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RESTORING AND REIMAGINING INVESTMENT IN Public Water

Affordability, privatization, and the disproportionate impacts on communities of color

FEBRUARY 2021

EXECUTIVE SUMMARY

As the COVID-19 pandemic has acutely highlighted, water is essential to life and health. Without affordable, clean, and safe water, the ability of people to wash their hands, bathe, wash and cook food, clean clothes, prepare infant formula, stay hydrated, and do other everyday activities that keep them healthy is severely compromised, if not impossible. However, threats of aging water infrastructure in desperate need of repair, combined with declining federal funding, have contributed to a water affordability crisis across the country, especially for low-income communities and communities of color. This policy brief examines the connections between the current state of water infrastructure, the unaffordability of water, and the harms caused by privatization, with a focus on how these issues impact vulnerable communities, especially those of color.

Specifically, in reviewing available research, the brief highlights several important issues:

- Many water facilities are aging and need repair, replacement, and re-engineering to ensure they meet health, safety, and environmental standards and can withstand current and future challenges linked to climate change. In 2017, the American Society of Civil Engineers gave the country's drinking water systems a grade of "D."[1] This infrastructure gap contributes to serious public health issues, including lead leaching from pipes into drinking water and other forms of toxic water contamination.
- Federal support for water infrastructure has declined 77 percent in real terms since its peak in 1977.[2] In 1977, 63 percent of total capital spending for water and wastewater systems came from federal agencies. Today that number is less than 9 percent. This decline has pressured states and localities to fill the gap. But most local governments have been unable to raise sufficient funds for critical repairs. This lack has meant that water systems are more reliant on user rates, which places upward pressure on rates and can make water unaffordable. Recent research from Michigan State University shows that in 14 million U.S. households, or 12 percent of homes, water bills are too expensive.[3]
- Some struggling systems in need of repairs have turned to water privatization, but research and numerous anecdotal examples show that private water corporations often cut corners to reduce operating costs, negatively impacting water or service quality, or both. A 2015 study by Food and Water Watch found that, on average, private utilities charged typical households 59 percent more than local governments charged for drinking water service.[4] These impacts are particularly felt by low-income communities and communities of color, since struggling systems disproportionality serve these communities.[5] Moreover, privatization schemes also harm the workers who run these systems, as corporations often reduce wages and benefits, or even the number of workers, in an effort to cut operating costs.

- Many of the systems with the most pressing need for investment serve marginalized, low-income communities, many of which are communities of color.[6] Recent research shows that water systems notorious for being serial violators of the Safe Water Drinking Act were 40 percent more likely to be found in communities with higher percentages of people of color.[7] These severe infrastructure and funding gaps fall particularly hard on rural areas, tribal communities, and low-income areas, especially communities of color, since their residents are often unable to absorb additional rate increases.[8] Water systems that serve lower-income communities of color are especially vulnerable to unaffordable rates and rate hikes, and these residents disproportionately face threats such as service shutoffs, water liens, evictions, and foreclosure of their homes.[9]

This brief includes case studies that examine these issues in Atlanta, Georgia, Baltimore, Maryland, Flint, Michigan, and Pittsburgh, Pennsylvania. It also provides policy recommendations to help restore and reimagine water as a true public good—clean, safe, affordable, equitable, publicly controlled, and for all. These recommendations include:

- Increase federal investment in local water systems, with an urgent emphasis on vulnerable communities. Currently, there is federal legislation that addresses the issue of federal investment—the Water, Affordability, Transparency, Equity and Reliability (WATER) Act. The passage of the WATER Act would go a long way toward helping communities repair and upgrade water infrastructure, replace dangerous lead pipes, and ensure affordable water.
- Ensure that any policy to address water infrastructure does not incentivize privatization. The only way we can truly ensure that water is a public good is by keeping water systems in public, democratically-accountable hands.
- Create good jobs, including job programs to provide opportunities for vulnerable populations. America's water workforce is aging and is expected to produce a large wave of retirements in the next ten years. This challenge should be seen as an opportunity to create jobs programs and pipelines for new workers, especially women and people of color.
- Localities should implement effective affordability programs. Local water systems can ensure that vulnerable residents are able to afford water bills and protect against shutoffs, tax liens, and foreclosure proceedings.

INTRODUCTION

In July 2010, the United Nations General Assembly formally recognized the human right to water and sanitation and acknowledged that clean drinking water and sanitation are essential to the realization of all human rights.[10] Since water is undoubtably a human right, access to clean and safe water must be delivered as a public good. As the COVID-19 pandemic has acutely highlighted, water is essential to life and health. Without affordable and clean water, the ability of people to wash their hands, bathe, wash and cook food, clean clothes, prepare infant formula, stay hydrated, and do other everyday activities that keep them healthy is severely compromised, if not impossible.

Water must be affordable and equitable. As discussed later in this policy brief, declines in federal funding combined with aging and decaying systems in desperate need of repair has pressured localities to increase water rates as a primary way to pay for water infrastructure, demanding an increasing share of lower-income households' budget. Some households, especially those in communities of color, are unable to afford rising water rates, risking water shutoffs and even the loss of homes when overdue payments pile up.

While some systems have handed control of their water systems to private water corporations, this has only further commodified water and eroded its important status as a public good. Privatization also injects the need for profits and investor returns, which must be paid for by water rates, further driving the water affordability crisis.

This policy brief examines the connections between the current state of water infrastructure, the unaffordability of water, and privatization, with a focus on how these issues impact vulnerable communities, especially those of color. This brief also includes examples of how these issues have impacted Atlanta, Georgia, Baltimore, Maryland, Flint, Michigan, and Pittsburgh, Pennsylvania. Lastly, we provide policy recommendations to help restore and reimagine water as a truly public good—clean, safe, affordable, equitable, publicly controlled, and for all.

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SECTION 1: CONNECTING THE DOTS BETWEEN AFFORDABILITY, PRIVATIZATION, AND IMPACTS ON COMMUNITIES OF COLOR

Aging infrastructure in need to repair and replacement

America's water infrastructure is in need of repair. Many water facilities are aging and need repair, replacement, and re-engineering to ensure they meet health, safety, and environmental standards and can withstand current and future challenges linked to climate change. In 2017, the American Society of Civil Engineers gave the country's drinking water systems a grade of "D." Many of the millions of pipes that deliver drinking water to households, factories, and commercial buildings were laid in the early 20th century with a lifespan of 75 to 100 years, meaning that many are at the end of their useful life. There are an estimated 240,000 water main breaks in the U.S. each year, wasting more than two trillion gallons of treated drinking water. Additionally, billions of gallons of untreated wastewater spew into waterways each year.[11]

Some pipes in older cities and homes contain lead, which can leach into water, causing serious health problems. The American Water Works Association estimates 6.1 million lead service lines remain in the U.S. and serve 15 million to 22 million people.[12] Elevated lead levels in children can cause serious health conditions, including developmental problems, such as reduced I.Q. and learning difficulties. Pathogens and infectious diseases can be transmitted through unclean water, which can cause serious illnesses, skin rashes, and other conditions. Additionally, long-term exposure to unsafe water can lead to certain cancers, reproductive issues, and more.

Recent headlines from Flint, Michigan, Pittsburgh, Pennsylvania, and Newark, New Jersey, have raised alarms about dangerous lead levels in drinking water. However, problems with lead and other toxins in drinking water is not limited to these cities. Research shows that as of 2015, 21 million people, or 6 percent of the country's population, relied on water from utilities with health violations.[13] In any given year from 1982 to 2015, somewhere between 9 million and 45 million Americans got their drinking water from a source that was in violation of the Safe Drinking Water Act.[14] The National Resources Defense Council (NRDC) found even higher numbers, with an estimated 77 million people, or almost 25 percent of the population, being served by systems in violation of the act.[15]

In 2017, NRDC found that nearly 30 million people in the U.S. drank water from community water systems that violated the Environmental Protection Agency's (EPA) Lead and Copper Rule (a provision in the Safe Drinking Water Act that limits the amount of lead and copper in drinking water) between January 2015 and March 2018.[16] Furthermore, about 5.5 million people got their water from systems that exceeded EPA's Lead Action Level— which triggers mandatory additional steps that must be taken by water systems to reduce lead levels.[17]

In addition to lead, there is serious concern about per- and polyfluoroalkyl substances (PFAS) in drinking water. According to the EPA, PFAS are a group of man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals. These toxins are nicknamed "forever chemicals" because they don't break down and can accumulate in the environment and the human body over time.[18] They are connected to a variety

of cancers, thyroid disorders, kidney disease, autoimmune disruptions, liver disease, high cholesterol, developmental problems in fetuses, Parkinson's disease, bone disease, and more. About 700 PFAS-contaminated sites have been identified nationwide, and more than 110 million people may now be drinking contaminated water. Other testing found high PFAS levels in drinking water in 34 major U.S. cities.[19]

It is clear that there is a serious need to upgrade water infrastructure and make repairs to comply with safety standards for toxic contaminants. Additionally, many localities must also make capital improvements to better adapt to extreme weather conditions like drought and floods related to climate change. All of these infrastructure improvements are expensive. The American Water Works Association estimates that $1 trillion over the next 25 years is needed to maintain and expand service to meet water needs nationwide.[20] In 2016, the American Society of Civil Engineers estimated that the country needed to invest a minimum of $123 billion per year in water infrastructure over the next ten to achieve a good state of repair.[21] The EPA estimates that $745 billion is needed for drinking water and wastewater systems to simply meet and maintain existing public health and environmental standards. Another $448 to $944 billion will be required by 2050 to adapt water systems to deal with flooding, sea level rise, droughts, and other impacts of climate change.[22]

Declining federal funding contributes to local water affordability issues

Despite the serious need for critical repairs and replacements, there is a lack of investment in local water systems. Federal support has declined 77 percent in real terms since its peak in 1977.[23] In 1977, 63 percent of total capital spending for water and wastewater systems came from federal agencies. Today that number is less than 9 percent. On a per capita basis, federal funding has declined 82 percent since its peak. In 1977, the federal government spent $76.27 per person (in 2014 dollars) on water services, but by 2014 that support had fallen to $13.68 per person.[24]

This decline has pressured states and localities to fill the gap. But most local governments have been unable to raise sufficient funds for these critical repairs. Between 2009 and 2014, state and local governments decreased capital spending for both drinking water and wastewater by 22 percent.[25] This lack of funding has meant that water systems are more reliant on user rates as a primary source to fund basic operations and improvements, which places upward pressure on rates and can make water unaffordable. Reliance on user rates represents a regressive payment scheme, with lower-income households paying a higher percentage of their income on water than households with higher incomes. This approach, which treats water like a market-based community instead of an important public good, is an unstable, often inadequate, and inequitable way to fund water infrastructure.

Water affordability is both an economic and public health issue, as access to clean water is essential to life. Inability to pay water bills and the subsequent water shutoffs, such as those experienced by more than 112,000 Detroit households between 2014 and 2018,[26] deprive individuals and families of critical drinking water, the ability to shower or wash their hands, clean dishes and clothes, prepare safe infant formula for babies, and much more. Recent research from Michigan State University shows that in 14 million U.S. households, or 12 percent of homes, water bills are too expensive. On average, water bills increased 41 percent. between 2010 and 2015. If bills continue to increase at a similar rate, an estimated one-third of households are at risk of not being to afford their water bills in the next few years. Research produced for

The Guardian in 2020 examined water pricing in 12 cities across the country and found that the combined price of water and sewage increased by an average of 80 percent between 2010 and 2018, with more than 40 percent of residents in some cities living in neighborhoods with unaffordable bills.[27]

Water privatization exacerbates the affordability crisis

While many water systems are in need of improvements and upgrades, corporate control is not the solution to provide long-term sustainable compliance, improved water quality, and equitable and affordable access. Private water corporations seek to extract value from struggling systems and, in many cases, cut corners to reduce operating costs, negatively impacting water or service quality, or both. These impacts are particularly felt by low-income communities and communities of color, since struggling systems disproportionality serve these communities.[28] Moreover, privatization schemes also harm the workers who run these systems, as corporations often reduce wages and benefits of workers, or even the number of workers, in an effort to cut operating costs. Many decisions, documents, and other important information are shrouded in secrecy, as corporations are not subject to the same transparency and oversight measures and laws as public entities. Moreover, privatization results in the loss of public control, allowing corporations to control important decisions concerning public water.

While a large majority of U.S. residents with access to piped water service get their water from publicly owned utilities, about 50 million Americans receive water from investor-owned utilities, making up 15 percent of the municipal water sector based on population served.[29] Privatization in the water sector can take a few different forms:

- **Specific service contract:** A locality or local water system may contract with a private entity for a specific and limited service, such as laboratory work, meter reading, or supplying chemicals.
- **Outsourcing of operations and maintenance:** A locality or local water system may contract for operations and maintenance of the entire water plant or system.
- **Public-Private Partnership (P3):** This is an agreement where the private entity agrees to design, build/repair, finance, operate, and/or maintain a water system in exchange for the right to collect associated revenues associated.
- **Concession Agreement:** This is an agreement in which a locality or public water system sells an existing water system to a private corporation for an agreed upon price.

In the quest to secure additional funding for water infrastructure needs, some public systems are considering "public-private partnerships," also known as "P3s," i.e., long-term concession leases. There is a false perception that private investment in water

systems is "free money" or "new money," but this couldn't be further from the truth. Any financing arrangement or equity contribution from private investors must be paid back with the very same source by which all infrastructure is ultimately funded: residents. In the case of water, this is through water rates. The cost of capital for private investment in infrastructure is typically much more expensive than traditional, tax-exempt public financing, effectively resulting in the public entity taking out an expensive loan from the private entity. Any increase in water rates must account for improvements made using more expensive financing, as well as corporate profits and shareholder dividends.

There is an active water industry looking for profitable opportunities. In a recent op-ed in the NJ Spotlight, Peggy Gallos, executive director of the Association of Environmental Authorities, discusses how corporations and investors are currently looking at privatization opportunities in the water sector. She explains, "The investor-owned utilities (IOUs) have recognized that the backlog of capital upgrades and repairs in aging water and sewer systems presents an opportunity to make huge profits for shareholders ... [Shareholder profitability] underpins aggressive efforts to privatize public water and sewer systems through sales and lease/concession agreements, and it has been behind successful efforts to change regulations and laws."[30] In other words, the lack of federal and other governmental funding to address large capital needs have created a situation where corporate takeover of water systems may appear attractive to localities dealing with problems stemming from lack of investment in their system, despite the many serious risks of water privatization.

Water privatization companies, such as Essential Utilities and American Water, have indicated in recent investor relations presentations that they have a steady and even increasing flow of new contract opportunities with municipalities through the COVID-19 pandemic.[31] But it's important to reiterate that water privatization is not a panacea to the financial crises many water systems are facing. Water privatization deals have been marked by declines in service quality, declines in the quality and safety of the water, service disruptions, declines in water conservation efforts, and other critical measures of quality. Many decisions that private water companies make to reduce operating costs are not due to increased efficiencies, but instead are reductions of inputs that can seriously impact and, in the case of struggling systems, further damage water quality and other important system outcomes. An academic meta-analysis of studies on water privatization shows that not only do water privatization schemes fail to produce cost savings for the government, but privately-run water systems come at the "expense of service quality as [the corporation that runs the system] seek[s] to enhance profit."[32]

Workforce is another component that water companies may reduce to lower operating costs. Especially as localities and water systems are dealing with the budgetary distress and uncertainty brought about by the pandemic, water corporations peddle privatization as a way to reduce expenses. However, reductions in operating costs are often at the expense of workers who run the system. In many cases, the workers in the system are also

members of the community who rely on the water system to meet their water needs. A 2009 study by Food and Water Watch examined ten water and wastewater privatization deals and found that corporate takeover led to, on average, a job loss of 34 percent.[33] A smaller workforce frequently leads to service problems and low employee morale.[34]

NEW YORK CITY, NEW YORK

In 2011, Veolia began operating New York City's 14 wastewater treatments plants. To save operating costs, Veolia reduced the number of skilled sewage treatment workers by 120, or 20 percent of the workforce. These workers routinely test the water to ensure it meets federal standards and are certified to handle dangerous chemicals used to treat wastewater. Veolia also stopped using the agency's systems and safety protocols, which utilized a buddy-system, when equipment or systems needed repair. The president of the Sewage Treatment and Senior Sewage Treatment Workers Local 1320, which represents workers who operate the wastewater treatment plants, explained that "Deep staff cuts have [the agency] running a bare-bones operation that jeopardizes workers' safety and the environment."[35] In 2016, the city chose not to renew its contract with Veolia.[36]

Importantly, privatization of water systems often leads to even greater affordability challenges to residents. A Michigan State University study notes that privatization of water systems could increase water rates: "Prices could go higher if cities look to private providers for water services, who have a tendency to charge higher rates than public providers."[37] This price increase was also documented in a 2015 study by Food and Water Watch, which surveyed the country's 500 largest water systems and found that, on average, private, for-profit utilities charged typical households 59 percent more than local governments charged for drinking water service.[38]

It's important to note that while some level of rate increase may be necessary to help offset the costs of important capital improvements and repairs, private corporations, by the nature of their for-profit business model, must also account for profits and higher costs of capital in their rate increase decisions. This is financial extraction from the water system for corporate gain, at the expense of residents. Moreover, private corporations may be less willing to implement meaningful water affordability programs for residents, such as the Philadelphia program discussed in *Section 3*. They may also have greater incentive to more harshly penalize payment delays or implement policies such as shutoff moratoriums because these may cut into their bottom line. In fact, recent research that analyzed 2015 data from almost 1,900 water systems found that municipalities that own their water utilities are more likely than private water utilities to report policies to protect low-income residents from disconnection and implement water resource management.[39]

Impacts on communities of color

The serious problems of crumbling water infrastructure, water safety, and rate unaffordability discussed above loom large in many communities. However, the most severe impacts often fall on low-income communities and communities of color due to historic underinvestment in these areas.[40] While there is an urgent need for water facility upgrades across the country, many of the systems with the most pressing need for investment serve marginalized, low-income communities.[41]

For some communities, there is little to no access to water and sanitation systems. This basic public good remains out of reach for some of the most vulnerable, including communities of color, lower-income people in rural areas, and tribal communities. Recent research by US Water Alliance and DigDeep found that race is the strongest predictor of water and sanitation access, and more than two million Americans lack access to running water, indoor plumbing, or wastewater service.[42] These critical infrastructure needs that disproportionately impact communities of color are related to persistent historical and systemic racism. As described in a recent NAACP Legal Defense Fund report, communities of color disproportionately lack access to adequate water and sanitation, in part due to racial residential segregation and discriminatory practices embedded in past water infrastructure development initiatives.[43]

Failing infrastructure means that communities of color are also vulnerable to serious health risks due to unsafe water. Recent research from NRDC, Coming Clean, and the Environmental Justice Health Alliance analyzed violations of the Safe Drinking Water Act that occurred from 2016 to 2019 and found that water systems notorious for being serial violators were 40 percent more likely to be found in communities with higher percentages of people of color.[44] Small systems, which commonly struggle with underfunding and aging infrastructure,[45] are more likely than larger systems to serve low-income, disadvantaged communities, and were responsible for more than 80 percent of all violations.[46] The 2017 study, "Class, Race, Ethnicity, and Justice in Safe Water Compliance," has similar findings. As Manuel Teodoro, a Texas A&M University professor and the co-author of the report explains, "The probability of drinking water violations is significantly greater in communities that are both poor and nonwhite."[47]

As the NACCP Legal Defense Fund report explains, "The current water affordability crisis is impacting Black communities [and they] identify failing infrastructure as the biggest contributing factor to rising costs."[48] Fixing failing water infrastructure is expensive and, as discussed above, with dwindling federal support the burden falls on localities to fill in the gaps. This burden falls particularly hard on rural areas, tribal communities, and low-income areas, especially communities of color, since residents are often unable to absorb additional rate increases.[49]

The affordability crisis can have long-lasting economic impacts on communities of color. Water systems that serve lower-income communities of color are especially vulnerable to

unaffordable rates and rate hikes, and these residents disproportionately face threats such as service shutoffs, water liens, evictions, or foreclosure of their homes.[50] For example, a 2019 investigation of the six largest cities in the Great Lakes region found that water shutoffs were disproportionately concentrated in poor areas and in majority Black and Latino neighborhoods.[51]

These types of punitive measures can have short- and long-term impacts on individuals, families, and the broader community. Water shutoffs threaten the immediate health of the household. In 21 states, children can be taken from their parents if the home has no running water.[52] The inability to pay water bills can also threaten an individual or family's housing. In some jurisdictions, an unpaid water bill of just a few hundred dollars can lead to a lien placed on the home. When a family cannot afford to pay off the lien, including the accompanying high penalties and interest, they can face eviction or foreclosure, or both, even if the home mortgage is fully paid off. Widespread water shutoffs in a community can lead to abandoned homes and devastated neighborhoods. For example, a study from We the People of Detroit found that water shutoffs were contributing to the dismantling of African-American neighborhoods in Detroit.[53]

SECTION 2: THESE DYNAMICS IN ACTION: CASE STUDIES

Atlanta, Georgia

One important cautionary tale is the 1999 privatization of Atlanta's water system. The city signed an agreement with United Water to operate and maintain the city's water system. However, the contract fell apart only four years later with both the city and the company unhappy with the results. Upon taking over the system, United Water slashed the number of employees almost by 50 percent, from more than 700 to just over 300, and decreased the amount of training provided to remaining employees.[54] Service quality declined as the system became inundated with frequent breakdowns, including a decline of water quality where water turned a rusty brown color,[55] an epidemic of water-main breaks, and occasional "boil only" alerts.[56] The number of work orders and maintenance requests significantly increased in most parts of the system and the company failed to respond to these problems in a timely manner.[57] In turn, the company complained that the system was in further disrepair than they originally understood and that it lost at least $10 million annually. In 2003, both parties walked away from the contract and the city returned to public ownership and operation of the system.[58]

Baltimore, Maryland

Baltimore's water affordability woes demonstrate how residents' water rates cannot be the sole source of funding for dealing with aging water systems that are in need to repair. Many parts of the city's water and wastewater systems need to be replaced and/or repaired. The city has also been operating under an EPA consent decree related to illegal discharges of its wastewater system related to its aging infrastructure, which has also been costly to cure.[59] These large capital costs have put upward pressure on the city's water rates. From 2010 to 2018, water rates in Baltimore increased by 127 percent.[60] In January 2019, the city approved additional rate increases of 30 percent annually for the subsequent three years. This means that rates will have tripled between 2010 and 2022, with the average customer's annual water bill expected to cost $1,115. These rate increases have been unaffordable to many Baltimore residents. In 2016, 15 percent of residential households were behind on their water bills. This water affordability crisis has fallen disproportionately on Black residents. The recent NAACP Legal Defense Fund report calculated that in 2019, water bills will exceed two percent (used as the water bill affordability benchmark) of Black median income in 118 of 200 census tracts. Sixty five percent of the Black population in Baltimore lives in these census tracts.[61]

As water rates have skyrocketed in recent years, the city has aggressively pursued delinquent water accounts, subjecting thousands of households to water shutoffs. Additionally, thousands of households have even lost homes through the sale of tax liens as a result of failing to pay their water bill.[62] However, in 2019, Maryland passed the Water Protection Act, which prohibits the practice of selling tax liens based solely on water or sewer debt.[63] Also in 2019, the Baltimore Department of Public Works received approval to establish a low-income water affordability program, which will reduce water and wastewater charges for low-income residents.[64]

Given the state of Baltimore's aging water system, the city has long been a target by corporations eyeing to take over its water system. In 2018, the water privatization company Suez attempted to lobby Baltimore leaders to hand over the city's water system in a long-term lease concession agreement. Suez planned to partner with Wall Street private equity firm KKR in the deal.[65] In late 2018, Baltimore residents decisively rejected privatization and became the first U.S. city to amend its charter to prohibit water privatization, with 77 percent of voters approving the charter amendment.[66] Voters strongly signaled that they want to truly fix the city's crumbling water infrastructure rather than use the smoke and mirrors of privatization.

While corporate control of the system is not the answer to Baltimore's water problems, using residents, many of which are vulnerable, as the main financial valve for paying for critical and costly repairs and replacements is not a viable solution. Water is essential to a healthy Baltimore, and as we discuss in the recommendations section, the federal government must help pay for this essential public good so that everyone has access to clean, safe, and affordable water.

Flint, Michigan

In 2014, the city of Flint, temporarily switched its water source from the Detroit Water and Sewerage Department to the highly corrosive Flint River (where for decades, industries have dumped treated and untreated waste) while it constructed a pipeline to connect to the Karegnondi Water Authority. Despite its high corrosivity, officials decided not the use anticorrosive measures to treat the Flint River water. During this time, the city faced a large financial deficit and had been under state emergency management since 2011. An emergency manager appointed by Michigan governor Rick Snyder oversaw city decisions with an eye towards cost cutting, including decisions about the water system.[67] Shortly after the water source switch to the Flint River, residents began complaining of water that looked, smelled, and tasted contaminated. Residents regularly reported getting very sick and developing severe skin rashes, hair loss, and itchy skin.

The following year, researchers at Virginia Tech found that citywide lead levels had spiked, with nearly 17 percent of samples above the EPA action level and 40 percent of samples containing lower, but still dangerous, amounts of lead. Flint pediatrician Dr. Mona Hanna-Attisha found that the incidence of elevated blood-lead levels in Flint children had nearly doubled since 2014 and nearly tripled in certain neighborhoods. In addition to lead leaching from pipes, which caused numerous cases of lead poisoning, other dangerous problems with the water surfaced, and consequently 12 Flint residents died of Legionnaires' disease between 2014 and 2015.

In 2015, the water corporation Veolia was hired to improve water quality. In March 2015, Veolia submitted a water quality report to Flint that found that "the water is considered to meet drinking water requirements" but recommended increasing the amount of a specific chemical to the water to address the discoloration. However, the chemical only added to the corrosion problem. A lawsuit against Veolia by the Michigan attorney general stated, "The treated water became significantly and dangerously more acidic after and due to defendants' direction to add more ferric chloride," and "as a direct result, the Flint water crisis continued and worsened."[68]

Even though the water was toxic and harming the community, residents continued to be billed at what in 2015 was the highest rate for water in the country, three times the rate of what nearby Detroit residents paid,[69] even though 45 percent of residents live below the poverty line.[70] Many residents with overdue balances had their water shutoff and some residents received tax liens against their homes.[71] In August 2015, a circuit court judge ruled that the city could not enforce the 35 percent water rate hike imposed in 2011, as well as other fees. The ruling also blocked the city from shutting off water and enforcing liens on homeowners with delinquent accounts.[72] Finally, in 2017, after residents campaigned to stop the unjust practice, the city council suspended efforts to force thousands of residents to pay unpaid water bills by imposing tax liens.[73]

In January 2016, two years after the crisis began, the federal government declared Flint's water crisis an emergency. In November 2016, a federal judge ordered that the city and state provide door-to-door delivery of bottled water to every home without a proper faucet filter.[74] In March 2017, a legal settlement required the city to replace thousands of lead pipes with funding from the state, among other provisions including funding for water testing, filter instillations, continued delivery of bottled water, and health programs for residents.[75] This was considered a major step forward in the fight to remedy Flint's water system. Lead in the water is now mostly below federal limits.[76] In spring 2020, about 85 percent of pipes had been replaced, however residents still were cautious about the water.[77]

The Michigan Civil Rights Commission, a state-established body, studied the water crisis and concluded that the failed response was a "result of systemic racism."[78] In a city where the majority or residents are Black and almost half live below the poverty line, vulnerable residents needed quick action to ensure the safety of their water. Instead, 12,000 children were exposed to dangerous levels of lead.[79] As the report details, had the focus of the emergency manager not been solely focused on cost cutting, and instead focused on the "financial health of the city and the welfare of its residents," as well as on allowing for true community involvement, the crisis may have been mitigated. The report also shows that the Flint crisis was the result of environmental injustice and lamented that the state did not have an environmental justice plan in place, which may have also contributed to a better outcome.[80] As the NAACP explained in a 2016 statement, "Would more have been done, and at a much faster pace, if nearly 40 percent of Flint residents were not living below the poverty line? The answer is unequivocally yes."[81]

Pittsburgh, Pennsylvania

While not as publicized as Flint's crisis, Pittsburgh has also suffered a crisis of lead contamination in residents' drinking water. Lack of investment in Pittsburgh's aging water pipe infrastructure allowed its lead pipes to erode. From 2012 to 2015, the city hired the corporation Veolia to manage the city's water system operations, which sped up the crisis. Veolia switched the chemical used to prevent lead contamination to a cheaper alternative, without the required state approval.[82] Moreover, the company also reduced the staff responsible for testing water quality by half.[83] These changes led to a spike in lead levels, and in 2016, tests of the city's water showed the lead concentration had surpassed federal standards. Seventeen percent of homes had levels above the EPA's action level.[84] That same year, the city sued Veolia claiming that the company "grossly mismanaged PWSA's [Pittsburgh Water and Sewer Authority's] operations, abused its positions of special trust and confidence, and misled and deceived PWSA as part of its efforts to maximize profits for itself to the unfair detriment of PWSA and its customers."[85]

While the water became increasingly dangerous to drink, water rates increased. In 2013, a year after Veolia was hired, the water board approved a 20 percent rate increase over four

years. In addition to water rates that by 2017 were three times the amount of the Midwest-region's average water bill, the company's meter readings were often unreliable and inaccurate.[86] A group of customers filed a class-action lawsuit against the company, alleging that it "catastrophically failed and customers have received grossly inaccurate and at times outrageously high bills."[87] Some customer's bills were so inaccurate that they included water bill charges that increased by nearly 600 percent. Unfortunately, these billing inaccuracies led to water shutoffs for customers who didn't pay the exorbitant charges.[88]

In 2016, the city had resumed operation of the water system and the following year the city's lawsuit against Veolia was dropped.[89] As the city tried to deal with the serious issues plaguing the system, it was approached in 2018 by the Pittsburgh-based utility Peoples Gas about entering into a public-private partnership (P3) to take over the water system as a solution.[90] In 2019, Aqua America (now known as Essential Utilities), a large water privatization corporation, bought Peoples Gas, in what many believed was a tactic to take out the competitor and take over the Pittsburgh water system.[91] A coalition of organizations led by Pittsburgh United was pushing for leadership from PWSA on green infrastructure. In response to the lead crisis and subsequent overtures by Peoples Gas, the Our Water coalition expanded its focus and its base to include fighting for safe, affordable, public water.[92] This coalition was successful in educating the community and policymakers about the dangers of water privatization.[93] In June 2019, the Our Water Campaign secured a public commitment from the mayor of Pittsburgh who then denounced privatization of the water authority.[94]

In 2018, the Pittsburgh Water and Sewer Authority [PWSA] was placed under the oversight of the Pennsylvania Public Utility Commission to come into compliance on the issues discussed above. There have been a series of litigated proceedings, which have resulted in a number of important legal settlements aimed at improving Pittsburgh's water system. In February 2019, a coalition of community organizations and advocates, including Pittsburgh United represented by the Pennsylvania Utility Law Project and the Natural Resources Defense Council, secured a legal settlement that requires PWSA to spend nearly $50 million to address the high levels of lead in drinking water. The settlement ensured that the water authority's replacement of full lead service lines prioritized areas where there are high blood lead levels in children. Additionally, the settlement required the water authority to provide free water filters to all low-income customers who live at properties with lead service lines (although this requirement is no longer in effect), requires an increase in the discount that low-income customers receive on their bill, and establishes two community advisory committees to ensure that residents have a voice in the future of the system, among several other provisions.[95] One community organizer who worked on this settlement agreement reiterated the importance of the city keeping the system public: "I think public accountability and public oversight really meant that PWSA was able to take some of these steps in a way that I think a private utility might not have."[96]

A subsequent settlement signed in March 2020 requires the city to have all lead lines replaced by 2026.[97] Recent compliance monitoring conducted between January and June 2020 showed that lead levels did not exceed the federal standard, after several exceedances of that standard dating back to 2016. The water authority is crediting a new water treatment process and the replacement of lead lines.[98] The PWSA also entered into a separate settlement agreement in December 2020, which limited rate increases for residents, increased access to water affordability programs for low-income residents, and extended important (and first of its kind) Covid-19 protections that advocates previously won to better ensure that residents have access to water during the health crisis, including an increase in the winter shut-off moratorium to 300% of the federal poverty guidelines.[99]

SECTION 3: RECOMMENDATIONS

We believe that investing in American water infrastructure can play a unique role in rebuilding faith in public institutions and public solutions for our common needs. There is perhaps no more fundamental necessity than access to clean and safe water. The ways that our water systems are funded, how they deliver water, and who has access to that water should reflect the fact that water is a truly public good. Given the dismal state of water infrastructure in need of repair and replacement, the water affordability crisis that plagues many systems, and the important need for water to be democratically controlled and available to all, we include in this section a number of important policy recommendations for municipalities, states, and the federal government.

Increase federal investment in our local water systems, with an urgent emphasis towards systems in vulnerable communities.

Localities and their residents cannot shoulder the majority of costs of water and wastewater systems, including, in many cases, large capital expenses associated with long-deferred maintenance. Federal investment in our water systems will not only help fix the huge infrastructure gap needed to ensure the delivery of safe and clean water, but it also makes economic sense. The Value for Water campaign estimates that if the water investment gap were closed, it would result in over $220 billion in total annual economic activity to the country. These investments would generate and sustain approximately 1.3 million jobs over the ten-year period.[100]

Currently, there is federal legislation that addresses the issue of federal investment – the Water, Affordability, Transparency, Equity and Reliability (WATER) Act. The passage of the WATER Act would go a long way toward helping communities repair and upgrade water infrastructure, replace dangerous lead pipes, and ensure affordable water. To restore the federal government's commitment to safe water, the WATER Act would dedicate $35

billion each year to grant programs and to the Drinking Water and Clean Water State Revolving Fund (SRF) programs. This would be paid for through the roll back of a small portion of the Trump administration's corporate tax cuts. No less than half the SRF funding would be given as grants and other types of subsidization to disadvantaged communities, ensuring that these water systems are able to keep water rates affordable. Also, the bill would expand a grant program to replace all lead piping and plumbing in public schools and provide grants to homeowners to replace lead service lines on their property. The WATER includes provisions to help address PFASs contamination, help small, rural, and Indigenous communities, help prevent future water shutoffs, and more. For more information about this bill and why to support it, see Food and Water Watch's fact sheet: foodandwaterwatch.org/sites/default/files/fs_1902_waterjobsjustice-wateractupd2-web.pdf

Policies must not incentivize privatization.

As we work to better invest in and repair America's water infrastructure, we must ensure that policies do not incentivize privatization. The only way that we can ensure that water is a public good is by keeping water systems in public democratically-accountable hands. It's important to note that the WATER Act described above incentivizes public control of water systems and helps ensure that public water systems can make critical improvements and upgrades without resorting to expensive and risky water privatization deals. Any federal legislation dealing with water infrastructure must not incentivize water privatization and corporate takeover of struggling systems. Unfortunately, some bills, such as the Voluntary Partnership for Distressed Water Systems Act, which was part of America's Water Infrastructure Act of 2020, contains incentives that could compel struggling water systems to enter into risky privatization schemes. We strongly believe that if any federal funding and programs related to water infrastructure are to make real progress towards closing the infrastructure gap, while keeping water affordable, equitable, and safe, keeping water systems public is the only sustainable and democratic way to achieve this goal.

Create good jobs, including job programs to provide opportunities for vulnerable populations.

Currently, America's water workforce is facing a "silver tsunami"—an aging workforce that is expected to produce a large wave of retirements in the next ten years. This challenge may also be an opportunity to create jobs programs and pipelines for new workers, especially women and people of color. Jobs in the water sector tend of be high-quality, provide living wages, have lower educational barriers to entry, and provide workers with important and transferable skills.[101] Currently, the water workforce is predominantly male and less diverse than other sectors, with Black and Asian workers only comprising 11.5 percent of the water workforce, compared to 18 percent of those employed in all occupations nationally.[102] These current demographics point to a need for a younger and more diverse workforce who can fill positions left behind by those who are retiring.

Some jurisdictions are creating innovative programs to fill the pipeline for jobs in the water sector. For example, the San Francisco Public Utility Commission (SFPUC) has created a long-term youth engagement program to help fill future critical workforce gaps and ensure that young workers from vulnerable communities have access to family-sustaining jobs. This "Kinder-to-Career" program helps local youth better understand the vital role that the public utility plays in the community, while also exposing them to the field and preparing interested students for those careers. The SFPUC partners with John O'Connell High School, a public school in San Francisco where 60 percent of students qualify for free or reduced-price lunch. The SFPUC provides the school with grant funds to support teachers in providing project-based learning curricula focused on integrating learning about issues and concepts related to the water utility and exposure to water utility careers into their lesson plans. In each grade, these high school students are exposed to important projects and work-related learning, including a trip to the Hetch Hetchy Reservoir, where they see first-hand the source of 85 percent of San Francisco's drinking water, and visits to SFPUC plants and facilities to augment their classroom learning. At the senior-level, students are eligible to receive weekly hands-on training at one of SFPUC's plants or facilities where they shadow different departments and develop in-depth knowledge of the public water sector. This program has successfully built excitement about and awareness of utility careers for students at John O'Connell High School.[103]

Localities should implement effective affordability programs.

While the WATER Act is structured to help localities keep water rates affordable, local water systems can also ensure that vulnerable residents are able to afford their water bill and protect against water shutoffs, tax liens, and foreclosure proceedings. One example of a good water affordability program is the Philadelphia Tiered Assistance Program, which the Pennsylvania city implemented in 2017. This program overhauled a previous program, which simply allowed residents living 250 percent below the federal poverty line to apply to receive $200 per year for water bills and $300 for past due balances. Unfortunately, this approach did not alleviate the affordability problem, and between April 2012 and January 2018, unpaid bills and water debt affected over 40 percent of Philadelphia households. Twenty percent of all household accounts, 86,000 customers, experienced at least one shutoff,[104] including a disproportionate number of Black and Latino households.[105]

The new program takes a different approach by capping low-income residents' water bills at a percentage of their income, depending on their income level. Specifically, the city caps water bills at two percent of monthly income for residents earning less than 50 percent of the federal poverty level, 2.5 percent for residents earning between 51 and 100 percent, and at three percent for residents earning between 101 and 150. The program also allows participants reprieve from paying down their outstanding balances while in the program. Participants are eligible to have their balance forgiven after paying their bill on time over a two-year period.

While Philadelphia is the first city in the county to implement such as program for water service, electric and gas utilities have used these types of programs for many years with good results. In fact, utilities have typically increased revenue under this type of program, as they are able to increase the number of households paying into the system and reduce both collection and shutoff costs. Many households that participate in these types of programs have zero or significantly reduced debt.[106]

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