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Water conservation made legal:

Water budgets and California law

THIS ARTICLE EXPLAINS
THE THEORY BEHIND
CALIFORNIA'S WATER
BUDGET-BASED RATES
AND THE LEGAL LANDSCAPE
THAT LED TO THE PASSAGE
OF CALIFORNIA ASSEMBLY
BILL 2882.

Water agencies across the United States face the challenge of developing water service rate structures that are responsive both to operational needs and the communities they serve while complying with applicable law. The legal requirements for rate-setting in California often push the envelope, where measures such as Proposition 218, which established new rules for imposing or increasing property-related fees and charges, have raised the standards for establishing a nexus between water rates and the proportional cost of providing service. Conservation-based rate structures, which encourage efficient water use, can be attractive measures for utilities seeking to manage their water resources by lowering water demand. For years, however, utilities were hesitant to implement conservation rates because of the uncertainty surrounding whether such rates would meet the cost-of-service standards promulgated by Proposition 218. The recent passage of California Assembly Bill (AB) 2882 cleared the legal path for “water budget”-based conservation rates. This, coupled with California’s current drought, has led to a surge of interest from water utilities.

FUNDAMENTALS OF CONSERVATION RATES

Typically, the underlying goals of a water conservation program are to conserve limited water resources and delay the need for capacity expansion projects (by reducing demand peaks). Resource conservation

FIGURE 1 Rate continuum

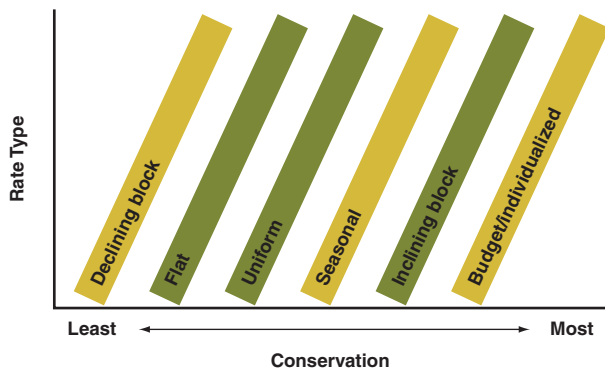
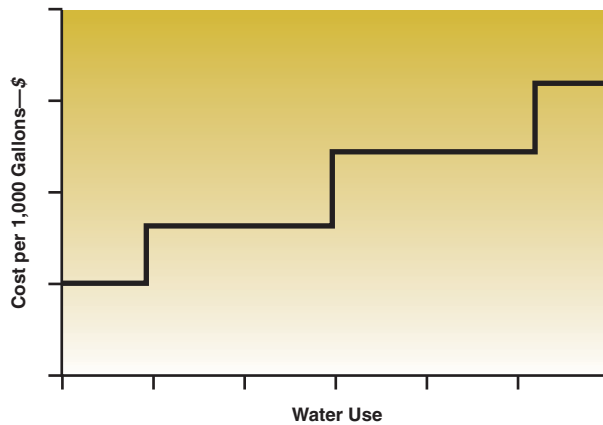


FIGURE 2 Hypothetical example of inclining-block rate structure



is particularly beneficial in California, where population growth and competing demands have put continuous strain on the management of water. As a result, water conservation is playing a progressively important role in the management of water resources. While conservation-based rates may seem like an obvious choice for encouraging efficient water use, designing effective conservation rates requires the balancing of five key elements:

- revenue stability,
- ease of implementation,
- conservation effectiveness,
- affordability for basic water needs, and
- customer equity.

No single rate structure can truly maximize all five of these elements because some can be mutually exclusive (Gaur, 2007). As will be dis-

cussed in this article, equity among customers has traditionally been the most elusive element.

TYPES OF CONSERVATION RATES

There are two general types of conservation rate structures in the rate continuum (Figure 1): high uniform rates and inclining-block rates. High uniform rates consist of a single (high) unit price for water, regardless of the level of consumption. This rate structure is simple to administer; however, in California, water rates are required to be revenue-neutral (see later discussion of Proposition 218), which means that there is a cap on how high uniform rates can be set. This cap on the uniform rates may fall short of effectively encouraging conservation. Such rates can also be criticized for failing to provide a least a minimum

amount of affordable water for basic sanitary needs.

Inclining-block rates (Figure 2) are characterized by an increasing unit price of water; the more water that is consumed by a customer, the more expensive the water gets. For example, the first “tier” of water would consist of 10 volumetric units at \$1 per unit; the second tier would be \$2 per unit, and so on. The amount of water in each tier is known as the “width” of the tier, and the unit price of each tier is known as the tier “height.”

Increasing block rate structures provide a stronger “price signal” (financial disincentive to high water use) than flat rates do, particularly if there is a steep incline to the height of the tiers. One inherent problem with inclining-block rates, however, is the inherent revenue volatility they can create. If the width and height of the tiers are not properly designed, appreciable revenue may depend on sales from the higher tiers, which are the most susceptible to changes in consumption behavior because of the correlation between outdoor usage and weather conditions.

Generalized inclining-block rates.

A “generalized block rate” refers to a rate structure that is applied across a wide swath of customers with different water needs. For example, the “single-family residence” customer class has customers with both large and small households, and both large and small lots.

Imposing the same generalized inclining-block rates across a diverse pool of customers poses an intra-class rate equity issue. This comes about because large households have greater inherent needs for water than small households, which means that the larger household will pay for higher-tiered water. As a result, the average resident of the large household will pay more per unit of water than a smaller household with equal per-capita consumption rates, simply because more people live in the home and not because the underlying unit cost of serving the larger household is

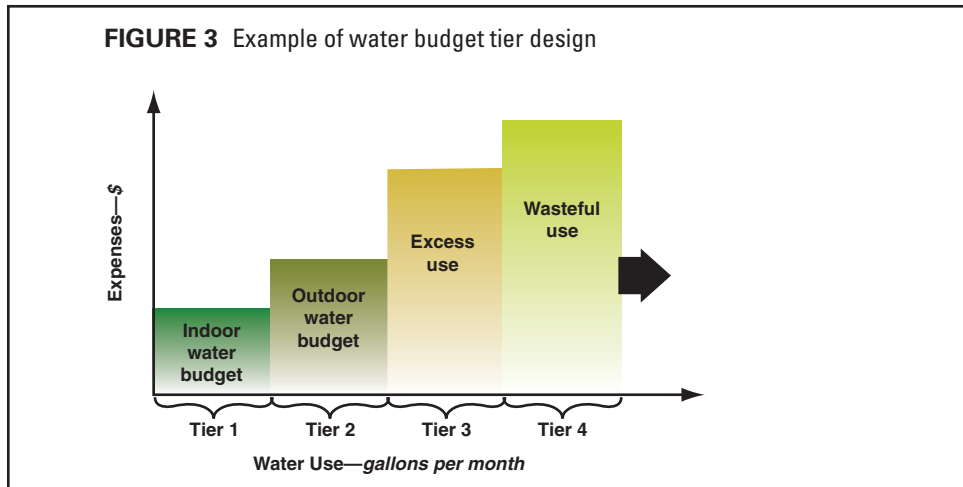
greater. This issue is exacerbated as conservation rates are made more aggressive (i.e., drought rates).

Water budget rate structures. One approach to correcting this inequity is to individualize the inclining-block rates, as is done with water budget-based rate structures. Water budgets are a type of inclining-block rate with individualized allocation of water based on specific customer characteristics (Figure 3). Characteristics for setting the water allocations may include the number of household members, size of landscaped land area, and evapotranspiration data. The implementation of water budget rates has been made possible by the advent of computerized utility billing systems that can incorporate specific customer-level information into a billing calculation.

Water budget rates address both conservation and equity goals by giving an effective price signal through the designation of efficient water use for individual accounts. Water budgets also have the added benefit of being well-suited for drought condition pricing. By making simple modifications to water allocations, a water agency can effectively and equitably target excessive consumption with higher rates. This is in contrast with typical drought condition rates, whereby a water agency asks for uniform percent reductions by all customers, even those who have historically been frugal with water use.

THE LEGAL LANDSCAPE

The defensibility of water rates in the United States has historically rested on two legal cornerstones: the authority of the entity that sets the rates and the “reasonableness” of the rates themselves. To be reasonable, rates require a rational connection between the facts found (i.e., costs of service) and the choice made (i.e., rates charged). Rates deemed to be unreasonable because of a clear error of judgment or an abuse of discretion may be considered, as the courts say, arbitrary and capricious (Corssmit, 2005)



Although the authority and reasonableness standards remain cornerstones of water rate defensibility, the evolution of legislation and case law in California has tightened the guidelines, as well as increased the complexity, for developing defensible rates. Perhaps the most salient legal turning-point for conservation rates has been the enactment of Proposition 218.

During the 1970s, local governments and public utilities in California were struggling to collect the revenue necessary to meet the costs of growing infrastructure. As these local governments began to rely on property taxes to make ends meet, Proposition 13 (the “Gann limit” on governmental appropriations, now California Constitution, Article XIII, Section A) was passed to relieve landowners of what were called “onerous” property tax burdens. In reaction, some local governments turned to utility service fees as a revenue source for nonutility budgets, such as their general funds. Objections to this practice lead to the passage of Proposition 218 (currently California Constitution Article XIII, Sections C and D).

Proposition 218 (also known as the Right to Vote on Taxes Act), enacted in 1996, aimed to protect taxpayers by establishing procedural requirements (i.e., voting and giving notice) for imposing new or increasing existing property-related fees and charges. It also placed the substantive requirements that property-

related fees not exceed the reasonable and proportional cost of providing the service in question.

Although it was not always the case, it is now clear that water service rates are indeed a “property-related fee.” Initially, water service was found to not be property-related based on the argument that water is a commodity (*Howard Jarvis Taxpayers Assn. v. City of Los Angeles*). In 2006, however, the California Supreme Court (*Bighorn-Desert View Water Agency v. Verjil*) found water rates to be, in fact, property-related based on the finding that “water is indispensable to most uses of real property.” We will come back to this argument of indispensability.

The bottom line of Proposition 218, and other related laws, is simply that California water utilities need to be more vigilant than ever in ensuring that their rates are based on robust and legally defensible cost-of-service analyses. A good cost-of-service analysis allocates the proper revenue requirements to representative customer classes based on cost-causation principles, such as those described in AWWA Manual M1 (AWWA, 2000). In short, the customers that create a cost burden should pay for it.

Conservation rates and Proposition 218. Some critics of conservation rates have said that inclining-block rates do not meet the standards of Proposition 218. Simply put, critics argue that the marginal cost of pro-

viding water does not increase in the way that tiered water rates might imply. AB 2882 now provides guidelines for designing inclining-block rates that meet the cost-of-service requirements of Proposition 218. When examined closely, AB 2882 is simply a (much-needed) clarification of how conservation rates and Proposition 218 can be harmonized; all of the necessary legal ingredients for that harmonization existed before the advent of AB 2882, although they were less explicit.

In defense of conservation. The foundation for the legal defensibility of conservation rates is found in California Constitution Article X, Section 2 (“Article X”), which requires that the water resources of California “be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented.” Article X goes on to say that the practice of water conservation “is to be exercised with a view to the reasonable and beneficial use” of water and that the right to water does not “extend to the waste or unreasonable use” of water. In furtherance of Article X, California Water Code X Section 100 restates the policy that the waste of water shall be prevented and the water of the state shall be conserved in the interest of the people and for the public welfare. California’s Water Code, Section 375 explicitly allows water conservation measures to be adopted, including water “rate structure designs.”

Proposition 218. Inclining-block rates for water service were first validated in 1994 (*Brydon v. East Bay Municipal Utility District* [EBMUD]). As part of an emergency drought management plan, EBMUD had adopted a revenue-neutral inclining-block rate structure. The rate structure was challenged as an invalid special tax in violation of Proposition 13. The court ruled in favor of EBMUD based on a technicality related to the definition of a special tax and, of more relevance to this discussion, the court also stated that

water utilities pursuing statutorily mandated conservation programs had “some flexibility permitted to account for system-wide complexity.” Stated another way, the inclining-block rates were vindicated based on the fact that they reasonably enough reflected the costs of wasteful water use, which includes the costs of regulating consumption, promoting conservation, planning infrastructure and managing a limited public resource in the interest of the common good. Significantly, this ruling was prior to the passage of Proposition 218.

After the passage of Proposition 218, concerns resurfaced regarding the legality of conservation rates. Proposition 218 was written with the intention of eliminating the very “flexibility” that was permitted by the court in the Brydon ruling. Specifically, it wasn’t clear whether inclining-block rates would meet the substantive provisions of Proposition 218 because a court might find that the more expensive tiered rates exceeded the actual cost of providing the service; and in some cases exceeded the proportional cost attributable to the parcel. The ruling left uncertain how courts would view the practice of allocating the cost of wasteful water use to high-volume customers. Water utilities may have intuitively thought that some part of Proposition 218’s proportionality requirement would be violated if a large family with efficient water use practices was still made to pay for the costs of wasteful use because of their inherent need for more water.

Harmonizing conservation rates with the law. Insight into the reconciliation of conservation rates and the provisions of Article X (to prevent the waste and unreasonable use of water) with Proposition 218 has actually been available since 1994. The previously mentioned Bighorn decision was founded on the fact that water service is “indispensable” to property ownership. This argument of indispensability, however, loses credibility when applied to the water that is beyond a property’s basic

needs. Once a property progresses from essential water consumption to discretionary use (and then even to wasteful use), the consumption is arguably no longer indispensable (and ergo no longer subject to Proposition 218) but applicable to the provisions of Article X. Essentially, there is a tipping point from when the property owner’s rights are protected to when the interests of the people are protected. There is no magic number for that tipping-point, so it must be defined on a case-by-case basis, which is where water budget rates come in.

AB 2882. AB 2882 became law on Jan. 1, 2009, and it amended the California Water Code to make allocation-based (water budget) conservation water pricing, when implemented correctly, a legally defensible water rate structure. This law essentially reconciled the concepts discussed in this article by equitably protecting reasonably priced service for basic water needs while simultaneously penalizing wasteful water use. AB 2882 has four criteria that together ensure that the mandates of both Article X and Proposition 218 are met:

(1) Water bills must be based on metered water use.

(2) A water allocation of “basic use” must be established, providing a reasonable amount of water for each customer’s basic needs based on property characteristics. Allocation factors may include, but are not limited to, number of occupants, type of land use, size of irrigated area, and local climate data.

(3) All water used within the basic use allocation must be based on a volumetric unit rate that is established following cost causation principles for the cost of water service. (AB 2882 requires that revenues from each customer not exceed the proportional cost of providing water service to each customer, as determined by: proper customer class characterizations, basic use allocations, meter size, metered water consumption, and incremental cost of water used subject to conservation charges.)

(4) A “conservation charge” can be imposed on all increments of water use in excess of the basic use allocation. The conservation charge must also be a volumetric charge and should be designed to encourage water conservation and recover the costs of conservation measures and overuse.

Within the limits of these four criteria, water agencies are allowed to use their discretion in designing allocation-based conservation water pricing rate structures.

AB 2882 is not at odds with the proportionality provisions of Proposition 218. Actually, it could be argued that when excess water consumption is priced to capture the costs associated with overuse, the rates more closely respect each customer’s proportionality requirement by ensuring that those customers who stay within reasonable use of water don’t pay for costs generated by those whose use is excessive. Of course, accounting for these excess costs stretches traditional cost-of-service practices by accounting for and assigning some non-traditional water resource costs as actual costs. Such costs may include:

- The cost of conservation programs, which include general public education, targeted outreach, irrigation controls and devices, retrofitting for recycled water, and the implementation of other best management practices.
- The cost associated with water as a limited resource. As water becomes more scarce, the cost of the “next unit of water” will become increasingly expensive. For example, desalination—an energy-intensive, high-cost method of potable water production—represents the next practical water source for some areas.
- The cost of dry-year supplies, for example, as reservoirs or imported water agreements.
- The typically underestimated environmental and social costs associated with water resource depletion.

CONCLUSION

Water conservation in California has long been supported by all levels

of government. The state’s constitution requires all water to be put to beneficial use and denounces the unreasonable use of water. In reality, however, water conservation rate structures have faced significant hurdles: objections from water customers who have grown accustomed to unlimited, relatively cheap water; the perception that conservation rate structures create rate inequities and contribute to revenue volatility; and, until recently, the unknown legal defensibility of inclining-block rates.

Water budget rate structures can effectively respond to all three of these concerns. They encourage conservation while directly addressing rate equity concerns by allocating a basic and reasonably needed amount of water in the lower-priced tiers. This type of individualized tiered structure can enhance revenue stream reliability by isolating basic and predictable consumption levels for all accounts in a given service area while segregating excessive use and conservation program costs in the higher tiers. Finally, AB 2882 has recently validated the defensibility of responsibly developed water budget rate structures. AB 2882 allows utilities to charge their customers for the very real and multifaceted costs of wasteful water use. Water budgets effectively clarify Proposition 218’s requirement that water rates reflect the actual and proportional cost of providing water service by imposing the costs of excessive water use on the water consumers who are driving those costs. As a consequence, the customers that use water responsibly are not made to pay the water resource management and infrastructure costs that are tied to wasteful water use.

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