



Supporting Energy Efficiency

PRACTICAL STRATEGIES FOR LOCAL LEADERS

Communities have many options to improve energy efficiency, including using more efficient lighting, incorporating shade trees into landscaping, retrofitting buildings, and strengthening enforcement of – and going beyond – state energy building standards.

This factsheet includes information about these recommended strategies from the California Energy Commission’s Energy Aware Planning Guide, along with possible general plan language to foster these objectives moving forward. Incorporating these actions at the local level can help local governments, residents and businesses save money, grow the local economy, and improve the health and quality of life for all residents.

Efficient Lighting

Lighting represents 38% of energy use in commercial buildings and 15% in homes. Using more efficient lighting can **reduce lighting energy use in homes by 50-75%**, and total electricity use by about 8-12%.
[source: California Energy Commission 2009, “Energy Aware Planning Guide,” CEC-600-2009-013]

Encourage Lighting Retrofits of Existing Buildings.

Work with your local utility to offer technical assistance and incentives to encourage existing building retrofits. Include lighting in residential and commercial retrofit ordinances.

Undertake a Municipal Energy Audit.

Perform a comprehensive energy analysis of all municipal buildings and develop a retrofit program.

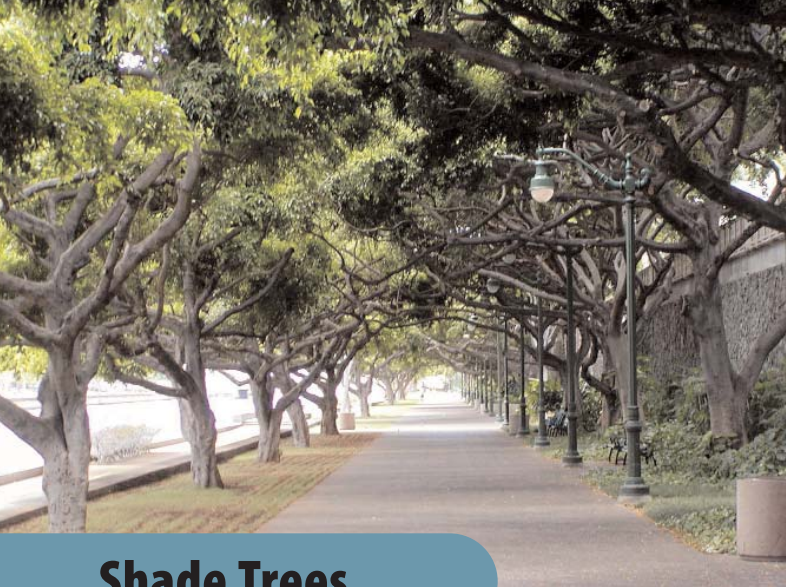
General Plan Language – Efficient Lighting

“All new city/county buildings shall include lighting systems using less energy than state standards in place at the time of adoption. New buildings shall incorporate daylighting.”

“The lighting systems in all city/county buildings shall be audited with respect to energy use and retrofitted with more efficient fixtures and technologies. All buildings should be retrofitted by [year].”



This program is funded by California utility ratepayers and administered by Pacific Gas and Electric Company, San Diego Gas and Electric Company®, Southern California Edison and Southern California Gas Company under the auspices of the California Public Utilities Commission.



Shade Trees

More than one-half of a home’s heat gain in the summer comes through south- and west-facing windows. Incorporating more shade trees and shrubs into development can reduce energy use, save money, and provide numerous other environmental and economic benefits.

Plant Trees and Shrubs.

Start a program authorizing the city/county to plant trees on private property, at the request of the landowner, or provide other incentives to plant trees.

Plant trees and shrubs around government and civic buildings.

Educate the Community.

Work with community groups to organize educational campaigns about the energy, economic and environmental benefits of planting trees and shrubs.

Establish Design Criteria and Landscaping Requirements.

Adopt municipal and community design criteria and landscaping requirements for new buildings to maximize energy savings through landscaping.

General Plan Language – Shade Trees

“The city/county shall adopt an ordinance that requires developers of new buildings to plant trees and shrubs to improve energy efficiency and to preserve existing trees on building sites.”

“The city/county, in cooperation with the utility, will promote tree planting and landscaping for energy efficiency in existing homes and businesses through education and incentive programs.”

“New and renovated landscaping at all city/county buildings shall be designed and maintained to maximize energy efficiency and minimize water use.”

Improve Enforcement of Building Energy Standards

California’s building energy efficiency standards have saved billions of dollars and have helped California have some of the lowest energy use in the country. **To continue to achieve these savings, local governments must ensure that local building officials enforce these standards.**

Establish a Clear Commitment.

The city council, county board of supervisors, management and staff must be committed to enforcing the Building Energy Efficiency Standards.

Educate and Train Personnel, Building Designers and Project Applicants.

Education and training options are available through various utilities, consultants and private organizations, and at energyvideos.com.

Provide Permit Applicants with the Necessary Information.

Distribute information at the permit counter and provide individualized assistance to applicants who need it.

Provide Annual Reports on Implementation and Enforcement.

Ask the building department to provide an annual report on the status of implementing and enforcing building energy efficiency standards – with a set of performance measures for tracking compliance.

General Plan Language – Improve Enforcement of Building Energy Standards

“The building department shall rigorously enforce California’s *Residential and Nonresidential Building Energy Efficiency Standards*. The building department shall provide guidance and assistance to applicants to make the process as effective and efficient as possible.”





Commercial + Residential Retrofits

Encouraging **commercial retrofits can reduce energy use by 13%, and reduce a business' energy costs by as much as 30%**. Retrofitting residences can also provide significant energy savings. Because many California homes were built before the state's first energy efficiency standards in 1978, energy-efficiency retrofits of **single-family homes can achieve estimated energy savings of 30% or more**, and multi-family buildings can save from 10–30%. Retrofits also provide improved comfort and indoor air quality.

[source: California Energy Commission 2009, "Energy Aware Planning Guide," CEC-600-2009-013]

Establish Technical Assistance and Incentives with Local Utilities.

Local governments can promote utility rebate and technical assistance programs and help develop more comprehensive programs by leveraging publicity and "one-stop" centers for information, such as Energy Upgrade California™ (energyupgradeca.org) – a statewide database for local incentives, rebates and qualified contractors/raters, and a marketing resources library. Local governments can also provide information with business license applications and construction permits; organize educational workshops; and provide rewards for exceptional commercial and/or residential retrofit efforts.

Adopt a Resale Retrofit Ordinance.

Adopt a resale retrofit ordinance that requires an energy rating be performed on houses and be given to prospective buyers before resale. This allows prospective buyers to compare one building with another. Residential ordinances should be consistent with the most recent California Home Energy Rating System Program (HERS) regulations. The ordinance could require or include:

- An energy and water audit for the buyer, with recommendations for retrofit measures.
- Retrofit measures with a reasonable payback period, as determined by an audit or modeling.
- Retrofit measures that lead to reduced overall energy and water consumption within a specified energy and water budget.
- The retrofit of specific, prescribed energy and water conservation measures listed in an ordinance.
- The ordinance could apply upon transfer of title, when a permit is issued for expansion or major renovation, by a "date certain" (10 years from passage of ordinance), and/or upon a change in the service connection.
- Information on utility rebate programs. Improvement costs could be included in the new loan or be reflected in the purchase price.

General Plan Language – Commercial Retrofits

- “The city/county shall adopt an ordinance requiring an energy and water audit of commercial buildings upon resale.”
- “The city/county shall adopt an ordinance requiring energy efficiency and water conservation improvements in commercial buildings upon resale.”
- “The city/county shall consult with and help organize local electric, gas and water utilities to develop a comprehensive technical assistance and incentive program encouraging existing commercial building owners to install energy- and water-conserving fixtures and equipment. The objective of the program is to retrofit ___ percent of the commercial space built before 1978 by [year].”

Residential Retrofits

- “The city/county shall adopt an ordinance requiring energy ratings and water audits to be performed on residences before sale or transfer. The city/county shall adopt an ordinance requiring residences to be retrofitted with cost-effective energy and water conservation devices upon resale.”
- “The city/county shall work with the local electric, gas and water utilities to develop education and incentive programs, including rebates for homeowners, landlords, and tenants to install cost-effective energy- and water-conserving fixtures and equipment. The objectives of the program will be to retrofit ___ percent of the residential units built before the 1978 Standards with energy conservation measures and ___ percent of all homes with water-conserving fixtures by [year].”
- “The city/county shall investigate establishing an AB 811-type financing program for residents and businesses that will provide low-interest financing for energy efficiency upgrades. The financing will be repaid on property tax bills from utility bill savings.”

Go Beyond State Standards

Although California's energy efficiency standards have led to substantial energy and economic savings, local governments can further reduce energy usage in their communities by going beyond state standards.

Adopt a "Best Practice" Program.

Determine how local building practices could be revised to exceed existing state minimum energy efficiency standards and state standards for water fixtures. This could include a tighter energy budget or more efficient prescriptive measures (more insulation, efficient windows, solar water heating, etc.). Required measures should have reasonable payback periods. Educational workshops could be organized to explain these best practices. Local ordinances that exceed minimum state energy standards require California Energy Commission approval.

Establish a Technical Assistance Program.

Establish a program, in partnership with local utilities, to aid developers in selecting energy and water conservation measures that result in savings that exceed the state standards and building operator training to ensure long-term energy efficiency.

Require Energy and Water Use Evaluations.

Require proposed large-scale development to undergo a comprehensive energy and water use evaluation to provide the developer with information on energy and water conservation measures that could be implemented, resulting in savings beyond state standards.

Offer Incentives for Extra-Efficient Projects.

Provide an expedited permitting process or lower permit fees to developers who construct more efficient buildings.

Monitor Installation and Results.

Establish a tracking and monitoring program to assure that promised efficiency measures are actually installed and operated correctly.

Require New Residential Construction to Exceed Title 24.

Require new residential construction to exceed Title 24 by being built according to state-of-the-art standards. "Build It Green" and Leadership in Energy and Environmental Design (LEED) provide state-of-the-art standards and guidelines for energy-efficient building design.



General Plan Language – Go Beyond State Standards

“The city/county shall adopt new building efficiency practices for commercial, industrial, and residential buildings to reduce energy consumption below the amounts that would be used if the buildings complied only with the existing state standards.”

“If the city/county finds that energy and water conservation measures (in addition to those required by state standards) are cost-effective for a proposed development, the city/county shall recommend such measures. The city/county shall determine cost-effective measures based upon a payback period of 30 years or less.”

“In all new construction, each residential unit, commercial/industrial space, agricultural area, large landscaped area (commercial development), and other water/energy-using entity shall be metered separately for water/energy consumption. [Alternately, a submeter or data feedback provision shall be made to inform a user of cumulative and/or instantaneous power demand.]”

Learn about Other Ways You Can Support Energy Efficiency at the Local Level

- **The Statewide Energy Efficiency Collaborative** (californiaseec.org) provides support to cities and counties to help them reduce greenhouse gas emissions and save energy. SEEC is an alliance between the Local Government Commission, ICLEI, the Institute for Local Government and California's four investor-owned utilities.
- **The Statewide Local Government Energy Efficiency Best Practices Coordinator** (EECoordinator.info) has developed a number of local government energy efficiency best practices case studies.
- **The Energy Aware Planning Guide** (energy.ca.gov/energy_aware_guide) is a comprehensive resource for local governments seeking to reduce energy use, improve energy efficiency, and increase usage of renewable energy across sectors.