



# California Building & Fire Code Introduction of Ordinances

*California Code of Regulations Title 24*

2019 California Building Codes

2019 California Fire Code

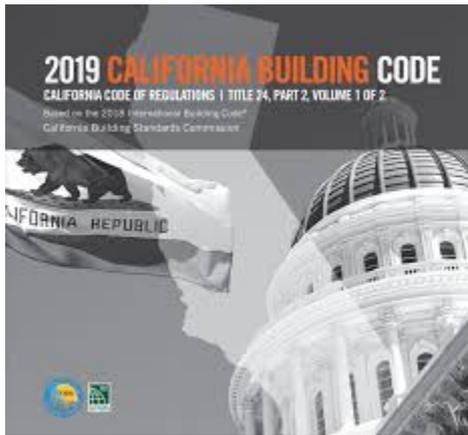
City Council Meeting  
October 22, 2019

Jesse Oswald  
Chief Building Official

Ian Hardage  
Assistant Fire Marshal

# Background

- California's building standards are published in their entirety every three (3) years. The California Building and Fire Code are included in this series of standards.



- The 2019 California Building Standards (California Code of Regulations, Title 24) published as of July 1, 2019.
- Effective date of the 2019 Code will be January 1, 2020 upon successful adoption.

# Background

## **California Code of Regulations, Title 24 Parts 1-12**

- “California Building Standards” are the statewide standards for all public and private building construction in California.
- Includes Building, Fire, Plumbing, Mechanical, Electrical, Energy, Disabled Access, Green Building and other standards.
- Updated and adopted every three years for statewide application by the California Building Standards Commission, with mandatory enforcement by all jurisdictions throughout the state.
- Local jurisdictions may adopt additional amendments based upon local or regional topographical, climatic, or geologic conditions germane to each local entity.

# Background

- The 2019 Edition was adopted by the state on January 1, 2019 and published July 1, 2019.
- Local jurisdictions have until January 1, 2020 to adopt any additional amendments at which time the regulations are enforceable statewide.
- City staff have been collaborating internally and with other external peer organizations to develop ordinances with the proper local amendments specific to the City of Santa Rosa.
- Staff had significant outreach with two council study sessions, various meetings with stakeholders such building and fire officials, informed developers, contractors and general public at various meeting held throughout the city.

# Collaboration

- Updates for the 2019 California Building Standards were developed at monthly Redwood Empire Association of Code Officials (REACO) and Sonoma County Fire Prevention Officer meetings.
- Building officials from jurisdictions in Marin, Sonoma, Napa and Mendocino Counties participate in REACO as well as all Sonoma County fire authorities participating in the Fire Prevention Officers organization.
- Workgroups focused on consistency to developed common amendments proposed for adoption and alignment with model codes in many of these jurisdictions.



# Participants

Santa Rosa FD

Petaluma FD

Healdsburg FD

Sebastopol FD

Sonoma County FPD

Rancho Adobe FPD

Sonoma Valley FPD

Rohnert Park Dept. of Pub  
Safety

Sonoma County PRMD

REACO – Building Officials

Regional Climate Protection  
Agency

Sonoma Clean Power

Bay Area Regional Energy  
Network

and others...



# Examples

- Development of all electric reach construction standards to be effective February 1, 2020.
- These ordinances have recognized opportunities to continue to protect not just our newly built communities but our existing built communities as well from the dangers of wildfire through construction standards and to provide the ability for maintenance and reduction of hazardous vegetation in new and existing communities.
- This ordinance has also identified and addressed known hazards, such as: multiple points of access to new developments; the continually evolving cannabis industry, new technologies and safety challenges by including nationally recognized standards; standardized fire alarm maintenance forms, rural water supply and stand alone residential fire sprinkler pump options and protections.

# New “Home Hardening” Requirements

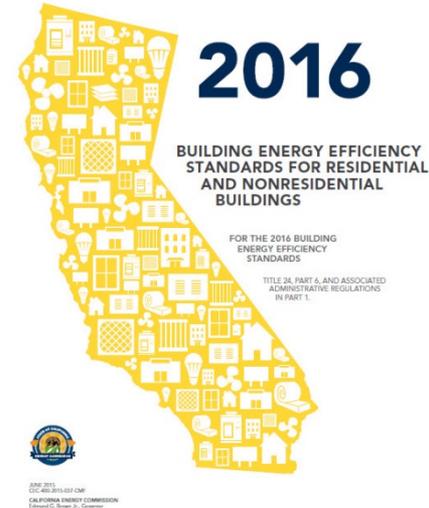
- Additions and alterations to buildings in the WUI to be compliant with CBC 7A or CRC R337 requirements.
- Fences attached to buildings in the WUI to be fire-resistive construction for first 3 feet or 5 feet.
- New roofing installed throughout Santa Rosa to be Class A.
- Reroofing within WUI to be Class A.
- Disallowance of wood shingles or shakes in WUI

# California Building & Residential Codes – Emergency Housing Requirements

- In 2017 the California Department of Housing and Community Development (HCD) provided optional and temporary Emergency Housing measures.
- In 2018 HCD proposed the measures be permanently-included in the upcoming (2019) Code adoptions as appendices.
- As appendices, the measures must be specifically-adopted by local jurisdictions.
- The adoption will provide minimum standards and requirements for implementation.

# California Energy Code

- Part 1 - California Building Standards Admin Code
- Part 2 - California Building Code
- Part 3 - California Electrical Code
- Part 4 - California Mechanical Code
- Part 5 - California Plumbing Code
- **Part 6 - California Energy Code**
- Part 7 - California Elevator Safety Construction Code
- Part 8 - California Historical Building Code
- Part 9 - California Fire Code
- Part 10 - California Code for Building Conservation
- Part 11 – California Green Building Standard



# BUILDING ENERGY EFFICIENCY STANDARDS

**\$19,000** SAVINGS OVER A 30 YR. MORTGAGE | INITIAL COST \$9,500

## CALIFORNIA ENERGY COMMISSION

The state's energy efficiency standards for new buildings and appliances have saved consumers billions in lower electricity and natural gas bills. The 2019 Building Energy Efficiency Standards for residential buildings includes a first-in-the-nation requirement to install solar photovoltaic systems. Other features enable homes to reduce the electricity demand from the grid, helping to reduce energy bills and the carbon footprint.



### SOLAR PHOTOVOLTAIC SYSTEM

Promote installing solar photovoltaic systems in newly constructed residential buildings. The systems include smart inverters with optional battery storage. This will increase the self-utilization of the electricity generated to power the home's electricity loads including plug-in appliances. California is the first state in the nation to require smart systems on homes.



### HEALTHY INDOOR AIR QUALITY

Enable using highly efficient filters that trap hazardous particulates from both outdoor air and cooking and improve kitchen ventilation systems. Moving air around and in and out of the home while filtering out allergens and other particles makes the home healthier.



### DEMAND RESPONSE COMPLIANCE OPTIONS

Encourage battery storage and heat pump water heaters that shift the energy use of the house from peak periods to off-peak periods. Utilities moving to time-of-use pricing assists the grid to meet the state's climate change goals and helps homes reduce energy bills.



### BUILDING ENVELOPE

Strengthen insulation in attics, walls and windows to improve comfort and energy savings. Keeping the heat out during the summer and warm air during the winter makes a home more resilient to climate change.

# New Code (2019)

Effective January 1, 2020

- Adopted May 9, 2019
- Lighting efficiencies increased – no incandescent lighting (few exceptions)
- 2 x 6 exterior wall framing – standard – (R-20 insulation)
- Efficiency for doors must now be addressed (not just windows)
- HERS Verified Quality Insulation Installation prescriptively required
- PV installation prescriptively required
- Natural Gas is not eliminated from code



# What is a Reach Code?

- In California, Title 24 of the Code of Regulations sets the building code standards for all jurisdictions statewide. However, local governments can **adopt more stringent requirements**, which are known as reach codes.
- All energy efficiency-related reach codes must be proven to be **cost effective**.
- All reach codes must go through a **public process** for approval.
- All reach codes must be **re-approved with each Energy Code update** (~every 3 years)

# California Energy Code adoption with All-Electric Reach Code

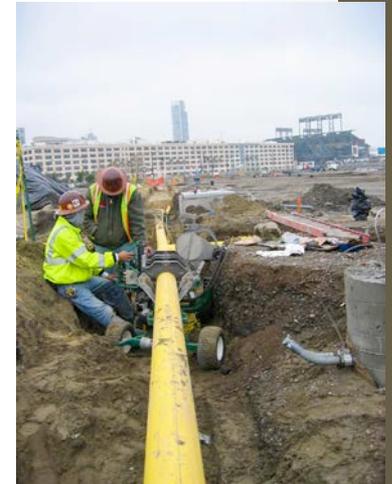
- Climate Action Subcommittee and the City Council provided direction to review and propose an all-electric reach code adoption.
- Partnerships with the Regional Climate Protection Agency, Sonoma Clean Power, Bay Area Regional Energy Network and others continue to provide outreach, public engagement and development of necessary ordinances.
- Progress, timelines and resources available online: [www.srcity.org/AllElectric](http://www.srcity.org/AllElectric)

# 50+ Cities and Counties Interested in 2020 Electric Reach Codes

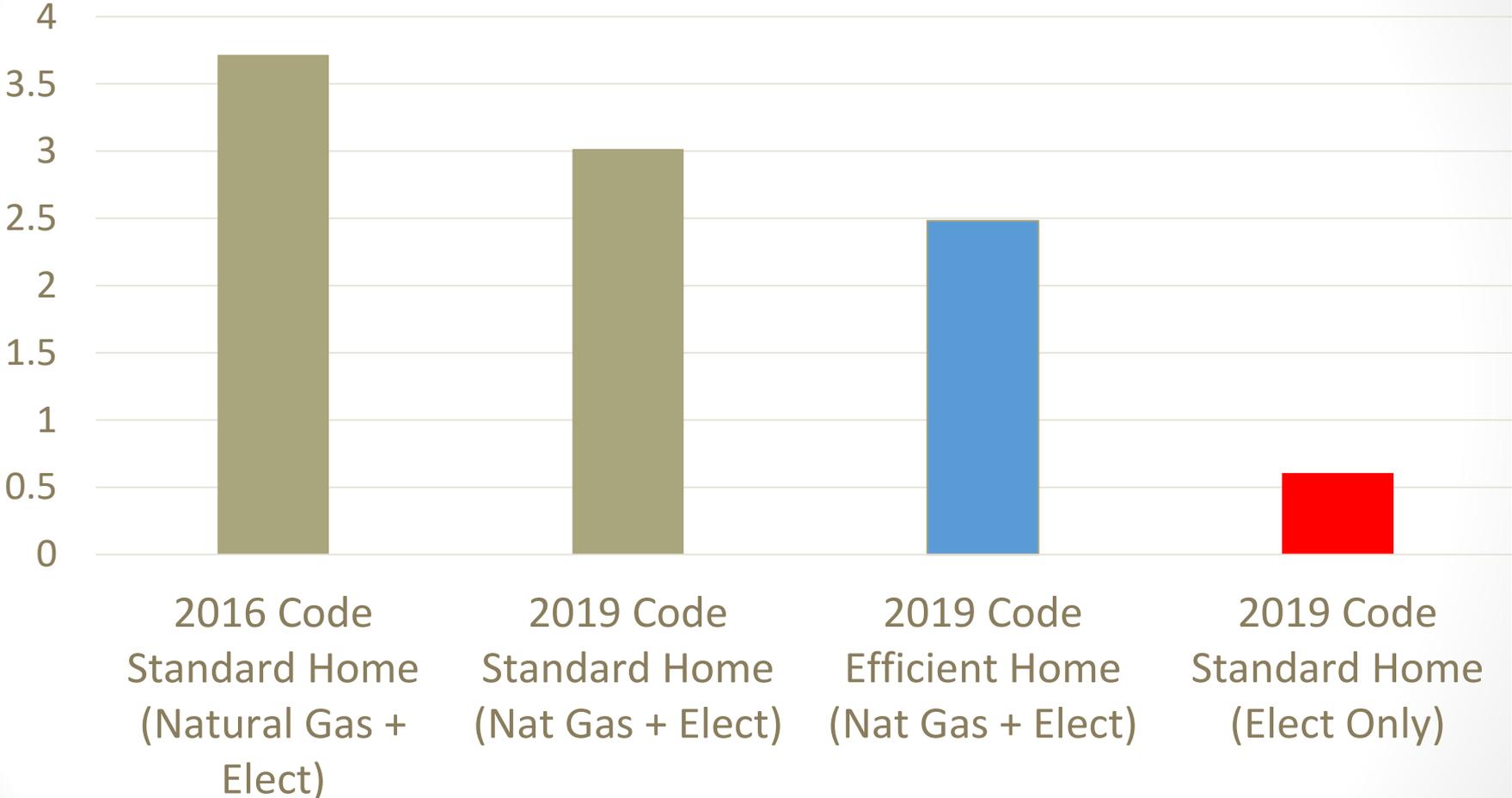
- Cloverdale
- Santa Rosa
- Windsor
- Petaluma
- Berkeley
- Fremont
- Hayward
- San Mateo
- Arcata
- Carlsbad
- Cupertino
- Davis
- Healdsburg
- Hillsborough
- Los Altos
- Los Angeles
- Monte Sereno
- Mountain View
- Marin County
- Menlo Park
- Morgan Hill
- Oakland
- Pacifica
- Palo Alto
- Portola Valley
- San Francisco
- San Jose
- San Luis Obispo
- Santa Clara County
- Santa Cruz
- Santa Monica

# Costs Effectiveness Study Results for All Electric

Required Measure	Average Cost versus Gas Appliance
Heating/Cooling (Heat Pump)	\$221 in cost savings
Water Heating (Heat Pump Water Heater)	\$0 in cost savings
Dryer (Electric)	\$0 in cost savings
Cooking (Induction)	\$0 in cost savings
Electric Service Upgrade	<b>\$600 in additional costs</b>
Gas Infrastructure	\$6,550 in cost savings
<b>Total Costs</b>	<b>\$6,171 in cost savings</b>



# Yearly Per Home Emissions (MT CO2e)



# Electric “Favored” Reach Code

- Follows similar path as All Electric “Only” Reach Code
- Targets the “Big Four” major appliances in new construction
  1. Space Heating
  2. Domestic Water Heating
  3. Clothes Drying
  4. Cooking
- Builders would have an option to provide only electric appliances, or select specific appliances to be gas.
- The option to have some or all gas appliances exists with a requirement to increase efficiencies on other building elements such as insulation, windows, doors and higher-efficiency space heating and domestic water heating.

# Process and Next Steps

- The final document was peer reviewed by all fire agencies listed as well as other industry professionals, private industry representatives, Redwood Empire Association of Code Officials representatives and fire prevention and operation personnel.
- Much of the final language has been incorporated into other code adoption packages of Fire and Building agencies throughout Sonoma County, Greater Bay Area and other various jurisdictions within the State.
- October 22, 2019 - Introduction of California Building and Fire Code Ordinances
- November 19, 2019 - Public Hearing for Council adoption of the Ordinances, effective January 1, 2020.

# Recommendation

- It is recommended by the Fire Department and the Planning and Economic Development Department that the Council
  - 1) introduce an Ordinance adopting by reference the 2019 edition of the California Fire Code as adopted and amended by the State of California, and further amended based on local conditions, for use in Chapter 18-44 of the Santa Rosa City Code, repeal existing sections not applicable to new codes and modify the Santa Rosa City Code to reflect the new model code,

# Recommendation, continued

- 2) Introduce an Ordinance adopting by reference, with local amendments,
  - 2019 California Administrative Code,
  - 2019 California Building Code,
  - 2019 California Residential Code,
  - 2016 California Green Building Standards Code,
  - 2019 California Electrical Code,
  - 2019 California Mechanical Code,
  - 2019 California Plumbing Code,
  - 2019 California Historical Building Code,
  - 2019 California Existing Building Code,
  - 2019 California Energy Code,
  - 2019 California Referenced Standards Code,
  - 2018 International Property Maintenance Code, and the National Pollutant Discharge Elimination Permit and Waste Discharge Requirements, and

# Recommendation, continued

- 3) Adopt a resolution setting a public hearing on November 19, 2019, for adoption of the Ordinances.
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## QUESTIONS?

Jesse Oswald  
Chief Building Official

Ian Hardage  
Assistant Fire Marshal