

DOCKETED

Docket Number:	19-BSTD-06
Project Title:	Local Ordinances Exceeding the 2019 Energy Code
TN #:	232162-4
Document Title:	City of Saratoga - 2019 Code Adoption Staff Report FINAL
Description:	Plain text of the City of Saratoga Code Adoption staff report
Filer:	Danuta Drozdowicz
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	2/20/2020 6:54:15 PM
Docketed Date:	2/21/2020



SARATOGA CITY COUNCIL

MEETING DATE: November 20, 2019

DEPARTMENT: Community Development Department

PREPARED BY: Keith Weiner Building Official

SUBJECT: Adoption of the 2019 California Building Codes with Local Modifications

RECOMMENDED ACTION:

- (1) Conduct a public hearing;
- (2) Introduce and waive the first reading of the attached ordinance adopting and modifying the referenced codes; and
- (3) Direct staff to place the ordinance and the attached resolution making findings regarding proposed modifications to the referenced codes on the consent calendar for adoption on December 4, 2019.

BACKGROUND:

The construction of residential, commercial, and other buildings in California is regulated by Title 24 of the California Code of Regulations, also known as the California Building Standards Code ("CBSC"). These regulations establish construction standards to protect the public welfare and provide uniformity in building laws. State law requires that the Building Codes be updated every three years. The updated Building Codes go into effect statewide on January 1, 2020.

The CBSC is enforced by local governments through the building permit process. All construction in the State must comply with the CBSC, subject to any local modifications made to the CBSC by the city or county in which the construction is to occur. Modifications are allowed only to address local climatic, geological, or topographical conditions, and the local government must make express findings that such conditions justify its modifications. The attached ordinance adopts the CBSC as part of the Saratoga Code and modifies the CBSC as needed to reflect local conditions in Saratoga.

The attached Resolution (Attachment B) describes the modifications to the CBSC that are proposed in the ordinance and sets forth reasons why these modifications are reasonably necessary because of local climatic, geological, or topographical conditions. The Resolution is to be adopted concurrently with the ordinance.

REACH CODE DEVELOPMENT:

Local governments are authorized to adopt local modifications to the state energy standards contained in Part 6 of Title 24, also known as the California Energy Code. Such local changes are referred to as "energy reach codes." To adopt an energy reach code, a local government must

find that its proposed changes are cost-effective, and the California Energy Commission (“CEC”) must find that the changes would result in buildings designed to use no more energy than permitted by the Energy Code. An energy reach code may be enforced by the local government only after the CEC has approved it.

On October 16, 2019, the City Council directed staff to prepare modifications to the CBSC that would help advance the City’s commitment to greenhouse gas reduction by requiring a higher level of electrification in newly constructed buildings. The proposed ordinance contains a reach code measure designed to do so. The proposed modifications to the Energy Code would require that new buildings use electric heat-pump technology for their space- and water-heating. Natural gas would be permitted as a fuel source for clothes drying, food cooking, and fireplaces. However, buildings using natural gas appliances must also be “electric-ready,” meaning that the location of a natural gas appliance is capable of supporting an electric appliance in the future.

Staff has determined that the energy reach code measures are cost-effective, based on the attached cost-effective analyses. The first attached analysis is the “2019 Cost-effectiveness Study: Low-Rise Residential New Construction” prepared by Frontier Energy, Inc. and Misti Bruceri & Associates, LLC, in association with the California Energy Codes & Standards Program (Attachment C). This study measures efficiency using a benefit to cost ratio, where a value of 1 represents that benefit is equal to cost. A number greater than 1 shows that benefits outweigh costs. Table 53 on page 86 illustrates that the benefit to cost ratio of a mixed fuel single family house, at worst case, is a factor of 1.15 using the federally supplied efficiency specifications for appliances.

The second cost-effective analysis staff has relied upon is the “2019 Nonresidential New Construction Reach Code Cost Effectiveness Study” prepared by TRC and EnergySoft in association with the California Energy Codes & Standards Program (Attachment D). This study shows that for a medium office, the most likely non-residential occupancy in Saratoga, all packages are cost effective in all climate zones using the TDV approach. The benefit to cost ratio is 1.4, shown in Figure 17, page 26.

Additionally, because the reach code measures require only that buildings utilize electricity as a fuel source for certain appliances, rather than changing the requirement that buildings must comply with the energy consumption levels required by the state code, the reach code will result in buildings designed to use no more energy than permitted by the state Energy Code.

ELECTRIC VEHICLE CHARGING REQUIREMENTS:

The number of registered plug-in vehicles in Santa Clara County increased by 23 percent to 55,617 from January to October 2018. Santa Clara County now has the highest percentage of EVs of any county in California.

It is widely known that availability of EV charging infrastructure is a critical component to EV adoption. Meanwhile, it is significantly more expensive to install charging infrastructure as a retrofit than it is during new construction. As such, ensuring that newly constructed residential and nonresidential 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.

As part of the CBSC adoption process, staff is proposing amendments to the California Green Building Standards Code (“CALGreen”), Part 11 of Title 24, which includes items such as EV charging infrastructure. These proposed amendments are based on City Council’s direction in an October 16th session. In accordance with that direction, the EV amendments in the attached ordinance are modeled after those in the SVCE model code, and would require a second EV outlet, and one of the outlets must be located on the exterior of a building.

Unlike amendments to the Energy Code, a cost-effectiveness study is not required for amendments to CALGreen. However, to evaluate the financial impact of the EV amendments, Peninsula Clean Energy (PCE) and Silicon Valley Clean Energy (SVCE) commissioned an analysis of the total cost of implementing various EV infrastructure measures. The study is still underway.

SUMMARY OF ORDINANCE:

City staff, in consultation with Santa Clara County Fire Department, Silicon Valley Clean Energy, and other local West Valley Building Officials, has reviewed the 2019 California Building Standards Code and recommends the adoption of the ordinance in Attachment A. The specific provisions adopted and modified by the ordinance are listed below and summarized in more detail in the Resolution Summary Matrix (Attachment B).

- **2019 CA Building Code** -- The 2019 California Building Code is adopted and modified in Article 16-15 of the Saratoga City Code. The modifications made to the 2016 California Building Code in Article 16-15 (“Building Code”) are detailed in the draft ordinance.
- **2019 CA Residential Code** -- The 2019 California Residential Code is adopted and modified in Article 16-18 of the Saratoga City Code. The modifications made to the 2016 California Residential Code in Article 16-18 (“Residential Code”) are detailed in the draft ordinance.
- **2019 CA Electrical Code** -- The 2019 California Electrical Code is adopted in Article 16-35 of the Saratoga City Code by reference.
- **2019 CA Mechanical Code** -- The 2019 California Mechanical Code and all its appendices are adopted in Article 16-30 of the Saratoga City Code by reference.
- **2019 CA Plumbing Code** -- The 2019 California Plumbing Code and Appendices are adopted in Article 16-25 of the Saratoga City Code by reference.
- **2019 CA Energy Code** -- The 2019 California Energy Code is adopted in Article 16-51 of the Saratoga City Code with modifications to require that new buildings use electric space-and water-heating, and otherwise be built “electric-ready.”
- **2019 CA Historical Building Code**-- The 2019 California Historical Building Code is adopted in Article 16-56 by reference.
- **2019 CA Fire Code** -- The 2019 California Fire Code and Appendices are adopted and modified in Article 16-20 of the Saratoga City Code. The modifications made to the 2019 California Fire Code in Article 16-20 (“Fire Code”) are detailed in the draft ordinance.

A notable revision reduces the amount of roof area (from 50 percent to 10 percent) which could be replaced before triggering a requirement to upgrade the entire roof to a Class A roof. Given the large percentage of Saratoga classified by the State as a high fire area, staff considered this revision necessary. Another significant revision also set up new standards for mobile refueling operators.

- **2019 CA Existing Building Code** -- The 2019 California Existing Building Code in Article 16-57 is adopted by reference.
- **2019 CA Green Building Standards Code** -- The 2019 California Green Building Standards Code is adopted in Article 16-49 of the Saratoga City Code with modifications to require the installation of an additional Electric Vehicle Charger in new buildings.
- **2019 CA Referenced Standards Code** -- The 2019 California Referenced Standards Code is adopted in Article 16- 55 by reference.

ENVIRONMENTAL DETERMINATION:

Pursuant to the California Environmental Quality Act (“CEQA”), this action is exempt under California Code of Regulations, Title 14, Section 15308 (the modifications are exempt because they assure maintenance, restoration, enhancement, or protection of the environment) and Section 15061(b)(3) (the modifications are exempt because it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment).

ATTACHMENTS:

Attachment A - Ordinance

Attachment B - Resolution Containing Matrix of Justifications for Amendments.

Attachment C - California Energy Codes & Standards: 2019 Cost-effectiveness Study: Low-Rise Residential New Construction

Attachment D - California Energy Codes & Standards: 2019 Cost-effectiveness Study: Nonresidential New Construction

Attachment E - Letters of Support