

# Building Energy Efficiency Standards

# FREQUENTLY ASKED QUESTIONS

## What are building energy efficiency Standards?

Building energy efficiency standards are designed to ensure new and existing buildings achieve energy efficiency and preserve outdoor and indoor environmental quality. These measures (Title 24, Part 6) are listed in the California Code of Regulations.

## Why are building Standards important?

Energy efficiency Standards make buildings more comfortable, lower energy costs, and reduce greenhouse gas emissions. The Standards ensure that builders use the most energy efficient technologies and construction.

## When did building Standards start?

California's first building energy efficiency Standards went into effect in 1978.

## How much will these new Standards add to the cost of a new house?

On average, these Standards add an additional \$2,290 to the cost of constructing a new residential building, but will return \$6,200 in energy savings over 30 years. In other words, when factored into a 30-year mortgage, the Standards will add approximately \$11 per month for the average home, but will save \$27 on monthly heating, cooling, and lighting bills.

## How much energy will the 2013 Standards save?

The 2013 Standards will use 25% less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 Standards. Additionally, the Standards will save 200 million gallons of water per year (equal to more than 6.5 million wash loads) and avoid 170,500 tons of greenhouse gas emissions per year.

## How much have Standards saved?

Since 1978, the California Energy Commission has saved Californians \$66 billion in electricity and natural gas savings through energy efficient building and appliance standards.

## What are the long term savings?

After 30 years of implementing the standards, California will save nearly 14,000 GWh or enough electricity to power 1.67 million homes.

## What policy goals are addressed by the Standards?

Several state energy policy goals drive the design of the current standards: the "Loading Order," which directs California's growing demand must first be met with cost-effective energy efficiency; "Zero Net Energy" (ZNE) goals for new homes by 2020 and commercial buildings by 2030; Governor Brown's Executive Order on Green Buildings; the Green Building Standards Code, and AB 32, which mandates that California reduce its greenhouse gas emissions to 1990 levels by 2020.

## What is “Zero Net Energy?”

In 2008, California set bold energy-use reduction goals, targeting zero net energy (ZNE) use in all new homes by 2020 and commercial buildings by 2030. The ZNE goal means new buildings must use a combination of improved efficiency and distributed renewable energy generation to meet 100 percent of their annual energy need.

## Who are supporting the Standards?

California Building Industry Association, Natural Resources Defense Council, Pacific Gas & Electric, Southern California Edison, San Diego Gas & Electric, Southern California Gas, Alliance to Save Energy, the American Council for Energy Efficient Economy, Appliance Standards Awareness Project, and Building Code Assistance Project are supporting the energy efficiency Standards.

## Why do the Standards need to be updated?

The Energy Commission is required by law to adopt Standards that are cost effective for homeowners over the 30-year lifespan of buildings. The Standards are periodically updated to allow new energy efficient technologies and construction methods for consideration and incorporation. The Standards will save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants and preserve the natural environment.

## What buildings are covered by the Standards?

All buildings except hospitals, nursing homes, correctional centers, jails, and prisons are covered.

## Who oversees the Standards?

The California Energy Commission is responsible for adopting, implementing and updating energy efficiency building Standards.

## Who is responsible for enforcing the Standards?

Typically, the local city or county building department has the authority to verify compliance with applicable codes and standards, including building energy efficiency.

## What are some highlights of the Standards?

In addition to simplifying and streamlining compliance documents, other major improvements include:

### RESIDENTIAL:

- Insulated hot water pipes save water and energy and cut the time it takes to get hot water where it is needed
- Improved window performance to reduce heat loss in the winter and heat gain in the summer
- Whole house fans to cool homes and attics with cool evening air instead of air conditioning
- “Solar ready roof” design makes it easier to install solar photovoltaic or solar thermal panels at a future date

### NONRESIDENTIAL:

- High performance windows, sensors and controls that allow buildings to use “daylighting” to avoid unnecessary use of installed lighting
- Efficient process equipment in grocery stores, commercial kitchens, data centers, laboratories, and parking garages
- Advanced lighting controls to synchronize light levels with daylight and building occupancy, and provide demand response opportunities
- “Solar ready roof” design makes it easier to install solar photovoltaic or solar thermal panels at a future date
- Occupant Controlled Smart Thermostats allow an occupant to set and maintain a desired temperature and voluntarily participate in a utility’s demand response programs
- Cool roof technologies

## Why do the Standards vary by climate zone?

Measures that are cost effective in more extreme climates may not be cost effective in milder climates. Requiring measures by climate zone ensure that a building will have the most energy efficient features for that area.

## What are solar ready requirements?

The 2013 Standards require "solar ready roofs" to accommodate future installations of solar photovoltaic panels. Solar ready requirements do not vary by climate zone.

## Considering California's economy, is this the right time to adopt Standards?

Since 2010, the Energy Commission has held meetings with more than 45 industry stakeholder groups, as well as 15 public workshops on the draft standards. The Commission recognized current economic times require Standards that significantly reduce energy costs. By providing increased flexibility and multiple options for meeting energy efficiency goals, the Energy Commission and its partners developed reasonable standards that acknowledge the economic challenge facing builders.

## When will the Standards be approved?

The 2013 Standards will be considered for adoption by the Energy Commission at its May 31, 2012 public meeting; if approved, they will take effect in January 2014.

## How many Climate Zones are there in California?

There are sixteen climate zones in the state.

## What is the benefit of installing an Occupant Controlled Smart Thermostat?

Occupant Controlled Smart Thermostats maximizes energy savings by monitoring and controlling energy use more effectively. The occupant can override demand response programs at any time.

## Who benefits from the Standards?

### The Economy

The Standards contribute to and support a clean energy workforce through statewide training programs.

### Builders

The Standards help builders develop buildings that are more comfortable and save homeowners money on utility bills.

### Building Owners and Occupants

The Standards provide lower energy costs, more occupant comfort, and higher property values.

### Building Science

The Standards support ongoing research and development in energy efficiency.

### The Environment

The Standards reduce greenhouse gas emissions and avoids the need to construct new power plants.

## How can I learn more about the Standards?

Contact the Energy Commission's Energy Standards Hotline toll-free at (800) 772-3300 or (916) 654-5106 or email us at [title24@energy.ca.gov](mailto:title24@energy.ca.gov).

Additionally, the Energy Commission's Blueprint newsletter is available at:

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

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