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"Economic Feasibility" and Setting California Drinking Water Standards

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Overview

- Economic Feasibility under CA SDWA
- Overview of Affordability

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National-level Affordability Update

Roles of the 3 Branches of Government

- Legislative write laws
- Executive implement laws
- Judicial interpret laws
- Disclaimer: what follows is my personal, professional opinion as an economist (I am not a legal scholar)

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What the CA SDWA Says

"A primary drinking water standard ... shall be set at a level that is **as close as feasible to the corresponding public health goal** placing primary emphasis on the protection of public health, and ... **to the extent technologically and economically feasible**,"

§116365. Criteria for primary standards

The CA SDWA Further States:

(b) (3)... For the purposes of determining economic feasibility..., the state board shall consider the costs of compliance to public water systems, customers, and other affected parties...

What the State Typically Has Done

- Provide estimated costs of compliance
- Estimate public health benefits
- If Benefits > Costs ...
 Then "economically feasible"

Guidelines for Preparing Economic Analysis for Water Recycling Projects

What the Judge Stated re Cr(VI) MCL

"Petitioners argue both

(1) Department failed to properly consider the economic feasibility of complying with the MCL
 (2) the MCL adopted is not economically feasible."
 SUPERIOR COURT OF CALIFORNIA, COUNTY OF SACRAMENTO Gordon D. Schaber, Sacramento County Courthouse May 2017

What the Judge Stated

- "Petitioners argue both (1) that the Department <u>failed to properly consider</u> the economic feasibility of complying with the MCL and (2) that the MCL it adopted is not economically feasible.
- The court agrees with the first argument, and thus remands this case to the Department ... to consider economic feasibility."

 "The Department essentially equates its economic feasibility analysis with its cost-benefit analysis."

 "...not equivalent to considering the economic feasibility of complying with the MCL." (p.8)

More from the Judge's Ruling

- Small water systems customer "bills are estimated to go up by \$5,630 per year..."
- "This number is big so big that it appears, on its face, to be economically unfeasible for many people."
- "At the very least, the court is concerned that some people will not be able to afford a \$5,630 increase in their water bills, and that the Department failed to consider this when it set the MCL."

Does Economic Feasibility = Affordability? Judge rules it probably does

- "The Department notes the Safe Drinking Water Act does not define the term "economically feasible," and it argues the term is not synonymous with "affordable."
- Perhaps. But economically feasible has to mean something, and it is difficult to conceive of a definition that does not at least consider affordability."

Addressing Affordability

- What does affordability mean?
- How is affordability measured?
- What separates affordable from unaffordable?
- What can we do about it?

Affordability: What Does it Mean?

- Affordability is a subjective concept
 - It is normative; it involves judgment
 - There is no bright line; there is a continuum
- Affordability concerns large as well as small systems
- Affordability is a growing concern

 Water bills already rising at pace > CPI
 - Real incomes of the poor are going down

Cumulative percentage increase in upper limit of the lowest income quintile (LQI) compared to increase in nondiscretionary household expenditures and general CPI





Change in Households by Income Level 2000 to 2017

(Normalized No. of Households (Thousands); Income in 2017 Dollars)



(Mumm, 2018, US Census 2017)

Three Levels of Affordability

- National or State Level
 - Regulatory context (I.e., is a rule affordable?)
 - Financial support (E.g., is SRF adequate?)
- Utility or Community Level
 - Do collectable revenues meet cost recovery?
 - Will lenders offer needed capital financing?
- Household Level
 - Can increased water bill be paid? (Will it?)
 - What does household sacrifice to pay water bill?

Defining Affordability

- Household monthly water bills that do not impose *undue economic hardship* on low-income households.
- Households do not need to displace other essential services (e.g., medical care, food, or energy) to pay their water bills.
- LIHEAP recipients (150% of Fed Poverty Level)
 - 36 % went without food for at least one day.
 - 41 % went without medical or dental care.
 - 31 % did not fill a prescription or took less than the full dose of a prescribed medication

Affordability a Large and Growing Concern

- Continuing upward pressures on all water costs
- High proportion of low-income households
 32% U.S. residents live < 200% of FPL
- Basic cost of living expenses increasing
 40% HHs < United Way "ALICE" basic survival
- Household tradeoffs caused by higher water costs may create public health risks
- Inability to pay water bills increases utility costs

 Collections and shut-offs

Small System Issues: Rural versus Metro Areas

- Levels of income and poverty significantly different
 - MHI is 25-30 percent lower in rural area systems
 - Poverty rates are 50-60% higher in rural systems
- Rural water systems are substantially smaller than those located in metro areas.



Background on US EPA Approach

- US EPA has a long-established metrics for <u>wastewater</u> sector affordability
 - Household Affordability: 2% of Median Household Income (MHI)
 - Financial Capability of Utility/Community
- Used primarily for extending compliance schedule (largely CSO Consent Decrees)

The Federal SDWA

- Federal SDWA different from CA SDWA
 - Set MCL "as close to MCLG as feasible"
 - Feasibility based on technology, while also "(taking cost into consideration)"
- 1996 SDWA Amendments
 - Adds Small System Variance Technology
 - Mandates a benefit-cost analysis
 - Requires Administrator sign finding that benefits "justify" costs" (or, loosen MCL)

EPA Approaches Critiqued

- Several critical reviews through the years
- Congress mandated a critical review by the National Academy of Public Administration
 - NAPA's 2017 report raises serious concerns
 - Establish numerous criteria for affordability metrics

US EPA developing a response to NAPA

National Water Affordability Project



American Water Works Association

Developing a New Framework for Household Affordability and Financial Capability Assessment in the Water Sector

- Corona Environmental Robert Raucher, Janet Clements
- Galardi Rothstein Group Eric Rothstein

NACWA

Raftelis - John Mastrachio, Zachary Green

Measuring Affordability: 3 Pillars to Improve Assessments

- Reflect low income households
- E.g., use 20th Percentile HH
- Reflect total water costs
 - Include Potable Water, Wastewater and Stormwater
- Reflect local cost of living

Metrics to Assess Affordability

- <u>Metrics</u>: many possible to consider
 - Cost for all water or "basic" uses?
 - Whose income? (MHI?; 20th percentile?)
 - What income? (Gross? Discretionary?)
- <u>Criteria</u> for Metrics
 - Transparency, replicability, based on readily available and trust-worthy data
- <u>Thresholds</u> the key policy question

AWWA-NACWA-WEF Report Recommendations



Recommended Joint Consideration of Low-Income Household Burden with Prevalence of Poverty in the Community

HBI - Water Costs as a Percent of Income at LQI:	PPI - Percent of Households Below 200% of FPL		
	>=35%	20% to 35%	<20%
>=10%?	Very High Burden	High Burden	Moderate-High Burden
7% to 10%?	High Burden	Moderate-High Burden	
< 7%?	Moderate-High Burden	Moderate-Low Burden	Low Burden

Small Rural CA Systems

- UC Davis and Corona
 - On-going Prop 50-funded work with
 - Nitrate in 3 small Central Valley CWS
- Examining cost per HH, and affordability with:
 - State-funded capital expense
 - State-funded O&M expense
 - With consolidated management of brine/residuals

What Can be Done ?

- 1. Develop and apply meaningful metrics to assess affordability
 - E.g., combined water bill as % of 20th percentile HH income; and % HHs below 200% FPL
 - Consider local cost of living
- 2. Provide economic support to systems and customers in need
 - Customer Assistance Programs (limitations)
 Grants for capital and O&M to communities in
 - need
 - Encourage partnerships (beyond "consolidation")

Questions/Discussion

Thank you.

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