



Local Governments Empowering Our Communities

Energy Code Compliance: The Broader Perspective

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Overview of California's Codes and Standards

Title 20 Code of Regulations

Authority

- State Legislature
- Updated annually

Application

- Appliance Efficiency Regulations
- HERS Regulations

Title 24 Building Standards Code

Authority

- Building Standards Commission
- Triennial Updates

Application

- General Building Codes
- Historic Building Code
- Efficiency & Green Codes

Title 24 Building Standards

The California Building Standards code has 12 parts

- Part 1 - California Administrative Code
- Part 2 - California Building Code
- Part 2.5 - California Residential Code
- Part 3 - California Electrical Code
- Part 4 - California Mechanical Code
- Part 5 - California Plumbing Code
- **Part 6 - California Energy Code**
- Part 7 – Vacant
- Part 8 - California Historical Building Code
- Part 9 - California Fire Code
- Part 10 - California Existing Building Code
- Part 11 - California Green Building Standards Code
- Part 12 - California Referenced Standards Code



The Energy Standards are only one of the building codes enforced in California

BAYREN

Title 24, Part 6 Energy Code History



- ✦ 1973 Oil Embargo
 - ✧ OPEC imposed an embargo against the US in retaliation for re-supplying the Israeli military
 - ✧ Prompted the need to reduce dependency on foreign oil
- ✦ 1974 Warren Alquist Act
 - ✧ Established the California Energy Commission (CEC)
 - ✧ Incorporated Energy Standards along with other building codes (updated every 3 years).
 - ✧ First energy standards took effect in 1978

Warren-Alquist Act History: http://www.energy.ca.gov/reports/Warren-Alquist_Act/history.html

Intent Behind the Energy Code



- ★ The Warren-Alquist Act, requires the Energy Commission to develop and maintain energy efficiency standards that are
 - ✧ "... cost effective, when taken in their entirety, and when amortized over the economic life of the structure when compared with historic practice".
- ★ Energy Use in Time Dependent Valuation (TDV)
 - ✧ Gives greater weight to energy saved during peak periods – or periods when the generation capacity is at its limit and when the distribution system is near capacity.

California's Energy Policy Goals

★ California Long Term Energy Efficiency Strategic Plan

- ✧ 2008, CPUC adopted California's first Long Term Energy Efficiency Strategic Plan
- ✧ Goal of Zero Net Energy for residential new construction by 2020, Nonresidential by 2030
- ✧ Reduce greenhouse gas emissions 40 percent below 1990 levels by 2030



★ Benefits

- ✧ Avoid building new power plants while maintaining reliability
- ✧ Meet resource needs at lowest cost & least environmental impact
- ✧ Consumer Benefits include reduced energy bills and increase indoor air quality and comfort

Organization of Title 24, Part 6 Standards

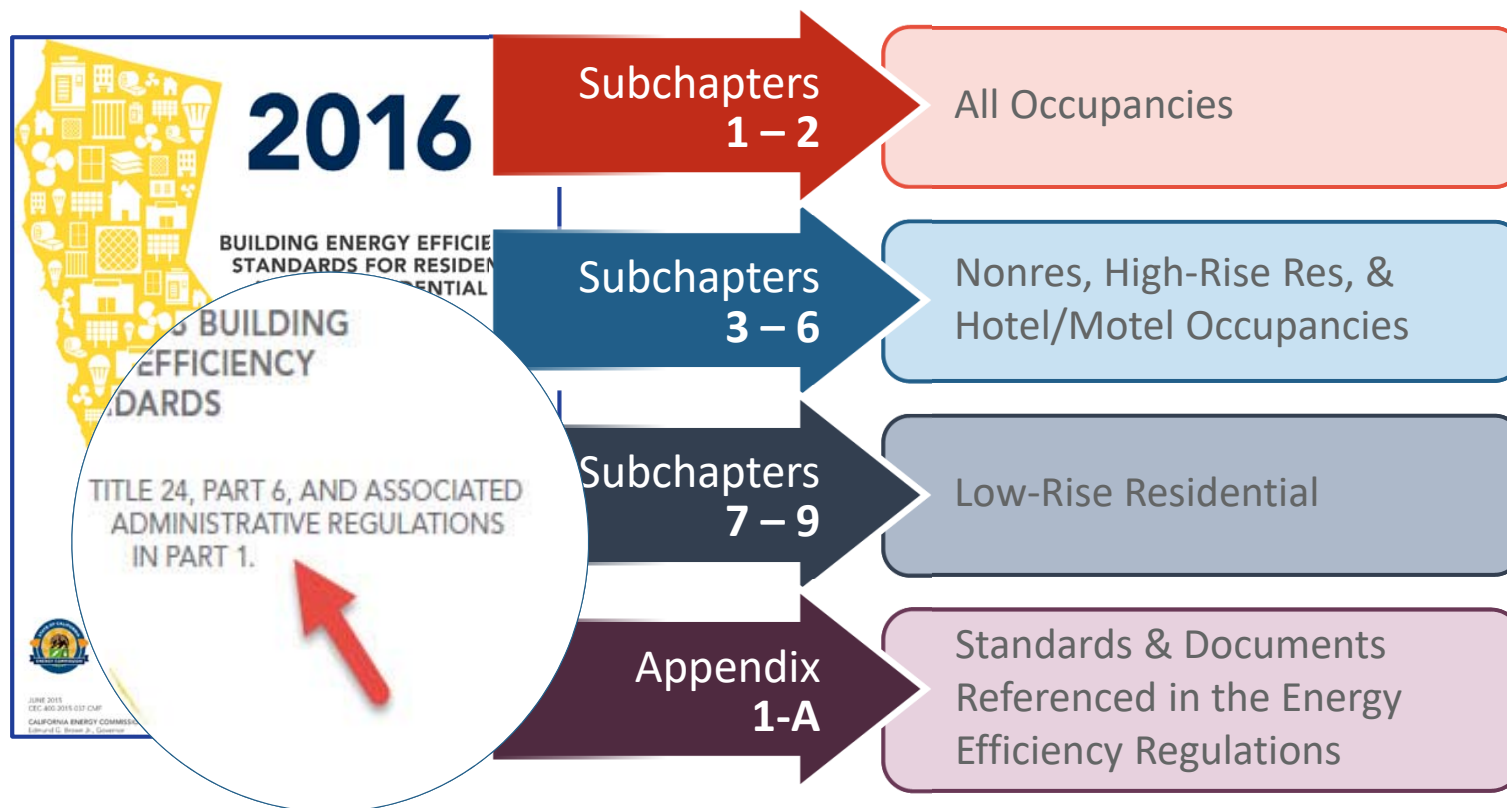


Image courtesy of Energy Code Ace

Compliance and Enforcement



Image courtesy of Energy Code Ace

Compliance requires careful coordination among multiple roles over several phases of construction.

- ✦ Designers
- ✦ Energy Consultants
- ✦ Permit Applicant
- ✦ Builders and Subcontractors
- ✦ Enforcement Agency
 - ✧ Permit Technicians
 - ✧ Plans Examiners
 - ✧ Building Inspectors
- ✦ Third-party Inspectors (HERS, ATT)

Compliance Approaches

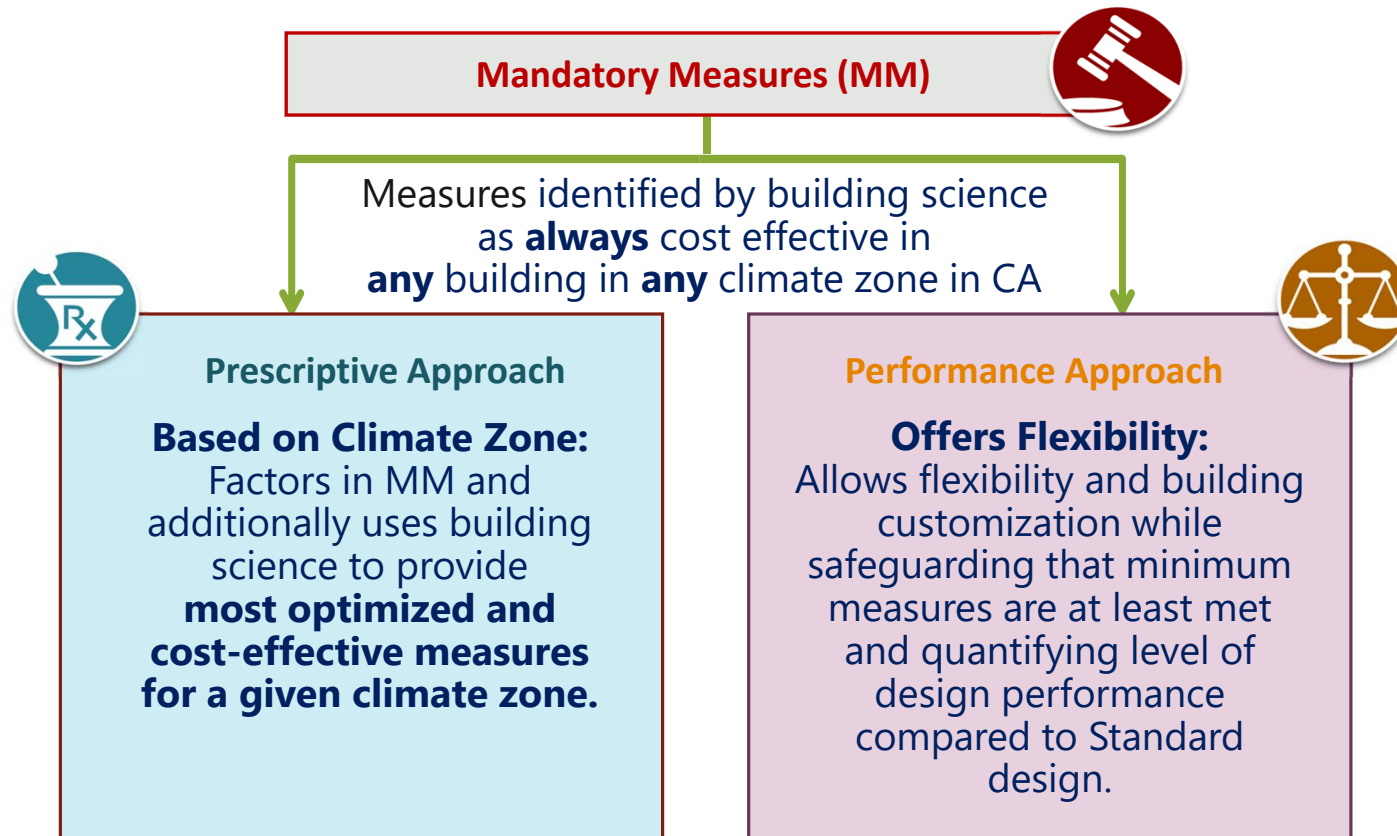


Image courtesy of Energy Code Ace

Compliance Forms & When They Are Used

There are several forms required for documenting compliance, which vary based on project type, occupancy, compliance method and phase of construction.

Design	Certificate of Compliance	Designers and Energy Consultants work together to ensure code compliance is met
Plan Review	Certificate of Compliance	Plans Examiners review forms; match to plans; alert others as to what is expected
Construction	Certificate of Compliance Certificate of Installation	Builders refer to plans and compliance forms (part of the plan set)
Inspection, Verification	Certificate of Compliance Certificate of Installation Certificate of Acceptance Certificate of Verification	Building Inspectors' and HERS Raters' activities are guided by plan set

Challenges of Enforcing the Energy Code



Current Challenges

- ✦ Complex code requirements make enforcement difficult
- ✦ Too little time/resources to adequately enforce the energy code
- ✦ Difficult to keep up with code changes (every 3 years)
- ✦ Too many forms make enforcement confusing
- ✦ Not enough information on plans to verify compliance
- ✦ Difficult to determine if the Certificate of Compliance is accurate
- ✦ Others...

Emerging Challenges

- ✦ New code requirements introduce more complexity
- ✦ Still trying to catch-up with the current code requirements

How can we overcome these challenges?

Our speakers will be sharing what they are doing about overcoming challenges with enforcing the Energy Standards

- ★ **Roy Eads**, CalCERTS, Inc.: Leveraging the HERS Registry for Improved Compliance
- ★ **Demian Hardman**, Contra Costa County: BayREN's Electronic Permit Tool in Practice
- ★ **Erin Malcolm-Brandt**, Center for Sustainable Energy: Energy Code Coach Program
- ★ **Jill Marver**, PG&E and Energy Code Ace: Acing the Energy Code Compliance Process



Breakout Session

A BayREN representative will facilitate a discussion at each table.

Please begin with these questions:

1. What barriers do you think exist to compliance with the energy code?
2. What would your ideal tool be?
3. How can BayREN help?

