



CITY OF MILPITAS AGENDA REPORT (AR)

Item Title:	Introduce Ordinance No. 65.153 Adopting by Reference the 2022 California Energy Code, Introduce Ordinance No. 65.154 Adopting by Reference the 2022 California Green Building Standards Code with Amendments, and Set a Public Hearing on December 6, 2022 for Adoption of the Ordinances (Staff Contact: Bill Tott, Building Official, 408-586-3263)
Category:	Community Development
Meeting Date:	10/18/2022
	<u>Recommendation:</u> (1) Following the City Attorney’s reading of the title, move to waive the first reading beyond the title and introduce Ordinance No. 65.153 amending Chapter 11 of Title II of the Milpitas Municipal Code adopting by reference the 2022 California Energy Code; (2) Following the City Attorney’s reading of the title, move to waive the first reading beyond the title and introduce Ordinance No. 65.154 amending Chapter 19 of Title II of the Milpitas Municipal Code adopting by reference the 2022 California Green Building Standards Code with amendments; and (3) Set a public hearing on December 6, 2022, pursuant to California Government Code Section 50022.3, for adoption of the ordinances.

EXECUTIVE SUMMARY:

Staff recommends adopting the 2022 California Energy Code and the 2022 California Green Building Standards Code pertaining to all-electric requirement for newly constructed buildings, and electric vehicle (EV) charging for new residential and non-residential construction. These local amendments, referred to as reach codes, would exceed the requirements in the 2022 state codes to more effectively combat climate change and meet established state targets for reducing greenhouse gas emissions (GHG). The proposed reach codes for Milpitas were largely based on the model code amendment initiated by Silicon Valley Clean Energy with adjustments incorporated as a result of outreach and stakeholder input from the Milpitas community. Adopting the proposed reach codes will help reduce GHG emissions for new construction, improve indoor air quality and the safety of our building stock, support affordable housing, and stimulate the use of electric vehicles in the Milpitas community. Adopting reach codes for all-electric new construction and increased EV charging station standards align with Milpitas Climate Action Plan initiatives BE-2.1.1 and TR-2.1.2 for electrification and EV charging.

In order to make amendments to the California Building Standards Code, of which the Green Building Standards Code (CalGreen) is a part of, the City must make express findings that the amendments and modifications are reasonably necessary because of local climatic, geological or topographical conditions. These findings are contained in the proposed ordinance.

This report provides an overview of 1) the reach code adoption process; 2) proposed Milpitas reach code amendments to the 2022 Green Building Standards Code (CALGreen) for the triennial code adoption cycle; 3) benefits of the reach code amendments; 4) regional reach code focus and local engagement efforts; 5) benefits to low-income communities

BACKGROUND:

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. This regular update is referred to as a “code cycle.” The last code cycle was adopted in 2019 and was effective on January 1, 2020. The next code cycle will be adopted in 2022 and will be effective January 1, 2023. Cities and counties have the authority to adopt local amendments (reach codes) that require new development projects to exceed minim

requirements in the California Energy Code and California Green Building Standards Code (also known as CALGreen).

The City of Milpitas has demonstrated leadership in sustainability, especially over the past ten years in which the City installed solar photovoltaic panels at four City facilities including the Sports Center and more recently in conjunction with shade structures in parking areas adjacent to the Senior Center; and installed 12 EV charging stations for fleet vehicles at City Hall. Milpitas also adopted its first Climate Action Plan (CAP) for reducing greenhouse gas emissions (GHG), initially through 2020 which has now been updated to 2040. In 2018 Milpitas also launched a community scale carbon-free electricity endeavor through participation in the Silicon Valley Clean Energy (SVCE) program to provide decarbonized electricity sourced from providers of solar photovoltaic, wind, and hydro generated power.

Through the SVCE community choice energy provider of carbon-free electricity (with opt-up to 100% renewable electricity), almost 100% of Milpitas resident and businesses now enjoy receiving carbon-free electricity and millions in savings in on-bill charges while significantly reducing GHG emissions. Even though these savings and reductions in GHG emissions represent significant actions, more needs to be done to minimize climate change and meet State established GHG reduction targets.

The State target was set by Governor Brown's Executive Order EO B-55-18, signed on September 10, 2018, which establishes the goal for the state to be carbon neutral as soon as possible, and no later than 2045.

Based on the City's Climate Action Plan and State goals to reduce GHG emissions, all-electric requirements for new buildings and electrification retrofits will be necessary and ultimately required for renovation of existing buildings constructed under current standards. Addressing electrification now in new buildings avoids hardships for tenants and retrofit costs for building owners in the future and acknowledges the GHG impacts under current construction practices, especially when considering the benefits of building and transportation electrification when paired with carbon-free electricity that is provided by SVCE.

The City of Milpitas is participating in the Silicon Valley Clean Energy reach code grant offering, which will provide \$10,000 to the City for presenting reach codes to the City Council for consideration. Please see Attachment C for the SVCE Letter of Interest for the \$10,000 grant.

ANALYSIS:

A. Energy Code

Given that the 2022 proposed Milpitas reach codes are not considered as "energy efficiency" code requirements as they do not include energy conservation such as photovoltaics (PV), or energy storage and are for all-electric for newly constructed buildings and not electric readiness, the proposed Milpitas reach codes will only be referencing the Green Building Standards Code (CalGreen).

For purposes of energy efficiency standards, the California Energy Commission (CEC) will continue to adopt those standards for the Energy Code, whereas in the CalGreen code under Residential and Nonresidential Mandatory Measures, Divisions 4.1 and 5.1 for Planning and Design, measures such as all-electric requirements can reside in these sections as all-electric requirements for newly constructed buildings are not considered energy efficiency requirements.

Similarly, EV charging requirements have resided in CalGreen since the advent of this code for the same reason. In other words, EV charging infrastructure requirements are also not considered as energy efficiency requirements.

The upcoming 2022 California Energy Code has greatly enhanced the standards for new construction electrical readiness for heat pumps, cooktops, and clothes dryers. energy storage, and solar photovoltaic (PV) infrastructure, including base line requirements for the use of heat pumps. These new standards mirror the main electric readiness requirements of the Milpitas 2019 reach codes, providing a high level of continuity as these electric readiness standards perpetuate.

The proposed reach code is largely based on the model code amendment developed by Silicon Valley Clean Energy, which has been vetted through considerable research and public review. Staff also incorporated adjustments in the proposed model reach code as a result of stakeholder input from the Milpitas community. The proposed reach codes for Milpitas provide pathways / options that offer a balanced approach to new residential and non-residential construction.

B. Green Building Standards Code (CALGreen)

It is widely known that availability of electric vehicle (EV) charging infrastructure is a critical component to EV adoption. Retrofitting existing buildings with EV charging infrastructure is significantly more expensive than it is during new construction.

EV reach codes will ensure that newly constructed buildings have ample EV charging capability to reduce long term costs of EV infrastructure installation while helping to increase EV adoption and decrease transportation related GHG emissions which account for approximately 50% of total GHG emissions.

The proposed reach code amendments will provide a higher percentage of charging infrastructure in new construction through a combination of Level 1 and Level 2 circuits with varying readiness. Please see Attachment B for the code amendment language.

A summary of the proposed reach code amendments to the Green Building Standards Code is included below:

Section 202

Definitions added such as for Automatic Load Management (ALMS) and All-Electric Building

Section 4.106.4 through 4.106.4.3 through 5.106.5.3.3

Increases EV charging infrastructure requirements for single family, duplex, townhouse, and multi-family occupancies

Add Section 4.106.5 and 4.106.5.1 to Site Development.

Provides the requirement for all-electric new residential construction

Add Section 5.106.5.3 through 5.106.5.3.3

Increases EV charging infrastructure requirements for new office and other non-residential buildings

Add Section 5.106.5.3.5

Provides clean air vehicle parking designation for EVCS as designated parking

Add Section 5.106.13 and Section 5.106.13.1 to Site Development.

Provides for all-electric new nonresidential construction

Costs/Benefits of Proposed Amendments

A. Statewide Cost-Effectiveness Study

Funded by California Investor-Owned Utilities (IOUs) such as Pacific Gas and Electric (PG&E), the California Statewide Codes and Standards Program (Statewide Program) and Energy Solutions completed cost-effectiveness studies for new residential and non-residential construction, for use in the current building code cycle. The proposed Milpitas reach codes are based on data in these studies, specific to Climate Zone 4, for cost effectiveness. For EV infrastructure go to [Electric Vehicle Infrastructure Cost](#)

[Analysis](#). For new residential and non-residential all-electric cost-effectiveness studies go to; [Low-rise Residential](#), [Mid-rise Residential](#), [High-rise Residential](#), [Non-Residential](#).

B. Project Feasibility

While the environmental benefits of reach codes for all-electric and EV charging have been well-documented, there have been concerns expressed by the development community on the financial impact on project feasibility due to increased construction costs associated with reach codes.

According to the cost-effectiveness studies noted in the previous section, all-electric buildings offer savings on “first” construction costs for all building types when compared to mixed fuel buildings in all 16 California climate zones. Similarly, the cost-effectiveness studies for EV charging infrastructure show that “first” construction costs compared to the cost to retrofit buildings for EV infrastructure are significantly less and do not impact or inconvenience residents.

C. Building Electrification

Given that building emissions of GHG account for approximately 35-40% of total GHG emissions, and transportation accounts for 50% of all GHG, the need for all-electric standards for new construction and enhanced EV charging infrastructure is compelling. Elimination of natural gas usage through the use of all-electric standards for new construction would greatly reduce greenhouse gas emissions at an accelerated rate through the adoption of the reach codes

Other benefits of all-electric standards include on-bill savings for Milpitas SVCE customers, cleaner, healthier indoor air quality, and greater safety due to the elimination of toxic and potentially lethal products of gas combustion such as carbon monoxide. For these reasons, there is considerable interest in promoting higher levels of all-electric new construction.

SVCE has taken the lead in Santa Clara County for researching and developing prototype standards for reach codes. Staff have worked closely with SVCE and its consultants to interpret and apply the 2022 cost-effectiveness studies for all-electric residential and nonresidential new construction to the Milpitas reach code.

Staff have also worked with SVCE and the Statewide Program’s team to establish new construction EV requirements which are more in-line with local EV adoption trends, while providing flexibility for the developer and keeping construction costs as low as possible.

Note that while construction costs will be incurred, there are numerous utility, state and federal incentive programs available to offset or reduce “first” costs for all-electric standards and EV charging infrastructure. One such program is P.G.& E’s Electric Infrastructure Rule 29. Under this rule, P.G.& E. will pay for and coordinate the design and deployment of electric service extensions from P.G.&E. electrical distribution line facilities to the service delivery point for separately metered EV charging stations.

Local residents are showing a significant interest in electric vehicles. According to the Bay Area Air Quality Management 2022 *Climate!* Program, at the end of 2021, there were more than 266,000 EVs registered to Bay Area drivers.

Recent data compiled through surveys of potential electric vehicle customers and other sources indicates that the availability of EV charging infrastructure is a critical component to EV adoption. It is significantly more expensive to install charging infrastructure as a retrofit than during new construction. As such, ensuring that newly constructed residential and non-residential parking has ample EV charging capability will reduce long-term costs of EV infrastructure installation, while helping to increase EV adoption and decrease transportation-related greenhouse gas emissions.

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

looking towards 2030. The Statewide Program's team reviewed approaches to increase the amount of EV infrastructure in new construction, while keeping construction costs as low as possible.

E. Low-Income Communities

A recent study by U.S. Environmental Protection Agency (EPA) scientists shows that low-income communities are disproportionately affected by air pollution. It is imperative that clean fuel options such as electricity produced using solar, wind and hydro power are incorporated into Milpitas' low-income housing community to promote reduction of indoor and outdoor air pollution.

EV charging requirements have been perceived by some to be incongruent with low-income housing needs, however, recent studies suggest otherwise. EVs and hybrids are becoming more affordable and their fuel costs are considerably lower than fossil fuel powered vehicles.

There are many incentives available for California buyers such as;

The Clean Vehicle Rebate Program, which provides rebates from \$1,000 to \$7,000 for the purchase or lease of new zero-emission vehicles (ZEV). These can include electric, plugin-hybrid electric and fuel cell vehicles. Since 2010, the program has issued more than 450,000 rebates totaling more than \$1 billion, which accounts for nearly 43 percent of light-duty ZEVs sold in the state, say officials.

The Clean Vehicle Assistance Program provides low-interest loans, vehicle purchase grants and vehicle charging incentives for income-qualified car owners. More than 80 percent of participants have a household income at or below federal poverty level.

Another program, which is led by California's Air Resources Board (CARB), is the Clean Cars 4 All, which provides vouchers to income-qualified participants to be used toward the purchase or lease of a new or used ZEV or hybrid in exchange for scrapping an older gas-burning car. The program also has incentives for transit passes and micromobility.

The California Clean Fuel Reward Program is a time-of-sale program, also funded by CARB, and administered by Southern California Edison. This program can be included in the financing, which makes it very easy for dealers to apply, and gives immediate gratification to the customer.

The Clean Fuel Reward Program was initially offered as an instant "on-the-hood" rebate. By the end of 2021 nearly 200,000 customers had received this rebate, and 21 percent of the customers were in underserved communities, and 72 percent of customers replaced an internal combustion engine vehicle.

For these reasons, accelerating the rate of EV charging access infrastructure through the proposed Milpitas reach codes is just as relevant if not more critical to low-income below market rate housing as market-based or commercial projects.

Reach Code Efforts in Other Jurisdictions

Current regional reach code efforts are focused on new residential and non-residential construction and electric vehicle infrastructure (EVCI), to incentivize or require the following:

- All-electric buildings for new construction
- Mixed fuel (e.g. natural gas and electric) buildings, including electrification readiness
- Additional EVCI requirements for all building types to further prepare for current and future anticipated electric vehicle (EV) uptake.

According to the CEC, over 55 Bay Area cities and Counties have adopted or are considering reach codes, with a focus on requiring all-electric requirements for new buildings and EV charging infrastructure for implementation in the 2022 building code cycle. Bay area jurisdictions include the following:

- 8 in Alameda County
- 24 in San Mateo County

- 16 in Santa Clara County
- 7 in Sonoma County

Milpitas Public Outreach

A. Comments at Community Meetings

Staff conducted a series of outreach and engagement meetings with stakeholders and community members on the proposed reach codes. These include the August 15 Community Development Roundtable initial discussion, September 14 Stakeholder Workshop, and presentation to the Energy and Environmental Sustainability Commission on October 19.

The feedback from the outreach meetings was supportive, and Milpitas residents acknowledged the growing climate change crisis and applauded the City's reach code efforts.

B. Other Stakeholder Comments

Pacific Gas and Electric (PG&E) has repeatedly stated its commitment to helping communities achieve their energy goals and efforts to promote efficient and cost-effective electrification in new construction.

Effective Date of Code Amendments

The Green Building Standards Code (CalGreen) amendments pertaining to all-electric requirements for new residential and non-residential building construction and EV charging infrastructure, if adopted by the City Council on December 6, 2022, would then be filed with the California Building Standards Commission (BSC) for ministerial review and documentation. Once the letter of acknowledgement and approval is received, the reach code amendments would then become effective on January 1, 2023.

POLICY ALTERNATIVE(S):

Alternative 1: Adopt the 2022 California Green Building Standards Code as written without local amendments (reach codes).

Pros: No additional work is needed. The section for amendments would be removed from the Ordinance.

Cons: Without reach codes, it would be increasingly difficult to achieve some of the established goals in the Milpitas Climate Action Plan. Also, the opportunity to join with other local jurisdictions in the efforts to accelerate code requirements to achieve the state mandated goals for greenhouse gas emission reductions by 2020, 2030, and 2045, would be a lost opportunity. Instituting all-electric for new construction and electric vehicle charging requirements with this code cycle will have lasting impacts as buildings constructed under this code cycle will have significant carbon reductions for the 30-40 year life span of the buildings. An added benefit to enacting the reach codes now is the avoidance of the higher costs to retrofit buildings later, and the inconvenience to tenants.

Reason for Not Recommending: This alternative is not recommended because of the loss of opportunity to increase the City's efforts toward achieving a higher, earlier use of renewable energy, the reduction of GHG emissions, and achieving Milpitas Climate Action Plan milestones.

FISCAL IMPACT:

There is no cost to the City other than administrative staff time and expense.

California Environmental Quality Act (CEQA):

The action being considered has no potential for causing a significant effect on the environment and is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15061(b)(3).

RECOMMENDATION:

(1) Following the City Attorney's reading of the title, move to waive the first reading beyond the title and introduce Ordinance No. 65.153 amending Chapter 11 of Title II of the Milpitas Municipal Code adopting by reference the 2022 California Energy Code; (2) Following the City Attorney's reading of the title, move to waive the first reading beyond the title and introduce Ordinance No. 65.154 amending Chapter 19 of Title II of the Milpitas Municipal Code adopting by reference the 2022 California Green Building Standards Code with amendments; and (3) Set a public hearing on December 6, 2022, pursuant to California Government Code Section 50022.3, for adoption of the ordinances.

Attachment(s):

- A. Ordinance No. 65.153 – adopting by reference the 2022 California Energy Code
- B. Ordinance No. 65.154 – adopting by reference the 2022 California Green Building Standards Code with amendments
- C. SVCE Letter of Interest for the \$10,000 grant