

ENERGY CONSERVATION STRATEGIES

The energy policy landscape is rapidly evolving, and this information is up to date as of June 2015.

GHG Inventories

The Energy Atlas provides detailed information from the building energy sector. ICF International prepared community GHG emissions inventories on behalf of Los Angeles County (LA County) and the Los Angeles Regional Collaborative (LARC) for the year 2010. These enable a city to better understand their full emissions profile beyond the building energy sector. Greenhouse gas (GHG) emissions inventories are available for each of the 88 cities and unincorporated regions within LA County.

Cities may obtain their 2010 inventory data by contacting their council of government (COG), or by contacting the [LARC \(mailto:larc@ioes.ucla.edu\)](mailto:larc@ioes.ucla.edu).

LA County GHG Emissions by Sector

Sector	Emissions (MT CO ₂ e)	Percent of Inventory
Building Energy	38,900,762	39.2%
On-Road Transportation	33,226,317	33.5%
Stationary Sources	19,516,169	19.7%
Soild Waste	4,327,123	4.4%
Water Conveyance	1,117,283	1.1%
Ports	1,059,131	1.1%
Off-Road Transportation	515,044	0.5%
Wastewater Treatment	443,832	0.4%
Agriculture	26,105	0.03%
Los Angeles World's Airport	2,760	0.0%
Total	99,134,526	

The following fact sheets are provided by the [LARC \(http://www.laregionalcollaborative.com/la-county-ghg-inventory\)](http://www.laregionalcollaborative.com/la-county-ghg-inventory) to better understand the context and utility of community GHG inventories

- [Climate Action Plans \(http://static1.squarespace.com/static/525dcdce4b03a9509e033ab/t/54c044a5e4b056c8040ec38c/1421886629045/CAPS+overview.pdf\)](http://static1.squarespace.com/static/525dcdce4b03a9509e033ab/t/54c044a5e4b056c8040ec38c/1421886629045/CAPS+overview.pdf)
- [Resources for Climate Action Planning \(http://static1.squarespace.com/static/525dcdce4b03a9509e033ab/t/54c04464e4b08150b11bfd58/1421886564657/Resources+for+Climate+Action+Planning.pdf\)](http://static1.squarespace.com/static/525dcdce4b03a9509e033ab/t/54c04464e4b08150b11bfd58/1421886564657/Resources+for+Climate+Action+Planning.pdf)
- [Cap and Trade Overview \(http://static1.squarespace.com/static/525dcdce4b03a9509e033ab/t/54b424e3e4b0531e1f8f1f39/1421092067891/cap-and-trade+fact+sheet.pdf\)](http://static1.squarespace.com/static/525dcdce4b03a9509e033ab/t/54b424e3e4b0531e1f8f1f39/1421092067891/cap-and-trade+fact+sheet.pdf)

State Energy Policies & Goals

This section outlines statewide goals for GHG emissions reductions, energy conservation and efficiency, and clean energy production.

Climate Policies and Cap-and-Trade

AB 32: The Global Warming Solutions Act of 2006

In 2006, California passed **Assembly Bill 32: California Global Warming Solutions Act (AB 32)**. AB 32 formally codified a statewide 2020 GHG emissions reduction target of 1990 levels by 2020 and sets the state on track to meet a long-term reduction of GHG emissions to 80% below 1990 levels by 2050 (although it did not codify this target). In April 2015, Executive-Order B-30-15 set the interim target for 2030 of 40% below 1990. AB 32 directed the California Air Resources Board (CARB) to implement the bill and authorized additional research and strategy development. CARB developed the AB 32 [Scoping Plan \(http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm\)](http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm), which lays out measures to achieve the goals of AB 32 and is updated every 5 years. These measures included establishing a cap-and-trade carbon market for emissions, sector-specific emission reduction actions (e.g. agriculture, transportation, waste, and water), and other compliance obligations. The first update to the Scoping Plan was approved on May 22, 2014 and includes an overview of progress made toward near-term emission reduction goals as well as long-term strategies designed to steer the state toward emissions 80 percent below 1990 levels by 2050. For more information about cap-and-trade, please visit the LARC website for a more detailed overview of the [California Cap-and-Trade Program \(https://static1.squarespace.com/static/525dcdce4b03a9509e033ab/t/54b424e3e4b0531e1f8f1f39/1421092067891/cap-and-trade+fact+sheet.pdf\)](https://static1.squarespace.com/static/525dcdce4b03a9509e033ab/t/54b424e3e4b0531e1f8f1f39/1421092067891/cap-and-trade+fact+sheet.pdf). Additionally, information regarding the financing of the program is available in the Cap-and-Trade Funding Fact Sheet.

SB 375: The Sustainable Communities and Climate Protection Act of 2008

SB 375 supports AB 32 and California's greenhouse gas reduction goals by recognizing the nexus between land use and transportation planning. SB 375 coordinates regional transportation, land use, and housing planning to create sustainable communities that reduce GHG emissions from passenger vehicles. Each MPO is required to create a Sustainable Communities Strategy and Regional Transportation Plan to meet their regional GHG reduction targets. The Sustainable Communities Strategy and Regional Transportation Plans then create the funding priorities for investments in the region for housing, job growth, and transportation plans. Los Angeles County, as well as five other Southern California Counties, belong to the Southern California Association of Governments (SCAG), the metropolitan planning organization responsible for the region's Sustainable Communities Strategy. The **2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)** is currently in the process of being updated.

SB 535: California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund (2012)

Building largely off of AB 32, SB 535 target investments from the State's cap-and-trade program to benefit disadvantaged communities. Funds received from AB 32 are placed into the State's Greenhouse Gas Reduction Fund and are appropriated by the legislature to further efforts to reduce greenhouse gases. In 2012, SB 535 (De León) mandates that a quarter of the proceeds from the Greenhouse Gas Reduction Fund must provide a benefit to disadvantaged communities, and ten percent of funds must be spent on projects that are located directly within those communities. In order to identify disadvantaged communities, California Environmental Protection Agency (CalEPA) created the California Communities Environmental Health Screening Tool (CalEnviroScreen). CalEnviroScreen assess every census tract in California and identifies the communities that are disproportionately burdened by and vulnerable to pollution as well as other environmental and socio-economic characteristics. Under SB 535, Greenhouse Gas Reduction Funds will target reduction investments in the highest 25% of vulnerable communities to improve public health and economic opportunities.

According to a 2014 UCLA Luskin Center for Innovation report, 50% of Californians who live in a disadvantaged community are residents of Los Angeles County. The Energy Atlas' profile section identifies the number of census tracts within a geography that qualify as vulnerable, disadvantaged communities under SB 535.

Renewable Energy

Community Choice Aggregation

Community Choice Aggregation (CCA) is an alternative energy supply strategy that is designed to leverage the purchasing power of customers in a defined geographic area in order to secure renewable energy contracts and supplies for that community. CCAs are run as quasi-governmental public utilities administered by municipalities and are designed to allow consumers to seek competitive energy rates and patronize energy producers that emphasize renewable energy sources. Community Choice Aggregation (http://www.cpuc.ca.gov/PUC/energy/Retail+Electric+Markets+and+Finance/070430_ccaggregation.htm) was implemented in California in 2002 through Assembly Bill 117 and has since been adopted by numerous cities throughout the state.

CCAs typically seek to utilize local and regional renewable energy sources such as solar, distributed generation, and wind turbine generation and encourage the development of local energy production and economic development around renewable and resilient energy technology.

Renewable Portfolio Standards

The California Public Utilities Commission (CPUC) established the California Renewables Portfolio Standard (<http://www.cpuc.ca.gov/PUC/energy/Renewables/>) (RPS) in 2002 through SB 1078, 107, and 2. The RPS requires investor-owned utilities, electricity service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33% of total procurement by 2020. The RPS goals complement on-the-ground building energy efficiency strategies by supplying energy from investor-owned utilities that is sourced from renewable sources. This strategy works to ensure that the energy needs of buildings beyond that generated from on site solar PV is generated by low GHG-emitting sources like wind turbines and large scale solar arrays. IOU progress towards the goal of 33% renewables is shown in the table below.

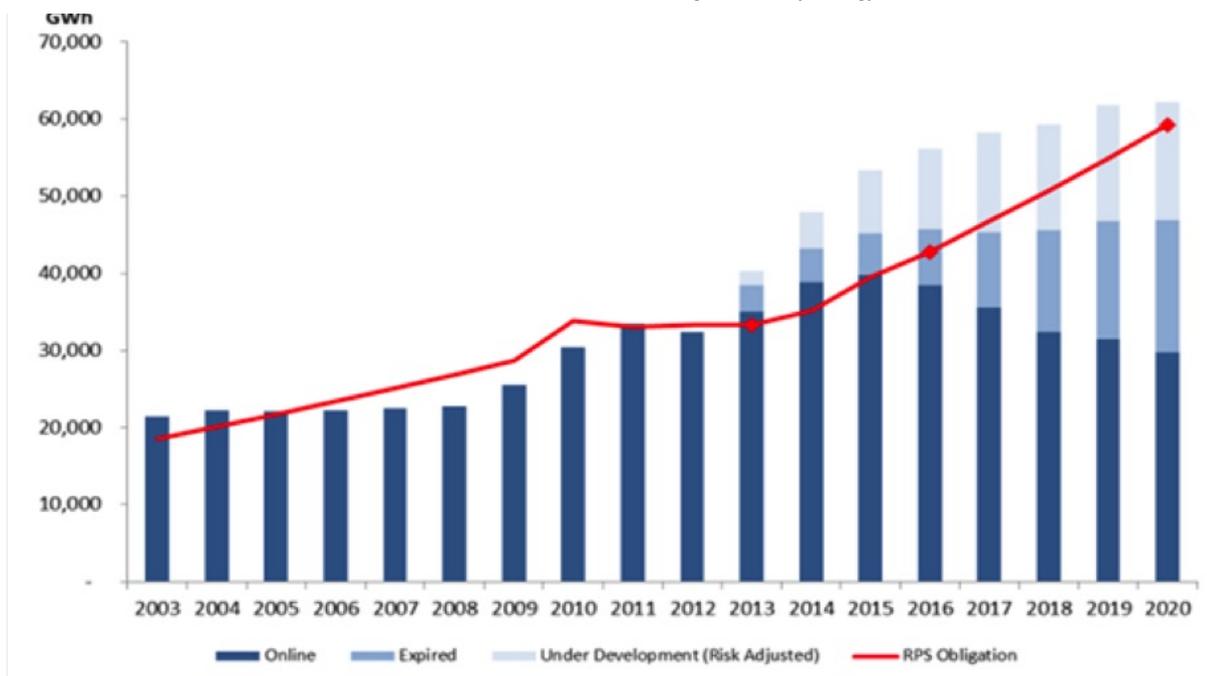


fig 1. - 2003-2010 data sourced from the Final 20% RPS Closing Report (January 2014); 2011-2020 data sourced from the Annual 33% Compliance Reports (August 2014)

California Solar Initiatives

Senate Bill 1 (<http://www.energy.ca.gov/sb1/>) (2006) was enacted by Governor Schwarzenegger's Million Solar Roofs Initiative and expanded by the IOU California Solar Initiative and the Energy Commission's New Solar Homes Partnership. SB 1 sets three standards in order for ratepayer-funded incentives to cover the costs associated with photovoltaic solar energy systems. First, the energy system must be high quality with maximum performance. Second, the system must be operated during periods of peak demand. Finally, buildings must also have complementary and appropriate energy efficiency improvements installed.

In Southern California, the CPUC works with Southern California Edison, the Southern California Gas Company and San Diego Gas and Electric to administer the program and provide incentives to customers that wish to install solar PV or thermal on new and existing buildings.

Energy Efficiency

AB 1103: Building Energy Benchmarking

Assembly Bill 1103 (<http://www.energy.ca.gov/ab1103/>) (2007) requires the benchmarking and disclosure of non-residential building energy consumption data to prospective buyers and lessees of entire buildings. The purpose of AB 1103 is to raise awareness about non-residential building energy consumption. It aims to encourage building owners to find ways to increase energy efficiency and reduce energy consumption in non-residential buildings in California through a benchmarking disclosure process that reveals an overall building performance score. Although the bill was passed in 2007, it has not yet been implemented. The CEC has set an implementation date for 2016, and will require non-residential buildings larger than 5,000 square feet to disclose their energy consumption data from the previous year via ENERGY STAR Portfolio Manager if the entire building is being offered for sale, lease, finance, or refinance.

AB 758: Energy Efficiency for Existing Buildings

The Comprehensive Energy Efficiency Program for Existing Buildings (<http://www.energy.ca.gov/ab758/>), established by Assembly Bill 758, initiated the development of a pathway to higher energy efficiency in the existing California building stock by the California Energy Commission (CEC) and the California Public Utilities Commission CPUC. Consisting of three phases funded by the American Recovery and Reinvestment Act (ARRA), the CEC developed the Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report (<http://www.energy.ca.gov/2012publications/CEC-400-2012-015/CEC-400-2012-015.pdf>) (Phase I) which identified opportunities, strategies, and barriers to increased existing building energy efficiency. Phases II and III will consist of the development of 'no-regrets' strategies, voluntary pathways, and mandatory approaches toward achieving the energy efficiency goals of AB 758.

Prop 39:

The California Clean Energy Jobs Act (Prop 39) changed the corporate income tax code to reallocate money to the State's General Fund and the Clean Energy Job Creation Fund for five years. This initiative is estimated to generate \$550 million each year starting in January 2014. The funds will be invested in projects to improve energy efficiency and clean energy generation in schools. In 2014, \$381 million of the funding will be awarded to local educational agencies, including school districts, county offices of education, charter schools, and state special schools for energy efficiency measures and clean energy installations. The remainder of funds will be

allocated to California Community College Districts, assistance for the California Energy Commission, and workforce training in clean energy jobs through the California Workforce Investment Board. Eligible projects must first allocate funding to optimize building energy efficiency so that any secondary clean energy installations are most effective in reducing overall energy use.

Projects must follow an eight-step process to apply for funding:

- Determine current electricity and gas usage
- Establish benchmarks or an energy rating system
- Prioritize energy projects at facilities in-need
- Sequence facility improvements to consider maximizing energy efficiency first, followed by clean energy and non-renewable projects
- Utilize energy surveys or audits to inform costs and savings
- Determine cost effectiveness, with every dollar invested in the project yielding at least \$1.05 in energy savings over the life of the project
- Submit energy expenditure plans; and
- Track and report progress

Zero Net Energy Buildings

In 2007, the California Public Utilities Commission (CPUC) set forth a “big, bold” programmatic goal of Zero Net Energy (ZNE) buildings for market transformation of California’s energy. In 2008, the California Long Term Energy Efficiency Strategic Plan reaffirmed this commitment and established three specific zero net energy goals: all new residential construction in California will be ZNE by 2020; all new commercial construction will be ZNE by 2030; and half of the State’s existing building square footage will be retrofitted to ZNE by 2030. As defined in the 2013 Integrated Energy Policy Report, a zero net energy building is achieved when “the net amount of energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building.”

The primary tool for achieving ZNE buildings is the California Building Energy Efficiency Standards codified as Title 24, Part 6 and developed by the California Energy Commission. The efficiency standards are updated on a three-year cycle and require higher levels of building efficiency and more stringent compliance requirements with each new iteration. The ultimate aim of the standards is to achieve ZNE for all new residential and commercial construction by the 2020 and 2030 respectively. Local municipalities like Los Angeles, Lancaster, Santa Monica, and Pasadena have historically opted to adopt energy efficiency standards that exceed Title 24 in an effort to further reduce local building energy use.

More information on Zero Net Energy planning, strategies, and stakeholder involvement is available through the CPUC website.

Building Standards

The minimum energy efficiency requirements for buildings in California are codified in State law by the California Energy Commission as Title 24. While Title 24 sets the minimum standards for new construction and retrofits or additions, local municipalities may adopt more stringent standards suited to their needs and goals.

Title 24, Part 6 and Part 11 (CALGreen)

Overview

California’s Building Standards aim to reduce energy consumption (of electricity and natural gas) by establishing the minimum technical standards for energy usage across all aspects of design, construction, and operation of residential and non-residential buildings. The standards are updated every three years to reflect new technology and efficiency standards. Cities and counties may choose to adopt ordinances exceeding the Building Standards requirements, but this is not required. The 2016 Title 24 proceedings of the California Energy Commission are available [here \(http://www.energy.ca.gov/title24/2016standards/\)](http://www.energy.ca.gov/title24/2016standards/).

Title 24, Part 6: California Energy Code

The Building Energy Efficiency Standards (Title 24, part 6) set the technical energy efficiency and design standards for residential and non-residential buildings. The Title 24, Part 6 California Energy Code 2013 Standards took effect on July 1, 2014. The revised standards are expected to yield a savings of 25% for single-family residential homes, 14% savings for multifamily buildings, and a 30% reduction for non-residential buildings.

Title 24, Part 11: California Green Building Standards Code (CALGreen)

The California Green Building Standards Code (CALGreen, Title 24, part 11) codifies the minimum efficiency standards for new buildings and non-residential building modifications in California. CALGreen was introduced in 2008 as a voluntary building process. However, in 2010 the minimum thresholds became mandatory for all new construction. CALGreen includes measures beyond basic building code requirements to reduce water usage, reduce and recycle construction and demolition waste, and additional measures to improve indoor air quality. In addition to mandatory minimum measures, CALGreen provides guidelines for voluntary measures that are classified in two tiers to “improve public health, safety and general welfare” by promoting the use of building concepts that minimize the building’s impact on the environment and promote more sustainable design. The 2013 Code became effective January 1, 2014 and expanded the scope of CALGreen to include all new residential building construction.

Cool Roofing Ordinance

In December of 2013, the Los Angeles City Council adopted Ordinance Number 183149, requiring all new buildings, building additions, and alterations exceeding \$200,000 to implement cool roofs. The cool roofing ordinance is designed to reduce and mitigate the heat impacts caused by the built environment. Known as the “heat island effect”, temperatures in built up urban areas are typically higher throughout the day due to the absorption and retention of heat from sunlight. The installation of cool roofs reduces the amount of sunlight absorbed by buildings thereby reducing the cooling energy needs of those buildings while cumulatively mitigating the impacts of the heat island effect.

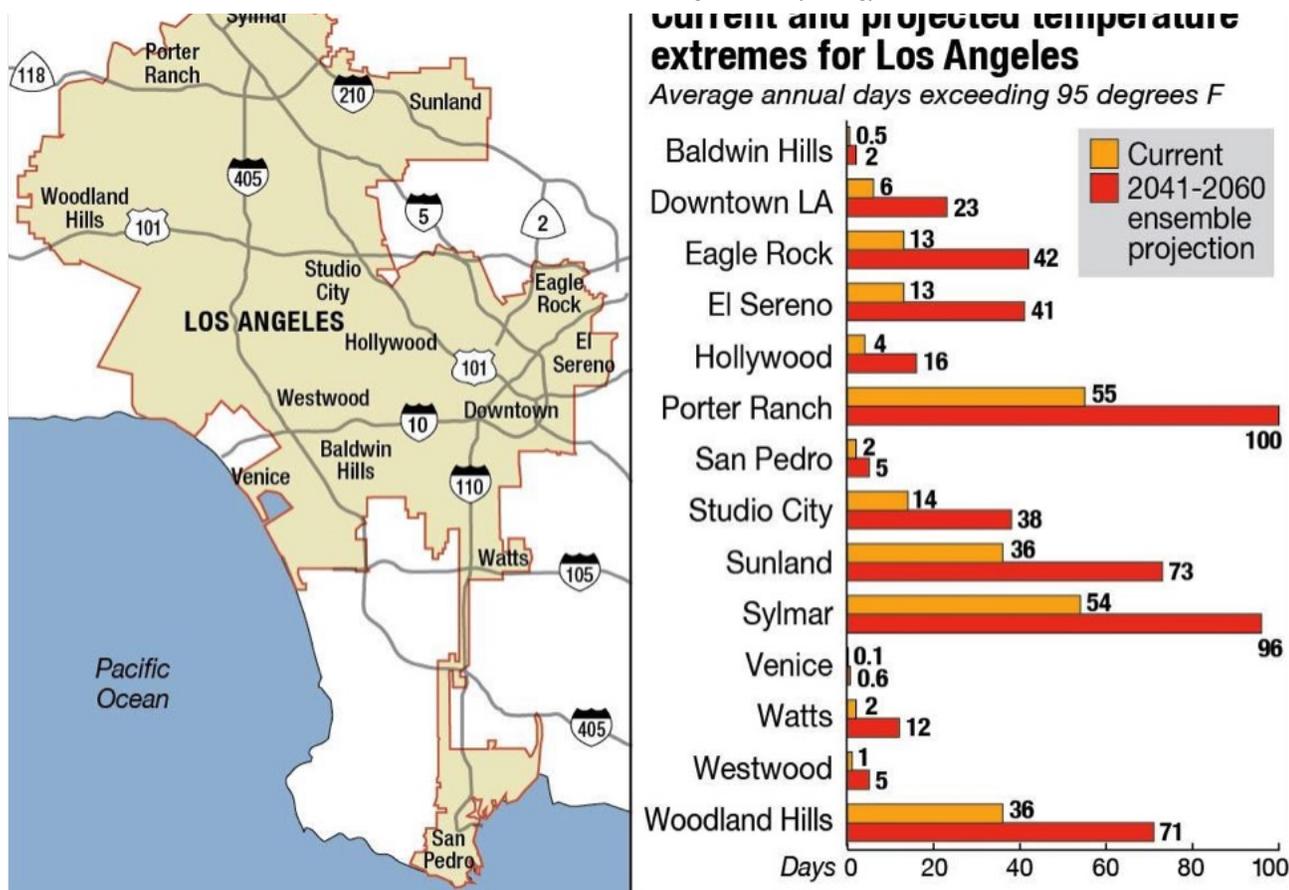


fig 2. - Image Source: C-Change.la, Research by Dr. Alex Hall

Building Standards and Title 24 Resources

- [Cost-Effectiveness Studies \(http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/current/Reports/\)](http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/current/Reports/)
- [Green Building Standards \(http://www.lgc.org/wordpress/docs/freepub/energy/case_studies/ReachCodes.pdf\)](http://www.lgc.org/wordpress/docs/freepub/energy/case_studies/ReachCodes.pdf)
- [Frequently Asked Questions \(http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/2013_Building_Energy_Efficiency_Standards_FAQ.pdf\)](http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/2013_Building_Energy_Efficiency_Standards_FAQ.pdf)
- [Cities Exceeding Title 24 and Process for Adopting Local Standards \(http://www.energy.ca.gov/title24/2013standards/ordinances/\)](http://www.energy.ca.gov/title24/2013standards/ordinances/)
- [2013 Building Energy Efficiency Standards Summary \(http://www.energy.ca.gov/title24/2013standards/2013-03-12_Changes_for_the_2013_Update_to_Building_Energy_Efficiency_Standards.pdf\)](http://www.energy.ca.gov/title24/2013standards/2013-03-12_Changes_for_the_2013_Update_to_Building_Energy_Efficiency_Standards.pdf)

Financing Strategies

State and local financing opportunities are available to partially or fully offset the cost of energy efficiency upgrades. Programs include rebates, incentives, and low interest loans to facilitate energy conservation retrofits and upgrades.

Los Angeles County Property Assessed Clean Energy (PACE) Financing Strategy

The [Los Angeles County PACE Program \(http://www.lapace.org/\)](http://www.lapace.org/) is a financing system designed to facilitate and fund adoption of energy efficiency, water efficiency, and renewable energy building upgrades. PACE funds up to 100% of the installed cost through low interest loans that are designed to be repaid as a portion of the property owner's tax bill. Adopted in 2008, Assembly Bill 811 enabled cities and counties to establish PACE financing for commercial offices, apartment buildings of five or more units, schools and nonprofits, industrial facilities, hotels, and retail/restaurant uses. Los Angeles County has 80 participating cities. A short video explaining PACE financing is available [here \(https://www.youtube.com/watch?v=R30ta3uvM1E\)](https://www.youtube.com/watch?v=R30ta3uvM1E). Additionally, a map of available PACE programs and participating municipalities is provided by the [Center for Sustainable Energy \(https://energycenter.org/policy/property-assessed-clean-energy-pace\)](https://energycenter.org/policy/property-assessed-clean-energy-pace).

Eligible building upgrades through PACE include high efficiency lighting, HVAC equipment, cooling towers, high performance windows, fuel cells, solar thermal/PV, high efficiency plumbing fixtures, and smart irrigation systems. Criteria for PACE eligibility requires that all upgrades must be permanently affixed to the building and demonstrate proven energy/water efficiency qualities or the ability to generate clean power. Repayment of PACE loans is determined by California law and typically requires a biannual interest payment and an annual payment toward the principal of the loan amount. More information about PACE financing and eligible buildings is available from Energy Upgrade California [here \(http://commercial-pace.energyupgradeca.org/overview\)](http://commercial-pace.energyupgradeca.org/overview).

The benefits of financing through the PACE program include the opportunity for building owners to spread the cost of upgrades over a longer period of time,

increase property value and rent potential, and reduce financial risk through low interest rates and the unique structuring of the PACE loan system. Learn more at [Los Angeles County PACE \(http://www.lapace.org/\)](http://www.lapace.org/).

Resources to learn more about LA County's Commercial PACE financing:

- [PACE Fact Sheet \(http://www.pacenow.org/wp-content/uploads/2013/01/PACE-Fact-sheet.pdf\)](http://www.pacenow.org/wp-content/uploads/2013/01/PACE-Fact-sheet.pdf)
- [PACE Technical Fact Sheet \(http://www.pacenow.org/wp-content/uploads/2013/01/PACE_TechnicalOneSheet.pdf\)](http://www.pacenow.org/wp-content/uploads/2013/01/PACE_TechnicalOneSheet.pdf)

Utility Rebates and Incentives

Energy utilities offer a variety of rebates and incentives for residential and commercial customers. The Database of State Incentives for Renewables and Efficiency (DSIRE), operated by the N.C. State University through funding by the U.S. Department of Energy, compiles statewide energy incentives and policies through an easy to navigate website available [here \(http://programs.dsireusa.org/system/program?state=CA\)](http://programs.dsireusa.org/system/program?state=CA). DSIRE allows California energy consumers to filter incentives and policies based on type (rebate, tax credit, grant, green building incentive, etc), regional applicability down to the zipcode, as well as date created and how recently the incentive has been updated. (All images captured from [www.dsireusa.org \(http://www.dsireusa.org/\)](http://www.dsireusa.org))

Below are links to each utility's rebate programs

[Southern California Edison \(SCE\) \(http://www.sce.com\)](http://www.sce.com)

Southern California Edison offers residential rebates for refrigerator recycling, air conditioner upgrades, energy efficient clothes washers, and more. Southern California Edison also offers education, financing, and incentives to improve the energy efficiency of commercial businesses.

- [Residential Rebates \(https://www.sce.com/wps/portal/home/residential/rebates-savings/rebates/lut/p/b1/rVvNc9owEP0tPXAUWlmWZfdmItYuDAlkARfGFmWjTNgE-xCm19fQZkmQMtHi09azds3b9_uyjCzgzqxCrPRJ2XhZht4siaENtzo_4AfK_NXPBb4AxZaNERTzRgrAHwI8-Fbb7jObsT9HX-8j6CT--hN3BdCmDhJxzh5Bb1op7icSXVRIZFrYp6ooG7M4NWKoqT_OpF7NNEItaVajSQous-n2xYVqITCUanBXbSOYIHltUgSQ2Owm1CTKlxZEjuUBM2kOmMRXErs6Tgid-GBG-AHj-2w3yIG2MYu_wTghl_3hB7lHwHO9GHR45lOnOtFdK7IAEfZrly3czF2i5jaGY6WKIVLWx-W-rraV0vqs8NaMB6vW5mZZnNVFOW8wb8KWVaVjV-3kfisXaCv6sAHjBdqtVlflfZfgwYfW8jRRS\)](https://www.sce.com/wps/portal/home/residential/rebates-savings/rebates/lut/p/b1/rVvNc9owEP0tPXAUWlmWZfdmItYuDAlkARfGFmWjTNgE-xCm19fQZkmQMtHi09azds3b9_uyjCzgzqxCrPRJ2XhZht4siaENtzo_4AfK_NXPBb4AxZaNERTzRgrAHwI8-Fbb7jObsT9HX-8j6CT--hN3BdCmDhJxzh5Bb1op7icSXVRIZFrYp6ooG7M4NWKoqT_OpF7NNEItaVajSQous-n2xYVqITCUanBXbSOYIHltUgSQ2Owm1CTKlxZEjuUBM2kOmMRXErs6Tgid-GBG-AHj-2w3yIG2MYu_wTghl_3hB7lHwHO9GHR45lOnOtFdK7IAEfZrly3czF2i5jaGY6WKIVLWx-W-rraV0vqs8NaMB6vW5mZZnNVFOW8wb8KWVaVjV-3kfisXaCv6sAHjBdqtVlflfZfgwYfW8jRRS)
- [Commercial Rebates \(https://www.sce.com/wps/portal/home/business/savings-incentives/lut/p/b1/rVXRdqlwEP2WfeAxZiBAwr5h11LQrVW7tvLiAZlOehSsUO369Ztaz9lFW9F2eWLiZD2XO3MnOMT3OMyVZZGVVbk0ew1Du2pzj3yh-Bz3pjCn7bGw3GN2NwLVAIE5UAHwzwbOsdDzpxQR9873ZAwCcDuB65LgGw8R0OcZjk1aI6wIMyEdOkYCuRV1ORa7B71yB-LrNcIKUGpWKXpyXK8kSdZCtRvIsolRwUWZpvo2SjOOJA0AkcwABYOKZ3I5RIA2GqAWc25YjdYfv6B_hV_t9b0gN8lNxp9dv6waYxq7-SMIR-fwbc7-MKFw32_7tjq-cC_6_QBYcFB_mNDQvq38DQ1samHYlFKAw3RWxNtxmrh5TFikw6WQYimWreel-vxQVYyuuwYarNfrVloU6Uy0kmKuwXsID0VZ4ft6p40leiHLLo6Hv0dD\)](https://www.sce.com/wps/portal/home/business/savings-incentives/lut/p/b1/rVXRdqlwEP2WfeAxZiBAwr5h11LQrVW7tvLiAZlOehSsUO369Ztaz9lFW9F2eWLiZD2XO3MnOMT3OMyVZZGVVbk0ew1Du2pzj3yh-Bz3pjCn7bGw3GN2NwLVAIE5UAHwzwbOsdDzpxQR9873ZAwCcDuB65LgGw8R0OcZjk1aI6wIMyEdOkYCuRV1ORa7B71yB-LrNcIKUGpWKXpyXK8kSdZCtRvIsolRwUWZpvo2SjOOJA0AkcwABYOKZ3I5RIA2GqAWc25YjdYfv6B_hV_t9b0gN8lNxp9dv6waYxq7-SMIR-fwbc7-MKFw32_7tjq-cC_6_QBYcFB_mNDQvq38DQ1samHYlFKAw3RWxNtxmrh5TFikw6WQYimWreel-vxQVYyuuwYarNfrVloU6Uy0kmKuwXsID0VZ4ft6p40leiHLLo6Hv0dD)

[Southern California Gas Company \(http://www.socalgas.com\) \(So Cal Gas\)](http://www.socalgas.com)

The Southern California Gas Company provides rebates for water heaters, insulation, furnaces, whole home upgrades, and more. Extensive commercial rebates are provided by Southern California Gas and are available by individual industry or by equipment type.

- [Residential Rebates \(http://socalgas.com/for-your-home/rebates/\)](http://socalgas.com/for-your-home/rebates/)
- [Whole Home Upgrade Rebates \(http://socalgas.com/for-your-home/rebates/energy-upgrade-ca.shtml\)](http://socalgas.com/for-your-home/rebates/energy-upgrade-ca.shtml)
- [Commercial Rebates \(http://www.socalgas.com/for-your-business/rebates/\)](http://www.socalgas.com/for-your-business/rebates/)

[Los Angeles Department of Water and Power \(http://www.ladwp.com\) \(LADWP\)](http://www.ladwp.com)

The LADWP provides rebates and education for a range of energy efficient appliances, building products, and solar systems. Additionally, LADWP provides custom-tailored commercial and industrial incentives for lighting, air conditioning, and refrigeration efficiency upgrades.

- [Residential Rebates \(https://www.ladwp.com/ladwp/faces/ladwp/residential/r-savemoney/r-sm-rebatesandprograms?_adf.ctrl-state=1d17xruc11_54&_afLoop=1314811932238888\)](https://www.ladwp.com/ladwp/faces/ladwp/residential/r-savemoney/r-sm-rebatesandprograms?_adf.ctrl-state=1d17xruc11_54&_afLoop=1314811932238888)
- [Commercial Rebates \(https://www.ladwp.com/ladwp/faces/ladwp/commercial/c-savemoney/c-sm-rebatesandprograms?_adf.ctrl-state=11xpre4692_17&_afLoop=1323187386181962\)](https://www.ladwp.com/ladwp/faces/ladwp/commercial/c-savemoney/c-sm-rebatesandprograms?_adf.ctrl-state=11xpre4692_17&_afLoop=1323187386181962)

[Azusa Light and Water \(http://www.ci.azusa.ca.us/index.aspx?nid=132\)](http://www.ci.azusa.ca.us/index.aspx?nid=132)

The Azusa Light and Water "HERO" program provides financing tools for home energy efficiency upgrades in addition to the numerous incentives and rebates offered for a range of household appliances and weatherization. Additionally, Azusa Light and Water provides custom incentive evaluation for its commercial customers.

- [Residential Rebates \(http://www.ci.azusa.ca.us/index.aspx?NID=519\)](http://www.ci.azusa.ca.us/index.aspx?NID=519)
- [Commercial Rebates \(http://www.ci.azusa.ca.us/index.aspx?NID=527\)](http://www.ci.azusa.ca.us/index.aspx?NID=527)

[Burbank Water and Power \(http://www.burbankwaterandpower.com/\)](http://www.burbankwaterandpower.com/)

Burbank Water and Power provides multiple residential rebate programs from ENERGY STAR™ appliances to solar photovoltaic installation. Additionally, Burbank Water and Power provides free shade trees, a "Green Home House Call" to provide free energy efficiency products, and a curtesy refrigerator recycling pickup.

- [Residential Rebates \(http://www.burbankwaterandpower.com/incentives-for-residents\)](http://www.burbankwaterandpower.com/incentives-for-residents)
- [Solar Rebates \(http://www.burbankwaterandpower.com/incentives-for-all-customers/solar-photovoltaic-power\)](http://www.burbankwaterandpower.com/incentives-for-all-customers/solar-photovoltaic-power)

[Glendale Water and Power \(http://www.glendaleca.gov/government/departments/glendale-water-and-power\)](http://www.glendaleca.gov/government/departments/glendale-water-and-power)

City of Glendale Water and Power provides its customers residential rebates for a range of energy efficiency home appliances from windows to central air conditioning. Glendale Water and Power also provides multiple commercial incentive programs tailored to the size of your business. For example, small business

conditioning. Glendale Water and Power also provides multiple commercial incentive programs tailored to the size of your business. For example, small business customers can utilize the Smart Business Energy Saving Upgrade Program to receive up to \$2,000 in free energy efficiency upgrades.

- [Residential Rebates \(http://www.glendaleca.gov/government/city-departments/glendale-water-and-power/residents/lower-your-bill-residential-\)](http://www.glendaleca.gov/government/city-departments/glendale-water-and-power/residents/lower-your-bill-residential/)
- [Commercial Rebates \(http://www.glendaleca.gov/government/city-departments/glendale-water-and-power/businesses\)](http://www.glendaleca.gov/government/city-departments/glendale-water-and-power/businesses/)

Long Beach Gas & Oil Department (http://www.longbeach.gov/lbgo/)

City of Long Beach Gas & Oil provides rebates to its residential customers undertaking the Energy Upgrade California whole-house energy efficiency upgrade.

- [Residential Rebates \(http://www.longbeach.gov/lbgo/information/rebates/\)](http://www.longbeach.gov/lbgo/information/rebates/)

Pasadena Water and Power (http://www.ci.pasadena.ca.us/waterandpower/)

Pasadena Water and Power provides home energy reports, shade tree rebates, no interest loans, air conditioning rebates, and solar photovoltaic incentives among many other residential programs in the City of Pasadena. Commercial programs include the Pasadena Express Efficiency Rebate (PEER) program to facilitate easy and effective business energy efficiency upgrades as well as no cost business audits and installation to qualifying customers.

- [Residential Rebates \(http://www.ci.pasadena.ca.us/waterandpower/res_programs/\)](http://www.ci.pasadena.ca.us/waterandpower/res_programs/)
- [Commercial Rebates \(http://www.ci.pasadena.ca.us/waterandpower/comm_programs/\)](http://www.ci.pasadena.ca.us/waterandpower/comm_programs/)

State Rebates and Incentives

Bright Schools Program

Administered by the California Energy Commission (CEC), the [Bright Schools Program \(http://www.energy.ca.gov/efficiency/brightschoools/\)](http://www.energy.ca.gov/efficiency/brightschoools/) assists California schools in their efforts for energy efficiency projects. This funding helps participants identify the most cost-effective energy saving opportunities for their existing facilities. K-12 schools as well as community colleges can apply for technical assistance in the form of existing facilities energy audits, review of proposals, developing performance specifications, and more.

Energy Partnership Program

Administered by the California Energy Commission (CEC), the [Energy Partnership Program \(http://www.energy.ca.gov/efficiency/partnership/\)](http://www.energy.ca.gov/efficiency/partnership/) assists California cities, counties, special districts, public hospitals, and public care facilities in their efforts for energy efficiency projects. This funding helps participants identify the most cost-effective energy saving opportunities for new and existing facilities.

The Energy Partnership Program can provide technical assistance early in the design phase for new buildings to further exceed the minimum energy savings from Title 24. For existing facilities, applicants can apply for technical assistance in conducting energy audits, reviewing proposals, developing performance specifications, and more.

CEC Energy Efficiency Financing

Since 1979, the [Energy Conservation Assistance Act \(http://www.energy.ca.gov/efficiency/financing/calmap/county/\)](http://www.energy.ca.gov/efficiency/financing/calmap/county/) (ECAA) has awarded more than \$330 million in loans to over 800 entities in the State of California. The California Energy Commission (CEC) offers low- or no-interest loans for energy efficiency projects to local governments, schools, special districts, and public healthcare facilities.

Projects with proven energy and/or cost savings are eligible. Examples of projects include:

- Lighting system upgrades
- Pumps and motors
- Streetlights and LED traffic signals
- Energy management systems and equipment controls
- Building insulation
- Energy generation including renewable and combined heat and power projects
- Heating, ventilation and air conditioning equipment
- Water and waste water treatment equipment
- Load shifting projects, such as thermal energy storage

Energy efficiency projects must be technically and economically feasible.

Learn more about loan eligibility, terms, and conditions from the [California Energy Commission \(http://www.energy.ca.gov/efficiency/financing/index.html\)](http://www.energy.ca.gov/efficiency/financing/index.html).

Additional Resources

This section includes a selection of tools and educational resources for energy conservation and climate action planning stakeholders in California. If there are additional resources you would like to suggest, please contact the Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC)

Additional resources you would like to suggest, please contact the [Los Angeles Regional Collaborative for Climate Action and Sustainability Team](mailto:larc@ioes.ucla.edu), (<mailto:larc@ioes.ucla.edu>).

Governmental Programs

[California Climate Change Portal \(http://www.climatechange.ca.gov/\)](http://www.climatechange.ca.gov/)

The California Climate Change Portal is the primary clearinghouse for information and resources related to governmental climate change action and policy in the State of California.

[California Public Utilities Commission \(CPUC\), Long Term Strategic Energy Efficiency Plan \(http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/eesp/\)](http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/eesp/)

Adopted in 2008 and updated in 2011, the Long Term Strategic Energy Efficiency Plan is California's pathway to long term energy efficiency across multiple energy use sectors including residential, commercial, and industrial buildings.

[California Energy Commission \(CEC\) Cost-Effectiveness Studies for Title 24 \(http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/current/Reports/\)](http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/current/Reports/)

The California Energy Commission undertakes cost effectiveness studies for each of the state's 16 climate zones to determine the financial feasibility of Title 24 energy efficiency requirements.

[Energy Upgrade California \(https://www.energyupgradeca.org/en/\)](https://www.energyupgradeca.org/en/)

Energy Upgrade California is a statewide initiative developed to educate residents and business owners about energy efficiency concepts to facilitate successful low carbon communities and compliment California's climate action goals and policies.

Mapping Resources

[Cal Enviro Screen 2.0 \(http://oehha.ca.gov/ej/ces2.html\)](http://oehha.ca.gov/ej/ces2.html)

The California Environmental Health Screening Tool, developed by the Office of Environmental Health Hazard Assessment (OEHHA), is used to identify communities that are significantly and disproportionately impacted by pollution in California.

[California Climate Investment Map \(http://www.climateinvestmentmap.ca.gov/\)](http://www.climateinvestmentmap.ca.gov/)

The Climate Investment Map illustrates California's investments towards climate action and energy efficiency. It provides an overview of investments across the State from 12 different programs and will be updated to include additional greenhouse gas reduction fund programs in the coming years.

[California Environmental Health Tracking Program \(http://www.ehib.org/project.jsp?project_key=EHSS01\)](http://www.ehib.org/project.jsp?project_key=EHSS01)

Through the California Department of Public Health and the Public Health Institute, the Environmental Health Tracking Program makes environmental health data accessible via a set of web-based tools and services. These tools assist stakeholders in the fields of public health, research, and policy-making in better understanding environmental hazards.

[LA County Solar Map & Green Planning Tool \(http://solarmap.lacounty.gov/\)](http://solarmap.lacounty.gov/)

The Los Angeles County Solar Map and Green Planning Tool assists users in understanding and planning solar projects across Los Angeles County. Mapping, design, and financing tools are provided to facilitate the easy adoption of solar technology at each individual user's location.

Organizations

[ACEEE, The City Scorecard \(http://www.aceee.org/local-policy/city-scorecard\)](http://www.aceee.org/local-policy/city-scorecard)

The ACEEE City Scorecard ranks 34 cities in the United States on energy efficiency and cost in the following areas: government, utilities, transportation, buildings, combined heat and power, and appliance standards.

[California Institute for Local Governments, Beacon Awards \(http://www.ca-ilg.org/beacon-award-local-leadership-toward-solving-climate-change/\)](http://www.ca-ilg.org/beacon-award-local-leadership-toward-solving-climate-change/)

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The Institute for Local Government recognizes California cities and counties that are leaders in implementing greenhouse gas reduction programs and are striving to achieve sustainable and energy efficient communities. Similarly, an agency or group can be designated as a Beacon Award Program Champion for supporting a city or county in their sustainability goals

Cool California (<http://www.coolcalifornia.org/>)

Cool California provides climate action tools and education for individuals, small businesses, and local governments. Resources include rebates and incentives, financial calculators, case studies, and climate action planning guides.

ICLEI Clear Path- Climate Action Planning Tool (<http://www.icleiusa.org/tools/clearpath>)

ICLEI–Local Governments for Sustainability is a network developed to facilitate climate protection, sustainability, and clean energy programs through local governments. The Clear Path Climate Action Planning Tool assists communities in developing GHG emission inventories and tracking programs to inform decisions regarding emission reduction strategies and planning scenarios.

ICLEI. Local Government Best Practices (<http://icleiusa.org/>)

ICLEI Case Studies survey the successful approaches and best practices that ICLEI members and local governments have taken to achieve urban sustainability. Case studies include lessons learned, costs and financial feasibility, and replicability of measures implemented.

Local Government Commission. Local Government Best Practices (<http://www.lgc.org/case-studies>)

The Statewide Local Government Energy Efficiency Best Practices Coordinator provides energy efficiency best practices and case studies for financing, green building, climate plans, outreach, and lighting.

Local Government Sustainable Energy Coalition (<http://www.lgsec.org/>)

Developed in 2007, the LGSEC assists local governments in understanding and implementing policies and plans related to energy efficiency, renewable energy, climate action, and community choice aggregation.

Southern California Regional Energy Network (REN) (<http://theenergynetwork.com/>)

The Southern California REN offers education and services to improve building energy efficiency. Rebates for full home upgrades, contractor resources, and low interest financing are just a few of the services available through the Regional Energy Network.

Statewide Energy Efficiency Collaborative (SEEC) (<http://californiaseec.org/home>)

The Statewide Energy Efficiency Collaborative is a partnership between the four California investor-owned utilities and three non-profits organizations developed to provide educational tools, technical assistance, and networking opportunities for climate action stakeholders. SEEC's website provides a collection of local government best practices for energy and climate [strategies \(<http://californiaseec.org/tools-guidance/best-practices>\)](http://californiaseec.org/tools-guidance/best-practices).