# All-electric New Construction and Substantial Alteration Ordinance

## Proposed 2022 Update

October 18th and 20th, 2022
Public Workshop

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# Background

- In 2021, a city ordinance was passed requiring all new construction in Alameda to be all-electric with no gas hookups.
- Staff is now proposing to update and modify the all-electric ordinance to align with the 2022 California Building Standards Code.
- The ordinance aligns with the City's Climate Action and Resiliency Plan (CARP) goals.



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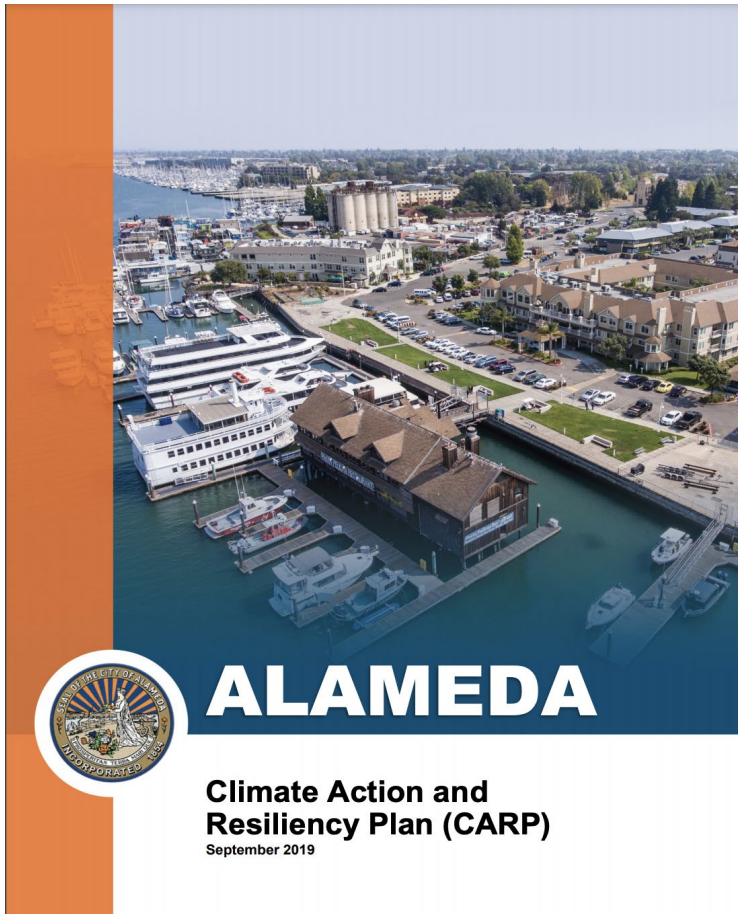
# Alameda Climate Action and Resiliency Plan (CARP)

- Reduce emissions by 50% below 2005 levels by 2030
- Achieve net zero emissions as soon as possible
- Climate adaptation
  - flooding, sea level and groundwater rise, drought, extreme heat, hazardous air quality, and earthquakes/ liquefaction.



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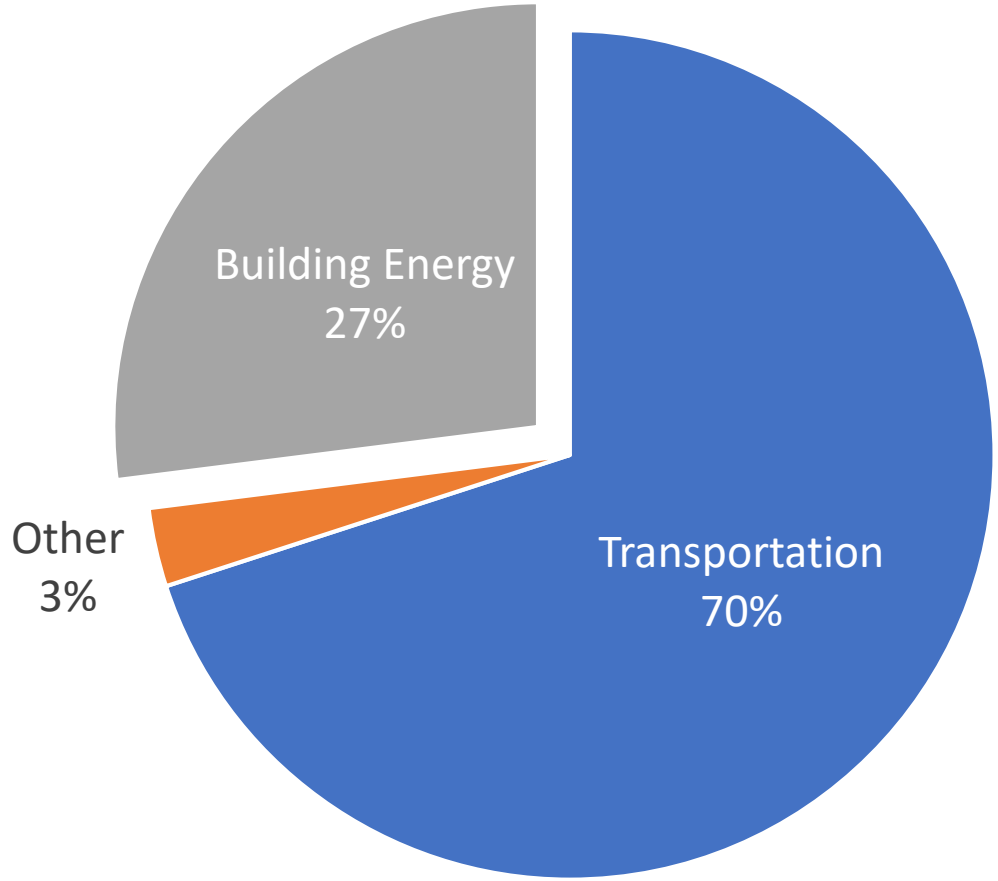
# Alameda's Emissions

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DRAFT ACTIVE TRANSPORTATION PLAN

# THE FUTURE OF WALKING & BIKING IN ALAMEDA—

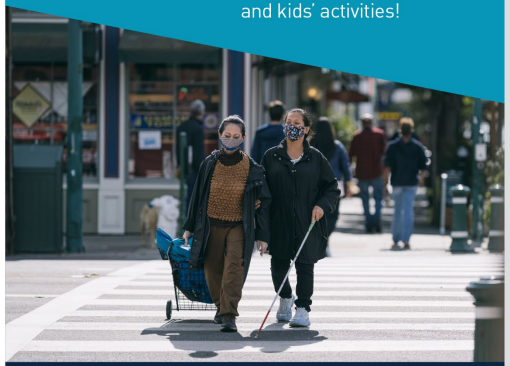
**WHAT DO YOU THINK?**

**IN-PERSON OPEN HOUSE**

**Sunday, Oct 16**
**1:30 to 3:30 pm**

Stafford Room, Alameda Main Library, 1550 Oak St

Stop by anytime! Snacks and kids' activities!



**VIRTUAL PUBLIC WORKSHOP**

**Wednesday, Oct 5**
**6:30 to 8:00 pm**

Via Zoom: info at **activealameda.org**

Presentation at 6:30, then questions/input.

**OTHER WAYS TO GIVE YOUR FEEDBACK:**

- **Comment from: Oct 3-23**
- Online survey
- Comments: **activealameda@alamedaca.gov** or 510-747-7442
- Virtual office hours: Oct 17, 12-1 pm, and Oct 18, 5-6 pm
- Alameda Farmers' Market tabling Oct 18
- Public comment at Boards and Commissions: Planning Board (Oct 10), Commission on Persons with Disabilities (Oct 12), Recreation & Parks Commission (Oct 13), Transportation Commission Special Meeting (Oct 20), and the Social Services and Human Relations Board (Oct 27)

**THE PLAN INCLUDES:**

- Pedestrian improvements
- Bicycle network for all ages and abilities
- New and upgraded bike/pedestrian estuary crossings
- Changes to Slow Streets, Park & Webster
- Priorities through 2030

**WWW.ACTIVEALAMEDA.ORG**

# AMP EV Rebates

**Used All-Electric Vehicle Rebate: Up to $3,000**

**Residential EV Charger Rebate: Up to $800**

**Multi-family Building EV Charger Rebate: Up to $48,000**

**Commercial EV Charger Rebate: Up to $33,000**

**www.alamedamp.com**



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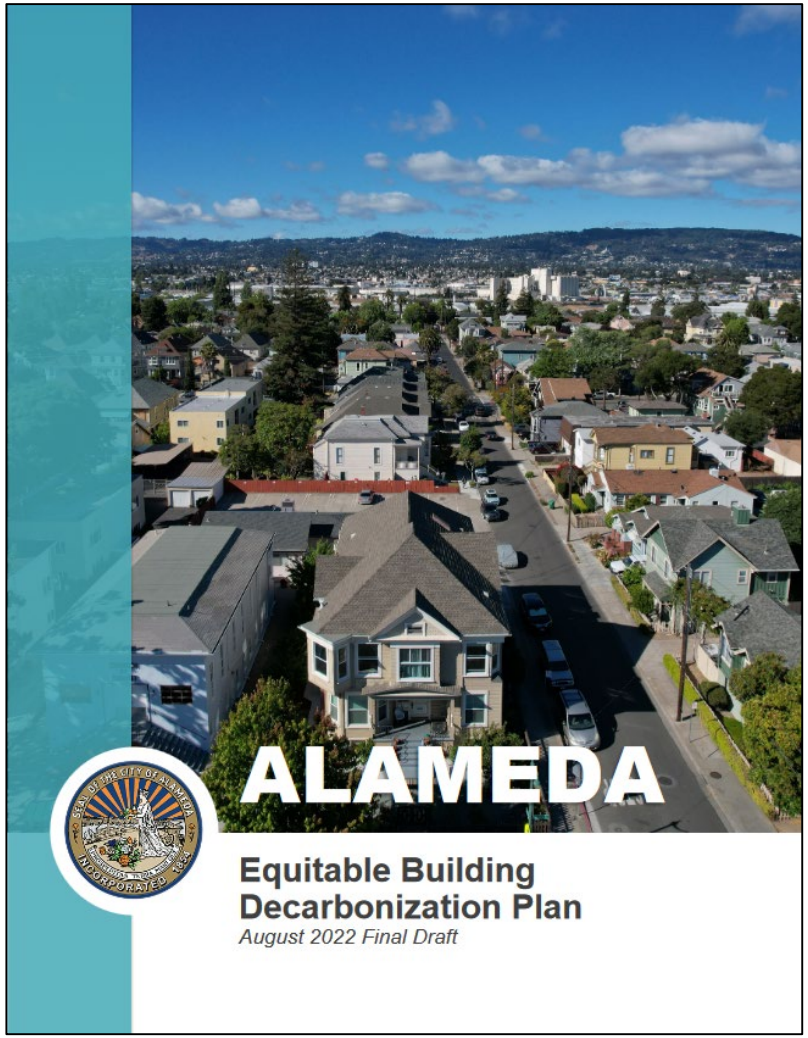
# Equitable Building Decarbonization Plan




- Process for shifting natural gas use in existing buildings toward clean, energy efficient all-electric buildings.
- Ensures decarbonization plans do not have a disproportionate effect on lower income and POC communities.
- Includes energy efficiency measures as well (i.e. insulation, air and duct sealing, dual pane windows).



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# 2022 was a big year for building decarb

- Inflation Reduction Act
- TECH Clean California
- CARB appliance rules



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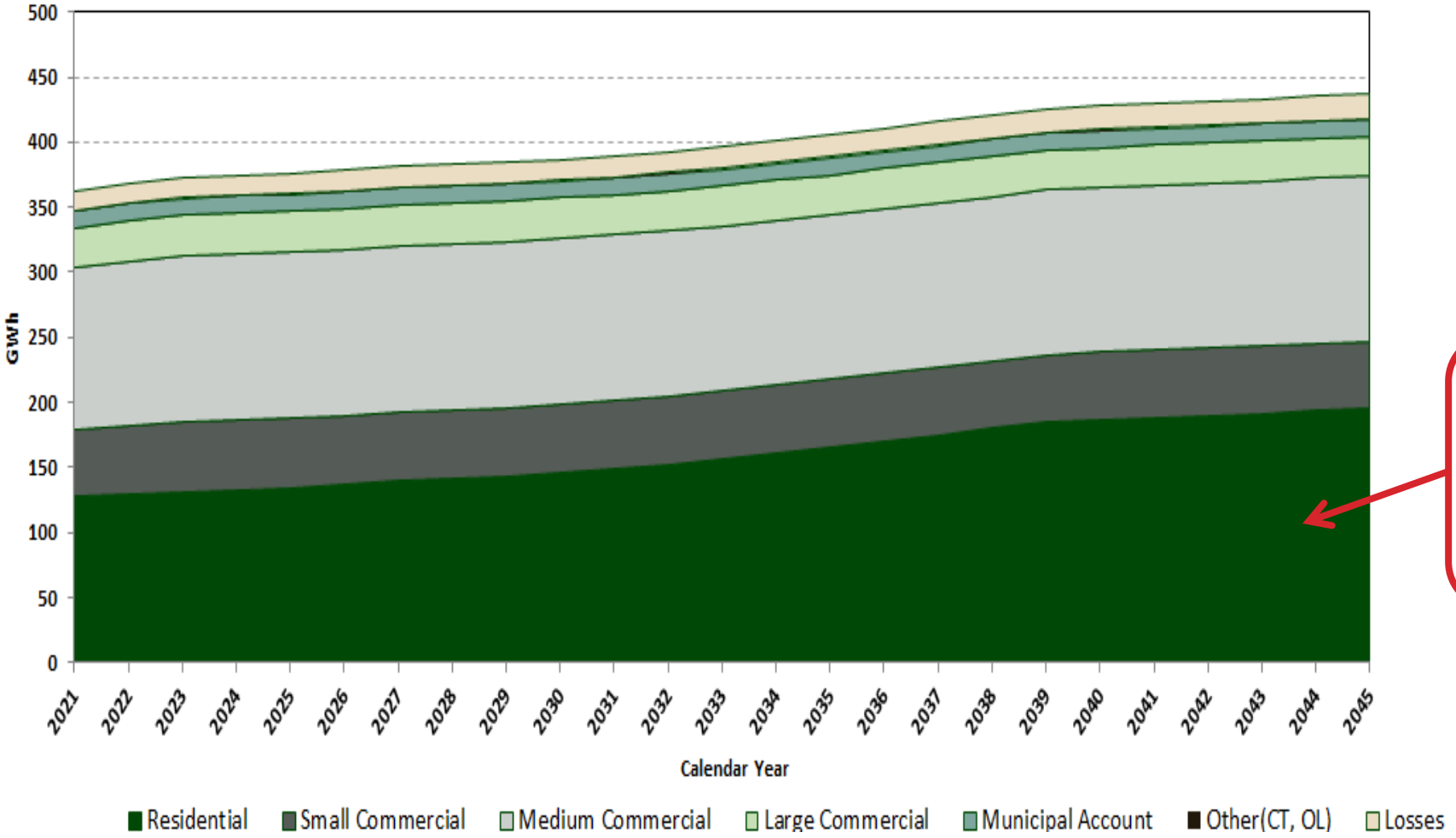
# Benefits of Electrifying

Greenhouse Gas Reduction

Safety & Resilience

Improved Health & Indoor Air Quality

# AMP is Prepared for Electrification




**Load Forecast by Customer Class**

The customer group that is predicted to have the largest load increase is **Residential**

ALAMEDA MUNICIPAL POWER
A Department of the City of Alameda

# Proposed 2022 Requirements

## All-electric New Construction and Substantial Alteration Ordinance

- All newly constructed buildings are required to be all-electric.
  - No natural gas or propane plumbing.
  - Electric appliances for space and water heating, clothes-drying, and cooking.
- When replacing or adding over 50% of the existing foundation for purposes other than a repair or reinforcement; or where over 50% of the existing building footprint is being remodeled, including unfinished spaces, a conversion to all-electric will be required.
  - If either of these criteria are met within a three-year period, the project shall be subject to the all-electric new construction requirements.
  - Tenant improvements are not considered new construction.
  - The Building Official makes final determination of whether a project meets the definition of substantial reconstruction/alteration



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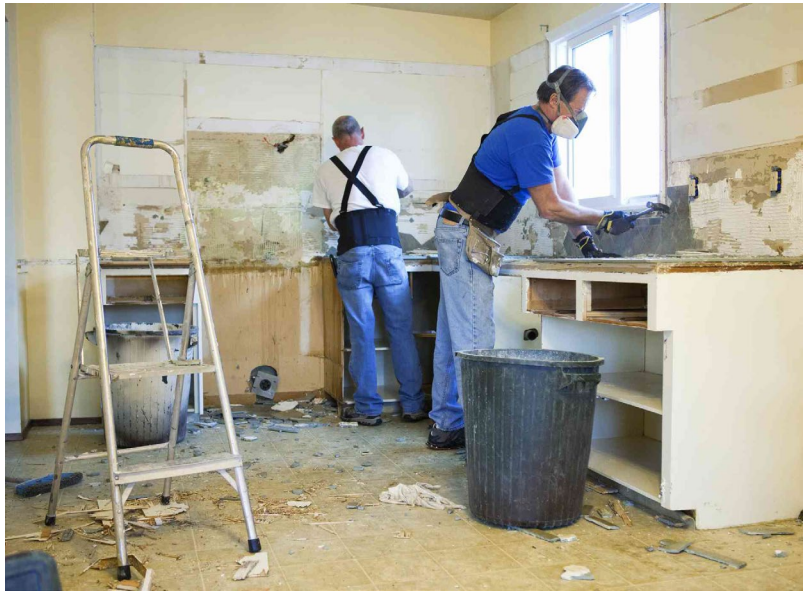
# Examples


**New Residential and Non Residential Construction**

**Remodeling or adding over 50% of Foundation or Framing**



**Tenant Improvements**



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# Exceptions*

- Commercial kitchen cooking appliances in nonresidential buildings.
- Space and water heating process equipment for laboratories, manufacturing, or R&D uses.
- Newly constructed buildings with a valid planning entitlement or development agreement approved before July 1st, 2021.
- Existing appliances that are not included in the scope of the qualifying alteration.
- If there is no all-electric prescriptive compliance pathway for the building, a modification may be granted.

***If natural gas heating appliances are used in any of the above exceptions, pre-wiring and physical space must be provided for future installation of electric heating appliances.**



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# Examples

**Commercial Cooking Appliances**

**Process Equipment for Research and Development, Laboratories, Manufacturing**

**Existing Appliances not in Scope of Alterations**



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# Changes from 2021 Ordinance

- Moved from Energy Code to CalGreen.
- Include substantial alterations and additions.
- Updated planning entitlement or development agreement exemption to those dated prior to July 1, 2021.
- Removed exemption for new detached ADUs.
- Updated electric-readiness requirement.
- Removed requirement to install a solar photovoltaic system, as the requirement is now included in the 2022 CBSC.



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# All-Electric Construction is Cost Effective

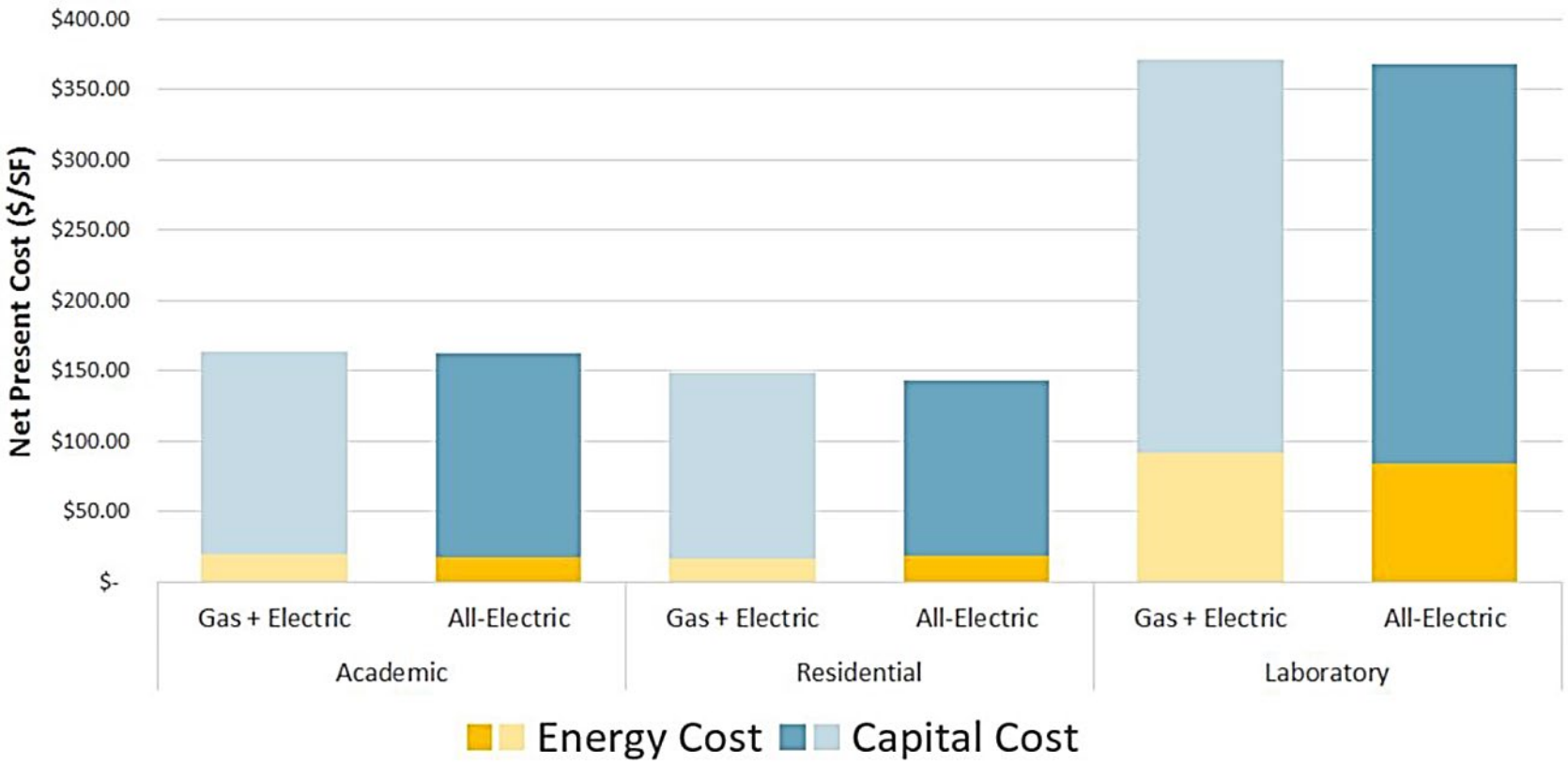


*Figure 1. UC Average Total Net Present Costs across All Campuses*

https://www.ucop.edu/sustainability/_files/Carbon%20Neutral%20New%20Building%20Cost%20Study%20FinalReport.pdf

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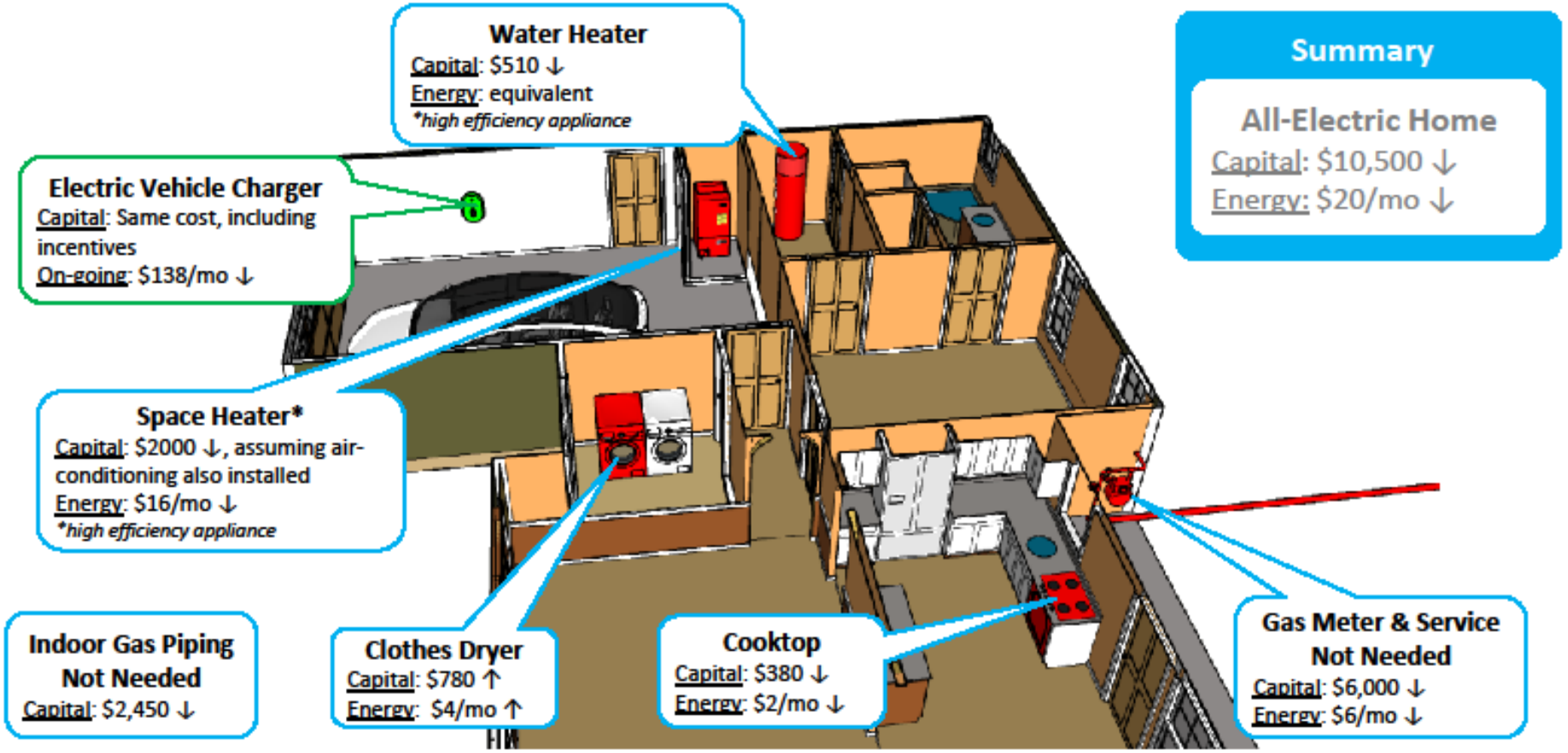
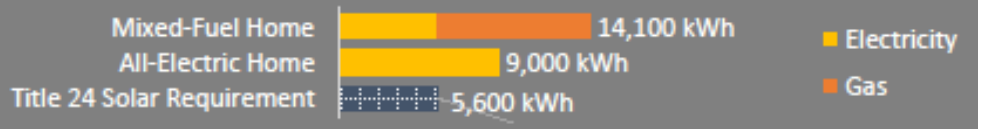
# Electrifying 2700 ft² New Single Family Home in Alameda – The Cost Story




## Capital Cost of Thermal Systems


## Annual Energy Use & Generation




**Immediately Cost Effective** for an all-electric home versus the mixed-fuel equivalent

**1.3 MT CO2e Carbon Emissions Savings** per home, per year based on current grid mix

Capital and energy costs of thermal systems are based on Residential Building Electrification in California by E3 (April 2019);
Electricity and gas fuel costs estimated for Alameda Municipal Power and PG&E, using incremental values for each thermal appliance from E3 study. Actual results will vary.
05/07/2021



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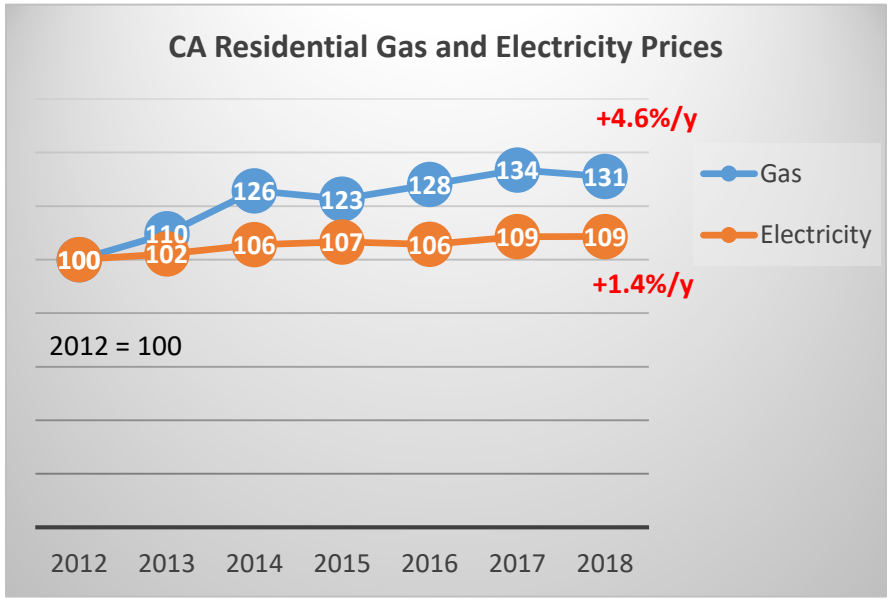
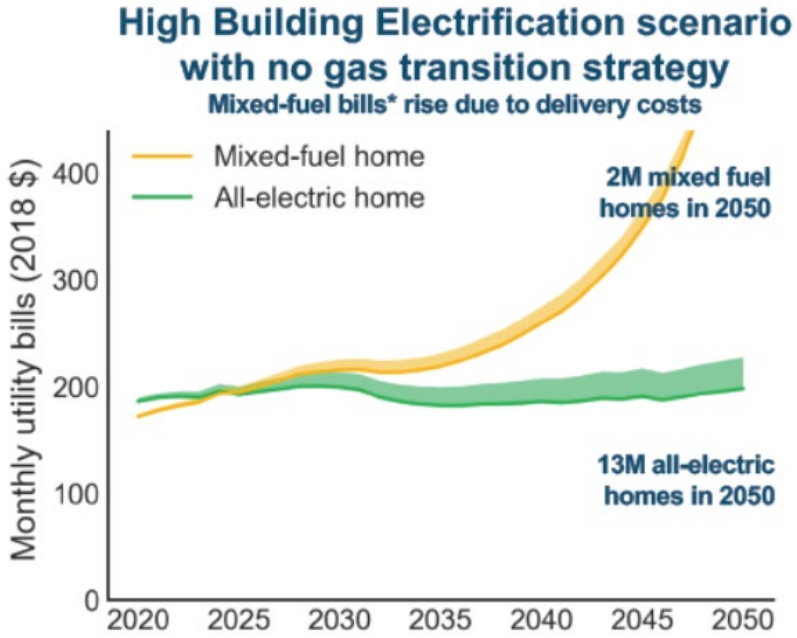
# Natural Gas Costs Climbing

CA residential natural gas prices increased 3x faster than electricity prices from 2012 to 2018




Source: EIA
https://www.eia.gov/dnav/ng/hist/n3010ca3m.htm
https://www.eia.gov/electricity/data/browser/#/topic/7?agg=2,0,1&geo=g&freq=M

Trend expected to accelerate:




CEC Workshop June 6, 2019: Draft Results from E3 study on the Future of Natural Gas Distribution in California

The AB3232 Report represents the most current CEC research supporting that *Aggressive Electrification* is the primary pathway to meeting GHG reduction targets.

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# Next Steps

**October 18th & 20th**

Public Workshops

**Nov 3rd**
Historical Advisory Board Public Workshop

**Nov 14th**
Planning Board Public Workshops

**Dec 6th**

(Tentative) Ordinance presented at City Council Meeting

**January 1st, 2023**

If approved, Ordinance goes into effect



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# Existing Rebates

| Provider | Appliance | Key features |
|---|---|---|
| AMP | Heat Pump Water Heater | **$1,500** rebate for Energy Start certified heat pump water heater; **$4,000** for central heat pump water heater on a commercial account |
| AMP | Central HVAC Heat Pump | **$1,500** rebate to switch gas central HVAC unit to electric heat pump HVAC |
| AMP | Electric Dryer | **$100** rebate per Energy Star unit |
| AMP | Electric Panel Upgrade | **$2,500** to upgrade to 200Amp panel and switch at least one appliance from gas to electric |
| BayREN | Insulation and Ductwork | **$100 - $1,000** rebate to seal air leaks, add insulation and repair ductwork to improve home's energy efficiency |
| BayREN BAMBE | Energy and Water Efficiency | Cash back and consulting for multi-family property owners |

# Existing Rebates (cont.)

| Provider | Appliance | Key features |
|---|---|---|
| AMP EAP+ | Energy Efficiency | Free direct-install energy efficient equipment and services for income qualified households. |
| Low Income Home Energy Assistance Program (LIHEAP) | Energy Efficiency | Bill payment assistance, energy crisis assistance, weatherization and energy-related home repairs for low income households |
| Weatherization Assistance Program (WAP) | Energy Efficiency | Support low-income households by increasing the energy efficiency of their homes |
| California Self-Generation Incentive Program (SGIP) | Heat Pump Water Heater | • **15-20%** rebate for battery storage systems (residential and commercial)<br>• Heat pump water heater incentive anticipated 2023 – up to **$4,885** for low-income customers and **$3,800** for other customers<br>• Additional **$1,500** for systems using “low global warming potential” refrigerants |

# Inflation Reduction Act Rebates

| Program | Key Features | When Available |
|---|---|---|
| HOMES Rebate<br>• Max rebate for <80% AMI | **$2,000 to $8,000** – capped at 50% project cost<br>Rebate based on percentage energy savings<br>Rebate is increased for measured energy savings | Expected mid-2023 |
| High-Efficiency Electric Home Rebate Program (HERA)<br>• Up to 100% of project cost for <80% AMI<br>• Up to 50% of project cost for 80% to 150% AMI | Up front rebates **(up to $14,000 total)**<br>• $1,750 – Heat pump water heater<br>• $8,000 – Heat pump HVAC<br>• $4,000 – Electric panel<br>• $840 – Electric stove, dryer<br>• $2,500 – Electric wiring<br>• $1,600 - Weatherization | Expected mid-2023 |
| Tax Credits | 30% on PV and battery storage (available now)<br>$600 – electric panel<br>$2,000 – Heat pump water heater<br>$1,200 - Weatherization | 2023 |

# Streamlined solar permitting is coming to Alameda!

- Launching new online streamlined solar permitting system.
- Permitting time will be reduced from a month or more to about an hour.
- Works in conjunction with online same day permitting for electrical service upgrades, heat pumps and EV chargers.

# Questions or Comments?


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