissions are not accounted for so Building Natural Gas emissions may be up to 50% larger.
- Air travel and embedded carbon of products not included

# PCE GHG Reduction Scope

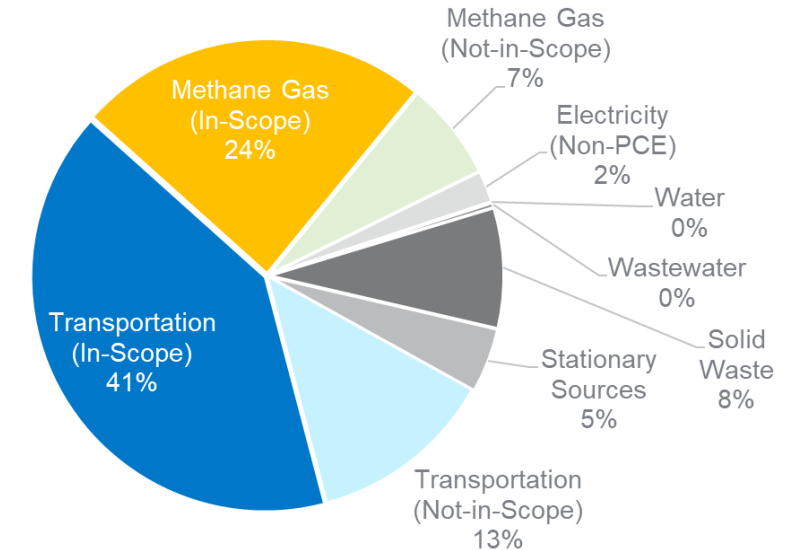
- **Primary Scope**

- Transportation
  - private passenger, local gov & small commercial fleets,
  - ride-hailing, alternative mobility
- Buildings
  - residential (single family & small multifamily),
  - Office (incl. local gov.), small commercial

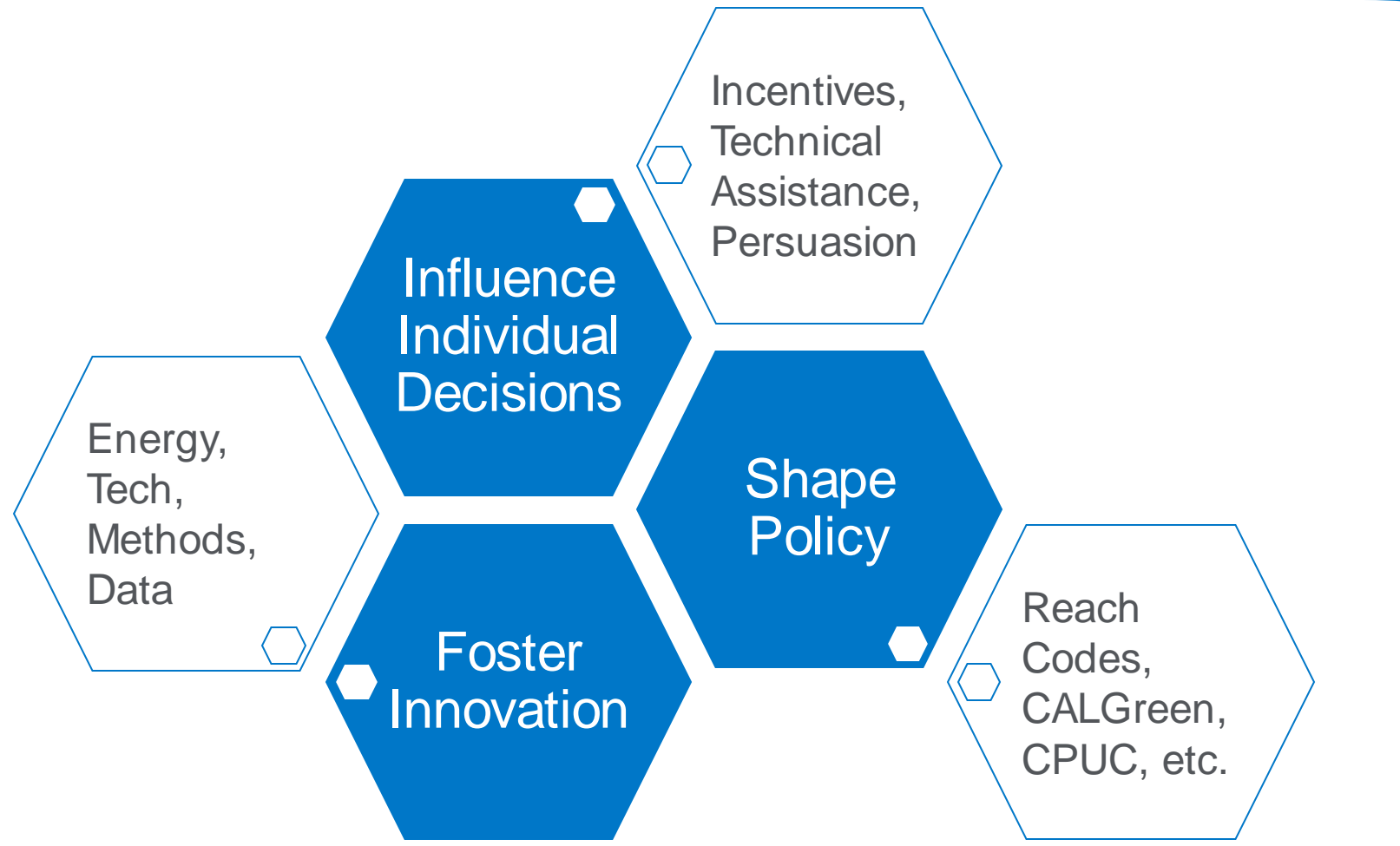
- **Not in scope, or limited\*** (others lead)

- Transportation: heavy-duty vehicles, off-road
- Buildings: industrial, large commercial\*, large multifamily\*
- Non-energy: land-use, compost, stationary sources, landfills
- Out of territory: SF airport
- Embedded carbon, Climate Adaptation, Sequestration/restoration

San Mateo Countywide Greenhouse Gas Emissions,



# How We Effect Change



- Peninsula Clean Energy must
- be known and trusted
  - communicate, persuade and engage
  - satisfy and retain customers



# Programs Portfolio

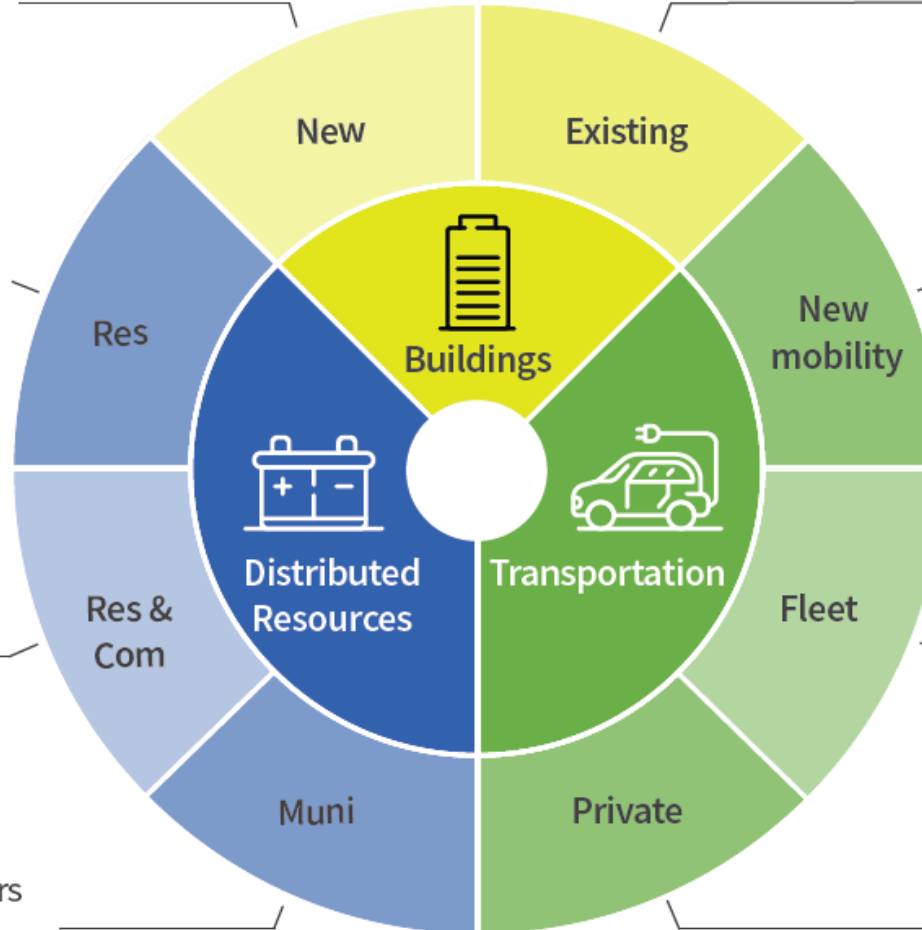


Reach codes  
Technical asst.

Solar + storage

Virtual power  
plant

Resilience centers  
Solar + storage



Appliance incentives  
Income-qualified homes  
Marketing & training

E-bikes  
Ride-hailing

Muni fleets

EV incentives  
EV charging incentives  
& technical asst.  
Marketing & training





# Community Energy Programs Update – As of April

## Key Performance Indicators (Measured on CY)

|                                     | 2019 Baseline | 2020  | 2021   | 2022   | 2023 YTD<br>As of 3/28 | 2025 Target<br>(revised) |
|-------------------------------------|---------------|-------|--------|--------|------------------------|--------------------------|
| Transportation: GHG Reductions (MT) | 2,000         | 8,200 | 14,800 | 18,600 | 21,300                 | 83,000                   |
| Buildings: GHG Reductions (MT)      | 1,800         | 6,100 | 8,000  | 8,900  | 9,200                  | 9,800                    |
| EV charging ports installed (#)     | 0             | 13    | 146    | 348    | 447*                   | 3,500                    |
| Electric appliances installed (#)   | 0             | 0     | 219    | 616    | 883                    | 1,800                    |
| Local Resources (MW)                | 0             | 1.47  | 4.26   | 5.54   | 5.54                   | 20                       |
| Funds for Low Income                | 11%           | 47%   | 19%    | 43%    | 29%                    | 20%                      |

1. 2025 targets were updated in September 2022
2. All figures cumulative except Funds for Low Income
3. Overall County GHGs when last inventoried in 2019 were 4,100,000 MT
4. GHG measures reflect projected future average annual reductions of actions taken that year (ex: adopted reach codes, charging installed, EVs acquired, etc.)
5. 2021 year electric appliances count updated to reflect addl. units not previously accounted for including electric panels

**\* EV Charging ports in pipeline: 3,200**

# Highlights #1

## 1. Reach Codes: 19 agencies in SM County

- Project with SVCE accounts for half codes in CA
- Major innovation in building and EV code; moved state codes
- 90,000 MT CO<sub>2</sub> over 10 years (equivalent to 10M gallons of gas)



## 2. Electric Vehicle Charging: nearly 500 ports to-date

- Innovation in right-sized EV charging
- Ave per port \$3,800 (compared to PG&E \$18k)



## 3. Solar on Public Facilities

- Round 1: 12 sites, 1.7 MW solar, CYQ1 2024, \$17M lifetime savings
- Round 2: ~40 sites, 6-14 MW, RFP imminent



# Highlights – Underserved Communities

## 1. Electric Vehicles: 346 vehicles (income qual.)

- \$3.6 million in savings over 10 years
- 18,000 MT CO2 over 10 years

## 2. Home Upgrade: 190 homes completed

- Home repairs plus electrification
- Target: ~300 homes

## 3. Ride-hailing EVs: 100 EVs with Lyft

- Ave. 120 mi/day: GHG benefit, driver income
- 250,000 rides, over 3 million miles



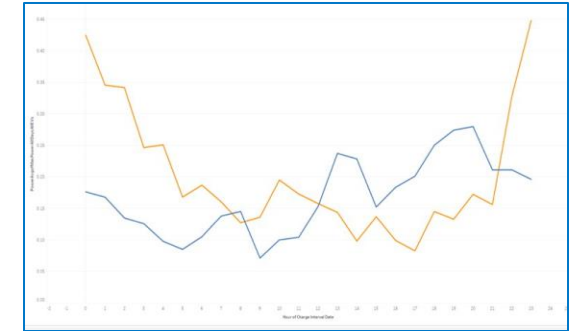
### The 1st Renter: Vikki

- Lyft driver w/ over 11k rides
- Previous Flexdrive hybrid renter

# Pilots

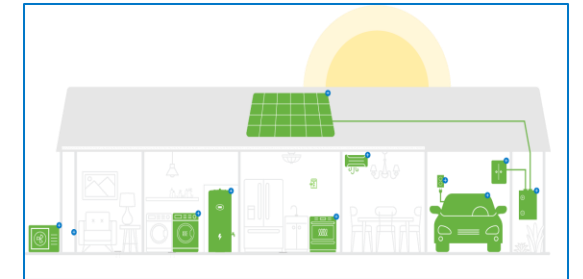
## 1. EV Managed Charging

- Major load shaping: 7 kWh/EV, current: 40,000, future: 600,000+
- Through the vehicles – telematics based



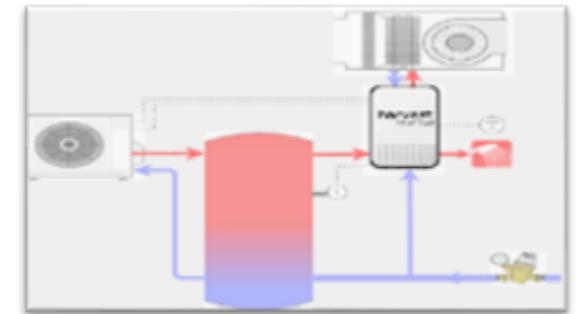
## 2. Whole Home & 120V HPWH

- Advanced design guidelines (electrify in 100A)
- Lower install costs

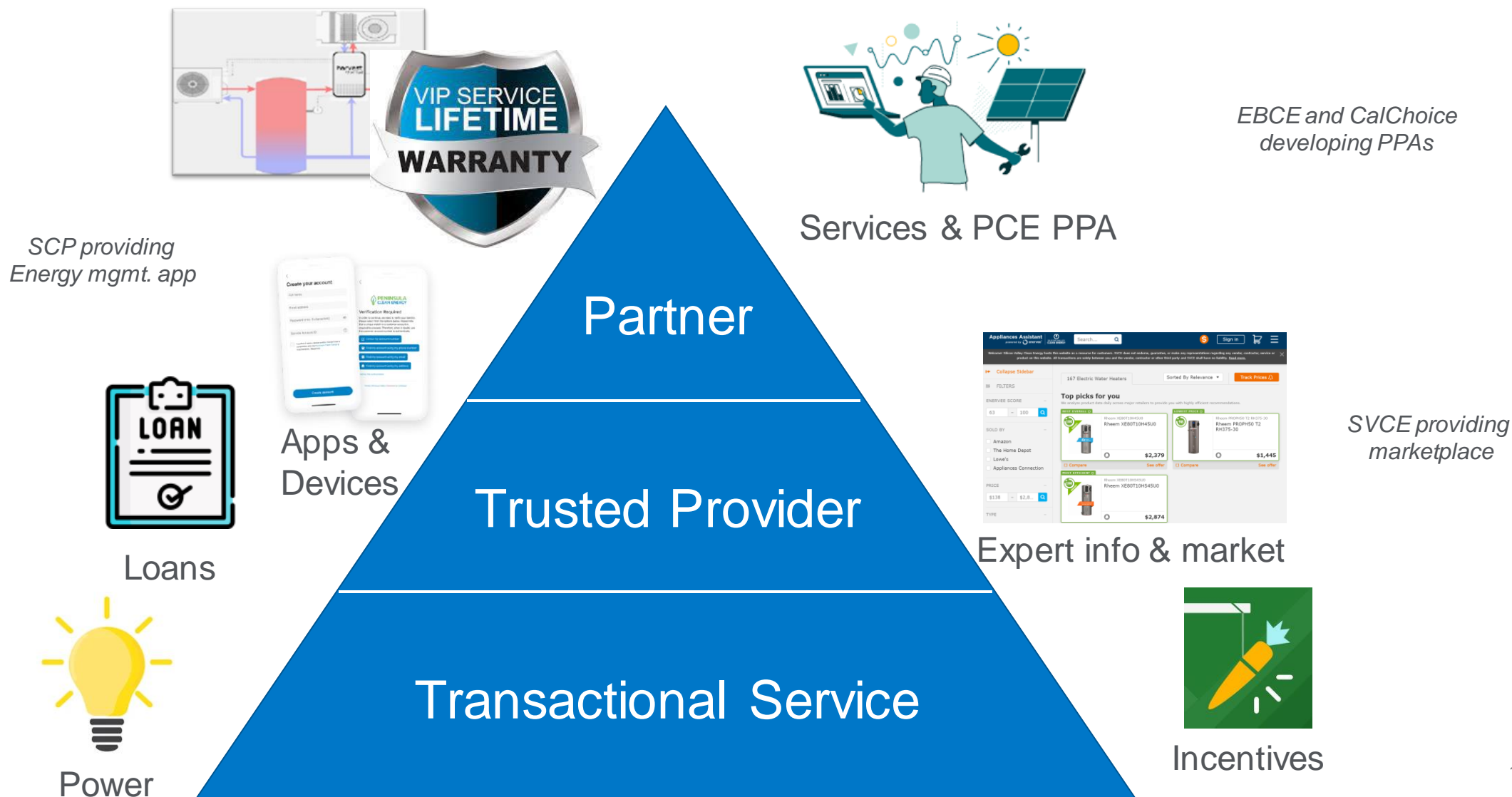


## 3. Advanced building system pilot (Harvest Thermal)

- Major innovation, combined space & water heating, “grid aware”
- 4 of 4 installs completed, data collection in progress
- 70-90% reduction in home emissions



# Deepening Customer Relationships (residential)



# Residential Electrification – “BE v2”



“I want to choose”  
(DIY or self-managed)



“Just get it done” &  
“It’s an emergency”



“I cannot afford this”  
(low income)

## Retail Partners

Brick & mortar presence

Dev supply chain

Bulk buy

## One-Stop Website

Appliance marketplace

Contractor network

Info & education  
Why, how, rebates, etc.

Energy calculator

## Hotline

Program navigation

Project planning

Technical guidance

## Turnkey install option

Appliance install

Bulk buy

Emergency loaner

Workforce development

Whole home pre-wiring

Pilot tech

## Finance Options

PCE financing

Third-party financing

## Load Shaping

## PV + Storage

## Rebates

CPUC Flex market

PCE rebates

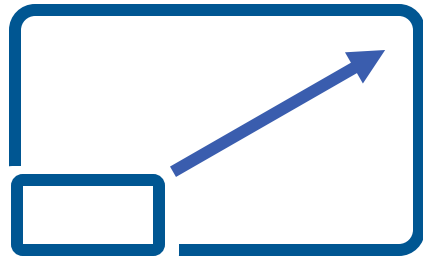
BayREN rebates

IRA rebates

CEC rebates

# Vision for Home Upgrade v2

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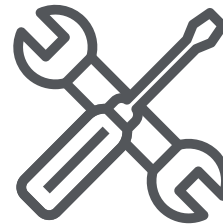
Scale to Whole Home



Increase Homes Impacted per Year



Capture Federal & State Incentives



Integrate with Turnkey Offering



Develop VPP



# Leveraging Home Upgrade

Dedicated workforce can support turnkey projects for non-low-income customers



Equipment discounts available to all customers



Advanced designs inform program improvements



## Dedicated workforce

Specifically trained

Whole home experience

Dedicated contractors

“Bulk buy” discounts

## Embedded innovation

Pilot new tech

Virtual Power Plant (VPP)

Advanced designs

# Home Upgrade Program Components

# Near-term Roadmap

|                    | 2018          | 2019                   | 2020 | 2021                                | 2022                             | 2023  | 2024   | 2025                          |
|--------------------|---------------|------------------------|------|-------------------------------------|----------------------------------|---|--|-------------------------------|
| Buildings          |               | Reach Codes - New Blds |      |                                     | Reach Codes v2 - New & Existing  |   |  |                               |
|                    |               |                        |      | Appliances: HPWH                    | Zero pct loan, multiple measures |   | Building Electrification v2 (turnkey, one-stop shop) |                               |
|                    |               |                        |      | LI Home Upgrade                     |                                  |   | Home Upgrade v2                                      | VPP homes                     |
|                    |               |                        |      |                                     |                                  |   | Municipal & commercial incentives                    |                               |
| Local Generation & |               |                        |      |                                     |                                  |   |  | 3rd party & project financing |
|                    |               |                        |      | Resi solar & storage v1             |                                  |   | Resi solar & storage v2                              |                               |
|                    |               |                        |      | Solar & storage on public buildings | Round 1 installs, Round 2 start  |   | Round 3 start (w/ sector e                           |                               |
|                    |               |                        |      |                                     |                                  | FLEXMarket  |  |                               |
| Transportation     |               |                        |      |                                     |                                  |   | EV Managed Charging                                  |                               |
|                    | EV Incentives |                        |      | Used EV                             |                                  |   |  |                               |
|                    | Ride & Drive  |                        |      | EV Rentals                          |                                  |   |  |                               |
|                    |               |                        |      | E-Bikes (annual rounds)             |                                  |   |  |                               |
| Innovation         |               |                        |      | EV Charging Incentives & Tech Asst  |                                  |   |  |                               |
|                    |               |                        |      |                                     | Gov Fleets                       |   |  | Gov + Priv. Fleet             |
|                    |               |                        |      | EV Managed Charging Pilot I         |                                  | EV Managed Charging Pilot II                      |  |                               |
|                    |               |                        |      | Harvest Thermal                     |                                  | 120V WHs & Whole Home                             |  |                               |
|                    |               |                        |      |                                     |                                  | Rate design & policy for building electrification |  |                               |
|                    |               |                        |      |                                     |                                  |   | Alt. battery types & LDES                            | Vehicle to Building pilot     |

# Budget

| Expenses                  | FY24 Adopted Budget  | FY25 Forecast        | FY26 Forecast        | FY27 Forecast        | FY28 Forecast        |
|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Buildings - Codes         | 276,000              | 250,000              | 250,000              | 250,000              | 250,000              |
| Buildings - Existing      |                      |                      |                      |                      |                      |
| Home Upgrade              | 2,000,000            | 7,500,000            | 7,500,000            | 9,000,000            | 10,000,000           |
| Appliance Incentives      | 3,000,000            | 4,000,000            | 5,000,000            | 7,500,000            | 9,000,000            |
| Local Gov Electrification | 750,000              | 1,000,000            | 1,000,000            | 1,000,000            | 1,000,000            |
| EV - Vehicles             | 875,000              | 1,050,000            | 1,225,000            | 1,225,000            | 1,225,000            |
| EV - Managed Chg          | 480,000              | 250,000              | 300,000              | 300,000              | 300,000              |
| EV-Chg - EV Ready         | 4,000,000            | 6,000,000            | 8,000,000            | 8,000,000            | 8,000,000            |
| EV - Fleet                | 300,000              | 330,000              | 363,000              | 400,000              | 440,000              |
| EV - Alt Mobility         |                      |                      |                      |                      |                      |
| ebikes                    | 300,000              | 330,000              | 363,000              | 400,000              | 440,000              |
| ride-hailing              | 75,000               |                      |                      |                      |                      |
| DER - Gov Solar           |                      |                      |                      |                      |                      |
| GovPV1 O&M Expenses       |                      | 60,000               | 60,000               | 60,000               | 60,000               |
| GovPV2 O&M Expenses       |                      |                      | 300,000              | 300,000              | 300,000              |
| DER-Residential           | 500,000              | 1,000,000            | 1,000,000            | 1,500,000            | 1,500,000            |
| Pilots & Grants           |                      | 300,000              | 300,000              | 300,000              | 300,000              |
| Local Govs                | 95,000               | 90,000               | 95,000               | 95,000               | 95,000               |
| Other/misc/uncategorized  | 75,000               |                      | 25,000               | 25,000               | 25,000               |
|                           |                      |                      |                      |                      |                      |
| <b>Expense Totals</b>     | <b>\$ 12,726,000</b> | <b>\$ 22,160,000</b> | <b>\$ 25,781,000</b> | <b>\$ 30,355,000</b> | <b>\$ 32,935,000</b> |

\*FLEXmarket revenues not shown

# Budget – Capital Programs

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| <b>Balance Sheet</b>     | <b>FY24 Adopted Budget</b> | <b>FY25</b>       | <b>FY26</b>         | <b>FY27</b>        | <b>FY28</b>        |
|--------------------------|----------------------------|-------------------|---------------------|--------------------|--------------------|
| OBF capital expenses     | 3,000,000                  | 3,000,000         | 3,000,000           | 3,000,000          | 3,000,000          |
| OBF revenues             | (180,000)                  | (950,000)         | (1,520,000)         | (2,090,000)        | (2,660,000)        |
| GovPV1 CapEx & ITC       | 7,400,000                  | (3,000,000)       |                     |                    |                    |
| GovPV2 CapEx & ITC       |                            | 43,000,000        | (15,000,000)        |                    |                    |
| GovPV1 Revenue           | (200,000)                  | (425,000)         | (423,000)           | (420,000)          | (415,000)          |
| GovPV2 Revenue           |                            | (3,000,000)       | (3,000,000)         | (3,000,000)        | (3,000,000)        |
|                          |                            |                   |                     |                    |                    |
| <b>Balance Sheet Net</b> | <b>10,020,000</b>          | <b>38,625,000</b> | <b>(16,943,000)</b> | <b>(2,510,000)</b> | <b>(3,075,000)</b> |