

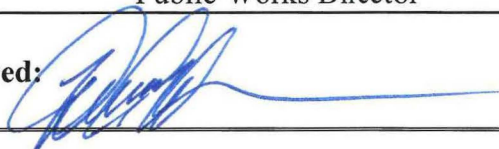
DOCKETED

Docket Number:	19-BSTD-06
Project Title:	Local Ordinances Exceeding the 2019 Energy Code
TN #:	235919-2
Document Title:	City of Millbrae 2019 Staff Report
Description:	Plain text of the City of Millbrae 2019 Staff Report
Filer:	Danuta Drozdowicz
Organization:	California Energy Commission
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Docketed Date:	12/11/2020

**CITY COUNCIL
AGENDA REPORT**



**CITY OF MILLBRAE
621 Magnolia Avenue
Millbrae, CA 94030**

SUBJECT: Public Hearing to Adopt Amendments to the Energy Code of the Millbrae Municipal Code for Title 24, California Code of Regulations, Part 6 Energy Code and Part 11 Green Building Code to Adopt Local Reach Codes to Reduce Greenhouse Gas Emissions ATTACHMENTS: 1. Ordinance 2. Ordinance with Track Changes 3. Bay Area Exceptions Chart	Report No. 6561
	Agenda Item: 9
	For Agenda of: November 10, 2020
	Department: Public Works
	Originator: Khee Lim Public Works Director
Approved: 	
Budget Action: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Finance Review: N/A	

REPORT TYPE: <input checked="" type="checkbox"/> ACTION <input type="checkbox"/> INFORMATIONAL
ITEM TYPE: <input type="checkbox"/> CONSENT <input checked="" type="checkbox"/> PUBLIC HEARING <input type="checkbox"/> EXISTING BUSINESS <input type="checkbox"/> NEW BUSINESS

RECOMMENDATION:

Staff recommends that the City Council first convene the public hearing to take public comments, waive the second reading, and adopt an ordinance to adopt amendments to the Energy Code of the Millbrae Municipal Code for Title 24, California Code of Regulations, Part 6 Energy Code and Part 11 Green Building Code to adopt local Reach Codes to reduce greenhouse gas emissions.

BACKGROUND:

At the October 27, 2020 City Council meeting, staff presented a report for the first reading of an ordinance to adopt amendments to the Energy Code and Green Building Code to adopt local Reach Codes to reduce greenhouse gas emissions. The Reach Codes go beyond the Energy Code and CalGreen Building Code to include building electrification, solar installation, and electric vehicle (EV) charging station infrastructure for new developments.

Utilizing Peninsula Clean Energy's (PCE) model Reach Codes and adapted codes from other jurisdictions, staff developed Reach Codes based on input from the City Council Infrastructure Subcommittee that met on September 17, 2020. At the October 27, 2020 City Council meeting, City Council members amended one change to the building electrification section and one change to the electric vehicle section.

The Reach Codes are measures included in the City's adopted Climate Action Plan (CAP), which will enable the City to reduce greenhouse gas (GHG) emissions by 3,111 metric tons of carbon dioxide equivalent. This will help the City towards meeting the CAP GHG emissions reduction target of reducing community-wide GHG emissions by 49% by 2030 from the base year of 2005. While the Reach Codes apply only to new building developments, the CAP contains a variety of measures to reduce GHG

emissions from existing buildings that complement the Reach Codes.

During the public comment period, all commenters spoke in favor of Reach Codes, with a few recommendations for amendments.

ANALYSIS:

Local governments are required by law to adopt new changes to the California Building Standards Code every three years (known as code cycles) proposed by the State. During this cycle, or independently of it, optional local building code amendments, such as known as Reach Codes, can be adopted that exceed State code standards to meet local environmental goals. The next code cycle will take effect January 1, 2022. During the next code cycle, the City will have the opportunity to adopt new Reach Codes to exceed those proposed by the State.

The following outlines the revised and final proposed Ordinance requirements for building electrification and solar installation.

Proposed Building Electrification Requirements

- New single-family homes and low-rise multifamily buildings are required to use electric for space heating, water heating, and clothes dryers. It provides an exception for the use of natural gas for indoor and outdoor non-electric cooking appliances and fireplaces.
- New high-rise residential are required to be built all-electric for space heating, water heating, cooking appliances, fireplaces and clothes dryers.
- New non-residential buildings are required to be built all-electric for space heating, water heating, cooking appliances, fireplaces and clothes dryers. It provides an exception for the use of natural gas cooking appliances for restaurants and food services. Per City Council direction at the October 27, 2020 meeting, the appeal process was amended to delete it from the final Ordinance.
- All new buildings must be built to be electric-ready if they are allowed to use natural gas appliances through an exception.

Proposed Solar Installation Requirements

For solar systems for high density residential and non-residential, including hotel/motel buildings, the proposed Ordinance requires:

- A solar photovoltaic system equivalent in size to 50 percent of the roof area, excluding any skylight area, to be installed on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project.

Table 1 below outlines the building and solar installation requirements and exceptions.

Table 1: Proposed Energy Code Amendments – Building Electrification & Solar Photovoltaic (PV) Systems

Building Type	Proposed Energy Code Amendments for New Construction	Exceptions*
Single Family and Accessory Dwelling Units	<ul style="list-style-type: none"> All electric building required for space heating, water heating, and clothes dryers. 	<ul style="list-style-type: none"> Natural gas can still be used for stoves, fireplaces or other appliances if desired. Prewiring for electric appliances is required where natural gas appliances are used.
Low-density Residential (three stories or less multifamily)	<ul style="list-style-type: none"> All electric building required for space heating, water heating, and clothes dryers. 	<ul style="list-style-type: none"> Natural gas can still be used for stoves, fireplaces or other appliances if desired. Projects that have received entitlements within 1 year prior to the ordinance effective date can install gas water heating. Prewiring for electric appliances is required where natural gas appliances are used.
High-density Residential (high-rise multifamily buildings – four stories and greater)	<ul style="list-style-type: none"> All electric building required that uses electricity as the source of energy for all appliances, including but not limited to space heating, water heating, cooking appliances, fireplaces and clothes dryers. <p><u>Solar:</u></p> <ul style="list-style-type: none"> Install on-site solar equivalent in size to 50 percent of the roof area on the roof or overhang, or another structure located within 250 feet, or on covered parking within the project. 	<ul style="list-style-type: none"> Projects that have received entitlements within 1 year prior to the ordinance effective date can install gas water heating. <p><u>Solar:</u></p> <ul style="list-style-type: none"> A modification may be granted if demonstrated that the required percentage of PV installation will over-generate the annual kWh required to operate the proposed building. The PV system size may be reduced in size to the maximum that can be accommodated by the effective annual solar access due to shading from existing permanent natural or manmade barriers external to the building, including trees, hills, and adjacent structures. The effective annual solar access must be 70 percent or greater of the output of an unshaded PV array on an annual basis. No PV system is required if the effective annual solar access is restricted to less than 200 contiguous square feet. If the applicant demonstrates that conditions exist where excessive shading occurs, a performance equivalency approved by the Building Official may be used as an alternative. If there is a vegetative roof which meets all relevant code requirements including considerations for wind, fire, and structural loads, the solar photovoltaic system may be reduced in size that 50% of the roof is covered in either photovoltaics or vegetative roof.

Table 1 continued on page 4.

***Additional Exception for All Building Types:**

If the applicant establishes that there is not an all-electric prescriptive compliance pathway for the building under the Energy Code, and that the building is not able to achieve the performance compliance standard applicable to the building under the Energy Code using commercially available technology and an approved calculation method, then the Community Development Director or his/her designee may grant a modification. If the Building Official grants a modification pursuant to this Exception, the applicant must comply with the pre-wiring provision.

Table 1: Proposed Energy Code Amendments – Building Electrification & Solar PV Systems (cont.)

Building Type	Proposed Energy Code Amendments for New Construction	Exceptions*
<p style="text-align: center;">Non-residential Buildings</p>	<ul style="list-style-type: none"> All electric building required that uses electricity as the source of energy for all appliances, including but not limited to space heating, water heating, fireplaces and clothes dryers. <p><u>Solar:</u></p> <ul style="list-style-type: none"> Install on-site solar equivalent in size to 50% of the roof area on the roof or overhang, or another structure located within 250 feet, or on covered parking within the project. 	<ul style="list-style-type: none"> Life science buildings may use natural gas for space heating if desired. Public agency owned and operated emergency operations centers (e.g. fire and police stations) may use natural gas. Non-residential kitchens (e.g. for-profit restaurants and cafeterias) can use natural gas stoves. For all exceptions, natural gas appliance locations must be electrically pre-wired for future electric appliance installation. <p><u>Solar:</u></p> <ul style="list-style-type: none"> A modification may be granted if demonstrated that the required percentage of PV installation will over-generate the annual kWh required to operate the proposed building. The PV system size may be reduced in size to the maximum that can be accommodated by the effective annual solar access due to shading from existing permanent natural or manmade barriers external to the building, including trees, hills, and adjacent structures. The effective annual solar access must be 70 percent or greater of the output of an unshaded PV array on an annual basis. No PV system is required if the effective annual solar access is restricted to less than 200 contiguous square feet. If the applicant demonstrates that conditions exist where excessive shading occurs, a performance equivalency approved by the Building Official may be used as an alternative. If there is a vegetative roof which meets all relevant code requirements including considerations for wind, fire, and structural loads, the solar photovoltaic system may be reduced in size that 50% of the roof is covered in either photovoltaics or vegetative roof.

***Additional Exception for All Building Types:**

If the applicant establishes that there is not an all-electric prescriptive compliance pathway for the building under the Energy Code, and that the building is not able to achieve the performance compliance standard applicable to the building under the Energy Code using commercially available technology and an approved calculation method, then the Community Development Director or his/her designee may grant a modification. If the Building Official grants a modification pursuant to this Exception, the applicant must comply with the pre-wiring provision.

The exception for life sciences laboratories to use natural gas for space heating is due to these types of buildings containing vulnerable lab experiments, which depend on temperature-controlled rooms. While Millbrae does not currently have life science laboratories, it is included as a consideration for future developments. These buildings would require water heating appliances to be electric.

The following outlines the revised and final proposed Ordinance requirements for Electric Vehicle (EV) Infrastructure.

Electric Vehicle Infrastructure

The Green Building code amendments for consideration would require additional EV charging infrastructure for the construction of new buildings. These requirements would enable more people to purchase, drive, and charge electric vehicles.

Proposed EV Infrastructure Requirements

- New one- and two-family dwellings, town- houses, and Accessory Dwelling Units with attached private garages are required to install one Level 2 EV Ready Space and a Level 1 EV Ready Space for each dwelling unit.
- Multifamily buildings with less than or equal to 20 dwelling units would be required to:
 - Include one Level 2 EV Ready Space for one parking space per dwelling unit with parking.
- Amended per City Council direction at the October 27, 2020 meeting: Multifamily buildings with more than 20 multifamily dwelling units would be required to:
 - Include one Level 2 EV Ready Space in the first 20 dwelling unit parking spaces.
 - For each additional dwelling unit over 20, 25% of the dwelling units with parking space(s) would be provided with at least one Level 2 EV Ready Space, and each of the remaining dwelling units with parking space(s) would be provided with at least a Level 1 EV Ready Space.
- Non-residential Buildings, excluding offices:
For 10 or more parking spaces:
 - Install Level 2 Charging Stations in 6% of spaces.
 - Install at least Level 1 EV Ready Spaces in an additional 5% of spaces.
- Non-residential Buildings, including offices:
For 10 or more parking spaces:
 - Install Level 2 EV Charging Stations in 10% of spaces.
 - Install at least Level 1 EV Ready Spaces in an additional 10% of spaces.
 - An additional 30% of spaces to be at least EV Capable.

Table 2 below outlines the requirements and exceptions for the proposed Green Building Code amendment for EV infrastructure.

Table 2: Proposed Green Building Code Amendments – Electric Vehicle Infrastructure

Building Type	Electric Vehicle Charging Amendments for New Construction	Exceptions
<p>Single and Two-Family, Townhouses, and Accessory Dwelling Units (ADUs) (with attached garages)</p>	<ul style="list-style-type: none"> • Install one Level 2 EV Ready Space and one Level 1 EV Ready Space for each dwelling unit. <ul style="list-style-type: none"> ○ For each dwelling unit with only one parking space, install a Level 2 Ready Space. 	<ul style="list-style-type: none"> • Where there is no commercial power supply. • ADUs and Junior ADUs (JADUs) without additional parking facilities, unless the electrical panel is upgraded or a new panel is installed, in which case only the electrical capacity requirements apply. • Spaces accessible only by automated mechanical car parking systems.
<p>Multifamily Dwellings**</p>	<ul style="list-style-type: none"> • For buildings with less than or equal to 20 units: <ul style="list-style-type: none"> ○ Install one Level 2 EV Ready Space for each unit with parking. • For buildings with more than 20 units: <ul style="list-style-type: none"> ○ For the first 20 dwelling units, one parking space per dwelling unit with parking install a Level 2 Ready Space. ○ For each additional dwelling unit over 20, 25% of the dwelling units with parking space(s) install at least one Level 2 EV Ready Space, and the remaining dwelling units with parking space(s) install at least a Level 1 EV Ready Space. 	<ul style="list-style-type: none"> • Above exceptions apply. • Projects that have been granted entitlements within 1 year prior to the Ordinance effective date must install Level 2 EV Ready Spaces in at least 10% of spaces of parking spaces, aligning with state code requirements. • Multifamily Affordable Housing: <ul style="list-style-type: none"> ○ Install at least one Level 2 EV Ready Space in 10% of units with space(s). ○ Install at least one Level 1 EV Ready Space in the remaining units with parking.
<p>Non-residential Buildings (excluding Office Use)</p>	<ul style="list-style-type: none"> • For 10 or more parking spaces: <ul style="list-style-type: none"> ○ Install Level 2 Charging Stations in 6% of spaces. ○ Install at least Level 1 EV Ready Spaces in an additional 5% of spaces. 	<ul style="list-style-type: none"> • Where there is no commercial power supply. • Spaces accessible only by automated mechanical car parking systems. • Installation of each Direct Current Fast Charger with the capacity to provide at least 80 kW output may substitute for 6 Level 2 EVCS and 5 EV Ready Spaces after a minimum of 6 Level 2 EVCS and 5 Level 1 EV Ready Spaces are installed.
<p>Non-residential Buildings with Office Use</p>	<ul style="list-style-type: none"> • For 10 or more parking spaces: <ul style="list-style-type: none"> ○ Install Level 2 EV Charging Stations in 10% of spaces. ○ Install at least Level 1 EV Ready Spaces in an additional 10% of spaces. ○ An additional 30% of spaces to be at least EV Capable. 	<ul style="list-style-type: none"> • Where there is no commercial power supply. • Spaces accessible only by automated mechanical car parking systems.

****Note for Multifamily Dwellings:**

The City may consider allowing exceptions, on a case by case basis, if a building permit applicant provides documentation detailing that the increased cost of utility service or on-site transformer capacity would be greater than \$4,500 among parking spaces with Level 2 EV Ready Spaces and Level 1 EV Ready Spaces. If costs are found to exceed this level, the applicant would provide EV infrastructure up to a level that would not exceed this cost for utility service or on-site transformer capacity.

California Environmental Quality Act

Pursuant to Title 14 of the California Administrative Code, Section 15061 (b)(3), the Reach Code Ordinance is exempt from the requirements of the California Environmental Quality Act (CEQA) on the grounds that these standards are more stringent than the state energy standards, and there are no reasonably foreseeable adverse impacts or significant effects on the environment. The California Energy Commission (CEC) adopted a Negative Declaration (ND) for the 2019 California Energy Code (Title 24, Part 6), which analyzed the environmental impacts of the 2019 Energy Code.

Next Steps

After adoption of the Reach Codes, and with guidance from PCE, staff will submit the Reach Codes to the California Energy Commission (CEC) for approval, which can take up to 60 days. The adopted Reach Codes will also be submitted to the California Building Standards Commission.

The Ordinance would go into effect 30 days from adoption and the regulations would be enforced starting on January 1, 2021.

Staff will also develop an implementation plan to prepare the necessary protocols and procedures for development applicants to comply with the Reach Codes. The proposed Reach Codes will be administered by the Building Division. Due to the simpler nature of the electrical heating requirement, compliance with the Reach Codes will not require additional staff resources, and may save time spent reviewing plans and conducting on-site inspections due to less natural gas infrastructure. The solar requirement for non-residential buildings will also not require additional resources to conduct plan reviews and on-site inspections.

FISCAL IMPACT:

There is no significant fiscal impact. Staff time for implementing the Reach Codes are programmatically included in City Department budgets.

COUNCIL ACTION:

Convene the public hearing to take public comments, waive the second reading, and adopt an ordinance to adopt amendments to the Energy Code of the Millbrae Municipal Code for Title 24, California Code of Regulations, Part 6 Energy Code and Part 11 Green Building Code to adopt local Reach Codes to reduce greenhouse gas emissions.