



STAFF REPORT

AGENDA NO: 9c

MEETING DATE: July 6, 2020

To: Honorable Mayor and City Council

Date: July 6, 2020

From: Sigalle Michael, Sustainability Coordinator – (650) 558-7261

Subject: Public Hearing to Consider Proposed Amendments to the Burlingame Municipal Code to Allow for a Building Electrification Reach Code

RECOMMENDATION

Staff recommends that the City Council consider proposed amendments to the Burlingame Municipal Code regarding an electrification reach code. In order to do so, the City Council should:

1. Receive the staff report and ask any questions of staff.
2. Request the City Clerk to read the title of each of the three proposed ordinances.
3. By motion, waive further reading and introduce each of the three proposed ordinances.
4. Conduct a public hearing on the three proposed ordinances.
5. Following closure of the public hearing, discuss each of the three proposed ordinances and provide any direction to staff; if no changes are requested, direct staff to bring one or more of them back for adoption and ask the City Clerk to publish a summary of each ordinance at least five days before proposed adoption.

If Council so directs, the ordinance(s), along with a resolution addressing compliance with the California Environmental Quality Act (CEQA), will be presented for adoption at the August 17, 2020 meeting.

BACKGROUND

Reach codes are local building code amendments that go beyond the State's requirements for energy efficiency and green building standards. Local governments adopt reach codes to increase energy efficiency, reduce greenhouse gas (GHG) emissions, and meet climate action goals. Electrification reach codes that encourage new developments to reduce or eliminate natural gas in new construction have gained momentum over the past year as jurisdictions seek out ways to lower greenhouse gas emissions from buildings.

Building electrification means that buildings use only electric appliances for space heating, water heating, clothes drying, and cooking. All-electric buildings are not uncommon in the US, and

electric appliances are widely available and more efficient than their natural gas counterparts. Research has shown that transitioning to efficient electric appliances is the most effective way to reduce GHG emissions in homes and buildings.¹ This is especially the case when electricity is sourced from 100% renewable and carbon free sources, as it will be in San Mateo County. Peninsula Clean Energy is on the path to provide 100% GHG free electricity in San Mateo County by 2021. Also, using electricity for cooking and avoiding burning natural gas indoors has been associated with improved indoor air quality and health benefits.² The table below highlights electric appliances available for homes.

Appliance Use	Electric Option
Cooking	Electric cooktop/oven; or induction electric range, a high performance option that uses electromagnetic energy that heats faster and to higher temperatures than natural gas
Space Heating	Air source heat pump HVAC, can efficiently provide both heating and cooling from single unit, ducted or wall systems.
Water Heating	Heat pump water heater, tank or tankless
Clothes Drying	Electric dryer or Heat pump dryer
Pool Heating	Heat pump pool system
	Electric fireplace
Resources	
All-electric home diagram, https://www.smud.org/-/media/Documents/Going-Green/AE-Diagram-BH.ashx	
Electric appliances, https://www.cityofpaloalto.org/gov/depts/utl/pathway_to_sustainability/electrification/default.asp	
All-Electric Home Costs: https://peninsulareachcodes.org/wp-content/uploads/2019/10/Electrification-Cost-Story-Infographic_v8.1.pdf	
All-Electric Guide for Multifamily Buildings: https://peninsulareachcodes.org/wp-content/uploads/2019/10/AZeroEmissionsAll-ElectricMultifamilyConstructionGuide_RedwoodEnergy.pdf	
Reach Code Information: https://peninsulareachcodes.org/	

PCE, with the support of the San Mateo County Office of Sustainability and Silicon Valley Clean Energy, is encouraging local jurisdictions to adopt a reach code that: 1) eliminates or limits the use of natural gas for space heating, water heating, and cooking; 2) requires solar energy systems; and 3) ensures electric vehicle (EV) charging equipment is installed in new developments. PCE prepared model reach code approaches for cities to use. The model reach codes are based on cost-effectiveness studies prepared by the California Statewide Codes and Standards Program and TRC, a consultant to PCE. To date, 17³ jurisdictions in San Mateo and

¹ Building Decarbonization Coalition, <http://www.buildingdecarb.org/resources/a-roadmap-to-decarbonize-californias-buildings>

² <https://www.theguardian.com/environment/2020/may/05/gas-stoves-air-pollution-environment>

³ The cities of San Carlos and Monte Sereno adopted a weaker version of a reach code that only requires rewiring codes.

Santa Clara counties, including Brisbane, Campbell, Cupertino, Los Altos Hills, Los Gatos, Menlo Park, Milpitas, Morgan Hill, Mountain View, Pacifica, Palo Alto, San Mateo, San Jose, Saratoga, and San Mateo County, have adopted a form of reach codes,.

DISCUSSION

The City Council and staff have been grappling for some time now with how to move forward with a reach code for the City. Although reach codes serve as an effective climate action by reducing the use of natural gas in buildings, Councilmembers have expressed concern about overburdening builders and developers with requirements and promoting technologies that are not quite ready. Electric fireplaces, for example, may be safer and more efficient to use than natural gas fireplaces, but they do not heat rooms as well natural gas fireplaces do.

The City Council has discussed reach codes at study sessions on November 14, 2019, and February 18, 2020, and as a proposed ordinance on June 15, 2020. During the most recent meeting on June 15, the Council generally agreed on the building electrification, solar, and EV infrastructure reach code provisions proposed for multifamily and commercial buildings but had concerns about the electrification provision for single family homes.

At the meeting, Council directed staff to separate the reach code ordinance by building type. Staff has now prepared a separate reach code ordinance for single family homes, one for multifamily buildings, and one for commercial buildings. For all building types, projects that have been submitted to the Planning Division or received entitlements prior to the effective date of the respective ordinance are not subject to the ordinance. The revised reach code ordinances reflect the input and direction provided by Council and are based on the PCE/Menlo Park model reach code with additions (shown in underline) and deletions (shown in ~~strikethroughs~~) specific to Burlingame.

The reach code ordinances also benefit from public input. Staff hosted two stakeholder meetings with local developers (November 21, 2019 and January 8, 2020) that were attended by three developers representing single family, multi-family, and commercial construction. Discussions with developers, specifically Summerhill Apartment Communities, a key developer in Burlingame with several ongoing local projects, helped shape the EV infrastructure provisions and exceptions for multifamily construction.

Staff discussed the reach code at two Citizens Environmental Council of Burlingame (CEC) meetings (January 8 and April 8, 2020). Throughout the reach code process, the CEC has encouraged the Council and staff to strive for a reach code for maximum benefit. The CEC has provided building electrification resources and letters of support for a reach code.

The primary purpose of the proposed reach code ordinances is to accelerate the reduction of GHG emissions in the community by limiting the use of natural gas through building electrification; growing the use of solar as a local renewable energy source; and installing EV infrastructure to support the state's transition to zero emission vehicles. The proposed reach code

ordinances would implement several measures from the City's Climate Action Plan (CAP) and are estimated to reduce an additional ~3,500 tons of GHG emissions by 2030.

Single Family Homes Proposed Reach Code

For single family homes, the Council was comfortable with the proposed EV infrastructure reach code. Solar provisions are not being proposed at this time since the state's building code already requires minimum solar photovoltaic systems on new single family homes. Regarding building electrification, the Council debated whether natural gas for fireplaces and outdoor firepits should be prohibited given that similar performing electric options are not available. Some Councilmembers reasoned that natural gas be allowed for both indoor and outdoor cooking and fireplaces. Councilmembers stated their preference for offering incentives over mandates to urge new homes to use all-electric appliances.

Staff proposes that the City Council consider the approach offered at the February 18th study session, which requires single family homes to use all-electric appliances but allows for indoor and outdoor non-electric cooking appliances and fireplaces (including outdoor kitchens and firepits). Staff is exploring potential incentives to support all-electric single family homes.

The Council requested that staff clearly articulate what type of home remodels will have to comply with the reach code. Staff proposes that the reach code apply to substantial home remodels, also known as rebuilds, when more than 50 percent of the valuation of the existing structure is being remodeled, and provided the remodel also includes a new heating, cooling, and ventilation (HVAC) system. The previous provision that stated kitchen remodels must be part of the remodeling project to trigger the reach code was omitted since non-electric cooking appliances are permitted in the proposed ordinance. Municipal Code Section 18.07.020 Section 102.2 amended, specifies that when additions, alterations or repairs within any twelve (12) month period exceed fifty (50) percent of the current replacement value of an existing building or structure, the building or structure shall conform with the requirements for new buildings or structures.

The cost calculations for the additions/improvements shall be calculated utilizing the latest Burlingame average construction cost. The construction cost is continually adjusted based on data received from the Burlingame permit review process. Currently, the average construction cost in Burlingame is approximately \$350 a square foot (but could go as high as \$400 for a high-end or complicated project). A kitchen remodel, new roof, or other similar scale projects will not trigger the reach code.

As an example, take a 1,717 square foot home that is being remodeled with an addition.

- 1,717 is multiplied by \$350 a square foot to equal \$600,950.
- Divide by 2 to equal the 50 percent valuation of \$300,475.
- If the value of the addition is \$300,475 or greater, the project would be considered a major remodel/new construction under Code Section 18.07.020 Section 102.2 amended.
- However, per the proposed reach code, the project would need to involve the replacement of the HVAC system for the reach code provisions to be applicable.

In 2019, the Building Division received 36 project applications for major remodels. Twenty of these applications exceeded the 50% valuation threshold, while 16 of the projects were under the 50 percent valuation. Burlingame is a built-out city with an old housing stock. Single family homes make up 48 percent of Burlingame residences; and 88 percent of these homes were constructed before 1980 (California’s energy efficiency building code, known as Title 24, came into effect in 1978). Including major remodels in the reach code will help lower GHG emissions in Burlingame’s housing stock.

The table below summarizes the reach code proposed for single family homes.

New Single Family Homes and Major Remodels (as defined above)		
Building Electrification	Solar	Proposed EV Infrastructure
<p>All-electric for new homes and certain substantial remodels.</p> <p>Non-electric indoor and outdoor cooking appliances and fireplaces are allowed and should have electric rewiring installed where applicable.</p>	Existing building code requirements.	<p>One level 2 charging and one level 1 if a second parking space exists.</p> <p>Exception: Accessory dwelling units or junior accessory dwelling units without parking facilities.</p>

Multifamily Buildings Proposed Reach Code

In general, the Council agreed on the building electrification, solar, and EV reach code provisions proposed for multifamily buildings on June 15th. Some Councilmembers asked for assurance that exceptions be made possible for natural gas boilers in multifamily buildings since electric heating in multifamily is still relatively uncommon in this area and in some instances may be infeasible due to particular building characteristics or technical challenges. Staff recommends that exceptions be considered when all-electric is not feasible. To ensure that the intent of the reach code is not disregarded or misinterpreted, a project applicant should demonstrate to the Building Official the unique reason why an-electric building is infeasible or the code is impractical. If the Building Official is satisfied that all-electric is infeasible or the code is impractical, he or she can then grant the exception.

Summerhill Apartment Communities provided staff with comments on the reach code portions that apply to multifamily buildings. The six total comments are all technical in nature and recommend clarifying language in the ordinance. Staff accepted and integrated all the comments.

The table below summarizes the reach code proposed for new multifamily buildings.

New Multifamily Buildings		
Building Electrification	Solar	Proposed EV Infrastructure

<p>All-electric.</p> <p>Exception: Must demonstrate all-electric is infeasible due to outstanding circumstances or technical challenges to be considered for an exception by the Chief Building Official. Electric rewiring required for any non-electric appliances as applicable.</p>	<ul style="list-style-type: none"> - Minimum 3 kW system for buildings less than 10,000 sq. ft. - Minimum 5 kW system for buildings 10,000 sq. ft. and larger <p>Exception: Solar infeasible due to roof size, slope, shading, and other limitations.</p>	<ul style="list-style-type: none"> - Level 2 charging for 10% of units. - Remaining units to have Level 1 access and conduit for future Level 2 charging installed; - Level 1 access may be shared between two units. <p>Exceptions:</p> <ul style="list-style-type: none"> - EV infrastructure costs exceed \$4,500/space - Spaces accessible only by automated mechanical car parking systems - Parking facilities without available commercial power supply.
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Commercial Buildings Proposed Reach Code

The largest discussion point for the commercial building reach code was related to commercial kitchens and exceptions for natural gas cooking. Initially, staff proposed having commercial kitchens request an exception for natural gas cooking by demonstrating that they considered alternatives and found them infeasible. However, Councilmembers were concerned that this could disincentivize new restaurants from opening in the city or risk subjective granting of exceptions. The Council generally agreed that restaurants be automatically allowed to use natural gas for cooking.

The table below summarizes the reach code proposed for new commercial buildings.

New Commercial Buildings		
Building Electrification	Solar	Proposed EV Infrastructure
<p>All-electric.</p> <p>Commercial kitchens and restaurants allowed to use non-electric cooking appliances and should have electric rewiring installed where applicable.</p> <p>Exceptions: Must demonstrate all-electric is infeasible due to outstanding circumstances or technical challenges to be considered for an exception by the Chief Building Official. Electric rewiring required for any non-electric appliances as</p>	<ul style="list-style-type: none"> - Minimum 3 kW system for buildings less than 10,000 sq. ft. - Minimum 5 kW system for buildings 10,000 sq. ft. and larger <p>Exception: Solar infeasible due to roof size, slope, shading, and other limitations.</p>	<p>Offices: Level 2 charging for 10% of spaces; and level 1 for 10% of spaces</p> <p>Other Commercial: Level 2 charging for 6% of spaces; and level 1 for 5% of spaces</p> <p>Exceptions:</p> <ul style="list-style-type: none"> - EV infrastructure costs exceed \$4,500/space - Spaces accessible only by automated mechanical car parking systems - Parking facilities without available commercial power supply.

applicable.		
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FAQ

Staff updated the Frequently Asked Questions factsheet presented at the last Council meeting. The FAQs now offer additional information on the reach codes, including:

- The resilience of all-electric buildings during power outages.
- The anticipated impact of reach codes on power loads.
- Examples of electric appliances.
- Details on proposed reach code exceptions including emphasis that no shade trees will need to be cut down for solar projects.

Environmental Review

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 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.

In November 2019, the California Restaurant Association sued the City of Berkeley in federal court after the City enacted a total ban on natural gas in new construction. That case is still pending. Also in November 2019, two developers filed separate lawsuits in state court against the Town of Windsor after the Town Council adopted an all-electric mandate for certain low-rise residential development. Both lawsuits, which are still pending, argue that the Town's invocation of CEQA exemptions was inappropriate and that the Town should have done a full environmental review.

Of all the cities that have adopted reach codes, none have prepared a Negative Declaration (ND) or Environmental Impact Report (EIR) under CEQA.

Next Steps

The building electrification and solar provisions of the reach code represent local amendments to the state energy code. Therefore, should the City Council choose to adopt the proposed reach code ordinances, staff will submit the proposed reach code to the California Buildings Standards Commission and the California Energy Commission (CEC) for approval. Approval can take up to 60 days. Staff has been working closely with PCE to ensure that the proposed reach code and cost-effectiveness studies meet the state standards for adopting local energy code amendments. The reach code will become effective upon approval by the CEC, which is estimated to occur in October 2020. Projects that have been submitted to the Planning Division or those that received

entitlements prior to the ordinance effective date are not required to meet the all-electric requirements but should comply with the pre-wiring provision.

If and when the reach code is adopted, staff will create and distribute outreach materials for building professionals and property owners, including:

- A new development checklist given at the planning and building permit stages to ensure developers are aware of the expectations.
- Updated City website information listing available trainings, case studies, and resources on building electrification.
- Information on the website about available incentives and building industry technical assistance programs for building electrification such as from PCE, BayREN, and PG&E.

FISCAL IMPACT

Nominal fiscal impact related to outreach and education by staff is anticipated.

Exhibits:

- Proposed Ordinances
- Reach Code Frequently Asked Questions