

PROGRAMS ROADMAP UPDATE

Clean Energy Community Advisory
Commission

January 19, 2023

Kate Ziemba, Senior Environmental Program Manager
Marcos Santiago, Power Resources Specialist

SAN JOSE 
CLEAN ENERGY
A Program of the City of San José

AGENDA

- Background on Programs Roadmap development
- Status of current programs
- Near-term program recommendations
- Long-term program recommendations



BACKGROUND

PROGRAMS ROADMAP DEVELOPMENT



- Multilingual workshops, interviews, surveys, and focus groups with residents, businesses, other CCAs, and industry experts
- Presentations to CECAC and Transportation & Environment Committee

- Every spring to Transportation & Environment Committee

PROGRAM AREAS

Vehicle
Electrification

Building
Electrification

Distributed
Energy
Resources

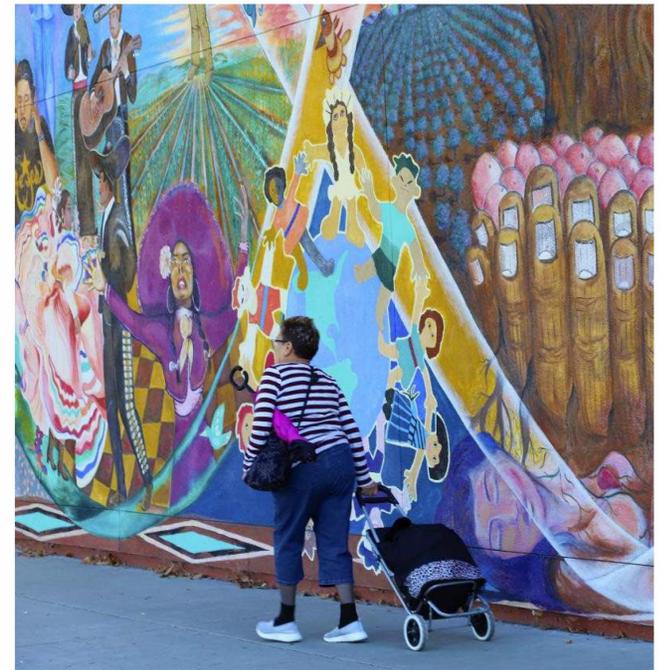
Energy
Efficiency

Program-
Specific
Rates

Resiliency

PROGRAM GUIDING PRINCIPLES

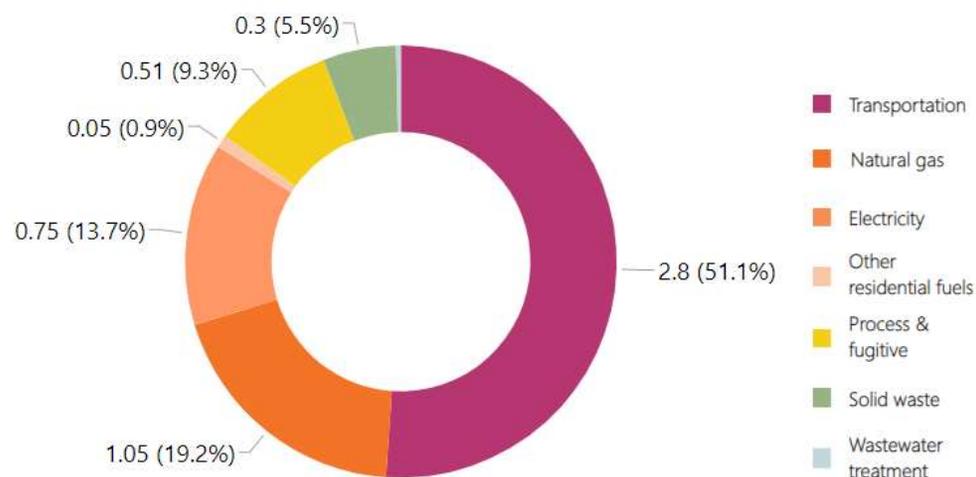
1. Maximize greenhouse gas reduction opportunities
2. Align with Climate Smart San José
3. Promote equity, affordability and support disadvantaged communities
4. Produce community benefits
5. Maintain or improve the financial stability of SJCE



SAN JOSE'S CARBON NEUTRALITY GOAL

- City adopted carbon neutral by 2030 in 2021
- Beyond providing a carbon-free power supply, need to electrify transportation and buildings to achieve the goal
- SJCE programs can incentivize electrification

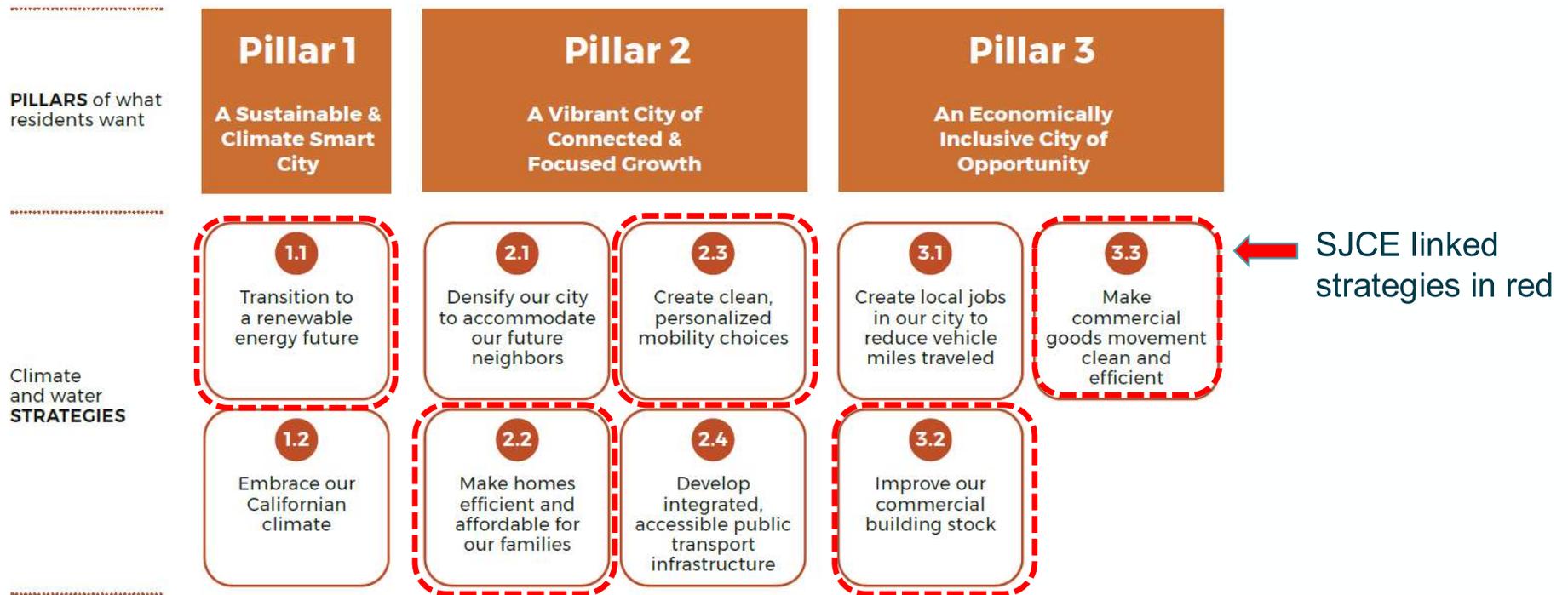
Communitywide greenhouse gas emissions by sector (all sectors)



2019, Climate Smart San Jose data dashboard

SJCE PROGRAMS ALIGNED WITH CLIMATE SMART

A Framework for Action: Nine Strategies in Three Pillars



PROGRAMS FUNDING SOURCES

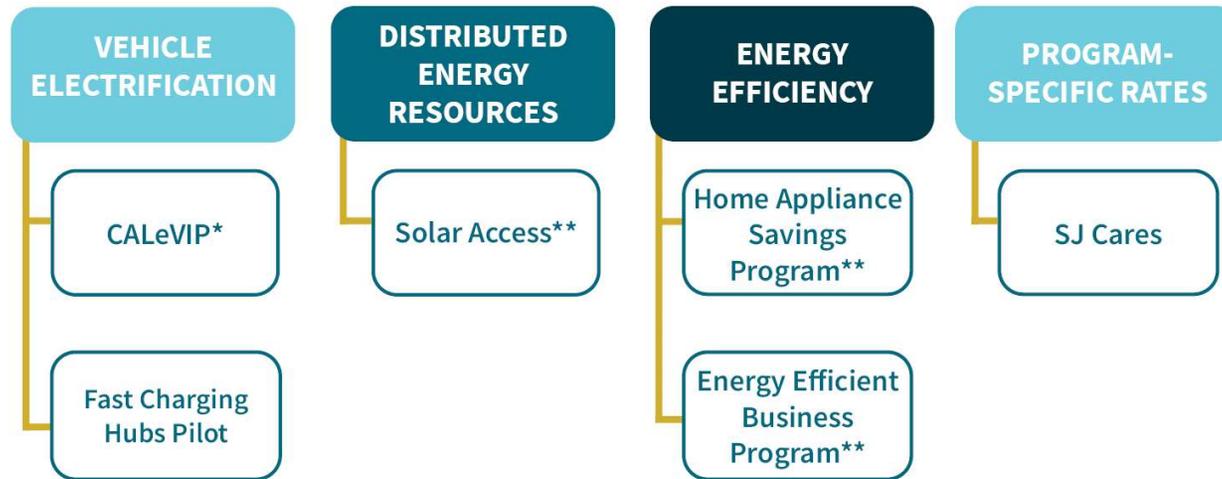
- Important to leverage external funding for programs until SJCE builds operating reserves
 - Deloitte: 180 days of operating expenses
 - Resiliency to cushion against volatility in power markets, PCIA uncertainty, and regulatory changes
- On track for 180 days of operating reserves by end of 2023





STATUS OF CURRENT PROGRAMS

CURRENT PROGRAMS



*California Energy Commission co-funded
**California Public Utilities Commission funded

Total budgets: \$38.5M over program lifetimes (next 3-10+ years)
80% externally funded
(excludes SJ Cares)

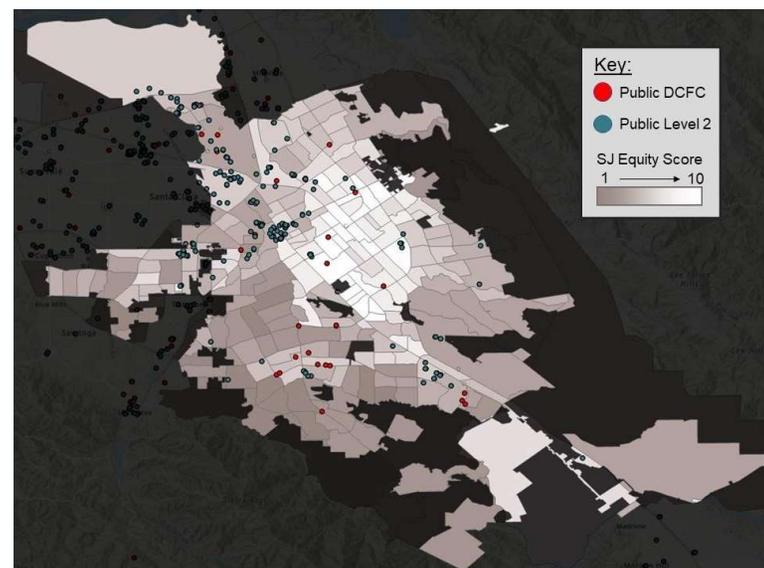
VEHICLE ELECTRIFICATION

CALeVIP

- Launched Dec 2020
- \$14M for Level 2 and DCFC charging infrastructure at multifamily, workplace, and public locations
- 35% of funding in disadvantaged and low-income communities
- 96 Level 2 and 11 DCFC installed so far

Fast charging hubs pilot

- Approved Nov 2022
- 3-4 DCFC hubs at City-owned sites in low-income communities
- Pay-for-performance tolling agreements with 2 developers
- Test retail pricing structure to incentivize daytime charging
- Estimated online date: early to mid 2024



DISTRIBUTED ENERGY RESOURCES: SOLAR ACCESS

- Launched Nov 2021
- CPUC-funded disadvantaged community green tariff
- ~840-940 CARE/FERA customers in disadvantaged communities receive 20% bill discount and 100% solar from array in Merced County
- Fully subscribed

GET 20% OFF YOUR ELECTRICITY BILL

- ▶ You are eligible to save with Solar Access from San José Clean Energy and the City of San José
- ▶ No solar panel installation or equipment needed

Obtenga un 20% de descuento en su factura de electricidad

- ▶ Usted es elegible para ahorrar con el Programa de Acceso Solar de San José Clean Energy y de la Ciudad de San José
- ▶ No se necesitan instalación ni equipo de paneles solares

Chiết khấu 20% hóa đơn tiền điện của quý vị

- ▶ Quý vị đủ điều kiện để tiết kiệm nhờ có Mặt Trời Giá Rẻ Cho Bạn từ Năng Lượng Sạch San José và Thành Phố San José
- ▶ Không cần lắp đặt tấm quang điện hay thiết bị



ENERGY EFFICIENCY PROGRAMS

- Launched September 2022 through end of 2024
- \$5.6M budget, CPUC-funded
- 2,800 MWh annual savings target

San José Home Appliance Savings Program

- 50-70% discounts on refrigerators, washers, and dryers through Airport Home Appliance
- Free smart thermostats and plugs
- Eligibility: single-family households in disadvantaged communities or with moderate incomes
- Progress:
 - 140 smart plugs
 - 112 smart thermostats
 - 7 appliances
- 2023 expansion: GE and induction cooktops
- Goal: serve 1,058 households

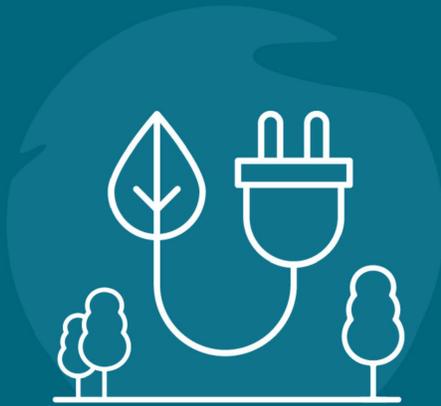
San José Energy Efficient Business Program

- 80-90% rebate on HVAC, refrigeration, and water heating components
- Eligibility: all businesses, targeted to small and medium and schools
- Progress:
 - 8 businesses served
 - 23 businesses & school district in progress
- Goal: serve 300 businesses and 9 schools

PROGRAM SPECIFIC RATES: SJ CARES

- Generation rate discount for CARE/FERA customers (<250% of federal poverty guidelines)
 - ~77,000 customers
- 1/1/23: rate discount increased from 5% to 10%
 - ~\$15-20 per month

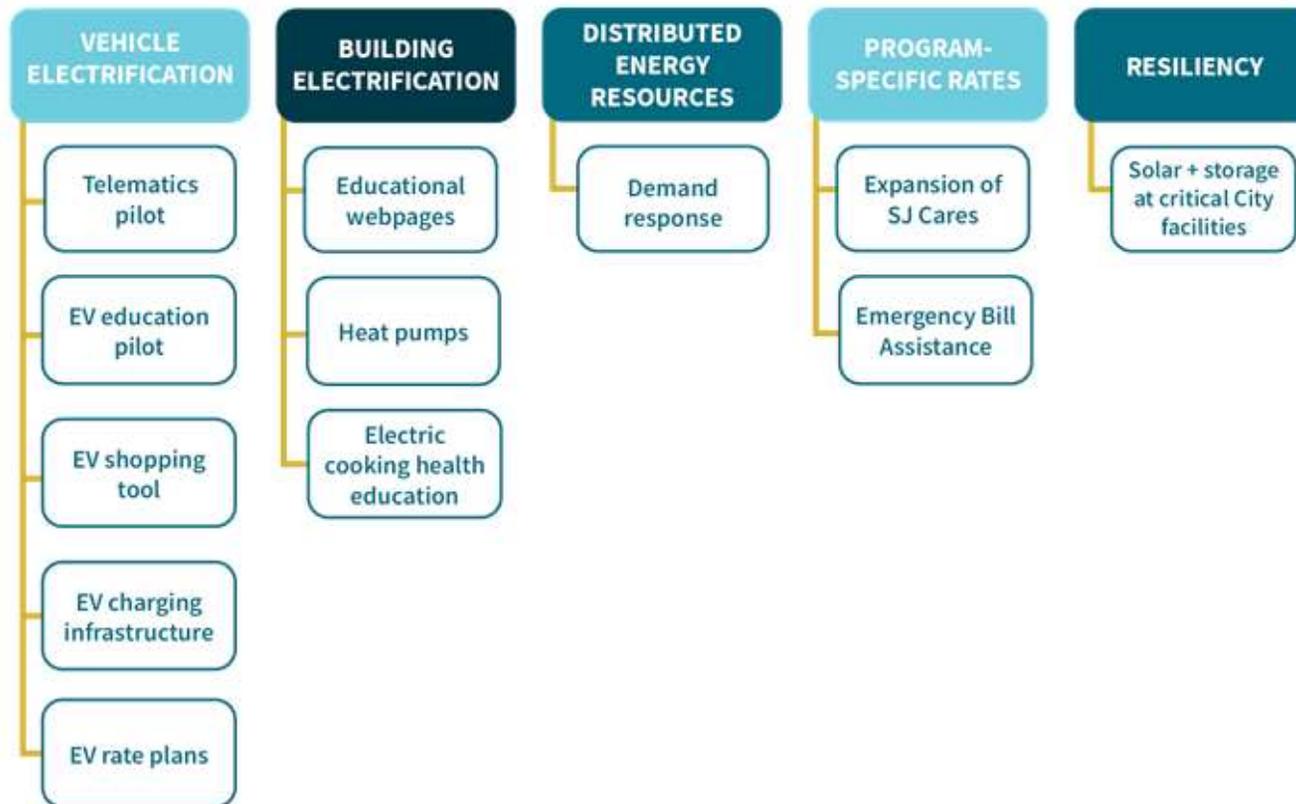




NEAR-TERM PROGRAM RECOMMENDATIONS

NEAR-TERM PROGRAM RECOMMENDATIONS

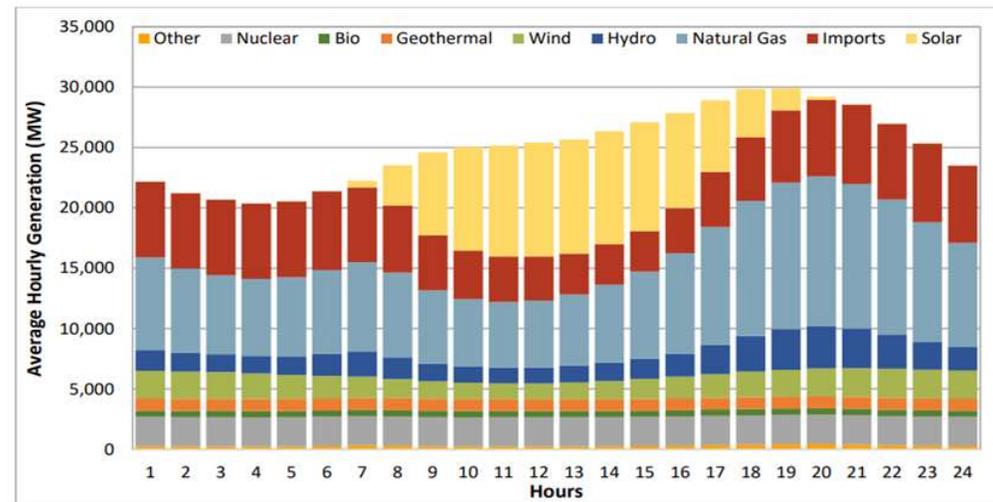
2023-2024



VEHICLE ELECTRIFICATION

SJCE is focused on:

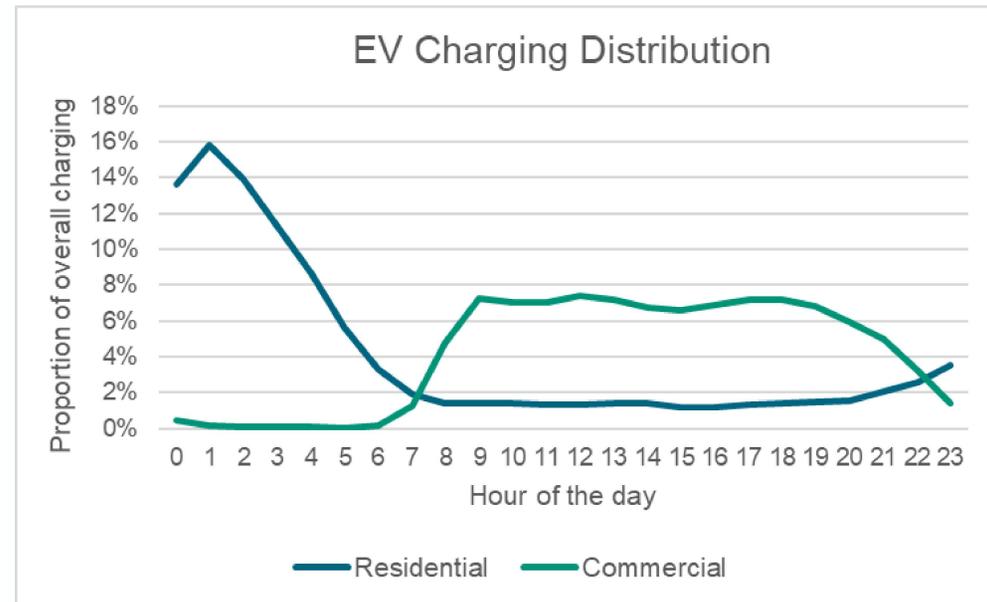
1. Managing the additional electric demand from charging to reduce greenhouse gas emissions and improve resiliency
2. Ensuring equitable EV adoption and access to charging infrastructure



California Independent System Operator Average Hourly Power Production by Resource Type – 2020

EV CHARGING IN SAN JOSE

- ~30% of new vehicles registered in SJ each quarter have been electric since Q2 2022
- Most residential charging occurs overnight
- SJCE aims to shift more EV charging to the middle of the day to reduce emissions, SJCE's energy procurement costs, and customer rates
- Opportunity:
 - Nearly 80% of respondents work from home all or part-time
 - Approximately 80% of charging occurs at home
 - Nearly half of the respondents reported that their workplace has chargers



STACKABLE INCENTIVES

2023 Bolt EV

Starting at \$26,595*
As shown \$29,795*



Get it by Nov 15th



CARVANA CERTIFIED

2015 Nissan LEAF

S • 59,014 miles

\$14,990

New EV

Low-income Stackable Incentives	Amount
Federal: New EV tax credit	Up to \$7,500
State: Clean Vehicle Rebate Program	Up to \$4,500 \$7,500
Local: Clean Cars 4 All	Up to \$9,500 \$12,000
Total new, base model Chevy Bolt*	\$5,100

Used EV

Low-income Stackable Incentives	Amount
Federal: Used EV tax credit	Up to \$4,000
Local: Clean Cars 4 All	Up to \$9,500 \$12,000
Total used Nissan Leaf*	\$1,500



*Before taxes, fees, and registration

RECOMMENDED NEAR-TERM VEHICLE ELECTRIFICATION PROGRAMS AND PILOTS

Program	Description	Budget	Timeline
Telematics pilot	Yearlong managed charging pilot for 500 EVs to shift charging to cleaner times. Includes 10-12 daytime charging events/month plus grid emergencies. Opportunity to study whether a scaled-up telematics program can cost-effectively shift load and lower procurement costs.	\$200,000-\$250,000	2023-2025
EV education pilot	Fund 2-3 community-based organizations to conduct in-depth EV education pilot in targeted neighborhoods. Tactics: mini ride & drives, financial education workshops, and one-on-one assistance navigating rebates and incentives.	\$40,000-\$50,000	Summer 2023
EV shopping tool	Online EV shopping tool website in English, Spanish, and Vietnamese to compare lifetime costs and emissions for EVs and gas cars, get tailored list of rebates and incentives, and find nearby chargers.	\$130,000	2023-2026
EV charging infrastructure	Explore submitting application for \$5M innovation pilot as part of \$1B CPUC transportation electrification initiative to install EVSE for low-income/DACs.	\$5,000,000 (all external)	2023-2028
EV rate plans	Explore adjusting commercial EV rates to incentivize daytime charging. Could reduce revenue but lower procurement costs.	TBD	2023
Total		\$370,000-\$430,000	

BUILDING ELECTRIFICATION

- Replacing natural gas uses in buildings with electric: heat pump water heaters, heat pump-HVAC, electric cooktops & electric dryers
 - More efficient, safer, healthier, less expensive to operate
 - Consistent with City's Building Electrification Framework (May 2022)
- New federal and state programs to incentivize electric appliances:
 1. Inflation Reduction Act tax credits
 2. Federal High-Efficiency Electric Home Rebate (HEEHR) program: rebates for households <150% area median income
 3. CPUC Self-Generation Incentive Program for heat pump water heaters
 4. TECH California contractor incentives for heat pump HVAC



BUILDING ELECTRIFICATION INCENTIVES

Project	HEEHR Program Maximum Rebate Amount	Inflation Reduction Act Annual Tax Credits	CPUC SGIP	TECH (contractor)
Heat pump water heater	\$1,750	30% of project costs, capped at \$2,000	\$5,300-6,385	
Heat pump HVAC	\$8,000			\$1,000
Electric stove	\$840			
Heat pump dryer	\$840			
Electrical panel upgrade	\$4,000	30% of project costs, capped at \$600, if upgraded with heat pump or solar installation	\$2,000-4,000	
Insulation, air sealing, and ventilation	\$1,600	30% of project costs, capped at: <ul style="list-style-type: none"> •Insulation and air sealing: \$1,200 •Exterior doors: \$250 per door, \$500 total •Windows: \$600 •Energy audits: \$150 		
Wiring	\$2,500			

RECOMMENDED NEAR-TERM SJCE BUILDING ELECTRIFICATION PROGRAMS

Program	Description	Budget	Timeline
Educational webpages	Build out electric homes webpage to include interactive graphic of a home and education subpages on HPWH, HP-HVAC, electric stoves, and electric/HP dryers. Pages include: explanation of technology, installation and permitting info, list of incentives, find a contractor, bill calculator, and customer testimonials.	\$2,000	Early 2023
Electric cooking health education	Highlight the health and efficiency benefits of electric cooking, including less expensive equipment such as portable induction cooktops, electric kettles, slow & pressure cookers. Tactics could include: video with Lawrence Berkeley National Lab measuring indoor air quality, microinfluencer and local chef cooking videos, chef cooking classes, promoting ESD's induction cooktop loaner program and energy efficiency induction range offer	\$40,000-50,000	2023-2024
SGIP HPWH program	SGIP for HPWH will launch in Q2 2023 with \$84.7M in incentive funding. Single-family homes making <80% AMI can receive up to \$10,385 for HPWH install and panel upgrade. SGIP typically provides rebate after proof of installation and has complicated application processes. Program idea: SJCE fronts project costs and collects rebate; hires program implementer to submit applications and coordinate with contractors.	\$5,000,000 (external) + ~\$300,000 for program implementer	2024-2026: Set up program in 2023 and run for up to 2 years. Approx. 500 customers.
Total		\$342,000-\$352,000	

DISTRIBUTED ENERGY RESOURCES: DEMAND RESPONSE

- Compensating customers who reduce their usage during events
 - CAISO emergencies (demand outstrip supply)
 - High power market prices
 - High demand
- Types
 - Behavioral: people take action to reduce usage
 - Automated: wirelessly adjust equipment (thermostats, EV chargers, smart plugs)
 - Load shaping: smoothing demand peaks (storage, HVAC, EV charging)



RECOMMENDED NEAR-TERM SJCE DISTRIBUTED ENERGY RESOURCES PROGRAMS

Program	Description	Budget	Timeline
Demand Response	<p>Portfolio of programs:</p> <p>Phase 1: behavior-based, opt-out program, no worse off guarantee (pay only for credible reductions) (1 MW of reduction) SJCE to call events to reduce critical peak demand (4 hrs) Auto-enroll: Top 10% of residential user and all commercial</p> <p>Phase 2: adds in automated demand response (17 MW) Residential thermostats (offer free thermostat) and smart EV charging (offer rebate) Commercial & industrial (free audit) Max events 3 per month</p> <p>Phase 3: adds in more sophisticated load and storage management options adds in more sophisticated load Residential storage, Building management systems/HVAC and smart EV charging for commercial Max events 3 per month, ability to override 1 event</p>	Phase 1 net benefit: ~\$345k annually	<p>Phase 1: earliest fall 2023</p> <p>Phase 2: 2025</p> <p>Phase 3: 2027</p>

RECOMMENDED NEAR-TERM SJCE PROGRAM-SPECIFIC RATES

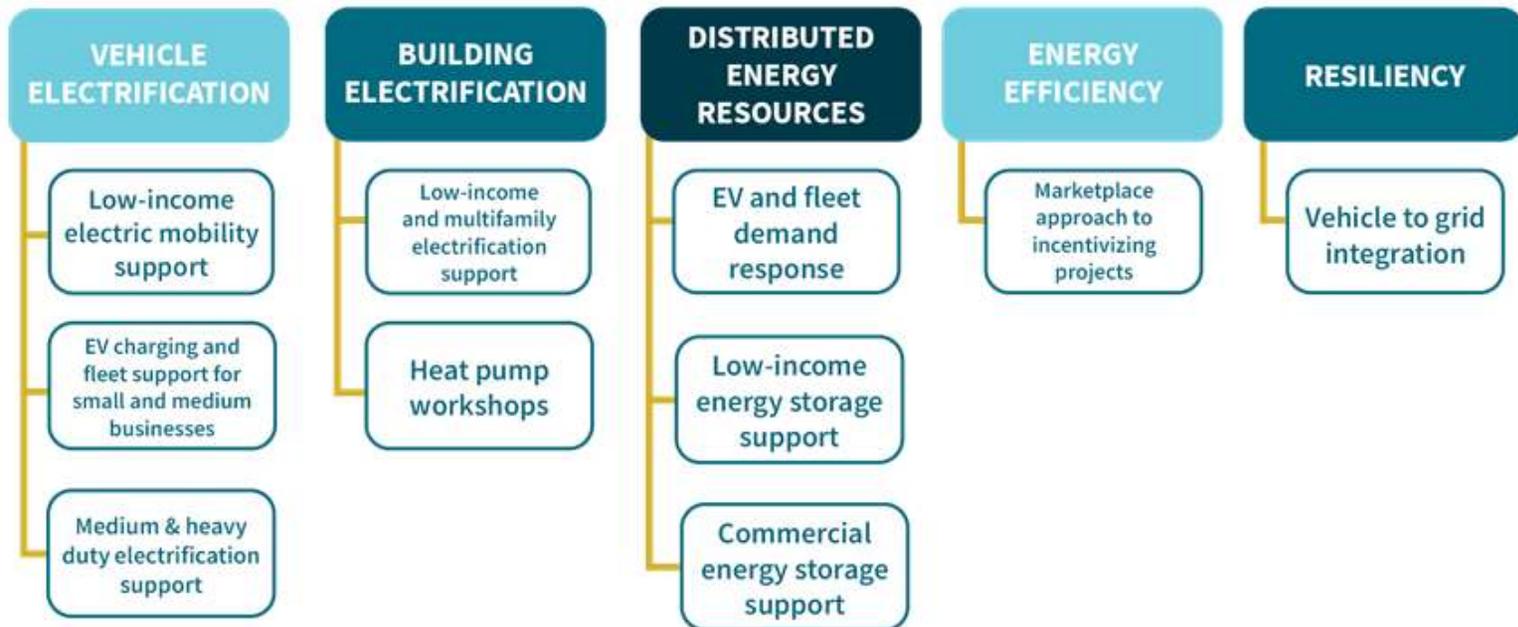
Program	Description	Budget	Timeline
SJ Cares Expansion	Work with Housing Dept or County social services agencies to automatically enroll customers in assistance programs into SJ Cares	TBD	2023
Emergency Bill Assistance	Provide funding for bill assistance to organization(s) helping customers at risk of homeless	Up to \$1,000,000	2024 – several years
Total		\$1,000,000	

RECOMMENDED NEAR-TERM SJCE RESILIENCY PROGRAMS

Program	Description	Budget	Timeline
Solar + storage at critical City facilities	Assist Public Works program manager to establish microgrids at critical City facilities, including applying for funding, RFPs, contract structures, etc. Could result in a feed-in tariff	\$0* *funding program manager position	2023-2024

LONG-TERM PROGRAM RECOMMENDATIONS

2025 & beyond



DISCUSSION/QUESTIONS?

- Input on balance across program areas
- Reactions to any particular programs?