City of Sacramento Existing Building Electrification Strategy

City of SACRAMENTO
EXISTING BUILDING ELECTRIFICATION

Commercial Buildings Workshop
March 8, 2023

Agenda

- Introductions
- Background / What Is Building Electrification?
- Strategy Development to Date
- Commercial Buildings Policy Framework
- Centering Equity
- Other Considerations
- Questions/Discussion

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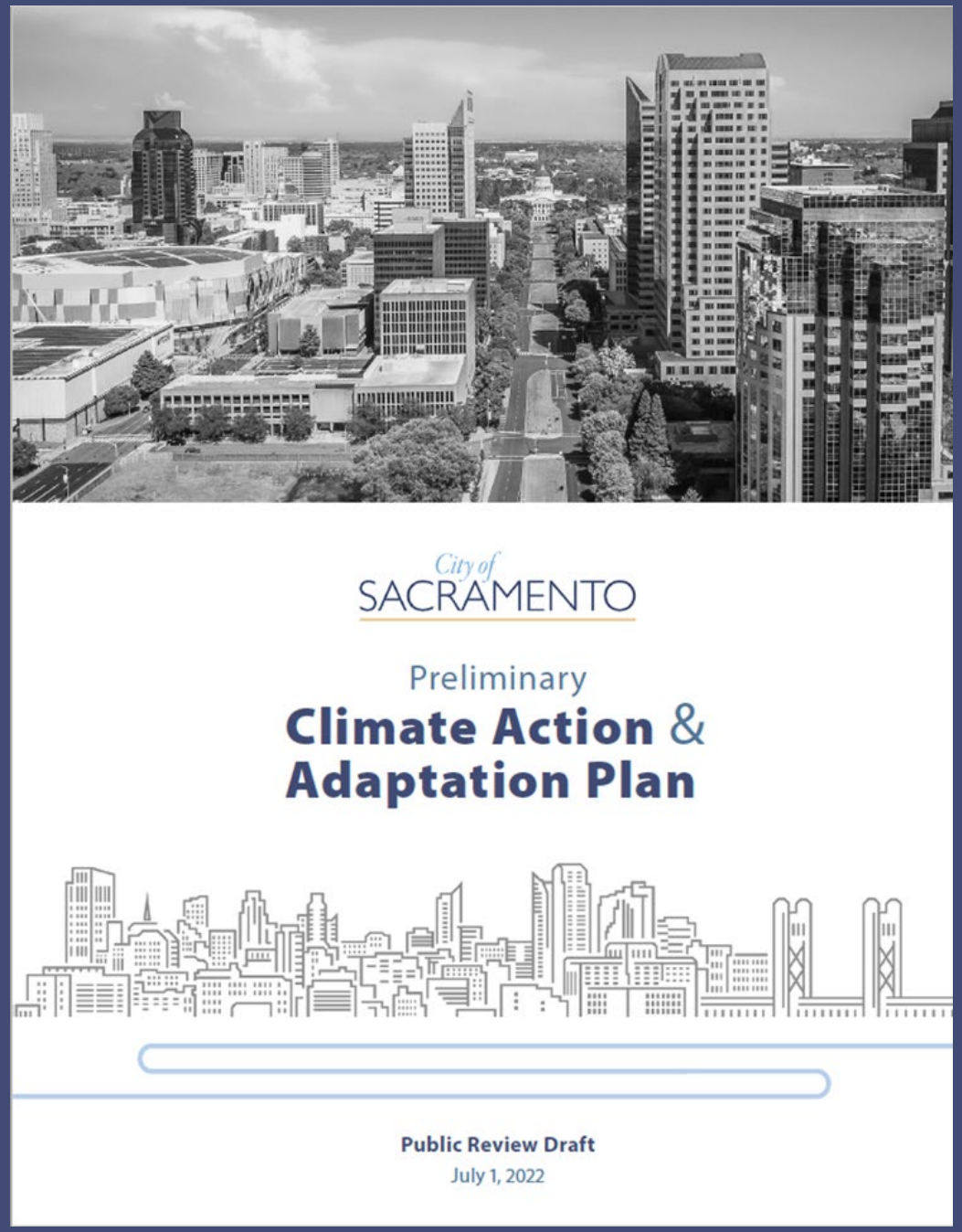
City of SACRAMENTO
Office of Climate Action & Sustainability

City of SACRAMENTO
Community Development



To meet our climate goals, Sacramento's building stock must be **all electric by 2045**

Greenhouse gas emission reductions

Building electrification leverages SMUD's 2030 Zero Carbon Vision

Source: www.smud.org/en/Corporate/Environmental-Leadership/2030-Clean-Energy-Vision

- As of January 1, 2023, **new low-rise construction** must be all electric
- Starting in 2026, **all new construction** must be all electric

- Long-term policies to transition **existing buildings** to all electric by 2045
- **Strategy** draft by summer 2023

How do we **electrify existing buildings?**

Replace gas appliances with energy efficient electric appliances

Gas furnace

⇩

Electric air source heat pump provides heating & *cooling*

Gas water heater

⇩

Electric heat pump water heater

Gas stove

⇩

Electric resistance or induction cooktop & oven

Gas clothes dryer

⇩

Electric resistance or heat pump clothes dryer

What are the Benefits of Electrifying Existing Buildings?

Greenhouse gas emission reductions

- Building gas accounts for 15% of GHG emissions in Sacramento

Community Health

- Electric appliances → improved air quality, reduced risk of asthma

Energy Affordability

- On bill savings now, increasing savings over time.

Resilience & Safety

- Decreased fire & carbon monoxide risk, increased resilience with solar

Equity

- Equitable access to health, safety, comfort, and economic benefits.

Outreach to date: What We Heard

- Tailored approach for residential and commercial building types
- Emphasis on anti-displacement
- Cultural concerns (i.e., cooking)
- Need for ongoing education, in-language outreach
- Questions about grid readiness/resilience
- Need for centralized installation support
- Need for financial support
- Workforce concerns

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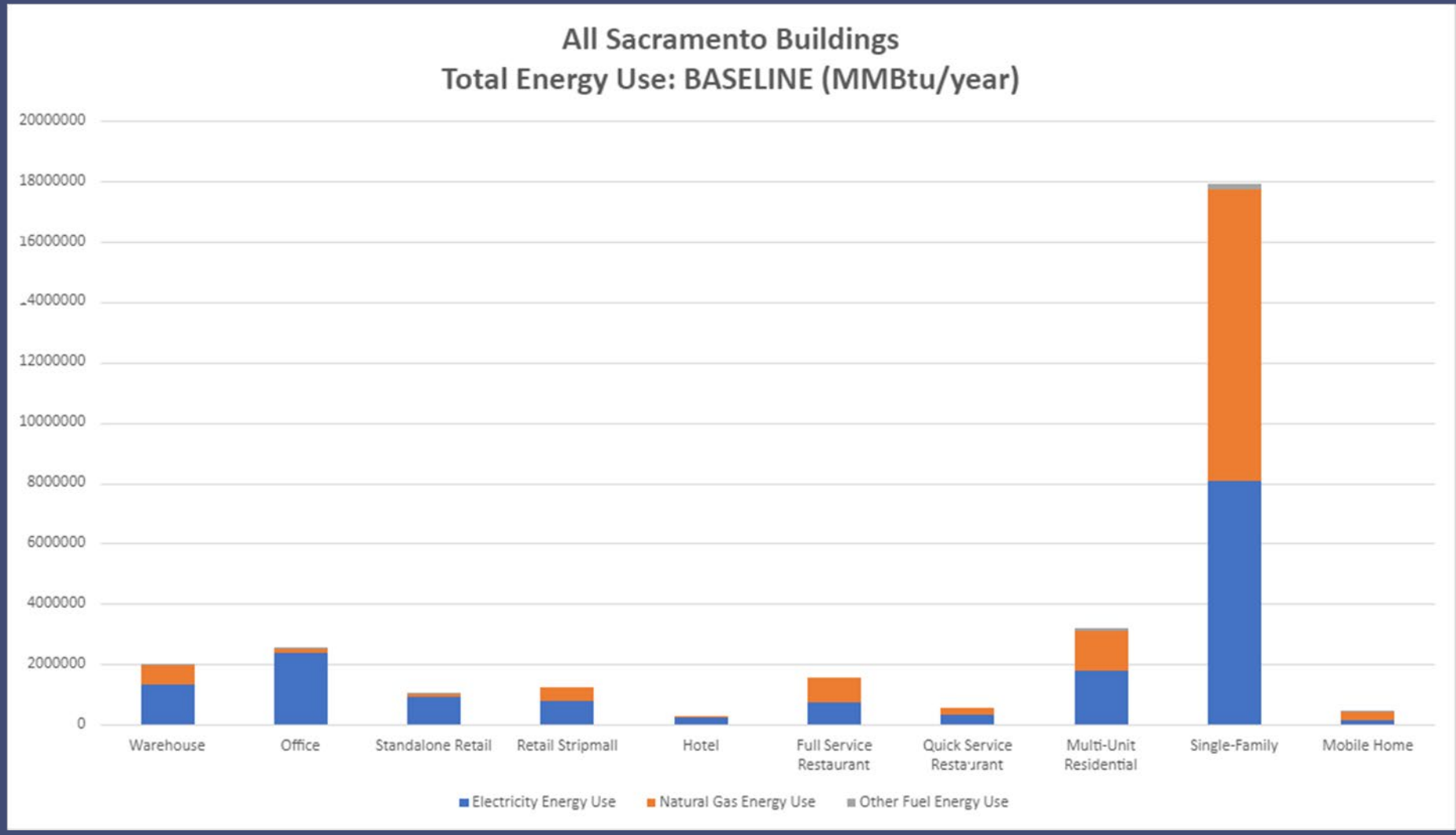
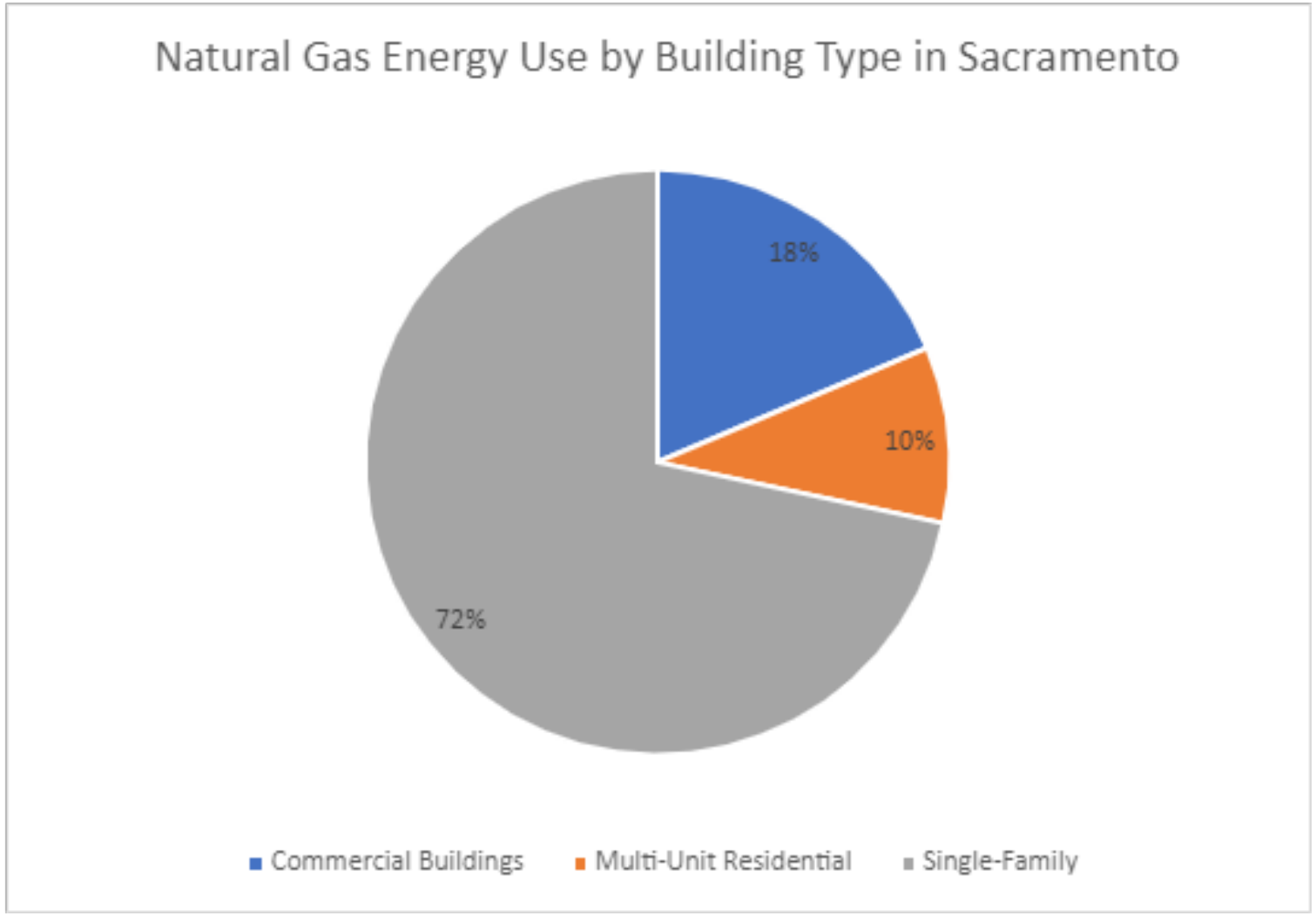
Energy Use from Buildings in Sacramento



Sacramento Building Stock
Natural Gas Usage by Sector



Equity Criteria

Affordable and reliable energy

Easy and affordable installation

Holistic building improvements

Culturally competent outreach and education

Support City and regional efforts to:

- Avoid displacement for households & businesses
- Prioritize low income and under resourced communities and small businesses
- Support the just transition of our workforce and promote high quality green job opportunities

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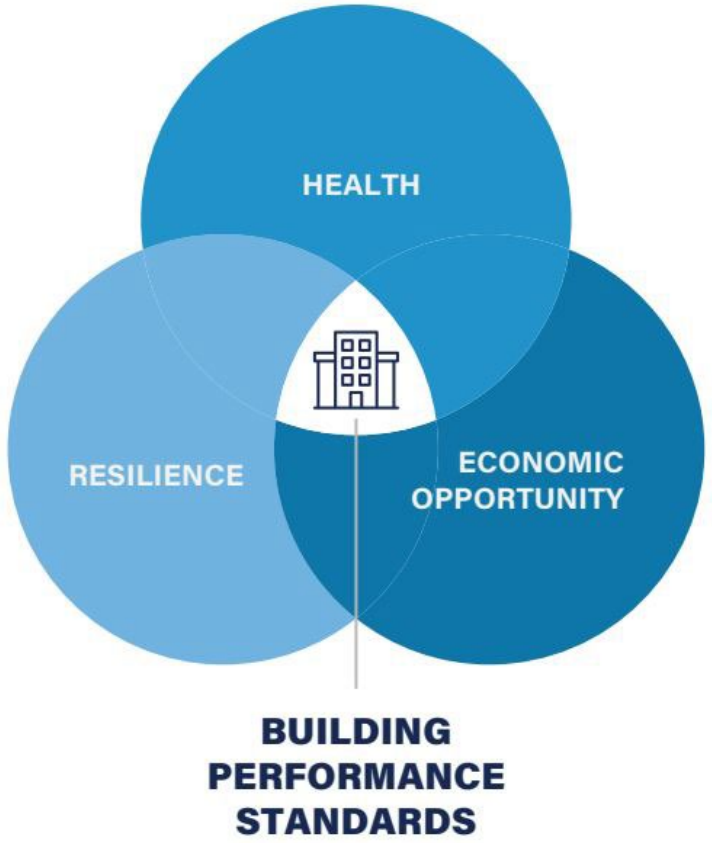
HOW WILL WE ACHIEVE ALL ELECTRIC BUILDINGS BY 2045?

POLICY FRAMEWORK AT A GLANCE
PRELIMINARY DRAFT STRATEGY

	Appliance Type	
Building Type*	**Furnaces and water heaters**	**Stoves and other appliances**
Small residential	Time of replacement ordinance	Support and incentives
Large Multi-Unit residential	Benchmarking/Building Performance Standards	
Large commercial non-residential	Benchmarking/Building performance standards	
Small commercial non-residential	Time of replacement for rooftop package unit HVAC	Support and incentives

Near-Term Large Commercial Buildings Strategy: Building Performance Standards

- Would require buildings to meet GHG performance targets by specific deadlines
- Flexible approach to help building owners use less energy, provide cleaner air, and increase comfort.



BUILDING PERFORMANCE STANDARD DRIVERS

- Commercial buildings utilize diverse systems and technologies
- Commercial building equipment, such as boilers, are often oversized
- Cost effective strategies will need to be tailored to specific buildings
- Likely include energy efficiency/operations upgrades identified by retro-commissioning

Building Performance Standard **Benefits**

Flexible path for implementation

Reduced pressure on harder to electrify equipment types

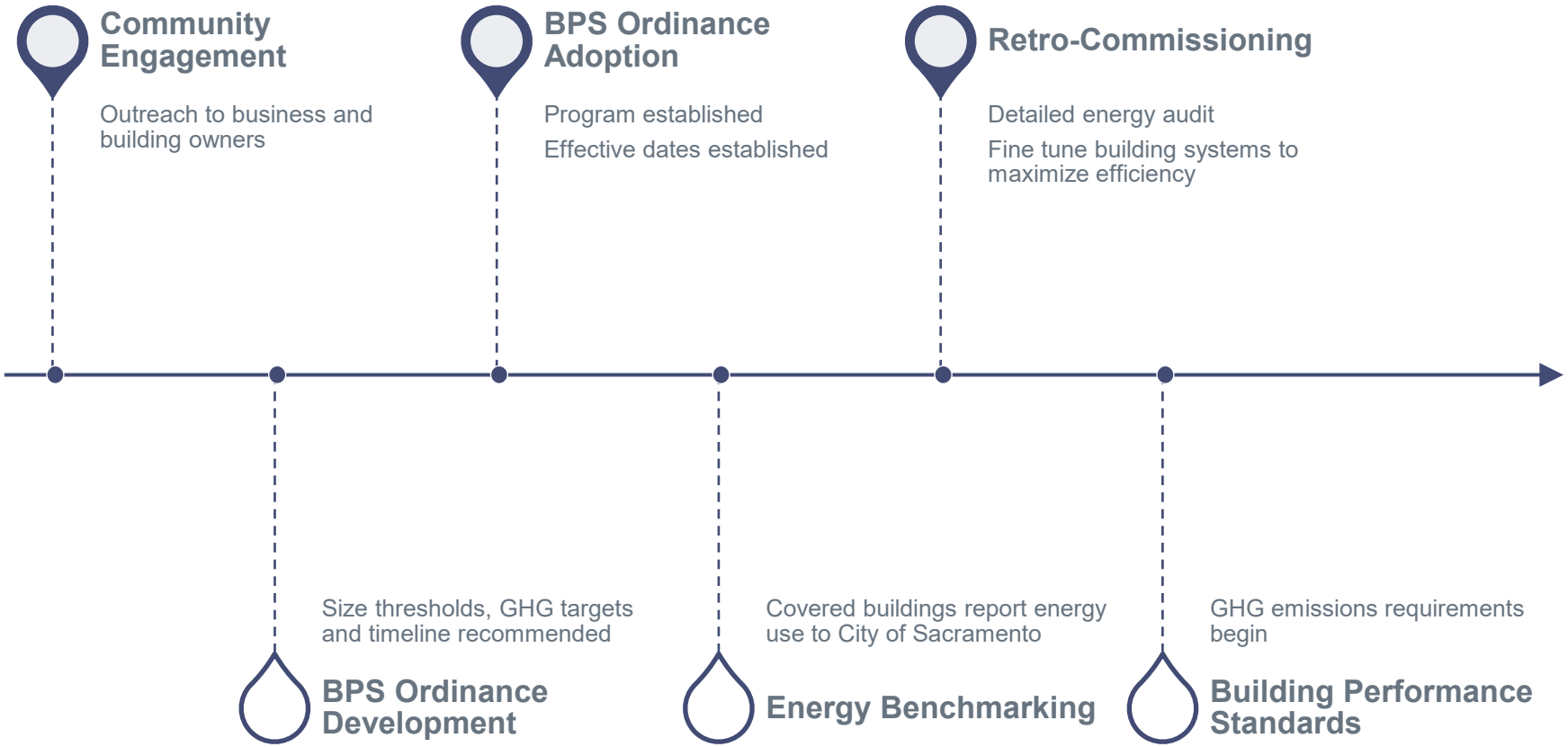
Improved Resilience

Cost savings through increased efficiency

Real data on building energy consumption

Approach tailored to each individual building

Building Performance Standards (BPS) Program Development Process

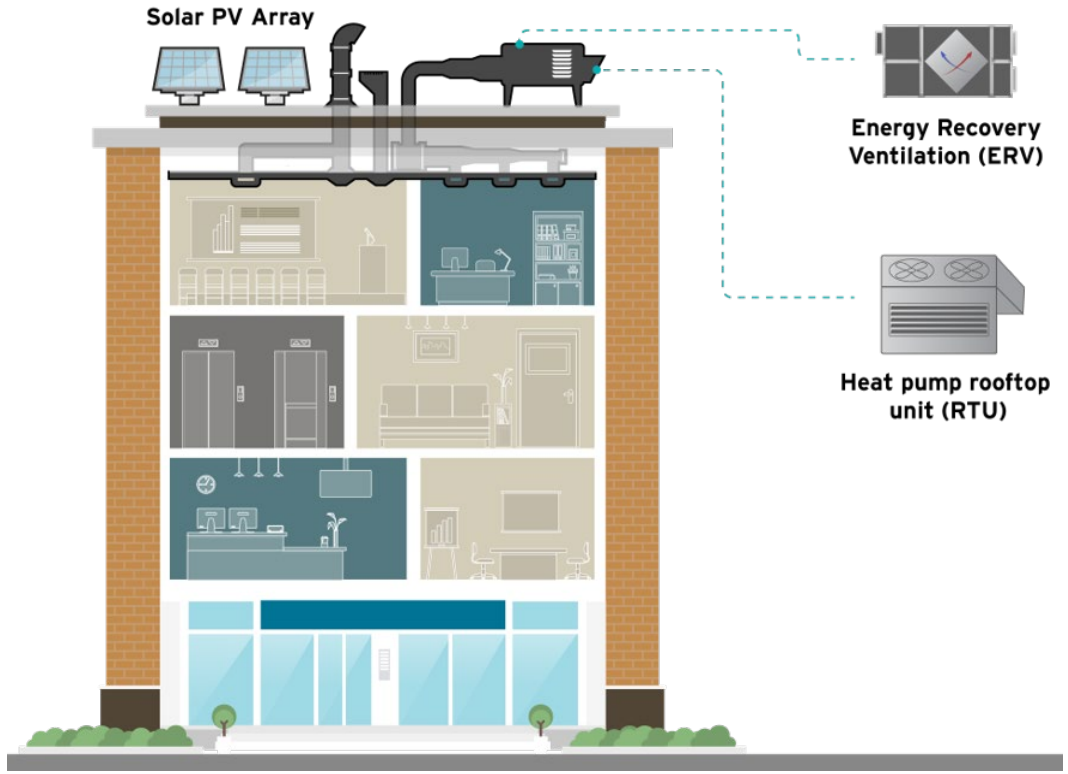


Assembly Bill 802
State Energy Benchmarking Requirements

- Effective since January 1, 2016
- Buildings 50,000 square feet or larger are required to report energy use to the state
- Goal of reducing overall building energy use statewide

Potential Time of Replacement : HVAC Rooftop Package Units

- When gas powered rooftop package units stop working or are removed, they would need to be replaced with electric alternatives.
- Off-ramps for infeasibility
- No new gas lines in existing buildings



Credit: Rocky Mountain Institute

What about stoves and dryers?

- City is not currently contemplating requirements for stoves or dryers.
- There are indoor air quality, health, and safety benefits to making the switch to an electric or induction stove
- Incentives are available for switching to induction stoves (SMUD and Inflation Reduction Act)

Public Funding to Support Equitable Electrification

SMUD Incentives

- Rebates for Lighting, Food Service equipment, HVAC, and Refrigeration
- Energy efficiency rebates for large, complex projects

State of California Equitable Building Decarbonization Program

- $922 million allocated for building decarbonization
- Program development is underway

Federal Inflation Reduction Act

- Tax Credits available now
  - Per square foot tax credit for improving energy efficiency by at least 25% in commercial buildings

Commercial Tenants

- Commercial tenants can be eligible for IRA incentives
- Incentives for building owners reduce opportunities for pass-through costs
- Electrification can improve indoor air quality and reduce utility bills

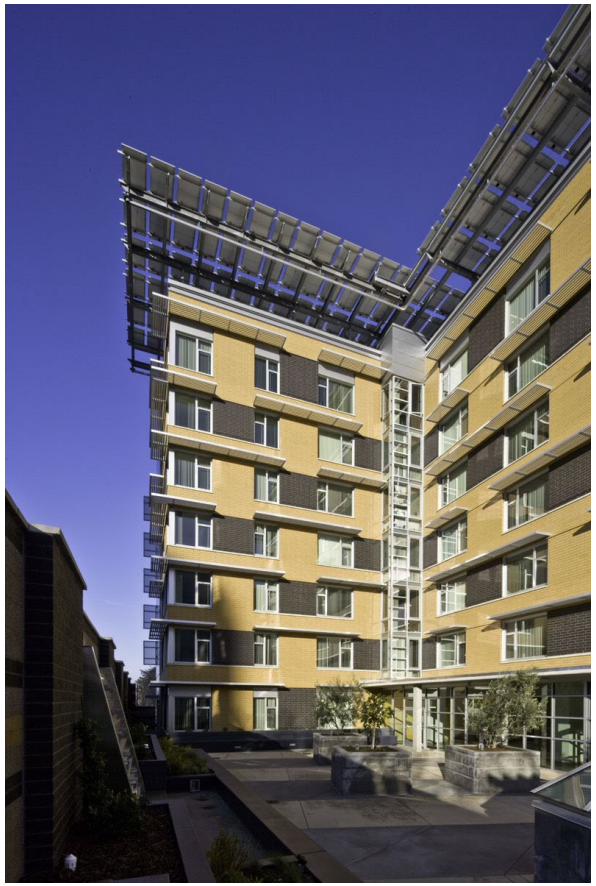
Incentives for Multi-Unit Residential Buildings

Multi-Unit Building owners are eligible for tax credits and up-front incentives for electric retrofits through the Inflation Reduction Act.

Eligibility:

- Owners of multi-unit buildings in which at least 50% of units are occupied by low- or moderate-income households

- Achieve certain energy savings from retrofits



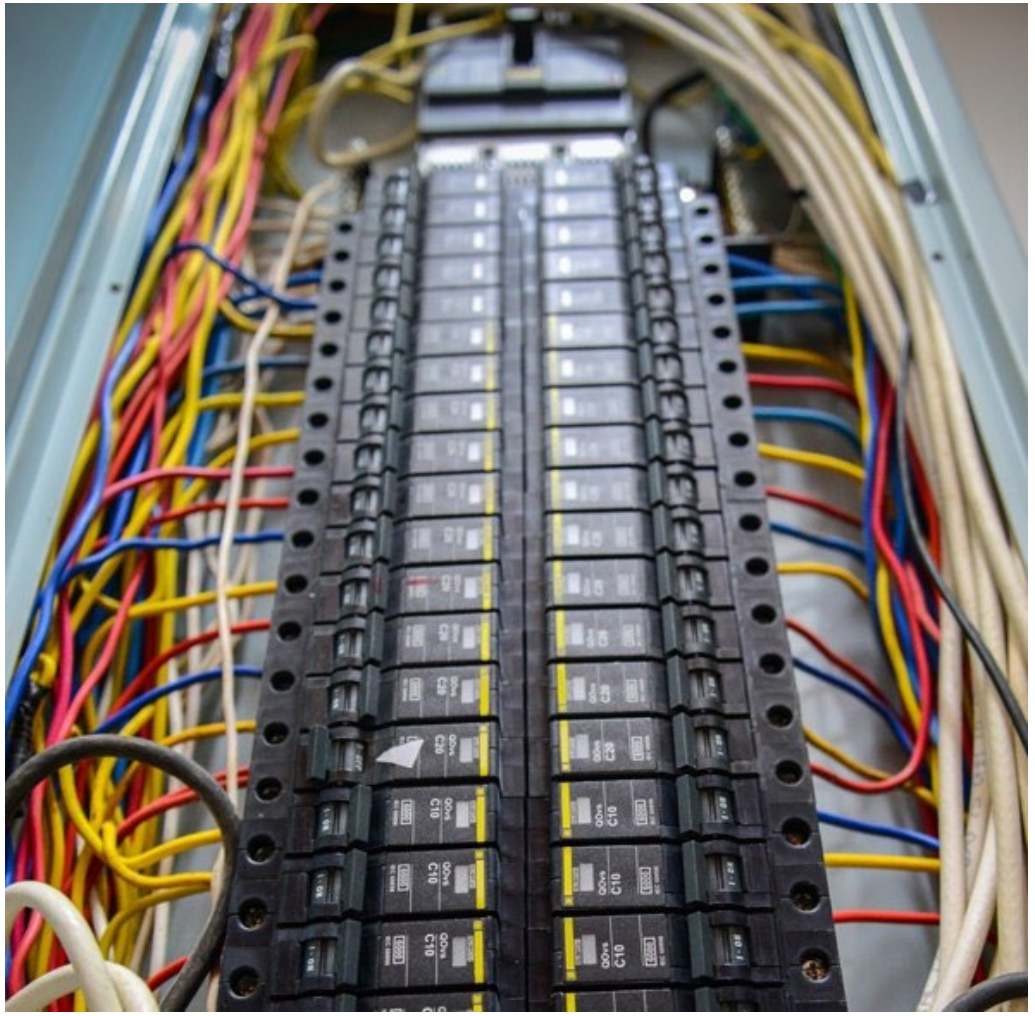
Infrastructure Upgrades

Transitioning to electric appliances can increase electricity use.

- Infrastructure upgrades could be necessary if current infrastructure is close to capacity

Panel upgrades can be avoided in many instances

- Managing systems to avoid increasing peak demand
- Load management systems for high demand uses (EV charging, etc)
- Choosing power efficient appliances



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Next Steps

- Ongoing: Community & Stakeholder Outreach
- Spring: Public Review Draft Strategies & Actions
- Late spring: Planning and Design Commission
- Summer: Full Existing Building Electrification Strategy to Law & Legislation Committee and City Council
- 2024 and beyond: Continued outreach, strategy implementation and ordinance development

Q&A + Comment

What actions would you add to support the strategy?
What have we missed?
What questions do you have?

Thank You!

Learn More: www.cityofsacramento.org/electrification

Contact Us: electrification@cityofsacramento.org