



**Testimony of Dr. Peter Gleick, Pacific Institute¹
to the California State Water Resources Control Board,
on the California Drought
(Urban Efficiency Panel, February 26, 2014)**

Introduction

California is facing a drought of unprecedented proportions. Meteorological conditions in the Pacific and along the California coast since December 2012 have caused the year 2013 to be the driest calendar year on record, and January 2014 was the driest January on record. According to the most recent U.S. Drought Monitor, 100% of the state is experiencing some degree of drought conditions with no substantive relief in sight. California's snowpack – an important natural reservoir – is currently at 25% of average for this time of year, and the state's reservoirs are very low. Seventeen communities in California are in danger of running out of water within the next 100 days. The drought is having far-reaching effects that are likely to intensify if dry conditions persist.

The drought also provides California with an opportunity to address longstanding and intensifying water resource concerns. It can be an important turning point in California's history. The drought has brought these issues into sharper focus and provides us with a better understanding of the value of water and its connections to our environment, economy, and society. And the surge in interest and concern about water provides an opportunity for new, more effective water policy.

Below are key recommendations from the Pacific Institute for changes in strategy, policy, and approach to greatly expand the efficiency of urban water use in California.

Establish expanded and accelerated water efficiency targets.

California should expand and accelerate urban water-efficiency targets, measured as reductions in total and per-capita use from a standard baseline. While recent legislation has set some targets, preliminary analysis suggests that the state is not on track to meet a 20% reduction by 2020.

Nearly half of all U.S. states, including California, have adopted policies that establish long-term **energy** efficiency savings goals for utilities and others through their customer energy-efficiency programs.²

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These policies are referred to as Energy Efficiency Resource Standards (EERS). An EERS goal may be expressed as an annual or cumulative savings and may be based on physical units (e.g., 1,800 kWh) or as a percent reduction in either retail sales or per capita use from some baseline. While most EERS policies focus on reducing energy use, others emphasize reducing peak consumption.

Efficiency targets are far less common within the water sector. In November 2009, California became the first state to adopt an efficiency target for the water sector with the passage of Senate Bill x7-7 (SB x7-7). SB x7-7 mandates that the state achieve a 20% reduction in urban per capita water use by 2020, with an interim goal of achieving 10% by 2015. Urban suppliers that do not meet the necessary requirements are ineligible for state grants and loans. The law applies to all urban retail water suppliers, both public and private. To further promote its implementation among private water utilities, the CPUC has adopted conservation goals that comply with SBx7-7.

Implement comprehensive and standardized urban water pricing

All water utilities should adopt tiered pricing for residential customers and consider adopting tiered pricing for other customer classes.

While progress has been made in California in eliminating inefficient and inappropriate pricing structures for water, around a quarter of water utilities still offer flat, block, or even declining block rates. Water utilities should also examine adopting seasonal rates and drought surcharges to promote efficiency during periods when supplies are constrained; quantify non-revenue water and impact on financing; should analyze impact of drought sales volumes on financial stability. Additionally, wastewater utilities should move beyond flat rates to adopt uniform volumetric or even tiered pricing structures. To promote these practices, state and federal governments could require conservation-oriented rate structures in order to be eligible for grants and loans.

(Example: Volumetric *wastewater* rates could save 140,000 AF/yr in short run; 283,000 AF/yr in the long run.³)

² Sciortino, M., S. Nowak, P. Witte, D. York, and M. Kushler. (2011). Energy Efficiency Resource Standards: A Progress Report on State Experience. ACEEE Report Number 112.

³ Chesnutt, T.W. (2011). Volumetric Pricing for Sanitary Sewer Service in the State of California. A & N Technical Services. Encinitas, CA.

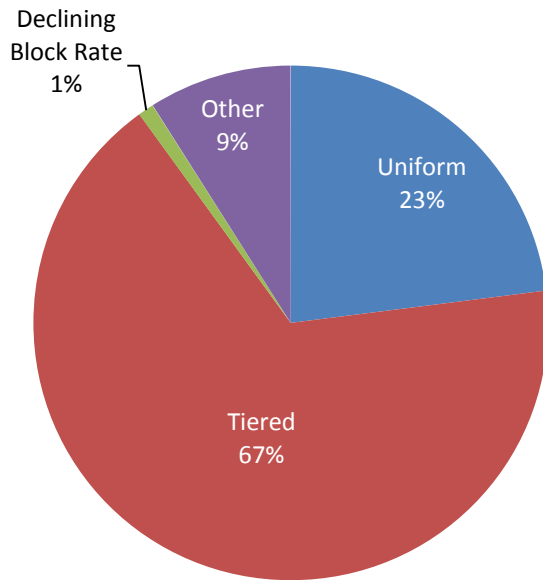


Figure 1. From Cooley et al. 2013. “Energizing Water Efficiency.” <http://pacinst.org/publication/energizing-water-efficiency/>

Accelerate urban water metering

Recent legislation has set requirements for extending residential metering but the requirement of 100% urban metering should be accelerated.

In 2004, the Legislature passed AB 2572, requiring all water suppliers to install water meters on all customer connections by January 1, 2025 and other legislation sets different deadlines for different users. Dozens of urban agencies still have unmetered connections. These deadlines should be pushed forward rapidly to achieve 100% metering for all urban water-use classes by 2017. Metering shows well-known and clear economic and water savings benefits.

Accelerate appliance/water use technology replacement; update water-efficiency standards

Policies should be implemented to rapidly and extensively accelerate the removal of inefficient water-using devices and a transition to high-efficiency fixtures.

Despite advances in recent years, substantial numbers of inefficient water-using appliances remain in place. The focus indoors should be on high-efficiency clothes washers, toilets, showerheads, and



dishwashers. The focus outdoors should be on elimination of lawns and installation of efficient water systems for landscaping.

Until recently, the state has been unable to adopt efficiency standards for fixtures and appliances that exceed federal standards. In 2010, however, the federal government officially waived federal preemption for water efficient showerheads, faucets, toilets, and urinals, paving the way for new, more stringent standards. Additionally, in 2011, the Building Standards Commission added water industry representatives to two committees that make recommendations on water-related building codes and standards, such as efficiency fixtures, recycled water, and greywater. The state must take advantage of these opportunities and continuously update existing standards and codes to capture new technologies and practices.

Adopt a loading order for water

State and local agencies should adopt a loading order for water that can serve as a guidepost for various policies and decisions at local, regional, and state levels.

One of the first discussions about a loading order for water was in a 2005 California Energy Commission report.⁴ The three strategies in DWR's recent Water Plan Updates with the greatest potential to provide new supplies and enhance water-supply reliability are efficiency, conjunctive management and groundwater storage, and recycled water. These strategies are similar to the state's adopted loading order for electricity resources. In 2007, the Natural Resources Defense Council (NRDC), in a presentation to the Delta Vision Blue Ribbon Task Force, articulated the idea of a water loading order and urged the Legislature, State Water Resources Control Board, and CPUC to adopt state policy that identifies efficiency as the preferred approach to improving water supply reliability, followed by alternatives resources (e.g., recycled water, groundwater cleanup, and conjunctive use), and lastly by traditional water supply options. The Department of Water Resources and SWRCB, for example, could enforce a loading order through eligibility and priorities for grants and loans. Likewise, local agencies could adopt a loading order in their urban water management plans and base resource allocations accordingly. Additionally, the CPUC could adopt a loading order that would apply to water IOUs and guide their resource investments.

⁴ Klein, G. (2005). California Energy Commission, California's Water – Energy Relationship. Final Staff Report, Prepared in Support of the 2005 Integrated Energy Policy Report Proceeding, (04-IEPR-01E) November 2005, CEC-700-2005-011-SF.



Increase water-efficiency expenditures

The state and water utilities should increase investment in water efficiency and conservation programs.

Water utilities typically fund efficiency programs through their operating and, in some cases, capital budgets. These expenditures are inadequate compared to the potential for efficiency improvements and the amounts currently being spent on far more expensive programs to expand water supply. Water-efficiency funds are generally generated by water sales, connection fees, interest earnings, property taxes, state and federal grants, and other miscellaneous sources. In some cases, utilities have designated funds for efficiency programs collected from high water users. Utilities may augment these local investments with monies available from state and federal sources including general obligations bonds allocated as grants and low-interest loans. To supplement these funding sources, the State should also consider adopting a public goods charge to fund water-efficiency programs. Investments, water savings, and benefits should be tracked at the state level, as is done for energy IOUs. In addition, water utilities should partner with energy utilities on programs that increase both water and energy efficiency in order to reduce cost and increase effectiveness.

Budgets for water-efficiency programs are generally small compared to other utility expenditures and may vary from year to year. An analysis of eight large water utilities in the western United States found that, on average, conservation and efficiency expenditures represent about 1% of total water budgets.⁵ A detailed analysis of water-efficiency expenditures in California has not been conducted. However, the Metropolitan Water District of Southern California (MWD), which delivers an estimated 1.7 million acre-feet of water per year to member agencies serving 19 million people in Southern California, invested \$11.4 million in water efficiency programs in fiscal year 2012/2013,⁶ or about 0.9% of its total annual expenditures.⁷

⁵ Western Resource Advocates (WRA). (2003). *Smart Water: A Comparative Study of Urban Water Use Efficiency Across the Southwest*. Boulder, Colorado.

⁶ Metropolitan Water District of Southern California (MWD). (2014). *Regional Progress Report: An Annual Report to the California State Legislature on Achievements in Conservation, Recycling, and Groundwater Recharge*. Los Angeles, California.

⁷ Metropolitan Water District of Southern California (MWD). (2013). *Basic Financial Statements, Years ended June 30, 2013 and 2012*. Los Angeles, California.



Collect more and better water-use data

More and better data are needed on how much water is used, by whom, to do what.

Unlike with the energy sector, data are not readily available to evaluate statewide water savings or attribute those savings to particular programs or policies. Comprehensive, independent evaluations of existing efficiency programs are needed to quantify and verify water savings. These evaluations will help improve program design and support local and statewide water resource planning efforts. In particular, California should:

- Adopt a “measurement and verification” manual and standard for evaluating water-efficiency.
- Collect and report on detailed data on urban water use, in a standard format.

Other Policy Recommendations

California should require all new loans, grants, and permits to include full water-use reporting and meet baseline efficiency targets.

Stormwater retention and treatment should be a requirement for all new development.

The State should prepare a detailed assessment that matches the quality of water required to meet end uses and the quality of waters available. This assessment should feed into a requirement to rapidly expand the use of recycled/treated wastewater, with the goal of eliminating the discharge of treated wastewater into the ocean.

The State should ask for a detailed assessment of the energy/greenhouse gas savings associated with water-efficiency improvements and integrate the water system into requirements under AB32.

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