Conservation Rates and Pricing:
Overview and Framework

Office of Research, Planning, and Performance

July 8, 2015

CALIFORNIA
Water Boards

Executive Order Directive 8
April 1, 2015

- Board to direct development of rate structures and pricing mechanisms

- Board to adopt emergency regulations as necessary

- Board to facilitate adoption of rate structures and pricing mechanisms

- CPUC to take a similar action

Relevant Legislative Direction

- Human Right to Water (AB 685, 2012)
  - Duty to consider affordability and other factors

- Allocation-based rates (Water Code 370-374, 2008)

- Penalties and charges for excessive use; impacts on revenues; and impact mitigation measures in Water Shortage Contingency Plans (Water Code 10632, 1983)

Research Findings

- Effective price signals can produce water use reductions of over 15%.
  - Public outreach is critical to success
  - Electric sector experience offers important lessons

Baerenklau, K.A., K.A. Schwabe, and A. Dinar. 2014. "Residential Water Demand Effect of Increasing Block Rate Water Budgets." *Land Economics 90(4)*: *683-699*

Mini C., Hogue T.S., and Pincetl S., Estimation of Residential Outdoor Water Use in Los Angeles, California, *Landscape and Urban Planning* 127 (2014) 124–135.

Sheila M. Olmstead and Robert N. Stavins, Comparing price and nonprice approaches to urban water conservation, 45 Water Resources Research W04301, (Apr. 2009)

Pacific Institute, An Overview of the "New Normal" and Water Rate Basics (June 2013)

Pacific Institute, Pricing Practices in the Electricity Sector to Promote Conservation and Efficiency: Lessons for the Water Sector (Sept. 2013)

Public Policy Institute of California, Paying for Water in California, Hanak et. al. (2014)

Manuel P. Teodoro, Measuring Fairness: Assessing the equity of municipal water rates, 97 Journal AWWA 111 (Apr. 2005)

Types of Conservation Rates

- Inclining blocks/tiers

- Allocation-based

- Seasonal

- Variable fixed (City of Davis)

- Dynamic rates (energy sector)
  - Time of use
  - Critical peak

Pricing Mechanisms

- Connection fees/charges
  - Offset investments
- Low-income rate assistance fees/charges
- Special programs charges
  - Conservation/Efficiency
  - Technology development
- Financing programs
  - Sonoma County Water Agency "Pay-As-You-Save" (PAYS) program

Data Collection

- Urban Water Management Plans
  - Five year intervals
- California Urban Water Conservation Council
  - Annual reporting by members
- American Water Works Association
  - Biennial survey

Water Rates vs. Water Bills

- Rates determine what is paid for use
- Bills may contain many different fees/charges
    - Fire protection
    - Meter charge
    - Wastewater service
    - System improvements (e.g., seismic retrofits)
    - Other (i.e., elevation charges, pollution prevention fees)

Increased rates do not necessarily correspond with increased bills.

Conservation and Revenues

- Revenue loss is a major deterrent to ambitious conservation programs

- Fiscal stability is often at odds with equity
  - Akin to state budget challenge
  - Rate stabilization funds akin to state rainy day fund

- Sales forecasts often overstate demand
  - Lack of accounting for codes and standards
  - Lack of accounting for continued conservation

Workshop Questions

- *1. What actions should the State Water Board take to support the development of conservation pricing, including rates, surcharges and fees, to respond to drought, maintain water supplier fiscal stability, and improve access to safe and affordable drinking water?*

- *2. What actions should the State Water Board take to support water suppliers that have already developed conservation rate structures and pricing mechanisms to improve their effectiveness?*

- *3. What actions should the State Water Board take to assist water suppliers to harmonize existing legal authorities associated with water rates and to propose or support new statutory and constitutional authorities?*

Written Comments

- Available here: http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/pricing/comments070115/index.shtml