

WATER AFFORDABILITY PROGRAMS & POLICIES

A NATIONAL REVIEW



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This report provides a review of policies and programs addressing water bill affordability issues and equitable access to water. Five broad strategies are discussed, including cost reduction, water efficiency, rate design, customer assistance programs, and hard to reach programs. For each solution, a definition, implementation considerations, examples, and potential recommendations are provided. More extensive case studies from a handful of water systems and a brief summary of the reviewed literature are also included. Illinois Indiana Sea Grant, the Metropolitan Planning Council and Elevate Energy collaborated on this report as part of a larger initiative to research and explore the extent to which communities in the northeastern Illinois region are facing challenges to water affordability, and identify opportunities to address these concerns.

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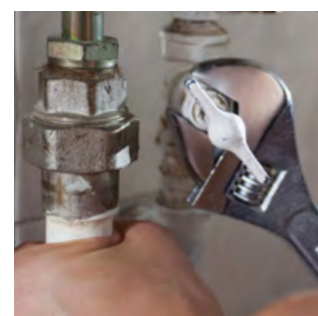
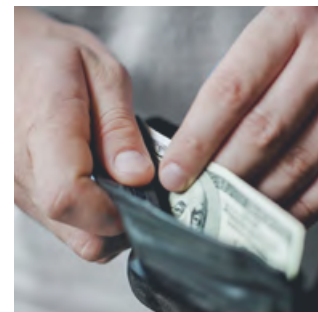
Luis Tello contributed in his role as a research assistant for Illinois-Indiana Sea Grant. He helped with local and regional outreach to identify water affordability challenges of communities in northeastern Illinois, in addition to his assistance with implementation of better water management plans.

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Introduction

As water bills continue to escalate at rates greater than the cost of living, they assume a larger percent of household budgets and the number of households finding water bills unaffordable rises. Industry experts expect water bills to increase for decades to come due to cost drivers in the water industry.¹ Costs primarily fall on ratepayers, as water rates provide the main source of revenue for drinking water service.² What's more, the regressive nature of water rates places the greatest burden on those who are least able to bear it.³ Therefore, to continue to ensure equitable access to clean, safe water, policies and programs that alleviate the financial impacts of water bills on customers who are unable to pay will become increasingly important.

This report provides a review of policies and programs addressing water bill affordability issues and equitable access to water taken from across the nation. Because every community is unique, a one-size-fits-all water affordability solution does not exist. Some of the many variable local factors that impact affordability policies and programs include socio-demographic characteristics, community financial and management capacity, age of the water system, source water quality and quantity, customer base size, vulnerability to climate change, housing and land-use characteristics, and customer water-use patterns.



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1 Baird, G. M. (2010). Water Affordability: Who's Going to Pick Up the Check? *Journal American Water Works Association*, 102(12), 16-23. doi:10.1002/j.1551-8833.2010.tb11358.x

2 National Consumer Law Center. (2014). *Review and Recommendations for Implementing Water and Wastewater Affordability Programs in the United States* (pp. 1-53, Rep.). Boston, MA: National Consumer Law Center.

3 The regressive nature of water rates is due, in no small part, to the economies of scale present in the water industry that leaves smaller, more rural, systems with a smaller customer base over which to spread costs. Since water systems are local monopolies, there is no substitute.

Water affordability solutions can be broadly categorized as:

STRATEGY 1	REDUCE COSTS
STRATEGY 2	PROMOTE WATER EFFICIENCY
STRATEGY 3	DESIGN RATES
STRATEGY 4	STRENGTHEN CUSTOMER ASSISTANCE PROGRAMS
STRATEGY 5	TARGET THE HARD TO REACH

Each of these strategies is discussed hereafter, including a definition, implementation considerations, examples, and recommendations. Following these strategies, we provide more extensive case studies from a handful of water systems, and a brief summary of reviewed literature.

Program & Policy Strategies

STRATEGY 1: REDUCE COSTS

Description

Cost drivers in the water industry include aging infrastructure, declining customer bases, decreasing water use, increasing energy production and treatment costs, and declining source water quality. Addressing escalating water service costs is, therefore, one way to make water bills more affordable. Strategies to reduce water costs include ① asset management, ② increase in federal or state funding and financing sources, and ③ regionalization.

- ① **ASSET MANAGEMENT** involves making data-driven decisions for operating, maintaining, repairing, and replacing water infrastructure assets (pipes, valves, meters, pumping stations, and treatment works) to minimize life-cycle costs.
- ② Costs of water service at the local level can be offset or subsidized by **FEDERAL AND STATE SOURCES OF FUNDING** or financing for the water system, particularly for capital investment that cannot be funded on a pay-as-you-go basis.⁴
- ③ **REGIONALIZING WATER SYSTEMS** by sharing infrastructure networks, staff members, and other resources, employing joint procurement practices, and forming public-private partnerships can reduce water costs.

Who it Helps

When cost reduction is implemented while protecting the level of service, that is, without compromising water quality, water pressure, customer service, etc., all users of the water system potentially benefit.⁵ For example, preventing water losses can maximize system revenues, improve water quality, and alleviate water resources restrictions to better address failing infrastructure.

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4 While water customers still ultimately bear these costs indirectly through federal or state taxation, the burden is redistributed from local ratepayers to taxpayers. The primary funding source for community water systems is water bill revenue for water service.

5 Bipartisan Policy Center Water Task Force. (2017). *Safeguarding Water Affordability* (pp. 1-50, Rep.). Washington, DC: Bipartisan Policy Center. Retrieved from: bipartisanpolicy.org/report/safeguarding-water-affordability/

Implementation Considerations

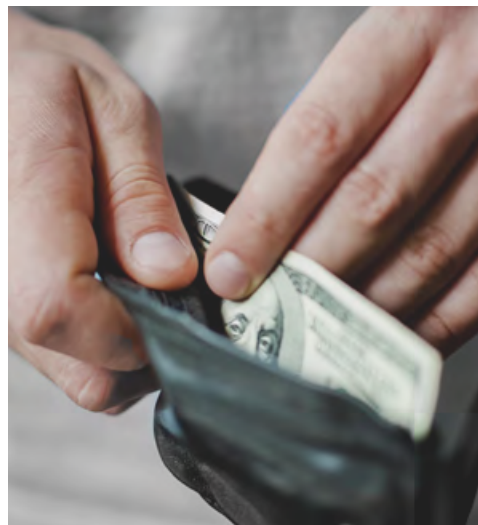
Making water provision more cost efficient benefits the utility and customers alike. Cost-reduction measures, however, require up-front time and money investment. Communities may lack political will to explore regionalization solutions and public-private partnerships. Federal subsidies and grants are temporary and subject to the federal budget cycle. One reliable source of funding is State Revolving Loan Funds (SRFs), which support communities through low-cost financing on infrastructure projects, and in some states, asset-management plan development.

Example

- › *Public-private partnerships:* The Bayonne Water and Wastewater Utility in New Jersey entered into a 40-year agreement with the private sector to address a backlog of capital needs, high debt, and deferred maintenance.⁶ A published case study is available at efc.sog.unc.edu/sites/www.efc.sog.unc.edu/files/2017/Bayonne_Final_WEB.pdf.

Recommendations⁷

- Encourage SRF set-asides to help fund planning needs for disadvantaged community water systems that support future capital infrastructure investment needs.



6 Hughes, J., & Rosenfeld, C. (2016, October 1). Bayonne Water and Wastewater Concession Agreement. Retrieved from https://efc.sog.unc.edu/sites/www.efc.sog.unc.edu/files/2017/Bayonne_Final_WEB.pdf.

7 Many of these recommendations adapted from the Bipartisan Policy Center Water Task Force's *Safeguarding Water Affordability* (2017).



- Ensure the water utility is communicating and working with local elected officials, the finance department, and others.
- Maintain municipal financial capacity and best practices to ensure reasonable financing costs.
- Prioritize investment based on capital improvement and asset management plans.
- Close the water financing gap by:⁸
 - » Maintaining or increasing the Clean Water Act and Safe Drinking Water Act SRF, United States Department of Agriculture (USDA) funding programs, and Water Infrastructure Finance and Innovation Act Program (WIFIA).
 - » Creating a federal water infrastructure trust fund and/or a national infrastructure bank.
 - » Lifting restrictions on private activity bonds for water infrastructure projects.
 - » Reinstating authority for the issuance of Build America Bonds.
- Make existing funding easier to access and more flexible.
- Require adoption of asset management in federal funding applications (SRF, WIFIA).

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8 Copeland C., S. Maguire and W.J. Mallett (2016). *Legislative Options for Financing Water Infrastructure*. Congressional Research Service Report. Retrieved from: <http://nationalaglawcenter.org/wp-content/uploads/assets/crs/R42467.pdf>

- Consider partnerships and joint procurement opportunities to increase municipal capacity and capture cost efficiencies from better exploiting economies of scale.
- Amend or use state SRF guidelines to encourage regionalization.
- Assess and remove any policy or regulatory barriers to regionalization and public or private partnerships.
- Require systems with ongoing Safe Drinking Water Act (SDWA) violations to explore potential regionalization solutions.
- Create messaging to address local concerns over regionalization resulting in a loss of local control over the system.
- Support funding, policy, and legislation to enable public-private partnerships.⁹



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⁹ See *Safeguarding Water Affordability* (2017). Specific actions include: supporting legislation, such as S.1229 (Move America Act) that enables public utility or local governments to issue private activity bonds for private partners; increasing flexibility of rules governing asset sales and leasing to benefit ratepayers, such as defeasance—the requirement that debt be repaid upon transfer of an infrastructure asset from a public to private entity so that the private partner does not benefit from tax-exempt status; funding EPA water infrastructure and resiliency finance center; and encouraging private sector investment by allowing credit for pay-for success projects under the Community Reinvestment Act.

Program & Policy Strategies

STRATEGY 2: PROMOTE WATER CONSERVATION

Description

Similar to cost reduction, water conservation is a foundational water affordability practice. Not only can conserving water decrease the water bill, but for utilities at or near capacity, conservation can also reduce costs by delaying or deferring the need for costly infrastructure expansion. Examples of water efficiency strategies are ① leak detection and repair, ② retrofits and rebates, ③ metering, ④ water conservation plan and ordinances, ⑤ water re-use, and ⑥ outreach and education campaigns.

- ① **LEAK DETECTION AND REPAIR** assists customers with assessing water use, and identifying and repairing plumbing fixture leaks.¹⁰ Utilities can cover the cost of materials and labor up to a certain amount for each household per year.
- ② **RETROFITS AND REBATES** can accelerate the replacement rate of inefficient plumbing fixtures. Utilities can provide water efficiency devices to customers, such as flow restrictors, low-flow showerheads, and toilet displacement bags. Rebates can be offered to customers purchasing more efficient fixtures, such as EPA WaterSense-labeled high-efficiency toilets.¹¹
- ③ **METERS** are not only the cash register of the utility, they also serve to communicate the amount of water used, which aides in measuring conservation efforts, including detecting leaks.
- ④ Communities can adopt water **CONSERVATION ORDINANCES** and a **WATER CONSERVATION PLAN** to encourage more efficient use of water.
- ⑤ **WATER RE-USE** involves using treated wastewater for appropriate water needs, such as lawn

10 Water Research Foundation. (2010). *Best Practices in Customer Payment Assistance Programs* (Rep.). Retrieved <https://www.waterrf.org/research/projects/best-practices-customer-payment-assistance-programs>.

11 The WaterSense labels meet the EPA criteria, which are 20% more water efficient than an average product, with measurable water saving results that help users conserve water and reduce their utility bill. The WaterSense Label. (2018, March 23). Retrieved from <https://www.epa.gov/watersense/watersense-label>.

watering, to augment water supplies. Better matching the right level of water treatment to the water-use purpose can reduce overall costs.

- ⑥ **OUTREACH AND EDUCATION CAMPAIGNS** that highlight the value of water infrastructure and services can help instill a water conservation ethic in the community.

Who it Helps

Water conservation benefits customers in older housing stock, customers with high discretionary water use, customers interested in practicing conservation, and potentially all water users when the system is at or near capacity.

Implementation Considerations

Water efficiency programs can use existing outreach materials such as EPA WaterSense. These programs are complementary to community sustainability efforts. However, water conservation can reduce system revenue, since revenue is connected to water use and volumetric water rates. Rebate programs may not be effective for low-income households that cannot afford up-front costs of water-efficient devices. Evidence reveals that low-income populations already tend to be water efficient, as shown by the positive correlation between income and water use—as incomes decrease, so does water use.¹² Research also shows that, when designing water conservation programming targeted to lower-income populations, it is more effective to emphasize the money saving potential rather than appeal to environmental concerns.¹³ Funding sources for water conservation programming include SRFs and utility rate revenue.



12 Water Research Foundation. (2010).
13 Water Research Foundation. (2010).



Examples

- › The San Francisco Public Utilities Commission Plumbing Fixture Replacement Program in California replaces 3.5-gallon-or-more-per-flush toilets and one-gallon-and-more-per-flush urinals. To enroll, customers must apply, have a pre-inspection, schedule a fixture replacement date, and participate in a post-inspection.¹⁴
- › In Aurora, Colorado, the Low-Income Water Efficiency Program assists customers with plumbing fixtures by replacing old ones with new water-efficient fixtures through a partnership with Mile High Youth Corps.¹⁵
- › In Maine, the Portland Water District's water efficiency program provides financial assistance to repair, replace, and install plumbing fixtures and water-saving devices through a partnership with The Opportunity Alliance (TOA).¹⁶ TOA provides eligibility services, as well as performing the audit, repair, and inspection.

Recommendations

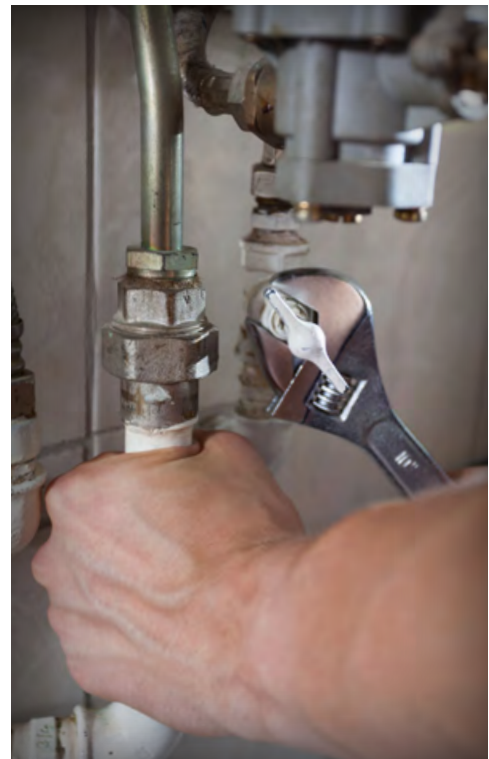
- Educate the public on the water or sewer system investment needed, including infrastructure, to provide water and sewer services as a way to value water service and conservation.

14 San Francisco Public Utilities Commission. Plumbing Fixture Replacement Program (PREP). (n.d.). Retrieved October 10, 2018, from <https://sfwater.org/index.aspx?page=1092>.

15 U.S. EPA. (2016, April). *Drinking Water and Wastewater Utility Customer Assistance Programs* (Rep.). Retrieved https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf

16 U.S. EPA. (2016).

- ❑ Target water conservation programming to residents with higher than average water use who are located in low-income areas.
- ❑ Require a water audit and plumbing retrofits (paid for by the utility) as a condition for setting up a payment plan agreement, and to qualify for other customer assistance programs.
- ❑ Develop and adopt a community water-conservation plan and ordinances, integrating with other community plans (comprehensive, land-use, sustainability).
- ❑ Change plumbing codes to require the use of WaterSense-labeled products and allow for water reuse.
- ❑ Clarify that water conservation rebates and runoff improvement programs for homeowners are exempt from federal taxes.¹⁷
- ❑ Encourage stakeholders, such as state agencies and water commissions, to design policies to prevent water loss¹⁸
- ❑ Encourage adoption of laws that standardize water-loss audits.
- ❑ Conduct an economic Level of Leakage analysis regularly to determine which leakage control practices will benefit the system relative to the costs.



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17 Bipartisan Policy Center. (2017). The Water Conservation Rebate Tax Parity Act, introduced by Rep. Jared Huffman (D-CA) and Rep. Dana Rohrabacher (R-CA) (Bipartisan Policy Center, 2017, p. 37). This means that income tax is waived for water conservation rebates for water and energy conservation as well, to better promote water efficiency.

18 Bipartisan Policy Center. (2017).

- Practice universal metering to provide data for effective utility management and planning, and target conservation efforts.
- Ensure meters are accurate and efficient to avoid billing practices that would harm low-income customers, such as estimating bills and back billing.
- Sub-meter multiunit buildings to provide a link between water use and water billing.
- Consider retrofit-on-reconnect program to require plumbing fixture upgrades when a new water account is established.
- Where possible, integrate water and energy-efficiency programming, such as the Low Income Home Energy Assistance Program (LIHEAP).
- Offer conservation assistance when a payment is missed.

Program & Policy Strategies

STRATEGY 3: RATE AND FEE DESIGN AND POLICY

Description

Water rates have historically been kept at artificially low levels due to federal subsidization of water infrastructure projects. As federal funding sources have been reduced, to cover the full cost of water provision, water prices have been rising at a pace that is faster than inflation.¹⁹ While water system financial health comes first, and cannot be sacrificed for social objectives, communities can take steps to ensure that social objectives, such as affordable water, are considered in the rate design process. Rate structure affordability strategies include ① lifeline rates, ② income-indexed rates, ③ conservation rates, ④ moderate rate increases, ⑤ water budgets, and ⑥ property-value-based charges to reflect the cost and value of fire protection. Note that, on top of rates themselves, additional fees can be charged, such as a connection fee, a security deposit, etc.

- ① **LIFELINE RATES** provide an essential amount of water at a reduced or subsidized cost.²⁰ The water rate increases to a standard or appropriate discount rate when customers exceed the initial fixed amount of water. Variations include:
- *Minimum quantity* allowance includes an essential amount of water in the fixed portion of the rate structure while ensuring that the fixed charge remains affordable.
 - *Increasing-block rates* with an initial low block rate makes essential water consumption more affordable. The difference between the lifeline rate and the increasing-block rate is that the first block in the lifeline rate may be below cost (subsidized), whereas the first block of the increasing rate is at or above marginal cost.
 - *Targeted Lifeline Rate* is appropriate when the lifeline rate is not applied to all customers, but to a subset of eligible customers.

19 Baird, G. M. (2010). Trends in the real (inflation-adjusted) water prices across over 200 water systems in the greater Chicago region range from a decrease of 1.93% annually to an increase of 14.7% annually, with an average real increase of 2.5%.

20 The lifeline rate may be below the marginal cost of water. The lifeline rate can either apply to all customers regardless of income level or ability to pay, or be applied to a subset of qualifying customers. The essential water amount is equal to a minimal amount of water to provide for the essential needs of a residential customer for drinking, cooking, and washing.

- ② **INCOME INDEXED RATES** (also referred to as ability to pay, discount based on income) provide a rate discount based on a customer’s income or ability to pay. This discount can apply to certain levels of consumption or all levels of consumption.
- ③ **CONSERVATION RATES** promote water-use efficiency by charging the full cost of water during peak periods when water use is more costly to the system. When low-income customers have lower use, for example due to smaller lot sizes, the bill is lower. Variations include:
 - *Seasonal Rate* means a higher rate during summer when demand peaks.
 - *Increasing Block Rate* includes rate increases as more water is used based on consumption blocks.
- ④ **MODERATE RATE INCREASES** avoid rate shock because rates are adjusted more often at smaller increments rather than all at once.²¹
- ⑤ **WATER BUDGETS** combine customer-specific water-use blocks with an increasing rate structure. For example, a first block of use and the associated water rate are based on the customer’s average indoor consumption, a second consumption block and charge is based on the customer’s average outdoor consumption, and a third block rate is based on excess use.²²
- ⑥ **PROPERTY-VALUE-BASED FIRE PROTECTION CHARGES** include separate fixed charges to recuperate fire protection expenses based on property value protected.²³ Since the cost of fire protection is shifted to wealthier households that own higher-value property, this strategy has water affordability benefits.

Who it Helps

- › Rate structures can be designed to help specific customer groups, though it is difficult to design a rate structure benefiting all customers who need assistance. Income-indexed rates help qualifying low-income customers. Minimum quantity allowances help all customers, since the minimum water is included in the fixed charge paid by all customers. Property-based fire protection charges benefit those with lower-valued properties.

21 National Consumer Law Center. (2014).

22 Water Research Foundation. (2010).

23 Galardi Rothstein Group. (2016). *Detroit Blue Ribbon Panel on Affordability* (pp. 1-44, Rep.).

Implementation Considerations

- › Water-rate design can be a targeted strategy that also promotes water conservation. Design and implementation of affordable water rate structures, however, can be difficult, and may involve making trade-offs with other utility objectives. For example, while the fixed charge (the portion of the water bill that is charged regardless of water use) can be detrimental to water affordability, it can provide revenue stability to the utility.
- › The lifeline block needs to be designed to consider factors such as household size, equity (due to potential subsidizing lifeline rate), whether it is legal, and whether it might reduce revenue stability for the utility. It can be difficult to ensure that the lifeline rate is accurately targeting customers with water affordability concerns due to the imprecise nature of the relationship between water use and income.²⁴ Rate design can also be data intensive, for example, income indexed rates require data on individual income and verification; water-budget rates require knowledge of individual customer water-use patterns; and property-value-based fire protection charges require property-valuation data. Property-based fire protection charges have the additional disadvantage of being viewed as a tax, rather than a fee for service.



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24 Water Research Foundation (2010) notes that when low-income populations are comprised of small households, the lifeline rate will be effective, but when low-income households have large families and live in older housing stock with less efficient plumbing, the lifeline rate will not be as effective.



Examples

- › The Los Angeles Department of Water and Power in California has a Senior Citizen and Disability Lifeline Rate Program for which customers who qualify receive a 31% reduction in water and sewer rates for the first 1,800 cubic feet of water.²⁵
- › In Norman, Oklahoma, eligible low-income customers are given a special rate for the first 5,000 gallons of water. Afterwards, the standard rate applies.²⁶
- › The District of Columbia Water and Sewer Authority²⁷ offers the lifeline rate to residential, multi-family, and non-residential customers. In 2018, residential customers pay \$3.39 per 100 cubic feet for the first 400 cubic feet of water, after that every 100 cubic feet of water use costs \$4.26.

Recommendations

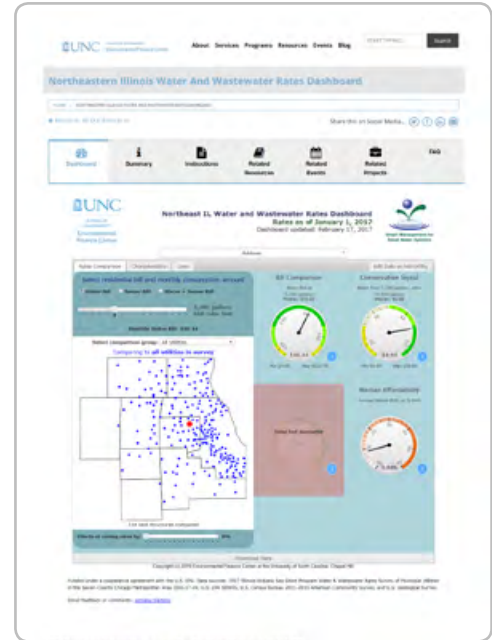
- Set full-cost rates based on periodic cost-of-service rate studies informed by capital improvement and asset management plans.
- Consider reducing or eliminating the fixed charge, minimum bill, and/or minimum use allowance.
- Remove legal barriers preventing cross-subsidization.

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25 U.S. EPA. (2016).

26 U.S. EPA. (2016).

27 Approved Rates. (n.d.). Retrieved October 22, 2018, from <https://www.dwater.com/approved-rates>.

- Provide a lifeline rate to customers.²⁸
- Establish transparent, consistent, and accessible financial reporting for utilities at the state level.
- Expand benchmarking tools for rates, water bills, financial metrics, and affordability, such as the University of North Carolina Environmental Finance Center Water and Wastewater Rates Dashboard, (efc.sog.unc.edu/utility-financial-sustainability-and-rates-dashboards) to help utilities set and meet rate and affordability goals.



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28 Galardi Rothstein Group. (2016).

Program & Policy Strategies

STRATEGY 4: STRENGTHEN CUSTOMER ASSISTANCE PROGRAMS

Description

Types of customer assistance programs include billing and collections policy, bill discounts, and crisis assistance.

- ① **BILLING AND COLLECTIONS** policies include an array of strategies that make it easier for customers to pay bills on time, avoid late payment penalties and water termination (service shut-offs), and help utilities prevent and minimize unpaid accounts. Billing practices include adjusting billing frequency and payment date, sending bill payment reminders, and implementing budget billing.

Collections policies address payments in arrearages. They include payment plans (initial down payment, schedule for remaining payments), fee waivers (late fees, reconnection and disconnection fees), charge waivers (fixed charge, consumption charge), arrearage forgiveness (for example, as a reward for timely payments), delinquent notices, right to a hearing, and service disconnection notices and policy.

- ② **BILL DISCOUNT PROGRAMS** can be used to manage non-payment risk. They include total bill discount (which can be a percent discount or fixed dollar amount discount) or a partial bill discount (a discount on just the fixed charge portion of the bill or just the variable consumption charge).²⁹ The discount can be a set percent for everyone, or vary by income level, or be above a set bill level. Discount on other fees, such as new account fees or security deposits, can also be provided.
- ③ **CRISIS ASSISTANCE** provides short-term assistance during a one-time personal situation,

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29 A discount total bill offers a percentage discount that ranges from 20 to 50% for low-income, senior, and disabled customers.

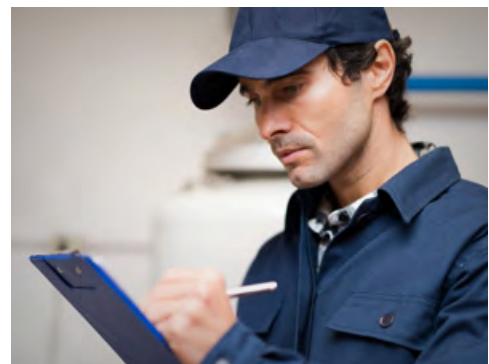
such as a personal emergency. Because water service disconnection can lead to eviction and/or an uninhabitable residence, providing crisis assistance is considered a critical component of water affordability programming.

Who it Helps

Billing practices help low-income customers who find it easier to pay smaller, more regular bills due to affordability or money-management issues. Prorating the bill can also help customers with high levels of outdoor water use by smoothing out seasonal variation (although it weakens the conservation message). Water use varies seasonally, with higher bills occurring in summer months when outdoor water use is likely to be higher.

Customer assistance programs also help the utility since working with the customer on a payment plan is significantly cheaper than going through an expensive collections/shut-off situation. This is attributable to the reduction in administrative expenses associated with debt collection, and disconnection and reconnection costs.³⁰ Customer assistance programs also provide utilities an opportunity to improve their public image and relations in the community.

Collections policies can be designed to help customers already behind on payments or at risk of non-payment, estimated to be 1–15% of customers nationwide, and higher for communities with higher rates of low-income customers.³¹ A variable bill discount helps large families who use more water, since higher-use customers



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30 U.S. EPA. (2016).

31 Water Research Foundation (2010).



are given a larger discount. Crisis assistance helps those having a one-time situation that impacts their bill payment ability.



Bill discounts help all customers who struggle to pay water bills.³² Because lower income populations tend to move more often, waiving the connection fee and any required deposit can help customers stay current on bills.

Implementation Considerations

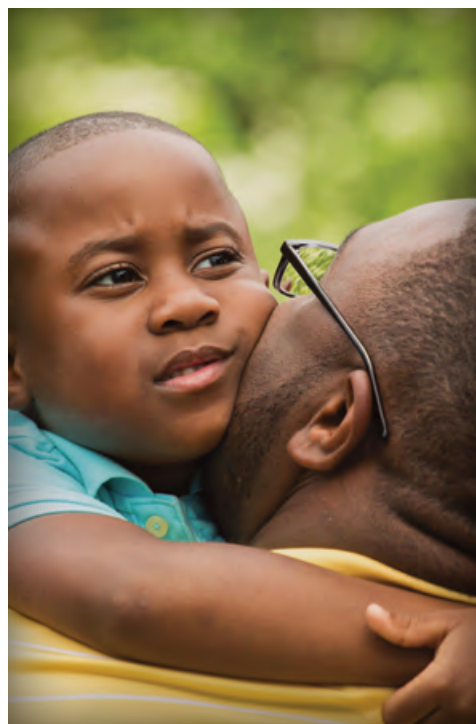


Identifying and understanding customers in need of assistance is a foundational step to designing customer assistance programs. Groups needing assistance usually include low-income, senior, and disabled residents, and those living in households in crisis (illness, job loss, addiction, family issues), or in older housing stock. Once the utility understands why customers are not paying, they can better match them with the appropriate customer assistance program(s).

Bill discount programs are both targeted and flexible, and provide potential benefits—partnerships with existing assistance programs can reduce administration costs. Some billing and collections policies can, however, undermine water conservation pricing, and may reduce utility revenue. On the other hand, adjusting bill timing and budget billing are revenue

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32 U.S. EPA. (2016).

neutral strategy options.³³ In setting up a payment plan, consideration needs to be given to the down payment amount and the payment schedule in relation to the outstanding bill amount, ability to pay, and reason(s) for non-payment. Another option is to work with customers to determine their disposable income to set up a realistic payment amount. Clear policies are needed concerning payment plan defaults, reinstating plan agreements, and continuing plan incentives after the original one has been broken. The literature agrees that addressing inability to pay as soon as possible is a better strategy than waiting until uncollected debt has accumulated over time.



Bill discount programs are both targeted and flexible, and provide potential benefits from partnerships with existing assistance programs to reduce administration costs. Some disadvantages of bill discounts include: potential revenue impacts to the utility; equity concerns due to cross-subsidies (a percent discount results in high-water-use households potentially subsidized by lower-water-use households); violation of cost-of-service rate principles; disincentive to conserve water; and legal concerns. Crisis assistance programs are targeted to those in need, can be inexpensive, and provide the potential to collaborate with other agencies. However, short-term assistance can become long-term without



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33 U.S. EPA. (2016).



established limits, and may not provide sufficient assistance to address reoccurring issues. Fee waivers also can backfire when customers come to view fees as optional.

Funding for assistance programs can come from donations from other customers solicited through the water bill and third-party charities to donate to water utility advertising revenue. For example, local businesses can pay to use the space on a bill statement and/or lease cell phone tower space on the water utilities' properties.³⁴

Examples

BILLING PRACTICE

- › *Billing frequency:* The Cleveland Water Department in Ohio switched from quarterly billing to monthly billing. This helps customers manage household budgeting, monitor water use, and detect leaks sooner.³⁵
- › *Budget billing:* Albuquerque Bernalillo County Water Utility Authority in New Mexico provides budget billing that evenly distributes water and sewer bills over a 12-month period.³⁶
- › *Budget billing:* Tallahassee, Florida offers a program that bills consistently over the year by dividing the previous year's bill by 12 to get the



34 Pacific Institute (n.d.). "Water Rates: Water Affordability." Retrieved August 15, 2018, from <http://www2.pacinst.org/wp-content/uploads/2013/01/water-rates-affordability.pdf>

35 City of Cleveland, Monthly Billing. (2018, August 08). Retrieved from <http://www.clevelandwater.com/monthly-billing>.

36 Budget Billing. (n.d.). Retrieved October 22, 2018, from http://www.abcwua.org/Budget_Payment_Plans.aspx.

monthly bill, and adding 10% to protect customers from underpayment. At the end of the year, the account is reviewed for discrepancies between actual and paid bills, and the difference is considered in the next year calculation of the budget-billing amount.

COLLECTIONS POLICY

- › *Payment plan:* California utilities have a payment plan option for customers getting close to a water shut-off, reporting a billing complaint, or requesting a bill extension, or to the elderly and disabled, and to military families.³⁷ Payment arrangements consist of paying 25% of the utility bill within 48 hours, paying the remaining balance over a 6-month period, and paying future bills on time.

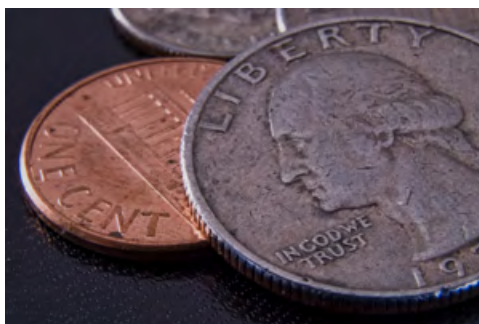
BILL DISCOUNT PROGRAMS

- › *Total bill discount, percent:* The City of Seattle, Human Services Department provides a 50% bill discount for low-income customers, seniors, and people with disabilities at or below the 70% median Washington income level. Seattle disqualifies low-income customers who are living in federal funded public housing or Section 8 housing.³⁸
- › *Total bill discount, flat:* California American



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37 National Consumer Law Center, 2014, p.16.

38 National Consumer Law Center. (2014), p.12 and Review and Recommendations for Implementing Water and Wastewater Affordability Programs in the United States (2014).



Water Help to Others program has a fixed discount on the total bill, varying by service area. For example, Sacramento's discount is a flat \$5 and Larkfield's is \$8.50.³⁹

- › *Partial bill discount, fixed charge:* The District of Columbia Water and Sewer Authority (DCW-SA) discounts the fixed portion of the water bill. In 2009, DCWSA provided the first 400 cubic feet of water and sewer per month free, equivalent to \$28.80 monthly.
- › *Partial bill discount, consumption charge:* The City of Columbus, Department of Public Utilities in Ohio provides a 20% discount on water and sewer consumption charges.⁴⁰ To qualify, household income must be less than 150% of the federal poverty level, or customers must be enrolled in a low-income program such as the Supplemental Nutrition Assistance Program, Ohio Medicaid, Low Income Energy Assistance, Home Energy Assistance, Ohio Works First, or public housing benefits.
- › The Cleveland Division of Water in Ohio provides the Homestead Discount Program to low-income seniors and low-income disabled persons.⁴¹ This program offers a low fixed water bill charge and consumption rate. To qualify, customers must be 65 years of age or older or

39 National Consumer Law Center. (2014).

40 City of Columbus. (n.d.). "Public Utilities | Utility Discount Programs." Retrieved October 22, 2018, from <https://www.columbus.gov/utilities/customers/Utility-Discount-Programs/>.

41 City of Cleveland. (2018, January 17).

permanently disabled, and income must be less than \$33,500 annually.

CRISIS ASSISTANCE

- › The Portland Water Bureau in Oregon provides a crisis voucher up to \$500 once every year. To qualify, a monthly-income eligibility must be met. For example, the maximum qualifying monthly individual income is \$2,850.⁴²
- › In Sacramento, California, the Salvation Army Family Services has one-time assistance up to \$100 for water payments for customers in crisis.⁴³
- › In New York City, New York, in 2015, the Home Water Assistance Program provided low-income, senior, or disabled homeowners a one-time credit of \$115.89, equivalent to approximately 25% of the water bill.⁴⁴
- › The Charlotte County Utilities in Florida provides \$90 in emergency assistance to qualifying customers for drinking water and sewer services.⁴⁵ The county Health and Human Services Department decides customer qualification using these criteria: has received urgent disconnection notice, or is already disconnected; income is at or below 150% of the federal poverty level; and is experiencing an emergency situation.



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42 U.S. EPA. (2016).
43 Pacific Institute. (n.d.)
44 U.S. EPA. (2016).
45 U.S. EPA. (2016).



- › In Kansas, the Kansas City Board of Public Utilities supports customers with a hardship case (health emergency, change of employment or income status, etc.), with a credit up to \$500 per year.⁴⁶
- › The Philadelphia Water Department Homeowners Emergency Loan Program in Pennsylvania provides no-interest loans to customers at risk of disconnection due to plumbing leaks.⁴⁷

Recommendations

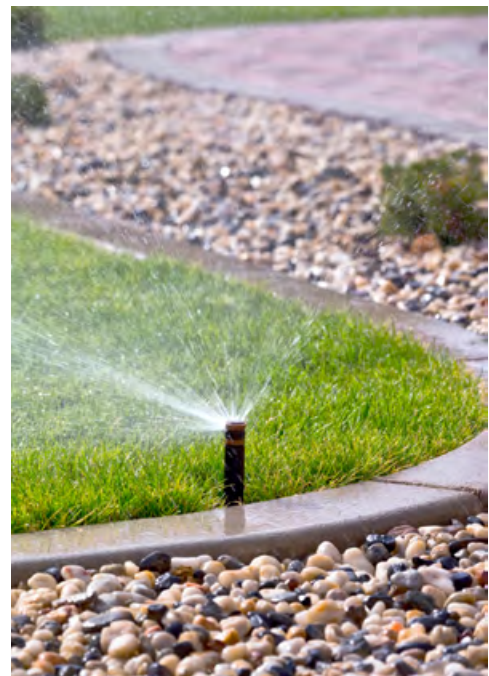
- Design and implement affordability programs as options to aid low-income customers struggling to pay a water bill on time or not having the means to pay.
- Build strong customer service and communication capability as a backbone for assistance programs, including developing strategies to communicate effectively with disabled, elderly, and limited language customers.
- Use demographic and utility data and social science research to better understand the water affordability threshold and to design, deliver, and evaluate programs tailored to sub-groups.
- Issue monthly water bills rather than bimonthly, quarterly, or semi-annually.
- Focus on proactive policies (reaching the customer prior to payment difficulty occurring)

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46 U.S. EPA. (2016).

47 U.S. EPA. (2016).

rather than reactive assistance policies and programs by using demographic data to identify low-income, elderly, and disabled accounts as well as accounts with high water use.

- Design payment plans to increase the opportunity for customers to payoff overdue and current bills.
- Put billing and collections policies in place that break the cycle of customers not paying, utilities investing in debt recovery, debt recovery practices and costs resulting in higher rates and fees, and higher rates and fees making customers less able to pay.⁴⁸
- Adopt a federal low-income water assistance program, such as EPA's national drinking water assistance program, or similar federal water assistance program for low-income water users modeled on LIHEAP.
- Pair customer assistance programs with water conservation program.
- Adopt a water-loss program modeled on the Weatherization Assistance Program (WAP).⁴⁹
- Piggyback on other low-income federal assistance programs to provide water efficiency assistance.
- Discourage states from passing laws that limit



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48 Water Affordability Public Operator's Views And Approaches On Tackling Water Poverty (Rep.). (n.d.). Retrieved August 30, 2018, from Aqua Publica Europea website: https://www.aquapublica.eu/sites/default/files/document/file/ape_water_affordability_final_0.pdf.

49 Bipartisan Policy Center. (2017).

customer assistance programs and federal agencies.

- Work with states to amend and introduce clarifying statutory language, and develop arguments for designing and implementing customer assistance programs (CAPs), using existing statutory language to ensure state laws permit CAP development and delivery. If necessary, design and implement CAPs that circumvent regulatory limits.⁵⁰
- Avoid over collection of deposits and fees to insure against nonpayment risk.
- Develop policies and programs to reduce reoccurrence of non-payment, working with customers who have already received assistance.
- Design water-affordability programs to simultaneously address the financial objectives of the system.

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50 Bipartisan Policy Center. (2017).

Program & Policy Strategies

STRATEGY 5: TARGET THE HARD TO REACH

Description

Water affordability programs typically target owner occupiers who receive a water bill, so these programs can be ineffective in targeting households that do not directly pay for water, such as renters.⁵¹ An estimated 20–40% of customers are considered hard to reach (H2R).⁵² Renters and those who live in multi-family units do not receive water bills, but pay for water through rent and homeowner association fees. These customers experience water bill increases through higher rents or fees.

H2R customers generally have lower incomes—for example, in 2014 the median annual income of H2R households was approximately \$20,000 less compared to all households.⁵³ Among households eligible for LIHEAP, 49% do not receive a water bill.⁵⁴ Providing assistance to the H2R requires a different set of strategies than customers who receive bills directly, including:

- ① **DIRECT ASSISTANCE** includes ways to provide vouchers and discounts to landlords or tenants. For example:
 - *Discount rates* provide some form of discount, such as a lifeline rate or bill discount to a landlord with the stipulation that it be passed on to tenants.
 - *Vouchers* are credits provided to water consumers who are not direct customers; they can be given to renters living in a master-metered building. The voucher can be applied to rent, or used in lieu of rent, and used by landlords to pay a portion of the water bill.
 - *Discounts on other bills* means that when renters directly pay other (non-water) utilities, a discount can be provided on these bills in lieu of water.
- ② **INDIRECT ASSISTANCE** entails increasing knowledge of, and encouraging use of, existing

51 U.S. EPA. (2016).

52 Water Research Foundation. (2017). *Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers* Retrieved <https://www.waterrf.org/research/projects/customer-assistance-programs-multi-family-residential-and-other-hard-reach>. See also: Baird, G.M. (2010).

53 Water Research Foundation. (2017).

54 Bipartisan Policy Center. (2017).



public assistance programs such as financial counseling and federal public assistance (SNAP, LIHEAP, or earned income tax credit).⁵⁵ This involves working with existing community resources and organizations.

③ **CONSERVATION PROGRAMS** are an opportunity to provide water-efficiency improvements to multi-family buildings to lower water bills.

Who it Helps

When administered correctly, H2R programming benefits customers who do not directly pay water bills, such as single-family renters, those who live in multi-family buildings, and those who live in federally subsidized housing (either owned by housing authority, or paid for via government rental assistance, or housing development that includes the affordability housing provision). This population pays the water bill through rent or maintenance fees. These customers tend to have characteristics that place them in greater need of assistance compared to owner-occupier customers, such as lower incomes, language barriers, and higher housing and utility costs as a percent of disposable income.⁵⁶ They are more likely to already be receiving assistance from other sources (SNAP, LIHEAP, Temporary Assistance for Needy Families [TNAF], Supplemental Security Income [SSI], etc.). Some programs do not provide assurance that water savings are passed on

55 National Consumer Law Center. (2014).

56 Water Research Foundation. (2017).

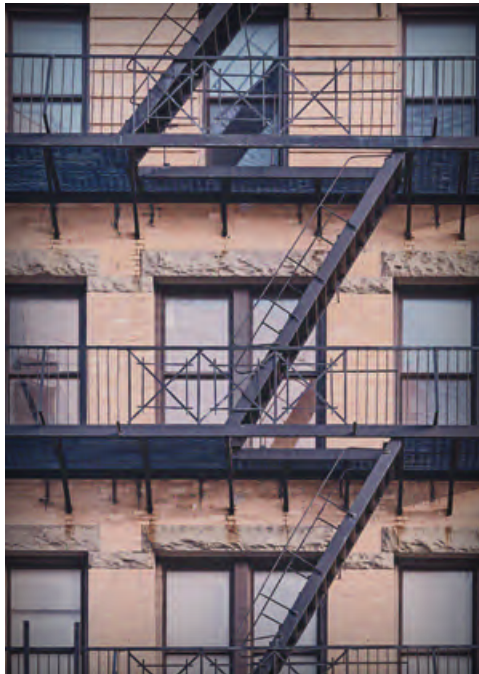
to tenants and therefore may only benefit landlords.

Implementation Considerations

Water affordability programs targeted to the H2R are generally considered challenging to implement, due to their expense and administrative difficulties. First, discount programs require that landlords pass through savings to renters, but it can be very difficult for the utility to ensure that landlords actually do that. Another administrative issue is that many multi-family buildings have master meters through which water use cannot be partitioned across tenants. Income from water vouchers may also impact eligibility for other low-income household benefits. Discounts on other bills is only an option when renters pay other utilities, such as energy, directly. The advantages of direct assistance are that they provide support specifically targeted to H2R populations and provide the potential to promote water efficiency.

Indirect programs, such as existing public assistance, have the advantage of being low cost, since program dollars typically come from federal and state sources. Eligibility verification can also be easier when these community assistance programs already require proof of eligibility. They can also be easy to administer when the partnering agency has existing procedures in place and the utility's main role is to refer





customers to the program. This strategy does not, however, provide additional assistance to that which already exists, and there is little or no recognition of the utility's role, and little or no utility control over the program operation.

While water conservation in multi-family buildings can help to lower the water bill, the split-incentive problem means that potentially neither landlords nor tenants view water efficiency investments as beneficial.⁵⁷ Landlords may not have the incentive to invest in water efficiency when water costs can simply be passed on to renters. Similarly, since renters do not pay the water bill directly and may be transient, they do not have incentives to invest in water efficiency. Further, installing sub-meters can be expensive.

When implementing programs for the H2R, it is important to be aware of and address any cultural barriers, such as language. Getting to know who the H2R are in the community and specific challenges in working with them are critical to program success. The partnering model can provide an effective way to build trust when H2R groups have existing relationships with established community service groups. Communities can use several data sources to characterize the H2R, including the U.S. Census American Community Service (ACS) (tracks the number of renters, multi-family households, income for renter

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57 Water Research Foundation. (2017).

versus owner-occupied households), Public Use Microdata Sample (PUMS) data (including who pays for water for water directly or not), and utility data.

Examples

- › *Discount on other utility bill:* Seattle Public Utilities' Utility Discount Program in Washington provides energy bill credits to low-income customers to compensate for rent increases due to water increase.⁵⁸ This is possible since water and electricity are billed together. Because electricity is often sub-metered and water is not, these credits reach customers who do not directly pay water bills.

WORKING WITH PUBLIC HOUSING AGENCIES

- » The New York City Department of Environmental Protection (DEP) has developed a program that would give credits to landlords entering affordability agreements with the city's Department of Housing Preservation and Development.⁵⁹
- » In Oregon, the Portland Water Bureau works with housing assistance organizations that provide subsidized housing to ensure renters receive water discounts.⁶⁰
- › *Discounts to landlords:* The City of Columbus Department of Public Utilities in Ohio provides



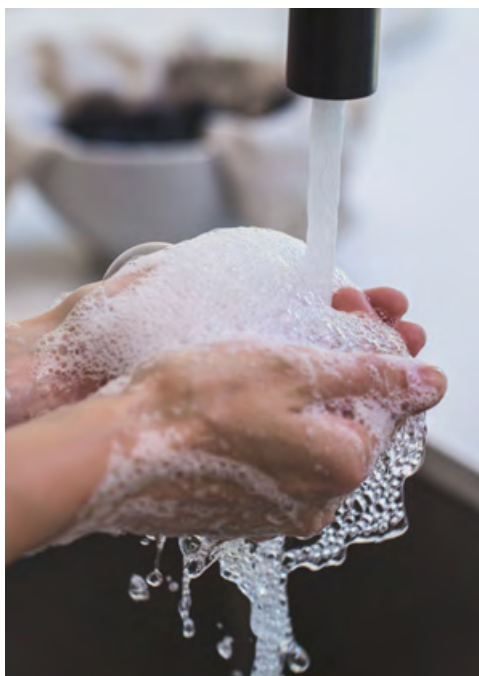
58 See www.seattle.gov/light/accounts/assistance.
59 Water Research Foundation. (2017).
60 Water Research Foundation. (2017).



a discount to master metered, low-income, multi-unit properties, for which the landlord bills renters for water.⁶¹

PARTNERING WITH COMMUNITY ORGANIZATIONS⁶²

- » Albuquerque Bernalillo County Water Utility Authority and the Public Service Company of New Mexico collaborated with the True North Financial Ministries to offer budget and debt management courses.
- » In Pennsylvania, the Philadelphia Water Services Department works with the Energy Coordinating Agency and other partners through a database that coordinates acceptance to multiple federal and state funded assistance programs.



WATER CONSERVATION

- » The New York DEP Multi-Family Conservation Program allows participating buildings that enact water efficiency measures to exchange for a flat water rate rather than a metered water rate.
- » In California, the Orange County Water and Sewer Authority conducted focus groups to better understand the split incentive problem. Based on what the county

61 Water Research Foundation. (2017).

62 Water Research Foundation. (2010). *Best Practices in Customer Payment Assistance Programs* (Rep.).

Retrieved <https://www.waterrf.org/research/projects/best-practices-customer-payment-assistance-programs>.

learned, it is seeking funding for a retrofit program and developing a tool to make the business case for water conservation to landlords and building managers.

- » In Colorado, Denver Water joined with the Denver Housing Authority on a water conservation program.
- » In Florida, a water conservation program potentially saves landlords and tenants \$346–\$400/annually.⁶³

Recommendations

- Consider forming a working group, following the process, and using tools outlined in the Water Environment Federation (WEF) report titled “Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers.”
- Characterize H2R customers to better design programs and develop effective outreach messaging by using existing data from U.S. Census ACS, PUMS, the utility, and other sources.
- Remove regulations and policies that act as barriers to implementing assistance programs for the H2R.
- Join and integrate with existing assistance programs that have established trust with H2R populations, when possible, to reduce the program administrative burden and avoid reinventing the wheel.
- Target water efficiency programming to low-income housing to reach low-income households.
- Reduce the H2R population by sub-metering (metering tenant spaces separately).
- Communicate with landlords and building managers, who are intermediaries between the water utility and the H2R.
- Draw on the research and experience of other sectors, such as energy and affordable housing groups.
- Ensure adequate program funding to reach the H2R, including establishing long-term, ongoing commitments and personal relationships with the H2R community(ies) and engaging in direct outreach.

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63 Holt et al. (2015). *Florida Multifamily Efficiency Opportunities Study Final Report*. Florida Multifamily Efficiency Opportunities Study Prepared for Florida Department of Agriculture and Consumer Services (FDACS). Retrieved from https://www.freshfromflorida.com/content/download/60388/1263496/Florida_Multifamily_Efficiency_Opportunities_Study_January_2015.pdf.

Water Affordability Case Studies

This section profiles two water affordability program case studies in Detroit, Michigan and Portland, Oregon, that showcase how integrating multiple strategies can be more effective than single strategies in reaching greater subsets of customers with affordability challenges.

Detroit Water & Sewerage District (DWSD)⁶⁴

Detroit has been at the center of the water affordability issue in recent years. Around 40% of the customer population in Detroit lives below the poverty line, and many DWSD accounts are in arrearages. In 2005, a new water affordability plan recommended an income-indexed rate structure, but implementation has stalled due to regulatory concerns. Instead, voluntary donations were used to support customer assistance programs. However, this was inadequate to meet the needs of DWSD customers, as evidenced by continuing shut-offs and protests. In addition, the city declared bankruptcy in 2013.

To better serve the community, in 2015, DWSD created the 10/30/50 Payment Plan for customers with accounts in arrearages. Detroit's new plan provided payment arrangements for customers with past-due balances to spread them over a 24-month period. Arrangements start with a 10% down payment on the past due bill. If the customer misses one payment, they can reenroll with a 30% down payment, and if the customer misses another payment, they can reenroll with a 50% down payment.

In 2016, DWSD entered into a 40-year lease agreement with the Great Lakes Water Authority (GLWA) to provide wholesale water service, leaving DWSD only in charge of infrastructure and retail service delivery to Detroit. This gave DWSD the opportunity to review and revise the water affordability program in 2016. DWSD had formed a Blue Ribbon Panel on Affordability (BRPA) to make recommendations to the city on better addressing water affordability concerns, given Michigan's restrictive legal environment. For example, the Headlee Amendment requires voter approval for new taxes and water revenues are potentially considered a tax under previous Michigan Supreme Court rulings.⁶⁵

64 Blake, B. L., Brown, G. A., & Rothstein, E. (2017). Model Water Utility Affordability Programs. *Journal American Water Works Association*, 109, 30-36. doi:10.5942/jawwa.2017.109.0103

65 UNC Environmental Finance Center. (2017, July 10). Navigating Legal Pathways to Rate-Funded Customer Assistance Programs. Retrieved August 30, 2018, from <https://efc.sog.unc.edu/project/navigating-legal-pathways-rate-funded-customer-assistance-programs>.

In 2016, BRPA recommended income indexed rates, but concerns over legality precluded implementation. The panel also recommended including compassionate customer service (personalized billing greetings, improved customer service representative training, and better bill design and practices). Beyond customer service, DWSD also revised the water affordability program to include the Water Residential Assistance Program (WRAP), a partnership between the Detroit Water and Sewer District, the Great Lakes Water Authority, and the Community Action Alliance. The program is funded by 0.5% of GLWA revenue.



The WRAP program helps DWSD retail customers avoid a water shut-offs.⁶⁶ This program offers bill payment assistance (\$25/month for one year), \$700 for past arrearages, and water conservation service (including a water conservation audit and \$1,000 for minor home plumbing repairs), and coordination with other social services. Under a special arrangement with DWSD, customer arrearages can be frozen for 12 months. In addition, WRAP payment plan enrollees will not be disconnected as long as they are currently in compliance. Early WRAP program evaluation results show a reduction in service disconnections from 44,000 to 13,000 in the first year.⁶⁷ The panel identified additional measures that have



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66 Bipartisan Policy Center. (2017).
67 Bipartisan Policy Center. (2017).

since begun to be implemented, including: setting aside funding, that is in addition to WRAP, for leak detection and repair programming; implementing an increasing block rate structure for water and sewer; partnering with other social service agencies to create a referral network; and working on overarching environmental justice issues, such as lead and urban flooding. In their recommendations, BRPA members noted that no one program can solve the affordability issue—a suite of measures is needed, as are other community groups, to help with implementation. In addition, ongoing research can improve understanding of the affordability issue and solutions.

*Portland Water Bureau (PWB)*⁶⁸

The Portland Water Bureau (PWB) is considered a leading example of water affordability programming.⁶⁹ As a public utility, PWB is not subject to Oregon Public Utility Commission regulations, and through Portland’s home rule charter, PWB’s board has latitude in designing and funding water affordability programming. In the early 1990s, increasing regulatory compliance costs led to affordability concerns, and subsequently to an investigation of affordability solutions. One finding was that water bills rise

as water use increases, so one way to address affordability concerns is to target conservation efforts to low-income customers. The water conservation program included education, water audits, fixture repairs, and home conservation kits. The water conservation program was augmented by a bill-management program, including payment plans, budget billing, water-block pricing, bill discounts, crisis assistance, and fee waivers. Bill discount eligibility was based on having a household income equal to or less than 150% of the federal poverty level. Funding for the program comes from rate revenues.

The water affordability program was expanded in 1996 to 1997 as concern over water affordability continued due to persistent cost increases. As a result, the bill discount amount was increased from 15–25%. The city also formed a group of stakeholders to reassess the program, and in this capacity, the group conducted literature reviews, surveys, and interviews to gather information. The group worked to establish goals and program criteria to adapt the existing program. The revised program retained bill discounts and crisis assistance while expanding the fixture repair program and fee waivers and adding penalty

68 Blake, B. L., Brown, G. A., & Rothstein, E. (2017). Model Water Utility Affordability Programs. *Journal American Water Works Association*, 109, 30-36. doi:10.5942/jawwa.2017.109.0103.

69 Hasson, D. S. (2002). Water Utility Options for Low-Income Assistance Programs. *Journal American Water Works Association*, 94(4), 128-138. doi:10.1002/j.1551-8833.2002.tb09457.x , p. 128).

waivers. Portland utility representatives have discretion over the extent of forgiveness or direct write offs.

The water affordability program developed in the 1990s continues to the current day, informed by periodic program evaluation and adjustments. The program eligibility criteria was revised to be more consistent with other low-income assistance programs, from the initial eligibility income of 150% or less of the federal poverty level, to 60% of the statewide median income. Only those who receive a water bill directly are eligible for the program. The current program components include:

- › Expansion of the bill discount to 50%; in 2017, the bill discount provided a total quarterly per-customer credit of \$124.04 (\$50.70 on water and \$91.34 on wastewater).
- › Continuation of the crisis assistance program that provides annual crisis vouchers.
- › Continuation of the fixture repair program, which provides funding to low-income homeowners for material and labor to repair plumbing leaks.
- › Continuation of monthly budget billing, which gives the option for water customers to split a quarter billing cycle into three parts, allowing the customer the flexibility and budgeting to pay the bill on time without running out of cash by the time the quarter billing cycle arrives.

- › Extension of the due date coupled with a continuation of fee, interest, and penalty waivers.
- › Continuation of the water conservation program established in 1994 and adapted over time. It now includes a pilot program that uses computer software to target water efficiency improvements to customers already receiving low-income assistance from the city.
- › A utility safety net program created in 2007, providing last resort crisis assistance, including deferred shut-off, penalty fee waiver, interest-free payment plans, and financial assistance.

Because the program is only available to customers paying bills directly, in 2007, a pilot program was started, targeted to multi-family renters who do not directly pay water bills. Program evaluation revealed high administrative costs, issues with third-party billing, difficulty obtaining billing records from landlords, and difficulty ensuring that discounts were actually passed on to tenants. A workgroup was formed in 2015 to make further recommendations based on these findings. The City of Portland considered several funding sources for the program, including voluntary contributions, the general fund, and utility rates. The city ultimately chose to set aside approximately 1% in rate revenue to support affordability programming.

In evaluating the program, the city found lower participation levels than expected. Several barriers to participation were identified, including lack of awareness of the program, lack of ability to get to the offices to enroll in the program, not understanding the eligibility criteria, not trusting the utility, and not wanting to be on public assistance. To address these barriers the city created:

- › A web-enabled enrollment application.
- › Automatic mailing of a reapplication packet when previous assistance is set to expire.
- › Partnerships with other agencies for automatic enrollment in water assistance when enrolling in other assistance programs.
- › An Honored Citizen recognition program for seniors or permanently disabled that extends the life of the assistance to two years.

Concern over program participation remains, however, as low-income populations tend to be both transitory and hard to reach. In 2015, a water affordability assessment showed that for a monthly consumption of 5,000 gallons of water and wastewater, the burden ranges from 15.88% for incomes less than \$10,000 to 0.79% for at least \$150,000 income.⁷⁰ A larger, overarching concern is that rising housing costs in Portland are displacing low-income populations.

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70 UNC Environmental Finance Center. (2017, July 10).

Considerations for Current Legal Constraints in Illinois

The State of Illinois does not have regulatory requirements for water systems to set affordable water rates, or to provide customer assistance programs. In Illinois, private (investor-owned) utility rates are overseen by the Illinois Commerce Commission, which is responsible for reviewing annual reports and approving customer rates and charges. Oversight of regulated utilities in Illinois is required by 220 ILCS 5/Public Utilities Act, including not only water rates and service termination procedures, but also customers' rights to receive notice of rate adjustments and enter into payment plans. Illinois law potentially provides a basis for a legal challenge to customer assistance programs funded with rate revenue for private investor-owned utilities.⁷¹

The overwhelming majority of water suppliers in northeastern Illinois, however, are government-owned, and therefore not subject to regulation at the state level. This gives Illinois communities a great deal of flexibility in setting water rates and establishing billing policy and customer assistance programs. Public municipal utilities approve rates and other policies at the local level through boards or councils. Because rates in Illinois are set locally, regulations regarding water rates, billing policy, and customer assistance consist largely of local ordinances. Government-owned utilities in Illinois have a great deal of flexibility in setting rates, although home-rule municipalities may include limits on customer assistance programs in the home rule charter.⁷²

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71 UNC Environmental Finance Center. (2017, July 10).

72 UNC Environmental Finance Center. (2017, July 10).

Conclusion

While water industry cost escalations have been extensively documented, the impact of adjusting rates to reflect the full cost of water, and the resulting water bill burden, has only recently begun to receive attention.⁷³ This report has presented many potential criteria for choosing from a wide variety of water affordability solutions, including ease of understanding, minimization of rate impacts, revenue impacts, public acceptance, participation rate, ease of administration, program flexibility, fairness and equitability to ratepayers, measurable level of success, and risk of potential legal challenges.⁷⁴ Understanding the underlying causes of non-payment is critical to designing an effective water affordability program. In determining the extent of assistance, historically, the focus has been on revenue recovery, but a broader view looks to the larger public health mission of the water utility.⁷⁵ When designed correctly, affordability programs can increase access to water, reduce utility costs, increase financial sufficiency for low-income customers, and enhance acceptance of rate increases.



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73 See G. T. Mehan III, & Gansler, I. D. (2017). Addressing Affordability as a Necessary Element of Full-Cost Pricing. *Journal American Water Works Association*, 109(10), 46-50. doi:10.5942/jawwa.2017.109.0132

74 Blake, B. L., Brown, G. A., & Rothstein, E. (2017). Model Water Utility Affordability Programs. *Journal American Water Works Association*, 109, 30-36. doi:10.5942/jawwa.2017.109.0103

75 Water Research Foundation. (2010).

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WATER AFFORDABILITY PROGRAMS

(1) Baird, G. M. (2010). Water Affordability: Who's Going to Pick Up the Check? *Journal American Water Works Association*, 102(12), 16-23. doi:10.1002/j.1551-8833.2010.tb11358.x.

This article explores water affordability issues that stem from passing on rising water sector costs to customers. It examines questions integral to the water affordability discussion, including clarifying the meaning of full-cost pricing, the need to establish water affordability programs, and strategies to reduce rising water costs. The article discusses the EPA definition of water affordability, applies it to a sample of water systems in Colorado and Canada, and provides a critique. The author concludes that water affordability standards cannot be mandated at the federal level as the measurement of water affordability is highly subjective. Recommendations for addressing water affordability and strategies for minimizing costs at the local level are provided.

(2) Blake, B. L., Brown, G. A., & Rothstein, E. (2017). Model Water Utility Affordability Programs. *Journal American Water Works Association*, 109, 30-36. doi:10.5942/jawwa.2017.109.0103.

This article is based on the work of the American

Water Works Association's (AWWA) Rates and Charges Affordability Sub-Committee. This study examines two water affordability program case studies—the Portland Water Bureau (in Oregon) and the Detroit Water and Sewage Department. A history of water affordability program development is provided, and program components are discussed in detail. The article also presents program metrics, such as participation rates, funding levels and sources, lessons learned during program implementation, and subsequent adjustments to increase effectiveness.

(3) Water Research Foundation (2017). *Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers (Rep.)*. Retrieved <https://www.waterrf.org/research/projects/customer-assistance-programs-multi-family-residential-and-other-hard-reach>.

This resource is a comprehensive toolkit for developing customer assistance programs for hard to reach (H2R) customers. H2R customers are those who do not pay water bills directly, such as renters and multifamily unit residents. The first section of this report summarizes research on H2R customers and reviews the literature on developing programs for H2R customers. The second section presents a business process

framework for developing H2R programming, including planning, strategies, program examples, and lessons learned. Finally, the report provides practical tools, including worksheets, an adaptable PowerPoint presentation, and more. A dashboard is provided throughout the toolkit to orient users where they are in the process.

(4) Water Research Foundation. (2010). *Best Practices in Customer Payment Assistance Programs* (Rep.). Retrieved <http://www.waterrf.org/PublicReportLibrary/4004.pdf>.

This Water Research Foundation (WEF) report provides a business process framework for developing a water affordability customer-assistance program, used for the later WEF report *Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers*. The report presents and describes water affordability programs and best practices in detail, and reviews prior research on customer assistance programs. The authors find that prior approaches to providing assistance are piecemeal and articulate a comprehensive approach that more clearly defines and meets objectives. The report underlines three strategies: shrink the bills through conservation, billing practices, bill discounts, and alternative rate structures; shrink the overdue caseload and arrearages by deferring payment plans and providing extra support through the crisis assistance program; and lastly, shrink the cost of collections by minimizing repeat occurrences

of nonpayment, minimizing caseload and arrearages, and maximizing efficiency of caseload processing. Hard to reach populations and state laws impacting implementation are discussed.

(5) Galardi Rothstein Group. (2016). *Detroit Blue Ribbon Panel on Affordability* (pp. 1-44, Rep.). Retrieved <https://detroitmi.gov/departments/water-and-sewerage-department/bill-assistance-and-credits/blue-ribbon-panel-affordability>

This report includes a presentation reviewing the cost basis for determining Detroit Water & Sewerage District rates and resulting recommendations from its Blue Ribbon Panel on Affordability (BRPA). The presentation questions the cost basis of rates and presents an analysis of Detroit residents in terms of water use characteristics and bill payment. Results suggest that implementing an increasing block rate would be beneficial. The report provides a summary of BRPA recommendations for addressing water affordability. It also considers and discusses three options in detail: rate structure, customer assistance, and billing and collection. Criteria for evaluating program options developed by the BRPA are presented, and results of a BRPA evaluation discussed.

(6) City of Cleveland, “Discount Programs.” (2018, January 17). Retrieved from <http://www.clevelandwater.com/customer-service/water-rates/discount-programs>.

This document is part of the Cleveland Water webpage that describes assistance programs available to qualifying customers. The programs described include the homestead discount, the affordability program, and the summer sprinkling program.

(7) United States Environmental Protection Agency (U.S. EPA). (2016, April). *Drinking Water and Wastewater Utility Customer Assistance Programs* (Rep.). Retrieved https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf.

This report presents research on Customer Assistance Programs (CAPs) from a sample of 795 water and wastewater utilities in the United States. The research finds that almost one third of utilities offer CAPs, and they are mostly large utilities. The report outlines reasons for having CAPs and discusses the benefits of CAPs to customers, communities, and utilities. The report provides details on affordability assistance options offered by water utilities, including bill discounts, flexible terms, lifeline rate, temporary assistance, and water efficiency. Programs are ranked from most frequently offered (bill discount) to least frequently offered (lifeline rate). The report provides summaries of utilities offering CAPs by state, including the type of program, program description, eligibility criteria, and links to more information. This report provides

more in-depth case studies from the Washington Suburban Sanitary Commission, California Water Service Company, Northeast Ohio Regional Sewer District, Orange County Water and Sewer Authority, and San Antonio Water System.

(8) First Year of Utility's Customer Assistance Program a Success. (2006). *Journal American Water Works Association*, 98(2), 52-54. doi:10.1002/j.1551-8833.2006.tb07584.x.

This short article describes the Central Arkansas Water (CAW) customer assistance program. As part of the Help to Others program, CAW in Little Rock attaches coupons for goods and services to customers' monthly utility billing statements—local businesses will pay fees to advertise deals through these coupons. The utility uses the advertising revenue to support struggling customers with partial or entire bill payments during a financial crisis.

(9) Hasson, D. S. (2002). *Water Utility Options for Low-Income Assistance Programs*. *Journal American Water Works Association*, 94(4), 128-138. doi:10.1002/j.1551-8833.2002.tb09457.x.

This article focuses on the 15-year history of Portland, Oregon customer assistance programs. Starting in the 1990s, Portland began addressing the issue of water affordability, producing the reports *Assistance Options for Low-income House-*

holds: *Water and Sewerage Utility Costs* (1994) and *Water/Sewer Bill Relief Program for Portland Low-income Households* (1994). These reports provided recommendations to improve the city's initial programming. Continuing concern in the late 1990s led Portland to develop a plan to address affordability that involved the participation of stakeholders from the utility and the city finance department, as well as local advocates. Utility data, program evaluations, a literature review, and a phone survey were used in crafting program options and evaluation criteria. As a result, the affordability program was overhauled. The article explains the initial program elements that were retained and the new components added as a result of the evaluation. The article presents the results of a study of low-income customer water use and water bills, and program evaluation and results.

(10) G. T. Mehan III, & Gansler, I. D. (2017). Addressing Affordability as a Necessary Element of Full-Cost Pricing. *Journal American Water Works Association*, 109(10), 46-50. doi:10.5942/jawwa.2017.109.0132

This article explores the reasons behind rising unaffordability of water bills, including historic underpricing of water, the need to catch up with delayed and deferred infrastructure investment, and flat income growth. The authors review the literature on water affordability programs, including AWWA's *Thinking Outside the Bill: A*

Utility Manager's Guide to Assisting Low-Income Water Customers and EPA's *Drinking Water and Wastewater Utility Customer Assistance Programs*. This study also examines legal barriers based on a review of the University of North Carolina (UNC) Environmental Finance Center report *Navigating Legal Pathways to Rate-Funded Customer Assistance Programs: A Guide for Water and Wastewater Utilities*. In conclusion, the authors describe how more investment in customer assistance programs can have a positive effect on utilities as opposed to service shut-offs and bad debt.

(11) University of North Carolina Environmental Finance Center. (2017, July 10). Navigating Legal Pathways to Rate-Funded Customer Assistance Programs. Retrieved August 30, 2018, from <https://efc.sog.unc.edu/project/navigating-legal-pathways-rate-funded-customer-assistance-programs>.

This guide, prepared by the UNC Environmental Finance Center in consultation with water resource legal and finance experts, provides an overview of state regulations impacting water and wastewater customer assistance programs. The guide is geared toward helping utilities navigate the complex web of regulations, and for advocates to understand how to work to modernize the legal framework for water affordability programming. The team reviewed and summarized state statutes, utility commission rules,

existing state customer assistance programs, and demographic and financial information. Relevant industry experts reviewed their state's summary for accuracy, and corrections were made prior to inclusion in the report summaries. A system was developed to characterize the legal landscape of each state (the range includes explicitly authorized, no express authority, potential for challenges, specifically prohibited). The guide includes case studies for several utility affordability programs. The authors summarize overarching state legal issues, and conclude that the legal framework for design and implementation of affordability programs needs to be clarified, particularly for the use of rate revenues as a funding source. They also summarize the lessons learned from the energy and telecommunication experience with customer assistance programs, as well as lessons learned from other countries.

(12) U.S. Environmental Protection Agency (U.S. EPA). (2002, December).

Rate Options to Address Affordability Concerns for Consideration by District of Columbia Water and Sewer Authority (Rep.).

This memo addresses the District of Columbia Water and Sewer Authority (WASA) affordability concerns surrounding the costs of implementing the Long Term Control Plan for combined sewer overflows. While the new wastewater rates are expected to meet the EPA system-wide affordability threshold of 2% of median household

income, for lower income customers, water and wastewater bills are likely to exceed the threshold. In response, EPA provided WASA with information on water utility affordability programs that could be adopted and this memo summarizes that effort. A literature review and web search were used to find examples of water affordability programs. The memo discusses options including alternative rate structures, payment assistance, grants and loans, water audits, financial counseling, and reconfiguring fee structures.

(13) Boston, MA: National Consumer Law Center. (2014). *Review and Recommendations for Implementing Water and Wastewater Affordability Programs in the United States (pp. 1-53, Rep.)*.

This report from an advocacy group, the National Consumer Law Center, reviews affordability programs from utilities across the United States, focusing largely on regulated utilities. The report addresses the statutory basis for water affordability programs and methods of measuring affordability. It provides a detailed discussion of affordability programs (including bill discounts, rate structure and billing alternatives, payment plan and waivers, water conservation, and community resources and public assistance programs). Examples of these programs are provided and recommendations are made, including expanding the measure of water affordability, increasing flexibility in interpreting statutory

language, designing payment plans to help customers meet payments, and pairing customer assistance with water conservation.

(14) Bipartisan Policy Center Water Task Force. (2017). *Safeguarding Water Affordability* (pp. 1-50, Rep.). Washington, DC: Bipartisan Policy Center.

This report summarizes briefs from the Bipartisan Policy Center Water Task Force, addressing the issue of pricing water to both cover full costs and maintain affordability. The report provides a high-level review of water services, water and wastewater system characteristics, industry cost drivers, affordability measurements, rate-setting practices and structures, and customer assistance programs. Water affordability strategies are characterized as: increasing funding for water infrastructure; strengthening customer assistance; encouraging conservation; and educating the public. The report discusses cross-cutting policies to implement in detail, including asset management, funding and financing, regionalization, private sector partnerships, customer assistance programs, water conservation, innovation, and education. The report offers detailed recommendations for each of these policy options and directions for further research.

(15) American Water Works Association. (2014). *Thinking Outside the Bill: A Utility Manager's Guide to Assisting Low-Income*

***Water Customers* (Rep.). Retrieved August 31, 2018, from American Water Works Association website: <https://www.awwa.org/Portals/0/AWWA/ETS/Resources/ThinkingOutsidetheBill-2Ed.pdf>.**

This is the second edition of a water utilities guide to affordability tools. This report highlights key facts about low-income customers' ability to afford water service. It also features recommended tools including using U.S. Census data, the American Community Survey, and internal utility data, to analyze affordability issues in a community. This report provides a detailed list of affordability programs in use by utilities around the country, and step-by-step recommendations to start framing and offering affordability programs to customers. This report also analyzes available data on the 2014 federal poverty level to study water affordability and solutions based on family household incomes and water bills.

(16) American Water Works Association. (2017). *Principles of Water Rates, Fees, and Charges (M1) 7th Edition* Denver: American Water Works Association.

This manual of standard practices in water rate setting, written for utilities, explains the principles of water rates, fees, and charges. It provides extensive discussion on rate design, rate structures, uniform rates, decreasing block rates, increasing block rates, seasonal rates,

water-budget rates, fixed charges, and rates for fire protection service. The authors provide detail on service rate setting costs, including distributing costs to customer classes. One chapter explains low-income affordability programs, including arrearage forgiveness, leak detection assistance, fixture repairs, crisis vouchers, safety net concepts, budget billing, and alliances with community-service organization. It also provides information on low-income affordability rates, which can help mitigate the impacts of high water bills for customers who are unable to pay the bill. The chapter discusses future directions for affordability programs.

(17) Aqua Publica Europea. (n.d.). *Water Affordability Public Operator's Views And Approaches On Tackling Water Poverty (Rep.)*. Retrieved August 30, 2018, from Aqua Publica Europea website: https://www.aquapublica.eu/sites/default/files/document/file/ape_water_affordability_final_0.pdf.

Aqua Publica Europea (APE), an association for water operators, explores affordability programs, practices, and solutions in European countries, including Belgium, France, Germany, Italy, Scotland, Spain, and Switzerland. For each country, summaries include an overview of the water and wastewater industry, water pricing, affordability measurement and definitions, ongoing affordability programs and their legal basis, and affordability solution evaluation methods. The report

also addresses advantages and disadvantages of each water affordability solution and throughout, provides water operators' perspectives. Information was gathered from existing sources as well as from surveys and interviews with APE members. The report concludes with key overarching points and a list of challenges, including defining and measuring affordability and finding flexible solutions in making tradeoffs between multiple objectives.

(18) Pacific Institute. "Water Rates: Water Affordability." (n.d.). Retrieved August 15, 2018, from <http://www2.pacinst.org/wp-content/uploads/2013/01/water-rates-affordability.pdf>.

This short article from the Pacific Institute introduces the concept of water affordability and provides some examples of affordability programs in California. These programs are designed to minimize potential legal challenges due to California's Proposition 218, the right to vote on taxes. Successful strategies are identified, including enrolling customers using eligibility criteria from other social service programs, exploring non-rate sources of revenue, focusing services on low-income customers, encouraging water conservation and efficiency, and improving the technical, managerial, and financial capacity of the utility.

