Environmental Quality Commission

REGULAR MEETING AGENDA

Date: 6/19/2019
Time: 6:00 p.m.
City Hall – "Downtown" Conference Room
701 Laurel St., Menlo Park, CA 94025

A. Call To Order

B. Roll Call – Gaillard, Kabat, London, Martin, Vice Chain Payne, Chair Price, Turley

C. Public Comment

Under "Public Comment," the public may address the Commission on any subject not listed on the agenda. Each speaker may address the Commission once under Public Comment for a limit of three minutes. The Commission cannot act on items not listed on the agenda and, therefore, the Commission cannot respond to non-agenda issues brought up under Public Comment other than to provide general information.

D. Regular Business

D1. Transportation Master Plan Outreach and Oversight Committee informational update.

D2. Consider a recommendation to City Council to adopt local energy amendments to the 2019 California Building Standards Code that (1) discourage natural gas for heating newly constructed buildings and (2) require certain amount of solar production for nonresidential buildings (Staff Report #19-008-EQC)

D3. Approve the May 15, 2019, Environmental Quality Commission meetings minutes (Attachment)

E. Reports and Announcements

E1. Commission reports and announcements

E2. Staff update and announcements

E3. Future agenda items

F. Adjournment

At every Regular Meeting of the Commission, in addition to the Public Comment period where the public shall have the right to address the Commission on any matters of public interest not listed on the agenda, members of the public have the right to directly address the Commission on any item listed on the agenda at a time designated by the Chair, either before or during the Commission's consideration of the item.

At every Special Meeting of the Commission, members of the public have the right to directly address the Commission on any item listed on the agenda at a time designated by the Chair, either before or during consideration of the item.

For appeal hearings, appellant and applicant shall each have 10 minutes for presentations.

If you challenge any of the items listed on this agenda in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City of Menlo Park at, or prior to, the public hearing.

Any writing that is distributed to a majority of the Commission by any person in connection with an agenda item is a public record (subject to any exemption under the Public Records Act) and is available for inspection at the City Clerk's Office, 701 Laurel St., Menlo Park, CA 94025 during regular business hours.

Persons with disabilities, who require auxiliary aids or services in attending or participating in Commission meetings, may call the City Clerk's Office at 650-330-6620.

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CITY OF MENLO PARK

STAFF REPORT

Environmental Quality Commission
Meeting Date: **6/19/2019**
Staff Report Number: **19-008-EQC**

Regular Business: **Consider a recommendation to City Council to adopt local energy amendments to the 2019 California Building Standards Code that (1) discourage natural gas for heating newly constructed buildings and (2) require certain amount of solar production for nonresidential buildings**

Recommendation

Staff recommends that the Environmental Quality Commission consider a recommendation to the City Council to adopt local energy amendments to the 2019 California Building Standards Code for newly constructed buildings that 1) discourage natural gas used for heating (water and space), and 2) require a certain level of solar production on-site for nonresidential buildings.

Policy Issues

Adopting local energy codes that reduce fossil fuel use aligns with the City's climate action plan to reduce greenhouse gas emissions (GHG) and the climate and sustainability resolution signed by the Mayor in April to work toward zero carbon buildings. The adoption of local energy codes beyond the state energy codes requires City Council approval.

Background

California Building Standards Code

Each local government is required by law to adopt new changes to the California Building Standards Code every three years proposed by the state (known as code cycles.) The next code cycle will take effect January 1, 2020.

This creates an opportunity to also simultaneously adopt local amendments to the building codes, also known as reach codes that exceed the minimum standards required by the State. Reach codes are optional local amendments to the California Building Standards Code. Historically, cities/counties typically adopt amendments to the energy and calgreen chapters of the code to increase environmental building standards that meet a community's local environmental goals or aspirations. It is also important to note that the State also tends to increase environmental building standards with each code cycle.

If the local amendments involve energy requirements, cities/counties need to file an application to the California Energy Commission (CEC) to prove that any local amendments related to the energy code are cost effective and more energy efficient than those required by the State.

The county of San Mateo, Peninsula Clean Energy (PCE), and a consulting firm (TRC Companies) have partnered to offer cities in San Mateo County technical assistance in developing a cost effectiveness study and draft language for adopting local energy amendments/reach codes in their respective communities.

The study provides an explanation on how the proposed amendments will save more energy and money than the mandatory statewide standards. The cost effectiveness study has been completed except for hotels and high-rise multifamily, which will be ready in August/September.

The City Council included exploring adopting reach codes in their 2019 work plan. They referred the matter to the Environmental Quality Commission (EQC) to study and advise the City Council.

There is a significant opportunity to reduce the community's GHG through building electrification, and this is the main focus of the proposed reach codes. This would help meet or exceed the City's climate action plan goals and place the city as a leader in the region in making the transition to all electric buildings.

The City of Menlo Park has shown leadership in sustainability in the past by adopting reach codes in 2011 and an electric vehicle (EV) ordinance in 2018. In 2011, City of Menlo Park adopted a reach code for newly constructed residential and nonresidential buildings to exceed the minimum energy efficiency standards by 15 percent. More recently April 22, the Mayor of City of Menlo Park signed a climate and sustainability resolution, which is a policy framework to strive for climate solutions, such as constructing zero carbon buildings.

In order to the meet the timeline to adopt State building codes along with a potential reach code for January 1, 2020 cycle, City Council needs a recommendation from the EQC in June in order to prepare for community engagement and outreach, file an application with the CEC, and adopt an amendment to the state building code between September and December.

Analysis

Menlo Park's electricity provider

Residents and business owners in Menlo Park are automatically enrolled in PCE's ECOplus program, which means 50 percent of the electricity comes from renewable energy. PCE also has a goal to be 100 percent GHG free by 2021, which would mean that electric buildings in Menlo Park would be GHG free by 2021. PCE does not provide natural gas, which contributes to climate change (GHG.)

The desired outcome for this reach code is to drive newly constructed buildings to be electric, and take advantage of the renewable energy available to the community through PCE. In addition, the cost effectiveness study showed that on-site renewable energy for new commercial buildings would be cost effective.

Menlo Park snapshot

Staff has analyzed potential future development projects that could occur in the next three year code cycle. If all projects are approved, it would result in:

- 100 low rise residential buildings
- 21 nonresidential buildings

If these buildings use natural gas, an increase of 212,876 tons of GHG would result over the expected life of the building (30 years for residential and 50 years for commercial.)

Other cities' progresses

Staff reached out to several neighboring cities to find out their willingness to adopt reach codes. To date, City of Brisbane, Burlingame, San Mateo, and Portola Valley will adopt some sort of reach code. It is important to note that some cities will not be experiencing the same level of development as Menlo Park,

which can impact the ease of adoption as well as urgency to reduce GHG emissions for future development. City of Palo Alto is waiting for its final cost effectiveness study, which will be ready in July before making a decision.

Reach Code options for reducing natural gas

The desired outcome of this cycle of local reach codes is to drive newly constructed buildings toward electrification, and move away from the natural gas because renewable energy is readily available in the community. Staff has analyzed different reach code options based on the following criteria:

- Significant greenhouse gas reductions
- Ease of implementation and efficiency
- Community acceptance

All options would apply only to newly constructed buildings (not additions or remodels), and have been found to be cost effective through the County's study.

Option No. 1 status quo- do not adopt any local reach code

This option doesn't require any action from the city beyond the normal procedure of adopting the state mandated building code changes. It is important to note that the new changes to the State code do offer new environmental requirements, such as:

- On-site solar production and prewiring for electric appliances for residential buildings
- More stringent requirements for EV charging infrastructure for residential and nonresidential buildings.

Single family houses being built under the new State Code will use less energy compared to the houses built under the 2016 Building Standards Code. For instance, houses (without solar panels) will use 7 percent less energy and houses (with solar panels) will use 53 percent less energy. Commercial buildings will use 30 percent less energy due to the lighting upgrades under the new code cycle.

Option No.2 Allow natural gas, but incentivize electric buildings by creating higher energy efficiency requirements for natural gas buildings

This option offers applicants a variety of options to select from that are cost effective. Applicants can choose one of the following:

1. Allow natural gas if:
    i. Permit applicant exceeds 2019 State Energy Code by 9 percent for hotels, high-rise residential, other types of commercial, and 15 percent for office and retail uses.
    ii. Permit applicant achieves 10 energy design rating points or less than total energy design rating for residential (excludes high-rise): OR
2. Applicants can choose to have an electrically heated building (water and space ONLY): OR
3. Applicants can choose the all-electric option.

Electrically heated and all electric are more cost effective, and the hope is that a permit applicant will choose this option with price savings driving behavior. However, savings is not always a driver change consumer preference is strong for natural gas usage, particularly for cooking. Palo Alto implemented a similar requirement, and permit applicants were able to find weaknesses in the percentage requirements that allowed natural gas to be more cost effective.

Option No. 3: Limit natural gas to be used for only cooking, outdoor and fireplace use

Another viable option to ensure reductions in natural gas use and GHG emissions is to only offer permit applicants two options:

1. Applicants can choose to have an electrically heated building with a few additional energy efficiency requirements. This means only water and space heating will be electric, and cooking and fireplaces

appliances can use natural gas: OR
2. Applicants can choose to have an all-electric building that would not require any additional energy efficiency requirements.

This option is more straightforward and guarantees significant GHG reductions by targeting the highest use of natural gas in a building, which is space and water heating. This also addresses strong consumer preferences to continue to allow for cooking and fireplace natural gas use, and has a lower consumption of natural gas in the building compared to heating.

Option No 0.4 Construct all electric building
This will eliminate the natural gas pipeline inside the building, and guarantee that all new buildings are all-electric. This would result in the greatest GHG reductions. This option is groundbreaking and is the most aggressive option in order to align with the City's climate action plan goals and to transition new construction buildings to be all electric. City of Berkeley is obtaining legal review to ban natural gas infrastructure for new nonresidential buildings. Staff will be keeping track of this progress.

Table 1 below compares the options for discouraging natural gas and encouraging building electrification. The preferred option identified is No.3- Limit natural gas to be used only for cooking, outdoor and fireplace use.

Table 1: Natural gas and building electrification options

	Option No.1 do nothing and adopt proposed state code changes as required every three years.	**Option No.2 allow natural gas, but incentivize electric buildings by creating higher energy efficiency standards for natural gas buildings**	**Option No.3 limit natural gas for only cooking, outdoor, and fireplace use for new buildings**	**Option No.4 prohibit all natural gas for new buildings**
Advantages	Each code cycle becomes more stringent than the previous cycle. No additional resources will be needed.	Other cities are more likely to adopt this option because it provides different routes for the applicant.	Addresses consumer preference to use natural gas for cooking and fireplace. It would electrify highest uses of natural gas in the building: water and space heating. Maximizes renewable energy available in the community.	Safer for building occupants. Maximizes use of renewable energy in the community.

	Option No.1 do nothing and adopt proposed state code changes as required every three years.	Option No.2 allow natural gas, but incentivize electric buildings by creating higher energy efficiency standards for natural gas buildings	Option No.3 limit natural gas for only cooking, outdoor, and fireplace use for new buildings	Option No.4 prohibit all natural gas for new buildings
Disadvantages	Slow to meet the City's Climate Action Plan goals. Does not maximize the use of renewable energy in the community.	Cost savings are not always a driver for consumers to go all electric. Consumer preferences tend to be stronger.	Potential push back from state and federal government, but legal review confirms that it is a viable option.	Low consumer preference, resulting in difficult City Council approval process.
Greenhouse gas reductions	Insignificant amount of greenhouse gas emission reduction.	Likely insignificant. Other cities experiences show little improvement in reducing GHG.	Greater greenhouse gas emission reduction than options No.1 and No.2.	Highest greenhouse gas reduction of all options.
Ease of implementation and Enforcement	Easy for external stakeholders to transition and to understand.	Complicated implementation with multiple choices and meeting complex energy efficiency requirements.	Straightforward and easier to monitor and enforce.	Easy to monitor and enforce.
Community acceptance for likely City Council adoption	N/A- Community does not have a choice. City is required to adopt state code changes every year.	Allows natural gas preferences, which community would favor. However, difficult to understand requirements, which would then delay process of approval.	Still allows the use of natural gas for strongest consumer preference uses. Easy to understand for faster approval.	Not likely
Preferred option	**Option No.3 Limit natural gas for only cooking, outdoor, and fireplace use for new buildings. Can meet the aggressive timeline for approving local amendments and achieve significant GHG reductions.**			

Solar photovoltaic (PV) requirements

In addition to adopting a limited natural gas and building electrification option as presented above, it is recommended that the proposed reach codes also include a requirement for new commercial buildings to install photovoltaic panels. Table 2 summaries the draft language written by PCE and TRC Companies and staff will work with city attorney to finalize the language. This was also found to be cost effective through the County's study, and would reduce GHG emissions.

Table 2: Solar panel requirements	
Square footage of building	**Size of panel**
Less than 10,000 sq ft	Minimum of 3-kilowatt PV systems
Greater than or equal to 10,000 sq ft	Minimum of 5-kilowatt PV systems
EXCEPTION: As an alternative to a solar PV system, the building type may provide a solar hot water system (solar thermal) with a minimum collector area of 40 square feet.	

Electric vehicle (EV) charging infrastructure requirements

The City adopted an EV charging ordinance in 2018 as a local amendment to the 2016 California green (CalGreen) building standards code. The EV charging ordinance will no longer be effective January 1, 2020, but staff will renew it for the upcoming code cycle.

Currently, the City's EV charging ordinance is remains more stringent than the State code, especially for multifamily and for alterations and additions. Attachment A compares the City's ordinance to the State mandatory requirements and the County's proposed requirements for inclusion in local reach codes. The County proposed codes are slightly stronger for affordable housing developments.

Based on Menlo Park's recent adoption of a local EV charging ordinance, it is not recommended to propose any new requirements under the proposed reach code. This will allow focus to remain on building electrification and solar energy generation.

In addition, as part of the climate action plan, the City will already be conducting an analysis for EV infrastructure readiness in the community, and evaluating policy or programs that could enhance EV charging infrastructure in the community.

Preferred options for a proposed Menlo Park reach code

Staff recommends Option 3 to limit natural gas to only cooking, outdoor, and fireplace use for new buildings. This would require space heating and water heating to be electric (not natural gas.) This is simple for permit applicants and community to understand, and allows strong consumer preference for cooking with natural gas to continue. It also will guarantee significant greenhouse gas reductions, and is doable to meet the next code cycle timelines for implementation.

In addition, staff recommends requiring solar photovoltaic requirements for commercial development as proposed by the County.

Staff does not recommend adopting additional EV charging infrastructure requirements under the Reach Code at this time. This would allow focus to remain on building electrification and discouraging natural gas usage, and under the climate action plan there are plans to conduct an analysis and tailored recommendations for Menlo Park to improve the community's EV infrastructure.

Next steps

The EQC should review and discuss the reach code options and provide feedback to staff for a recommendation to the City Council to consider in July. A reach code amendment to the building codes requires community engagement, drafted ordinance language, and a first and second reading from the City Council, and approval from the CEC (if applicable.)

Impact on City Resources

This project has been identified in the City Council annual work plan. However, it does impact the ability to complete other routine tasks and projects already identified in the Climate action plan and zero waste plan. In addition, the climate action plan update and greenhouse gas inventory update have been delayed until this project is complete. Other projects are being completed at a slower rate to address this City Council priority.

Environmental Review

This action is not a project within the meaning of the California Environmental Quality Act (CEQA) Guidelines §§ 15378 and 15061(b)(3) as it will not result in any direct or indirect physical change in the environment.

Public Notice

Public notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting.

Attachments

A. EV ordinance comparison

Report prepared by:
Joanna Chen, Sustainability Specialist
Rebecca Lucky, Sustainability Manager

Electric Vehicle Ordinance Comparison				
Building type	**2019 CalGreen***	**Menlo Park (current)**		**PCE/County proposed**
Single family	1 Level 2 EV Capable per dwelling unit	1 Level 2 EV Capable		1 Level 2 and 1 Level 1 EV Ready circuit
Multifamily	10% of parking spaces are Level 2 EV Capable	More than two multifamily dwelling units including townhouses: 1 EV space (conduit & wiring but no charger) per dwelling unit 15% of EV spaces must have chargers installed		≤20 units: 1 Level 2 EV per dwelling >20 units: of all dwelling units • 25% Level 2 EV Ready (10% in affordable housing) • 75% Level 1 EV Ready (90% in affordable housing)
Below market rate (BMR) housing	Unavailable	For 100 percent BMR housing developments, Install EV chargers for 10% of the total number of dwelling units		10% of spaces are Level 2 EV Ready 90% Level 1 EV Ready
Office	~6% of parking spaces are Level 2 EV Capable for buildings with at least 10 spaces	≤9,999 sq ft: Where there are 10 – 50 parking spaces, 4% shall be EV spaces (conduit & wiring but no charger). Where there are 51 – 75 parking spaces, four spaces shall be EV spaces (conduit & wiring but no charger)	>9,999 sq ft: 15% of spaces must be EV spaces (conduit & wiring but no charger), 10% of the EV spaces must have chargers installed (minimum of 1)	10% Level 2 EVSE 10% Level 1 EV Ready 30% EV Capable or Ready
Commercial	~6% of parking spaces are Level 2 EV Capable for buildings with at least 10 spaces			6% Level 2 EVSE 5% Level 1 EV Ready Over 100 spaces: option for DC Faster Charger per 100 spaces

*2019 CalGreen language will be released in July

Table from https://www.codepublishing.com/CA/MenloPark/html/MenloPark12/MenloPark1218.html#12.18 for reference

Table 5.106.5.3.3

[1]

New Construction			Addition and/or Alteration	
Square Footage of Building	**Total Number of Parking Stalls**	**Number of Required EV Charging Spaces[2]**	**Square Footage of Affected Area**	**Number of Required EV Charging Spaces[2]**
1 sq. ft.—9,999 sq. ft.	0—9	0	1 sq. ft.—9,999 sq. ft.	0
	10—25	1		
	26—50	2		
	51—75	4	10,000 sq. ft.—25,000 sq. ft.[3]	Minimum of 5% of total required number of parking stalls and install EVSE in a minimum of 1 charging space.
Greater than 9,999 sq. ft.	N/A	Minimum of 15% of total required number of parking stalls[2] and install EVSE in 10% of the total required number of parking stalls, with a minimum of 1, in charging space(s).	Greater than 25,000 sq. ft.[4]	Minimum of 10% of total required number of parking stalls and install EVSE in 1 plus 1% of the total required number of parking stalls in charging space(s).

1. The EV space requirement is based on the required parking associated with the building where the work is being performed, inclusive of landscape reserve parking.

2. Calculations for spaces shall be rounded up to the nearest whole number.

3. For additions/alterations10,000 sq. ft.—25,000 sq. ft. in the first year after the effective date of the ordinance, the requirement would be one percent. In the second year after the effective date of the ordinance, the requirement would be three percent. In the third year after the effective date of the ordinance and thereafter, the requirement would be five percent.

4. For larger additions/alterations (25,001 sq. ft. and greater), in the first year after the effective date of the ordinance, the requirement would be two percent. The second year after the effective date of the ordinance, the requirement would be five percent. In the third year after the effective date of the ordinance and thereafter, the requirement would be 10 percent.

(Ord. 1049 § 2 (part), 2018).