



# California Code Adoption

## Building & Fire Code Key Elements and Update

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# BACKGROUND

California's building codes are published in their entirety every three years. The California Fire Code is included in this series of codes.



The 2019 California Building Standards Code (CA Code Regs., Title 24) was published as of July 1, 2019, and the effective date of the 2019 Code will be January 1, 2020, upon successful adoption.

# BACKGROUND

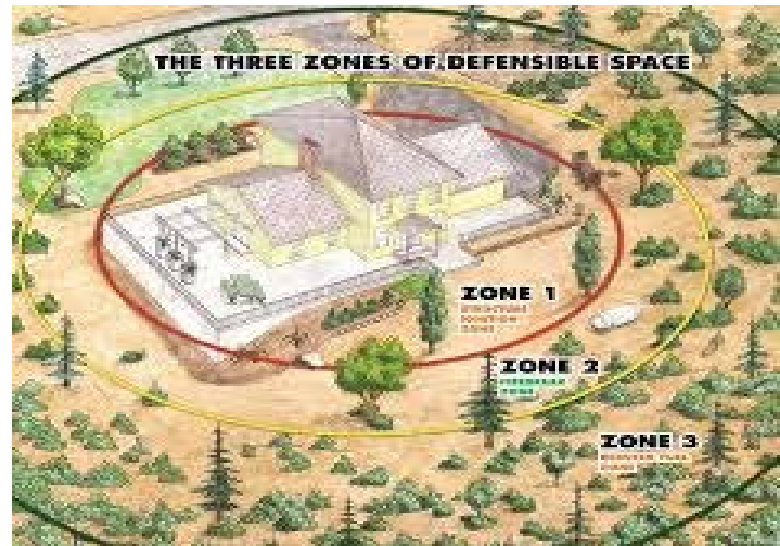
Throughout this year the Sonoma County Fire Prevention Officers' Association met with Sonoma County Building Officials to review and prepare updates for the 2019 California Fire and Building Codes.



The focus of the committee is to be as consistent as possible with the proposed code amendments and to focus on a more harmonious alignment with the model code as well as incorporate scientific based language at the local level for our WUI areas.

# New Regulations

Collaborative effort to evaluate our local conditions and make informed decisions with a scientific backing that will address home hardening and defensible space concerns in our WUI areas.



# New Regulations

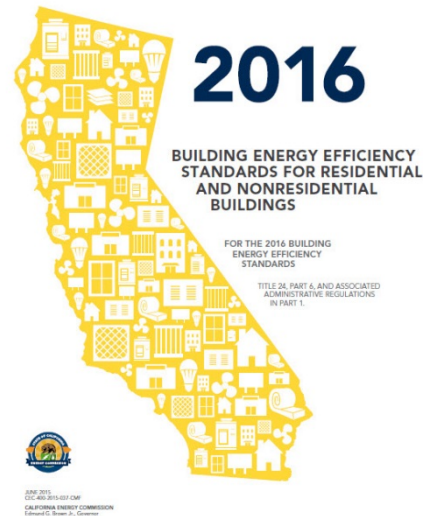
- Examples of more restrictive amendments:
  - Two points of access for developments
  - Limiting of specific flammable or hazardous vegetation
  - Vegetation restrictions within 3-5 feet from structures
  - 7A upgrade for significant remodels/additions
  - Limitations on type of construction materials in WUI areas
  - Non-combustible gates and/or attachments to structures
  - Minimum Class A roofs city-wide

# 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
- 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



## 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





# BUILDING ENERGY EFFICIENCY STANDARDS

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

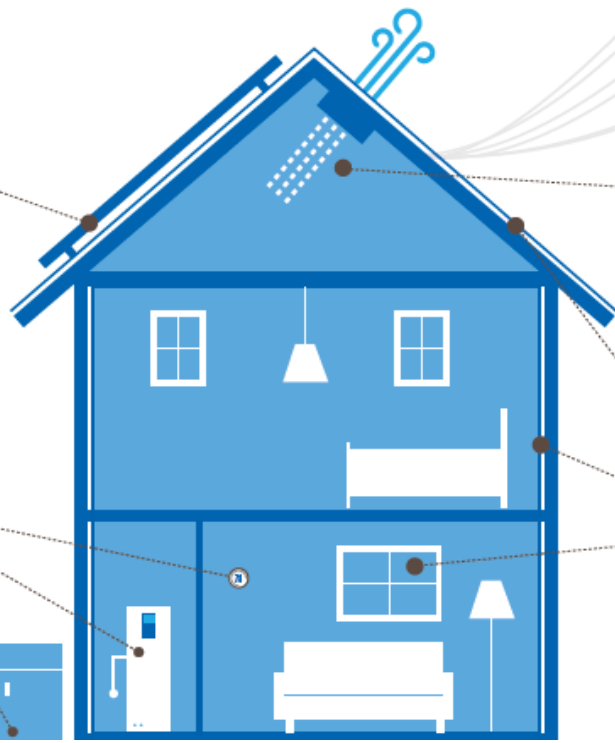
## CALIFORNIA ENERGY COMMISSION

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.

# 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)

# What is a Reach Code?

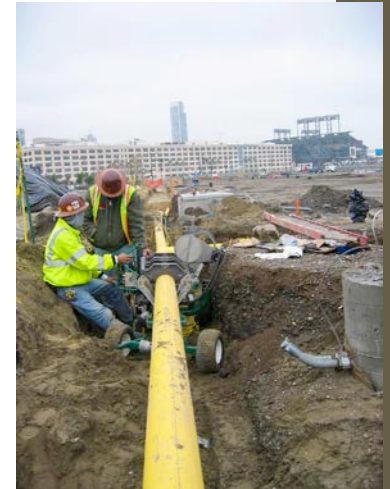
- In California, Title 24 of the Code of Regulations sets the building code standards for all jurisdictions statewide. However, local governments can **adopt more stringent requirements**, which are known as reach codes.
- All energy efficiency-related reach codes must be proven to be **cost effective**.
- 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)

## 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

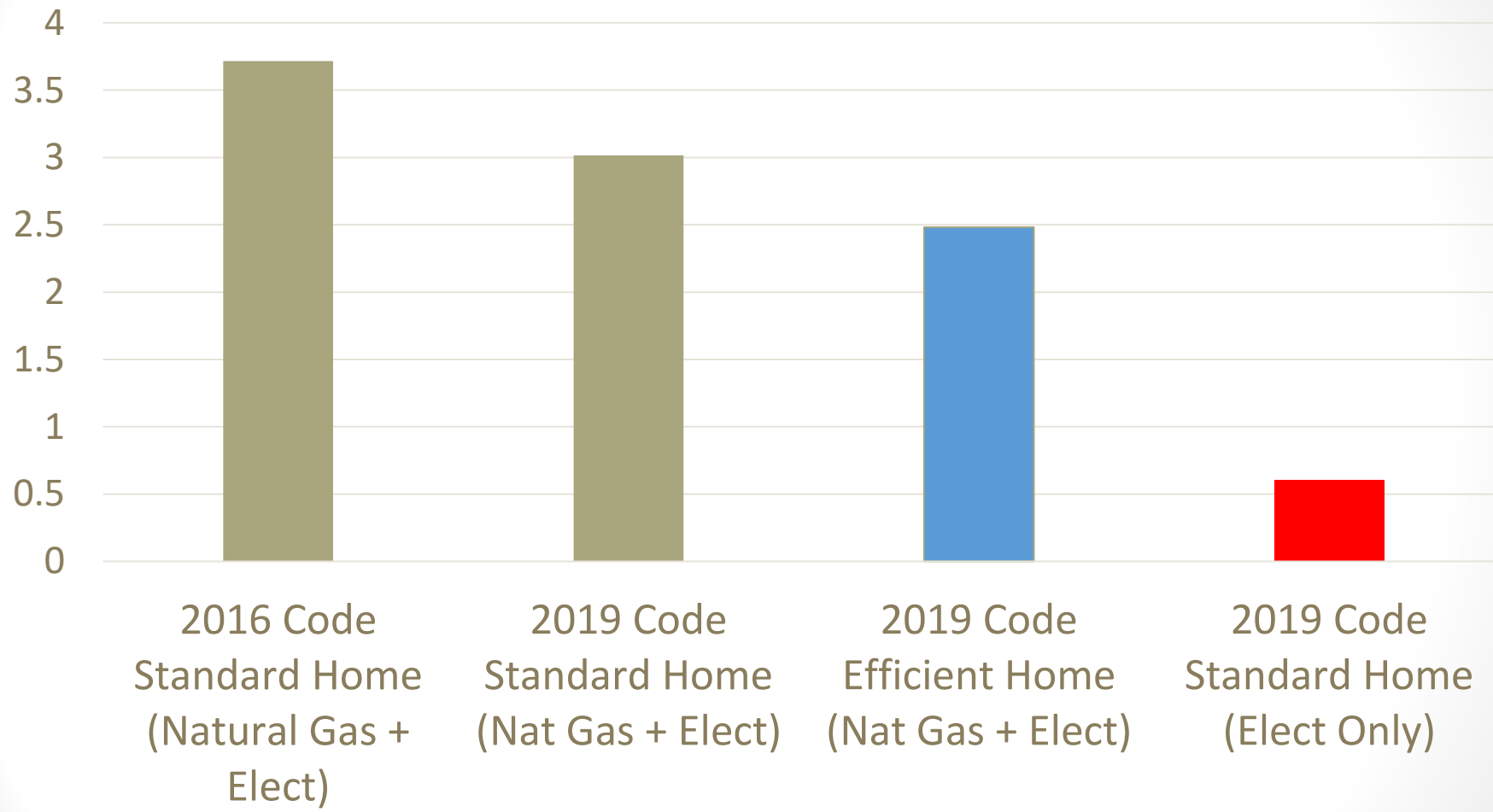
# Costs Effectiveness Study Results for All Electric

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)



# Code Adoption Timeline & Public Participation

- 8/14/2019 – North Cost Builders Exchange Workshop
- 9/3/2019 – Climate Action Subcommittee meeting
- 9/19/2019 @ 2:00PM – Builder/Developer Round Table
- 9/24/2019 – City Council Study Session; Building & Fire Code adoption
- 10/22/2019 - First reading of Ordinance
- 11/19/2019 – Second reading of Ordinance

Note: Due to the impact of numerous jurisdictions proposing reach codes, the adoption for the reach code portion will not be effective until February 1, 2020

# Code Conclusion

- The proposed All-Electric Reach Code is being pursued by modifying the California Energy Code with local amendments. It is not a stand-alone Ordinance.
- We are in the process of peer reviewing with all County fire agencies as well as other industry professionals, private industry representatives, Redwood Empire Association of Code Officials representatives and fire operations personnel.
- This presentation is an opportunity to provide the City Council with an update of the language that is intended to be scheduled for an October Council meeting when we present the triennial code adoption package.



# Questions?

