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REPORT TO COUNCIL

SUBJECT

Approve a Phased Reach Codes Program and implement Phase 1 for new Residential and Non-Residential Construction Projects: Introduce an Ordinance to Amend Chapter 16.42 (Energy Code) and Chapter 16.43 (Green Building Code) of Title 16 (Buildings and Construction) and Find that the Action is Exempt from CEQA

SUMMARY OF COMMISSIONS ACTIONS

The Sustainability Commission considered this item on August 17, 2020, and the Planning Commission considered this item on September 14, 2020.

The Sustainability Commission voted to recommend to City Council Alternative 2 to approve a Phased Reach Codes Program and implement Phase 1 for new Residential and Non-Residential Construction Projects and Introduce a Reach Code Ordinance for Residential and Non-Residential projects, with the following modifications. The vote was 5-0-1, with Commissioner Joesten absent.

(a) Increase the percentage of spaces that are EV-ready for multifamily residential and non-residential new construction in Phase 1.

Staff Comment: The Commission did not select a percentage of spaces to be EV ready. The current Zoning Code (Title 19 of the Sunnyvale Municipal Code) requires 12.5% of multifamily spaces to be EV capable (i.e., conduit installed and space available on the electrical panel for eventual wires to be pulled to the site where a charger could be installed). The state Green Building Code requires 10% of multifamily EV capable.

The State Green Building code requirement for non-residential is six percent EV capable, and the current city requirement is three percent EV ready.

San Jose has been suggested as a possible model from some local advocates, as well as the Silicon Valley Clean Energy (SVCE) recommendations. Several cities have adopted the SVCE/Peninsula Reach Codes recommendation. Attachment 14 provides a comparison of several local cities' EV requirements and a table of Sunnyvale's existing EV requirements, staff's initial recommendation and staff's revised recommendation. Staff has modified the recommendation to increase EV requirements to be consistent with the SVCE/Peninsula recommendations. Further description of the City Green Building Code and recommended EV charging infrastructure is below.

(b) Move EV pre-wiring requirements (additions/remodels) from Phase 2 into Phase 1.

Staff Comment: The Commission did not define the scope of work needed to implement this requirement equitably. Pre-wiring for electric vehicle chargers during addition or altering a structure will have monetary impacts on construction costs. The cost of retrofit wiring for electric vehicles is $1200 to $6500 per estimates from SVCE. Keeping pre-wiring at Phase 2 will provide time to research proper implementation.

Staff recommends keeping this requirement in Phase 2 so that an appropriate threshold can be researched.

(c) In Phase 1, eliminate Exception 1 (buildings with industrial and process loads and Exception 4 (non-residential kitchens), since these uses can be addressed, where needed, through Exception 5.

Staff Comment: Exception 1 addresses occupancies of F (Fabrication), H (Hazardous), and L (Laboratory) as defined by the California Building Code (CBC). At about two and a half percent of non-residential permits issued, applications include businesses such as chip manufacturers, defense/space systems, and medical device fabrication. Structures with fabrication, hazardous, and laboratory use also consist of other occupancies. Most buildings that enclose Fabrication, Hazardous, or Laboratory uses also include Business, Assembly, and Storage areas. The exemption proposed would only apply to the specific portions of the building that would enclose the F, H, and L occupancies. The remaining portion of the building would be required to comply with the all-electric requirement.

Exception 4 addresses non-residential kitchens. Other cities require non-residential kitchens to be all-electric but provide exceptions that result in installation of wood and gas products. Currently, restaurant staff members are not formally trained on the use of electric kitchen equipment. When training for electric versions of kitchen equipment and appropriated sized kitchen cooking equipment is widely available, electric kitchens will be feasible. Staff will propose an ordinance when all-electric appliances, with few exceptions, are feasible options for large non-residential kitchens.

Exception 5 is for unusual instances when an electric option is not available. Exceptions 1 and 4 have defined situations for the absence of electric appliances and should be listed separately.

Staff is not recommending any changes to eliminate either Exception 1 or Exception 4.

(d) For non-residential kitchens, require Energy STAR appliances (as per the currently described Phase 2), if the exception is granted through the Exception 5 process (assumes Exception 4 is eliminated).

Staff Comment: As part of the process of moving toward all-electric non-residential kitchens, a practical step toward reducing greenhouse gases is through Energy STAR-rated appliances. A feasibility study commissioned by the California Public Utilities Commission shows the use of Energy STAR appliances will significantly reduce the carbon footprint for kitchens and increase sustainable food practices. Providing implementation during Phase 2 allows business owners to maintain food service quality and reduce greenhouse gas emissions.

Staff has revised the Ordinance to require Energy STAR-rated appliances in non-residential kitchens (even if gas cooking appliances are provided) as part of Phase 1.

(e) Consider defining milestones to be met for implementation of Phases 3 and 4.

Staff Comment: The California Energy Commission requires Reach Code ordinances to meet cost -effectiveness studies. Cost-effectiveness is the total cost of the building and maintenance measured over the life of the project. Cost-effectiveness studies are a milestone to the implementation of Phase 3 and Phase 4 since Reach Codes cannot advance without them.

No modifications are proposed to the phased program, as the definition of the phases already include the assumption of milestones: the availability of cost-effectiveness studies.

The Planning Commission voted to recommend to City Council Alternative 2 to approve a Phased Reach Codes program and implement Phase 1 for new Residential and Non-Residential Construction Projects and Introduce a Reach Code Ordinance for Residential and Non-Residential projects, with the following modifications. The vote was 5-1-1, with Commissioner Rheaume absent.

1. Require pre-wiring for electric vehicle charging if a panel upgrade is required for modifications to a residential project and the service is not underground. The requirement must be implemented during Phase 1.

   Staff Comment: This amendment intends to encourage homeowners to prepare to purchase an electric vehicle when upgrading their electrical panels. Residential projects (single or multifamily) upgrade main electric panels for various reasons, and installing conduit and wiring for an electric vehicle can cost an additional $6500 to the cost of the panel upgrade.

   Staff requires time to develop a method of implementation that is equitable for all panel upgrade scenarios and is recommending no changes.

2. Exception 5 to include new construction that, using different technologies, demonstrate a greater reduction in greenhouse gas emissions than with all electric energy, as approved by the Chief Building Official.

   Staff Comment: The Ordinance has been updated to include this additional option for granting an exception to the all electric requirement.

3. Specify that Phase 1 Exception 1 (F, H, and L occupancies) be granted on a case by case basis by the Chief Building Official.

   Staff Comment: See discussion (c), above, for explanations. Staff is not recommending any changes.

Public Comment letters received after publication of the Planning Commission report are provided in Attachment 13 to the report.

AMENDMENTS TO THE GREEN BUILDING CODE

After this item went to the Sustainability and Planning Commissions, staff considered feedback from the Commissions and advocates and has added amendments to the City's Green Building Code (Sunnyvale Municipal Code Chapter 16.43) related to electric vehicle (EV) chargers in both residential and non-residential projects. These amendments are contained in Exhibit B of the proposed Ordinance (Attachment 2). The changes encompass the installation of various electric vehicle charger levels (voltage) and infrastructure. Silicon Valley Clean Energy has developed a Reach Code for EV charger installation that staff is recommending apply to Sunnyvale. Construction of new buildings will trigger the installation of infrastructure and in some circumstances actual chargers. The three types of infrastructure include: conduit only (EV Capable); conduit, wires, and an outlet for the charger (EV Ready Circuit); and, installation of a charger (EV Charging Station). Three levels of chargers are defined as a trickle charger (Level 1 - 120 volts), standard charger (Level 2 - 240 volts), and fast charger (Level 3 400 or greater volts). The combination of the infrastructure types with the levels of chargers provides an array of minimum construction requirements. The staff recommended the Green Building Code amendments along with other city comparisons are shown in Attachment 14. As with the changes to the City's Energy Code, the new EV charger requirements will go into effect on January 1, 2021.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at the Office of the City Clerk and on the City's website.

ALTERNATIVES

1. Approve a Phased Reach Codes Program and implement Phase 1 for new Residential and Non-Residential Construction Projects and Introduce an Ordinance to Amend Chapter 16.42 (Energy Code) and Chapter 16.43 (Green Building Code) of Title 16 (Buildings and Construction) and Find that the Action is Exempt from CEQA pursuant to CEQA Guidelines Sections 15308, 15305 and 15061.
2. Alternative 1 with Modifications.
3. Take no action and give staff direction on what should be included in the Reach Codes.

STAFF RECOMMENDATION

Alternative 1: Phased Reach Codes Program and implement Phase 1 for new Residential and Non-Residential Construction Projects: Introduce an Ordinance to Amend Chapter 16.42, Energy Code and Chapter 16.43 (Green Building Code) of Title 16 (Buildings and Construction) and Find that the Action is Exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Sections 15308, 15305 and 15061.

Through a phased approach to implement Reach Codes, the City of Sunnyvale would make a positive difference in reducing green house gases and would be an aspirational example of a City's ability to go above and beyond to reduce its climate impact through aggressive prioritization and careful cost-benefit analysis. Phase 1 implementation is projected to commence January 1, 2021, and Phase 2 is planned for Summer 2021.

Prepared by: Suzanne Park, Chief Building Official
Reviewed by: Andrew Miner, Assistant Director of Community Development

Reviewed by: Nupur Hiremath, Environmental Programs Manager
Reviewed by: Trudi Ryan, Director of Community Development
Reviewed by: Teri Silva, Assistant City Manager
Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Report to Sustainability Commission, 20-0655 on August 17, 2020 and Planning Commission, 20-0783 on September 14, 2020 (*without attachments*)
2. Draft Ordinance (*with updated staff recommendation*)
3. Benchmarking with other Reach Codes
4. Wood-burning/Gas Appliances and Commercial Kitchens
5. Cost-Effectiveness Studies
6. Commercial Kitchens Study: “Energy Reduction in Commercial Kitchens”
7. Survey Results: Non-residential Reach Codes
8. Survey Results: Residential Reach Codes
9. Green Building Program
10. Public Contact

Additional Attachments for Report to Council

11. Excerpt of Minutes of the Sustainability Commission Meeting of August 17, 2020
12. Excerpt of Minutes of the Planning Commission Meeting of September 14, 2020
13. Public Comment Letters after publication of the Planning Commission report
14. EV Charger Requirements - Comparison of Cities