

**DOCKETED**

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Sunnyvale

# City of Sunnyvale

## Agenda Item-No Attachments (PDF)

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### REPORT TO COUNCIL

#### **SUBJECT**

Introduce an Ordinance Amending Chapters 16.42 (Energy Code) and 16.43 (Green Building) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code with Local Amendments to the 2022 California Energy and Green Building Standards Codes to add Reach Code Provisions for Existing Single Family Residential Remodels, Additions and Alterations, and Find that the Action is Exempt from the California Environmental Quality Act (CEQA) Pursuant to CEQA Guidelines Sections 15061, 15305 and 15308

#### **BACKGROUND**

The State Legislature passed Assembly Bill 130 (AB 130), a bill that includes a temporary halt to local jurisdiction amendments to State building codes for residential construction, with limited exceptions, including life and safety requirements. The restriction is in place between October 1, 2025, through June 30, 2031. Historically, the updated State codes are published every three years and can be amended by local jurisdictions, with findings related to local conditions, up to the new codes' effective date of December 31, the year in which it is published. However, pursuant to AB 130, the residential code amendments cannot occur on or after October 1, 2025, and the following six years, unless they relate to life and safety issues or fall into other narrow categories.

One of the exceptions to the restriction on local amendments in AB 130 applies to existing residential amendments to previous codes which can effectively 'roll over' to the new 2025 residential code as long as the previous amendments have not been substantially revised for this new code.

The proposed ordinance applies to the 2022 California Green Building Standards Code and the 2022 California Energy Code. The same amendments will then be included in the local amendments to the 2025 State residential building code, which would be permissible because they will be substantially consistent with previous changes.

#### **EXISTING POLICY**

##### **GENERAL PLAN**

###### **Chapter 2 - Community Vision**

###### **Environmental Justice**

**GOAL EJ-1:** Prioritize the needs of designated low-income communities within Sunnyvale that bear high pollution burden according to CalEnviroScreen 3.0, to ensure equitable outcomes.

**Policy EJ1.2:** Encourage the phasing out of non-conforming land uses from residential communities, especially for communities that are low-income and/or bear a high pollution burden, as identified in the Environmental Justice Analysis.

#### **Chapter 3 - Land Use and Transportation**

**GOAL LT-1:** Protect the quality of life, the natural environment, property investment, preserve home rule, secure fair share of funding, and provide leadership in the region.

**Policy LT-1.10:** Participate in federal, state, and regional programs and processes in order to protect the natural and human environment in Sunnyvale and the region.

**Policy LT-1.11:** Prepare for risks and hazardous related to climate change prior to their occurrence.

**GOAL LT-2:** Environmentally sustainable land use and transportation planning and development.

**Policy LT-2.1:** Enhance the public's health and welfare by promoting the City's environmental and economic health through sustainable practices for the design, construction, maintenance, operation, and deconstruction of buildings, including measures in the Climate Action Plan.

**Policy LT-2.2:** Reduce greenhouse gas emissions that affect climate and the environment through land use and transportation planning and development.

## **Environmental Management**

**GOAL EM-11:** Improved air quality.

**Policy EM-11.2:** Utilize land use strategies to reduce air quality impacts, including opportunities for citizens to live and work in close proximity.

## **CLIMATE ACTION PLAYBOOK AND GAME PLAN 2028**

### **Strategy 2: Decarbonizing Buildings**

- **Play 2.1** Reduce energy consumption in existing buildings
- **Play 2.2** Support electrification of existing buildings

## **ENVIRONMENTAL REVIEW**

The City Council finds, pursuant to Title 14 of the California Code of Regulations, Section 15308 (Class 8) Actions by Regulatory Agencies for Protection of the Environment and Section 15305 (Class 5) Minor Alterations in Land Use Limitations and Section 15061 of the CEQA Guidelines, that this ordinance is exempt from the requirements of CEQA because it can be seen with certainty that there is no possibility that the changes adopted will have a significant effect on the environment.

## **DISCUSSION**

The State Assembly proposed a bill, AB 306, to simplify the reconstruction efforts of residences affected by the wildfires in the Los Angeles area and streamline the process of home construction. The bill was incorporated into a trailer bill, AB 130, and chaptered on June 30, 2025. It includes a temporary pause on amending residential construction codes by local jurisdictions commencing October 1, 2025, through June 1, 2031.

Due to AB 130, local amendments to the 2025 edition of the residential codes are not permitted on or after October 1, 2025, unless the local amendments from previous code editions are 'rolled over' into the 2025 codes. To maintain the City's commitment to reducing greenhouse gases and increasing energy efficiency through electrification (Climate Action Playbook Plays 2.1 and 2.2) and considering that the prohibition of gas use in buildings is not feasible, this ordinance amends the 2022 edition to propose two approaches that direct the City toward these goals. This ordinance is proposed to be adopted by the City before the October 1, 2025, deadline to amend the California Energy Code and the California Green Building Standards to fall under the exception. The ordinance includes one

amendment to the California Energy Code which requires existing buildings to become “electric-ready” as work is done and one amendment to the California Green Building Standards which requires a heat-pump to be installed when air conditioning is being replaced.

Jurisdictional amendments to any building code must go beyond the requirements of the State’s published code and must include findings justifying the additional requirements. Reach Codes that amend energy efficiency methods, ultimately reducing greenhouse gases, may require a cost effectiveness study to demonstrate the amendment does not increase costs over an extended period of time to the building owner by installing electric and gas appliances as opposed to only gas appliances. A cost-effectiveness study verifying the California Green Building Standards amendment, which meets this standard, is published by the California Energy Codes and Standards Program and is located in Attachment 1.

Both amendments will provide a solid foundation and pathway for future greenhouse gas reductions and energy efficiency improvements. Residential natural gas use made up 13% of Sunnyvale’s 2023 greenhouse gas emissions. Emissions from heating, ventilation and air conditioning are estimated to be between 40% and 50% of residential building gas use. The air conditioner to heat pump ordinance directly supports Climate Action Playbook Play 2.2 and satisfies goals of Move 2.G. The “electric-ready” ordinance supports Play 2.2 and prepares Sunnyvale homes for compliance with Bay Area Air District’s Rules 9-4 and 9-6, which limit the sale of natural gas-fueled building appliances.

Due to the restrictions on amendments to residential construction code per AB 130, the proposed 2022 code (and eventual adoption of the 2025 code) will be enforced over the next six years. Over the next six years, advances in equipment efficiencies and methods of greenhouse gas reduction can be expected. These amendments will prepare the City to take advantage of advances in science and technology to further the City’s goals in the future.

### ***AIR CONDITIONER TO HEAT PUMP AIR CONDITIONER***

#### ***Revisions to the 2022 California Green Building Standards***

The proposed amendment to the 2022 California Green Building Standards requires a residential building owner, excluding multi-family, to install a heat-pump air conditioner upon replacement of an existing air conditioner per the published, more progressive guidelines in Section A4.204.1.1 of the California Green Building Standards Code (referenced in Section 16.43.070 Energy Efficiency of the proposed ordinance). Although the replacement does not change the fuel type, it increases energy efficiency and results in the reduction of greenhouse gases. If the installation cannot meet this requirement (as outlined in the ordinance), there are two other installation options that achieve the same results for energy efficiency and reduction of greenhouse gases.

- The simplest way, as stated above, would be to install a heat pump (an air conditioner that is also configured to function as a space heater). This could be done either by replacing the furnace with a heat pump system or leaving the furnace in place to serve as the air handler for the heat pump, and as a back-up heating system. California Energy Code requirements would apply; these vary depending upon whether the duct system is replaced at the same time.
- Alternatively, a project could comply by installing a heat pump air conditioner but relying on a gas furnace for space heating. Again, certain California Energy Code requirements would apply when replacing an air conditioner. In addition, this alternative would require other energy efficiency measures.

The cost for installing a heat-pump air conditioner and heater combined with the existing gas furnace as a backup resource averages \$15,000 to \$25,000, while a heat pump air conditioner combined with a heat pump furnace averages \$13,000 to \$18,000. Cost savings over 30 years for a heat-pump air conditioner with a heat pump heater is about \$922. Greenhouse gas reduction is estimated to be better than it is now.

Attachment 3, Table 1 presents compliance requirements for heat pump systems under the two scenarios, one using the existing ducts, the other with new ducts. Attachment 3, Table 2 presents compliance requirements for systems that still use furnaces as the primary heating source, under the same duct scenarios.

### **Exceptions**

The proposed ordinance offers two general exceptions. The first is for situations where the electrical panel capacity is insufficient to meet the load of a heat pump. The second is where the heat pump would need to be sized more than 12,000 Btu/hr (1 ton) over the air conditioner that would be installed in order to meet the heating load. There are also exceptions to the duct sealing and airflow requirements that specify alternative methods of compliance. All applicable exceptions in the California Energy Code apply.

### **Impacts**

There are some incremental costs associated with converting to a heat pump, but these costs are partially offset by utility bill savings over the lifetime of the equipment. Attachment 5 details the costs and savings for both approaches. From a societal perspective, the incremental costs are more than offset by the savings that accrue to all utility billpayers (e.g., reductions in utility infrastructure costs). The incremental cost, that is the amount over what would otherwise be needed to just replace the air conditioner and comply with the 2025 California Energy Code, depends on whether the furnace is replaced at the same time as the air conditioner. The lifetime of a furnace and air conditioner are about the same, 30 years, so it often makes economic sense to replace both if the furnace is near the end of its life. In this scenario, the cost of the furnace replacement is assumed as part of the base project cost. Alternatively, a heat pump could be configured to operate as the primary heating source using the air handler in the existing furnace and using the furnace for supplemental heating on very cold days.

In terms of greenhouse gas emissions, heat pumps can provide significant reductions over the life of the appliance. This is because heat pumps are far more efficient than gas furnaces (and electric resistance heat), and electricity in California is derived from low-carbon energy sources. Attachment 4 shows greenhouse gas reductions for both approaches. The table shows greenhouse gas reductions in metric tons (for the first year) and as a percentage of total emissions for homes of different ages (vintages), the oldest, pre-1978, pre-date the California Energy Code. The values were generated for typical homes in Sunnyvale's Climate Zone (4) using the California Building Energy Code Compliance software (CBECC).

### **Electric-Readiness Upgrades**

### **Revisions to the 2022 California Energy Code**

The upcoming 2025 California Energy Code requires the construction of new mixed-fuel single-family

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buildings to include “electric-ready” components. “Electric-ready” refers to the presence of electric outlets near natural gas appliances, such as clothes dryers, cooktops, gas-fueled furnaces, or gas-fueled water heaters. This requirement includes reserved and labeled breakers in the electrical panel for a future electric appliance. However, the 2022 construction code does not require electric-ready components for renovations, remodels, and additions for all of these appliances. Staff proposes a reach code requiring the installation of electric-ready components when electrical permitted work is performed around existing gas equipment. Opportunities to prepare homes for future electric appliances when installing new gas equipment include:

**Gas Cooking Range**

- Install a 125-volt 20-amp receptacle
- Pathway for a 240-volt 50-amp circuit for a future electric cooktop

**Gas Clothes Dryer**

- Install a 125-volt 20-amp receptacle
- Pathway for a 240-volt 30-amp circuit for a future electric clothes dryer

**Water Heating**

- Install a 125-volt 20-amp receptacle
- Pathway for a 240-volt 30-amp circuit for a future heat pump water heater
- Pathway for a condensate drain
- Physical space reserved for a future heat pump water heater (2.5' x 2.5x 7')

**Space Heating**

- Physical space reserved for a future heat pump space heater

**Gas Line Extensions for Outdoor Gas Appliances**

- Install conduit
- Reserve breaker space for future electric appliance
- Physical space for future electric appliance

**Electrical Power Upgrades (The purpose of this requirement is to educate contractors and the industry on ways to minimize panel upgrades when electrifying equipment)**

- Demonstrate upgrades to the electrical power infrastructure are required by documenting:
  - Calculations in accordance with California Electrical Code Article 220.83 demonstrate that future loads exceed the current electrical power infrastructure.
  - If the data are available, calculations in accordance with California Electrical Code Article 220.87 demonstrate that future loads exceed the current electrical power infrastructure
- Calculations above must include at least one of the following:
  - One power management or circuit controlling device
  - One 120-volt electric-only clothes dryer, water heater, or range
  - Circuit control between the whole home load and either a Level 2 EV charging receptacle or a Low Power Level 2 EV charging receptacle

**Exceptions**

1. Repairs and safety improvements
2. An electrical permit is not otherwise required for the project other than compliance with this section.
3. Panel capacity is not required to exceed the existing utility electrical service to the building to

meet the requirements of this section.

4. Mobile homes, manufactured housing, factory-built housing
5. Emergency housing
6. ADU conversions pursuant to Government Code 66323

## **Impacts**

Because the California Energy Commission does not review electric readiness requirements, as they are not efficiency measures, the electric readiness measures do not need to demonstrate cost-effectiveness. However, below are cost estimates for typical electric infrastructure costs to demonstrate typical incremental costs:

- Reserving breaker space: \$0-\$50
- Running a new dedicated circuit: Up to \$1,000 per circuit
- Adding conduit: Up to \$1,000

The above costs are low compared to the typical kitchen remodel cost of \$40,000 and approximately \$100,000 for major additions and alterations. Intervening at this point provides an opportunity to save money in the future by incorporating electrical infrastructure when construction is already underway and some demolition is taking place.

## **FISCAL IMPACT**

None to the City.

## **PUBLIC CONTACT**

Public contact was made by posting the Council meeting agenda on the City's official notice bulletin board at City Hall, at the Sunnyvale Public Library, and in the Department of Public Safety Lobby. In addition, the agenda and this report are available at the City Hall reception desk located on the first floor of City Hall at 456 W. Olive Avenue (during regular business hours), and on the City's website.

An Update Sunnyvale article was published on July 25, 2025. Neighborhood Associations and the Bay Area Building Industry Association were sent email notices of proposed changes. Given the timing imposed by AB 130, staff was unable to complete more extensive outreach to communicate the potential impacts to the community.

## **ALTERNATIVES**

1. Introduce an Ordinance (Attachment 2 to this report) amending Chapters 16.42 (Energy Code) and 16.43 (Green Building) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code with local amendments to the 2022 California Energy and Green Building Standards Codes requiring single family residential additions, remodels, and alterations to install electrical infrastructure addressing energy efficiency and readiness for a future all-electric residence and new heat pump air conditioning, resulting in greenhouse gas emissions reductions and increased energy efficiency.
2. Alternative 1 with modifications.
3. Take no action.

## **STAFF RECOMMENDATION**

Introduce an Ordinance (Attachment 2 to this report) amending Chapters 16.42 (Energy Code) and 16.43 (Green Building) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code with

Local Amendments to the 2022 California Energy and Green Building Standards Codes requiring single family residential additions, remodels, and alterations to install electrical infrastructure addressing energy efficiency and readiness for a future all-electric residence and new heat pump air conditioning, resulting in greenhouse gas emissions reductions and increased energy efficiency.

With the passage of AB 130, the State has restricted local jurisdictions from adopting local amendments to the State building codes on or after October 1, 2025, which may apply to some reach code provisions if they don't fall under other exceptions. Given the recent enactment of this statute, with a multitude of provisions that have yet to be conclusively interpreted by State authorities and courts, staff is recommending the proposed ordinance to provide an additional basis to support the City's authority to implement these provisions over the next six years. With the proposed schedule, the ordinance could be adopted at the next Council meeting of August 26, 2025, and effective by September 25, 2025, a few days before the October 1 deadline established by AB 130. Since the State of California will soon restrict amendments to the residential construction codes, furthering the goal of reducing greenhouse gas emissions and increasing energy efficiency through the adoption of this ordinance is time sensitive.

### **LEVINE ACT**

The Levine Act (Gov. Code Section 84308) prohibits city officials from participating in certain decisions regarding licenses, permits, and other entitlements for use if the official has received a campaign contribution of more than \$500 from a party, participant, or agent of a party or participant in the previous 12 months. The Levine Act is intended to prevent financial influence on decisions that affect specific, identifiable persons or participants. For more information see the Fair Political Practices Commission website: [www.fppc.ca.gov/learn/pay-to-play-limits-and-prohibitions.html](http://www.fppc.ca.gov/learn/pay-to-play-limits-and-prohibitions.html)

An "X" in the checklist below indicates that the action being considered falls under a Levine Act category or exemption:

#### **SUBJECT TO THE LEVINE ACT**

- Land development entitlements
- Other permit, license, or entitlement for use
- Contract or franchise

#### **EXEMPT FROM THE LEVINE ACT**

- Competitively bid contract\*
- Labor or personal employment contract
- Contract under \$50,000 or non-fiscal
- Contract between public agencies
- General policy and legislative actions

\* "Competitively bid" means a contract that must be awarded to the lowest responsive and responsible bidder.

Prepared by: Suzanne Park, Chief Building Official

Reviewed by: Trudi Ryan, Director, Community Development

Reviewed by: Madeline Khair, Environmental Programs Manager

Reviewed by: Ramana Chinnakotla, Director, Environmental Services

Reviewed by: Connie Verceles, Deputy City Manager  
Approved by: Tim Kirby, City Manager

**ATTACHMENTS**

1. Single Family Retrofits Cost Effectiveness Report
2. Draft Ordinance
3. Summary of Compliance Requirements
4. Greenhouse Gas Reductions by Vintage of Home
5. Cost Effectiveness Results