



2013

GUIDE TO
BUILDING ENERGY
EFFICIENCY STANDARDS

LONG BEACH
DEVELOPMENT SERVICES
BUILDING A BETTER LONG BEACH





The 2013 Building Energy Efficiency Standards mandate new Statewide energy efficient requirements for building envelope/ exterior, electrical, lighting, mechanical, plumbing, and solar readiness construction.

What is Energy Efficiency Standards?

Effective July 1, 2014, the 2013 Building Energy Efficiency Standards aim to advance the adoption and implementation of Statewide energy efficiency and building practices. The Standards apply to any residential or nonresidential project that requires a building permit in one of the State’s 16 climate zones. The updated Standards will move California toward greater energy reduction and Zero Net Energy (ZNE) buildings in the near future. Each city or county government is responsible for compliance and enforcement of the Standards.

What is “Zero Net Energy”?

Zero Net Energy (ZNE) is a general term applied to a building with a net energy consumption of zero over a typical year. California has set bold energy reduction goals, targeting ZNE in all new homes by 2020, and all new commercial construction by 2030. Future infrastructure will combine energy efficient designs with renewable energy generation to zero out net annual energy consumption.

What is my climate zone?

Energy use relies partly on climate conditions, which vary throughout the State. The California Energy Commission has established 16 climate zones that represent a geographic area for which an energy budget is established. A correct climate zone should be determined before any energy improvements or calculations are performed. For additional information, contact Long Beach Development Services.

Long Beach Climate Zones

Climate Zone 6	90802	90813	Climate Zone 8	90805
	90803	90814		90807
	90804	90815		90808
	90806	90822		
	90810	90840		

How much will the new Standards cost?

In accordance with the California Energy Commission (CEC), the 2013 Building Energy Efficiency Standards will add an average of \$2,290 to the cost of constructing a new residential building. Implementation of the new Standards is, however, estimated to return \$6,200 in energy savings over a 30-year period, or \$27 monthly on heating, cooling, and lighting.

Conserve energy – save money!

Maximize savings further by taking advantage of the numerous rebates and programs available to qualifying customers.

Southern California Edison Visit www.sce.com for more information on how you can save on your next electric bill.

Energy Upgrade California To find a list of incentives and rebates in your area that can help offset the cost of energy efficient products for your home or business, go to www.energyupgradeca.org.

Federal Tax Credits For an overview of the federal tax credits for energy efficiency, including energy efficient products or renewable energy systems for your home, go to www.energystar.gov.

Reducing energy use is a benefit to all!

- ✓ Building owners and occupants save money on electric bills.
- ✓ Less energy cost leads to a more secure and healthy economy for California.
- ✓ Improved health, well-being, and conservation of natural resources.
- ✓ Comfort of improved air circulation.
- ✓ Increased reliability and availability of electricity.
- ✓ Lower greenhouse gas and other emissions, and overall reduced environmental impact.

Need more information?

Permit applicants, building owners, architects, engineers, designers, contractors, plan reviewers, and inspection staff each play a significant role in achieving energy efficiency in California. For additional information on the latest Energy Efficiency Standards and a better understanding of energy efficient approaches as applicable to Long Beach, visit www.lbds.info/building/2013_energy_efficiency_standards.asp.



Key Features of the 2013 Standards

RESIDENTIAL

- Improved wall insulation and window performance to reduce heat loss in the winter and heat gain in the summer.
- Insulated hot water pipes to conserve water and energy, and reduce the time it takes to get hot water where needed.
- Use of high efficiency furnace, air conditioning, and water heating units (2013 Federal Appliance Standards).
- Enhanced mechanical duct insulation, duct sealing, and refrigerant charge testing for heating, ventilating and air conditioning (HVAC) systems, to ensure efficiency and improve indoor air quality (Climate Zone 8 only).
- Installation of high efficacy lighting and new lighting controls to program lights to turn off when no longer needed.
- Use of whole house fans to cool homes and attics with outdoor air rather than use of air conditioning unit.
- Solar ready and roof design to accommodate photovoltaic (PV) systems, allowing for more renewable energies.
- Incorporation of Home Efficiency Rating System (HERS), resulting in higher property value appreciation.

NONRESIDENTIAL

- Verification of Commissioning Reports to ensure that installed energy systems meet building owner's requirements.
- Lighting and lighting control acceptance testing to be conducted by a certified technician.
- All air distribution system ducts and plenums to be installed, sealed, and insulated.
- Utilization of high performance windows, sensors, and controls, allowing buildings to rely on daylighting to avoid unnecessary use of installed lighting.
- Use of advanced lighting controls to synchronize light levels with daylight and building occupancy.
- Cool roof technologies for improved energy efficiency.
- Modifications for controls of space-conditioning systems and/or air economizers.
- New compliance measures for refrigerated warehouses and parking garage exhaust systems.

We are Here to Assist with the Compliance Process

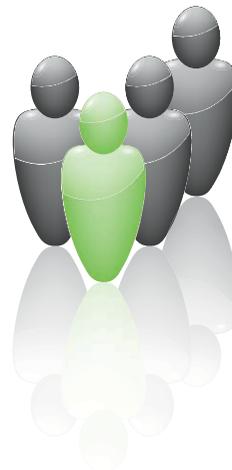
Long Beach Development Services has a number of resources available to help your energy efficiency project succeed.

RESIDENTIAL APPLICANT

- Submit the necessary Energy Forms.

COMPLIANCE SOLUTION TEAM

- **Plan Checker** – Assist applicants with the Standards, review the CF1R Form, and determine if project is submitted to the State registry per HERS requirements.
- **Inspector** – Review and approve the CF2R and CF3R Forms and provide record to owner/applicant.
- **HERS Rater** – Designated agent to provide testing and documentation of the system, as described in the residential Standards.



NONRESIDENTIAL APPLICANT

- Submit the necessary Energy Forms.

COMPLIANCE SOLUTION TEAM

- **Plan Checker** – Assist applicants with the Standards, review the NRCC Forms, and determine if project is submitted to the State registry per HERS requirements.
- **Inspector** – Receive and approve the NRCI, NRCA and NRCV Forms for the owner or Commissioning Report.
- **Acceptance Testing (AT)** – Certified technician to perform testing of lighting controls.
- **HERS Rater** – Designated agent to provide testing and documentation of the mechanical system, as described in the nonresidential Standards.



	Residential	Nonresidential
Compliance Certificate	CF1R	NRCC
Installation Certificate	CF2R	NRCI
Acceptance Certificate	CF3R	NRCA
Verification Certificate		NRCV
Home Energy Rating System (HERS)		



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