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Regulated Conservation Planning: Comparing Formal & Informal Processes

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Presentation Overview

- § Rate Case Experience: Suez Water New York
- § Ownership Structure of Utilities & Ratemaking
- § Rate Case-Driven Water Conservation Planning
- § Case Studies
- § Comparisons of Conservation Portfolios in the Private and Public Sectors
- § Recommendations

Rate Case Experience: Suez Water New York

Context

- § Leading up to the rate case, Suez Water NY (formerly United Water) sought to build the Haverstraw desal plant, but the project was ultimately thwarted by overwhelming public outcry
- § Following suspension of the project in November 2014, the PSC ordered SWNY to conduct a collaborative study on conservation with the Rockland County Task Force on Water Resources Management
- § The first phase of the study focused on customer demand and non-revenue water
- § After an initial, critical report was published in July 2015, SWNY withdrew from the Task Force and began developing its own conservation plan
- § SWNY filed a rate case in February 2016, and two months later, in April 2016, released its conservation plan
- § Intervenors in the rate case, including the Rockland Water Coalition, argued SWNY's proposed conservation plan was not adequately cost-effective or robust

Rate Case Experience: Suez Water New York

Stakeholder Perspective

- § Adversarial nature of the process
- § Utility's profit motive
- § Lack of transparency
- § Imbalanced resources – community v. utility
- § Rapid timeline – opposite of a deliberative process
- § Lack of prioritization for water conservation as a supply-side alternative
- § Lack of clear orientation to favor conservation and efficiency
- § Resulting conservation plan was basic, high degree of free-ridership

Is this true for rate cases in general?

- § In what states are privately-held utilities required to implement water conservation and to what extent is conservation prioritized as a water supply option?
- § Do privately-held utilities conduct conservation planning via rate cases, or outside of the rate docket case?
- § How does the robustness of private sector conservation plans/portfolios compare to those of the public sector?

Ownership Structure of Utilities

Figure 1: Private Ownership of Community Water Systems by Service Population (2014)

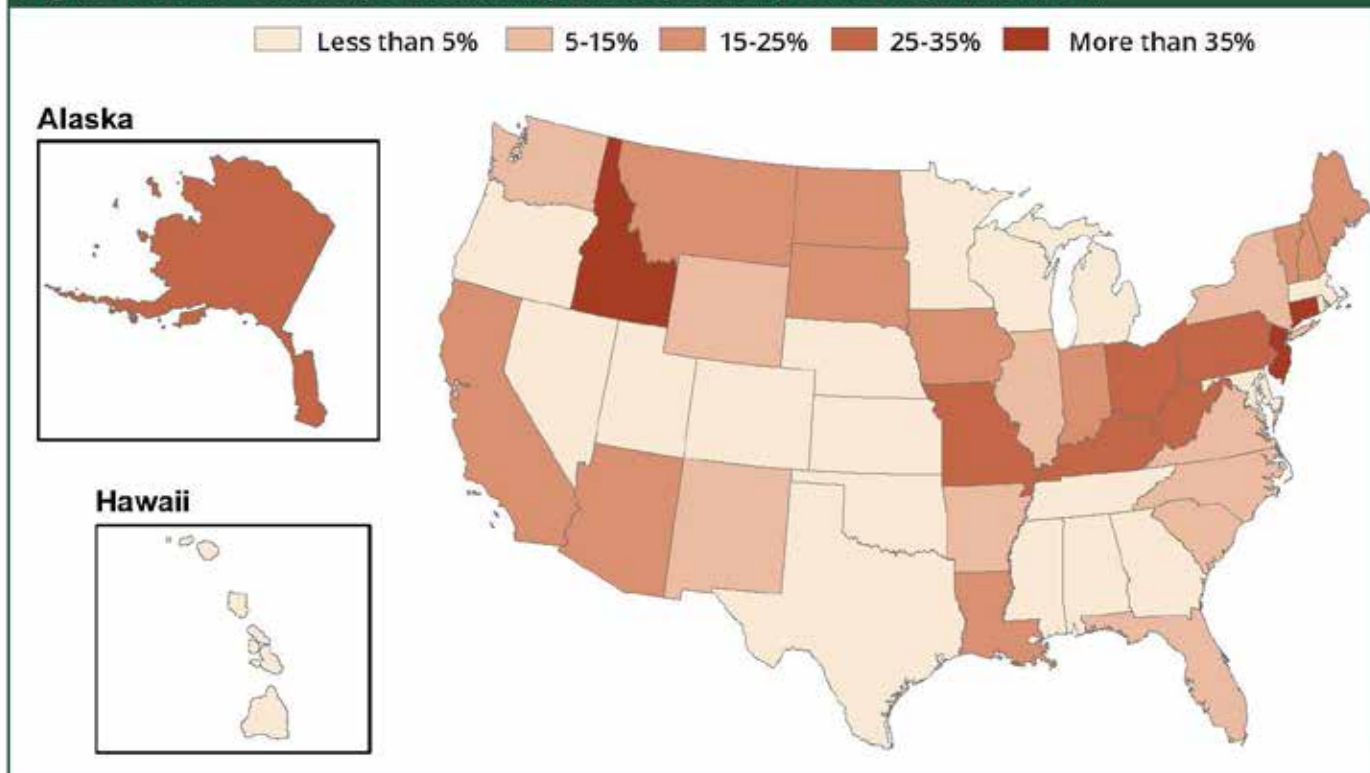
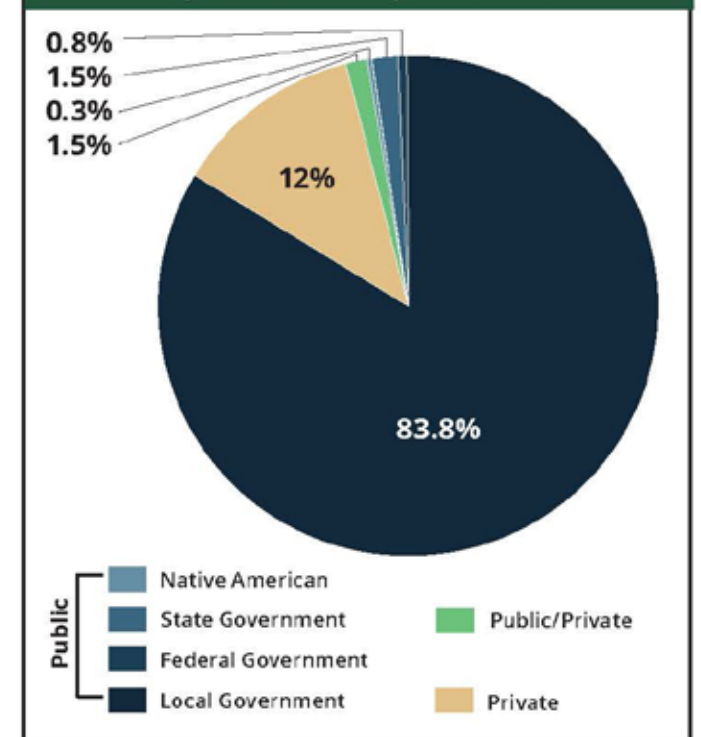


Figure 2: Community Water System Ownership By Number of People Served (2014)



How are rates set by utilities?

Investor-Owned utilities

- § IOUs submit a filing to the public utility commission demonstrating the need for a rate increase
- § The commission sets a rigid procedural schedule for reviewing the rate proposal, including public hearings
- § If parties don't reach a settlement, the ALJ issues a final decision
- § Rate cases are resolved within 11 months from the time of the application, unless there is an extension

Government-owned utilities

- § GOUs propose new rates to a board of elected officials (e.g., city council)
- § The board sets a date for a public hearing
- § If there is minimal opposition, the board issues final approval
- § Timeline is less rigid compared to IOUs

Where Do Privately-Held Utilities Plan (and Implement) Water Conservation?

State Requirements

- § Arizona
- § California
- § Colorado
- § Delaware
- § Georgia
- § Indiana
- § Kentucky
- § Nevada
- § Rhode Island
- § Virginia
- § Washington

New Supply / Financing

- § Arkansas
- § Kansas
- § Maryland
- § Ohio
- § Texas
- § Vermont
- § Wisconsin

Rate Case-Driven Water Conservation Planning

Potential Advantages

- § Integration with rate setting given consumption forecasts
- § Ability to incorporate program cost, lost revenue, and shareholder incentive in rate structure

Potential Disadvantages

- § Focus on “big ticket” capital expenses and bigger operating costs lessens focus on conservation
- § In absence of integrated resource plan, conservation is not deployed strategically
- § In absence of a stakeholder engagement mechanism, lack of strategic input by participants
- § Desire to focus on programs and technologies with easily-defined savings estimates.
- § Inability to consider new information not originally presented in testimony or respond to challenges raised in rebuttal testimony
- § Rigid timeline and lack of transparency

Contrast with Publicly-Owned Water Systems

Formal Process

- § Integrated Resource Planning
 - § SAWS
- § Regulatory-Driven Planning Process
 - § Cobb County
 - § State of Washington (Water Use Efficiency Program)
 - § California's statewide savings targets (*20x2020 Plan*)

Informal Process

- § Specific Requirements
 - § Texas utilities greater than 3,300 connections
- § No Specific Requirements
 - § Sunset Valley, TX

Case Study: Suez Water New York



Decision Process Highlights

- § Negotiated settlement failed, leading to an adjudicated process
- § Stakeholders attempted to argue conservation plan allowed too much free-ridership and counter-proposed a more comprehensive approach
- § Cross-examination strategy focused on discrediting witness regarding non-revenue water
- § SWNY received very generous shareholder incentive for achieving and exceeding water conservation targets

Program Portfolio Data

Savings Target	1 MGD over 3 years (2018 to 2020)
Total Budget	\$5,200,000
Savings as a % of Sales	1.50%
Budget as a % of Revenue	1.82%
\$ / MGD	\$5,200,000

Case Study: California American Water



Decision Process Highlights

- § Developed internally, but reviewed externally during the rate case
- § Driven by statewide savings targets
- § Flexibility to update plan during an approved rate case
- § Relatively smooth process with opportunities for stakeholder engagement early on
- § California is a forward-looking ratemaking state—IOWs required to file rate cases every 3 years

Program Portfolio Data

Savings Target	N/A (2015 to 2017)
Total Budget	\$5,950,302
Savings as a % of Sales	N/A
Budget as a % of Revenue	1.01%
\$ / MGD	N/A

Case Study: Missouri American Water



Decision Process Highlights

- § Committed \$150,000 towards a demand-side efficiency pilot program
- § Program includes rebates for high-efficiency toilets and the installation of efficiency kits (preference towards low-income customers)
- § Looking to implement these funds in tandem with energy utilities
- § Collaborative to be formed with Staff, Office of Public Council, State Dept. of Energy, and other interested parties

Program Portfolio Data

Savings Target	N/A
Total Budget	\$150,000
Savings as a % of Sales	N/A
Budget as a % of Revenue	N/A
\$ / MGD	N/A

Case Study: San Antonio Water System, TX



Decision Process Highlights

- § Driven by the utility's integrated water management plan (updated every 5 years)
- § Plan defines savings goals, but strategies are less defined
- § Ongoing dialogue between SAWS staff, IRP Task Force, Board of Trustees, Public Utility Commission Office, and Community Conservation Committee
- § Flexibility to update the conservation plan at any time

Program Portfolio Data

Estimated Savings	1.95 MGD over 1 year (2015)
Total Budget	\$9,250,000
Savings as a % of Sales	1.46%
Budget as a % of Revenue	2.35%
\$ / MGD	\$4,733,363

Case Study: Cobb County Water System, GA



Decision Process Highlights

- § Driven by a regulatory process overseen by the Metropolitan North Georgia Water Planning District
- § District's comprehensive water management plan informs local planning (5-year cycle)
- § Failure to comply results in removal of permits
- § Informal process for obtaining public feedback

Program Portfolio Data

Estimated Savings	0.09 MGD over 1 year (2014)
Total Budget	N/A
Savings as a % of Sales	0.15%
Budget as a % of Revenue	N/A
\$ / MGD	N/A

Case Study: Seattle Public Utilities, WA



**Seattle
Public
Utilities**

Decision Process Highlights

- § Driven by a regulatory-process
- § Required to establish a quantitative water use efficiency goal through a public review process
- § State also requires a 10-year water system plan that includes a conservation component
- § Strategic vision and conservation measures developed internally

Program Portfolio Data

Estimated Savings	3.21 MGD over 4 years (2007 to 2010)
Total Budget	\$10,683,000
Savings as a % of Sales	0.68%
Budget as a % of Revenue	2.25%
\$ / MGD	\$3,328,037

Case Study: Scottsdale, AZ



Decision Process Highlights

- § Required by the state to implement a *Non-Per Capita Conservation Program*
- § Conservation plan developed every 5 years
- § Measures selected from a list of BMPs provided by the state
- § 'Conservation Efforts Report' submitted annually
- § Approval provided by the Director

Program Portfolio Data

Estimated Savings	0.08 MGD over 1 year (2016)
Total Budget	\$217,605
Savings as a % of Sales	0.14%
Budget as a % of Revenue	0.21%
\$ / MGD	\$2,641,019

*Savings & budget information reflects the rebate program only

Comparisons: Programs & Measures

Utility	Residential						Commercial					Education
	Indoor			Outdoor			Indoor		Outdoor			
	Toilets	Shower/ Aerators	Washers	Irrigation Audits	Rebates	Landscape	Audits	Rebates	Irrigation Audits	Irrigation Rebates	Landscape	
Seattle, WA	X			X	X			X	X	X		X
Cary, NC				X	X				X			X
Denver Water, CO	X				X			X		X		X
Tampa Water Department, FL		X			X			X		X		X
Austin Water, TX		X			X	X	X	X	X	X	X	X
San Antonio Water System, TX		X		X	X	X	X	X	X	X	X	X
Cobb County, GA	X	X										X
Scottsdale, AZ	X	X			X	X		X		X	X	X
Suez Water, NY	X	X	X		X		X	X		X		X
American Water – MO	X	X										X
American Water – CA	X	X	X		X	X		X		X	X	X
California Water Service	X		X	X	X		X	X	X	X		X

Comparisons: Budgets

Utility	Average Annual Conservation Budget	Budget as a % of Annual Revenue
Seattle, WA	\$2,670,750	2.25%
Cary, NC	N/A	N/A
Denver Water, CO	\$2,557,766	1.07%
Tampa Water Department, FL	\$191,765.86	0.23%
Austin Water, TX	\$5,066,847	2.49%
San Antonio Water System, TX	\$9,250,000	2.35%
Cobb County, GA	N/A	N/A
Scottsdale, AZ	\$217,605	0.21%
Suez Water, NY	\$1,733,333	1.82%
American Water – MO	\$150,000	N/A
American Water – CA	\$1,983,434	1.01%
California Water Service	\$6,999,757	1.17%

Comparisons: Conservation Savings

Utility	Average Annual Savings (MGD)	Savings as a % of Sales
Seattle, WA	0.80	0.68%
Cary, NC	0.02	0.10%
Denver Water, CO	1.08	0.60%
Tampa Water Department, FL	0.05	0.07%
Austin Water, TX	0.84	0.56%
San Antonio Water System, TX	1.95	1.46%
Cobb County, GA	0.09	0.15%
Scottsdale	0.08	0.14%
Suez Water, NY	0.33	1.50%
American Water – MO	N/A	N/A
American Water – CA	N/A	N/A
California Water Service	0.67	0.25%

Comparisons: Stakeholder Engagement

Utility	Does a formal opportunity exist?	How?
Seattle, WA	Yes	Public review process required when developing savings goals
Cary, NC	Yes	During development of integrated water resources management plan
Denver Water, CO	Yes	Water Efficiency Working Group meetings held during development of Water Efficiency Plan; public commenting period also established
Tampa Water Department, FL	No	Informal (e.g., Board meetings); formal stakeholder engagement on the regional scale
Austin Water, TX	Yes	Community Task Force meetings held during development of integrated water resource plan
San Antonio Water System, TX	Yes	Community Conservation Committee meetings held during development of integrated water resource plan
Cobb County, GA	No	Informal (e.g., Board meetings)
Scottsdale	No	Informal (e.g., Board meetings)
Suez Water, NY	Yes	Public hearings held during rate case
American Water – MO	Yes	Public hearings held during rate case
American Water – CA	Yes	Public hearings held during rate case; opportunities during development of the conservation plan
California Water Service	Yes	Public hearings held during rate case

Findings & Conclusions

- § There does not appear to be a clear correlation between planning within the context of a rate case and the comprehensiveness of water conservation portfolios, and a slight correlation with depth of budgets
- § Comprehensive conservation programs and significant investments emerge when policies drive conservation as a strategic resource
- § Given the nature and rigid timeline of rate cases, this format is not particularly conducive to conservation planning when a dispute arises between the utility and stakeholders, as the SWNY case study demonstrates

Recommendations

- § Central organizations, such as A4WE, should provide “recipe books” to get conservation programs off the ground quickly and effectively (beyond AWWA M52 and ANSI/AWWA G480 Standard)
- § Conservation program administrators need to start holding themselves accountable to specific performance targets
- § For investor-owned utilities, policymakers need to seriously consider program cost recovery, lost revenue recovery, and shareholder incentives for water conservation program performance

Existing Standards

PLANNING (M52)

To start a water conservation program, a water conservation plan should be developed. The following ten basic steps outline the activities undertaken in a water conservation planning effort to develop a cost-effective plan.*

1. Review detailed demand forecast
2. Review existing water system profile and descriptions of planned facilities
3. Evaluate the effectiveness of existing conservation measures
4. Define conservation potential
5. Identify conservation measures
6. Determine feasible measures
7. Perform benefit–cost evaluations
8. Select and package conservation measures
9. Combine overall estimated savings
10. Optimize demand forecasts

POLICY (480-13)

4.2.2 *Water conservation planning.* The utility shall create, implement, and maintain a water conservation plan. The development of the plan should be guided by AWWA M52, *Water Conservation Programs—A Planning Manual*. The plan must address water conservation across all relevant customer categories and should include clearly defined and measurable program performance goals and a suite of benchmarks that can be used to assess progress in implementation of the program. Final water conservation plans should include a supply assessment, water conservation strategy, water conservation goals, plan evaluation, and ongoing plan maintenance. Fulfillment requirements shall be established by state or provincial and local requirements.

4.2.3 *Water conservation in integrated resources planning.* The utility shall treat conservation as equal to other water supply options, and where appropriate, include water made available through conservation as part of the supply portfolio when conducting supply-and-demand forecasting analyses.

Alternative Model – Energy Efficiency “Quickstart Programs”

National Action Plan for Energy Efficiency

Customer Segment	Key Stakeholders	Key Program Barriers	Key Program Strategies
Large Commercial & Industrial Retrofit	<ul style="list-style-type: none"> Contractors Building owners and operators Distributors: lighting, HVAC, motors, other Product manufacturers Engineers Energy services companies 	<ul style="list-style-type: none"> Access to capital Competing priorities Lack of information Short-term payback (<2 yr) mentality 	<ul style="list-style-type: none"> Financial incentives (rebates) Performance contracting Performance benchmarking Partnership with ENERGY STAR Low interest financing Information from unbiased sources Technical assistance Operations and maintenance training
Small Commercial	<ul style="list-style-type: none"> Distributors: lighting, HVAC, other Building owners Business owners Local independent trades 	<ul style="list-style-type: none"> Access to capital Competing priorities Lack of information 	<ul style="list-style-type: none"> Financial incentives (rebates) Information from unbiased sources Direct installation Partnership with ENERGY STAR
Commercial & Industrial New Construction	<ul style="list-style-type: none"> Architects Engineers Building and energy code officials Building owners Potential occupants 	<ul style="list-style-type: none"> Project/program timing Competing priorities Split incentives (for rental property) Lack of information Higher initial cost 	<ul style="list-style-type: none"> Early intervention (ID requests for hook-up) Design assistance Performance targeting/benchmarking Partnership with ENERGY STAR Training of architects and engineers Visible and ongoing presence in design community Education on life cycle costs
Residential Existing Homes	<ul style="list-style-type: none"> Distributors: appliances, HVAC, lighting Retailers: appliance, lighting, windows Contractors: HVAC, insulation, remodeling Homeowners 	<ul style="list-style-type: none"> Higher initial cost Lack of information Competing priorities Inexperience or prior negative experience with technology (e.g., early compact fluorescent lighting) Emergency replacements 	<ul style="list-style-type: none"> Financial incentives Partnership with ENERGY STAR Information on utility Web sites, bill inserts, and at retailers Coordination with retailers and contractors
Residential New Homes	<ul style="list-style-type: none"> Contractors: general and HVAC Architects Code officials Builders Home buyers Real estate agents Financial institutions 	<ul style="list-style-type: none"> Higher initial cost Split incentives: builder is not the occupant 	<ul style="list-style-type: none"> Partnership with ENERGY STAR Linking efficiency to quality Working with builders Building code education & compliance Energy efficient mortgages
Multifamily	<ul style="list-style-type: none"> Owners and operators Contractors Code officials Tenants 	<ul style="list-style-type: none"> Split incentives Lack of awareness 	<ul style="list-style-type: none"> Financial incentives Marketing through owner and operator associations
Low Income	<ul style="list-style-type: none"> Service providers: Weatherization Assistance Program (WAP), Low-income Home Energy Assistance Program (LIHEAP) Social service providers: state and local agencies NGOs and advocacy groups Credit counseling organizations Tenants 	<ul style="list-style-type: none"> Program funding Program awareness Bureaucratic challenges 	<ul style="list-style-type: none"> Consistent eligibility requirements with existing programs Direct installation Leveraging existing customer channels for promotion and delivery Fuel blind approach

Arkansas 2007 Quickstart Portfolio

- § Education
- § Audits and Evaluations leading to savings
- § Inspection / tune-up of air conditioning systems
- § Residential and C&I lighting
- § Demand response programs
- § Residential weatherization – Income-Qualified and Market Rate
- § Commercial and industrial prescriptive incentive programs

Translating “Quickstart” to Water Conservation

Arkansas 2007 Quickstart
Education
Audits & Evaluation leading to savings
Inspection / tune-up of air conditioning systems
Residential and C&I lighting
Demand response programs
Residential weatherization - Income-Qualified and Market Rate
Commercial and industrial prescriptive incentive programs



Water Conservation Quickstart
Education
Residential Audits and C&I Audits (Indoor and Outdoor)
Irrigation System Tune-ups
Prescriptive Indoor Fixture Rebates (Toilets, Urinals, Showerheads, Aerators, Appliances, Pre-Rinse Spray Valves)
Peak water reduction programs (smart irrigation controllers)
Income-Qualified Water Conservation Programs
Commercial and industrial prescriptive and custom program (e.g., Cooling Towers, Commercial Kitchens)
Integrated water / energy program delivery

Alternative Policy

“As does the Massachusetts Water Policy, the Draft Policy establishes a preference for implementing water conservation measures before developing any new water supply sources. That is, desalination project development should occur only after communities meet the applicable Commonwealth Water Conservation Standard and all other existing supply sources are put to maximum use.”

- Desalination Policy (Draft July 2007), Commonwealth of Massachusetts, Executive Office of Energy and Environmental Affairs.
- Massachusetts Water Policy (2004), Commonwealth of Massachusetts, Executive Office of Energy and Environmental Affairs.

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