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BEFORE THE U.S. HOUSE OF REPRESENTATIVES
TRANSPORTATION AND INFRASTRUCTURE COMMITTEE
SUBCOMMITTEE ON WATER RESOURCES

HEARING ENTITLED "THE CLEAN WATER STATE REVOLVING FUND: HOW FEDERAL INFRASTRUCTURE INVESTMENT CAN HELP COMMUNITIES MODERNIZE WATER INFRASTRUCTURE AND ADDRESS AFFORDABILITY CHALLENGES"

March 7, 2019

Good morning, Chairperson Napolitano, Ranking Member Westerman, and members of the Subcommittee. I am Jill Witkowski Heaps, visiting scholar at the University at Buffalo School of Law and Assistant Professor at Vermont Law School. I am an expert in water law and policy and environmental justice. I have worked on water issues in most of the states represented by members of this committee, including California, Arkansas, New York, Louisiana, Massachusetts, Alabama, Georgia, as well as states in the Mississippi River watershed and the Chesapeake Bay watershed. I also serve as vice-chair of the National Environmental Justice Advisory Council, a federal advisory committee to EPA on environmental justice. I chaired a workgroup which wrote the report "EPA's Role in Addressing the Urgent Water Infrastructure Needs of Environmental Justice Communities." That report is being delivered to Administrator Wheeler this week. I am here today speaking in my individual capacity.

SUMMARY OF TESTIMONY

Buffalo, New York provides a key example of the water infrastructure funding problems facing communities across the country. Buffalo has invested more than $150 million in its infrastructure over the past 10 years, but the utility needs to raise revenues to pay for more infrastructure upgrades. For example, the city will be addressing its lead poisoning problem by investing $500 million to replace 41,000 resident service lines that contain lead.

While Buffalo faces mounting water infrastructure needs, Buffalo residents already struggle to pay their water bills. More than thirty percent of Buffalo households are at or below the federal poverty level. Approximately 200 households a month have their water shut off.

Along with its January 1, 2019 water rate increase, the city adopted an affordability program. But the city will see more shutoffs despite the new program for three main reasons. First, the program only sought to cover the cost of the increase, even though the city already had affordability issues. Second, even though 40,000 households would be eligible for the program, Buffalo estimates 10% participation in the program. That means 36,000 households living paycheck to paycheck will be seeing a 17% increase in their bills. Third, the city increased the capacity charge, not the cost of water itself. Families cannot avoid increased water bills by conserving water.

The Buffalo case study demonstrates how underfunding causes water affordability issues and how utilities are struggling to address it. Decades of underfunding has left water systems crumbling. Families are now struggling to pay larger and larger water bills as utilities are raising rates to pay for delayed investments. A Michigan State University study found 13.8 million households likely struggled to pay their water bills in 2014. Further, utilities need help designing and implementing effective programs that will actually address affordability issues.

I recommend that Congress take the following actions to address the problem:

1. Congress should massively increase federal government investment in water infrastructure. The Clean Water State Revolving Fund should be funded at $6 billion a year to bring investment back up to Reagan-era levels. But even that is not enough. Congress must take bold action to fill the $600 billion funding gap for water and wastewater infrastructure. The

WATER Act of 2019, which creates a $35 billion trust fund to invest in water infrastructure improvements, is a good start.

2. Federal water infrastructure funding should provide more grants to the neediest communities. The neediest communities often have the least capacity to qualify for loans or even apply for grants, particularly where utilities are run by volunteers. Congress should remove the statutory limitation of subsidies in the Clean Water SRF. States should be proactively identifying and reaching out to these communities, who may not be aware of grant opportunities.

3. Congress needs to recognize that Clean Water is a human right. Everyone should have access to clean, safe drinking water and sanitation.

4. Congress should create a federal block grant program to directly assist households in paying water and sewer bills. This can be modeled on the Low Income Home Energy Assistance Program (LIHEAP).

5. Congress should pass legislation promoting water affordability. Legislation should prioritize solutions that provide low income customers the dignity of paying their bills without having to enroll in an assistance program. Rates can be structured in a way that keeps essential water usage affordable for everyone. These rate structures promote equity, incentivize water conservation, ease stress on the sewage system, and address concerns where state law provides hurdles to affordability programs. The Honolulu program provides a good example of a rate structure making essential needs affordable to all.

Any legislation helping utilities to adopt a customer assistance program needs to ensure programs are thoughtfully designed and implemented, based on a community's particular challenges. Philadelphia's Tiered Assistance Program is an excellent model of a program offering water payments that are capped based on income. Programs should automatically enroll customers using existing eligibility requirements from other sectors. Utilities should combine customer assistance programs with strategies such as bill timing, budget billing, pre-termination protections, conservation incentives and debt management plans that assist struggling households.

THE WATER INFRASTRUCTURE AFFORDABILITY PROBLEM

Ensuring that all Americans have affordable, reliable, and sustainable access to safe drinking water and appropriate wastewater treatment and disposal is a defining problem of the 21st century. Water infrastructure demands, costs, and complexity mean many Americans do not have access to clean, affordable water, and sanitation. American public water systems and communities of all sizes are grappling with the need for water infrastructure maintenance or improvements to ensure clean, safe, accessible, and affordable drinking water and treatment of wastewater. Rising rates are making basic water and wastewater service unaffordable for low income consumers across the country. People are faced with choosing between paying their rent or paying their water and sewerage bills. Aging infrastructure, deferred maintenance, changes in regulations, and limitations on water resources increase the complexity and cost of ensuring access to the basic public health needs of safe drinking water and adequate wastewater treatment. The problem will only get worse in the future, as increasingly frequent and severe drought and flooding from climate change impact our most vulnerable communities.

The U.S. EPA conservatively estimates the country must invest $472.6 billion for drinking water[1] and $271 billion for sewage systems and stormwater[2] over the next twenty years to meet and maintain existing health and environmental standards. EPA recognizes that this $744 billion projection likely underestimates the actual needs, given that systems underreport their needs. Further, the sewage system estimate represents investments needed between 2012 and 2017, even though the Clean Water Act directs EPA to submit updated needs estimates every other year.[3] The Value of Water campaign estimates that the US needs to invest an additional $82 billion per year in water infrastructure at all levels of government over the next 10 years to meet projected capital needs.[4] Likewise, the American Water Works Association estimates that

[1] EPA, 2018 Drinking Water Infrastructure Needs Survey and Assessment, https://www.epa.gov/sites/production/files/2018-03/documents/sixth_drinking_water_infrastructure_needs_survey_and_ assessment.pdf.

[2] EPA, Clean Watersheds Needs Survey – 2012 Report and Data, https://www.epa.gov/cwns/ cleanwatersheds-needs-survey-cwns-2012-report-and-data.

[33] The Clean Water Act directs that EPA shall "make… a detailed estimate, biennially revised, of the cost of construction of all needed publicly owned treatment works in all of the States and of the cost of construction of all needed publicly owned treatment works in each of the States…" 33 U.S.C. § 1375(b)(1)(B). The Act directs that the EPA Administrator "shall submit such detailed estimate and such comprehensive study of such cost to the Congress no later than February 10 of each odd-numbered year." 33 U.S.C. § 1375(b)(1)..

[4] Value of Water Campaign, "The Economic Impact of Investing in Water," http://thevalueofwater.org/sites/default/files/Economic%20Impact%20of%20Investing%20in%20Water%20Infrastructure_VOW_FINAL_pages.pdf.

restoring existing water systems as they reach the end of their useful lives and expanding them to serve a growing population will cost at least $1 trillion over the next 25 years.[5]

Small, unincorporated communities, orphaned systems, and those serving vulnerable, impoverished populations require urgent attention. These communities lack adequate resources to repair and replace infrastructure, or to build new systems.[6] Some rural communities, like Lowndes County, Alabama have never had working septic systems, despite decades of pleas for help.[7]

Crumbling water infrastructure means enormous expenses for many utilities to bring their systems into compliance with the Clean Water Act. For example, Kansas City faces a $2.5 billion price tag to come into compliance with the Clean Water Act.[8] Baltimore plans to invest an additional $1.6 billion in upgrades by 2030 to comply with its Clean Water Act consent decree.[9] Despite investing more than $1 billion in upgrades since 2002, Baltimore missed its original consent decree deadline, and now has until 2033 to comply.[10] The cost of these upgrades have hit Baltimore residents hard. In 2013, the city raised rates 42 percent over three years.[11] Then in January of 2019, the city again voted to raise rates another 30 percent over three years.[12]

Even utilities without major upgrades are needing to increase revenues to meet capital investment and operations and maintenance expenses, meaning families are struggling to pay their water bills. A Michigan State University study found 13.8 million households likely struggled to pay their water bills in 2014.[13] That study also found that if water rates rise at

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[5] American Water Works Association, "Buried No Longer: Confronting America's Water Infrastructure Challenge" http://www.urbanwaterslearningnetwork.org/wp-content/uploads/2017/08/AmericanWaterWorksBuriedNoLonger2017.pdf

[6] "Aging infrastructure, lead pipes, nitrate runoff and funding among challenges vexing Midwest's drinking water systems," Mar. 2016, http://www.csgmidwest.org/ policyresearch/0316-drinking-water.aspx.

[7] *See* Catherine Flowers, "Opinion: A County Where the Sewer is Your Lawn," New York Times, May 22, 2018; "The U.N. Looks at Extreme Poverty in The U.S., From Alabama to California," NPR, Dec. 12, 2017, https://www.npr.org/sections/goatsandsoda/2017/12/12/570217635/the-u-n-looks-at-extreme-poverty-in-the-u-sfrom-alabama-to-california; https://www.nytimes.com/2018/05/22/opinion/alabama-poverty-sewers.html.

[8] EPA, "Kansas City, Missouri Clean Water Act Settlement," https://www.epa.gov/enforcement/kansas-city-missouri-clean-water-act-settlement.

[9] "Baltimore officials approve $1.6 billion, 13-year sewer plan," Baltimore Sun, Aug. 9, 2017 https://www.baltimoresun.com/news/maryland/baltimore-city/bs-md-ci-sewer-consent-decree-20170808-story.html?

[10] *Id*.

[11] "Baltimore raises rates 42 percent over three years," Baltimore Sun, July 3, 2013, https://www.baltimoresun.com/news/maryland/baltimore-city/bs-md-ci-water-bill-increase-20130703-story.html.

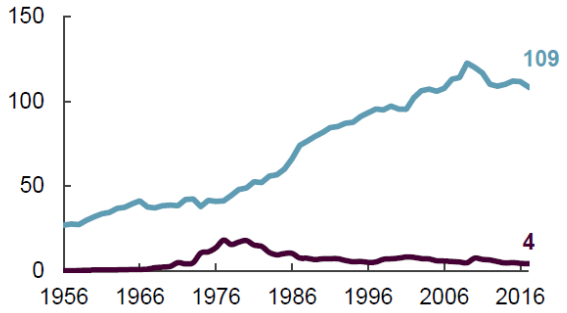
[12] "Baltimore water rates will increase 30 percent over next three years," Baltimore Sun, Jan. 9, 2019, https://www.baltimoresun.com/news/maryland/baltimore-city/bs-md-ci-water-rate-hike-20190109-story.html.

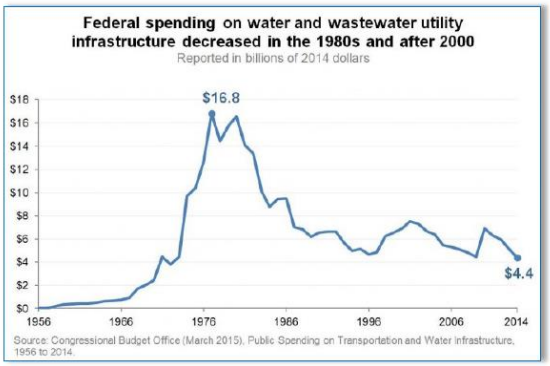
[13] Mack, Elizabeth, Wrase Sarah (2017) "A Burgeoning Crisis? A Nationwide Assessment of the Geography of Water Affordability in the United States." PLOS ONE https://doi.org/10.1371/journal.pone.0169488.

projected amounts over the next five years, the percentage of U.S. households who will find water bills unaffordable could triple from 11.9% to 35.6%.[14] Detroit, Michigan has shut off water to more than 100,000 households since 2014.[15] In Philadelphia, in 2016, an estimated 227,000 customers, or 4 out of 10 water accounts, were past due.[16]

In the face of mounting infrastructure costs, the federal government has been investing less and less in water infrastructure. In 2016, the federal government invested approximately $4 billion in water and sewer infrastructure, down from approximately $16.8 billion in the mid 1970's.[17] State and local government invested approximately $109 billion in water infrastructure in 2016. We need Congressional action to address this estimated $600 billion water investment shortfall.[18]

Federal spending on water and wastewater utility infrastructure has decreased while state and local spending on water infrastructure has quadrupled.





Source: Congressional Budget Office (October 2018)

[14] *Id.*
[15] "Detroit shut off water to 1 in 10 homes this year. Yes, that's progress," Bridge Detroit Journalism Cooperative, Dec. 5, 2017, https://www.bridgemi.com/detroit-journalism-cooperative/detroit-shut-water-1-10-homes-year-yes-thats-progress.
[16] "7 years, no water at home for Senior," NBC Philadelphia, April 8, 2016, https://www.nbcphiladelphia.com/news/local/7-Years-No-Water-375060031.html.
[17] In 2014 dollars.
[18] "New water infrastructure finance center seeks to restore $600 billion infrastructure gap." http://sustainablewater.com/new-water-finance-center-seeks-to-restore-600-billion-infrastructure-gap/.

THE SOLUTIONS

Solution #1: Congress must massively increase federal investment in water infrastructure.

- **Appropriate $6 billion per year for the Clean Water State Revolving Fund.**

The Clean Water State Revolving Fund and the Safe Drinking Water Revolving Fund are the main vehicles to get federal monies to water and wastewater utilities. Congress established these revolving funds to provide states sustainable, long-term financial assistance to support communities' water infrastructure needs. While the proposed $4 billion appropriation for the Clean Water State Revolving Fund is an improvement over past years, $6 billion would bring investment back up to Reagan-era levels.[19] This increased investment would be a good start to the federal government funding a larger portion of water investments and closing the funding gap.[20] The Clean Water SRF should target a growing list of priorities that are currently underrepresented in the states' portfolios of assistance, including:[21]

- Water infrastructure that is designed to address the increased risk of droughts, floods, sea level rise, and extreme weather events;
- Green infrastructure and stormwater management;
- Source water protection to help prevent pollution and runoff from contaminating rivers, lakes, and reservoirs; and
- Water efficiency, water reuse, and water recycling.

- **More of the Clean Water SRF must be awarded as grants to the neediest communities.**

The communities that need the money most often have the least capacity to apply for grants and loans, particularly where utilities are run by volunteers. A large portion of federal investment should support grants for the neediest communities. To support this goal, Congress should remove the statutory cap on subsidization, which is currently set at 30 percent of EPA's annual capitalization grant. States should be proactively identifying and reaching out to these communities, who may not be aware of grant opportunities.

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[19] *See* Natural Resources Defense Council, "Go Back to the Well: States and Federal government are neglecting a key funding source for water infrastructure," May 2018, https://www.nrdc.org/sites/ default/files/state-revolving-fund-water-infrastructure-ip.pdf.

[20] *See*, Clean Water for All, "Water, Health, and Equity, Sept, 2017, http://protectcleanwater.org/wpcontent/ uploads/2017/09/CWFA-Infrastructure-Health-Equity-White-Paper-Oct-2018.pdf.

[21] *See* NRDC, "Go Back to the Well.", *supra* note 17.

- **Increase appropriations to address nonpoint source pollution.**

Appropriations for Section 319 nonpoint source grants is critical to making progress towards our clean water goals. Stormwater and agricultural runoff pollution are the two biggest sources of water pollution across the country and deserve special attention. Section 319 funding should focus on supporting green infrastructure, especially in low income communities.

- **Continue funding for WIFIA until it can be replaced with another major water infrastructure funding vehicle.**

The Water Infrastructure Financing and Innovation Act (WIFIA) increased investment in water infrastructure by providing long-term, low-cost supplemental loans for regionally and nationally significant projects. For example, Baltimore recently received a $202 million loan under WIFIA to support its clean water upgrades.[22] San Diego received a $614 million WIFIA grant to support its cutting-edge potable reuse project, which addresses both sewage and water supply issues for the city.[23] WIFIA funding is limited to projects that are invited to apply for funding. For 2018, EPA invited 39 projects to apply for loans totaling up to $5 billion. This invitation-only process excludes many needy communities and projects across the nation. It has led to at least one project that should not be prioritized over funding needy communities. Clean water advocates and conservationists opposed the Carlsbad Desalination Project for years as the most energy intensive and expensive water supply option that had a poorly-designed ocean intake that unnecessarily harms wildlife.[24] EPA invited the project to apply for a $32 million loan to reconfigure intake facilities and come into compliance with California law.[25]

- **Create a trust fund for water infrastructure investments.**

Increasing funding for the Clean Water SRF, the Drinking Water SRF, and WIFIA is not enough. With more than 27 million Americans being served by water systems violating health-

[22] "EPA provides $202 million loan to modernize Baltimore's wastewater infrastructure," EPA, Feb. 25, 2019, https://www.epa.gov/newsreleases/epa-provides-202-million-loan-modernize-baltimores-wastewater-infrastructure.
[23] "EPA awards $614 million to bolster San Diego's innovative Pure Water project," the City of San Diego, Nov. 27, 2018, https://www.sandiego.gov/mayor/news/releases/epa-awards-614-million-loan-bolster-san-diego%E2%80%99s-innovative-pure-water-project.
[24] *See* https://www.sdcoastkeeper.org/drinkable/san-diegos-water-supply/desalination/desalination.
[25] EPA, "2018 WIFIA selected projects," https://www.epa.gov/wifia/wifia-selected-projects.

based standards established in the Safe Drinking Water Act,[26] Congress must take bold action to meet our nation's urgent infrastructure needs to protect public health. The Water Affordability, Transparency, Equity, and Reliability (WATER) Act of 2019,[27] which creates a $35 billion trust fund to invest in water infrastructure improvements, is a good start. The WATER Act also directs the EPA Administrator, in conjunction with the Civil Rights Division of the United States Department of Justice, to study "discriminatory practices of water and sewer service providers" and "violations by such service providers that receive Federal assistance of civil rights under title VI of the Civil Rights Act of 1964 with regard to equal access to water and sewer services." Given EPA's poor track record related to Title VI of the Civil Rights Act,[28] Congress should appoint an independent bipartisan commission of experts to investigate Title VI violations related to water and sewer service.

Solution #2: Congress should recognize Clean Water is a human right.

Everyone should have access to clean, safe drinking water and sanitation. Every person needs safe water to drink, bathe, cook, and clean and every community needs a working wastewater system to prevent the spread of disease, bacteria and parasites. When poor communities are denied access to clean, safe, affordable water and sanitation (specifically low-income communities and communities of color), they are put at a high risk for waterborne diseases and pathogens (such as cholera, typhoid, legionella, and polio).[29]

The World Health Organization firmly states, "Water safety and quality are fundamental to human development and well-being. Providing access to safe water is one of the most effective instruments in promoting health and reducing poverty."[30] In fact, in 2010, the United

[26] Natural Resources Defense Council, "Threats on Tap: Widespread Violations Highlight Need for Investment in Water Infrastructure and Protections" (2017), https://www.nrdc.org/resources/threats-tap-widespread-violations-waterinfrastructure.
[27] H.R. 1417 (Lawrence) and S. 611 (Sanders).
[28] *See* U.S. Commission on Civil Rights, "Environmental Justice: Examining the Environmental Protection Agency's Compliance and Enforcement of Title VI and Executive Order 12898," Sept. 2016, https://www.usccr.gov/pubs/2016/Statutory_Enforcement_Report2016.pdf
[29] *See* World Health Organization, Drinking Water, http://www.who.int/mediacentre/factsheets/fs391/en/; Center for Water Policy, University of Wisconsin-Milwaukee, "Water Main Breaks Expose Public to Waterborne Disease Risk," http://home.freshwater.uwm.edu/mclellanlab/files/2013/06/6-21Water-main-breaks-expose-public-to-waterborne-disease-risk.pdf.
[30] World Health Organization, Water Sanitation Hygiene, http://www.who.int/water_sanitation_health/ water-quality/en/.

Nations General Assembly passed Assembly Resolution 64/292, formally recognizing the position that clean water and sanitation is a human right.[31]

Congress should adopt laws that recognize the human right to water. Congress could follow in California's lead and adopt a human right to water law, modeled after AB 685, or recognize the human right to water in affordability legislation. California's Right to Water law prioritizes domestic drinking water for human consumption over commercial water use and directs state agencies to consider the human right to water when implementing policies.

Solution #3: Congress should create a federal block grant program to provide direct assistance to households to pay water and sewer bills.

A federal water and sewer bill block grant assistance could be modeled on the Low Income Home Energy Assistance Program (LIHEAP). LIHEAP provides block grants to states, tribes, and territories to help low income households in meeting home energy needs. The Water Affordability Act of 2018, introduced by Senator Harris, would have created the Low Income Sewer and Water Assistance Program (LISWAP), to award grants for public water utility companies to assist low-income households with bill repayment. Eligibility for grant assistance would consider environmental risk factors and inequitable environmental burdens.

Solution #4: Congress should adopt water affordability legislation.

To directly address household water affordability issues, Congress should adopt water affordability legislation. This legislation should do the following:

- **Facilitate utilities adopting affordable rate structures.**

One of the best options to address household affordability is to structure rates in a way that keeps minimal water usage affordable for everyone. This could include eliminating or drastically reducing the base cost to simply have water access at home, coupled with very low cost for very low water usage. This provides low income customers the dignity of paying their bills without having to enroll in an assistance program. To ensure that utilities can meet revenue requirements, utilities would create several tiers of costs for additional water usage, ramping up

[31] *See* http://www.un.org/waterforlifedecade/human_right_to_water.shtml.

costs as water usage increases. This would spread fixed costs across user groups more equitably because larger volume users place a greater burden on the system. This approach also incentivizes water conservation, which eases the stress on the sewage system. Additionally, this approach addresses concerns around customer assistance plans where state law, like California's Proposition 218, provides hurdles to these programs.

Honolulu's program provides an excellent example of very low-cost water for very low water usage.[32] The Board of Water Supply established an Essential Needs Tier that all residentials customers will be given for the first 2,000 gallons of water used, to promote affordability. Ten percent of all Honolulu residential customers use less than 2,000 gallons per month, and this Essential Needs rate structure will assist those with low incomes or on fixed income. This water rate structure is consistent with Hawai'i's State water code, which recognizes that the waters of Hawai'i are held for the benefit of the citizens of the state and the people have a right to have the waters protected for their use.[33]

- **Support adoption of effective customer assistance programs.**

An EPA study found that approximately 25% of utilities have customer assistance programs, which use bill discounts, special rate structures, and other means as an approach to help financially constrained customers maintain access to drinking water and wastewater services.[34] Customer assistance programs can be effective in addressing water affordability issues, but only if they are well-designed and implemented, based on a community's particular challenges. The Buffalo example demonstrates that a well-intentioned program, if not well-designed and implemented, will be ineffective.

  - <u>Tailor every customer assistance program to community needs</u>**.**

To design an effective customer assistance program, a utility must first determine *why* people are struggling to pay their bills. Are there high poverty levels and people are struggling to make ends meet? Are quarterly bills too large and too difficult to budget for in households living paycheck to paycheck? Are people struggling during the heat of summer or the dead of winter

[32] *See* Board of Water Supply rate schedule for Schedule for July 1, 2019 – June 30, 2023, https://www.boardofwatersupply.com/bws/media/files/water-rate-schedule-2018-2023-2018-09-15.pdf.
[33] State of Hawaii State Water Code, Chapter 174C, Part 1 Section 2.
[34] EPA, "Drinking Water and Wastewater Utility Customer Assistance Programs," at 2, April 2016, https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508-front2.pdf.

when energy bills are the highest? Are people wracking up tremendously high bills due to undetected leaks? Are landlords or fellow tenants in a duplex delinquent in paying the bill? Are customers being charge for water usage at an apartment after they have moved out? Are people struggling with personal trauma such as illness, job loss, divorce, or caring for ailing family?

A utility or its consultants will not be able to design and implement an effective customer assistance program without conducting significant outreach to learn why customers are struggling to pay their bills. Only once a utility understands the community it serves can it design a program to address customers' struggles. Ideally, a utility should convene both a stakeholder group to guide program design, as well as conduct individual or community-level meetings—at places where customers are already gathering—to understand customer concerns, hear customer complaints, and accept customer ideas about solutions.

- Customer assistance programs should automatically enroll customers.

Programs should automatically enroll customers using existing eligibility requirements from other sectors. There are many well-established federal and state programs to ensure that low-income households have affordable access to utility services for electricity, natural gas, and telecommunications, including the Federal Low Income Home Energy Assistance Program (LIHEAP) and the Low Income Energy Efficiency Program (LIEE).[35] A number of water suppliers use the same program-enrollment eligibility as a public assistance program such as Medicaid; Women, Infants, and Children Program; Supplemental Security Income; Temporary Assistance for Needy Families (TANF); or Tribal TANF.[36]

- Where auto-enrollment is not possible, utilities should hire communications professionals to conduct community outreach about the program and assist customers with enrollment**.**

Once a utility invests in creating a customer assistance program, it must invest in a creating and implementing a community outreach plan to inform customers of the program and assist with enrollment. Time and again, utilities rely on the engineers that assist with operations upgrades to design community outreach programs or conduct outreach. Congress should ensure

[35] Pacific Institute, "Water Rates: water affordability," Jan. 2013, https://pacinst.org/wp-content/uploads/2013/01/water-rates-affordability.pdf. California programs include California Alternate Rates for Energy (CARE); the Family Electric Rate Assistance Program (FERA) and the California LifeLine Program.
[36] *Id*.

that any pilot programs that support community assistance programs require utilities to work with professionals qualified in community outreach, stakeholder participation, communications, and environmental justice. The award-winning Pure Water San Diego project is an exemplar of effective stakeholder process and community outreach.[37] The stakeholder processes provided multiple meaningful opportunities for input. The city put such an outstanding effort in reaching communities where they are that the project now has widespread community support. This widespread support is remarkable because an identical project more than a decade earlier was tabled due to community opposition.

- Prioritize programs that offer income-based payments.

Often the most effective affordability programs provide income-based payments that remain the same regardless of water use. Philadelphia's Tiered Assistance Program is an excellent model.[38] The average bill for residents accepted into the is $19.84 per month, compared to the system-wide average of $70.87.[39] Twenty percent of program enrollees only pay $12, the program minimum.[40] The Tiered Assistance Program is divided into three tiers: households earning up to 50 % of the federal poverty level pay 2% of monthly income; those between 51 % and 100 % of the federal poverty level pay 2.5%; and those between 101 % and 150 % pay 3% of monthly income. Households with higher incomes that experience a special hardship may still apply for the program. For those accepted in the program, bills do not change according to use.

- Utilities should combine customer assistance plans with other services that alleviate hardships for low-income customers.

While providing lower water and sewer bills for low-income customers is the most direct way to address water affordability, there are a variety of services that can be provided to reduce financial hardships for low-income customers.[41]

These programs include:

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[37] Pure Water San Diego has won more than two dozen awards, many related to its public outreach. *See* https://www.sandiego.gov/public-utilities/sustainability/pure-water-sd/awards.
[38] *See* https://www.phila.gov/services/water-gas-utilities/pay-or-dispute-a-water-bill/water-bill-customer-assistance.
[39] "Philadelphia water rate experiment aims to help struggling residents pay bills," Circle of Blue, Nov. 1, 2017, https://www.circleofblue.org/2017/world/philadelphia-water-rate-experiment-aims-help-struggling-residents-pay-bills/
[40] *Id.*
[41] *See* Pacific Institute, "Water Rates: water affordability," Table 4. Jan. 2013, https://pacinst.org/wp-content/uploads/2013/01/water-rates-affordability.pdf.

Service	Description
Bill timing	Change the timing of bills to more closely coincide with the income stream of the household. For example, time bills to coincide with customer's receipt of Social Security or pension income.
Budget billing	Allow methods of bill payment to avoid unaffordable peaks (typically during summer months).
Pre-termination protections	Provide full due process protections before terminating water service – for example, required notice of customer's opportunity to enter a budget billing program or deferred payment arrangement.
Appropriate charges	Ensure that all charges for late payments, disconnection and reconnection, and deposits are imposed after clear notification and do not exceed the true costs of the services provided. For example, a water service provider may choose to waive late payment fees for low-income customers.
Conservation programs	Provide assistance to help reduce usage by curtailing leaks and installing conservation devices – for example, target low-income houses for audit, retrofit, and rebate programs.
Debt management plans	Establish incentive programs that reward customers for timely payments with partial forgiveness of old debt and provide installment plans to re-pay old debt.

Source: Pacific Institute, "Water Rates: Water Affordability" Jan. 2013

Solution #6 Congress should help low-income and vulnerable communities access cutting-edge technology.

Congress should provide grants to communities with high income inequality and large numbers of low-income households to use innovative technology to address water, sewer, and affordability issues. For example, potable reuse projects can be used to address water supply and sewage issues, while also treating drinking water with reverse osmosis and UV light, which eliminate most contaminants of emerging concern from drinking water. Grey water systems can drastically reduce household water usage, and rain barrels can reduce water usage for outdoor uses. Low flow and dual-flush toilet systems can reduce water bills and reduce burdens on the sewer system. Composting toilet systems can provide sanitary sewage solutions where households are not connected to a sewer system. Even water tracking systems, like Dropcountr,[42] can help customers track water usage in real-time, which can assist with water conservation. Technology and innovation should not be limited to our wealthiest communities.

[42] "An app that tracks water use in real time so Californians can save in the drought," Fast Company, Aug. 5, 2014, https://www.fastcompany.com/3033873/an-app-that-tracks-water-use-in-real-time-so-californians-can-save-in-the-drought.

Solution #7 Ensure the poorest communities have access to clean water now.

Community affordability—the ability of a community to pay for upgrades to comply with the Clean Water Act—is a legitimate concern for regulated entities. But everyone deserves clean water ***now***, and the fact that a community has families struggling to pay their water bills does not justifying pushing Clean Water Act compliance out for decades. Instead, we need to find ways to get these communities the funds to upgrade their systems immediately and figure out a long-term solution to plan for scheduled capital improvements and operations and maintenance to avoid massive upgrade costs in the future.

For example, Baltimore delayed maintenance of their aging sewer system for nearly 100 years after they built their system in 1909. EPA and Maryland brought suit to enforce compliance with the Clean Water Act, and settled in 2002 with the City of Baltimore to "end the years of chronic discharges of millions of gallons of raw sewage into city streets and local waterways."[43] The settlement decree gave Baltimore 14 years to completely overhaul the sewage system, but between 2010 and 2012, over 7,000,000 gallons of raw sewage spilled into Baltimore's streams and harbor.[44] In 2015, the Baltimore Department of Public Works received 5,000 reports of sewage basement floods.[45] Because Baltimore has not been able to meet its initial compliance deadline, Baltimore now has until 2033 to comply with the consent decree. That means local residents have to wait a total of 31 years from settlement to compliance. This schedule is unacceptable. The federal government should have immediately provided additional financial support to Baltimore to meet upgrade needs to help the city comply within the original timeframe. In the future, the federal government should immediately use funding from programs like WIFIA or a clean water trust fund to help these communities meet clean water standards as quickly as possible. To meet this goal, Congress must significantly increase federal water infrastructure funding.

Thank you for the opportunity to testify today. I look forward to continuing to assist the Subcommittee as it continues to address these challenging and critical issues.

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[43] EPA, "City of Baltimore, Maryland, Sewer Overflows Settlement," https://www.epa.gov/enforcement/ city-baltimore-maryland-sewer-overflows-settlement.

[44] Blue Water Baltimore Consent Decree Fact Sheet, https://www.bluewaterbaltimore.org/wp-content/uploads/ BWB-Baltimore-City-Consent-Decree-Fact-Sheet-7-31-13_link.pdf.

[45] "Raw sewage has been leaking into Baltimore's harbor for five days, city says," Baltimore Sun, Aug. 23, 2016, http://www.baltimoresun.com/news/maryland/baltimore-city/bs-md-ci-sewage-updates-20160823-story.html.