CECAC PROGRAM ROADMAP UPDATE

1/14/20

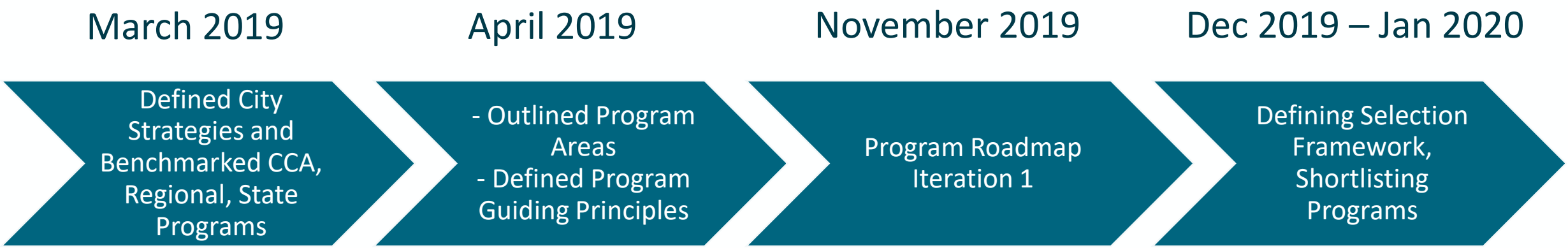
SAN JOSE CLEAN ENERGY

A Program of the City of San José

AGENDA

- Program Roadmap Alignment and Areas
- Program Selection Framework
- Shortlisted Programs
- Next Steps
- Community Communication Channels
- Appendix Information

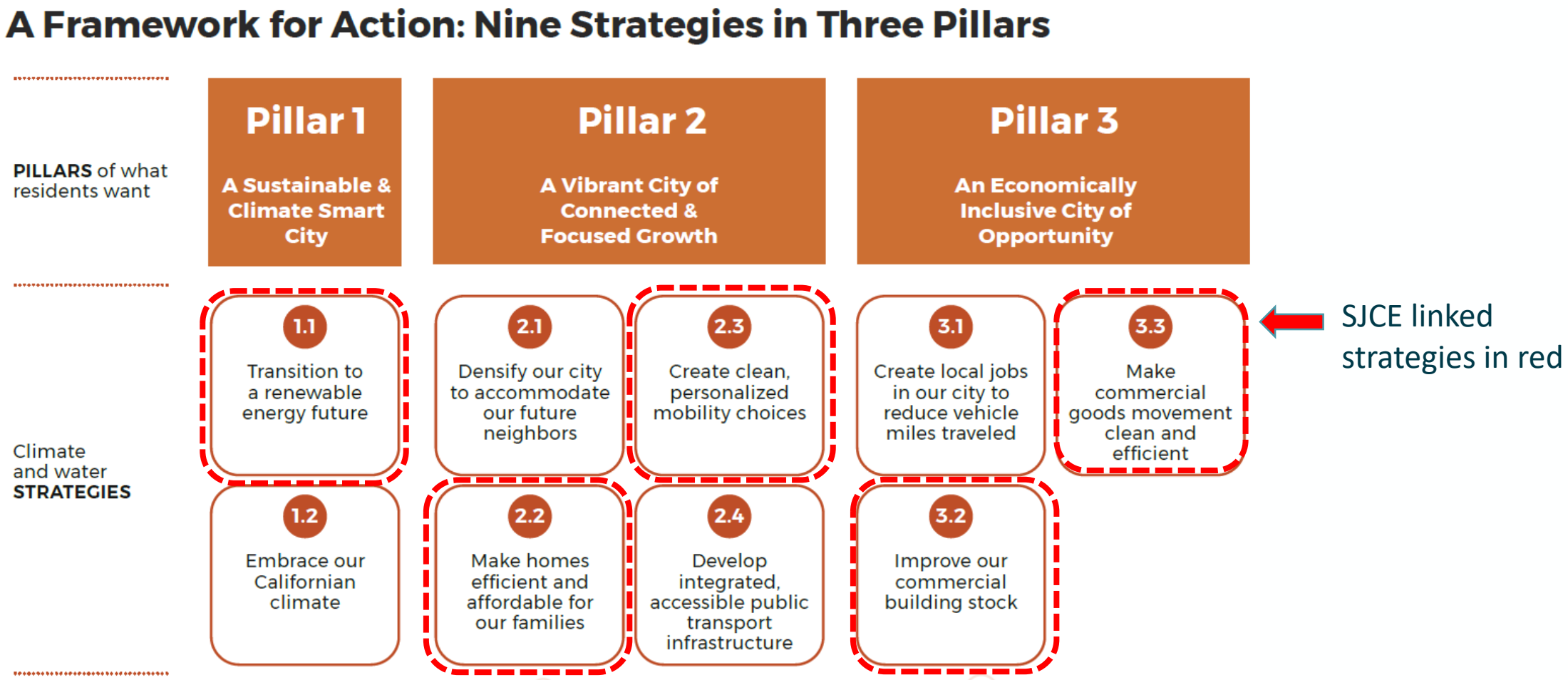
CECAC PROGRAM UPDATES THUS FAR



(see appendix slides)

PROGRAM ROADMAP ALIGNMENT

SJCE PROGRAMS WILL BE ALIGNED WITH CLIMATE SMART SAN JOSE



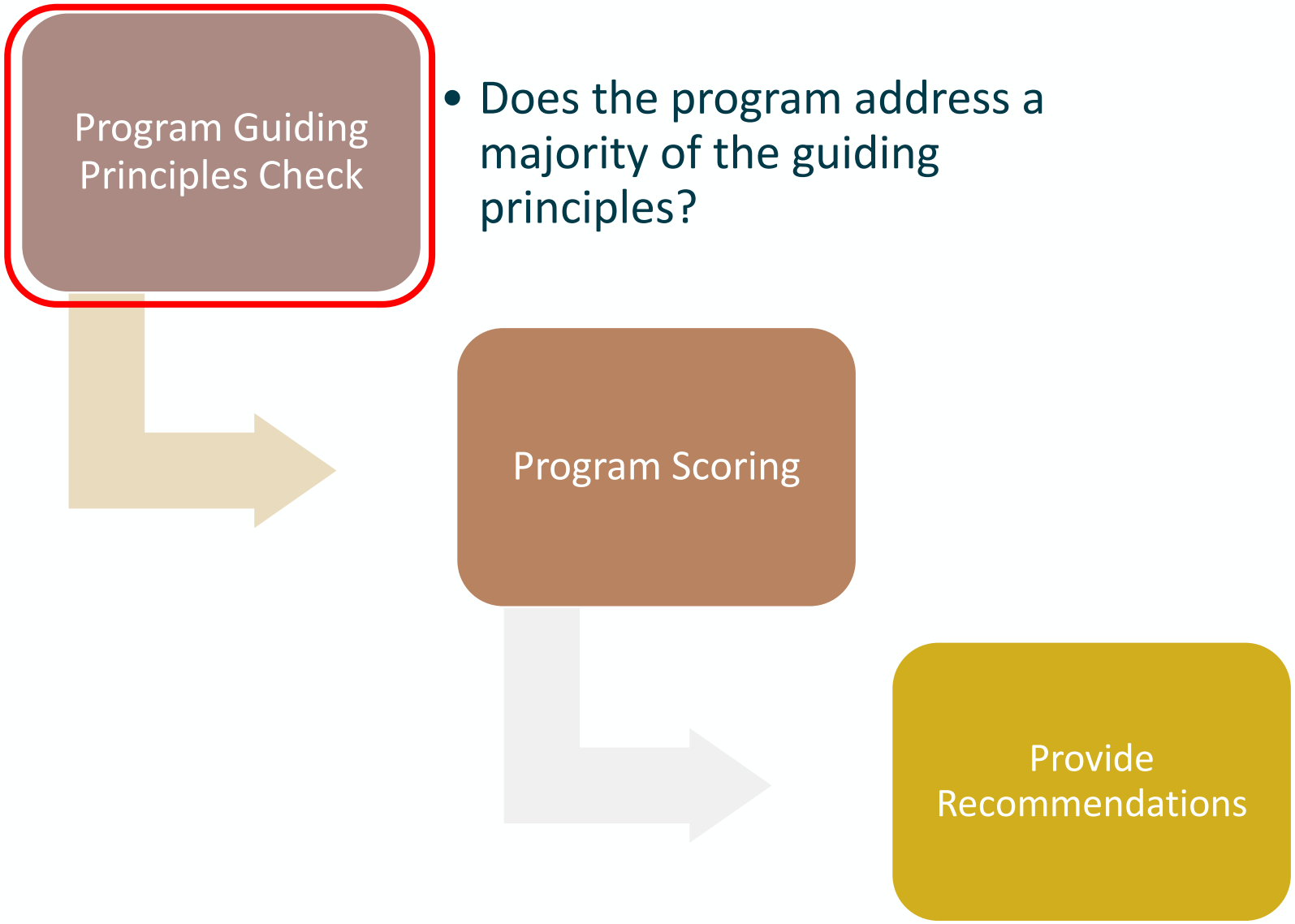
PROGRAM AREAS

PROGRAM AREAS

Vehicle Electrification	Building Electrification	Distributed Energy Resources
Energy Efficiency	Rates	Resiliency

PROGRAM SELECTION FRAMEWORK

SJCE PROGRAM SELECTION PROCESS FLOW

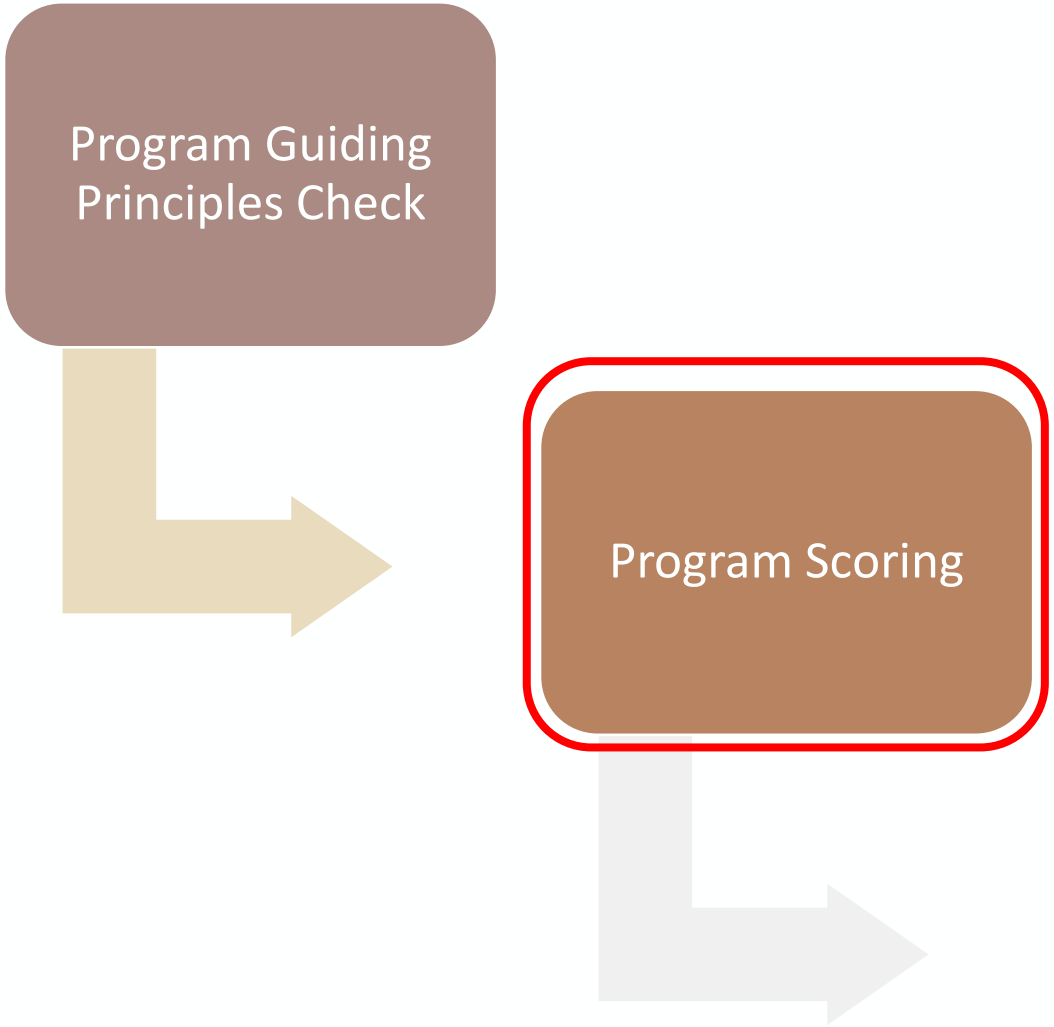


- Does the program address a majority of the guiding principles?

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

SJCE PROGRAM SELECTION PROCESS FLOW



- Can the program be scored? What does the score tell us?

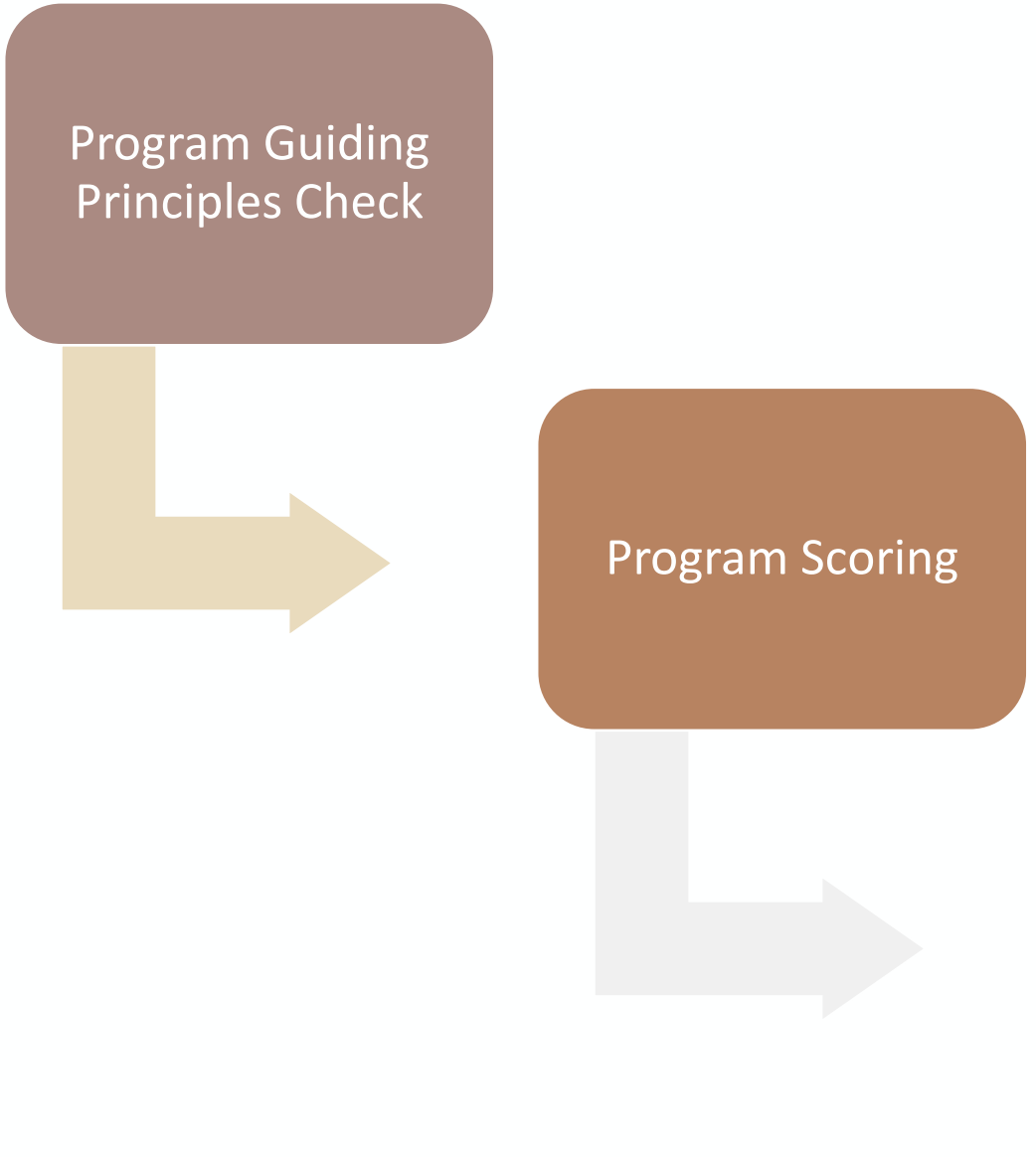
PROGRAM SCORING METHODOLOGY

Metric	Description	○ Definition	◔ Definition	◑ Definition	◕ Definition	● Definition
Emissions Impact	Lifetime MT of CO_2e reduced	No CO_2e reduced	1 - 1,000 MT	1,001 - 4,000 MT	4,001 - 8,000 MT	>8,000 MT
Cost Effectiveness	$ Spent per MT of CO_2e reduced	>$401	$301-$400	$201-$300	$101-$200	<$100
Cost Effectiveness	Program Profit or (Loss)	<($1,000,001)	($700,001)-($1,000,000)	($400,001)-($700,000)	($100,001)-($400,000)	>($100,000)
Equity	Potential Quantity of Low Income Qualified Residents Impacted by program	0	1-100	101-1,000	1,001-5,000	>5,001
Community Benefits	Benefits Include: 1) Reduces Air Pollutants 2) Saves customer money (at least 5% over lifetime) 3) Leads to Local Job Growth 4) Educates and Creates Awareness of Climate Solutions	0 out of 4	1 out of 4	2 out of 4	3 out of 4	4 out of 4

PROGRAM SCORING EXAMPLE

	Quantitative Impact		Community		
Program	Emissions Impact	Cost Effectiveness	Equity	Community Benefits	Comments
DAC-Green Tariff					Strong cost effectiveness due to external funding with significant emissions impact. Local solar site to produce local jobs.
	6,698 MT	$12/($83,000)	523 residents	3 out of 4	

SJCE PROGRAM SELECTION PROCESS FLOW



- Evaluate, compare and provide recommendations

SHORTLISTED PROGRAMS

SHORTLISTED PROGRAM BACKGROUND

- Shortlisted Programs are divided between Medium and Near term programs
- Medium term programs are based on timing for SJCE to attain budgetary reserve targets to then be able to invest into programs
- Short term programs leverage external or matched funding sources to maintain budgetary reserve projections
- Shortlisted programs still require deeper analysis, stakeholder engagement and program design iterations
- Additional Programs under consideration as detailed in slides 54-57 could move into Shortlisted Programs in the future

MEDIUM TERM (2022-2024) SHORTLISTED PROGRAMS

- Distributed Energy Resources
  - Energy Storage Demand Response/RA
- Vehicle Electrification
  - Ride and Drives
  - Used EV Incentive
  - Dealer EV Incentives
- Building Electrification
  - HPWH Program
  - Low Income Home Upgrades
- Resiliency
  - Medically at risk Customer Solar + Storage
- Rates
  - CARE+

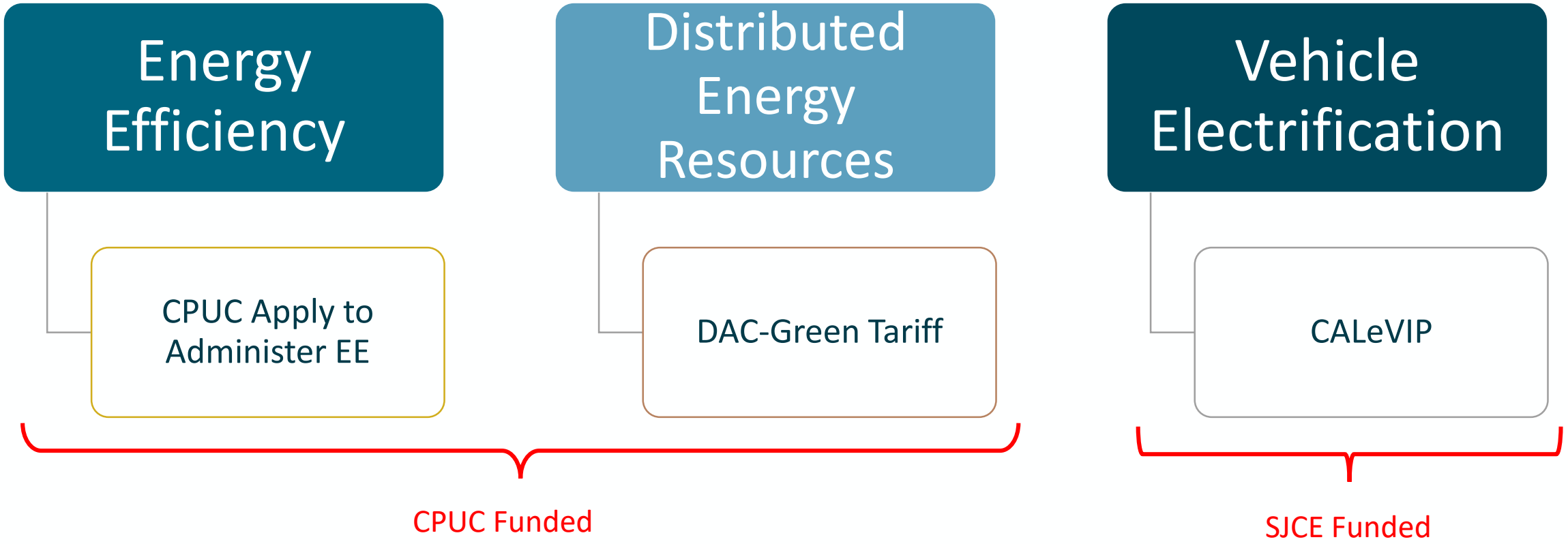
MEDIUM TERM SHORTLISTED PROGRAMS SCORING

	Quantitative Impact		Community		
Program	Emissions Impact	Cost Effectiveness	Equity	Community Benefits	Comments
Dealer EV Incentives	●	◑	◔	●	Strong emissions impact and community benefits, addresses biggest obstacle for San Jose GHG emissions
	21,920 MT	$76/($1,658,085)	100 residents	4 out of 4	
HPWH Incentive	●	◑	◔	●	Strong emissions impact and community benefits, key technology for building electrification
	12,960 MT	$78/($1,010,254)	100 residents	4 out of 4	
Ride and Drives	◑	◕	◔	◕	Low cost program that builds momentum towards future EV programs. Educaton and outreach addresses key barrier to EV adoption
	1,069 MT	$106/($113,598)	36 residents	3 out of 4	
Low Income Home Upgrades	◔	◑	◑	●	Leverages existing city program to focus on low income residents. Supports low income residents in transition to home electrification
	826 MT	$341/($281,769)	234 residents	4 out of 4	
Low Income Used EV Program	◑	◑	◑	●	Equity focused EV program by supporting low income residents transition to EV's, program builds on PCE program structure
	1,058 MT	$438/($463,598)	300 residents	4 out of 4	
CARE+ Rates	○	○	●	◑	Strongest equity score, addresses affordability issues for most disadvantaged
	0 MT	NA/($13,430,000)	61,000 residents	2 out of 4	

MEDIUM TERM SHORTLISTED PROGRAMS SCORING

	Quantitative Impact		Community		
Program	**Emissions Impact**	**Cost Effectiveness**	**Equity**	**Community Benefits**	**Comments**
Energy Storage Demand Response/Resource Adequacy	More evaluation required				Potential for strong cost effectiveness and emissions impact. Aim to also create equity link by installing in low income households
Medically at-risk Solar + Storage	More evaluation required				Program to support most vulernable during PSPS events. Strong equity focus.

NEAR TERM (2020-2021) SHORTLISTED PROGRAMS



NEAR TERM SHORTLISTED PROGRAMS SCORING

	Quantitative Impact		Community		
Program	**Emissions Impact**	**Cost Effectiveness**	**Equity**	**Community Benefits**	**Comments**
DAC-Green Tariff					Strong cost effectiveness due to external funding with significant emissions impact. Local solar site to produce local jobs.
	6,698 MT	$12/($83,000)	523 residents	3 out of 4	
CPUC Elect to Administer	More evaluation required				Leverages CPUC funding, expect to have strong cost effectiveness for SJCE and major community benefits to residents through energy cost savings
CALeVIP	EV Charger installation to EV adoption causation unclear				Leverages CEC funding, addresses key barrier for EV adoption and biggest San Jose GHG emissions source in transportation
				3 out of 4	

SHORTLISTED PROGRAM NEXT STEPS

- Energy Efficiency Programs
  - Decide on EE pathway, specific programs and engage Consultant to apply
- Distributed Energy Resources Programs
  - Prepare, submit implementation advice letter to CPUC for DAC-GT Program
  - Monitor EBCE/SVCE/PCE Energy Storage for RA program
- Vehicle Electrification Programs
  - Assess Ride and Drive pilot results
  - Follow PCE, MBCP EV Dealer Incentive Results
- Building Electrification Programs
  - Assess EE program-funded fuel substitution option
  - Track, Coordinate with Building Decarbonization Coalition and BayREN on regional/state-wide initiatives

NEXT STEPS

UPCOMING ROADMAP MILESTONES

- January 2020
  - CECAC Program Roadmap Update
- March 2020
  - T&E Committee Program Roadmap Memo/Presentation
- March-April 2020
  - RMI/WRI Industry Expert Roadmap Workshop
- August 2020
  - City Council Program Roadmap Memo/Presentation

COMMUNITY COMMUNICATION CHANNELS

LONG TERM PROGRAM FEEDBACK CHANNELS

1. Annual Roadmap Update
   - To reflect program experiences, new focus and direction, elicit community group feedback through website
2. Quarterly/Semi-Annual Program CECAC Review
   - Post schedule on website to invite public feedback
3. Community-Based Organization Focus Groups
   - Leverage CBO's to convene periodic focus groups
4. Annual Technology/Program Surveys & In Person Interviews
   - Run similar online survey to assess change in answers/priorities
5. Annual Neighborhood Association Updates
   - Presentation on program ideas and plans
6. Website channel for comments/suggestions
   - Collect feedback and elicit new program ideas on SJCE webpage

SHORT TERM ROADMAP OUTREACH PLANS

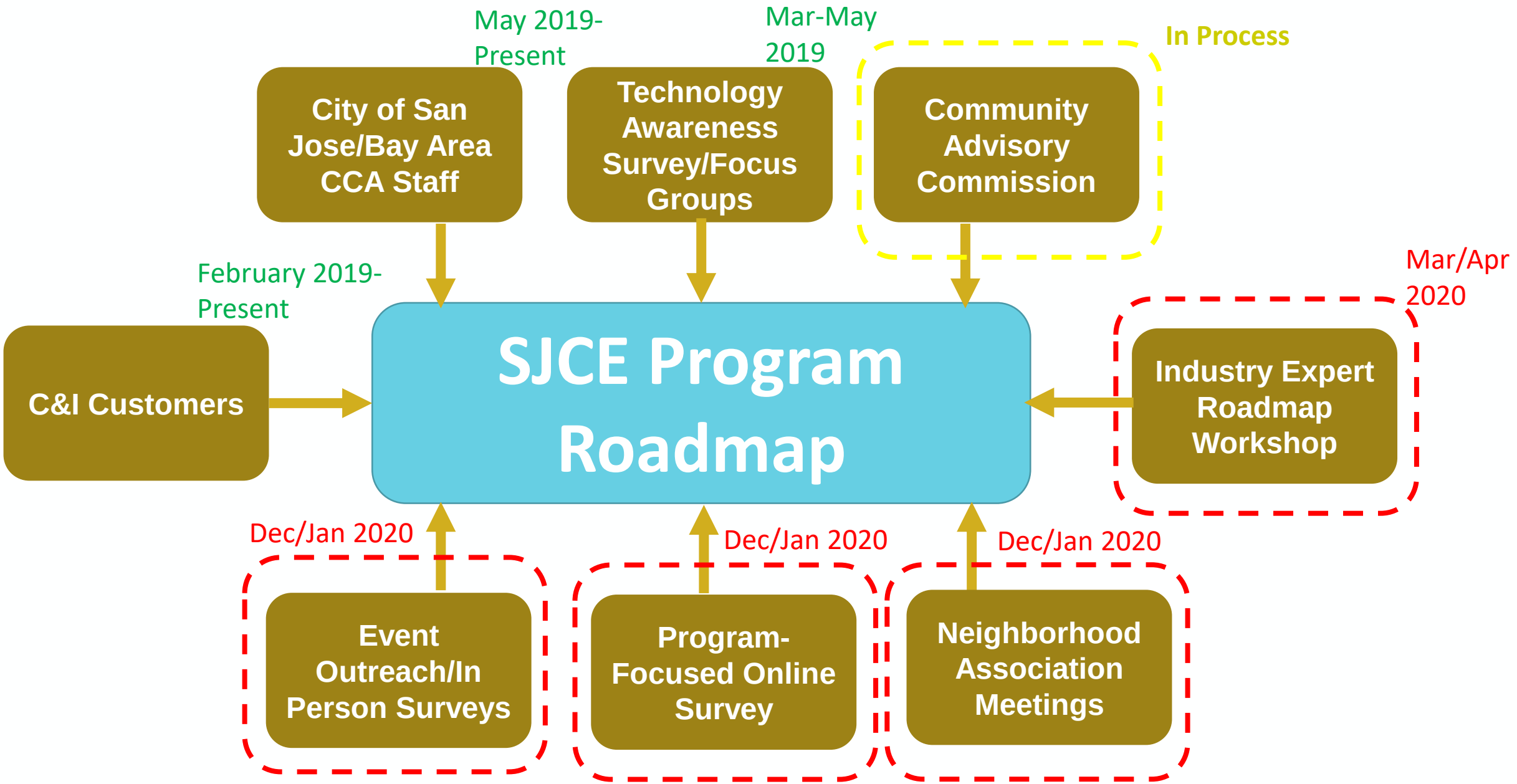
1. Programs Survey (Nov-Jan 2020)
    1. Online Survey
        - Questions assessing interest and reaction to current program ideas (e.g. Used EV Incentive program, HPWH program)
        - Survey in English, Spanish and Vietnamese
    2. In Person
        - At community events, conduct Q&A or provide fill-in form with questions similar to online survey (e.g. interest level in program ideas)
2. Neighborhood Association Meetings (Dec 2019-Jan 2020)
    - Present on programmatic sectors and program idea
    - Collect feedback and elicit new program ideas
3. RMI/WRI Workshop (Mar-Apr 2020)
    - Based off SVCE Roadmap Workshop
    - Aim in to bring in diverse group of professional from the public, corporate, non-profit, and academic sectors

THANK YOU!

APPENDIX

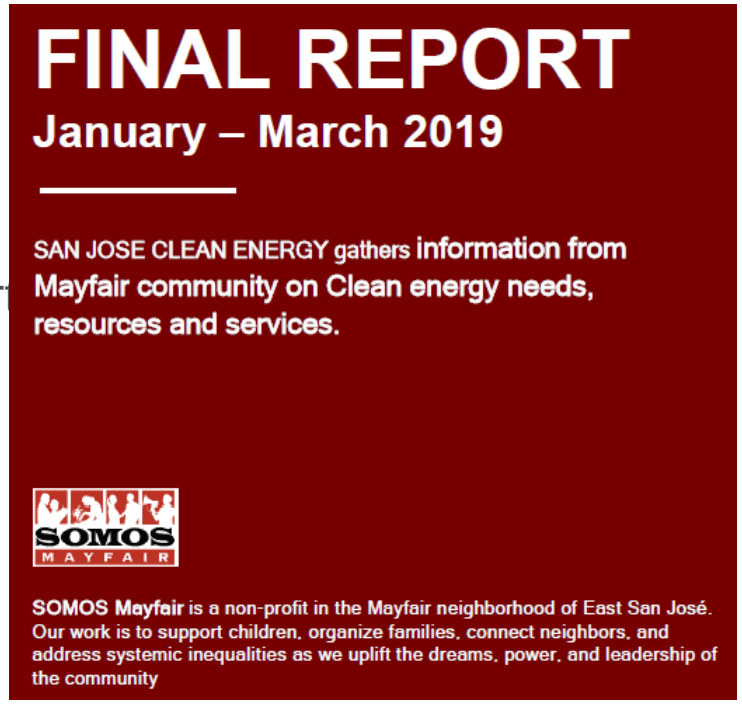
COMMUNITY OUTREACH

ROADMAP INPUT PROCESS



ROADMAP INPUT SUMMARY

1. Technology Awareness
    1. Focus Groups (March – April 2019)
        1. Spanish Language (Somos Mayfair led)
            - Key Takeaways:
                - Worries about insufficient electrical infrastructure to suppor increased electrification
                - Perceptions of EV's being expensive
                - Importance of receiving info from trustworthy sources
        2. Vietnamese Language (ICAN led)
            - Key Takeaways
                - General interest in "cash for clunkers" type EV program
                - Confusion on true costs and benefits of rooftop solar
                - Cooktops will be barrier for home electrification
        3. English Language (SJCE Staff led)
            - Key Takeaways
                - Well energy-versed audience
                - Concerns on resiliency from increased electrification
                - Good potential audience for future program stress-testing



ROADMAP INPUT SUMMARY- CONTINUED

4. Online Survey (May 2019)
   - 522 responders, survey in English, Spanish and Vietnamese
   - Less SJCE awareness amongst Spanish-speaking responders
   - Millennials more aware and ready to purchase an EV
   - Neighborhood differences on HPWH awareness and solar adoption

2. Commercial & Industrial Customers
   - Organic interest in EV charging infrastructure
   - Several expressed interest in onsite solar + storage
   - General focus on reducing costs
   - Looking for SJCE to lead, propose solutions

3. City of San Jose/Bay Area CCA Staff
   - Bay Area CCA staff supportive of program selection process
   - Bay Area CCA staff suggestion to have community grant program as early-stage program
   - Integrating in Department of Transportation's E-Mobility Roadmap

PROMOTING PROGRAMS

1. Identify target audience(s)
   - Demographics: income, language
   - Geographic: ZIP codes, neighborhoods
2. Set budget
3. Choose tactics that reach target audience(s) and fall within budget

- Media
  - Targeted pitching, news release, press event
- Grassroots
  - Events, community meetings
- Direct mail and/or email
- Digital advertising
  - Google ads, social media ads
- TV & radio
  - Advertising, securing free spots on talk shows
- Outdoor advertising
  - Billboards, bus ads, light rail ads
- Social media
  - Nextdoor, Facebook, Twitter, Instagram
- Partners
  - Council Districts, City departments (libraries, community centers, small business allies, Office of Economic Development), NGOs, social media influencers

PROGRAM AREA DESCRIPTIONS

PROGRAM AREA DESCRIPTIONS

Program Sector	Description
Vehicle Electrification	Programs focused on accelerating the conversion of all vehicles segments to an electrified version. With 63% of San Jose's GHG emissions coming from the transportation sector, vehicle electrification will be critical in addressing Guiding Principle #1 and #2
Building Electrification	Programs supporting the aim to convert homes and buildings from utilizing gas to electricity. This includes both fuel substitution for equipment such as water heating but also with the electrical infrastructure requirements needed during this transition including upsizing of electrical panels and load management systems for EV charging
Distributed Energy Resource	Distributed Energy Resource (DERs) programs include any behind-the-meter resources such as solar, battery storage, and demand response. DERs can generate and storage energy locally, reduce demand for energy, as well as make energy supply more resilient.
Energy Efficiency	Energy Efficiency are programs that help to reduce customer energy costs either through equipment upgrades or building envelope improvements. Programs are funded through the Public Purpose Program charge and administered by the California Public Utilities Commission.
Resiliency	Programs aiming to provide back-up power or to sustain power in the event of a PG&E Public Power Shut off. Resiliency programs often rely on or leverage distributed, behind-the-meter resources to sustain power
Rates	Programs design to offer special rates to select customer groups to either incentivize energy-use behavior or to support select customer groups

SHORTLISTED PROGRAMS SCORING/EVALUATION

CRITERIA SCORING METHODOLOGY

Criteria	Description	○ Definition	◔ Definition	◑ Definition	◕ Definition	● Definition
Emissions Impact	Lifetime MT of CO_2e reduced	No CO_2e reduced	1 - 1,000 MT	1,001 - 4,000 MT	4,001 - 8,000 MT	>8,000 MT
Cost Effectiveness	$ Spent per MT of CO_2e reduced	>$401	$301-$400	$201-$300	$101-$200	<$100
Cost Effectiveness	Program Profit or (Loss)	<($700,001)	($500,001)-($700,000)	($300,001)-($500,000)	($100,001)-($300,000)	>($100,000)
Equity	Potential Quantity of Low Income Qualified Residents Impacted by program	0	1-100	101-1,000	1,001-5,000	>5,001
Community Benefits	Benefits Include: 1) Reduces Air Pollutants 2) Saves customer money (at least 5% over lifetime) 3) Leads to Local Job Growth 4) Educates and Creates Awareness of Climate Solutions	0 out of 4	1 out of 4	2 out of 4	3 out of 4	4 out of 4

MEDIUM TERM SHORTLISTED PROGRAMS EVALUATION

Program	Description	Program Guiding Principles	Program Scoring	Comments
Dealer EV Incentives	Discount paired with Dealer discount for EV purchase	5/5	Done	Strong score results, other CCA experience
Residential HPWH Program	Incentive to Distributor or Contractor for HPWH	5/5	Done	Key piece for home electrification
Ride and Drives	EV events at Corporate Campuses, DACs	5/5	Done	Momentum towards future EV programs
Low Income Used EV	Down Payment support toward Used EV	5/5	Done	Builds on PCE program, strong equity focus
Low Income Home Upgrade	Upgrades to home to support electrification	4/5	Done	Leverages existing city program, strong equity focus
CARE+	Reduction of CARE customer rate by 5%	3/5	Done	Strong Equity Message

MEDIUM TERM SHORTLISTED PROGRAM - QUANTIFIED

Program	Lifetime Carbon Reductions (MT of CO2e)	Net $ per MT CO2 reduced	Program Profit/(Loss)	Low Income Residents Impacted
HPWH Incentive	12,960	$78	($1,010,254)	100
EV Incentives	21,920	$76	($1,658,085)	100
Ride and Drive Events	1,069	$106	($113,598)	36
Low Income Home Upgrades (Critical Repair Program Adder)	826	$341	($281,769)	234
CARE+	0	N/A	($13,430,000)	61,000
Low Income Used EV Program	1058	$438	($463,598)	300

[1]Based off expected quantity of operators of equipment
[2]Assume ½ of school bus riders are from low income communities

NEAR TERM SHORTLISTED PROGRAMS EVALUATION

Program	Description	Program Guiding Principles	Program Scoring	Comments
CPUC Elect to Administer EE	CPUC funded Energy Efficiency Programs	5/5	TBD	Externally Funded
DAC-Green Tariff	CPUC funded Community Solar program	5/5	Done	Other CCA's pursuing, strong equity focus
CALeVIP	CEC Co-funded program to incentivize Level 2/DCFC Chargers	3/5	N/A	Program Approved by Council

SHORT TERM SHORTLISTED PROGRAM - QUANTIFIED

Program	Lifetime Carbon Reductions (MT of CO2e)	Net $ per MT CO2 reduced	Program Profit/(Loss)	Low Income Residents Impacted
DAC-Green Tariff	6,698	$12	($83,000)	523

ADDITIONAL PROGRAMS UNDER CONSIDERATION SCORING/EVALUATION

ADDITIONAL PROGRAMS UNDER CONSIDERATION SCORING

		Quantitative Impact		Community	
Program Sector	**Program**	**Emissions Impact**	**Cost Effectiveness**	**Equity**	**Community, Customer Benefits**
Vehicle Electrification	School Bus Voucher				
Other	GHG-Free Power 5% Increase				
Other	Campus/Park Commercial Lawn Electrification				
Vehicle Electrification	City of San Jose Fleet Electrification				

ADDITIONAL PROGRAMS UNDER CONSIDERATION EVALUATION

Program	Description	Program Guiding Principles	Program Scoring	Comments
School Bus Voucher	School District Voucher for Electric School Buses	5/5	Done	Strong heath benefits with connection to children
GHG Free Power Increase 5%	Increasing GHG free power by 5%	3/5	Done	City wide impact
Commercial Lawn Electrification	Rebates for electrifying lawn equipment	3/5	Done	Focused on small business, major health benefits
SASH in Low Income Communities	Model Grid program in non-DAC communities	3/5	TBD	Expensive, loss making program to operate
C&I Energy Storage	Support to C&I to install Batteries	0/5	TBD	Assumes SJCE does not control battery

ADDITIONAL PROGRAMS EVALUATION

Program	Description	Program Guiding Principles	Program Scoring	Comments
City of San Jose Fleet Electrification	Financial support to electrify City fleets	4/5	Done	Externally Funded
MUD Technical Assistance	EV Charging technical assistance to property owners	4/5	N/A	Complements CALeVIP, supports key segments
EV Rates	Offer deeper discount during midday off peak	4/5	TBD	SJCE and customer cost savings by shifting use to day time
HPWH Rate	Offer deeper discount during midday off peak	4/5	TBD	SJCE and customer cost savings by shifting use to day time
Community Grants	Small grants to CBO's to education hard to reach customers	2/5	N/A	Builds connections with key CBO's in San Jose

ADDITIONAL PROGRAMS UNDER CONSIDERATION PROGRAM- QUANTIFIED

Program	Lifetime Carbon Reductions (MT of CO2e)	Net $ per MT CO2 reduced	Program Profit/(Loss)	Low Income Residents Impacted
Landscaping Equipment Electrification Pilot	143	$635	($90,712)	3-5[1]
(Low Income Home Upgrade) Build it Green Pilot	405	$552	($223,695)	150
GHG-Free Power 5% increase	510,400	$25	($12,650,000)	353,330
Campus Lawn Electrification	432	$300	($129,770)	5[1]
School Bus Voucher	4,529	$243	($1,099,197)	720[2]
City Fleet Electrification	3,370	$127	($428,840)	0

[1]Based off expected quantity of operators of equipment
[2]Assume ½ of school bus riders are from low income communities

~$1 MILLION ANNUAL BUDGET PROGRAM OPTIONS

Program	Customers Impacted	Program Budget	Lifetime Carbon Reductions (MT of CO2e)	Net $ per MT CO2 reduced	Program Profit/(Loss)
HPWH Incentive	800	1.10 million	12,960	$84	($1,091,425)
EV Incentives ($2K Incentive)	500	$1.15 million	13,700	$66	($1,144,952)
EV Incentives ($1K Incentive)	1000	$1.15 million	27,400	$24	($645,213)
GHG-Free Power 5% increase	325,000	$1.27 million	51,040	$25	($1,265,000)

SHORTLISTED PROGRAM DESCRIPTIONS

MEDIUM TERM PROGRAM DESCRIPTIONS

Program Area	Program Title	Description
Vehicle Electrification	Dealer EV Incentives	Through select dealers, offer incentive to customers of $2,000 on top of negotiated discount from dealership. Incentive would flow through dealer and would be stackable with other rebates such as CVRP and CVAP.
Vehicle Electrification	Low Income Used EV Incentive	Based off PCE's program, working with third party to offer down payment incentive of $4,000 and financial mentoring for low income qualified residents to purchased a used EV
Vehicle Electrification	Ride and Drives	Host EV Ride and Drives in downtown San Jose, low income community, and corporate campus to educate, promote, and spur EV adoption
Resiliency	Medically at Risk Solar + Storage	Support medically and financial at risk customers with energy storage systems to prepare for PSPS events. Program could either be a rebate on a storage system, a negotiated discount with a storage vendor, or facilitation support to receive SGIP incentives
Distributed Energy Resources	Battery Storage Demand Response for Procurement or RA	Based off EBCE/SVCE/PCE programs, work with behind-the-meter battery storage aggregators (e.g. Sunrun), to schedule events to offset high wholesale market prices through procurement of negotiated price from battery storage aggregators to discharge at set time or to leverage aggregated storage for Resource Adequacy requirements

MEDIUM TERM PROGRAM DESCRIPTIONS

Program Area	Program Title	Description
Building Electrification	Residential Heat Pump Water Heater Incentive	Mid-stream incentive of $1,200 towards purchase of single family heat pump water heater when transitioning from gas furnace heater.
Building Electrification	Low Income Home Upgrade (Critical Home Repair Adder)	Supporting fund of $65,000 per year towards City of San Jose Housing Department's Critical Home Repair program to go towards electrifying water heater or upgrade to electrical panel in low income qualified homes
Building Electrification	Low Income Home Upgrade (Build it Green Pilot)	Build it Green managed program leveraging multiple external fund streams for EE, Solar, and Home upgrades to include SJCE funds directed toward electrification in low income qualified homes. SJCE would allocated $175,000 for 1 year pilot
Rates	CARE+ Rates	Increased discount to current CARE customers of 5%. Scoring assumes program and discount lasts for at least 10 years

NEAR TERM PROGRAM DESCRIPTIONS

Program Area	Program Title	Description
Energy Efficiency	CPUC Elect to Administer EE Programs	CPUC Funded (from Public Purpose Program charge), budget based off portion of PG&E's regional program budget, programs must not conflict with IOU or BayREN's programs, 3 year program, must meet cost effectiveness test
Distributed Energy Resources	CPUC Disadvantaged Community (DAC)-Green Tariff Program	CPUC funded community solar program offering 20% discount to CARE customers on top of CARE discount. SJCE allocated 1.4 MW from CPUC.
Vehicle Electrification	CALeVIP	CEC co-funded EV incentive program offering rebates for level 2 and DCFC installations.

ADDITIONAL PROGRAMS UNDER CONSIDERATION DESCRIPTIONS

PROGRAM DESCRIPTIONS

Program Area	Program Title	Description
Vehicle Electrification	MUD Technical Assistance	Offer free technical assessment for MUD property owners on upgrades, investments, and incentive opportunities to install EV charging stations.
Vehicle Electrification	City of San Jose Fleet Electrification	Support Public Works's efforts to electrify 82 light duty vehicles with $5,000 of financial support per vehicle.
Vehicle Electrification	Electric School Bus Voucher	Offer incentive of $50,000 to San Jose School Districts towards purchase of each Electric Bus

PROGRAM DESCRIPTIONS

Program Area	Program Title	Description
Distributed Energy Resources	C&I Energy Storage	Negotiate and select preferential terms from Energy Storage firm to then offer to select C&I customers. In this program, SJCE would *not* be able to access customer energy storage as a resource. Modeled after SCP pilot.
Distributed Energy Resources	Single-Family Affordable Solar Home (SASH) in Low Income Non-DACs	Offer similar incentive package as Grid Alternative managed DAC-SASH program to low income qualified San Jose residents not living in DAC as designated by CalEnviroScreen
Distributed Energy Resources	Resiliency Focused Energy Storage	Energy Storage incentives or rebates for customers effected by Public Safety Power Shutdown for municipal critical facilities
Other	Campus/Park Commercial Lawn Mower Electrification	Incentive program to campuses and small landscaping business to electrify commercial sized lawn mowers. Offer rebate of $3,500 per electric lawn mower.

PROGRAM DESCRIPTIONS

Program Area	Program Title	Description
Other	Community Grants	Grants of $12,500 each to community based organizations focused on serving underserved community members to promote clean energy, energy awareness, and energy bill understanding
Other	Landscaping Equipment Electrification Pilot	Single site incentive program to electrify landscaping equipment. Incentive will be through one lump sum covering suite of equipment such as lawn mowers and leaf blowers
Other	GHG Free Power 5% Increase for 10 years	Increase of SJCE GHG Power by 5% through procurement of GHG Free attributes for 10 year period
Rates	EV Rates	Increased discount on current EV-2A rate
Rates	HPWH Rates	Design rate for single-family homes with Heat Pump Water Heater to incentivize day time charger of HPWH.

PROGRAM DESCRIPTIONS

Program Area	Program Title	Description
Rates	C&I Green Tariff	Also referred to as a “sleeved PPA” but is a special tariff for large commercial and industrial customer through fixed PPA price linking customer directly with renewable energy site. Provides customers with long term, fixed price along with access to Renewable Energy Certificates (RECs)
Energy Efficiency	CPUC Apply to Administer EE Programs	CPUC Funded (from Public Purpose Program charge), budget based off cost savings, would largely replace IOU EE programs in San Jose, must meet cost effectiveness test, larger budget but administratively more burdensome

PROGRAM SCORING ASSUMPTIONS

METRIC ASSUMPTIONS

Program Sector	Program	Incentive Amount	Administrative Cost (in % of total incentives or total cost)	Customers, Incentives Per Year	Technology Lifetime in years	Charging % in San Jose or % Electric Resistance Water Heater	Electricity Rate	MWh/year	CO2e/year	Explanations
Vehicle Electrification	Dealer Incentives	$2,000	10%	400	10	75%	$ 0.064	3.50	2.74	
	Used EV Incentive	$4,000	10%	100	5	75%	$ 0.064	3.5 1	2.74 1.37	Based off PHEV and BEV Sales
	School Bus Voucher	$50,000	10%	20	12	100%	$ 0.080	17.64	15.42	
	Ride and Drives	N/A	$90,000	50	10	75%	$ 0.064	3.5 1	2.74 1.37	Based off PHEV and BEV Sales and SJCE to do 6 events
	City of San Jose Fleet Electrification	$5,000	5%	82	15	100%	$ 0.080	3.50	2.74	
Building Electrification	HPWH Incentive	$1,200	10%	400	10	10%	$ 0.073	1.86	1.80	
	Critical Repair Program Adder	$2,100 $2,500	10%	26	10	10%	$ 0.073	1.86	1.80	$2100: HPWH $2500: Panel
	Build it Green Pilot	$2,100 $2,500		50	10	10%	$ 0.073	1.86	1.80	$2100: HPWH $2500: Panel
Landscaping Equipment	Campus Lawn Electrification	$3,500 $200	0%	105	8	100%	$ 0.080	0.966 0.44	3.18	$3500: Mower $200: Blower
	Keller Park Electrification	Lump Sum of $60,000	0%	52	8	100%	$ 0.080	0.966 0.44	0.08	Incentive based off Grid Alternatives
DERs	SASH in non-DACs	$28,000	0%	10	10	100%	$ 0.073	-7.30	TBD	5 kw systems
	C&I Energy Storage	$0	0%	3	10	100%	$ 0.040	-10.67	TBD	Based off E19 customers
Rates	GHG-Free Power Increase 5%	$5.75 (per MWh per Attribute)	0%	1.020 million	10	100%	N/A	220,000	0.095	CO2 reduction based off SJCE emission factor estimate

PROGRAM INCENTIVE COMPARISON

Program Sector	Data	PCE	MBCP	EBCE	SCP	SJCE	SMUD	CARB	City of San Jose ESD or Housing	Explanations
Vehicle Electrification	Rebate per New Vehicle	$1,000	$1,000		$2,000	$2,000				Rebates do not include income qualified amounts
	Incentivized New Vehicles per year	250		400	500	400				
	Rebate per Used Vehicle	$4,000				$4,000				
	School Bus rebate					$50,000		$120,000 - $220,000		
	Ride and Drive Attendees per event					167				SJCE to do 6 events
	Ride and Drive Conversion Factor	12%				5%				
	Residential $ per kwh		$0.056	$0.070		$0.064				
Building Electrification	Rebate per Heat Pump Water Heater					$1,200	$1000 - $3000		$2,500	SMUD: $1000 is for electric to electric, $3000 is for gas to electric Rheem estimates full cost to be $2,000
	Incentivized Heat Pump Water Heaters per year					400	800-1000			
	Residential $ per kwh		$0.056			$0.073				
	Rebate per Electrical Panel			$2,000		$2,500			$2,500	EBCE's is what they think the full cost of the panel should be
	Electrical Panels Upgraded per year					9			9	Referencing City of San Jose Critical Repair Home Adder

LOAD AND EMISSION REDUCTION ASSUMPTIONS

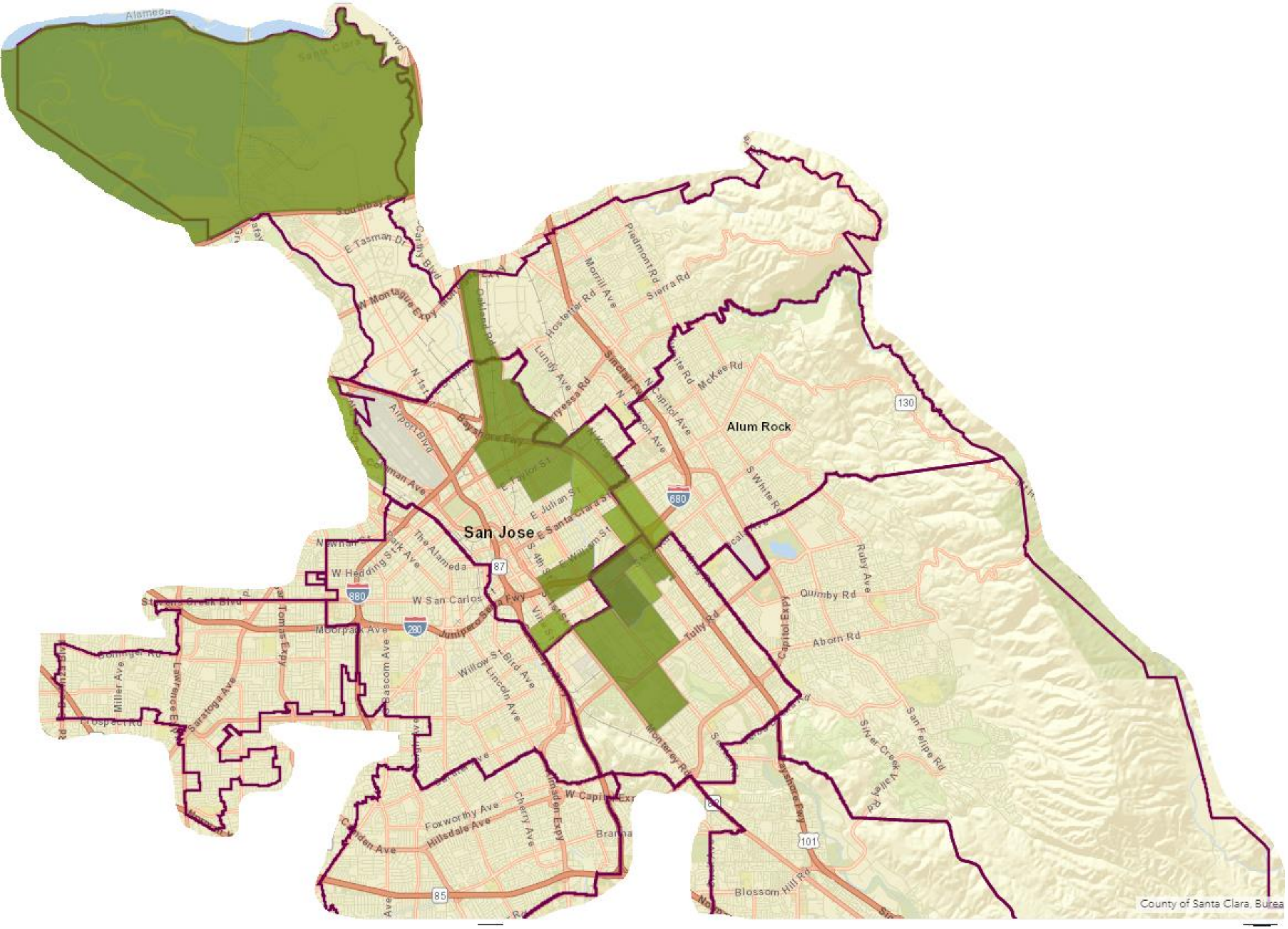
Category	Metrics	SJCE	PG&E	SMUD	PCE	EBCE	MBCP	CEC	SEPA	State of MA
Vehicle Electrification	MWh per EV per year	3.5	3.2			3.5	4.68	3.97	3.5-4.35	
	Emission Reductions per EV (Metric ton) per year	2.74	2.54		3.1		3.86			
	MWh per Electric School Bus per year	17.64								17.64
HPWH	MWh per HPWH per year	1.86		1.86		1.13	1.39			
	Emissions Reductions per HPWH (MT) per year	1.8					1.8			
Solar PV	MWh produced per system per year	7.7						7.7		

ASSUMPTION SOURCES

Metrics	SJCE	PG&E	SMUD	PCE	EBCE	MBCP	CEC/DOE	SEPA	State of MA
MWh per EV per year	Internal Calculations	Ev.pge.com			EBCE LDBP	Internal Calculations		"Guide to EV Managed Charging"	
Emission Reductions per EV (Metric ton) per year	Internal Calculations	Ev.pge.com		Internal Calculations		Internal Calculations			
MWh per Electric School Bus per year	Vermont Energy Investment Corporation report								Vermont Energy Investment Corporation report
MWh per HPWH per year	SMUD		SMUD report		EBCE LDBP	Internal Calculations			
Emissions Reductions per HPWH (MT) per year	MBCP analysis					Internal Calculations			
MWh produced per Solar system per year	DOE Paper						DOE paper		

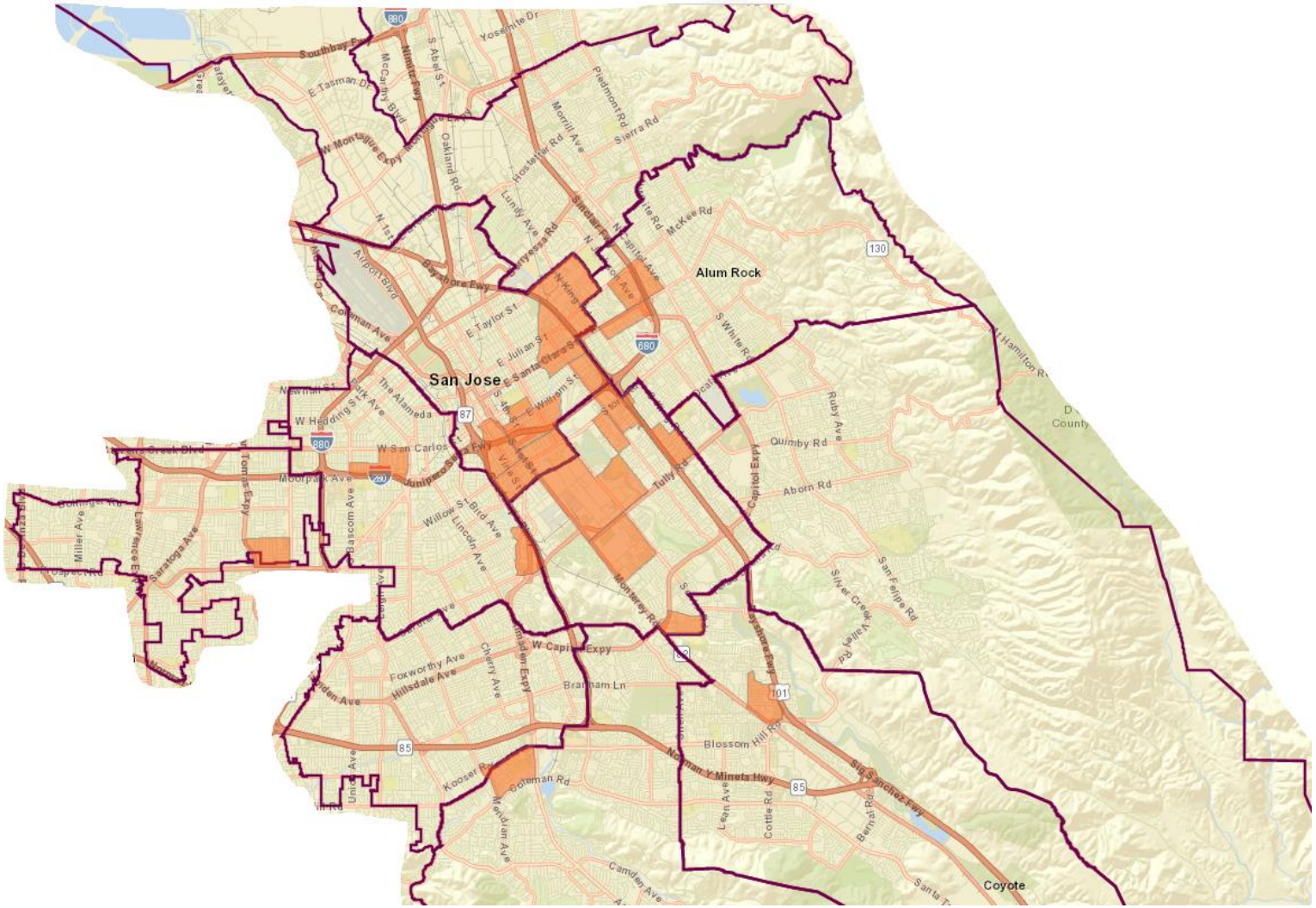
DAC AND LOW INCOME DEFINITION

DISADVANTAGED COMMUNITIES (DAC)



- CalEPA methodology (CalEnviroScreen) to direct Cap-and-trade funds to disadvantaged communities
- Scoring based off indicators related to pollution, environmental effects and socio-economic factors
- DAC are highest 25% of CalEnviroScreen
- San Jose DACs located in Districts 4, 3, 7 and 5

LOW INCOME COMMUNITIES



- Defined by AB 1550, set at areas at or below 80% of Area Median Income as defined by the California Department of Housing and Community Development
- San Jose Low Income Communities also primarily located in Districts 3, 7 and 5

SAN JOSE LOW INCOME DEMOGRAPHICS

CARE Guideline

200% of Federal Poverty Level

- <$42,660 for household of 3
- **20.6%** of San Jose residential customers are in CARE

San Jose Income Breakdown[1]

	Households
	Estimate
Total	327,848
Less than $10,000	3.3%
$10,000 to $14,999	3.0%
$15,000 to $24,999	4.5%
$25,000 to $34,999	4.7%
$35,000 to $49,999	6.8%
$50,000 to $74,999	12.6%
$75,000 to $99,999	10.0%
$100,000 to $149,999	18.2%
$150,000 to $199,999	12.6%
$200,000 or more	24.5%

[1]2018 American Community Survey

City of San Jose Low Income Guideline

80% of Area Median Income

- <$93,550 for household of 3
- **~35-45%** of San Jose Population[2]

[2]Rough estimate, average household size is 3.1 in San Jose

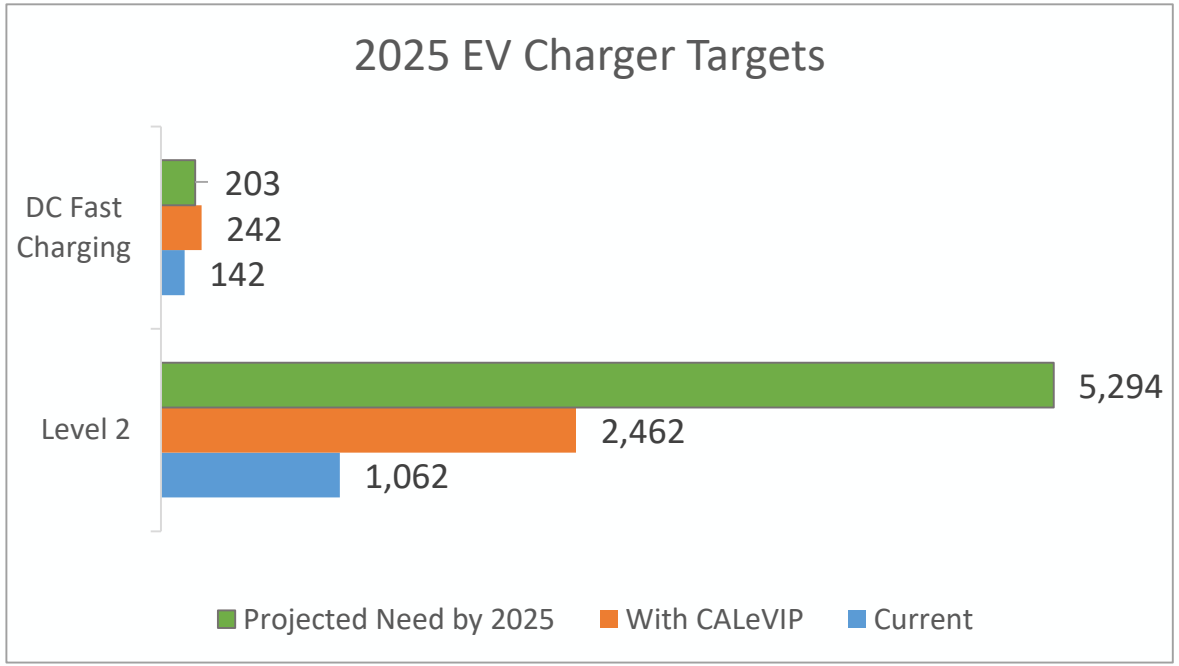
CALEVIP

CALEVIP IMPACT

- EV Adoption

	Present	After CALeVIP	% Increase projected by 2023 supported by CALeVIP
Total Electric Vehicles	23,170	36,590	58%
Level 2 and DCFC chargers	1,204	2,704	125%
Energy used by EVs (GWh)	81	128	58%

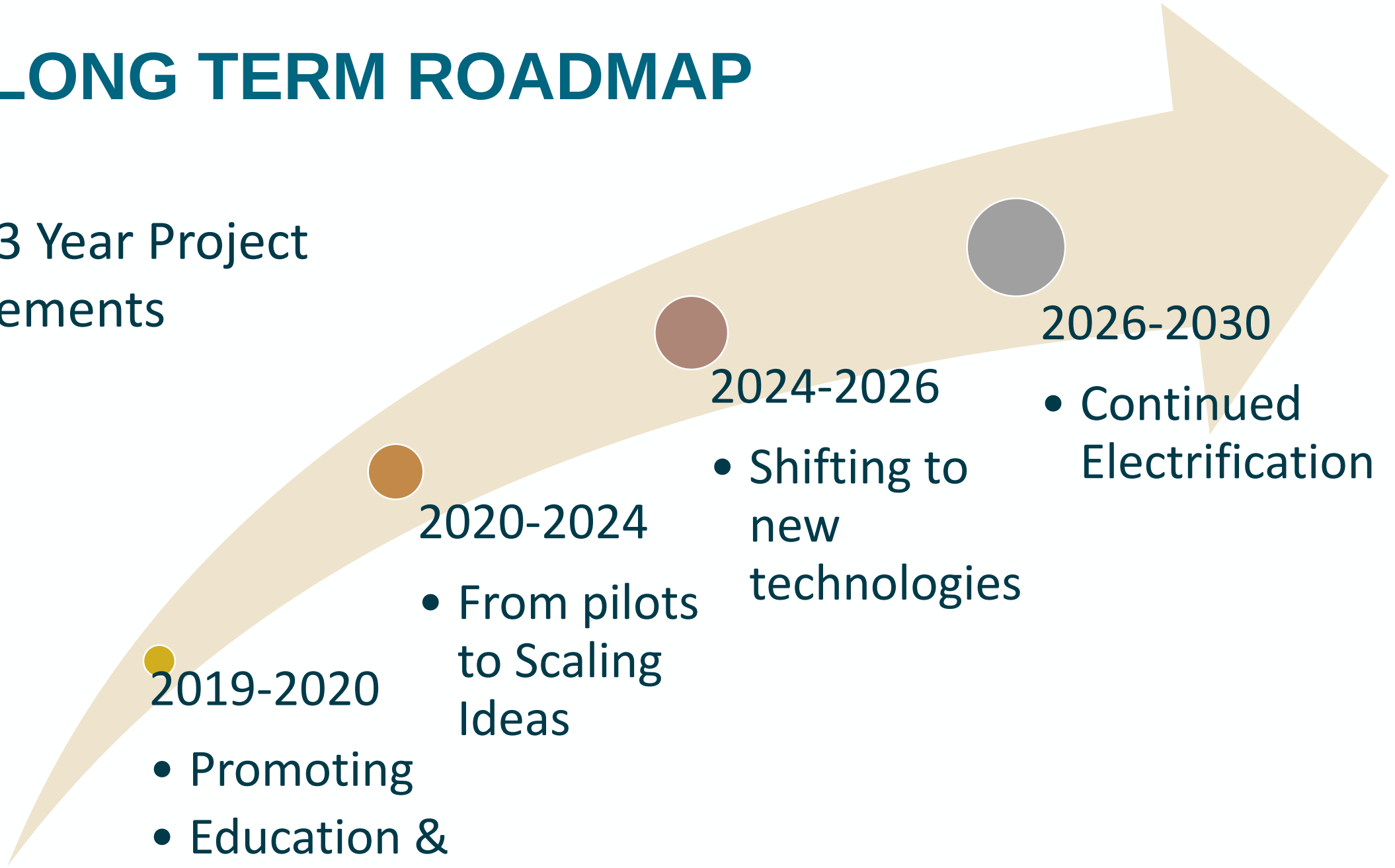
- EV Charging Stations in San Jose



LONG TERM ROADMAP EXAMPLES

LONG TERM ROADMAP

* 2-3 Year Project Increments



2019-2020

- Promoting
- Education & Awareness

2020-2024

- From pilots to Scaling Ideas

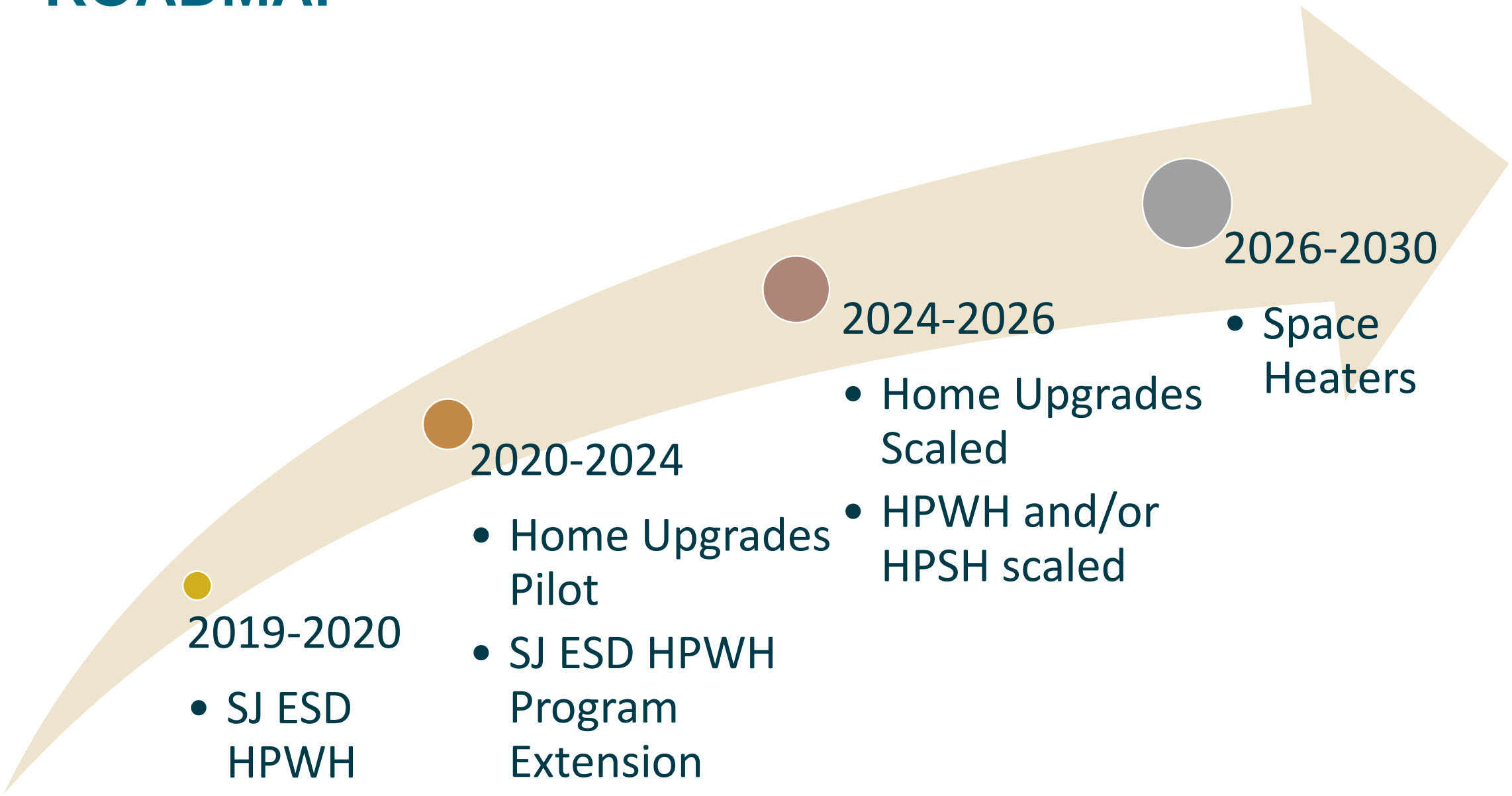
2024-2026

- Shifting to new technologies

2026-2030

- Continued Electrification

EXAMPLE: BUILDING ELECTRIFICATION ROADMAP



EXAMPLE: PROGRAM PILOT TO SCALING PATHWAY – HPWH PROGRAM

2019-2020

- ESD Program
- 66 Customers
- Administered by SJCE Staff

2021-2022

- SJCE Program
- 100 Customers Targeted
- Administered by SJCE staff

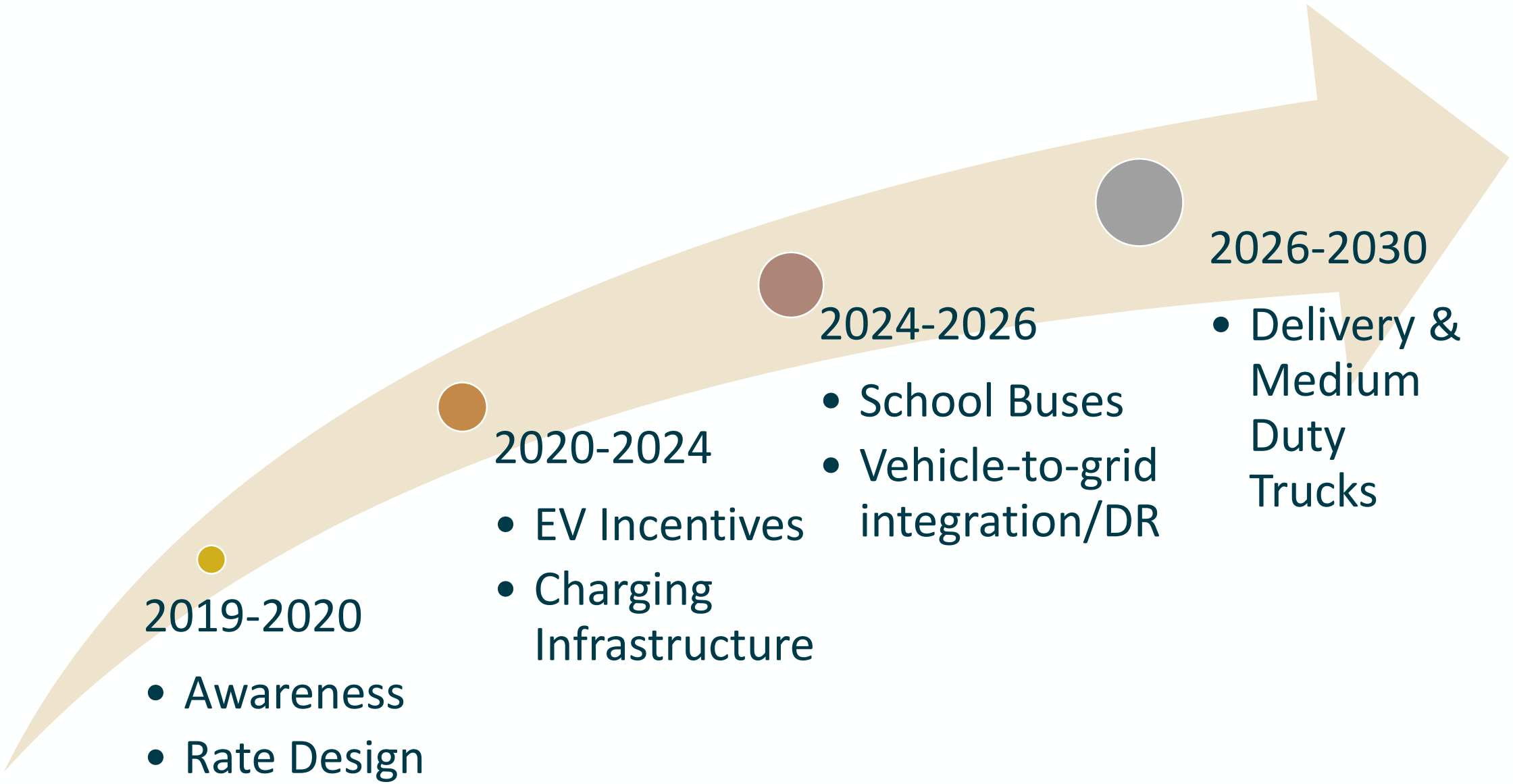
2022-2023

- 400-500 Customers Targeted
- Administered by third party

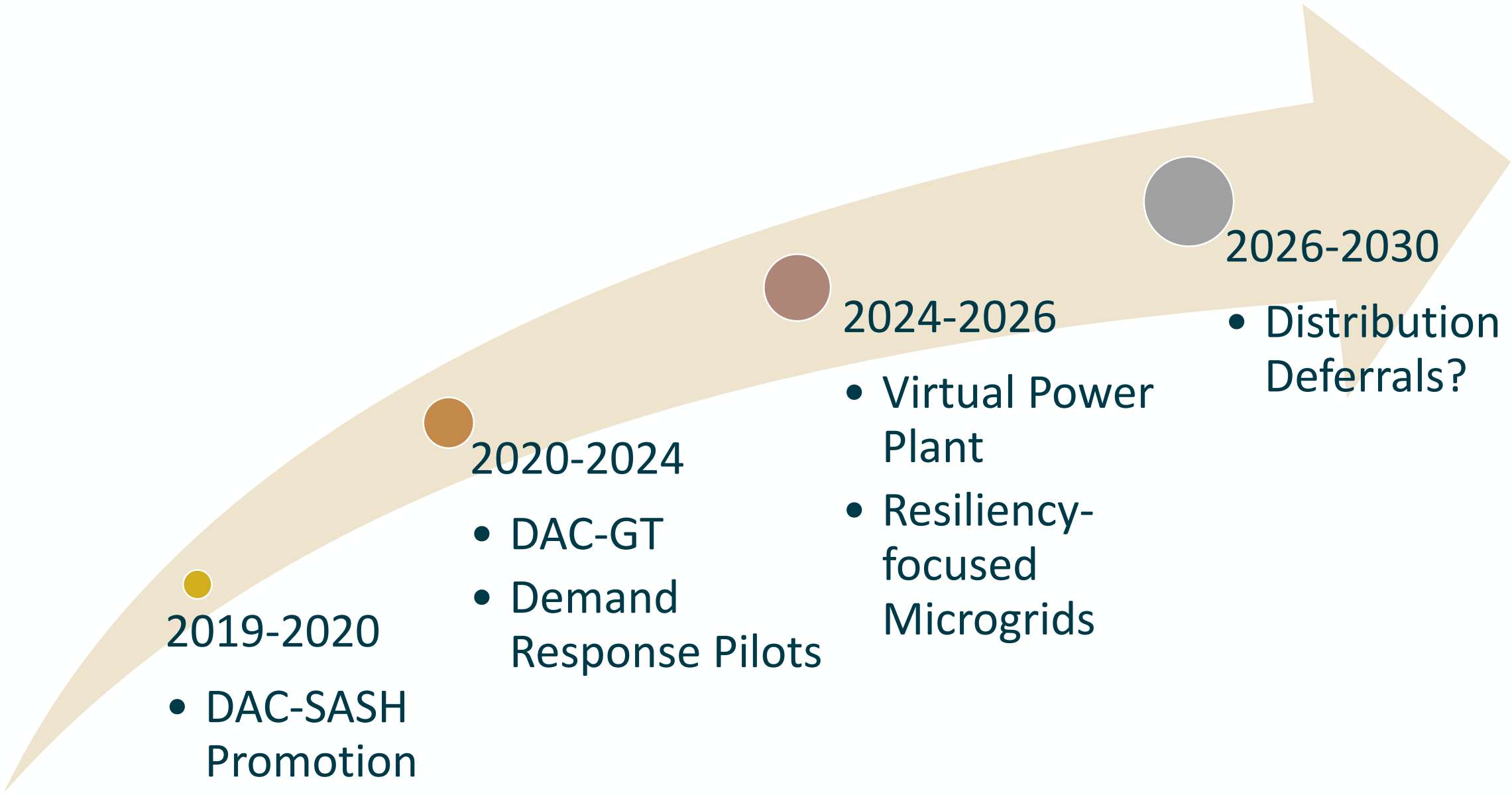
2023-2024

- 400 Customers Targeted
- Start to pivot to next technology- Heat Pump Space Heaters

EXAMPLE: VEHICLE ELECTRIFICATION ROADMAP



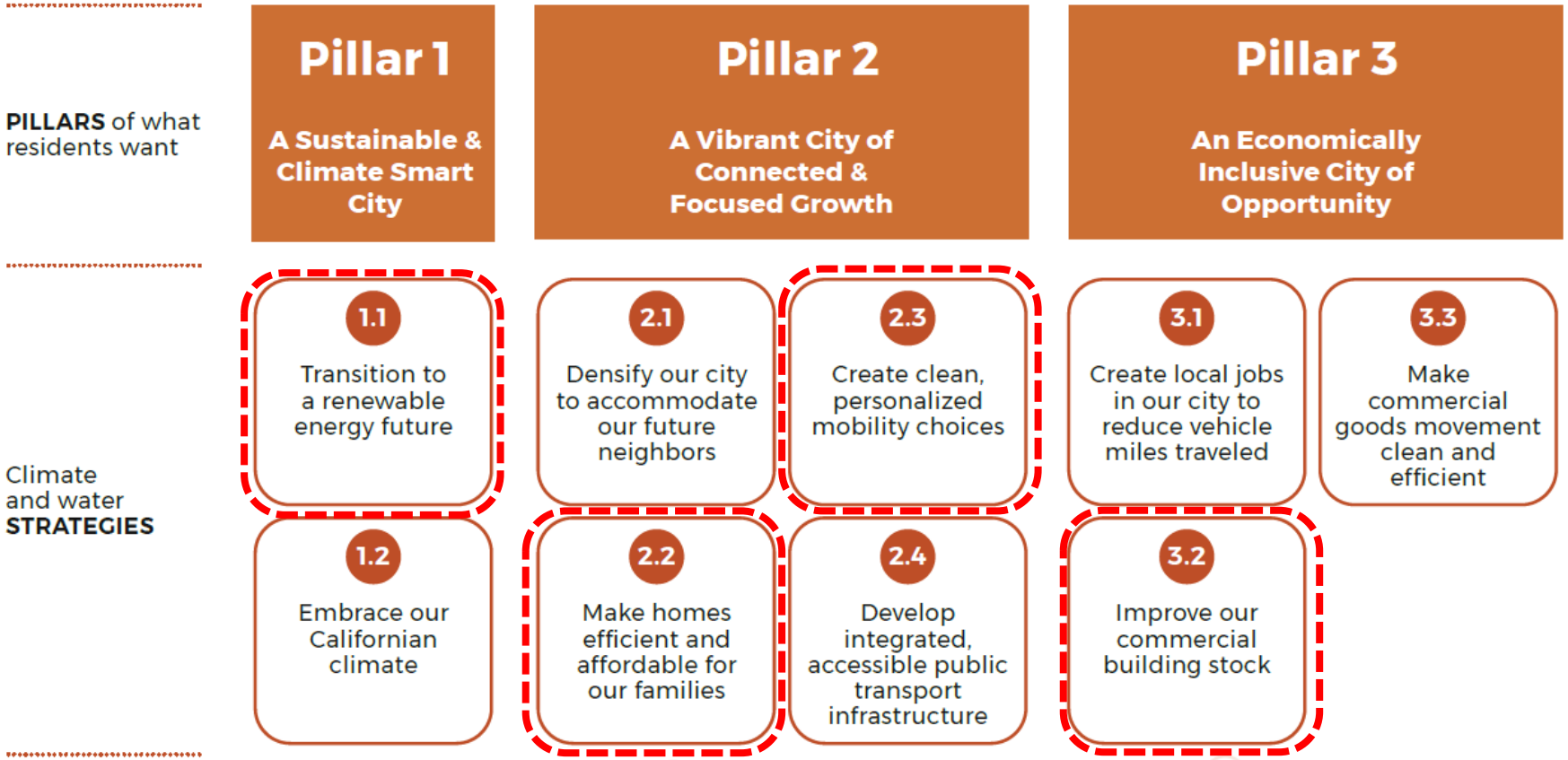
EXAMPLE: DER/GRID INTEGRATION ROADMAP



CCA/STATE/REGIONAL PROGRAM LANDSCAPE

CLIMATE SMART STRATEGIES

A Framework for Action: Nine Strategies in Three Pillars



SAN JOSE CLEAN ENERGY

CLIMATE SMART SAN JOSE STRATEGY ROADMAPS

Climate Smart Strategy			
Relevant Strategy Roadmap	**1 GW Solar Strategy**	**DOT Electric Mobility Roadmap**	**ACCC-led Building Decarbonization Roadmap**

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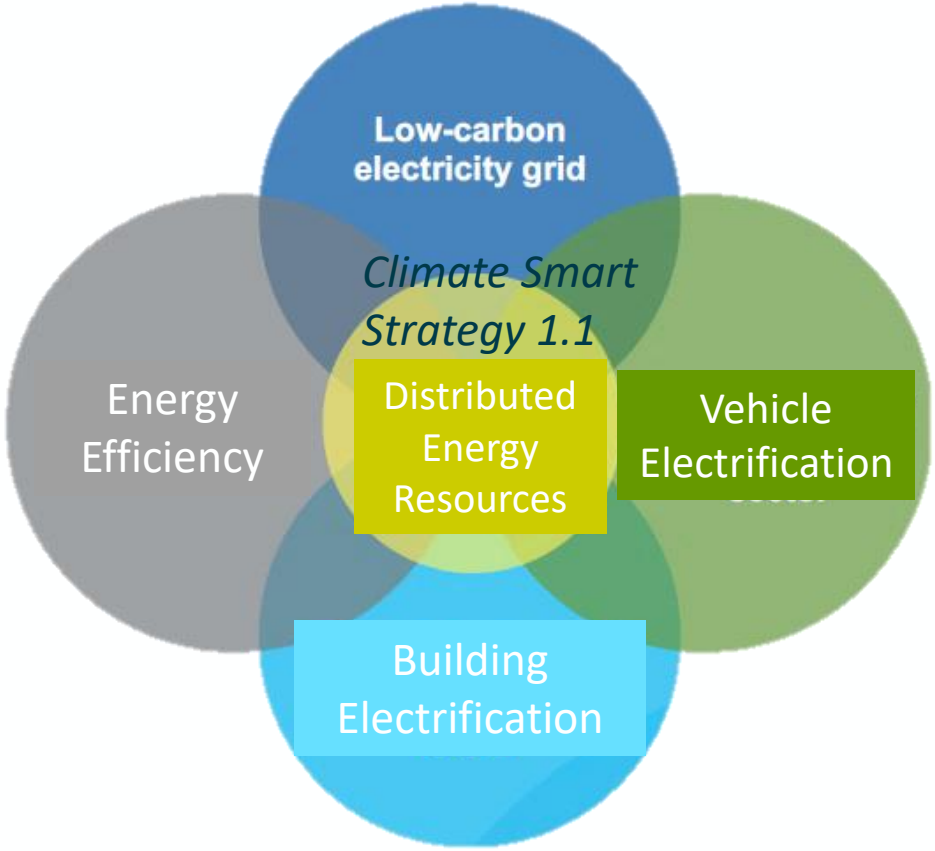
CLIMATE SMART AND PROGRAM AREA ALIGNMENT

Climate Smart Strategy 1.1



Climate Smart Strategy 2.2/3.2

Climate Smart Strategy 2.3/3.3

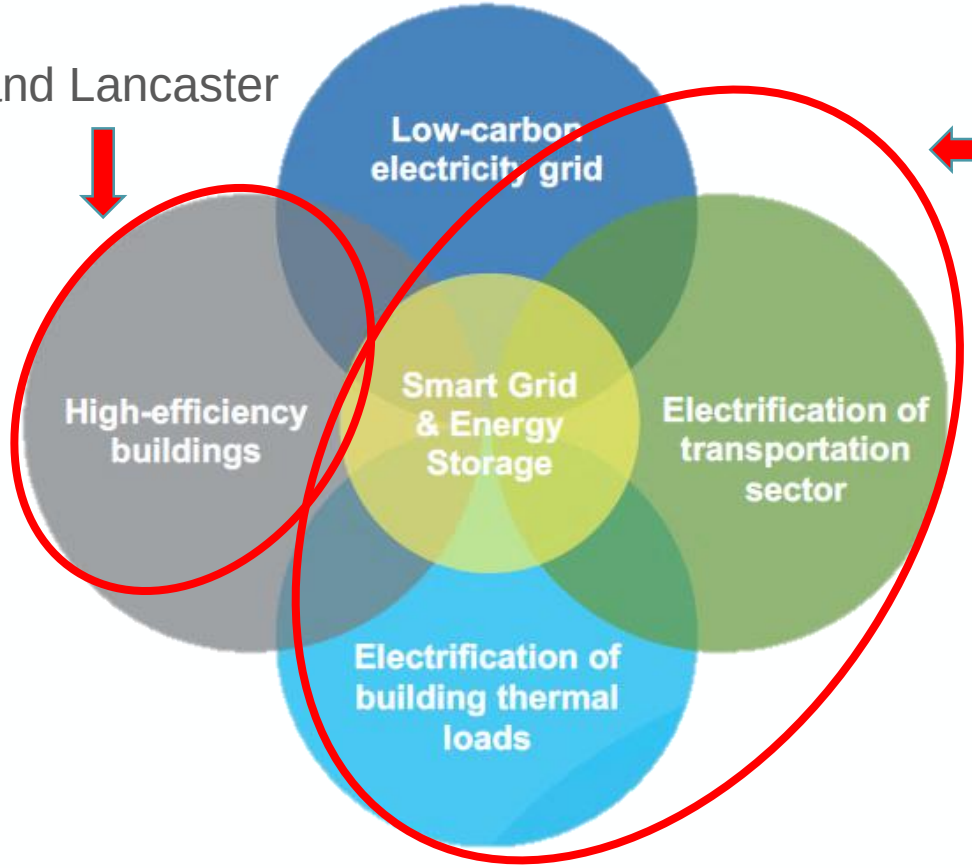
Climate Smart Strategy 1.1

Climate Smart Strategy 2.2/3.2

SAN JOSE CLEAN ENERGY

CCA PROGRAM LANDSCAPE

Only MCE and Lancaster



Traditional area of CCA Program focus

Common Programs

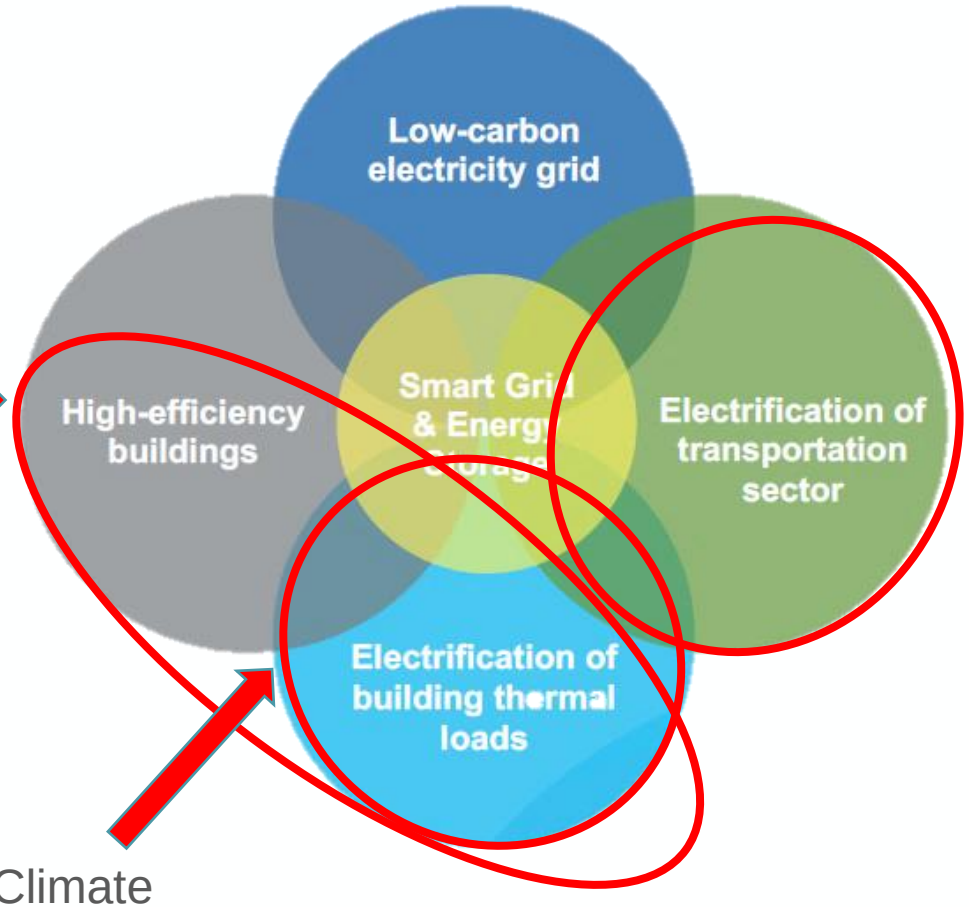
- EV Purchase Incentives
- EV Charging Infrastructure
- HPWH or All electric grants

SAN JOSE CLEAN ENERGY

SAN JOSE ENVIRONMENTAL SERVICES/TRANSPORTATION PROGRAM LANDSCAPE

ESD Programs:

- BAAQMD HPWH
- Silicon Valley Energy Watch
- PACE
- Reach Codes

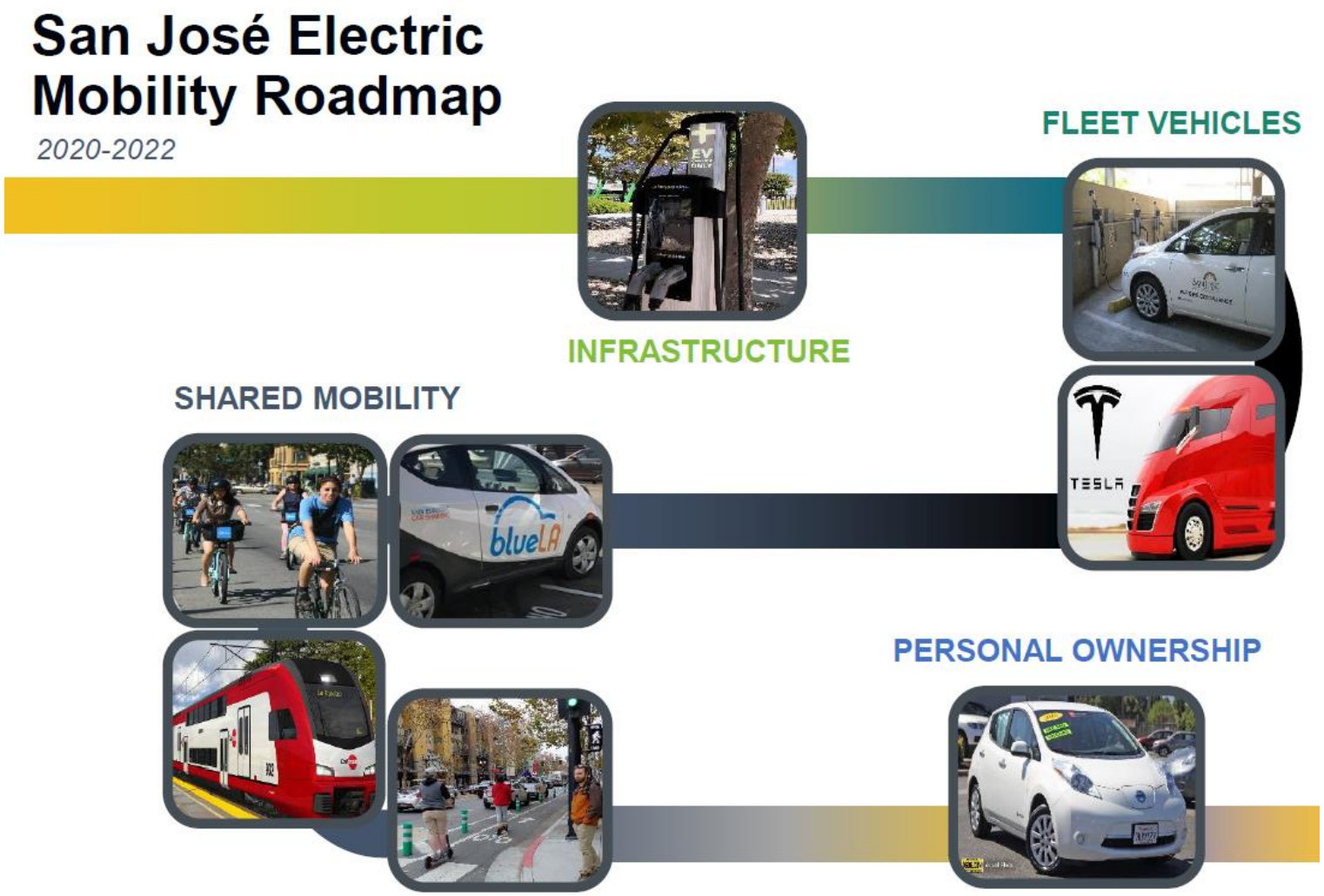


DOT Electric Mobility Strategy

American Cities Climate Challenge-funded Building Decarbonization Roadmap

SAN JOSE CLEAN ENERGY

SAN JOSE DEPT OF TRANSPORTATION E-MOBILITY ROADMAP



SAN JOSE CLEAN ENERGY

PROGRAM MAP – VEHICLE ELECTRIFICATION

Purchasing Incentives

Charging Infrastructure

PG&E

- EV Charge Network – Multi-Family Dwellings, Workplaces
- Fleet Ready
- DC Fast Charge

CARB

- CVRP – Standard EV Rebate
- HVIP – MD-HD Truck Low Emission Rebate
- CVAP – Low Income EV Rebate
- One Stop Shop Pilot

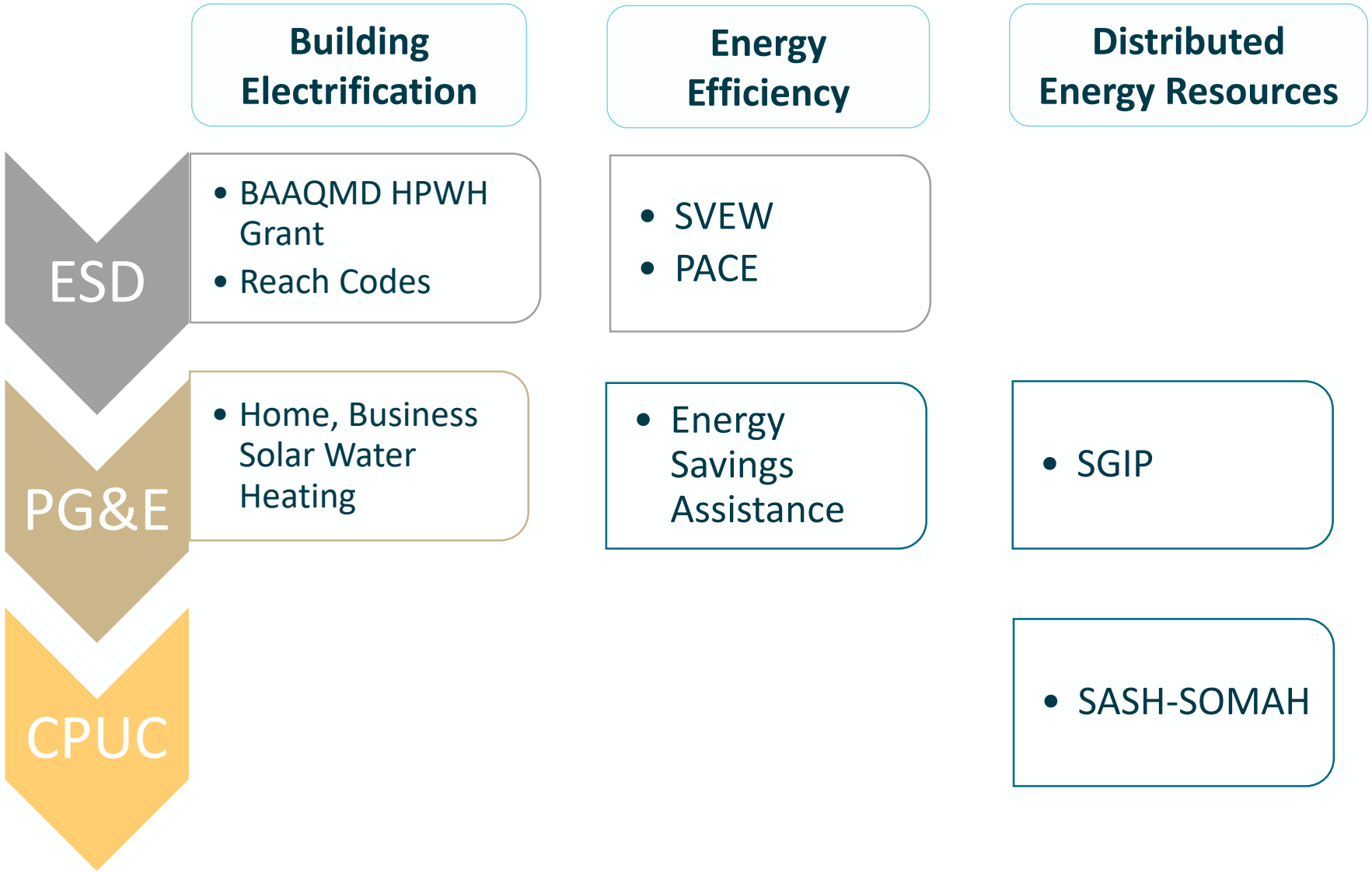
BAAQMD

- Clean Cars for All – Low Income rebate
- Clean Fleets – Light duty fleets

- Charge! – Multi-Family Dwellings, Workplaces

SAN JOSE CLEAN ENERGY

PROGRAM MAP - OTHER



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