

# Cool Roof Ordinance Local Reach Code Support

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# Energy Codes & Standards Program

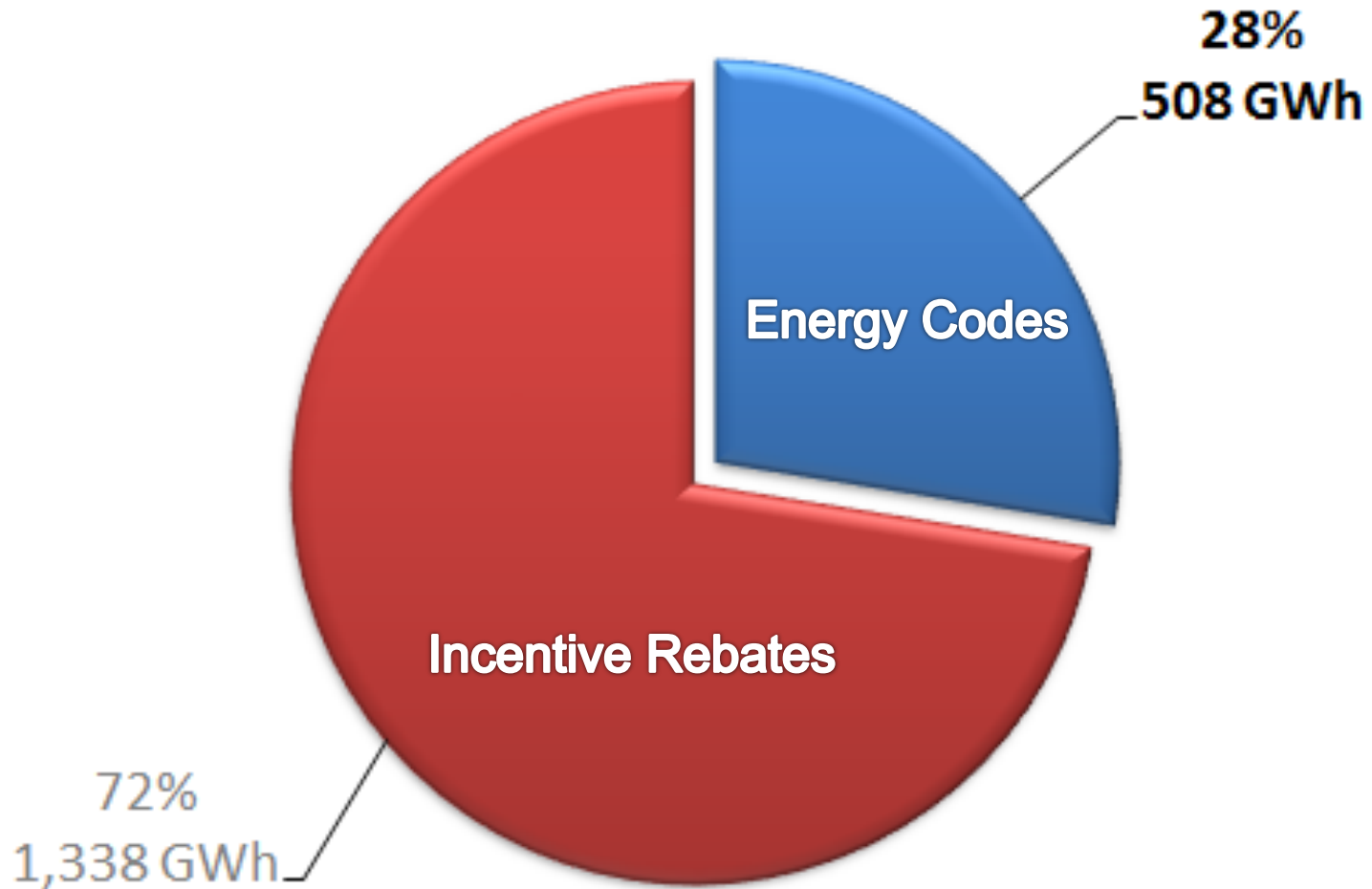
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*Mission  
Statement:*

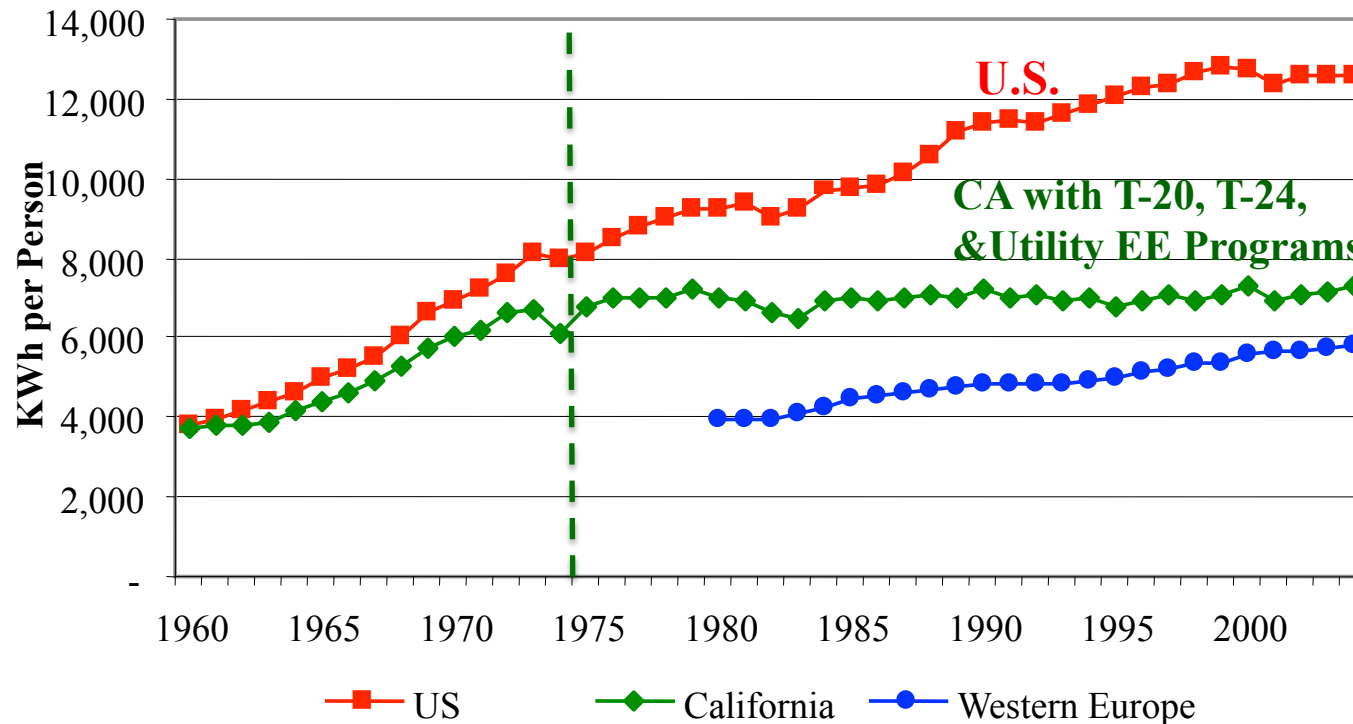
Deliver cost-effective, deep-energy savings via internal and statewide collaboration by supporting the adoption and implementation of California and Federal Energy Codes and Standards.

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# SCE Energy Savings Goal (2013-14)



# Warren-Alquist Act (1974) & the California Energy Commission



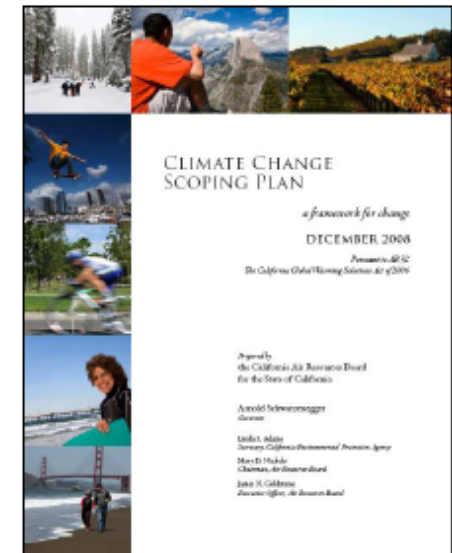
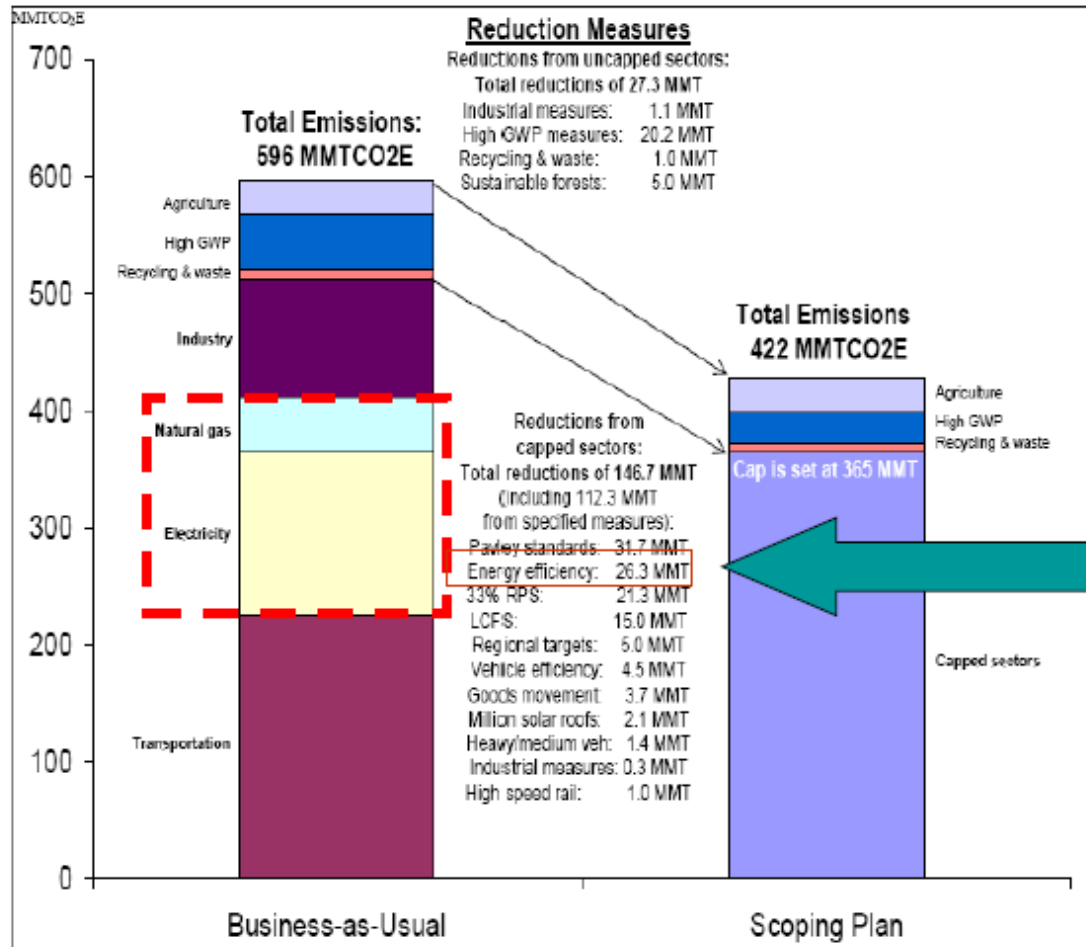
California Energy Commission (CEC) created to address the energy challenges facing the state.

Since 1978, CEC has been developing and implementing Energy Efficiency Building Code (Title 24, Part 6)

Saved more than \$56 billion in electricity and natural gas costs since 1978.

# CARB Scoping Plan 2008

Figure 3: California Greenhouse Gas Emissions in 2020 and Recommended Reduction Measures

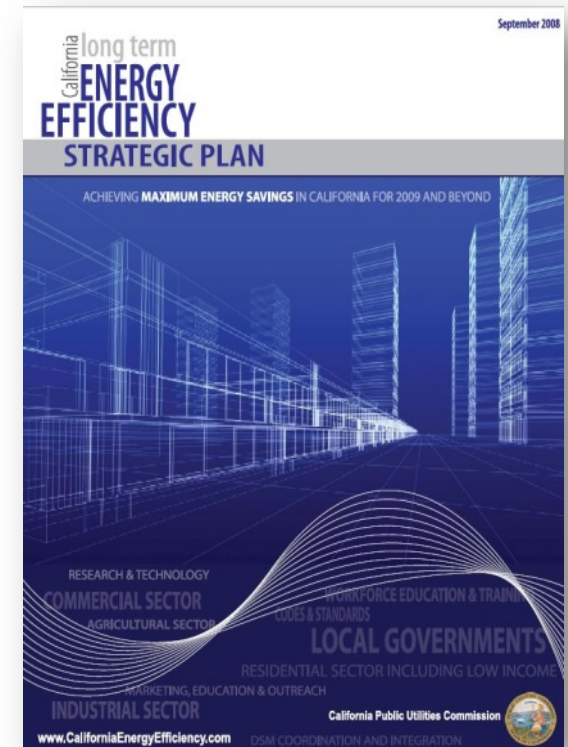


**"Energy efficiency measures for both electricity and natural gas can reduce greenhouse gas emissions significantly"**

# California Long Term EE Strategic Plan

Big, bold strategies for energy savings:

- By 2020:
  - All California residential new construction zero net energy
- By 2030:
  - All California new commercial construction zero net energy
- Reduce Greenhouse Gas Emissions
- Energy Efficiency 1<sup>st</sup> in the Loading Order



## Local Government “Reach Codes”

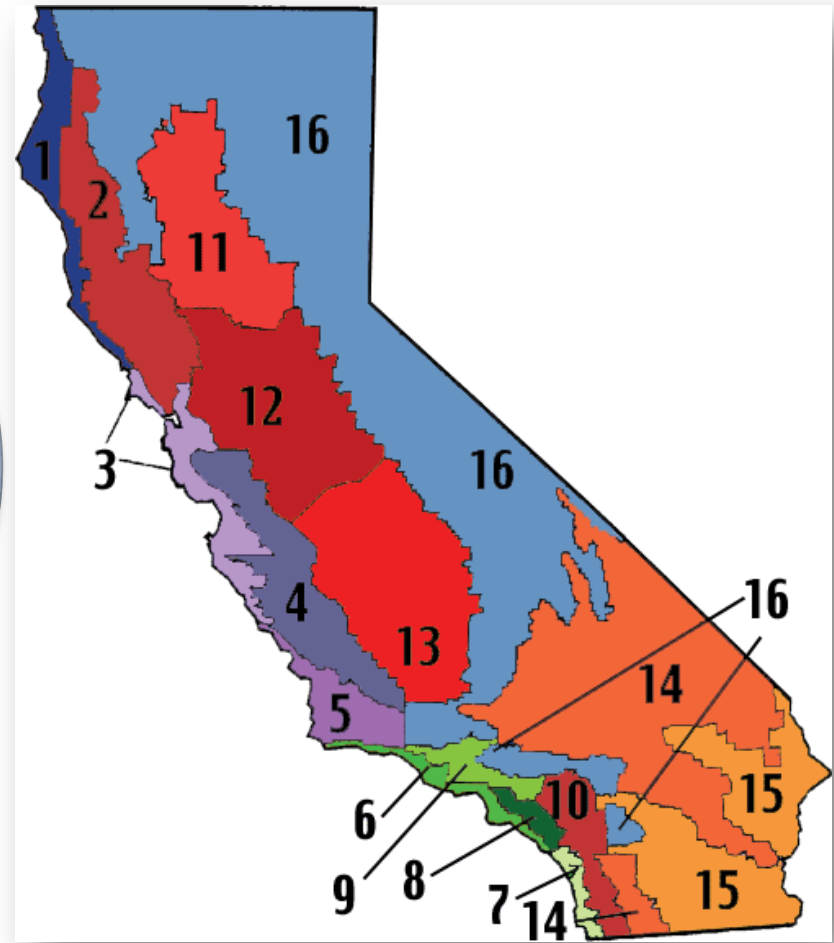
Local governments have unique authority to pass ordinances (“Reach Codes”) requiring that buildings exceed minimum energy efficiency standards.

- Prepare a “Cost Effectiveness” study
- Adopt an Ordinance determining that measure(s) are cost-effective
- California Energy Commission reviews and confirms



# Cost Effectiveness Studies

C&S prepared  
Cost  
Effectiveness  
Studies for all  
California Climate  
Zones - available  
**free** to local  
jurisdictions :





# Energy Code vs CalGreen Cool Roof Tables

2013 Title 24 Part 6, Prescriptive Non-Residential Sect.140.3(a)(1)(A)(i)				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	1-16	0.63	0.75	75
> 2 : 12	1-16	0.20	0.75	16

2013 Title 24 Part 6, Prescriptive High-Rise Residential, Hotel, Motel Sect.140.3(a)(1)(A)(ii)				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	9-11, 13-15	0.55	0.75	64
> 2 : 12	2-15	0.20	0.75	16

2013 Title 24 Part 6, Prescriptive Residential Sect.150.1(c)(11)				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	13-15	0.63	0.75	75
> 2 : 12	10-15	0.20	0.75	16



2013 Title 24 Part 11, Voluntary Low-Rise Residential Table A4.106.5.1(1) Tier 1				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	13-15	0.55	0.75	64
> 2 : 12	10-15	0.20	0.75	16

2013 Title 24 Part 11, Voluntary Low-Rise Residential Table A4.106.5.1(2) Tier 2				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	2, 4, 6-15	0.65	0.85	78
> 2 : 12	2, 4, 6-15	0.23	0.85	20

2013 Title 24 Part 11, Voluntary High-Rise Residential, Hotel, Motel Table A4.106.5.1(3) Tier 1				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	10, 11, 13-15	0.55	0.75	64
> 2 : 12	2, 4, 6-15	0.20	0.75	16

2013 Title 24 Part 11, Voluntary High-Rise Residential, Hotel, Motel Table A4.106.5.1(4) Tier 2				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	2-15	0.65	0.75	78
> 2 : 12	2-15	0.23	0.75	20

2013 Title 24 Part 11, Voluntary Non- Residential, Table A5.106.11.2.2 [BSC] Tier 1				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	1-16	0.55	0.75	64
> 2 : 12	1-16	0.20	0.75	16

2013 Title 24 Part 11, Voluntary Non- Residential, Table A5.106.11.2.3 [BSC] Tier 2				
Roof Slope	Climate Zone	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	Minimum SRI
≤ 2 : 12	1-16	0.65	0.85	78
> 2 : 12	1-16	0.30	0.85	30

# Energy Savings/GHG Reduction Tracking

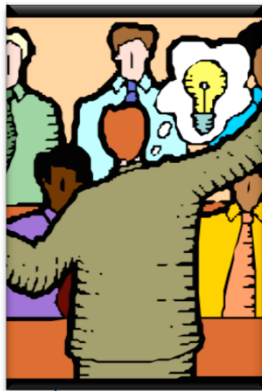
- Developing a PC-based software tool that calculates and tracks expected energy savings and GHG CO<sub>2</sub> reduction for each installed cool roof.



# Technical Support



Facilitate public workshops with key stakeholders



Attend public hearings to answer technical questions



# Energy Code Resources



**EnergyCodeAce™**  
Helping you play your cards right

A new site developed by the California Statewide Codes & Standards Program here to help you meet the requirements of Title 24, Part 6

We offer **FREE**

- Ace Tools™**  
A variety of tools to help you identify the forms, installation techniques, and standards relevant to building projects in California.
- Ace Training™**  
Classroom and online trainings on Title 24, Part 6.
- Ace Resources**  
Fact Sheets, Trigger Sheets and Checklists to help you understand when Title 24, Part 6 is "triggered" and how to correctly comply when it is.

All designed to improve compliance with the state's building energy code and aimed at locking in long-term energy savings.

[www.EnergyCodeAce.com](http://www.EnergyCodeAce.com)










CALIFORNIA ENERGY COMMISSION  
**BLUEPRINT**  
EFFICIENCY DIVISION  
SEPTEMBER - OCTOBER 2013

**The 2013 Standards Will Go Into Effect January 1, 2014**

The Blueprint is your guide to information, training and resources for the 2013 Building Energy & Standards Program. The California Energy Commission has partnered with the Statewide Codes & Standards Program to provide training and resources for building officials. California's building energy code can help save energy, keep our air cleaner and offset the need to build new power plants. We understand it can be quite technical and difficult to navigate new standards, especially when time and resources are limited.

The Statewide Codes & Standards Program offers free energy code training, tools and resources for building department personnel, as well as others who need to understand and meet the requirements of Title 24, Part 6. Designed to improve compliance with the state's building energy code, the program aims to advance the adoption and effective implementation of energy efficiency measures and building practices to lock in long-term energy savings. The program recognizes that codes and standards are one of the most effective pathways to ensuring sustained market transformation. The key to making them work well is found in the enforcement efforts of building department professionals. Program offerings are designed for counter staff, plan examiners, field inspectors and building officials.

The California Statewide Codes & Standards Program is funded by California utility customers under the auspices of the California Public Utilities Commission and implemented by Pacific Gas and Electric Company, San Diego Gas and Electric and Southern California Edison and Southern California Gas, in support of the California Energy Commission.

**Fall 2013 Classroom Trainings Offered**

- ▶ Title 24 Residential or Nonresidential Standards Essentials for Plans Examiners & Building Inspectors
- ▶ Retail Lighting: Title 24 & Technology Update
- ▶ Title 24 Standards Essentials for Supermarket Refrigeration
- ▶ Title 24 Standards Essentials for Small Commercial AC Quality Installation Centres

Courses are offered at utility energy training centers and approved contractors. For additional information, please email [weedy@smbeenergy.com](mailto:weedy@smbeenergy.com). For additional information, please email [weedy@smbeenergy.com](mailto:weedy@smbeenergy.com).

<http://www.pge.com/pe>

<http://www.sdge.com/pe>

<http://www.sce.com/innovation/energy-resource-center>

<https://www.sce.com/wps/portal/home/business/online-services/energy-education-centers>

[energy.ca.gov/efficiency/blueprint/](http://www.energy.ca.gov/efficiency/blueprint/)

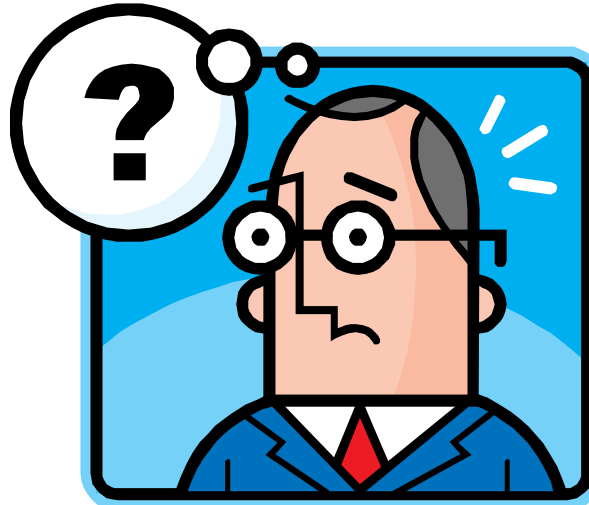


**EnergyCodeAce™**  
Helping you play your cards right

[www.EnergyCodeAce.com](http://www.EnergyCodeAce.com)



# Q&A



2013 Title 24 Information and Documents available at:  
<http://www.energy.ca.gov/title24/2013standards/>