

# Water Infrastructure and Resiliency

## Industry Report and Investment Case

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### Water Industry Overview

Whether it's used to manufacture pharmaceuticals or to brew your morning cup of coffee, water is a vital resource. While 332,500,000 cubic miles of water exist on Earth, a mere 4% is freshwater – and only about 0.9% of that exists as surface water. So, with the world's population at 7.8 billion people and counting, there is less freshwater for each of us. The OECD predicts that by 2050 freshwater use will rise 55%, leaving 40% of the global population in water-stressed regions. Industries and individuals alike must do more with less.

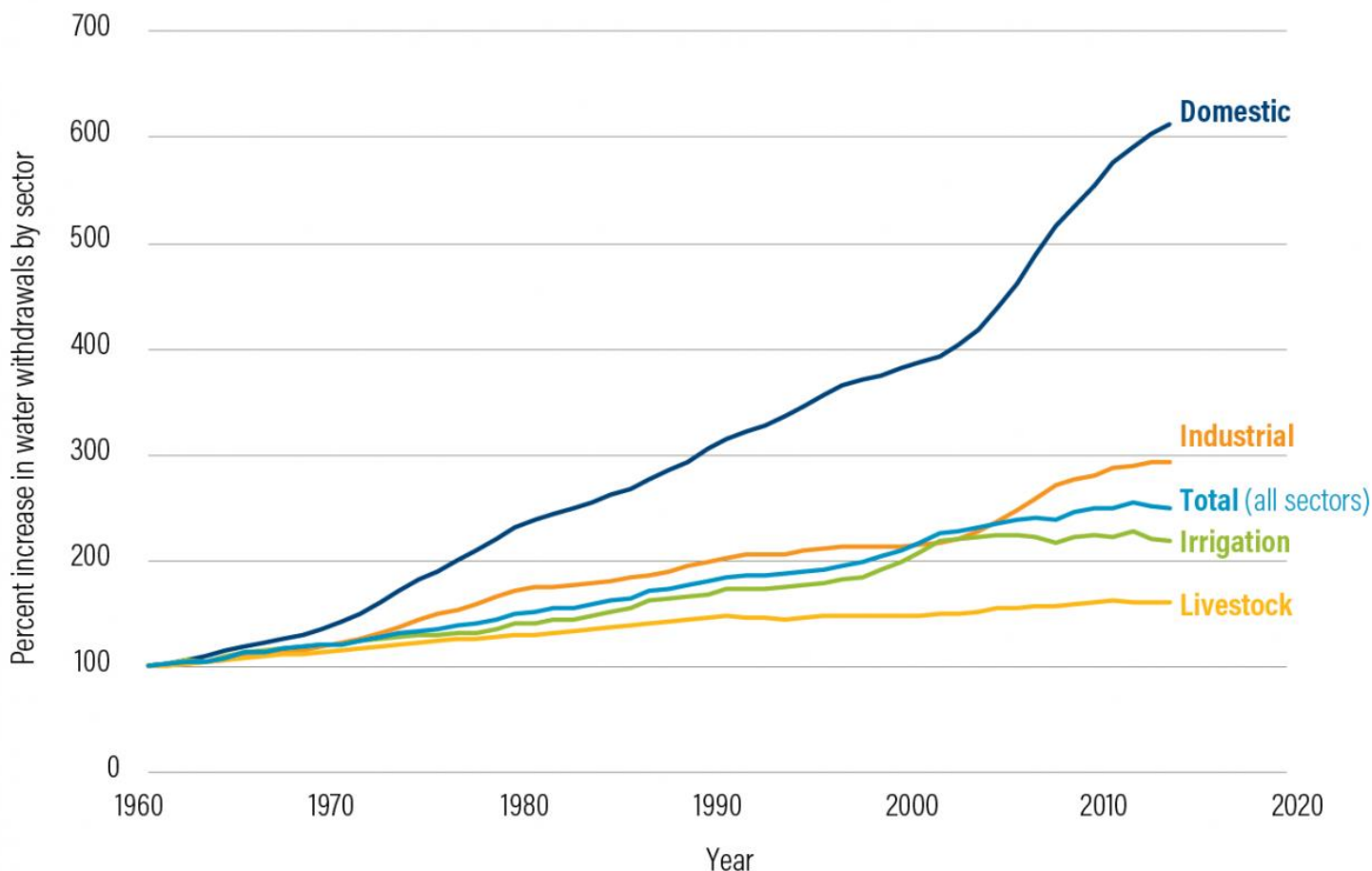
The global water market is attractive for two main reasons: reliability and opportunity. Due to its essential nature, the demand for water remains consistent despite fluctuations in the economy. Additionally, the rate base nature of utilities allows for a lower cost of capital, resulting in higher yields on investments. While providing reliable returns, the water industry is also poised for a revolution. Many clean technology companies are unveiling new solutions to conserve, treat, and capture water from unprecedented sources. These new technologies, coupled with the strong infrastructure market, will ensure stable market growth as this stressed resource continues to flow into every home and industry.

### The Essential Nature of Water

The availability of freshwater is increasingly in doubt, due to the triple threat of population growth, climate change (with increasing droughts and other impacts from changes in global weather patterns), and water resource contamination from industrial processes. Economically productive areas that have been able to rely on a consistent source, like California's avocado groves, are now facing severe restrictions. To ensure that less water is wasted, many sectors are increasing investment in conservation. 78% of North American utilities have implemented mandatory water restrictions in at least one year over the past 10 years. Despite such declines in total water use, growing global populations will continue to drive up the demand. According to the World Resources Institute, domestic (residential) use is the fastest growing sector, rising more than 600% between 1960 and 2015. While population growth drives residential use, economic development will continue to bolster industrial demand, particularly in developing nations. Many sectors rely on large volumes of water, as the production of metals, wood, food/agriculture, textiles, as well as electricity, are water-intensive processes.

## Water withdrawal growth by sector, 1960-2015

Domestic water withdrawals increased more than 600% since the 1960s



Source: Authors.

20.2.10



Source: World Resources Institute, 2020

Utilities can rely on steady or rising demand for decades to come. At the same time, many utilities must make pricey investments to ensure the reliability of treatment and distribution systems. In the U.S., municipal utilities, which have been cash-strapped for decades, now seek external solutions to their funding woes. One outcome of the COVID-19 pandemic was a jump in the acquisition of municipal water utilities by the private sector, including the \$276.5 million acquisition of Delaware County Regional Water

Quality Control Authority (DELCORA) by Essential Utilities. The introduction of fair market value legislation in 13 U.S. states also drove down the purchase price of these municipal utilities during the economic downturn, providing higher return on private investments. With more investments from the private sector, utilities were better able to ride through the pandemic and keep the taps flowing.

## Day Zero

To many, the idea of running out of water seems unthinkable and abstract. For an increasing number of people globally, however, this reality is evaporating. In January 2018, Cape Town, South Africa became the world's first city to announce it was three months away from running out of municipal water. April 12, 2018, was dubbed 'Day Zero.' As another unbearably dry summer and fall progressed, Cape Town saw thousands of residents lining up to collect water from local springs as they waited in the blazing sun. Cape Town managed to avoid running out of water entirely, but Day Zero serves as a testament to the global need for technical solutions to curb consumption in drought-prone areas. More cities around the world must now plan for such events. According to the U.N., 31 countries experience water stress (defined as the ratio of annual water withdrawn from sources to that year's available freshwater resources, as a percentage) between 25 and 70%, and another 22 countries exceed 70%. Water stress, population growth, pollution, and other factors can lead to the taps running dry. The table below depicts risk factors for 12 major global cities that may face a potential Day Zero in the years to come. The list was compiled from various sources and is not comprehensive. Overall water risk comes from the World Resource Institute's Aqueduct tool, which combines multiple metrics to assess the overall risk of running out of potable water.

### Day Zero Cities Watchlist

City	Overall Water Risk	Population (City, 2021)	Population Growth (Country, 2020)	Saltwater Intrusion Risk (City, 2021)	% of Connected Wastewater that is Untreated (Region, 2021)
<b>Bangalore, India</b>	Extremely High	12,764,935	1.0%	No	100%
<b>Beijing, China</b>	Extremely High	20,896,820	0.3%	No	90-100%
<b>Cairo, Egypt</b>	High	21,322,750	1.9%	No	60-90%
<b>Cape Town, South Africa</b>	Extremely High	4,709,990	1.3%	Yes	60-90%
<b>Chennai, India</b>	Extremely High	11,235,018	1.0%	Yes	100%
<b>Istanbul, Turkey</b>	Extremely High	15,415,197	1.1%	Yes	60-90%
<b>Jakarta, Indonesia</b>	High	10,915,364	1.1%	Yes	Low/No Collection
<b>Los Angeles, California</b>	Extremely High	4,085,014	0.4%	Yes	<30%
<b>Melbourne, Australia</b>	High	5,061,439	1.3%	Yes	<30%
<b>Mexico City, Mexico</b>	Extremely High	21,918,936	1.1%	No	30-60%
<b>Phoenix, Arizona</b>	Extremely High	1,733,630	0.4%	No	<30%
<b>Sao Paulo, Brazil</b>	High	22,237,472	0.7%	No	60-90%

Sources: BBC, US News, World Resources Institute, World Bank, United Nations Food and Agriculture Organization, and World Population Review

In addition to regional stresses, the distribution of water rights by sector is in flux. In Klamath Falls, Oregon, a major irrigation canal to the agricultural sector was shut off in 2021 to protect endangered species of fish. Heated arguments over water rights erupted across the state – as they have in California and other Western states for decades – and the situation is ongoing. To prevent the tap running dry for water-stressed cities or entire industries, the water market will need investment in infrastructure and new, innovative technologies alike.

## Emerging Trends & Tech Opportunities

As noted throughout the report, there are many opportunities for growth in the water market. Several trends and technologies that will highlight this growth include:

- **Water Reuse**, including “toilet-to-tap” and greywater systems, is becoming more popular in many water-stressed regions. El Paso, Texas faces extreme drought as the amount of incoming water in the Rio Grande has fallen by 25% since 1958. To diversify its water portfolio, a toilet-to-tap wastewater reuse plant was started in 2018. Another major innovation in this arena is Singapore’s NEWater plants, which treat wastewater to drinking water standards through a series of membrane filters and UV disinfection. The five existing plants produce up to 40% of the nation’s current water supply, and this percentage is projected to grow to 55% by 2060.
- **Nutrient Recapture** is another emerging trend in the wastewater treatment industry. Due to fertilizer runoff from farms and other anthropogenic sources, high levels of nitrogen and phosphorus enter wastewater treatment plants. If left untreated, these nutrients cause potential algal blooms and the death of marine life, as well as rendering municipal water supplies undrinkable. There is an economic incentive for capturing nutrients, too – as the global supply of mineable phosphorus falls, treatment plants can sell these valuable elements.
- **Agricultural Irrigation Monitoring and Remote Metering** can reduce water waste in the world’s food production. Agriculture currently accounts for an average of 70% of global freshwater consumption annually. As water demand rises in other sectors (due to population growth and economic development), agriculture will have to cut back. The major losses that occur through evaporation and runoff in traditional irrigation can be greatly reduced through smart irrigation technologies and remote monitoring. Pinduoduo, a Chinese agri-tech firm, organized a four-month strawberry growing competition between data scientists and traditional farmers in 2020. The data scientists’ automated process produced 196% more strawberries by weight while using fewer inputs, resulting in 75.5% higher return on investment. Around the world, companies are experimenting with controlled agriculture as a way to maximize yield and dramatically reduce water usage.
- **Water Capture from Alternative Sources** is becoming necessary as rivers, lakes, and reservoirs begin to run dry. Desalination is increasingly common, particularly in coastal and desert regions. Saudi Arabia has one of the largest desalination plants in the world with its 1.05 million cubic meters-per-day plant at Ras al Khair. Earlier this year, the Saline Water Conversion Corporation began qualifying potential investors for the first privatization of a Saudi desalination facility, estimated to be worth \$3.5 billion. Saltwater isn’t the only alternative source of water, though – other methods to capture water include fog collectors, which condense the humidity in air and reduce reliance on precipitation.

## Challenges Facing the Water Industry

While many new technologies provide great opportunity in this sector, several key challenges remain to be solved. The top challenges facing the water industry include:

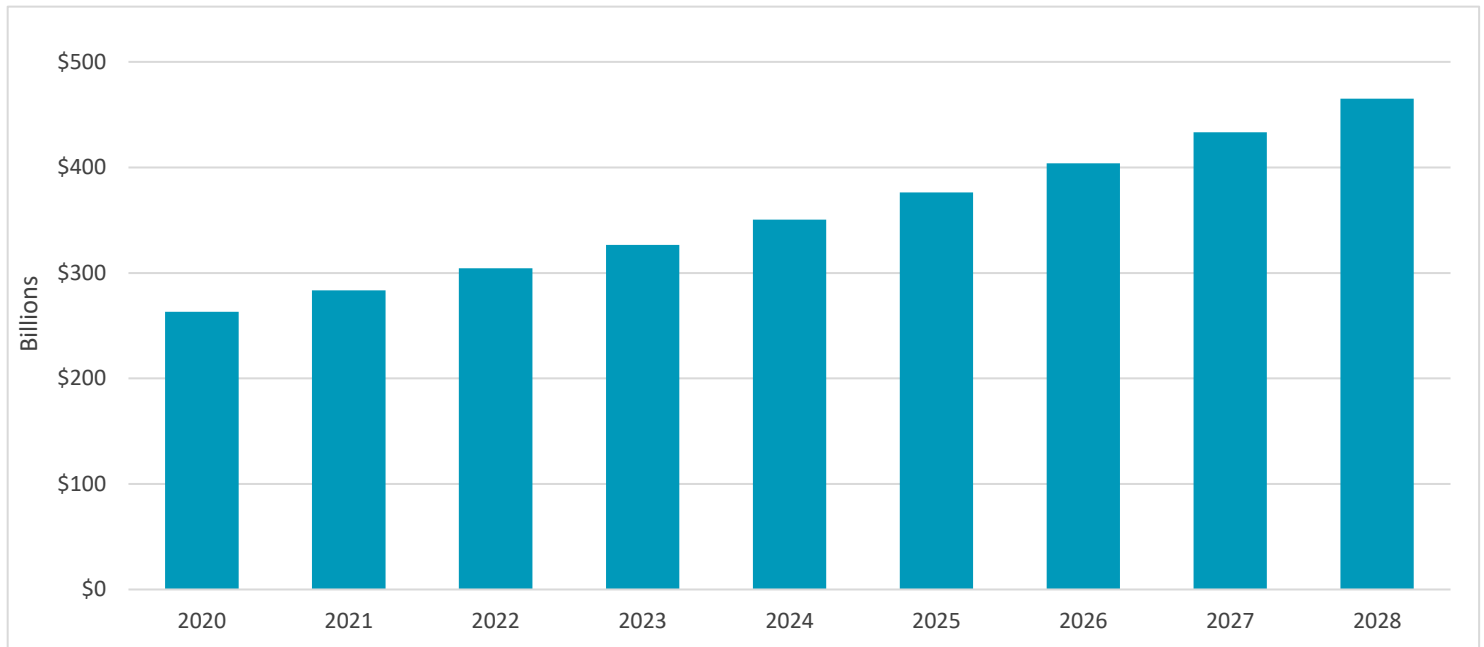
- **Leak Management:** A major issue for aging water infrastructure is water lost via leakage. At least 6 billion gallons of water are lost to aging, leaky pipes every day in the U.S. alone – a stunning 14% of daily consumption. A growing number of companies are working to address the issue, utilizing increased data from smart meters to identify leaks and tighten distribution infrastructure.
- **Lack of Funding to Improve Infrastructure:** While many water utilities aim to be full-cost operations, covering all future investments with the revenue gained from utility services, most cannot afford these upgrades at the rates they currently charge. The American Water Works Association (AWWA), a nonprofit scientific and educational association dedicated to water quality and supply, presents an annual survey of North American water professionals in its State of the Water Industry

- report. To prepare for future expenditures, about two-thirds of utility respondents to the 2019 survey said they had intentions to raise water rates in the coming year. Sixteen percent of respondents also indicated they were considering a public-private partnership.
- **Artificially Low Pricing:** Water is still undervalued for its scarcity, according to the UN World Water Development Report 2021 *Valuing Water*. This has led to mismanagement of this scarce resource through pollution, waste, and artificially low pricing. With increased recognition of water's value over the past 50 years, this paradigm is beginning to shift. Evidence of this includes more stringent environmental regulations and consistent growth in the water market. Many utilities are raising rates as well, in efforts to encourage conservation and pay for infrastructure improvements.
- **Control of Contaminants:** Pollution is an ongoing issue worldwide, particularly for “emerging contaminants” like microplastics, pharmaceuticals and per- and poly-fluoryl alkates (PFAS). As industrial processes expand in many countries, water sources will become more contaminated, leading to stricter environmental regulation and enforcement of discharge standards. Industries and wastewater utilities alike must invest in advanced treatment solutions, like membrane filtration, to prevent pollution and avoid costly fees. Treatment solutions include biomimetic filtration membranes, which can be used to treat wastewater from industries as diverse as semiconductors and landfill operations.
- **Extreme Weather:** Industries that use large amounts of water are threatened by changing precipitation patterns. This is especially prevalent in agricultural regions. California, for example, is gripped by a severe two-year drought, leading to water use restrictions and wildfires. Droughts plague an estimated 55 million people worldwide, while extreme flood events are increasing in frequency. Extreme weather impacts both drinking water treatment, which cannot source water reliably in droughts, and wastewater treatment, which must deal with stormwater surges. In the 2020 AWWA State of the Water Industry report, extreme weather events topped the list of the most negatively impactful phenomena challenging utility risk and resilience. This issue will drive increased investment in developing alternative sources of water, as well as improvements to the reliability of existing distribution networks.

## Drivers of Growth

Growth in the water sector is multi-faceted and the driving factors vary by region. Larger cities and increased population mean urban water supplies will be stretched further. Rural areas face higher costs of distribution. Wet areas may face flooding and arid regions extreme drought. Infrastructure, though, is at the forefront of water industry discussions. Utilities must heavily invest over the next decade to replace degraded infrastructure and avoid disruptions in service. Despite lower-than-expected water demand from the industrial sector throughout COVID-19, optimism is high for a strong recovery that will kick water demand back up again. Many utilities are interested in automating their treatment systems, which can reduce costs and increase uptime of the system. Particularly, as treatment requirements become stricter and labor costs rise, utilities will invest in innovative systems to reduce long-term cost. As such, the treatment market is projected to grow steadily over the next decade. Fortune Business Insights, a market research consulting firm focused on disruptive technology markets, projects a 7.3% CAGR for the global water and wastewater treatment market through 2028, with the global market reaching \$465.23 billion. The U.S. market will lead this expansion, with investment coming from federal, state, and local government – as well as an increasingly large pool of private funds.

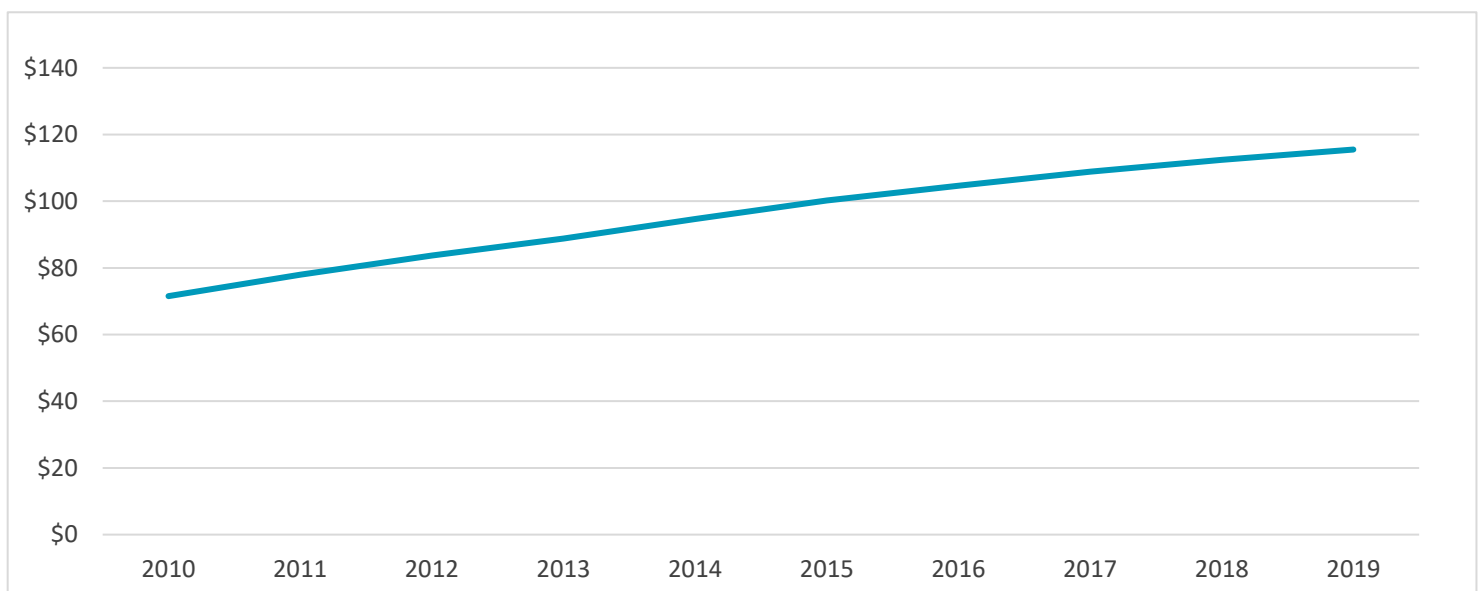
## Global Water and Wastewater Treatment Market Value, 2020-2028



Source: Fortune Business Insights

Scarcity will drive up the value of water as global population increases and freshwater supplies are stretched. Planning for emergency sources of clean water and improving the resilience of distribution networks will also drive up the price of water, continuing the trend from the last decade. The average price of water for a four-person household in the U.S. increased around 61% between 2010 and 2019, outpacing the Consumer Price Index by nearly four times.

## Monthly Cost of Water Averaged Across 30 U.S. Cities (600 GPD Use)



Source: Circle of Blue "2019 Price of Water"

Since the 1980s, global demand for water has been increasing by about 1% per year, due to economic expansion and population growth. This trend is expected to continue until at least 2050, when global water demand will be 20 to 30% higher than it is today. However, in many parts of the world, existing distribution networks are aging, leading to major losses through leaks, breaks, and contamination. Developing economies will require improved distribution and treatment, stoking a huge investment in the centralized infrastructure market. Decentralized solutions will likely become more common, too, creating additional opportunities for start-ups and innovative new technologies. These emerging technologies will enable collection of water from alternative sources, like fog or treated wastewater, and generally provide greater resilience.

## The Rise of Resilient Infrastructure

Global water infrastructure is in desperate need of repair and expansion, to improve the resiliency of water networks. The U.S. exemplifies the need for extensive upgrades and replacement of aging water treatment and distribution systems. Much of the nation's water distribution network was installed in the mid-20th century, with estimated lifetimes between 75 and 100 years. Large swaths of the nation's million-mile-long pipe network will need to be replaced in the next 25 years, and financing these updates is challenging. This is a growing concern among water industry professionals. In the 2020 AWWA State of the Water Industry report, the renewal and replacement of aging infrastructure has ranked as the number one issue facing North American water professionals for the past eight years, closely followed by the need to finance these improvements. In 2020, nearly 60% of respondents ranked both of these issues as critical.

### Top 10 Issues Facing the Water Industry, 2020 (n = 3,087)

2020 Ranking	Challenge	% Ranked as Critical
1	Renewal and replacement of aging water and wastewater infrastructure	59.2
2	Financing for capital improvements	55.2
3	Long-term water supply availability	49.6
4	Public understanding of the value of water systems and services	40.4
5	Watershed/source water protection	38.9
6	Public understanding of the value of water resources	34.4
7	Aging workforce/anticipated retirements	40.4
8	Emergency preparedness	31.4
9	Compliance with current regulations	29.7
10	Groundwater management and overuse	30.1

Source: American Water Works Association 2020 State of the Water Industry Report

The need to replace aging infrastructure will funnel money into this market, offering opportunities to improve resilience with technical updates like smart water meters and leak monitoring devices. Leaks are estimated to be responsible for 20 to 50% of water losses across North America. To abate this loss, customers and utilities alike are embracing innovative methods of conservation. Acoustic leak detection devices, for example, are designed to be used by utilities to locate leaks in the distribution lines. According to the 2018 EPA Drinking Water Infrastructure Needs Survey, 20-year projections of needed investments in the drinking water industry rose 86.3% between 1995 and 2015 and were last estimated at \$472.6 billion. In the 2020 State of the Water Industry survey, 70% of respondents said they were "very concerned" with financing renewal and replacement in their own facilities. Only 34.9% of North American utilities say they are "very able" or "fully able" to cover the full cost of providing services currently and in the future. This forces utilities to seek alternate sources of funding to update established infrastructure, including rate increases, bonds, and money from the federal Water Infrastructure Financing and Innovation Act (WIFIA) of 2014.



## Utility 2020 Funding Sources

Ranking	Utility Funding Sources	% Mentions
1	Rate increases	25
2	Bonds	18
3	Grants	14
4	Operational savings	13
4	Reserves	13
4	State Revolving Funds (SRFs)	13
5	Water Infrastructure Finance and Innovation Act (WIFIA)	4

Source: American Water Works Association, 2020

As utilities complete these major renovations and updates, many are considering ways to make their systems more efficient and resilient. According to the 2020 AWWA State of the Water Industry report, 69% of utilities have implemented or are in the process of developing a community risk and resilience assessment. This is leading many utilities to collect more granular data on their distribution networks. While analog metering is already common, shorter collection intervals and automated analysis of this data is necessary to properly manage distribution systems. Automated meter reading and advanced metering infrastructure (AMI) make more frequent data collection at more locations possible, allowing utilities to better pinpoint leaks in the system.

With more than 240,000 water main breaks each year in the U.S. alone, rapid response to leaks can save utilities thousands of dollars in wasted water. The smart water market ranked as the 9th most important issue for North American water and wastewater market growth in 2020.

Smart meter infrastructure can also allow utilities to recover more quickly after natural disasters. Following Hurricane Irma in 2017, the Provo Water utility in the Turks and Caicos Islands in the Caribbean was able to re-pressurize its system and start distributing water just four days after being knocked offline, thanks to data from its AMI system installed one year earlier.

The use of smart water management technologies also provides customers with information needed to implement more effective conservation strategies. The U.S. water market is responding to an influx of smart metering technologies. According to a 2020 report by Markets and Markets, a business-to-business research firm focused on emerging opportunities and threats, the U.S. will retain the largest share of the smart water management market, which is projected to grow to \$21.4 billion by 2024, followed by Asia, Europe, and the Middle East.

The smart water movement is about more than quantity, though – it's also about quality. With hundreds of potential water contaminants, collecting and sending samples for laboratory analyses can take days, leaving water utility plant operators unable to respond effectively to water quality changes. Water quality sensors allow for real-time monitoring and response to contamination. The 2014 crisis in Flint, Michigan, serves as a stark reminder of what can happen when utilities are slow to respond to water quality data. The city's drinking water supply was contaminated with lead from corroded pipes after a change in the source water. The slowness of the response left thousands of residents sipping dangerous amounts of lead. Crises like these highlight the need for data-driven solutions – the total number of lead service lines is still unknown, according to the U.S. Government Accountability Office. Increased public awareness of water quality issues will continue to push the treatment market toward digital technologies.



## Water and ESG

Water is a precious resource, and equitable distribution remains a challenge for the world. It's estimated that 2.2 billion people live without access to safely managed drinking water, 884 million of whom don't have basic drinking water services at all. In 2020, water scarcity and water crises topped the World Economic Forum's list of global risks, and water crises have appeared in the Forum's top five risks every year since 2010. Water scarcity is one of the most acute impacts of the climate crisis, with the potential to displace 700 million people by 2030. This will lead to increased political tensions around water, driving investment into new water sources and breakthrough technologies to treat, store, and distribute this critical resource efficiently. Innovative companies around the world are already investing in research and development.

The financial risks of not tackling water issues are high. In 2020, the nonprofit CDP Group estimated potential business value losses of \$301 billion if companies continue on a business-as-usual trajectory. However, the costs to address these issues were estimated at only \$55 billion, less than a fifth of the potential losses. Investors are taking note of this risk and driving conservation initiatives. Netherlands-based asset manager ACTIAM, for example, announced a goal to achieve a water-neutral investment portfolio by 2030. To keep the trust of water-focused investors, companies must now report water reduction goals.

A focus on innovation, resilience, and sustainability makes the water market strongly tied to Environmental, Social, and Governance (ESG) goals. ESG markets are growing at an astounding rate – global issuance of ESG-related bonds will hit \$1 trillion this year. Bloomberg predicts that by 2025, ESG assets under management could reach \$53 trillion, more than a third of the global total of all managed assets. These funds will increasingly target water neutrality in their portfolios. As ESG funds grow, so too will investments in the water market and scrutiny of companies who do not value the resource. Water is also favorable to ESG investors because it allows investment into infrastructure. Historical underfunding of infrastructure by the public sector has forced private infrastructure investment. By investing in resilient infrastructure and targeting strong ESG goals, investors are participating in a positive transition to public-private partnerships and greater capital availability for infrastructure projects.

Another stream of domestic funds could be the \$35 billion Drinking Water and Wastewater Infrastructure Act of 2021 included in the bipartisan infrastructure bill. This promises to boost state funds and finance the replacement of lead drinking water pipes nationwide. These sources of capital may finally shore up the deficit in water valuation and lead to more equitable distribution.

## How Can People Invest in Water?

The ISE Clean Edge Water™ Index (HHO™) is designed to track the performance of companies that derive a substantial portion of their revenues from the potable and wastewater industry. Industry exposure includes water distribution, infrastructure (pumps, pipes, and valves), water solutions (purification and filtration), and ancillary services such as consulting, construction, and metering.

To be eligible for inclusion in the Index, a security must meet the following criteria:

- The issuer of the security must derive a substantial portion of their revenues from the potable and wastewater industry, according to Clean Edge
- Be listed on the Nasdaq Stock Market, the New York Stock Exchange, NYSE American, or the CBOE Exchange
- Have a minimum worldwide market capitalization of \$100 million
- Have a minimum free float of 20%
- Have a minimum three-month average daily dollar trading volume (ADDTV) of \$500,000
- One security per issuer is permitted
- Have "seasoned" for at least three months on an index recognized market
- The issuer of the security may not have entered into a definitive agreement or other arrangement, which would likely result in the security no longer being Index eligible
- May not be issued by an issuer currently in bankruptcy proceedings

- The issuer of the security may not have annual financial statements with an audit opinion that is currently withdrawn

The Index is evaluated in March and September. The criteria are applied using market data as of the end of January and July. Securities meeting the criteria are included in the Index. Security additions and deletions are made effective after the close of trading on the third Friday in March and September.

As of July 31, 2021, the ISE Clean Edge Water Index (HHO) held 36 stocks and its industry exposure was heavily weighted in Industrials (57%), Utilities (24%) and Healthcare (9%) according to the ICB classification. The remaining three ICB industries were Basic Materials (4%), Technology (4%) and Consumer Goods (2%).

## Index breakdown

ICB INDUSTRY	WEIGHT (%)
Industrials	57
Utilities	24
Health Care	9
Basic Materials	4
Technology	4
Consumer Goods	2

Source: Nasdaq, July 31, 2021

The ISE Clean Edge Water Total Return™ Index (HHOTR™) has demonstrated long-term alpha generation through security selection. It was able to outperform the Nasdaq U.S. Benchmark Total Return™ Index (NQUSBT™), the Nasdaq US Benchmark Industrials Total Return™ Index (“Industrials”) and the Nasdaq US Benchmark Utilities Total Return™ Index (“Utilities”) industry indexes in all 1-, 3-, 5-, 7- and 10-year time horizons.

## Total Return Statistics

	HHOTR (%)	NQUSBT (%)	INDUSTRIALS (%)	UTILITIES (%)
<b>1Y</b>	50.2	39.2	43.2	14.0
<b>3Y</b>	21.2	17.9	16.1	11.3
<b>5Y</b>	20.1	17.3	16.8	9.0
<b>7Y</b>	16.7	14.5	14.5	10.9
<b>10Y</b>	16.3	15.2	15.2	11.3

Source: Nasdaq, July 31, 2011- July 31, 2021

The ISE Clean Edge Water Total Return Index (HHOTR) also shows a distinguished value proposition with low-to moderate correlations to the aforementioned three Nasdaq benchmarks: NQUSBT (90.9%), Industrials (93.2%), and Utilities (65.7%).

## Correlation with Benchmarks

	NQUSBT (%)	INDUSTRIALS (%)	UTILITIES (%)
<b>HHOTR</b>	90.9	93.2	65.7

Source: Nasdaq, July 31, 2011- July 31, 2021

With 36 stocks in the ISE Clean Edge Water Total Return Index (HHOTR) (much lower than that of the benchmarks its being compared to here), it should come as no surprise that it is slightly more volatile (than the three benchmarks). But, with higher volatility doesn't mean that it is riskier. The index's correlation measure and industry exposure both suggest that the index will be more like an Industrials than Utilities sector index, its maximum drawdown is actually more in-line with that of Utilities.

## Annualized Volatilities

	HHOTR (%)	NQSBT (%)	INDUSTRIALS (%)	UTILITIES (%)
<b>1Y</b>	17.5	15.4	17.2	15.9
<b>3Y</b>	25.8	23.4	26.0	25.1
<b>5Y</b>	21.7	19.4	21.6	21.1
<b>7Y</b>	20.5	18.2	20.1	19.7
<b>10Y</b>	20.8	17.8	19.9	18.1

Source: Nasdaq, July 31, 2011- July 31, 2021

## Historical Maximum Drawdown

HHOTR (%)	NQSBT (%)	INDUSTRIALS (%)	UTILITIES (%)
-36.2	-34.8	-39.5	-36.2

Source: Nasdaq, July 31, 2011- July 31, 2021

## Conclusion

The global market for water, as highlighted in this research report, is governed by a looming threat of shortage and a rapid expansion in disruptive technologies. Drivers vary by region, but renovation and replacement of aging infrastructure is sure to dominate investment in the near future. Some other key takeaways include:

- As the demand for more accurate, granular data on water use rises, utilities and industries will turn to digital solutions including smart meters and water quality sensors.
- Extreme weather and a rise in contaminants from industry will drive municipalities and individual consumers alike to find resilient ways to treat, store, and use water.
- Industries and municipalities will invest in alternative sources of freshwater, such as wastewater recycling, desalination, and atmospheric water generation.
- Water will become an increasingly important part of ESG portfolios, as investors seek to create positive impacts on water infrastructure and drive continued innovation in water efficiency.
- According to Fortune Business Insights and others, the outlook for the water and wastewater treatment market remains positive moving forward.

These developments, along with continued innovation in this sector, create unique opportunities for investing in water. The ISE Clean Edge Water Index (HHO) provides access to U.S.-listed companies that are active in the global water market. Investors can gain exposure to the index through the First Trust Water ETF (FIW).

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