

**BUSINESS OF THE PLANNING COMMISSION
OF THE CITY OF HALF MOON BAY**

AGENDA REPORT

For meeting of: June 14, 2022

TO: Honorable Chair and Planning Commissioners

FROM: Jill Ekas, Community Development Director
 Veronika Vostinak, Sustainability Analyst

TITLE: **STUDY SESSION - BUILDING ELECTRIFICATION ORDINANCE AND ELECTRIC
VEHICLE AND PHOTOVOLTAIC SYSTEM REACH CODES FOR 2019 ENERGY CODE**

RECOMMENDATION

Hold a study session on Half Moon Bay’s recently adopted Building Electrification Ordinance and the Electric Vehicle and Photovoltaic System Reach Code (EV/PV Reach Code).

BACKGROUND

California continues to lead the fight against climate change. The effort to fight climate change is delegated to State agencies, regional planning/transportation agencies, and local governments like Half Moon Bay and San Mateo County.

The State legislature and Governor(s) have created legislation, rules, and executive orders to create a framework for ambitious statewide greenhouse gas (GHG) reductions. The following is a list of some of the more prominent guiding policy documents:

- Senate Bill 32 (SB 32) - established the goal of reducing GHG emissions 40% below 1990 levels by 2030
- Executive Order (EO) B-55-18 - established the goal of achieving carbon neutrality by 2045 at the latest and maintaining net negative emissions from that point forward
- Senate Bill 100 (SB 100) - requires a 100% clean electric grid by 2045

The City is currently in the process of preparing its first Climate Action and Adaptation Plan (CAAP). This plan will provide an inventory of emissions, estimates of future unmitigated emissions, and policies/implementation measures to reduce GHG into the future. Notably, as of 2017, energy and transportation represent the greatest amount of GHG emissions in Half Moon Bay. Approximately 49% of all GHG emissions are from energy (80% of these emissions from Natural Gas/Propane use in buildings) and 44% of all GHG emissions are from transportation. The City is in the process of updating its GHG emission inventory and should have an updated inventory categorizing 2019 emissions later this summer. The Planning Commission held a study session on the Climate Action and Adaptation Plan in January 2021 as that effort was getting underway.

In 2016, San Mateo County and all 20 of its cities and towns voted unanimously to form Peninsula Clean Energy (PCE), a community-controlled, not-for-profit, joint powers agency. The formation of PCE has provided the City with a cheaper and convenient way to move away from fossil fuel powered electricity. As of January 2021, PCE is able to provide GHG-free energy to all customers through wind, solar, geothermal, and hydropower sources. PCE's ability to provide clean energy to all customers has led many jurisdictions within their service area to adopt measures to increase energy efficiency and reduce reliance on natural gas and other fossil fuels, such as via "reach" codes.¹ With this cleaner electricity generation, the replacement of natural gas and propane appliances with electric alternatives has the potential to significantly reduce building energy related GHG emissions.

After extensive public outreach and participation, the City Council adopted the EV/PV Reach Code on December 21, 2021 and the Building Electrification Ordinance on February 15, 2022. The Building Electrification Ordinance became effective on March 17, 2022. The EV/PV Reach Code must receive California Energy Commission (CEC) approval before it can become effective. At the time of this staff report, the CEC has not yet provided a date where the Ordinance may be considered for approval. The provisions of the EV/PV Reach Code will be included within the updated 2022 Building Code to be adopted in late 2022.

DISCUSSION

The Planning Commission routinely reviews projects that will be affected by the new Building Electrification Ordinance and the EV/PV Reach code. The purpose of this study session is to present a detailed overview of these new provisions and provide applicable examples to illustrate how the provisions will need to be met within various types of projects. A summary of each ordinance follows:

Building Electrification Ordinance

Effective March 17, 2022

The Building Electrification Ordinance requires most new construction to be electric only and phases out Fuel Gas in existing development. The provisions vary in some cases for residential and non-residential development and have different effective dates. A narrow range of special exceptions are also established; with the ultimate goal of the ordinance being to cap and/or decommission all Fuel Gas lines within the city limits by 2045. The ordinance is provided as Attachment 1.

An overview of the Building Electrification Ordinance provisions and summary Table follow:

1. **New Construction.** To acknowledge "in-process" applications, the City Council established a grace period and determined that the all-electric new construction requirements would commence for building permits issued starting January 1, 2023. However, for projects where building permits are issued between March 17, 2022 and December 31, 2022 which

¹ A reach code is a local building energy code that "reaches" beyond the state minimum requirements for energy use in building design and construction, creating opportunities for local governments to lead the way on clean air, climate solutions, and the renewable energy economy.

include Fuel Gas, the projects must pre-wire for electric appliances in any location where gas appliances are installed.

- a. Building Permits Issued between March 17, 2022 – December 31, 2022. All building types may continue to be built mixed-fuel, but any mixed-fuel building must be pre-wired for electric appliances anywhere a gas appliance is installed.
 - b. Building Permits Issued On or After January 1, 2023. All-building types must be built all-electric.
2. Existing Development. No Conversion of Existing All Electric Residential Buildings to Mixed-Fuel. At this time, any currently all-electric *residential* building may not add a gas line or install gas appliances. This provision does not apply to existing *non-residential* or *mixed-use* development until January 1, 2045.
3. Termination of Gas Service. No later than January 1, 2045, all gas connections to buildings must be capped and/or decommissioned.
4. Exemptions. To provide some flexibility for building types that may have difficulty electrifying, the Ordinance includes exceptions in the following cases. All exemptions expire January 1, 2045.
- a. Attached Accessory Dwelling Units (ADUs): Any new ADU that is attached to or wholly within an existing mixed-fuel building may install gas appliances, but must also prewire for electric appliances. (Detached ADUs follow same requirements as new construction.)
 - b. Commercial Greenhouses
 - c. Wastewater Treatment Facilities
 - d. Generators
5. Out of Scope. The Ordinance does not regulate Fuel Gas in the following scenarios:
- a. Mobile/Manufactured Homes (regulated by State Code). These homes are regulated by State Code and not impacted by local ordinances.
 - b. Small, Portable Propane Tanks. The Ordinance does not apply to small, portable propane tanks such as those that may be used for outdoor grills/firepits.
 - c. Remodels. Mixed-Fuel buildings may undergo renovations or remodels without restrictions under the Building Electrification Ordinance. However, staff is educating building owners and contractors on the Ordinance and is recommending that remodels that involve gas appliances take the opportunity to Electrically Pre-Wire in preparation for the Termination of Gas Service in 2045.
 - d. Replacement of Gas Appliances. Individual gas appliance replacements are not impacted by the Ordinance.

Summary of Electrification Ordinance Provisions

Category/Title	Description	Effective Date	Code Reference
<u>New Development – “Grace Period:”</u> Requirement for All-Electric Newly Constructed Buildings	All newly constructed buildings may be built as Mixed-Fuel but must Electrically Pre-Wire for electric appliances in any location a gas appliance is installed	Building permits issued between March 17, 2022 – December 31, 2022	14.06.030 (Exception 1)
<u>New Development:</u> Requirement for All-Electric Newly Constructed Buildings	All newly constructed buildings must be built using all-electric design	Building permits issued on or after January 1, 2023	14.06.030
<u>Existing Residential Development:</u> Conversion to Mixed-Fuel Buildings Prohibited	No existing All-Electric Residential Buildings may be converted to a Mixed-Fuel Building	30 days after Ordinance adoption	14.06.040(A)
<u>Existing Non-Residential Development:</u> Conversion to Mixed-Fuel Buildings Prohibited	No existing All-Electric Non-residential buildings may be converted to a Mixed-Fuel Building	January 1, 2045	14.06.040(B)
<u>Exemptions:</u>			
• Commercial Greenhouses	Commercial Greenhouses are exempt from provisions until January 1, 2045.	<u>Expires</u> January 1, 2045	14.06.060(A)
• Wastewater Treatment Facilities	Wastewater Treatment Facilities are exempt from Ordinance until 2045.	<u>Expires</u> January 1, 2045	14.06.060(B)
• Generators	Fuel Gas-powered generators are exempt from Ordinance until 2045	<u>Expires</u> January 1, 2045	14.06.060(C)
• Portable Propane Use Outside of Building Envelope	Portable propane appliances outside of building envelope are exempt from Ordinance.	N/A	14.06.090(D)
Termination of Gas Services	All gas lines must be capped and/or decommissioned by January 1, 2045	January 1, 2045	14.06.050

EV/PV Reach Code

Effective Pending CEC Approval

The EV/PV Reach Code requires:

- New single-family, duplexes, triplexes, and accessory dwelling units (ADUs) to pre-wire for the installation of back-up battery storage
- Expanded Photovoltaic (PV) System installation requirements for Non-Residential Buildings beyond the 2019 building code requirements
- Expanded electric vehicle (EV) charging requirements for Residential New Construction beyond the 2019 building code requirements

Each of these provisions are outlined in more detail below. The ordinance is provided in Attachment 2.

Pre-Wire for Back-Up Battery Storage in New Residential Buildings

The current energy code requires PV installation on new construction of single-family and multi-family homes up to three stories high, based on square footage. The proposed amendment would require that any new single-family, duplexes, triplexes and accessory dwelling units also pre-wire for stationary battery back-up storage.

These back-up batteries allow for clean self-generation, storage, and resiliency during planned and unplanned power outages. Pre-wiring for these systems at the time of construction is most cost-effective and provides freedom for the current or future homeowner to decide if they would like to install a battery depending on their specific needs.

PV Installation in Non-Residential Buildings

Unlike residential buildings, the current building code does not require PV systems for new non-residential buildings. The Ordinance requires that new non-residential buildings install a solar PV system equivalent in size to 15 percent of the roof area, and new hotels/motels new non-residential buildings install a solar PV system equivalent in size to 5 percent of the roof area.

Expanding the PV requirements to include non-residential buildings would provide greater local GHG free energy. Installing PV systems at the time of construction is likely to decrease the overall costs compared to retrofit, as well as energy cost savings derived monthly.

Expanded EV Charging Requirements for Residential Buildings

The State of California has established the goal to require all new cars and passenger trucks sold in California be zero emission by 2035. The EV charging infrastructure needs will greatly increase as more individuals switch to EVs. Access to charging infrastructure is one of the main barriers, behind price, preventing individuals from purchasing an EV. A market research survey conducted by PCE in 2020, found that 36% of those surveyed did not have access to a convenient charging location near their home, work, or school.

The current Building Code includes requirements to install EV charging capability, though these requirements are unlikely to keep pace with expected growth in EV ownership and use looking

towards 2030. The Ordinance’s provisions for residential buildings are similar to those suggested by PCE and Silicon Valley Clean Energy to remain consistent with other municipalities throughout San Mateo and Santa Clara Counties. Suggestions for non-residential buildings have not been included due to the unique needs and space challenges of non-residential buildings in Half Moon Bay, particularly in the downtown area where most building sites are relatively small. The provisions compared to the current building code are outlined in the table below.

Building Type	Current Building Code	Proposed Changes	Exceptions
Single-Family, Duplex, Townhome with dedicated garage, ADUs with dedicated space	(1) Level 2 EV Capable for one parking space per dwelling unit*	(1) Level 2 EV Ready circuit per dwelling unit; and (1) Level 1 EV Ready circuit per dwelling unit**	ADUs without a dedicated parking spot when there is no panel upgrade
Multi-family <20 units	(1) Level 2 EV capable for 10% of parking spaces*	(1) Level 2 EV Ready circuit per dwelling unit**	N/A
Multi-family >20 units	(1) Level 2 EV capable for 10% of parking spaces*	(1) Level 2 EV Ready circuit for first 20 dwellings, then: 25% Level 2 EV Ready & 75% Level 1 EV Ready **	Affordable Housing (After first 20 dwellings): 10% Level 2 EV Ready & 90% Level 1 EV Ready**

*EV Capable requires the installation of a circuit and raceway to prepare for a future EV parking spot.

** EV Ready requires the installation of a junction or 240-volt outlet for an EV parking spot.

Requirements to install new EV infrastructure in new residential buildings at the time of construction is an opportunity to expand EV access as an increasing number of consumers continue to shift away from gas-powered vehicles. 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 areas have ample EV charging readiness will reduce long-term costs of EV infrastructure installation, while helping to increase EV ownership and decrease transportation-related greenhouse gas emissions. The proposed amendments are more in-line with local EV market trends, while providing flexibility for the builder and keeping construction costs as low as possible.

Summary

At the Study Session, staff will present an overview of the ordinances and examples. There will be ample time for public comment and to answer the Commissioner questions.

ATTACHMENTS

1. Building Electrification Ordinance (C-2022-02)
2. Electric Vehicle/Photovoltaic Reach Code (C-2021-05)