Scaling Up California's Energy Efficiency to Save Money and Reduce Pollution

Energy efficiency—using less energy to get equal or improved services like light and heat—is the cheapest, cleanest, and fastest way to save Californians money on their energy bills. A cornerstone strategy for cutting pollution to meet the state's ambitious climate goals, efficiency also has been a bright spot in the state's economy, supporting job growth and helping California generate nearly twice as much in total goods and services for every kilowatt-hour used compared to the rest of the country.[1] Efficiency has saved Californians tens of billions of dollars, avoided the need for 30 large power plants, and led to the creation of 1.5 million full-time-equivalent jobs since the 1970s.[2]

USING EFFICIENCY TO KEEP THE LIGHTS ON AND BILLS LOW

California law requires that utilities—whether investor or publicly owned—look *first* to energy efficiency before using other sources of energy, such as natural gas or solar, in determining how best to meet the needs of their customers.[3] Thanks to key laws and state agency oversight as well as efficiency programs, codes, and standards, energy efficiency has become a significant resource for providing Californians with the energy services they want, reducing the need for additional power (in the amount of 10 large power plants) as seen in Figure 1, and leading to lower customer bills and healthier air for everyone.[4]

The nearly 50 electric and gas utilities serving California's homes, businesses, and industries together invest approximately $1 billion annually in hundreds of innovative and wide-ranging programs to help customers cut energy waste, such as offering financing to improve buildings or rebates to encourage people to buy more efficient appliances. These programs are implemented by a diverse network of companies, nonprofits, local governments, and industry partners, resulting in substantial savings for utility customers after accounting for the program costs, as seen in Figure 2.

While California has made great strides in using efficiency to meet the state's energy needs and avoid polluting power sources, additional action is necessary to meet the state's carbon emissions reduction goals as well as the nation's Climate Action Plan.

Figure 1: Energy Efficiency Reduces Electricity Demand[5]

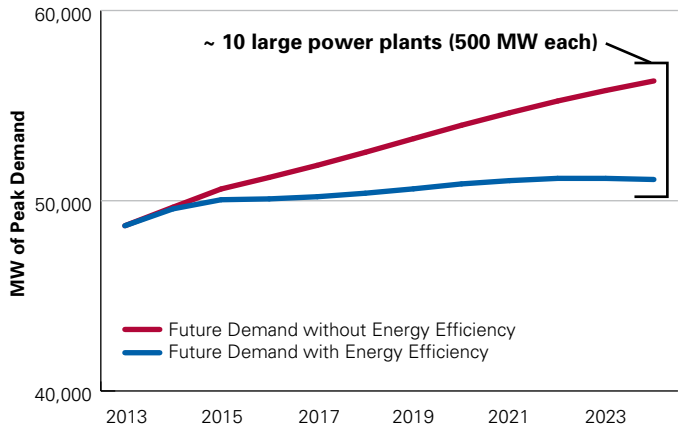
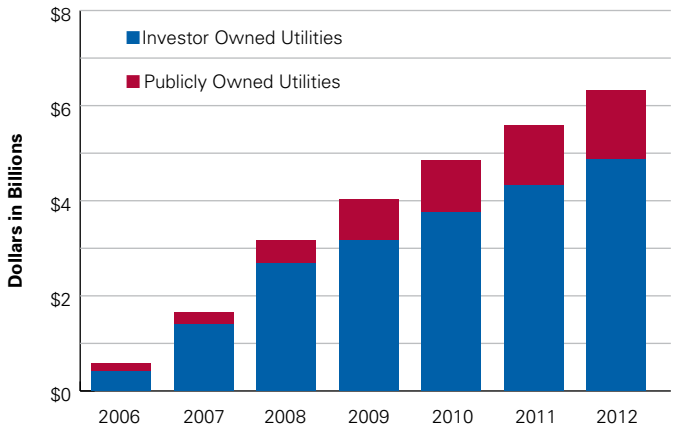


Figure 2: Energy Efficiency Saves Utility Customers Money[6]



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OPPORTUNITIES TO SCALE UP IN 2014

In the last two years alone, California's efficiency programs saved more than enough energy to power all of the homes in Fresno County and avoided as much pollution as is emitted annually from nearly 400,000 cars. But more can—and must—be done in 2014 by agencies, utilities, stakeholders, and the legislature. To successfully scale up efficiency, California should:

- **Ensure energy efficiency rules align with state climate goals:** To enable California to meet its long-term pollution reduction goals for 2020 and beyond, the rules that determine how much efficiency the state relies on should match the objectives of California's initiatives. In particular, energy agencies should develop a consistent way to value efficiency and ensure it is not only the primary energy resource, but also the leading approach to reducing greenhouse gas emissions.
- **Build confidence in energy savings estimates:** The state energy agencies should support the creation of an independent panel of technical experts to develop robust and standardized energy savings estimates in an open, transparent process. This will help establish consistent values for all utilities to use in program planning and reduce the amount of time and customer money spent on developing estimates, increase collaboration, and build credibility so efficiency can further be relied upon to avoid dirty (and more costly) power.
- **Create certainty and continuity in program planning:** The California Public Utilities Commission should establish an ongoing funding source for efficiency programs and regular opportunities to improve program design and implementation. This will increase certainty for the efficiency industry (enabling longer-term investments in California companies), reduce gaps in efficiency program service for customers, and foster more innovation.
- **Reduce the need for new power plants:** The state's energy agencies should continue forecasting California's power needs in a way that incorporates the impact of ongoing efficiency efforts to avoid relying on the dirtier and more expensive conventional energy sources. This is essential as California plans for future demand, including how to further advance clean power options and replace the energy previously provided by the San Onofre Nuclear Generating Station while keeping utility bills affordable.
- **Upgrade existing buildings:** As the California Energy Commission (CEC) implements its statewide plan pursuant to Assembly Bill 758 to make all existing buildings more efficient, it should ensure strong coordination across energy agencies and prioritize the proposed mandatory approaches to capture energy savings in buildings.
- **Advance minimum codes and standards:** Policymakers and stakeholders should focus on enhancing strong building codes for the next update in 2016 and ensure the state gains the savings it should by working with local governments and leveraging existing efficiency programs to improve code compliance. The CEC should also continue to improve equipment standards to ensure that only the most efficient products are sold in the state.

Saving energy lowers bills, increases comfort, supports a growing workforce, and reduces the harmful impact of fossil fuel power plants on our environment. Although California has a strong efficiency policy foundation, the state can build on its leadership if policymakers, stakeholders, utilities, and other efficiency implementers and partners work together to scale up efficiency efforts to support a clean energy economy, lower energy bills, and protect the environment.

ENDNOTES

1 California produces nearly $8 in GDP per kWh used while the rest of the US (w/o CA) produces nearly $4 in GDP per kWh used; kWh data from: Energy Information Administration (EIA), *State Energy Data System, All Consumption Estimates, in Physical Units, ESTCP and GDPRX 1960-2012*, 2014, http://www.eia.gov/state/seds/sep_update/use_all_phy_update.cs4; Gross State Product (GSP) information from: US Government Spending, *Comparison of State and Local Government Spending and Debt in the US, Fiscal Year 2012*, http://www.usgovernmentspending.com/compare_state_spending_2012bZ0a.

2 California Energy Commission (CEC), *2013 Integrated Energy Policy Report*, Publication Number CEC-100-2013-001-CMF, p.1. CEC, 2012-2022 Final Forecast Vol. 1, 2012, Fig. 2-3, www.energy.ca.gov/2012publications/CEC-200-2012-001/CEC-200-2012-001-CMF-V1.pdf. Roland-Holst, University of California, Berkeley, *Energy Efficiency, Innovation, & Job Creation in California*, October, 2008, p.4.

3 California Energy Commission, 2008 Update: Energy Action Plan, February 2008, p.1, www.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF. Utilities are required to "first acquire all available energy efficiency and demand reduction resources that are cost-effective, reliable, and feasible" when procuring energy. California Public Utilities Code §§ 454.5(b)(9)(C), 9615, www.leginfo.ca.gov/cgi-bin/calawquery?codesection=puc&codebody=&hits=20.

4 California customers have some of the lowest energy bills in the country, despite higher-than-average rates. California residential electric bills are nearly 20 percent lower than the average U.S. residential electric bill, and the rest of the U.S. pays $20 more per month on residential bills than do California residents. Source: All data are from EIA's most recent release of 2012 electricity bill data in Table 5a: Residential average monthly bill by Census Division, and State, published on November 8, 2013, www.eia.gov/electricity/sales_revenue_price/xls/table5_a.xls.

5 Data from California Energy Commission's *California Energy Demand 2014-2024 Final Forecast,* LSE and Balance Authority Forecasts for the Mid Demand Baseline, released on December 2, 2013, accessed at http://www.energy.ca.gov/2013_energypolicy/documents/demand-forecast/LSE_and_Balancing_Authority_Forecasts/.

6 Net benefits are based on *net savings*; 2006-2008 data for investor owned utilities (IOUs) are from Decision 10-12-049 in R.09-01-019 and scaled based on total net GWh savings for PG&E, SCE, and SDG&E and net MMTh savings for SGC to determine annual values; 2009 data are from the 2009 CPUC evaluation report, and 2010-12 data are from annual reports filed with the California Public Utilities Commission. Data for publicly owned utilities are from annual energy efficiency reports filed with the California Energy Commission, pursuant to Senate Bill 1037.