



Making Every Drop Work in California's CII Sector

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This article is excerpted from the 2009 report, "Making Every Drop Work: Increasing Water Efficiency in California's Commercial, Industrial, and Institutional (CII) Sector."

In February 2008, California's governor called for a 20-percent reduction in per-capita urban water use by 2020. To reach this target, all water users, including the commercial, industrial, and institutional (CII) sector will need to do their part. CII water use in California is estimated to be 2.5 million acre-feet (maf) per year—approximately one-third of total water use in the state's urban areas. The biggest commercial and institutional consumers include office buildings, golf courses, and schools. Of industrial users, oil refineries, food-processing facilities, and high-tech manufacturers demand the most water.

Based on an evaluation of current water use and available water-efficient technologies, 710,000 to 1.3 maf of water per year (around 900 million gallons per day, mgd) could be cost-effectively saved in California's CII sector. Such savings would result in lower water and energy bills, reduced wastewater charges, and reduced costs for water treatment. Furthermore, businesses would be helping to extend limited water supplies, reduce global-warming pollution, restore fisheries and other ecosystems, and improve water quality by reducing urban runoff.

Some businesses have achieved remarkable success implementing technologies and processes to improve water efficiency. A Chevron oil refinery in the East Bay Municipal Utility District service area will soon be using recycled wastewater to meet 8 mgd out of its 10- to 12-mgd demand. Intel's processing plant in Arizona uses just 2.5 mgd water rather than the industry average of 8 mgd. Fetzer Vineyard has reduced water consumption by 24 percent, saving 8 million gallons per year.

Despite significant progress in CII water efficiency over the last decade, tremendous untapped potential remains. With all the benefits to be gained, why isn't more water conservation occurring?

Lack of customer capital or awareness of financial assistance. Some businesses simply do not have the capital for large-scale retrofits. Some water agencies have rebate programs but lack the resources to promote them effectively.

Insufficient funding for rebate programs. Larger water agencies can offer an avoided-cost rebate (paying a business to save water) or a wide range of traditional rebates. But smaller agencies often rely on state or federal conservation funding, some of which is now limited by budget concerns.

Lack of technical assistance and shortage of trained staff. The lack of trained water agency staff capable of installing and maintaining water-efficient technologies continues to be a significant barrier to conservation.

Lack of data. Water resource management in California is handicapped by inadequate, incomplete, and potentially inaccurate information about water use. The Department of Water Resources Public Water Systems Survey is collected voluntarily, which impacts data completeness and accuracy, and does not include information from 2005 to the present.

Third-party lessors and misaligned incentives. Businesses that lease equipment from a third party responsible for both maintenance and operation may face an additional barrier when trying to retrofit appliances and process equipment. Since they are

generally not responsible for operating expenses, lessors lack incentive to increase equipment efficiency.

Relatively low water costs. Water and wastewater disposal may represent

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a comparatively small fraction of overall operating costs—yet another disincentive for businesses to make efficiency improvements.

Incompatible expectations for returns on investment. Businesses often make capital investment decisions with the expectation of short-term returns on their investment (ROI), whereas ROI for utility-based rebate programs may be spread out over years. This difference can hamper the investment strategies of both parties.

What Can be Done?

While targeted to California, the following recommendations for improving CII water efficiency may also apply to other states and sectors.

- Establish state efficiency standards for water-using products. This would spur innovation and bring more water-efficient technologies to market and into CII use.
- Establish performance-based water-savings targets that provide water agencies with flexibility to choose the measures appropriate for their region.
- Set water conservation as a higher priority than increasing supply. As occurred in the energy sector, this would motivate investment in water efficiency and recycling.
- Adopt a public goods charge on water sales to provide a dedicated funding source for water-efficiency programs, including expanded technical and financial assistance.
- Encourage partnerships with—and financial support from—energy utilities and wastewater agencies by offering preferential state funding.
- Streamline the process for recycled water use.
- Encourage volumetric pricing for sewer services. Studies show that a 10 percent increase in water price yields a 2 to 3 percent reduction in demand.
- Decouple water agencies' sales from revenue so agencies have a means to recover additional money from customers if sales are below projection.
- Improve water-use data collection and management through establishment of statewide electronic water-use reporting and data-sharing systems. ■

The full report, Making Every Drop Work, NRDC Issue Paper May 2009 (40 pages), is available at www.nrdc.org/water/cacii/files/cii.pdf.

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