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Codes and Standards

Reach Codes Overview

BayREN Forum

California Statewide Utility Codes and Standards Program

Prepared by

Marshall Hunt, PE

PG&E Codes and Standards Program

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Supported by Ingrid Neumann (CEC)

and Javier Mariscal (SCE)

Overview

- Reach Codes with 2013 Title 24
 - New Generation Reach Codes
 - Measure Specific - Cool Roofs, Residential LED lighting, Parking lot bi-level Lighting, etc.
 - Residential Energy Conservation Ordinance (RECO)
 - Commercial Energy Conservation Ordinance (CECO)
 - Rezoning and Subdivision map standards that mitigate climate impacts by supporting ZNE-Ready housing
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Challenges & Opportunities

- Reach Codes CALGreen
 - Percentage better than Title 24
 - Must be cost effective
 - Review and approval of CEC required
 - Up to 15% better than code common
- 2013 Title 24 is approximately 15% better than 2010 making cost effectiveness difficult
- Title 2013 includes lighting, appliances, and plug loads
- There is a generally low level of code compliance for dwelling alterations
 - HVAC replacement
 - Water Heater replacement
 - Electrical system alterations

Climate Action Plans the Answer

Local Governments Have Critical Role

- State Carbon Reduction Policy
- General Plan – Climate Action Plan
- Sets policy for City or County Actions
- Innovation at the local level
- PG&E lends technical support
- Cost Effectiveness Documentation

State Commissions

- All local **energy efficiency** standards that meet or exceed the California Building Energy Efficiency Standards (Title 24, Part 6) must be approved by the **California Energy Commission**.
- All local standards that exceed the California Building Code (plumbing, electric, historic, etc) must be filed with the **California Building Standards Commission**.

Energy Commission Approval

Only those local energy efficiency ordinances that have been approved by the Energy Commission are legally enforceable.

- Unapproved local ordinances that require buildings under their jurisdiction to be more energy efficient than what is required under the California Building Energy Efficiency Standards, Title 24, Part 6, are not legally enforceable.
- Complaints are investigated and remedies are developed and enforced.

New Low-Rise Residential

CALGreen

Prerequisites

- Energy Design Rating
- Quality Insulation Installation
- High Efficacy Lighting

Tier I

- 85% of Energy Budget

Tier II

- 70% of Energy Budget

Residential Additions & Alterations

CALGreen

Prerequisites

- High Efficacy Lighting
- Lighting Controls

If the addition or alteration includes one or more mechanical systems.

Tier I

One system: 95% of Energy Budget
More than one: 90% of Energy Budget

Tier II

One system: 90% of Energy Budget
More than one: 85% of Energy Budget

Submittal to CEC

- A copy of the **ordinance**
- A study or analysis showing the expected energy savings and the **cost effectiveness** of the ordinance
- A statement/finding that the ordinance will require buildings to “consume no more energy than is permitted by (Title 24) Part 6”
- The date the ordinance, energy savings and cost-effectiveness study were presented to Council/Board in a **Publicly Noticed Meeting**.
- A letter to the Executive Director assuring him that the City/County will continue to enforce Title 24, Part 6 as well as the proposed Ordinance
- Evidence of CEQA compliance

Evidence of CEQA Compliance

- **CEQA** - Local jurisdiction must include any findings, determinations, declarations or reports, including any determination of exemption, negative declaration or environmental impact report, that are required by CEQA
- **CEC** - required to review and consider any Exemption, EIR or Negative Declaration prepared by the local agency, as well as comments made to the local agency
 - Often able to find that the project is exempted under the Common Sense Exemption which only requires filing an Notice of Exemption.

Resources

- California Energy Commission, Approved Local Ordinances

<http://www.energy.ca.gov/title24/2013standards/ordinances/>

- Ingrid Neumann

Ingrid.Neumann@energy.ca.gov

- Statewide Utility Reach Code Team

- Marshall Hunt, PG&E, mbh9@pge.com

- Javier Mariscal, SCE, Javier.Mariscal@sce.com

City of Los Angeles Cool Roof

ORDINANCE NO. 183149

An ordinance amending sections 99.01.101.3 and 99.04.106.5 of Article 9, Chapter IX of the Los Angeles Municipal Code to reflect local administrative changes and incorporate by reference a portion of the California Energy Code.

**THE PEOPLE OF THE CITY OF LOS ANGELES
DO ORDAIN AS FOLLOWS:**

Section 1. Subsection 99.01.101.3 of the Los Angeles Municipal Code is amended to read as follows:

99.01.101.3. Scope. The provisions of this code shall apply to the construction of every new building, every building alteration with a building permit valuation of \$200,000 or more, and every building addition, unless otherwise indicated in this code, throughout the City of Los Angeles.

99.04.106.5. Cool Roof for Reduction of Heat Island Effect. Roofing material shall comply with both Subsections 99.04.106.5.1 and 99.04.106.5.2, or comply with Subsection 99.04.106.5.3 of this code.

CEC Agenda Notice

● Passed on consent calendar

STATE OF CALIFORNIA

AGENDA INPUT FORM (GENERAL)

CEC-36 (Revised 5/13)

CALIFORNIA ENERGY COMMISSION

*Please print or type*

A listing of Commission Business Meetings and Contracts Office due dates is available on EnergyNet under 'Featured Information' or from the Secretariat.

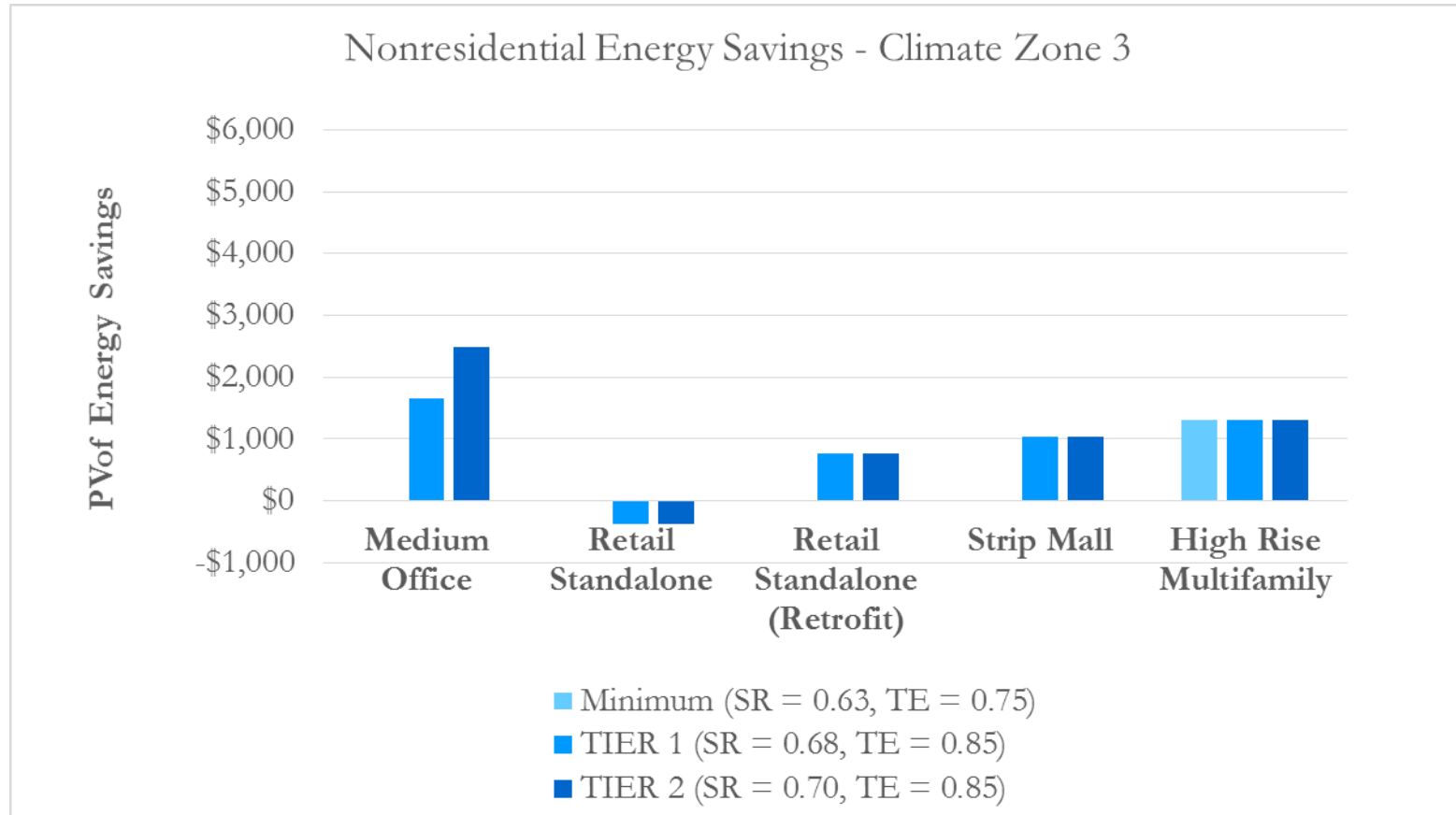
CONTACT PERSON: Joe Loyer**PHONE NUMBER:** 4-4811**MS:** 37**Date due to Contracts Office:** NA**Date due to Secretariat:** 8/6/14**Proposed Business Meeting Date:** 8/27/14

AGENDA ITEM SUBJECT AND DESCRIPTION – This is the wording that will appear on the agenda. Please note the following:

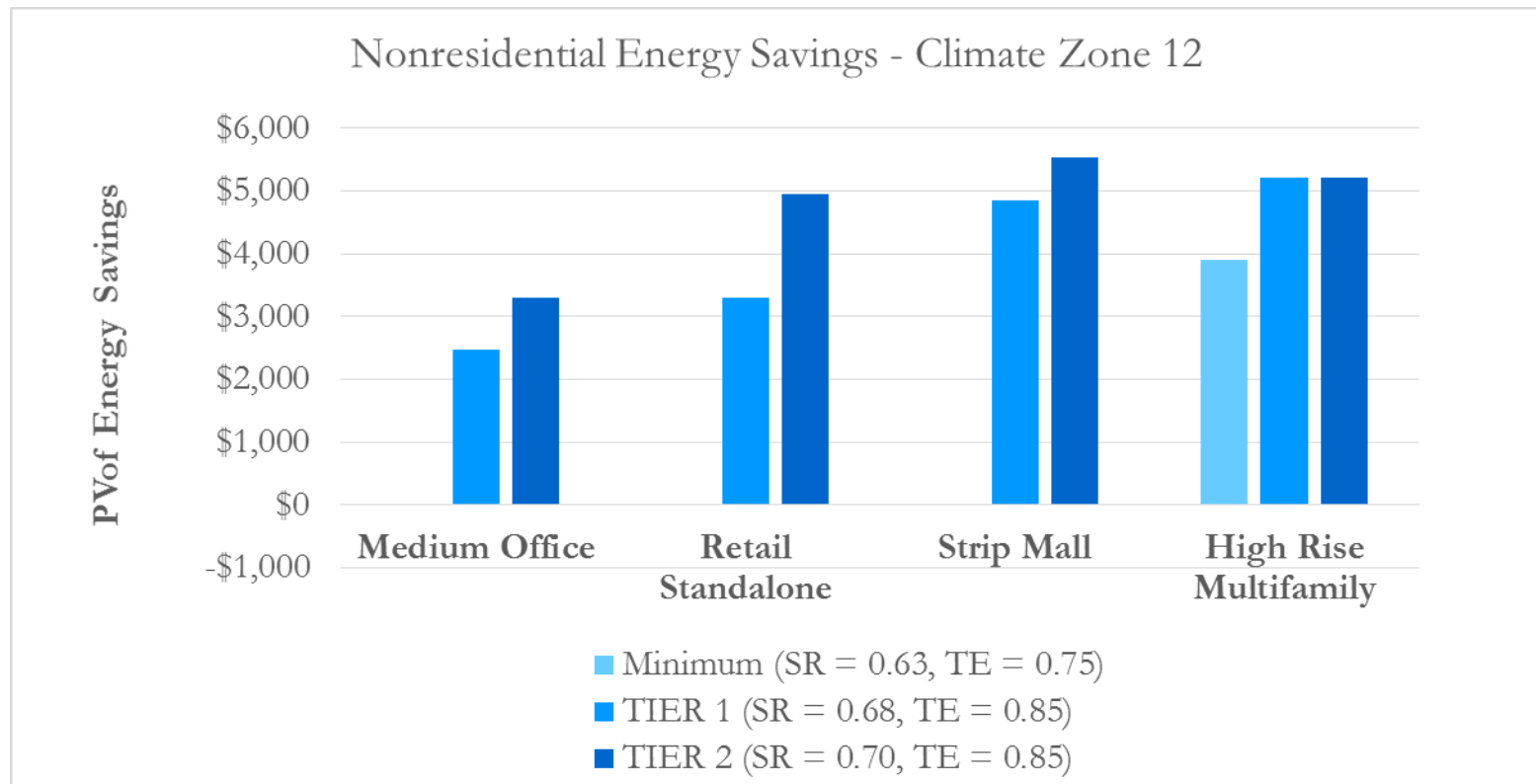
(Expenditure items must include the funding source.)

CITY OF LOS ANGELES. Possible approval of the City of Los Angeles's locally adopted building energy standards to require greater energy efficiency than the 2013 Building Energy Efficiency Standards.

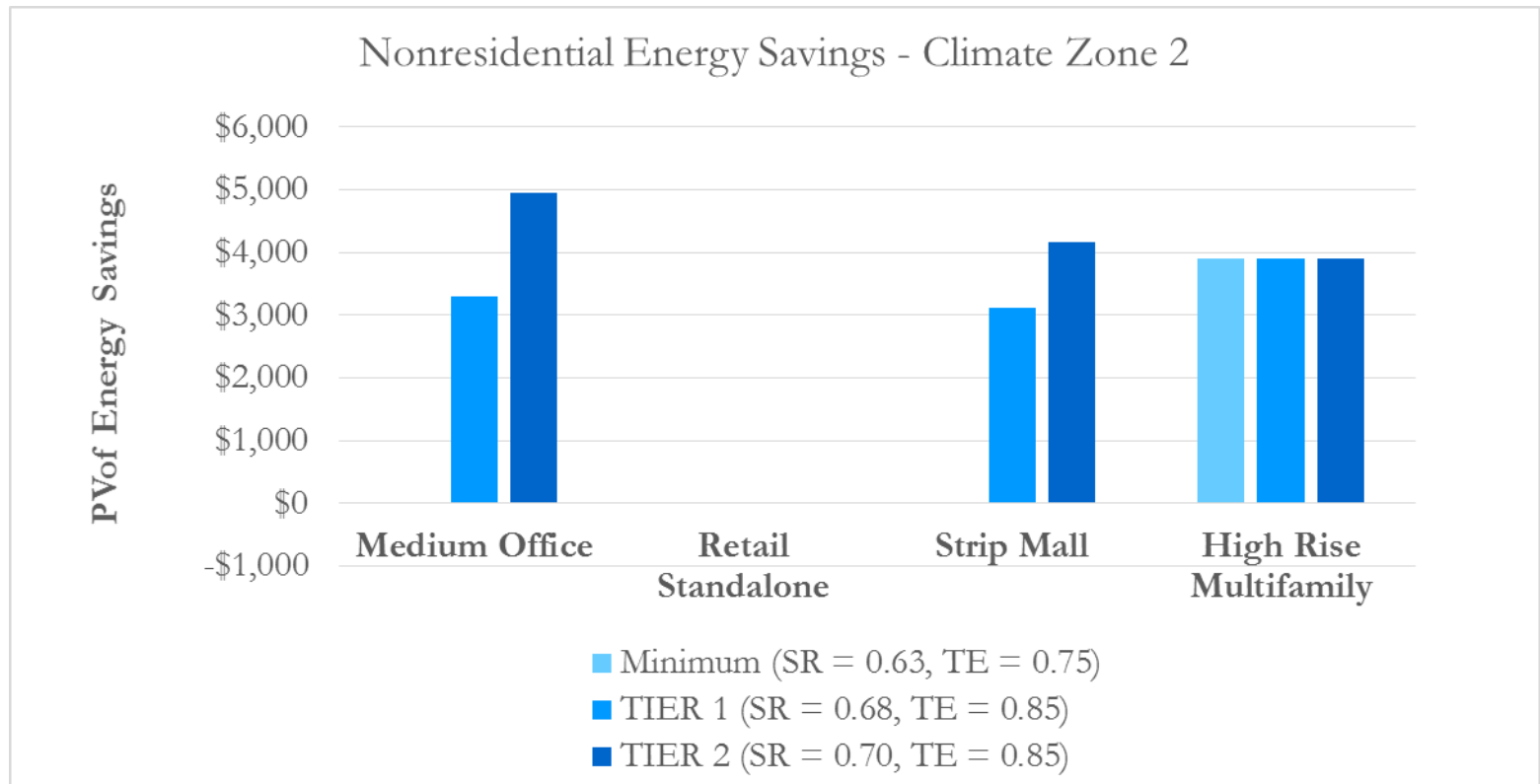
Cool Roof Analysis for Bay Area - 3



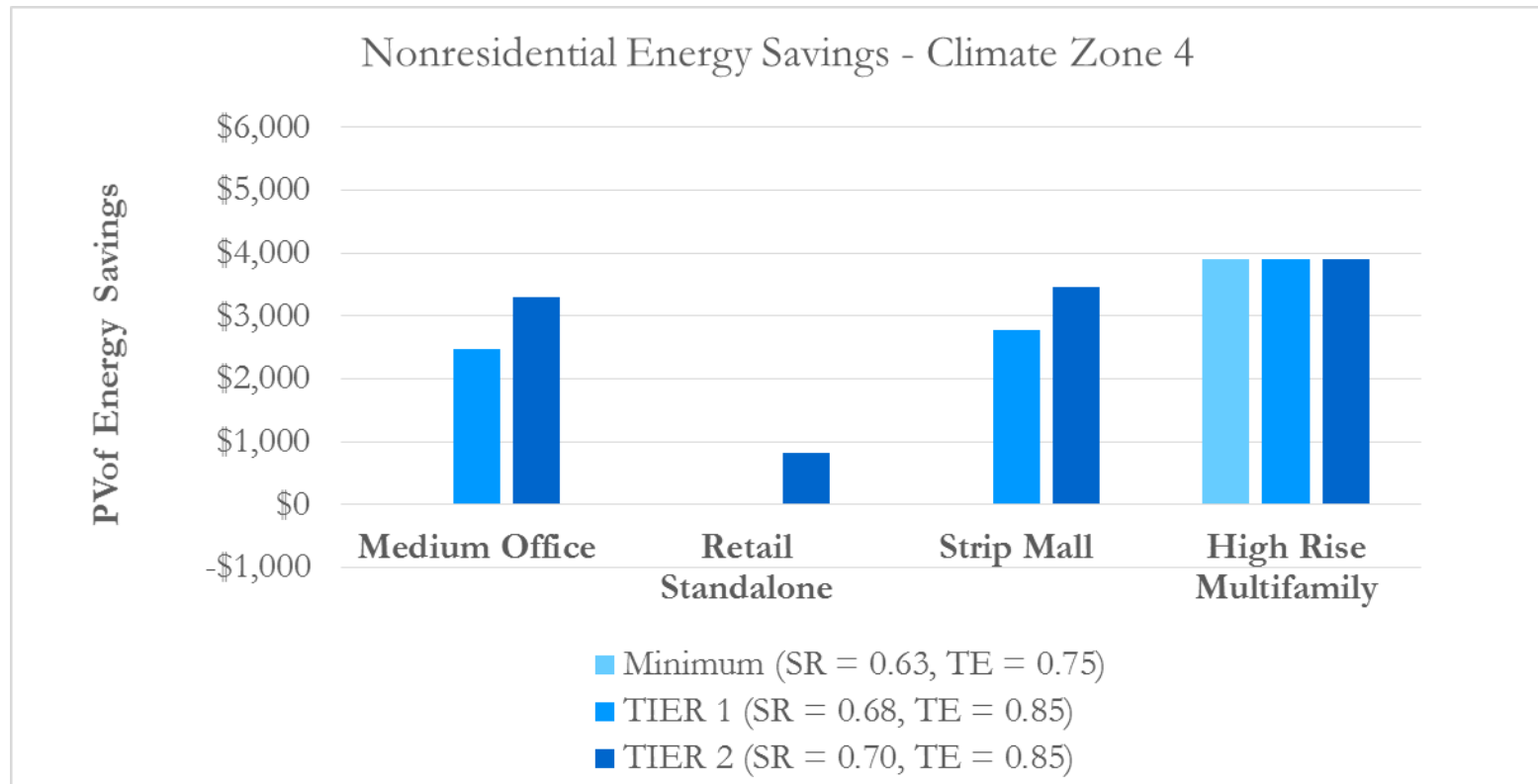
Cool Roof Analysis for Bay Area - 12



Cool Roof Analysis for Bay Area - 2



Cool Roof Analysis for Bay Area - 4



Residential High Efficacy Lighting

- 2016 CASE report supports cost effectiveness – New Construction
 - Develop a best practices manual for planning and building department use
 - Develop training for plans examiners, building inspectors, dwelling designers, building site superintendents, and electrical contractors
 - Implement Carbon Reduction and EE savings tracking spreadsheet tool
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Current Practice

Room	Average Permanently Installed Watts	Average Percent High Efficacy Watts	Average Percent Low Efficacy Watts	Average High Efficacy Sockets	Average Low Efficacy Sockets
Whole House	1965	19%	81%	13.3	31.2
Kitchen	202	68%	32%	5.5	1.3
Bathroom (est. 2013 practice)	215	21%	79%	1.7	3.3
Bedroom	98	11%	89%	0.2	1.9
Hallway/ Stair	248	12%	88%	0.7	4.1
Living Room	201	4%	96%	0.2	3.6
Dining Room	235	6%	94%	0.1	4.5

Table 10: Current Residential Lighting Practice

Current residential practice includes 15.9 inefficient recessed downlights per average house.

Proposed LED Reach Measure Savings

Room	Average Annual Energy Use (kWh/year) per House	Percent of Lighting Watts Impacted by Proposed Measure	Impacted Energy Use (kWh/year) per House	Savings from Proposed Measures (kWh/year)	Percent Savings from All High Efficacy Lighting
Recessed Downlights	441	100%	441	322	73%
All Other Lighting	778	65%	506	303	24%
TOTAL	1,219	78%	947	625	51%

CEC Life Cycle Cost Effectiveness

Climate Zone	Benefit: TDV Energy Cost Savings + Other Cost Savings ² (2016 PV\$)	Cost: Total Incremental Cost ³ (2016 PV\$)	Change in Lifecycle Cost ⁴ (2016 PV\$)	Benefit to Cost Ratio ⁵
Statewide Average per House	\$2,264	\$1,387	-\$877	1.6