



**TOWN OF LOS GATOS
COUNCIL AGENDA REPORT**

MEETING DATE: 06/07/2022

ITEM NO: 24

DATE: June 2, 2022
TO: Mayor and Town Council
FROM: Laurel Prevetti, Town Manager
SUBJECT: Discuss and Provide Direction on Proposed Electrification Reach Codes for the 2022 Green Building Standards Code.

RECOMMENDATION:

Discuss and provide direction on proposed electrification reach codes for the 2022 Green Building Standards Code.

BACKGROUND:

With the climate and environmental sustainability concerns at the forefront, many jurisdictions are looking to opportunities to reduce greenhouse gas emissions, focus growth in places with infrastructure, and protect communities from wildfire. The Town of Los Gatos demonstrated leadership in sustainability when the Town Council approved an ordinance in November 2019, requiring all new single-family residential buildings, accessory dwelling units (ADUs), and low-rise multi-family buildings to comply with all electric construction, and increased requirements for electric vehicle (EV) charging infrastructure and energy storage systems (ESS) infrastructure. In addition, Silicon Valley Clean Energy (SVCE) is providing 100% carbon-free electricity and is supporting the elimination of the use of fuel gas, which can greatly reduce greenhouse gas emissions from the building sector.

In alignment with the above, staff is exploring additional modifications to the California Green Buildings Standards Code (also known as CALGreen), and this report provides recommended language for additional reach codes for the 2022 California Building Standards Code cycle. The Council is being asked to provide specific direction to allow staff to complete the required work prior to the fall hearing on the Code adoption. Staff from SVCE will be at the Council meeting to provide a brief overview and assist with answering questions.

PREPARED BY: Robert Gray
Chief Building Official

Reviewed by: Town Manager, Assistant Town Manager, Town Attorney, and Finance Director

SUBJECT: Discuss and Provide Direction on Proposed Electrification Reach Codes for 2022 Green Building Standards Code.

DATE: June 2, 2022

BACKGROUND (continued):

A Statewide cost effectiveness study, funded by the California investor-owned utilities (IOUs), and the California Statewide Codes and Standards Program (Statewide Program), led to the development of cost-effectiveness studies for Energy Code reach codes that examined different performance-based approaches for new construction of specific building types. Staff have worked closely with SVCE consultants to determine what options may or may not be cost-effective for the building types that are prevalent in Los Gatos. SVCE have also provided consultant support to assist cities in understanding the Statewide Cost-Effectiveness Study results and adopting reach codes.

DISCUSSION:

Reach Code Adoption Process

Every three years, the State of California adopts new building standards that are organized in Title 24 of the California Code of Regulations, referred to as the California Building Standards Code. The 2019 Code became effective on January 1, 2020, and the 2022 Code will become effective on January 1, 2023. Cities and counties can adopt reach codes that set conditions above the minimum State Code requirements. These augmented reach codes must then be filed and approved by the California Building Standards Commission.

In the 2019 Building Standards Code adoption, reach codes took many forms from multiple jurisdictions. Below are the most common reach code types adopted for building appliance electrification, and EV Charging.

Building Appliance Electrification Options and Staff Recommendation

Building appliance electrification options in California can generally be broken into three categories:

- All-Electric Municipal Ordinance: Several cities, including the cities of Berkeley, Morgan Hill, San Francisco, and San Jose, have adopted All-Electric Municipal Ordinances (also referred to as gas prohibitions or no gas hookup allowed), that are more aggressive than the All-Electric and Electric-Preferred model reach codes. These ordinances eliminate the installation of gas infrastructure at the property with limited exceptions, and thus guarantee significant decreases in greenhouse gas emissions. This is not tied to the Building Code and can be adopted without the need of being re-adopted with every Code cycle.
- All-Electric Required Building Code Amendment: The All-Electric Required model requires specific end-users to install electric appliances, including space heating, water heating, clothes-drying, and cooking, with limited exceptions. This must be re-adopted with every Code cycle.

SUBJECT: Discuss and Provide Direction on Proposed Electrification Reach Codes for 2022 Green Building Standards Code.

DATE: June 2, 2022

DISCUSSION (continued):

- All-Electric Preferred Building Code Amendment: The All-Electric Preferred approach encourages electrification by giving builders two options: (1) Achieving a higher energy efficiency level than the Energy Code using mixed fuels (fuel gas and electricity), or (2) building an all-electric building at the minimum efficiency as required in the Energy Code. Must be submitted to the California Energy Commission (CEC) and re-adopted with every Code cycle.

The All-Electric Preferred model is NOT recommended by SVCE because the California Energy Code is already an electric-preferred model. There are limited incremental greenhouse gas emissions reductions that can be attained by pursuing this model, compared to the All-Electric Municipal Ordinance or All-Electric Required Building Code Amendment.

The staff recommended reach code for Newly Constructed Buildings is the All-Electric Required Building Code Amendment, which requires all newly constructed residential and non-residential buildings to be built all-electric. Buildings will have no fuel gas infrastructure installed, and electricity will be the sole source of energy for all space heating, water heating (including pools and spas), cooking, clothes drying appliances, and other features both interior and exterior.

Exceptions include:

- Commercial cooking equipment
- Industrial processes
- If there is not an all-electric prescriptive pathway for a building under the state Energy Code, and the building is unable to achieve the Energy Code's performance compliance pathway using commercially available technology and an approved calculation method, then the Building Official may grant a modification.

Buildings that invoke these exceptions would be required to prepare the location of fuel gas appliances for future electrification, to reduce future retrofit costs.

Electric Vehicle Charging and Infrastructure Reach Code Options and Recommendations:

Residents are showing a significant interest in electric vehicles. The number of registered plug-in vehicles in San Mateo, Santa Clara, and Alameda counties increased 30% from October 2018 to January 2020. In that same time frame, the total number of registered vehicles in these counties shrank by 0.2%.

It is widely known that availability of EV charging infrastructure is a critical component to EV adoption. Meanwhile, it is significantly more expensive to install charging infrastructure as a retrofit than it is during new construction. As such, ensuring that newly constructed residential and non-residential parking has ample EV charging capability will reduce long-term retrofit

SUBJECT: Discuss and Provide Direction on Proposed Electrification Reach Codes for 2022 Green Building Standards Code.

DATE: June 2, 2022

DISCUSSION (continued):

costs of EV infrastructure installation, while helping to increase EV adoption and decrease transportation-related greenhouse gas emissions.

EV charging consists of the type of EV charging infrastructure along with the type of EV charging capacity. These two items combined make up the EV Charging reach code types. EV charging infrastructure requirements in California can generally be broken into three categories:

- EV Charging Station: All supply equipment is installed at a parking space, such that an EV can charge without additional equipment.
- EV Ready: Parking space is provided with all power supply and associated outlet, such that driver-provided supply equipment can be plugged in, and a vehicle can charge.
- EV Capable: Conduit is installed to the parking space and building electrical panel and transformers have reserved capacity to serve future load. An electrician would be required to complete the circuit and/or increase the gauge of upstream wiring before charging is possible.

EV charging capacity industry wide is broken into three categories:

- Level 1: Capable of charging at 110/120V, 16A. This is equivalent to a standard home outlet.
- Level 2: Installation of a 208/240V, 40A circuit or 208/240V, 20A circuit for low power. This is the service capacity typically used for larger appliance loads in homes.
- Level 3 (DC Fast Charging): Capable of charging at 20-400kW. This is the type of charger used for Tesla Superchargers and DC Fast Chargers at some parking lots and public locations.

The 2022 CALGreen increased requirements for electric vehicle charging infrastructure in new construction; including:

- New one- and two-family dwellings and townhouses with attached private garages must be Level 2 EV-capable.
- Multi-family dwellings:
 - 10% of parking spaces must be Level 2 EV Capable.
 - 25% must be Low Power Level 2 EV Ready; and
 - 5% must be Level 2 EV Charging Stations.
- Non-residential:
 - 15% of parking spaces must be Level 2 EV Capable; and
 - 5% must have Level 2 EV Charging Stations.

While California's new minimum requirements are a step forward, it is unlikely that the requirements for multi-family dwellings and non-residential buildings are enough to keep pace with expected EV growth.

SUBJECT: Discuss and Provide Direction on Proposed Electrification Reach Codes for 2022 Green Building Standards Code.

DATE: June 2, 2022

DISCUSSION (continued):

The staff recommended reach code for EV Charging and Infrastructure is as follows:

Residential

- Single-Family Dwelling:
 - 2 Level 2 EV ready-to-use plugs per garage.
- Multi-Family Dwelling:
 - 40% of units with parking spaces, Level 2 EV Charging Stations; and
 - 60% of units with parking spaces, Level 1 EV Ready.
- Multi-Family Dwelling, entirely affordable housing:
 - 15% of units with parking spaces, Level 2 EV Charging Stations
 - 25% of units with parking spaces, Low Power Level 2 EV Ready; and
 - 60% of units with parking spaces, Level 1 EV Ready.

Non-Residential, Office

- 20% of the parking spaces, Level 2 EV Charging Stations installed; and
- 30% of the parking spaces, Level 2 EV Capable.

Non-Residential, Non-Office

- 10% of the parking spaces, Level 2 EV Charging Stations installed; and
- 10% of the parking spaces, Level 2 EV Capable.

Definition of New Construction and Qualifying Alteration Projects.

Staff recommends the following definition for new construction and qualifying alteration projects. This proposed definition provides consistency between the Building Code definition of new construction and the Zoning Code definition of demolition within the Town.

All newly constructed buildings shall be all-electric buildings. Alterations that include replacement of over 50 percent of the existing foundation for purposes other than a repair or reinforcement; or where over 50 percent of the existing framing above the sill plate is removed or replaced for purposes other than repair, shall be all-electric buildings. If either of these criteria are met within a three-year period, measured from the date of the most recent previously obtained permit final date, the project shall be subject to the all-electric building's requirements.

Tenant improvements shall not be considered new construction. The final determination whether a project meets the definition of substantial reconstruction/alteration shall be made by the local enforcing agency.

CONCLUSION:

Staff recommends the Council review reach code options and staff's recommendations for Building Appliance Electrification Reach Codes, EV Infrastructure and Charging Reach Codes,

PAGE 6 OF 6

SUBJECT: Discuss and Provide Direction on Proposed Electrification Reach Codes for 2022
Green Building Standards Code.

DATE: June 2, 2022

CONCLUSION (continued):

and Definition of New Construction and Qualifying Alteration. Staff looks forward to Council's discussion and direction.

COORDINATION:

This report was drafted in collaboration with SVCE and the Town Manager's Office.

FISCAL IMPACT:

None.

ENVIRONMENTAL ASSESSMENT:

This is not a project defined under CEQA, and no further action is required.