

Water Ratemaking in Drought Conditions

How varying utility rate structures incentivize conservation and consumer equity

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Executive Summary

In 2015, Governor Jerry Brown instituted California's first ever mandatory water restrictions in response to severe drought conditions. Cumulatively, Californians needed to reduce their 2015 water usage to 25 percent below 2013 usage. Though mandatory water restrictions were new to California, water utility companies employed conservation pricing since the early 1990s. Designed to incentivize conservation through price mechanics, conservation pricing continues to be a primary tool for water management.

Conducted on behalf of the Office of Ratepayer Advocates, this report studies the following three water utility rate structures through the lenses of consumer advocacy and effectiveness at promoting conservation:

- 1) The tiered rate structure used by Golden State Water Company
- 2) The tiered rate structure coupled with water budgets used by California Water Service Company
- 3) The allocation based structure used by Irvine Ranch Water District

This report addresses the following research question—which rate structure best incentivizes conservation, measured by a per-capita decrease in water usage levels between 2013 and 2015, while keeping rates reasonable for consumers. While there is no single perfect rate structure which is appropriate for implementation in all California water districts, this study compares the resulting water usage levels across the three companies with the rates charged under each structure. A highly effective structure will result in comparatively low water usage levels without significantly increasing the overall cost to consumers.

Framed in the context of Governor Jerry Brown's executive order to reduce overall water usage in California to 25 percent below 2013 levels, the results of this report address how effectively each rate structure promotes conservation. This report intends to provide the Office of Ratepayer Advocates guidance as to which rate structures should be supported given the opportunity to do so in a water ratemaking

case, considering their organizational mission to obtain the lowest possible rate of service consistent with reliable and safe service levels.

Using usage data publically available through the State Water Control Board and rate information published on the utilities' website, this report compares rates and usage levels between the three utilities, looking for trends, patterns, and anomalies. This methodology resulted in the following key findings and recommendations:

- 1) **Discourage the implantation of water budgets statewide without new evidence of effectiveness:** Cal Water and Golden State Water both use a tiered rate structure, meaning consumers pay a low per unit rate for the first group of CCFs, then a higher rate for the next group and still higher rate for the following group. However, Cal Water also charges users "penalties" for going over 70 percent of their 2013 usage level for the same period in 2015. Cal Water and Golden State Water have comparable rates without additional penalties so any additional charges will result in higher rates for CW consumers. However, the higher total rates did not appear to result in less water usage when compared with the conservation achieved by Golden State Water without the penalty pricing, suggesting the punitive rates may not be necessary to promote conservation and therefore not in the best interest of the consumers or ORA.

- 2) **Design rates to target elective water usage:** Golden State Water Company and California Water Service Company both use a uniform rate structure for all consumer classes and water uses within an individual service territory. Irvine Ranch Water District, however, has separate rate structures for indoor and outdoor usage and a variety of dwelling sizes. This varied rate structure best targets elective water usage because it sets allocations based on the consumers' actual needs, rather than average household usage levels. Using separately metered outdoor irrigation set at a higher rate and individualized consumer

allocations, Irvine Ranch Water District leveled seasonal fluctuations, most of which resulted from increased irrigation needs in summer.

- 3) **Increase steepness of tiers without increasing price overall:** Irvine Ranch Water District has the lowest prices overall, but tiers increase sharply between low, base, inefficient, and wasteful usage. For example, between base usage and inefficient usage, the unit price more than doubles. Comparatively, Golden State Water Company has an average ten percent increase between tier one and two, despite having higher rates overall. When there is a very small increase between tiers but higher starting points, consumers have less incentive to decrease their water usage because the rate structure does not clearly communicate the difference between low tiers and upper tiers. By starting at a lower base rate and increasingly sharply once consumers exceed normal usage levels, Irvine Ranch Water District encourages consumers to conserve without blanketing all consumers with comparatively high rates.

Though water utility bills make up but a small portion of total monthly expenditures for many consumers, rates currently charged in California are high enough to exceed the EPA's maximum expenditure limit of 2.5% in some instances. Therefore, while conservation should be a top priority of utility companies and regulators, any additional consumer fees should result in proven savings.

