



**Urban Land
Institute**

Advisory Services Program

Building Electrification and Renewable Energy

SAN JOSE, CA

ULI ADVISORY SERVICES

FEBRUARY 7-10, 2022

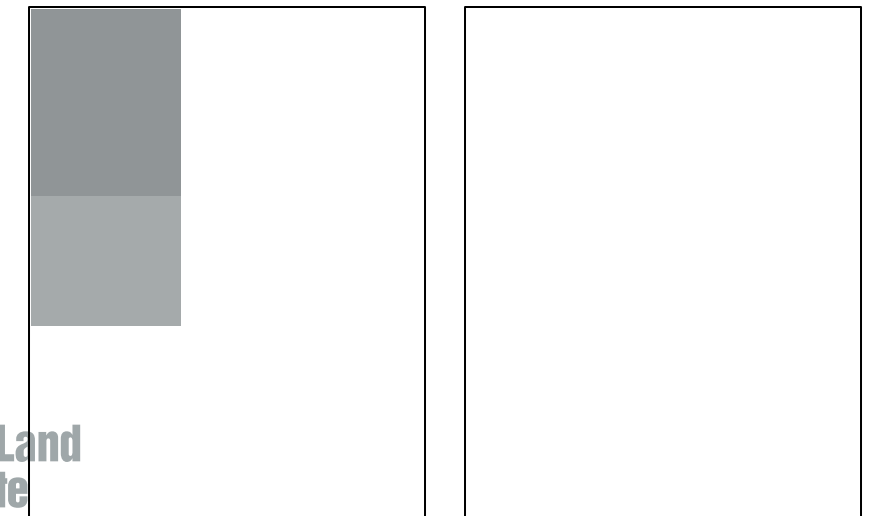
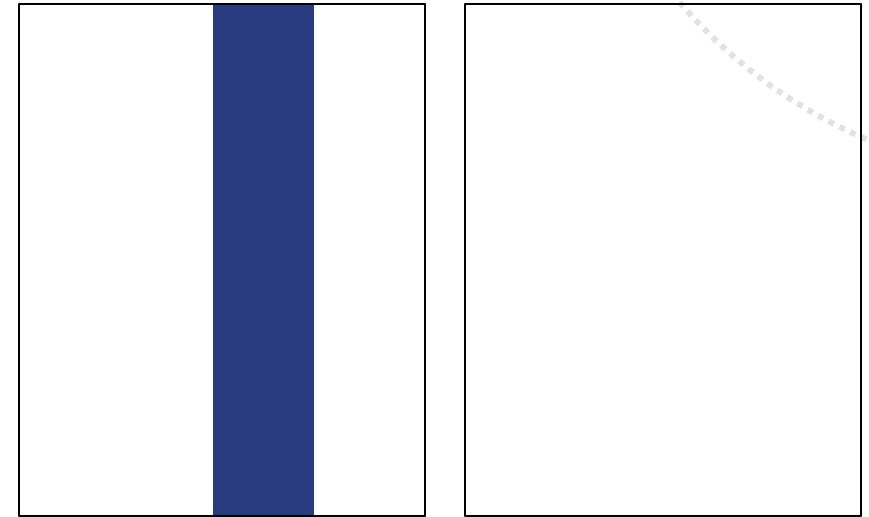
Credit: USG



About the Urban Land Institute Advisory Services Program

ULI Mission: to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide

- A multi-disciplinary membership organization with more than 45,000 members in private enterprise and public service
- What the Urban Land Institute does:
 - Conducts Research
 - Provides a forum for sharing of **best practices**
 - Writes, edits, and publishes **books** and **magazines**
 - Organizes and conducts **meetings**
 - Directs outreach programs





ULI Greenprint Center for Building Performance

Reduce Carbon, and Build Value

RESEARCH

Thought Leadership

Content on **climate mitigation**, making the **business case for green buildings** and the journey to net zero for the global real estate industry

MEMBERSHIP

Community of Practice

Collaborative of 60+ **real estate owners** committed to improving the **environmental performance** of buildings and achieving net zero by 2050

TECHNICAL

Local Assistance

Convene **public and private sector** at the local level to **overcome barriers to decarbonization** and accelerate real estate's journey to net zero

Accelerate decarbonization across the global real estate sector on the journey to net zero carbon by 2050



ADVISORY SERVICE PANELS

Since 1947, ULI's Advisory Services Program have helped more than 700 communities find independent, strategic, and practical solutions for the most challenging land use issues.

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Selected for their subject matter expertise to provide **objective, volunteer** recommendations

Jeff Kingsbury (Panel Chair)

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Jose Bodipo-Memba

Sacramento Municipal Utility District
Sacramento, CA

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Panel Assignment Advisory Services Program

The fundamental question posted to the Advisory Services Panel is:

What can the City of San José (City) do to help unlock the environmental and health benefits of building electrification and renewable/carbon-free distributed energy resources (DERs) in market rate and affordable multifamily housing developments, increase the financial viability of such projects, and improve social equity outcomes?



Credit: Shutterstock



Specific Questions to the Panel:

1. What can the City do to incentivize existing multifamily properties in the city to include renewable/carbon-free DERs, electrification, and features that serve to balance the duck curve and the grid's demand/capacity challenges?
2. How can the City position itself to help unlock funding to accelerate the rate of retrofits for energy efficiency, electrification, and renewable energy generation and storage in existing multifamily housing?
3. Given the range of multifamily typologies in San Jose, how can energy efficiency strategies, electrification, and renewable/carbon-free DERs best be combined to be financially beneficial for multifamily developers, owners, and tenants?
4. How can the City ensure that the transition to all-electric buildings and renewable power generation does not negatively impact low-income residents, especially those in buildings still powered by gas (as there will be fewer gas ratepayers shouldering the costs of gas infrastructure)?
5. How can the City address environmental justice, equity, and fair housing goals in its work to promote electrification and renewable DERs? What are the best practices in this area?

Vision Statement



- Everyone in San Jose is aware of and realizing the benefits of going to a fossil-fuel-free future.
 - Residents and businesses have been made aware through various channels and partnerships. They know why this transformation is happening and how this benefits them personally.
 - Indoor and outdoor air quality is improved in all neighborhoods in San Jose, resulting in improved health outcomes.
 - Occupants enjoy reduced energy costs through living in all-electric buildings with on-site solar or through access to community solar.
 - Households and neighborhoods are more resilient during extreme weather events and emergency power shutoffs because of the widespread uptake of backup battery storage systems.



- Prosperity is shared across the community and includes people from traditionally underserved communities engaged in and benefitting from the clean energy economy.
 - Thousands of jobs have been created upgrading electrical panels, distributions lines, and transformers; installing heat pumps, hot water heat pumps, and stoves; and installing solar and batteries.
 - These jobs were created through partnership with skilled trade organizations, training providers, and the City and PG&E.
 - There is more equality and opportunities for wealth generation across the city.
 - New revenue sources are realized through the integration of solar power and battery storage within the built environment.



- The City of San Jose has been successful at creating, identifying, and securing robust funding sources at the federal, state and local levels to achieve their goals.
 - Anyone in the community, individual or business, knows where they can get all the information they need to why and how to go all-electric, how to get solar + batteries and chargers, funding options, and access to technical assistance.
 - With private capital and philanthropy, the City is innovating the public-private partnership model at resourcing large-scale initiatives.
 - Coordination of processes within city departments is smooth and streamlined, leading to efficient plan implementation.
 - Because of the City of San Jose's reputation for innovation and action, and being a great place to work, the city government is a destination for talent.



- Partnerships have been the key to success in San Jose achieving its goals as a community.
 - As the Capital of Silicon Valley, the City has partnered with innovators in the private sector to solve some of the technology barriers, proving them out so they can be replicated by cities across the country and around the world.
 - Beginning with the plan creation through implementation, trust has been built with key stakeholders including community organizations, business and building owners, skilled trade organizations, utilities, and residents across San Jose.



Credit: Rawpixel Ltd.



Innovation culture



Vision and focus



Priorities



Urgency and endurance

CLIMATE SMART SAN JOSE

A People-Centered Plan for a
Low-Carbon City



Policy and Programs

Planning Strategy and Implementation

- City of San Jose community partners have developed a number of community plans, ordinances, and incentives programs to address the Region's Zero Carbon Goals
- The City has a robust data library to help zero carbon strategies and priorities
- The City has led with Health, Equity, and Affordability as keystones of its planning and outreach

Workforce Development

- City sees electrification Climate Smart Plan as an opportunity to create jobs and provide opportunities at equity/upward mobility
- City has established partnerships with CBOs and Unions to help accelerate the need for an upscaled workforce

Climate Smart Technical Assistance

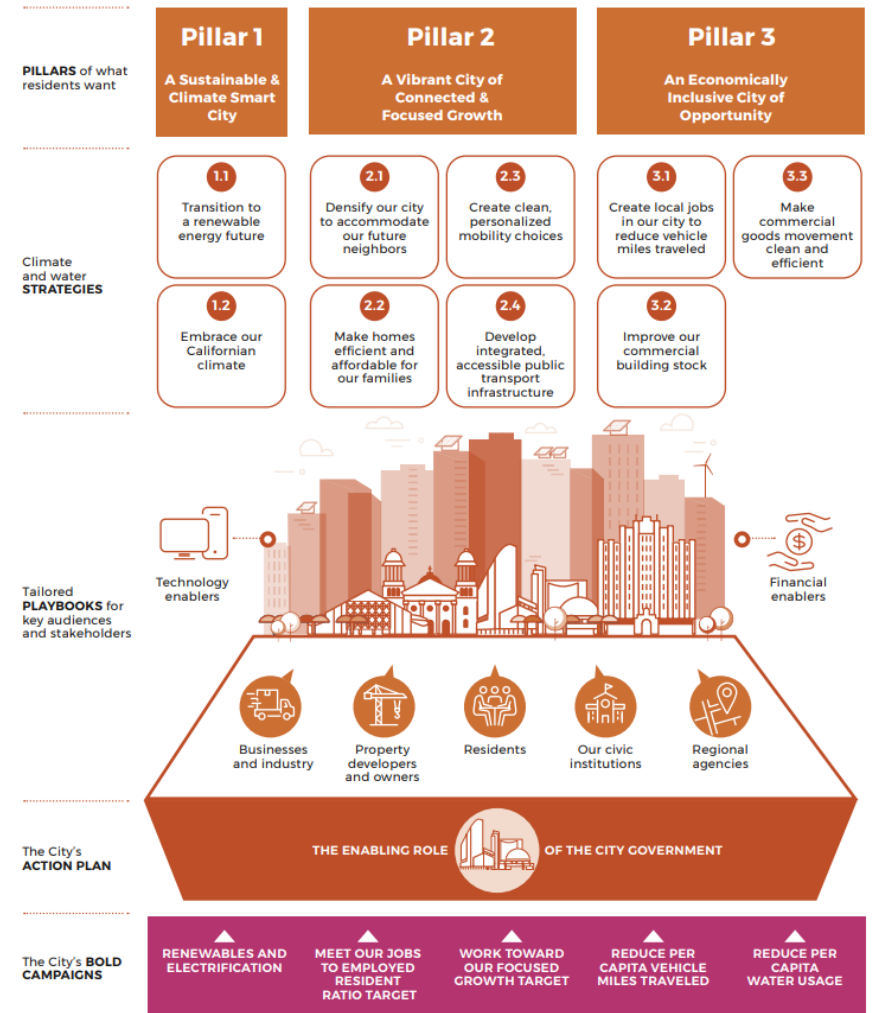
- A number of resources exist on the City, SJCE, and PG&E's Websites
- A number of State, Agency, and Non Profit resources exist online as well to help navigate processes and incentive opportunities.

Stakeholder Awareness

- The City engaged in a widespread outreach process with workshops, community toolkits, mailers and community task force opportunities.
- Stakeholder education sessions continue to be held virtually to ensure understanding and engagement.

Innovation

- The City has identified DERs and Community Solar as additional ways to address the Climate Challenge
- The City of San Jose is located in the heart of the innovation hub of the US





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Existing Barriers

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City of San Jose—FEBRUARY 2022

Planning Strategy and Implementation

- Implementation Priorities aren't clearly stated, and aren't leveraging the segmented community data to ensure an equity lens is incorporated
- SJCE and PG&E are not as connected as they could be, particularly around grid/capacity planning and on-site renewable development

Workforce Development

- MEP and Contractor community is not educated/bought-in to electrification and DERs, particularly those in underserved communities
- Lack of understanding on the real job creation opportunity and how that impacts quality of life

Climate Smart Technical Assistance

- No central location for technical assistance on multifamily electrification and DERs (e.g. panel upgrades, transformers, electric hot water, resident relocations)
- Projects are getting stalled in the permitting process and fall through the cracks between Departments
- Owners worry about triggering bigger Code requirements when considering electrification/DER projects

Stakeholder Awareness

- Lack of trust (utilities, government, community outsiders) - community doesn't understand the "why" and how that relates to quality of life
- Owners have cost and logistical concerns, and its hard to reach the smaller landlords
- There aren't local SJ examples of successful all-electric/DER multifamily new construction or retrofit projects

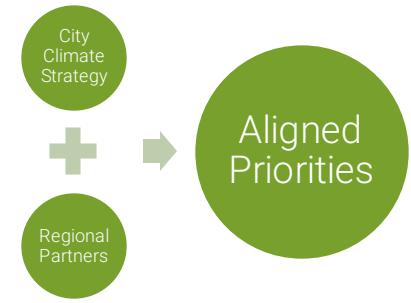
Innovation

- Missing big-picture outside-the-box ideas especially around DERs
- Some solutions don't exist yet (e.g. water heating, battery storage, grid-interactivity)
- Insufficient collaboration with local tech/business experts

Planning and Strategy

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Clearly Align and Lead Regional Priorities



Clear Implementation Priorities w/ Stakeholder Buy-In

- Align all of the planning documents
- Near term priorities and long term defined
- Provide staff capacity to support priorities

Leverage Data for Effective Plan Implementation

- Use GIS mapping to address multi-family & equity targets and priorities
- Leverage EV charging maps to identify service gaps

Provide Clear Success Metrics

- Near term and long-term metrics need to be defined
- Leverage dashboards to track plan performance

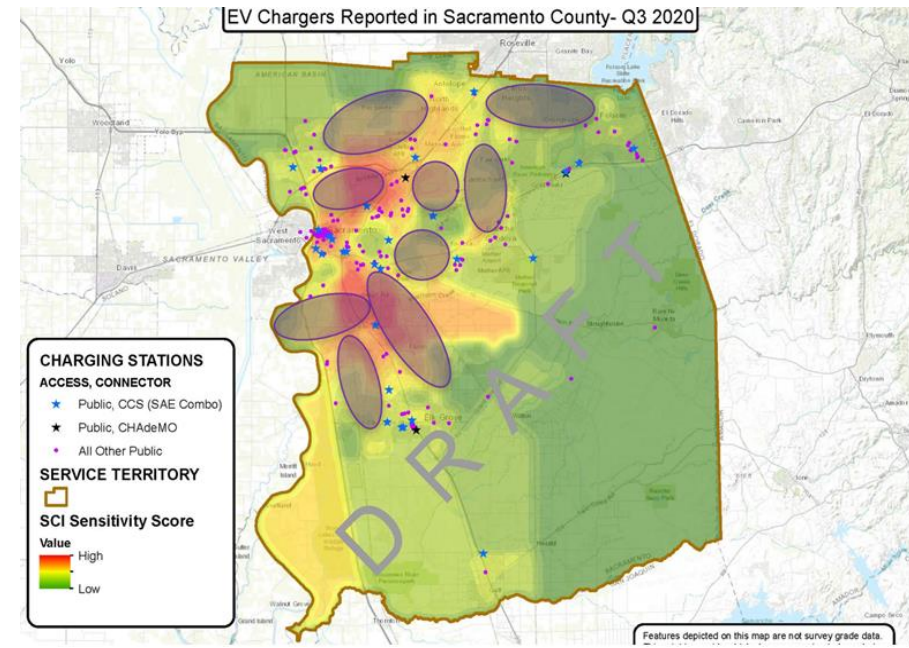
Define Equity, Low-Income, and Disadvantaged communities for use and application of plan implementation

- Terms cannot be interchangeable; Unique goals
- Establish equity metrics that meet the San Jose community

Low-Carbon Growth Milestones

INDICATORS	CARBON REDUCTIONS	ELECTRIC VEHICLES	REDUCED CAR DEPENDENCY	SINGLE-OCCUPANCY VEHICLES
METRICS	Emissions reduction from this strategy	Percentage of passenger vehicles (including SUVs) that are electric	Reduction in passenger cars and SUVs from public or shared mobility	Single-occupancy vehicle commute trips
PROGRESS MILESTONES	Thousands of tons of carbon reduced per year	Percentage of passenger vehicles that are electric	Equivalent number of cars taken off the roads	Percentage of single-occupancy vehicle commute trips
TODAY	-	6%	-	82%
2030	630	61%	34,400	46%
2040	1,142	78%	80,500	24%
2050	1,319	82%	1114,400	12%

Credit: City of San Jose



Credit: SMUD



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Workforce Training Advisory Services Program

Alignment and Equity

Aligned Workforce Pathways

- Core Competency/Curriculum Alignment
- Pathway Partner Alignment

Use Data to drive real job demand

- Centralize information about job needs, training quals, and salary ranges
- Right size job expectations with specific information (new jobs versus retrained)

Leverage and Enhance Existing Workforce CBOs

- Look to expand programs like Grid Alternatives to meet City's needs and Goals
- Work with PG&E and SJCE on aligning workforce pathways with their workforce needs and program needs on programs like NEM.

Expand Recruitment Base

- Culturally relevant and trusted outreach
- Multi-Language recruitment and training



Credit: 2018 Getty Images



Technical Assistance

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Smooth the electrification/DER technical challenges with a central Climate Smart "Carbon Zero" Hub and smooth processes

- **Create a Carbon Zero HUB** - a central information location where all stakeholders can understand everything, they need to around ClimateSmart San Jose
 - Apply an equity lens to the Hub's support efforts
 - Instructions on how to engage with available programs
 - Technical details – both holistic integrated design support as well as individual equipment upgrade project support
 - Financing opportunities - from the City, State/CEC, Utilities, and Government
- **Update the BPO** to add some teeth
 - Add "beyond benchmarking requirements" compliance options to include electrification retrofits and DER installations
 - Evolve the program into a Building Performance Standard by 2025
- **Simplify compliance and permitting processes**
 - Ensure 1 city staff person shepherds a project through all the city departments for approvals
 - Identify processes that address the older housing stock and be aware of the unintended consequences of draconian policies and mandates





Stakeholder Awareness

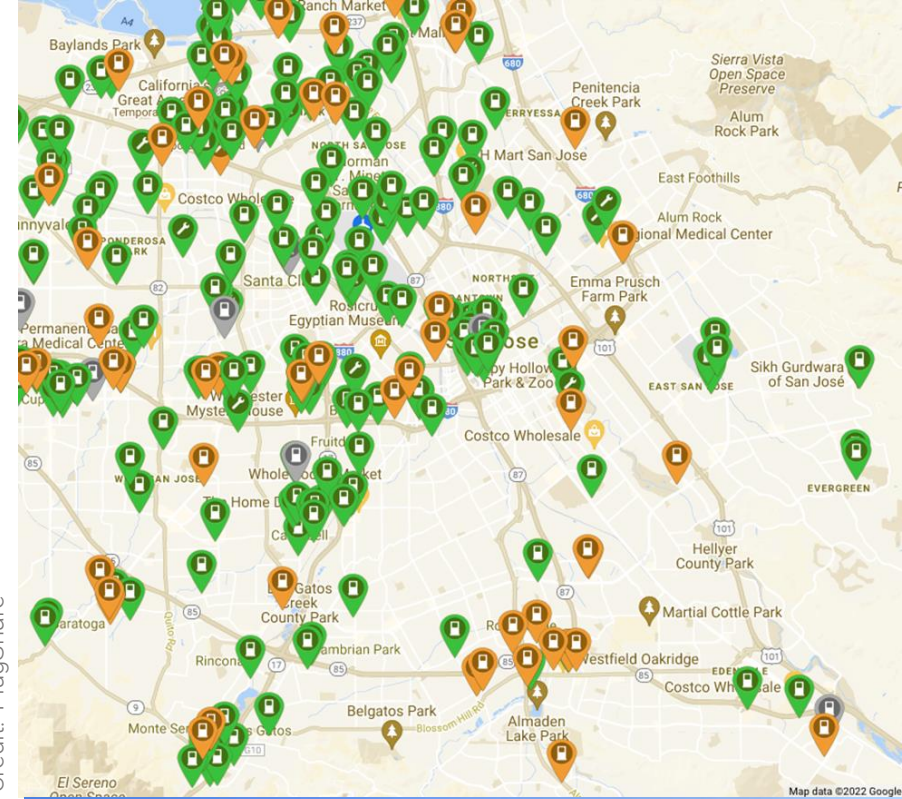
Advisory Services Program

Communicate often and intentionally and equitably to increase stakeholder awareness and enthusiasm

- Leverage existing (and build new) communication channels to reach stakeholders, e.g., BPO email list, CBOs and Unions, SJ Chamber of Commerce
- Meet community members where they are
- Create a representative **Green Building Committee/Working Group**
 - Convene monthly to help develop ClimateSmart SJ Policies and get local stakeholders bought-in to the process.
 - Use to explore potential EBEP Mandatory Measures (*e.g., reach code for existing buildings, time of replacement requirement, point of sale requirement, IAQ standards, GHG mitigation fee*)
- Show that it can be done
 - Feature (and subsidize) **Demonstration Projects** and best practices for locals to learn from and trust, in both new and existing assets across the city
 - Hold a **City-wide Design Competition** for hypothetical electrification/DER projects to increase enthusiasm for the innovations
- **Report out** on successes/progress on a regular basis

Cherish the Opportunity to be the World Leader in Addressing Climate Change

- Leverage City's proximity to create public and private sector partnerships to be a leader in energy storage and management
 - Co-Invest in research and development pilots (Google, SJSU)
- Leverage City's vast data library to develop neighborhood centric solutions.
- Creatively use open space (rooftops, airports, parking areas, etc.) for solar and energy storage
- Proactively incentivize the development of community solar
- Explore expanding battery storage microgrids like the one planned for the Google Campus
- SJCE should explore running VPPs
- Continue to incorporate multiple modes to address City's carbon goals beyond electrification
 - EV, E-bikes, DERs, and technology that has yet to be discovered



Funding and Incentives



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Financing and Incentives Advisory Services Program

Solutions for the City of San Jose

- To meet San Jose's audacious carbon-reduction and electrification goals, there need to be an array of financing options for multifamily properties to serve the city's diverse population and diverse housing typologies.
- Funding opportunities need to be available during the lifecycle of a multifamily property from construction through rehabilitation (both moderate and substantial).
 - Mortgage financing (acquisition, conversion to permanent debt from construction loan, refinance, supplemental) is one opportunity to plan for and fund electrification and renewable energy.
 - Mid-stream financing options (ex: on-bill financing, grants for pre-development, rebates) should also be available.
 - For renewable energy generation, in addition to direct ownership, leases, and power purchase agreements are also viable options.
 - Collective purchasing power can be used at a block or community-scale to reach economies of scale, reduce costs, and help smaller multifamily owners manage the complexities of electrifying and renewable energy purchasing.



Credit: 2018 Shutterstock



Recommendations:

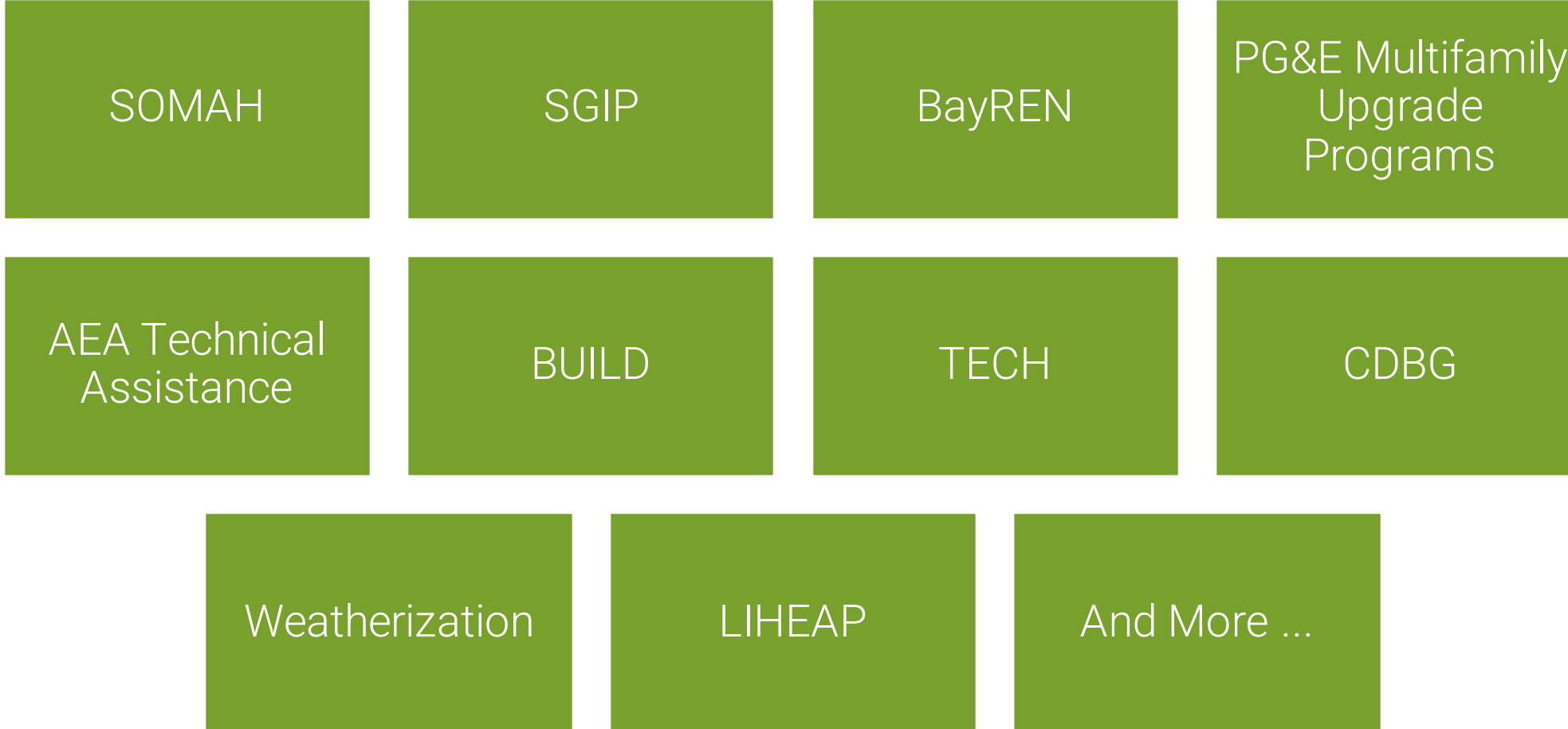
- Will Electrification trigger other non-conforming code conditions?
- Expedited Permit Process for all-electric permits.
- 100% of Permit Fees to be allocated to staff or other electrification projects.
- Exempt the cost of Electrification improvements from assessed tax roll.
- Allow for "Flex Codes".
- Provide capital for up-front engineering and design costs.
- Density bonuses where appropriate for full electrification.
- Provide support for a Holistic Integrated Design approach.
- Indoor Air Quality monitoring.
- Partnering with PG&E is imperative for successful transition to 100% electric.



Leveraging Existing Opportunities

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San Jose Zero Carbon Hub should convene local financing partners and multifamily owners to catalog and map existing funding resources and identify gaps.





Credit: Shutterstock

Existing Buildings

Solutions for San Jose Multifamily Buildings

- Green Mortgage Loans for Existing Multifamily
 - Preferential pricing reduces all-in interest rate for most loans
 - Free energy and water audit
 - Ability to underwrite portion of projected owner and tenant savings from energy and water efficiency improvements
- On-Bill Financing
 - Payment sized to be equal or less to the projected energy and water savings
 - This provides a mid-stream opportunity for projects of all scales
- One-Stop Shop Model
 - Integrates project scoping, technical assistance, financing, installation and commissioning
 - Example: BlocPower, Bright Power
- Green Bank and/or Incentives from City/San Jose Clean Energy
 - Potential for credit enhancement using city's bonding authority
 - Grants/Soft Debt to finance multifamily energy audit with electrification study component
- Rebates
 - Clean Energy San Jose could expand rebates for multifamily properties for appliances and/or equipment upgrades



Credit: Getty Images/iStockphoto

New Construction

City of San Jose – FEBRUARY 2022

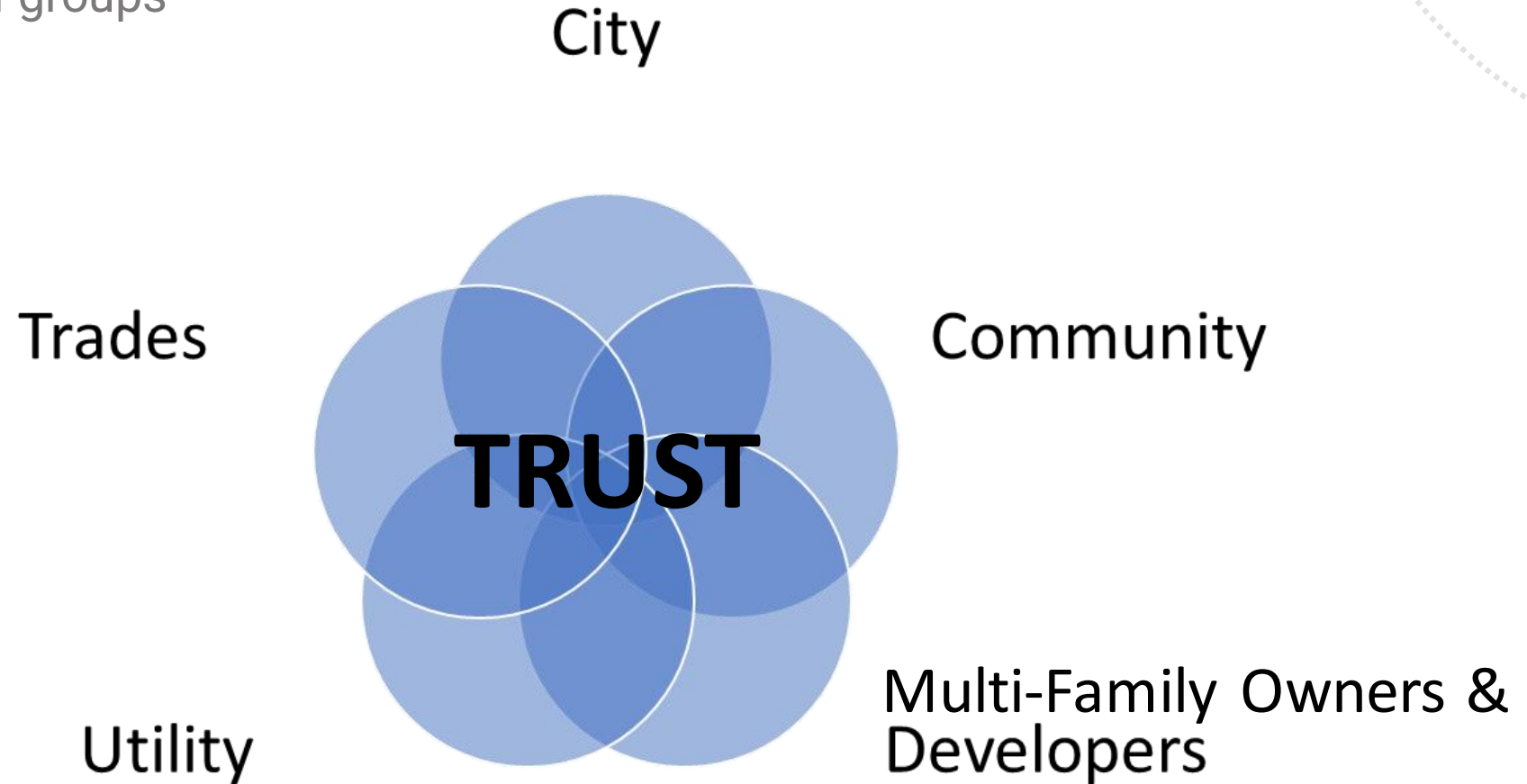
Solutions for San Jose Multifamily Buildings

- Green Mortgage Loans backed by Green Building Certification
 - Preferential pricing reduces all-in interest rate for most loans
 - Additional incentive may be available for properties that seek a net zero/towards zero certification
- Green Bank and/or Incentives from City/San Jose Clean Energy
 - Potential for credit enhancement using city's bonding authority
 - Grants/Soft Debt to finance pre-develop engineering cost for affordable housing developers (est. \$60,000 – \$200,000 per project)
- Rebates
 - Clean Energy San Jose could expand rebates for multifamily properties for appliances and/or equipment upgrades

Communication and Outreach



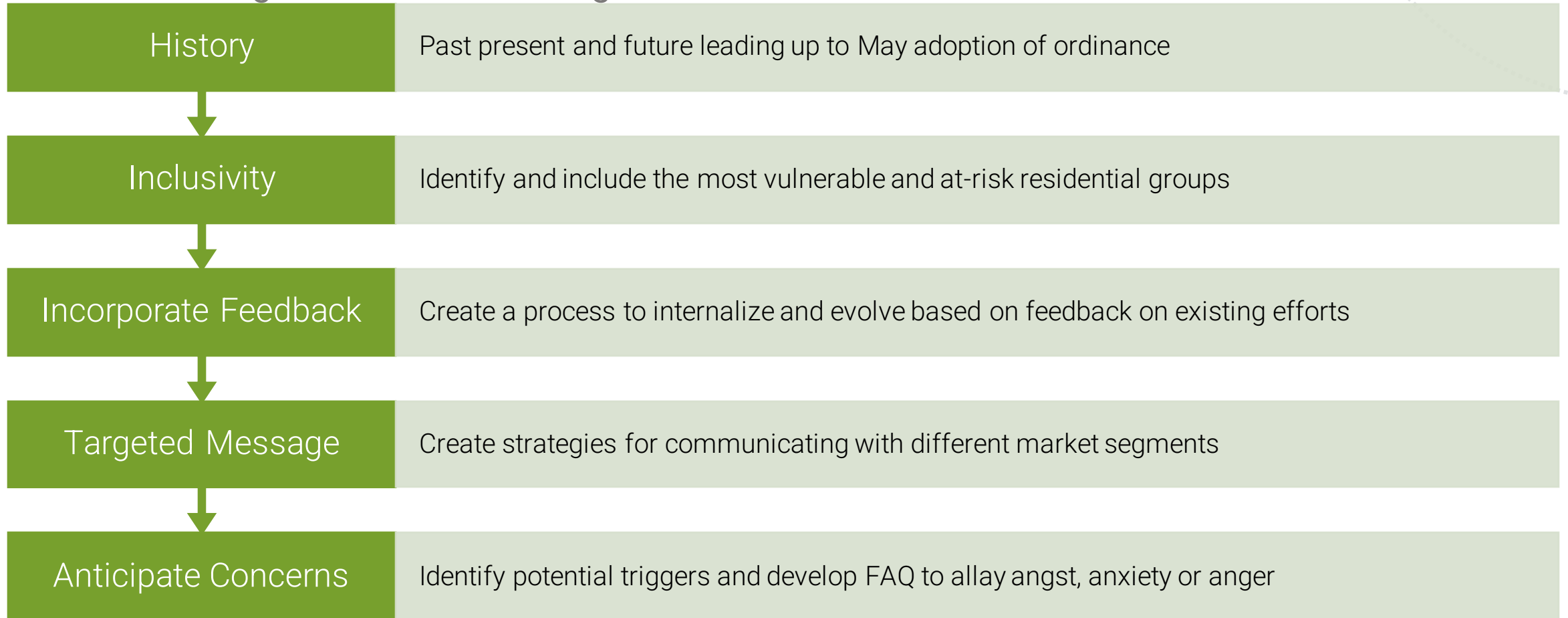
Communicate the ongoing implementation of the Climate Smart San Jose (the Plan) by sharing with key stakeholder groups





Communication and Outreach Advisory Services Program

A comprehensive Communication Plan will tell the community *why* this information needs communicating and how it will be organized for dissemination





Communication and Outreach

Advisory Services Program

Implementation

Outreach Manager

- Dedicated to the Plan
- For staff level support leverage Resilience Corp and AmeriCorp Grants

Communicate in multiple ways to ensure comfort in receiving

- Multilingual
- Low-tech
- Virtual
- Outdoors

Methods of disseminating factual information

- Phone, mail, email, in-person
- Emulate successful COVID-19 information dissemination

Define an inclusive, engaging process for on-going discussion

- Tenant advocacy group
- MF Owners group
- Advisory Council
- Green Ribbon Commission



Credit: City of San Jose



Outreach Programs to Bring Information to the Community

Good Life 2.0
(existing plan)

- Target Economic Inclusivity
- Identify technology enablers

Impactful Venues

- Public meetings, Planning Commission/City Council Work Sessions
- HOA, Co-Op and Community Meetings
- Fairs, Festivals and Community Events
- Service Organization Meetings

The San Jose Zero Carbon HUB

- Technical Assistance and Information

Newsletters

- Weekly, Monthly
- In-Bill
- Email Blast

Demonstrations

- Cooking (electric v gas), Instant Heat Pumps, In-home quality tests, solar panels, Parade of Homes



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Communication and Outreach Advisory Services Program

Where to start?

Own the Leadership
Role by solidifying the
City's trust relationship
with its constituents
and partners (CCA)

Start talking to the
largest owners of MF
and SF portfolios (Win-
win-win)



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Q&A

Thank you!

<http://www.uli.org/advisoryservices>