California's Industrial Efficiency Potential

Investment Opportunities Remain

July 2012

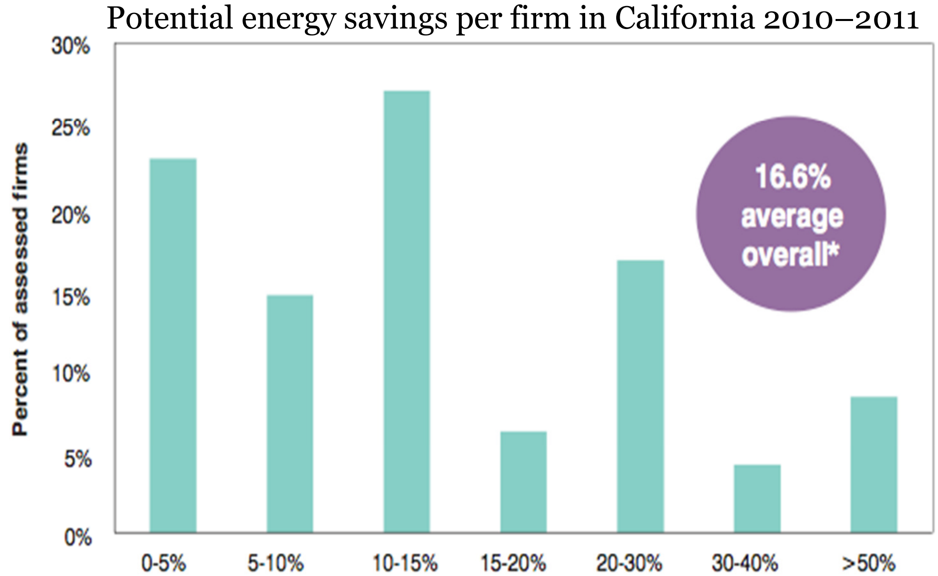
EDF co-sponsored the Global Warming Solutions Act (AB 32) in 2006 to reduce climate change pollution. Under this law, a cap-and-trade program and other complementary regulations are providing companies with new incentives and opportunities to save energy and reduce pollution. Targeted investments of AB 32 cap-and-trade auction proceeds in industrial energy efficiency can act as a catalyst for economic growth, energy savings and reduced pollution in California's industrial sector.

Industrial operations in California account for 16% of the state's electricity and 33% of the natural gas consumption. Even though California industries use much less energy on average than industries in other states, many investment opportunities remain to reduce energy use and save California businesses money.

U.S. DOE Findings (2012)

The Department of Energy's Industrial Assessment Centers evaluated 48 large industrial facilities in 2010 and 2011 and identified an **average of 16.6%** electricity cost savings per California firm. This is up from 13.6% per firm in 2006 – meaning that large firms are identifying **more savings** now than in 2006.

Potential energy savings per firm in California 2010–2011



Source: Industrial Assessment Center database
*Excludes potential savings from load shifting from peak to non-peak usage.

"Despite progress to date, California manufacturers still have a vast number of significant, untapped energy efficiency opportunities... We're finding just as many savings today as 5 years ago, partially due to new knowledge and partially due to new technologies. Energy efficiency has proven to be a continuous improvement process. In one of our recent audits, we identified and recommended 18 energy efficiency opportunities that could result in 15% decrease in the plant's energy cost, and with less than one year payback."

—Ahmad Ganji, Ph.D., Director of San Francisco State University Industrial Assessment Center

California's Continuing Industrial Efficiency Potential

Industrial Energy Efficiency Opportunities

- Eliminating air and steam leaks
- Establishing a burner maintenance schedule for boilers
- Using multiple speed motors
- Insulating bare equipment
- Installing occupancy sensors
- Reducing pressure of compressed air to minimum requirement
- Installing new controls for system optimization
- Changing unit operations for gas boilers, kilns, dryers, process heat
- Altering unit operations for electric pumps, fans, compressors, machine drives, process cooling

Sources: DOE's California Industrial Assessments (2010 – 2011) and KEMA for the California Public Utilities Commission (December 2011)

The California Public Utilities Program oversees several industrial efficiency programs aimed at providing assistance to industrial facilities to seek out and fund efficiency opportunities. Long-term programs include providing energy audits, rebates and incentives. Newer pilot programs include working with companies to develop continuous improvement initiatives.

Between 2009 and 2011, the industrial budget for the three IOU's energy efficiency efforts was about $425 million.[i] Even at this funding level, however, on-site audits and recent analyses from third party experts show that significant energy efficiency opportunities remain.

- In many cases, even though facility specific investments have been identified, the investments have not been made – missing key savings opportunities.
- Entire business sectors have been falling short of their efficiency potential because of lack of attention from utility programs due to size and lower percentages of energy costs.[ii]
- Investments with payback greater than 1 – 2 years often seem too costly to undertake.

Even though many of California's facilities and industries are among the most efficient and competitive in the world, firms have significant opportunity for increased efficiency. AB 32 revenue can provide a new incentive for industry to seek out and initiate investments that cut pollution and save money. See EDF's *Invest to Grow* report for more about investing AB 32 revenue in the clean and efficient economy at edf.org/invest-to-grow.

---

[i] PG&E ($196 $Million), SCE ($154 Million), SDGE ($12 million) and SoCalGas ($60 million)
[ii] "[Utilities] overwhelming agree that small commercial customers [<200 kW] are hard to reach and that increased participation of this market segment is needed" - CPUC Decision D.12.05/015 (May 2012)

Environmental Defense Fund
123 Mission St. 28th Floor
San Francisco, CA, 94105

T 415 293 6132
F 916 441 3142
edf.org

New York, NY / Austin, TX / Bentonville, AR / Boston, MA / Boulder, CO / Raleigh, NC
Sacramento, CA / San Francisco, CA / Washington, DC / Beijing, China / La Paz, Mexico