

The Private Sector's Role in Partnering with Water Utilities To Advance Environmental Justice

Private Sector Leaders Alliance

in partnership with

The National Association of Clean Water Agencies



Foreword

The notion of environmental justice is that no one should suffer from disproportionate environmental burdens because of who they are or where they live. Applied to our water sector, this means that:

- Everyone is entitled to safe drinking water and clean waterways at an affordable rate
- Water utilities serve as anchor institutions in the communities in which they operate, investing in the quality of life of those they serve
- Projects are conceived, designed and executed with maximal community benefit in mind

Many public sector clean water utilities have made this commitment, as evidenced by the National Association of Clean Water Agencies's (NACWA's) creation of an environmental justice committee and the US Water Alliance's water equity network. The private sector also has a role in promoting environmental justice in our water sector. When engineers solve problems, they produce solutions based on the parameters of the problems they are given. The old way of doing things, on a single bottom line basis, was to identify projects that were compliant and lowest cost. However, the new paradigm is that we should look at triple bottom line solutions, with community benefit and environmental benefit as a top priority.

The private sector can make a tremendous impact in adopting this new environmental justice paradigm. Consultants are the problem solvers retained by diverse communities to develop projects and solutions. By changing the problem parameters to integrating environmental justice and community service, our clean water utilities and their private sector design and technology partners can, together, make a lasting difference in the communities and households that need the most support.

The *Private Sector Leaders Alliance* (PSLA) initiative began with industry leaders at HDR, Greeley and Hansen, Xylem and Stantec as a terrific start to increasing capacity, resources and energy to the water sector's collective environmental justice priorities. I want to thank these firms and especially the leaders of this endeavor Victoria Johnson, Walt Walker, Lindsay Birt and Andrew Nishihara, for their vision and commitment to making the world a better place. I hope this compendium of private sector environmental justice case studies, a complement to NACWA's 2017 public sector environmental justice compendium, is just "the end of the beginning" and that many more private sector engineering and technology firms will follow the lead of these exceptional pioneers.

Lastly, I extend a heartfelt thank you to NACWA, especially to Adam Krantz and Nathan Gardner Andrews, and the US Water Alliance, including Mami Hara for continuous and ongoing support of environmental justice endeavors!

Andy Kricun

Managing Director
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“The US Water Alliance and the National Association of Clean Water Agencies (NACWA) applaud the private sector companies in this compendium for the work they are doing to promote principles of environmental justice and equity internally and to help public agencies navigate these complex issues to help bring improvements to communities across the country. Both of our organizations encourage other private sector firms to add their own case studies to these four initial examples and we believe that collaboration among our organizations and between the public and private sector can yield powerful results.”

Mami Hara
Chief Executive Officer, US Water Alliance

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Chief Executive Officer, NACWA

Acknowledgements

We would like to acknowledge the authors of this white paper and members of the *Private Sector Leaders Alliance* (PSLA) for their expertise, thought leadership and commitment to partner with the water sector to uplift communities through environmental justice.



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Introduction

The water sector is in a unique position to drive environmental justice by maximizing investments in infrastructure. Communities prosper when all people have access to clean water, good jobs and viable economic opportunities. While extremely unfortunate, the COVID-19 pandemic and civil unrest throughout the U.S. presents an opportunity for the water sector to address chronic inequities and the disproportionate impact water infrastructure has on disadvantaged communities.

Water and wastewater utilities are transforming the diverse communities they serve, and prioritizing social, racial and environmental justice by addressing inequities and disparities in their service areas through intentional action and capital investments. As consultants, private sector firms offer a myriad of multi-discipline and innovative solutions to build more equitable, thriving communities through transformational partnerships with utilities.

This white paper provides an overview of environmental justice action at four private sector firms and details company priorities, strategies and methodologies consultants are deploying to address barriers in historically disinvested communities in collaboration with utilities to support advancing environmental justice.

Redefining Innovation Through Environmental Justice

Transforming Private Sector Partnerships with Water Utilities



Through water, we have an opportunity to uplift and empower citizens as fellow environmental stewards who actively contribute to creating safe, resilient and thriving communities. Today, the public sector is challenging the A/E/C consulting industry to redefine innovation and partner in new, transformational ways to create more inclusive, equitable infrastructure. Water utilities provide more than clean and safe water services – they serve diverse communities as anchor institutions that boost local economies, create jobs and foster the next generation of water professionals. In a post COVID-19 world, water utilities are rising to the need to serve as social and environmental justice stewards, and invite the private sector to answer the call to action.

In recent years, the pandemic, along with expanded reporting of inequities, has uncovered the chronic needs of underserved communities. The Flint water crisis and Hurricane Katrina illustrate the persistent challenges of disadvantaged communities, including poor water quality, lead exposure from water supply pipes, sanitary sewer overflows and a predisposition to chronic flooding from storm events. Affordability, water scarcity, droughts and rising sea levels are also causes of water stress among ratepayers. While all communities can be affected by these issues, not all are equally equipped to respond and recover. As the water sector responds to sustainability priorities, the climate crisis and injustice, we must develop inclusive solutions that acknowledge and overcome disparities in resilience and overall community impact.

As the federal government makes historic investments in infrastructure through the \$550 billion bipartisan Infrastructure Investment and Jobs Act (IIJA), the private sector is tasked with answering key questions: “as we tackle our most complex challenges around climate action, environmental social governance (ESG) and emerging contaminants, how do we integrate environmental justice, water equity and the social impact of water infrastructure?; how do we meaningfully work with water utilities to ensure this moment becomes a movement that will create safe, resilient and more equitable water for current and future generations?”

Diverse service areas comprised of affluent, middle-class and low-income neighborhoods illustrate disparities in how funding and resources are allocated, directly affecting ratepayers based on location and zip codes. The Justice 40 Initiative (i.e., Executive Order 14008) is predicated on the effect of a legacy of redlining on low-income and people of color, who bear a larger burden of water-related impacts.

At HDR, We believe that the infrastructure decisions we make today shape our communities for generations to come. We are committed to providing solutions that create positive outcomes for all.”

Eric L. Keen
Chairman and CEO
HDR

A handwritten signature in blue ink, appearing to read 'E. Keen'.

In “An Equitable Water Future,” US Water Alliance explores historic legislation and public policy in the U.S. that enable some ratepayers to reap multiple benefits from water infrastructure, while others suffer undue hardships, burdens and exclusion from community benefits and overall well-being. “The principal factors in community vulnerability are income, race or ethnicity, age, language ability, and geographic location,” according to the report.

Federal Executive Order (EO) 13985 directs federal agencies, including the U.S. Environmental Protection Agency (EPA), to assess if members of disadvantaged communities experience systemic barriers in benefitting from opportunities and investments through the federal government.

The Justice 40 Initiative is a first-of-its-kind goal in which 40% of the overall benefits of certain federal investments flow to specific disadvantaged communities. These communities include those that are marginalized, underserved and overburdened by pollution, including communities of color, immigrants, rural and tribal communities, and currently or formerly incarcerated people. Justice 40 investments will support efforts in climate change, clean energy, training and workforce development, remediation, reduction of legacy pollution, and the development of critical clean water and wastewater infrastructure.

In its *Equity Action Plan*, EPA has “committed to making equity, environmental justice and civil rights a centerpiece of the agency’s mission.” In support of EPA’s priorities and building upon an environmental justice compendium published in 2017, NACWA convened an *Environmental Justice Task Force* in 2021 led by Tony Parrott and Diane Taniguchi-Dennis for the purpose of establishing the Association’s Policy statement and objectives. Building on their leadership and the leadership of those that have come before, NACWA President Kishia L. Powell, with support of NACWA’s board of directors and executive leadership team, provided executive endorsement of a standing committee for Environmental Justice. Leaders at water utilities, regulators and professional associations are providing executive sponsorship to prioritize equity and make it operational. Now it is the private sector’s turn to engage peer leaders to invest and advance environmental justice through innovation, problem solving and technology.

Global water infrastructure projects from 2020 to 2040 are expected to hit \$5 trillion. In the next five years, \$55 billion in the U.S. is forecasted to be spent on water via IJJA. Therefore, the private sector has a pivotal opportunity to engage with the public sector in new ways. As ESG, climate action and environmental justice emerge as global imperatives, professional services firms with operations in the U.S. and globally possess a wide array of multidisciplinary functions in its ranks with global best practices that can inform and advance water equity priorities. Global exchange in the water sector is expanding to include evaluation of how we can share and glean new, community-centered, innovative solutions to steward more resilient and equitable water resources.

IJJA prioritizes repairing aging infrastructure, removing lead pipes and uplifting disadvantaged communities through intentional engagement in workforce development, jobs and contracting opportunities for minority and women-owned businesses (M/WBEs). According to the *Renewing the Water Workforce* report, “At a time when many Americans are struggling to access economic opportunity, and many of the country’s infrastructure

assets are at the end of their useful life, infrastructure jobs offer considerable promise.” In 2016, nearly 1.7 million workers were directly involved in designing, constructing, operating and governing U.S. water infrastructure, according to The Brookings Institution. Through IJJA, the private sector can partner with water utilities to rebuild water assets while addressing chronic injustice in disadvantaged communities. They can do this by engaging with local ratepayers impacted by our operations through direct hiring, subcontracting and education in Science, Technology, Engineering, Arts and Math (STEAM) fields.

The challenges we face today are complex, so our responses cannot recycle solutions from the past. Our actions must be intentional, integrated and multidisciplinary across sectors, as we work together to steward more equitable water for all. This is true for the public and private sectors, government and regulatory agencies, and nonprofit and philanthropic organizations. For meaningful implementation of environmental justice priorities, a new paradigm of collaboration across sectors is essential to realize broader outcomes.

Prioritizing Environmental Justice in the Private Sector

In addition to industry shaping thought leadership – like rethinking benefit-cost ratios in project prioritization – HDR is also taking great care to foster an inclusive culture as an employer of choice. As an employee-owned organization, the way we care for our people and the communities we work in is paramount.

As an employer, HDR is committed to serving as an environmental justice leader and has prioritized inclusion, diversity and equity (IDE) in our company values and priorities. Our IDE director oversees a companywide IDE council and facilitates eight employee network groups, as well as specific business group committees. Our executive leaders serve as sponsors of these committees to help drive positive and lasting change through all levels of the organization.

HDR also has global equity directors overseeing the advancement of equity in communities affected by our work. In collaboration across functions, HDR has an Environmental Justice and Equity Practice Group comprising 180 members across sectors, including water, transportation and advisory services. As HDR grows internal and external IDE capabilities, we are committed to partnering with water utilities to shape, advocate and build more equitable communities. These efforts allow us to attract and retain talented and diverse professionals which, in turn, allow for professional service teams that better reflect, relate to and serve diverse clients globally. These efforts also foster future generations of interdisciplinary workforces that represent the communities we work in.

At HDR, doing things right to make great things possible is our core belief. Through our ESG commitment, we have dedicated ourselves to transparency in our goals, practices and policies surrounding sustainability, carbon reduction, employee diversity, inclusion, equity, health and safety, and how we engage in our communities. We are committed to continuous evaluation and improvement with what, and how, we do our work.

Giving Back to Our Communities

We are a firm committed to giving back to our communities and have a thriving

philanthropic arm, the HDR Foundation. Recent awards include funding the Navajo Water Project, which provides running water for people of the Navajo Nation; partnering with Chicago's school libraries to add 11,000 children's books affirming Black children through the Young, Black & Lit Organization; funding STEAM education programs in underserved communities; and building home-based gardens in Latino neighborhoods to address food insecurity. Our commitment is more than money. Our employees volunteer in every organization we support. Since its inception in 2012, we have given back almost \$5 million to over 180 organizations across the country.

In 2020 we established the HDR Foundation IDE Committee, co-chaired by HDR's IDE director. This committee assures the social justice lens is on all Foundation activities, from granting to committee appointments, to internal and external operations.

Environmental Justice Approaches

As a full-service firm, we are in a unique position to bring advisory services into traditional planning and engineering projects, particularly in developing infrastructure plans that can close water equity gaps. HDR teams integrate across our practices that provide decision support, affordability analyses and funding evaluations, informed by community engagement, as part of overall capital improvement planning. These services help reframe decisions with an equity lens, so the final plan has funding and affordability in mind. Additionally, HDR assists clients with asset management planning and implementation to proactively manage risk and enhance service to underserved communities. Together, these services help our clients and communities develop and manage affordable, equitable infrastructure.

Addressing Affordability during Times of Need

Louisville Water Company's (Louisville Water) customer assistance program Drops of Kindness is an example of a utility that reexamined water affordability with equity in mind. At the height of the pandemic, Louisville Water did a deep dive into data to understand customers' experiences with affordability. Surveys and data mapping revealed that 70% of their customers who had not paid their bill had never been in a nonpayment situation before or had only missed one payment before the pandemic. These customers did not understand how to navigate the traditional support methods. In creating a solution in which the utility could scale and not overwhelm its call center, Louisville Water made a concerted effort to make relief accessible and remove hurdles to getting help. They collaborated with Louisville Metropolitan Sewer District (local wastewater utility) and the Louisville Water Foundation (a charity separate from the utility) to reimagine affordability with Drops of Kindness.

Among the many lessons learned, best practices include: 1) Simulating customer experiences and making no assumptions about what it's like to ask for help, 2) Developing community partnerships outside obvious agencies and looking for new opportunities to collaborate, 3) Convening cross-functional teams among customer service, field crews, communications, public affairs and finance, 4) Being intentional about empathy with customer messages and delivering them where customers can receive them, and 5) Creating self-service tools so that people can determine their own fate and take control of account situations through payment plans, assistance applications and direct customer service follow-up.

Currently, Louisville Water is talking with customers who received help with Drops of Kindness and employees and community stakeholders who helped deliver the assistance. The research is part of an affordability roadmap Louisville Water and the Metropolitan Sewer District will create.

Leveraging Infrastructure to Revitalize Neighborhoods

Since its heyday, Vine City, an area that served as a catalyst for the civil rights movement in the 1960s and once home to Martin Luther King, Jr., has suffered population loss, disinvestment and crime. Over the years, the dramatic increase in impervious surface has contributed to flooded streets and homes. The 16-acre Rodney Cook Sr. park has been designed to alleviate flooding by capturing and storing up to 10-million gallons of stormwater, while creating a vibrant community destination and ultimately revitalizing the neighborhood.

This green infrastructure project yielded multiple benefits for this community: functional, recreational and economic. As part of the project, the city took steps to drive the investment back into the local neighborhood by creating this multi-functional, destination greenspace.

Additionally, the Westside Future Fund, established in 2014 with support of Atlanta's former mayor, has launched The Anti-Displacement Tax Fund for legacy homeowners on the Westside. The program is helping these homeowners avoid rising property taxes and remain in areas experiencing rapid changes. Those who qualify for the program will not have any increases in their existing property taxes for up to 20 years.

This project is an example of how infrastructure investment can benefit historically underserved communities, resulting in longstanding improvements to physical, emotional and financial health and well-being.

Prioritizing Flood Protection

A project titled, The Strategy to Advance Flood protection, Ecosystems and Recreation along the San Francisco Bay (SAFER Bay) will protect people, property and infrastructure from bay tide flooding and projected sea-level rise. The SAFER Bay project is a multi-city effort managed by the Joint Powers Authority with nine identified segments, including critical arterial roadway and railway crossings, tidal gates, pump stations and a large energy transmission substation that feeds five distribution-level substations throughout San Francisco's South Bay.

The most vulnerable members of the community where this project is proposed are in the city of East Palo Alto, the Belle Haven neighborhood of Menlo Park, and parts of Redwood City. East Palo Alto is situated in the heart of many wealthy Silicon Valley communities. However, according to reporting done by the Bay City News Foundation in 2019, East Palo Alto "has long been a pocket of persistent segregation and inequality bracketed by many of the country's most affluent communities ... [and] lags drastically behind neighboring Palo Alto and Menlo Park in economic and quality-of-life metrics, including income potential, educational attainment and business ownership."

The Joint Powers Authority, which oversees the SAFER Bay project, prioritized design and construction of the segment that protects the East Palo Alto community, advancing this segment for design and construction that will protect almost 1,600 properties and restore 600 acres of salt marsh ponds. These low-income communities are most vulnerable to flooding and are located adjacent to the project's implementation area. HDR has worked to help secure \$70 million in FEMA, California Department of Water Resources, and San Francisco Bay Restoration Authority Measure AA grant funding to advance the design and construction.

Identifying Overburdened Communities

As part of the development of its first Stormwater Comprehensive Plan, Kitsap County, Washington, worked to identify and assess overburdened communities served by the county's stormwater program. Using a GIS-based approach and consulting multiple local and state data sources, the HDR team developed measures by which to identify and inventory potential underserved and/or overburdened communities within the county. This information was compiled into a web-based story map that county staff and other stakeholders could review to assess overburdened communities by geographic areas and obstacles that would hinder engagement with the county on its stormwater program.

HDR worked with the county to identify communication strategies to inform education and engagement activities with its customers around stormwater management practices, new source control regulations, and capital projects. The county intends to include opportunities for more targeted outreach as it reviews its education programs and develops and implements new campaigns. In addition, the county has begun reviewing criteria for prioritizing capital project funding. This started with near-term adjustments to make the criteria more measurable as part of the development of the comprehensive plan. Future improvements include consideration for projects with more equitable outcomes, or that address historic and ongoing inequities in stormwater services.

Incorporating Equity into Decision Making

Over the next few decades, King County, Washington will collectively spend billions of dollars on protecting water quality. The King County Wastewater Treatment Division needs to update its wastewater plan so that it makes the right investments at the right time for the best water quality outcomes. As part of this effort, the County committed to a fair and inclusive planning process. To do this, it aimed to break down barriers to involvement and hear from diverse voices – including long-time participants in water quality discussions and new, interested parties.

In support of this effort, HDR worked as part of a team of consultants to develop a framework for evaluating and incorporating equity into decision making through the planning process. The framework aligns with the County's Equity and Social Justice (ESJ) Strategic Plan. Specifically, HDR helped with the development of a process for the identification and analysis of different Plan alternatives, known as Actions, that would be considered by the community.

HDR has participated in the incorporation of equity in several steps throughout the Plan process to-date including:

- Education of community-based organizations on wastewater conveyance and treatment, water quality, and challenges facing the community, such as controlling pollution and caring for aging infrastructure. HDR supported the County by participating in semi-technical workshops with community stakeholders to review the Plan Actions.
- Review of alternatives through an equity lens to determine if potential inequitable outcomes could be mitigated from the start. HDR worked with an equity professional to facilitate this review and document the review process for transparency in the planning effort. Example mitigations included front-loaded timing of infrastructure projects to improve water quality in historically underserved communities.
- An equity evaluation of water quality, cost, risk, and sustainability outcomes of Plan Actions to identify equity opportunities that may be incorporated into the Plan, either through existing County ESJ programs and practices, or through new programs and practices. Opportunities identified included workforce development and apprenticeships, procurement and contracting processes, siting and design of capital projects, equitable service delivery of recovered resources, equitable access to financial resources, and resource support to community-based organizations among others. HDR helped to define a qualitative framework for evaluating these outcomes and leveraged analyses performed by the County's Office of Equity and Social Justice.

In addition, as part of this effort, HDR team members worked with regional engagement professionals to engage directly with members of Black, Indigenous, and people of color (BIPOC) communities to review the criteria proposed for the equity evaluation of Plan Actions and get input as to how they reflected these communities' lived experiences. During these workshops, HDR team members also helped to continue to educate communities on wastewater services.

The Clean Water Plan is paused to consider possible adjustments to the planning process in light of input from interested parties. The feedback received from workshops and other engagement efforts done to-date will be considered for an adjusted future planning process. Additionally, there is a desire to build on the work done with community-based organizations towards on-going collaboration with community organizations.

Innovative Environmental Justice

As an employer of more than 11,000 professionals working in dozens of industries across the globe, we believe it is our responsibility to steward equity across geographic and traditional business lines. In some cases, we are the thought leaders shaping new boundaries of analysis and innovation; in other cases, we are the pollinators of best practices from one industry to another. This section highlights a few examples of our leadership in industries outside of wastewater but that have and will have a profound impact on how we all better advocate for equity in the 21st century.

Recognizing Equity in Benefit Cost Analysis

HDR has an annual fellowship program in which it provides staff the opportunity and resources to develop innovative ideas that can help our clients and the industry. This year, HDR awarded a fellowship grant to develop sound and systematic methods to account for equity in conjunction with benefit-cost analyses (BCAs) of projects.

Standard BCAs, as established by federal government guidelines and adopted by most practicing economists, assume that all people place the same value on benefits from a project (e.g., a time savings, cost reduction or avoided flood risk). Of course, people can have vastly different incomes and assets, and benefits vary as a result. An equity-adjusted BCA approach would extend standard results to reflect the value of the project to different groups of people, especially by income levels. The results could enable decision-makers to account for equity more effectively in project prioritization.

Both standard and equity-adjusted BCAs have emerged from separate but related theoretical and evidence-based streams of research. Both are valid approaches. HDR's research initiative will outline similarities and differences in the two methods and establish standards for performing equity-adjusted BCAs in our everyday projects. In so doing, the work will aim to build a compelling rationale for supporting clients to consider both forms of evidence and, if they desire, support their decisions that prioritize equity.

Committed Engagement Informed by Social Demographics

Data is a key to understand, anticipate and advocate for people. In addition to traditional community outreach, HDR also relies on the science of data to help understand the unique needs of the communities we serve. We tailor our geospatial reviews to study the human geography of our projects, including at-risk or overburdened populations. We look at environmental data, such as proximity to floodplains or pollution. And we put it all together to help clients develop effective engagement strategies – strategies as diverse as their citizens.

At HDR we conduct stakeholder and project-area analyses to understand community needs and identify populations' characteristics in the project area through community analytics. Through our approach, a variety of socioeconomic, demographic, business and market potential reports are evaluated within a project area, providing snapshot summaries for any combination of variables, such as income, commute and general health attributes.

This kind of data science enables the project team and key stakeholders to truly understand community needs, inclusive of all demographic and socioeconomic factors. A key component in our methodology is the ability to extract critical variables for custom project areas, such as business summaries and minority, disability, income and age-population statistics. These assessments inform our strategy from project inception, by providing a comprehensive visual and statistical understanding of the project community. This dynamic approach allows project teams to better understand our communities and communicate more effectively.

By combining demographic, socioeconomic, health and environmental data, as well as a host of other locally relevant metrics, our community analytics teams present in-depth snapshots of customers, ratepayers and stakeholders in stratified areas to help us provide ideas and solutions that are just right.

One Water Approach to Address Inequities

HDR's One Water approach considers the interconnectivity between all phases of the hydrologic cycle within our communities and the multiple sectors and partnerships needed to address today's challenges and opportunities. The linkages between watersheds, drinking water, stormwater, wastewater, urban development, agriculture and industry create both complex challenges and unique opportunities for holistic solutions. Our One Water framework couples equity and resiliency considerations with the traditional water quantity and quality lenses for evaluation of opportunities at program, plan and project scales. The inclusion of equity into our decision framework provides a more holistic approach to prioritize projects and initiatives that address historically underserved areas, while maintaining affordable programs. The framework also highlights opportunities to improve utility resiliency, particularly for customers within our communities who are more sensitive to disruptions and service impacts.

Engaging Diversified Suppliers

Stewardship of – and investment in – the growth and prosperity of the small/disadvantaged business community is a cornerstone of our commitment to fostering equity. Our diversified supplier program is designed to work with local small and/or disadvantaged business enterprises to help generate sustainable economic growth. This is accomplished by the development of a skilled workforce in often underrepresented communities.

In many geographies we participate in formal mentor-protege programs and work to tailor each one to address core needs of the small business in those locations. Typical topics include strategic planning, business development, technical skills and either accounting or quality processes. Experts from around HDR serve as resources to those firms that range from informal learning sessions to rigorous training sessions that include homework and quarterly check-ins. When the small or disadvantaged firms feels ready to expand, we help them become certified in other service areas or expand to other geographic locations.

Leveraging Green Infrastructure for Community Benefits

As decentralized source controls, green infrastructure represents surface expressions and investments in communities that can be seen. Green infrastructure is easy to recognize as impervious-to-pervious surface conversions or additions of much needed green space and other improvements to streetscapes, parks, subsurface spaces and even rooftops. When done right, the siting and design of green infrastructure involves the residents, business owners, community organizations and partners most underserved or affected by a program or project.

Meaningful stakeholder engagement, development of project siting and prioritization criteria and design charettes help identify the green infrastructure types and features

that deliver the co-benefits of highest value for communities. These benefits include neighborhood beautification, traffic calming and improved walkability, urban heat island reduction, brownfield clean-up, mitigation of nuisance flood risk and diverse funding opportunities. We apply our GIS-based Green Infrastructure Siting and Prioritization Tool to weight the community's needs and drivers (beyond water quantity and water quality) early in the planning process. Projects can be advanced to design and construction phases that demonstrate consistency with Justice40 and federal funding metrics for serving disadvantaged communities, as well as cities' policies and initiatives to improve the livability, sustainability and resiliency of different neighborhoods.

Green infrastructure is also recognized for the different skillsets and trades required to construct, operate and maintain installations over time, compared to gray or traditional infrastructure. Urban areas seeking to address equity by expanding workforce development and job opportunities can make this a fundamental goal of their green infrastructure programs. Target participation goals for residents, classes and businesses can be created and tracked throughout different implementation phases. We participate in the National Green Infrastructure Certification Program to train workers for employment opportunities in different cities, counties and states close to where they live in support of these goals and to create a sustainable and long-term expertise among diverse populations.

Redefining Innovation through Environmental Justice

Water utility leaders are raising their voices and forming bodies in partnership with their peers and professional associations like NACWA, the US Water Alliance, Water Agency Leaders Alliance and the Water Environment Federation. As a result, the private sector has a unique role to play in advancing environmental justice by integrating equity into our consulting services.

According to the National Skills Coalition, IIJA is an opportunity to invest in people most affected by the pandemic recession and address longstanding structural inequities so that everyone benefits. As society transforms and the global impacts of climate change increase, it is evident that investments in water infrastructure can create lasting, often indelible, marks on our communities.

We have an opportunity to learn from past outcomes, shape a healthier future and intentionally work to fully understand the impact of these investments on all members of society. We can work across sectors to repair past injustices and develop equitable, innovative multidisciplinary solutions as professional services firms. Collectively, we can create a new paradigm that benefits everyone, both now and for generations to come.

Blue is the New Green

The Need for Private Sector Commitment to Environmental Justice



GREELEY AND HANSEN

In 2020, people were provided a clearer picture of how bias (intentionally and unintentionally) by design and social injustice have negatively impacted individual lives. But, what many don't understand is that bias also has led to public and private sector decisions that have adversely affected entire cities, counties or populations within communities where we live and work. Decisions about how we manage, protect, reclaim and equitably disburse water and its benefits have not been immune. As one of earth's most scarce and precious resources, water deserves more attention and intentional planning and action.

We are beginning to see more attention being placed on water issues. But are they for all the right reasons?

The evolution of private sector water management is coinciding with the rise and public scrutiny of ESG policies and practices of companies that consumers and investors do business with every day. Water management has come closer into view as both the public and shareholders become more educated on the global state of water and expect companies to be more accountable with the intensifying impacts of climate change.

In sync with this, some 80 percent of the world's largest companies use the Global Reporting Initiative (a non-profit organization that helps businesses understand and communicate their impact on issues such as the environment, human rights, and corruption – the big three of ESG). And according to a report published in July 2021 by the Global Sustainable Investment Alliance, there is a \$35.3 trillion investment in ESG-focused assets – the equivalent of about a third of the assets under management in major economies – at the start of 2020.

As the climate crisis intensifies, the impacts on local freshwater resources are far-reaching for residents of local communities and the businesses that transact commerce in them. Safe, accessible water is essential to the social value and health of communities, critical to the ecosystem, needed by business and manufacturing, and integral to economic growth.

Water shapes economic growth, our environment, and the very social fabric of our communities. At Greeley and Hansen, we recognize it is our industry's responsibility to ensure all people have access to safe, reliable, and affordable water and wastewater systems. Water not only sustains life, it also creates opportunity for people to thrive. We believe we have a duty to strengthen our communities and make them more inclusive, equitable and resilient for all."

John Robak
Chief Executive Officer
Greeley and Hansen

But where does the responsibility lie? Governments and businesses both have a responsibility and an opportunity to collaborate on solutions and combine resources and efforts to ensure there are sustainable and resilient freshwater resources for all. Today, 2.2 billion people around the world are living in water-stressed areas, and the same is expected to be true for more than half the world's population by 2050, if no action is taken.

The Private Sector Role of Equity and Justice

The water industry private sector (engineering firms, technology companies, etc.) must intentionally contribute an equity-centered community design approach that addresses the historically underserved, disadvantaged, and BIPOC communities. As defined by the Creative Reaction Lab, equity-centered community design is the intersection of community development, designed-based problem solving and equitable outcomes. Regardless of professional background, whether you are an engineer or work in marketing, we all can be equity designers.

Private sector involvement in practicing water equity and achieving environmental justice can serve a unifying theme to broaden the smart investment dialogue that leads to multiple benefits around race, regionalism, equitable development, housing, land use, healthy food, economic justice, and dignity to have a quality of life. It is critical that we invest in water infrastructure that provides positive social, economic racial, and environmental justice outcomes.

While the public sector must fairly represent the interests of populations impacted by a given development, there is an incredible opportunity to support and uplift communities by water infrastructure work that produces triple-bottom line outcomes – positive social (people), environmental (planet), leads to economic (profit) impacts beneficial to the community and the sector. There is a cost of not investing in this work for the benefit of the utility and community and providing equitable outcomes for underserved areas.

Designing and Building Better Environments for the Good of All

The core principles that guide Greeley and Hansen's partnerships with community organizations are anchored in our overarching mission. As an engineering firm focused on the water, wastewater, and solid waste sector, the core of our mission is to partner with municipalities and utilities to design "better urban environments" that improve the quality of life in the communities we serve. Greeley and Hansen achieves this in our engineering and architectural designs, but we believe that better urban environments are also manifested by partnering with organizations that promote the environment, economic development, diversity, public health and safety.

As a member of the US Water Alliance, and in building upon the firm's core values of Respect for Our People, Empathy of Needs, Team Spirit, Trustworthiness, Commitment to Excellence of Service and Accountability, and Entrepreneurial Spirit, Greeley and Hansen established its Water Equity Practice at the beginning of 2021.

The role of social equity in the water/engineering industry sector has not been consistent. Our executive leadership team understands the necessity for this focus that not only

impacts our communities but our staff and employee culture internally. The mindset begins with designing better urban environments but also considers how to address built environments as well. The built environment can reflect and reproduce the social structures, inequalities, and injustices that continue to shape and define many lives – this is an opportunity for change and to disrupt the inequity. This allows us to delve into the root causes and understand the “why?” Many of society’s issues are intersectional. Because our water systems intersect with the climate crisis, housing, heat stress, healthy food, and jobs, water infrastructure projects with a One Water mindset, that water in all forms of our ecosystem intersect, provide the vehicle for change.

A water-equity mindset promotes both the environment and environmental justice. Water equity finds systematic ways to link society-wide patterns of social, economic, and environmental development. It considers issues of fairness in how and where we invest in infrastructure, healthy neighborhoods, affordable housing, parks, clean water, proper sanitation, equitable public investments, and access to opportunity. A water-equity mindset also can empower and engage, build civic and social capital, and create opportunities, if seen in wider context.

Water also can be a force for equity, opportunity, and justice. It can revitalize and strengthen communities, making them more inclusive and resilient. Investments in water infrastructure can stimulate jobs and local economies. No one entity can solve these challenges or harness these opportunities alone. As stated by the US Water Alliance, “building more equitable water systems will require leaning on the diverse talents and resources of water utilities, environmental groups, nonprofits and philanthropy, community-based organizations, and pressures from like-minded investors and local residents.” Water equity is about forging coalitions on the path to environmental justice– building authentic relationships across sectors and requiring commitment to sustained engagement and sharing power with underserved communities to co-create shared priorities.

The private sector’s role in workforce investment, in our own workplaces, must not be neglected in this conversation. Our water industry workforce needs to be more reflective of the communities we serve. A diversity, inclusion, and belonging mindset considers a population of people historically underrepresented in the water workforce, and breaks down barriers for those interested in the water sector. Representation, lived experiences and active listening matters. Therefore, we need to expand our reach, through mentoring, onboarding, internships, education programs, storytelling, outreach, and building a sense of shared purpose.

Water equity means, justice in design rooted in civic service. Therefore, the private sector must be innovative and intentional in its impact and prioritize the value of doing good. In some instances, we may have to do more with less (as we recover and position for increased investment after decades of neglect) as we catch up with full investment and better recognize the history of harm through de jure and de facto environmental injustices.

Water Equity Approaches and Principles in Practice

For an equity design in action perspective, this section provides some examples of Greeley and Hansen’s water equity approaches and principles in practice in the areas of: Cross-Sector Collaboration; Community Engagement and Partnerships; Affordability; Water Quality and Watershed Management; Workforce and Supplier Diversity; and Civic Action.

Cross-Sector Collaboration

Greeley and Hansen has demonstrated its commitment to water equity and environmental justice through decades of involvement with multiple national and local professional societies. This includes current membership with the US Water Alliance and further involvement in the Alliance's Imagination Challenge: Water's Role in the Race to Zero. Over the second half of 2021, Greeley and Hansen as part of an "Imagination Team" of diverse experts convened to discuss and address water's role in climate mitigation and set a strategic pathway for greenhouse gas reductions. The Imagination Team took a deep dive into understanding how the U.S. water sector can advance these efforts and unite around a vision and strategic pathway for water's role in climate mitigation. On March 22, 2022, World Water Day!), the US Water Alliance released Water's Net Zero Plus: A Call to Action for Climate Mitigation. The US Water Alliance and the Imagination Team is currently working on a follow-up report focusing on actions for implementation, to be released later in 2022.

Community Engagement and Partnerships

The Greater Lafayette Climate Action Plan (GLCAP) is a historic, collaborative commitment among the cities of Lafayette, West Lafayette and Tippecanoe County towards building a resilient community by designing policies and implementing initiatives to reduce greenhouse gas emissions and protect equitable quality of life for current and future generations. The ongoing initiative is led by the Joint Leadership Committee comprised of representatives from the three communities.

Greeley and Hansen is currently providing services as a consultant, facilitator, and manager. As a consultant, we advise on engineering and architectural solutions that can be leveraged to support the GLCAP goals. As a facilitator, we drive a consensus building decision making process, between the Joint Leadership Committee, the executive committee, advisory committee and residents. As a manager, we track the GLCAP schedule, documentation, and resources to advance GLCAP progress and apply the ideas into reality.

A five-phase roadmap from Plan initiation through Plan implementation was established for developing and implementing the programmatic support and stakeholder engagement required for execution of the GLCAP. We will work with the communities to evaluate the strategies identified based on multiple criteria including: impact potential; cost-benefit analysis; economic development potential; social equity benefit; technical feasibility; and ability to leverage local businesses, industries and institutions. Based on ranked contribution to GLCAP goals, a recommendation of priorities will be provided.

Currently in Phase 3 (Program Execution), we are exploring planning and policy initiatives that can support the GLCAP goals including, but not limited to:

- Expedited permitting policies that incentivize carbon-free initiatives and energy use reduction
- Integration of community-accessible greenways and resiliency hubs into regional planning to foster equitable climate resilience
- Green workforce development

- Innovative financing to fund infrastructure transformation
- Modernization of municipal assets – buildings and fleets chief among them

The outcomes of our approach to date – a unique collaboration between multiple entities who are sharing resources to the benefit of all – has led to: a clearer understanding of the available resources to leverage as we start developing new policies and strategies, increased public awareness and engagement of climate issues and streamlined decision-making and uniting of stakeholders.

Affordability

In Buffalo, New York, Greeley and Hansen developed financial capability and infrastructure conditions assessments to support the Buffalo Sewer Authority's financing plan and implementation schedule of green infrastructure projects and its Long-Term Control Plan, to the extent practicable with the economic realities and current/potential effects of COVID-19, with the larger vision of assessing sewer rate affordability impacts to the most disadvantaged areas. The financial capability assessment supported Buffalo Sewer Authority closing on a \$54 million environmental impact bond (EIB) in June 2021, the country's largest EIB to date, to finance green infrastructure and stormwater mitigation projects as part of its Rain Check 2.0 initiative and to accelerate improvements to water quality, job creation and environmental justice. Buffalo Sewer Authority will use the bond proceeds to design and implement green infrastructure to capture stormwater, reduce combined sewer overflows (CSOs), and enhance community benefits including jobs.

The initiative will better manage stormwater from easements and public land in key CSO basins, provide impact investing opportunities for shareholders, reduce stormwater fees for ratepayers, and triple the authority's pace of green infrastructure projects.

Water Quality and Watershed Management

As noted by the US Water Alliance in its national briefing paper *An Equitable Water Future*, "for many utilities with limited in-house funding and resources, and without centralized water infrastructure, restructuring and reconfiguring existing systems can be a path to expanding water services." In these cases, consolidating utility organizations with nearby systems makes more sense than developing alternative solutions.

Greeley and Hansen worked with the City of Chicago to develop a proposal for the City of Joliet to join the Chicago water system, which they ultimately did.

The proposal evaluated two Lake Michigan sources to supply the City with water in the future, considering ratepayer affordability, and the resources the City needed to implement a regional infrastructure master plan. Joliet City Council members picked Chicago as its source for the City's future water needs, opening the door for multiple neighboring communities facing a similar uncertain water future to find a sustainable solution to their own water infrastructure challenges. The goal is to complete the work by 2030 and start serving residents of Joliet and up to 11 neighboring towns that could potentially become a part of a regional water system.

Workforce and Supplier Diversity

Greeley and Hansen supports various programs that focus on providing education and training opportunities, such as the Kentuckiana Builds training program offered by the Louisville Urban League, which helps train unemployed individuals to find good paying jobs in construction-related trades. This construction trade pipeline program, is funded by the U.S. Department of Labor in partnership with KentuckianaWorks, the Education and Workforce Development Cabinet of the Commonwealth of Kentucky, and Louisville Urban League, with support from employers and sector volunteers.

In Louisville, Kentucky, and Buffalo, New York, Greeley and Hansen supported utility supplier diversity and local labor preference policy goals by committing to certain local and M/WBE subconsultant utilization goals that exceeds baseline required goals. As part of the design development, we collaborated with utilities to consider the size of the contract packages so these suppliers/contractors have sufficient staff and bonding capacity. This also facilitates small business and M/WBE to compete for prime contracts and grow their companies.

Civic Action

Demonstrating our commitment to diversity practices, Greeley and Hansen is an active member of Chicago United, a leading advocacy organization that promotes multiracial leadership in business to advance parity in economic opportunity. Chicago United supports the local business community's needs to maximize the use of corporate and entrepreneurial talent and brings together diverse business community leaders to break through barriers to realize the benefits of diversity and inclusion in the workplace. Greeley and Hansen is an ardent supporter of the Chicago United's Five Forward Initiative to engage the community in our common goal to strengthen the local economy and enhance job creation by supporting a stronger M/WBE community.

In May 2021, as part of the Corporate Coalition of Chicago. Greeley and Hansen was among the first 25 Chicago-area companies to support the Move to Action initiative. As part of this effort, Greeley and Hansen committed to make concrete and meaningful action in the areas of inclusive employment by helping local BIPOC-owned businesses grow over the next fiscal year and assist in the equitable economic recovery in Chicago. While this effort is local to our Chicago headquarters, the plan is to take similar actions in other Greeley and Hansen markets so that our pledge to help end racism and advance social justice is felt on a global scale.

A sampling of the additional organizations that benefit from Greeley and Hansen's civic participation include: Diversity networking career fairs, Introduce a Girl to Engineering Initiative, White River Cleanup, Heart/Stroke Ball, Keep Indiana Beautiful – 10,000 Trees Initiative, and Habitat for Humanity.

Call For Action: Private Partnership and Innovation are Needed

The time has never been greater to partner with other stakeholders to create meaningful change. There is an enormous willingness and desire for collaboration between private,

public and non-profit entities. As federal dollars are soon to be utilized at a level that has not been seen before, an incredible opportunity exists for uniting shared interests, building trust and progressing equitable policy initiatives to rebalance investments and prioritize historically underserved areas and design a more environmentally just world. Relationships are everything in a water-equity mindset.

We must be intentional in our planning and actions. This will require the private sector of the water industry to be innovative, and to think outside of the traditional infrastructure service framework. Examples of this include:

- Create climate action planning with a community-inclusive vision
- Support employee participation in professional societies that advance diversity, equity, inclusion and belonging in the water profession
- Establish internal Employee Resource Groups or Employee Impact Groups within your organization to advance internal equity measures that reflect the commitment to equity within your firm, and to the communities you serve and support. Examples of these employee-led groups include: Gender equality; diversity, inclusion, and belonging; and volunteerism/civic activism – topics where employees can have a say on the future of the company they want to work for and how they can be engaged to tell their stories to others
- Participate in a lead service line replacement program with a community-driven, community-led implementation rooted in trust and transparency
- Reflect your company's core values and promote a civic mindset among your employees to establish roots in the community and build relationships and connections. Attend community meetings, build relationships, and see how the economic struggle connects to the struggles of the particular community
- Understanding that water equity and environmental justice are not terms to be siloed or focused as a singular project, but as a core mindset that must be threaded in all the work we do
- Explore collaboration with your company's other internal practice groups, for example: architectural group, social value group, marketing, business operations
- Water equity and environmental justice approaches are not limited to a single phase of a contract, but a focus during hiring, planning, contracting, bidding and project execution/construction
- Water equity and environmental justice requires coalition with a shared-services and multiple-benefits mindset – Regardless of your professional background, whether you are an engineer or work in the marketing department, we all can be equity creators
- Private sector is a pathway to diversity, equity, inclusion, and belonging in the water workforce, and who is aware of and/or has access to those opportunities – Invest in mentoring youth, young professionals, as well as adults looking to make a career change
- Seek to design or support mentoring and training programs to increase business opportunities for qualified M/WBEs and small businesses

- Remember: Equity is not the same as equality! Striving for equitable outcomes can lead to equality in the future

A Force For Good

The water industry private sector can be a force for delivering and making progress against many of the challenges that our country faces right now – the pandemic, the need for community economic recovery, the challenges around racial equity and justice, our climate crisis, and developing pathways where we can all play a part in a better future. The water industry private sector must practice a social equity-centered design mindset to clean, safe, affordable water service; maximize the community and economic benefits of water infrastructure investment; and foster community resilience in the face of a changing climate.

Private Sector Path to Environmental Justice and Water Equity



The Opportunity: Solve Global Water Challenges through Public-Private Partnerships

Major water challenges continue to escalate across the globe. Communities devastated by flooding. Children sick from water-borne illnesses. Families struggling to afford clean water and wastewater services. At the center of these challenges are people – especially those in disadvantaged communities. For these communities, water challenges bring with them environmental injustice that we must overcome.

In 1994, President William J. Clinton issued Executive Order No. 12898 to address environmental justice in the United States. Twenty-five years later, policymakers continue to work for better, fairer, more equitable outcomes for vulnerable and disadvantaged communities and populations across the country. In fact, in 2021, both the American Rescue Plan and Bipartisan Infrastructure Law were passed by the U.S. Congress.

“I am encouraged by the progress we have made over the past year, clear-eyed about the scale of the work that still lies ahead, and confident that if we continue to listen to the voices and perspectives of the [White House Environmental Justice Advisory Council] WHEJAC and other environmental justice leaders and communities, we will deliver a cleaner, healthier future for all.”

- Brenda Mallory, Chair, White House Council on Environmental Quality¹

These policies, and the resulting economic investment, are one promising part of the solution. In the U.S. and globally, action to achieve water equity is increasing as an essential component of addressing environmental justice. But the path from where we are now to where we want to be is paved by our communities – primarily water utilities. And they need support. Aspirations to address water equity come on top of already-challenging daily demands for these institutions.

Water is a reflection of our common humanity. Ensuring equitable access to water and wastewater services is an important way to provide every family with a fair chance at health, well-being and prosperity. At Xylem, we innovate to develop and deliver solutions that enable utilities to make water more accessible, more affordable, and more resilient to future risks. We are committed to working with diverse partners to solve the great water challenges of our time and create a more water-secure future for all.”

Al Cho

Senior Vice President, Chief Strategy Officer & External Affairs Officer
Xylem

Utilities provide unerringly high-quality water and sanitation services essential to community prosperity. Yet budgets are tight, infrastructure is aging, and severe weather events are intensifying. Now, these utilities are also being asked to take on a leadership role in fulfilling community expectations for more equitable outcomes. This begs the question: How can the private sector advance the achievement of environmental justice and water equity in communities, while reducing the burden on water utilities?

The simple answer is that the private sector has an opportunity to serve as an essential partner to water utilities and communities to achieve the aims of water equity and environmental justice policies – more affordably, more effectively, and with more accountability. How this opportunity comes to life is not as simple. It requires innovative solutions, a deep partnership across the water sector and an inside-out commitment to equity from every organization involved in this effort.

At Xylem, a global water technology company, we have the honor of living this public-private partnership and thereby helping ensure a sustainable water future for all. We do this in collaboration with our customers and partners to address water challenges. We show up to help others do great work in the communities we all serve and are committed to:

- Bring new technologies to market that make it easier and more affordable to deliver equitable community outcomes
- Invest in cross-sector partnerships to maximize the value of all perspectives and points of view
- Enact policies that create equitable outcomes with employees, suppliers and partners

In our work, we acknowledge that traditional water and engineering approaches do not reflect the complexity and historical environmental (specifically, water-related) disparities negatively impacting vulnerable and disadvantaged communities. We must work differently, together. Our model at Xylem, working alongside our customers and partners, has allowed us to learn a great deal about how successful public-private partnerships work. It has proven that together, we can solve water challenges and create a water-equitable future.

How the Private Sector Can Support Utilities in Delivering Water Equity

1. Bring new technologies to market that make it easier and more affordable to deliver equitable community outcomes.

Our utility partners increasingly want solutions that span the water cycle (source to watershed) and solutions that link planning, design and implementation to equity. The private sector must deliver technologies to help utilities understand water inequities and point resources toward equitable community outcomes for water services. For example, Xylem's Water Equity Lens is an interactive web application for mapping water service and program data. This tool shows utilities where to target investments in order to maximize water equity in a community. It overlays water equity indicators with census tract attributes to provide context around drivers of disparity. In short, it helps utilities advance water equity simply – minimizing the burden on utilities while maximizing the impact on the communities they serve.

Data analytics is another example of the tools the private sector can provide to aid in water equity. Xylem is increasingly deploying decision intelligence solutions to help utilities optimize water management and make water more affordable and accessible, thereby making communities more resilient and sustainable. The City of South Bend, Indiana, is a great example of powerful data turned into even more powerful outcomes. Their Smart Sewer Program deployed Xylem's Wastewater Network Optimization, a real-time digital monitoring and modeling solution that leverages sensor data, hydraulic monitoring and machine learning to help utilities visualize, predict and control their wastewater networks more efficiently. The city reduced combined sewer overflows by 1 billion gallons annually and saved \$500 million in capital expenditures. This savings does not just become a line item in a city budget. It is savings that helps reduce the need for rate increases to citizens; improving water affordability in a community with a median household income of \$32,000.

Not only in the U.S., but globally, are communities seeking solutions to address the environmental disparities for those most disadvantaged and underserved communities. The private sector will want to also develop technologies that provide affordable water solutions for everyday needs. For example, Xylem's Saajhi Stepping Pump is an innovative global, OEM-engineered stepping pump solution for multiple water abstraction and movement applications. This tool is a low-cost technology designed for individuals in vulnerable communities.

2. Invest in cross-sector partnerships to maximize the value of all perspectives and points of view.

The importance of collaboration cannot be overstated. Private sector solutions are implemented at the hands of community leaders – utilities. They are used every day to deliver vital resources. The private sector must show up to collaborate as a stakeholder in the process and ensure that solutions are safe, effective and equitable for the community. We must also incorporate equitable feedback in the planning, design, and implementation of practices. To do this, the private sector should:

- Collaborate as a cross-sector stakeholder
- Act as a convener
- Contribute as a partner to a coalition that aims to maximize the value of all perspectives
- Provide regional, as well as global, points of view
- Show up with technical and equity in practice experience
- Showcase data and new technologies

Beyond theory, what does collaboration look like in practice? Xylem has made investments in growing our external partnerships to advance water equity solutions. These collaborations accelerate innovation, leverage an ecosystem of one-water thought leaders, and extend into joint efforts on water equity. For instance, Xylem is an active member of the US Water Alliance, participating in initiatives to achieve a One Water approach. As a member, Xylem is a part of the Alliance's "growing movement of people who believe that water can be a force for economic prosperity, community

well-being, and environmental sustainability.” In addition, Xylem’s Essence of Life offering partners with rural, urban, non-government agencies and institutions to empower communities by (1) creating awareness about sanitation and the necessity of safe drinking water and (2) improving universal access to sustainable safe water, sanitation and irrigation solutions by developing an ecosystem of partners of suppliers, distributors and local communities to enhance drinking water availability around the world.

3. Walk the talk. Enact policies that create equitable outcomes with employees, suppliers and partners.

The private sector must mirror the equity we are working to create in the world. This happens through policies and procedures that create equitable outcomes for employees, suppliers, and partners. Following are actions the utilities should demand from private sector partners:

- Policies to advance diversity, equity, and inclusion
- Programs to offer water stewardship with direct community impact for employees
- Engagement with youth that strengthens outreach in underserved and unrepresentative communities
- Procedures and practices to enhance supplier diversity
- Investment in affinity groups to help employees connect, share and learn

At Xylem, we strive for all people to have equitable access to water and sanitation services and have a voice in the design and management of those services. Additionally, we lead by example by creating an organization centered on diverse representation and inclusivity.

Progress toward our diversity, equity, and inclusion goals is focused on diversity recruiting, cultivating our culture of inclusion and increasing data transparency. For example, in the U.S., Xylem expanded sourcing channels for diverse talent through external partnerships like adding Historically Black Colleges and Universities to our recruiting schools and partnering with university and national external diversity organizations, such as the Society of Women Engineers, National Society of Black Engineers, Disability Solutions, MIT Industrial Advisory, Council for Minority Education, Water Environment Federation’s Introducing Future Leaders of Water (InFLOW) program and Hire Military.

What Comes Next

The private sector has an opportunity to play a critical role in supporting utilities as they address the increasing water challenges and work to achieve environmental justice in their communities. To do this successfully, we must work together to integrate equity in the planning, designing, modeling and implementation of everything we do.

We must also recognize the shortcomings of historical water-related policies requiring utilities to measure the success of environmental justice. These policies provided little guidance on how utilities could adopt equitable best practices. Industry-wide, there were very few resources that offered direction for environmental and water resource engineers and scientists on how to plan, design and implement equitably in the water sector.

We can change this. We can provide systematic equity thinking in engineering and water technology solutions. The private sector can invest in a multidisciplinary, equitable workforce to support utilities addressing environmental justice and water equity in the communities they serve. This is a commitment within Xylem, and one we live in partnership with our customers and with the communities we all serve.

Affordable, Resilient and Accessible Water for All

Private sector solutions and public sector action together can help us address (1) water affordability, (2) resilience to water challenges and public health, and (3) water scarcity. Here's how.

- 1. Water Affordability:** Investment in infrastructure must not increase water inequity. In most parts of the world, water rates are increasing to keep pace with the need for continued investment in water systems. Rate increases routinely outpace the rate of local inflation, disproportionately increasing the struggle of economically disadvantaged populations to afford water and wastewater services. Instead of asking these communities to unequally shoulder the burden, utility managers are developing strategies for water equity by optimizing capital and operational spending. By targeting customer engagement and affordability as a strategic policy objective, utilities underscore their role as a value partner to the community.
- 2. Resilience to Water Challenges and Public Health:** Water-related emergencies like flooding, drought and contamination are increasingly affecting water systems worldwide – and the communities who use these systems. We need resilient systems that contribute to community health. We get there by strengthening water infrastructure and ensuring water security to all communities – particularly disadvantaged communities which are often more vulnerable to water-related emergencies. At Xylem, we support resilience by helping our utility partners deliver equitable transport, treatment and distribution of water. Water technology and smart infrastructure solutions help communities prepare for, mitigate the impact of, predict and recover from severe weather events. These solutions protect local economies from damage, ecosystems from flooding and sewers from overflowing. Most importantly, our technology helps safeguard public health. Our advanced digital solutions are harnessing Artificial Intelligence to help prevent millions of gallons of polluted sewer water from overflowing into local waterways.
- 3. Water Scarcity:** Millions of people across the globe lack reliable access to clean water. At Xylem, we provide innovative products and solutions to our customers that treat, transport, test and track water, making it safe and available to entire communities. In order to create sustainable water for areas facing water scarcity, we enable water reuse while allowing more efficient use of clean water by assessing, monitoring and optimizing infrastructure.

Consulting to Address Disparities: Responding to Community Voices



We carry out our work as engineers, [social] scientists, and planners in a time when society is grappling with pervasive inequity and injustice. A time when there is wider recognition that the benefits and burdens people experience are based on race, gender, sexual orientation, and income.

The water sector isn't immune; these inequities exist here too. Race remains the strongest predictor of access to safe potable water and adequate sanitation. Indigenous, Black, and Latinx households disproportionately lack access to sufficient plumbing and safe water¹.

By no means uniformly, and in line with the broader societal effort, the water sector has begun to grapple with the embedded disparities on national, state, regional, and local levels. Federal funding for water infrastructure includes a focus on water equity, especially on removing lead from water distribution systems.

California Context

Following an invitation from community advocates in 2011, the UN Special Rapporteur Catarina de Albuquerque visited California and documented the extent to which many communities – mostly those of color – remained without access to safe drinking water and sufficient sanitation². The prominence of this report and efforts by environmental justice advocates led to action in 2012. The California legislature recognized that “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.” A mandate was put in place for all State agencies to “consider” this human right in every relevant agency decision and activity. With this action California became the first (and still only) state in the United States to legislatively recognize the human right to water.

Despite the Human Right to Water legislative acknowledgement, communities across California in both rural and urban areas, still lack access to safe drinking water on tap. As former State Water Resources Control Board Chair Felicia Marcus aptly described on a recent UC Davis Water Talk podcast episode, Californians have “outed [them]selves” as having an ongoing water equity problem.

The Human Right to Water legislation and the work of environmental justice advocates and community organizers paved the way for the creation of the Safe and Affordable Funding

Continuing to do our part by responding to all voices in the communities we serve, makes us better together.”

Ryan Roberts

Executive Vice President, Water
Stantec

A handwritten signature in blue ink, appearing to read "Ryan Roberts", with a long horizontal flourish extending to the left.

for Equity and Resilience (SAFER) Drinking Water Program. Established in 2019, the SAFER Program now directs billions of dollars across multiple state programs to overcome drinking water disparities throughout California.

In 2014, California voters approved Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Act, which approved borrowing by the State to invest \$7.4 billion in water projects and programs across state agencies. Within these investments was \$510 million for the Integrated Regional Water Management (IRWM) Program. IRWM provides state grants to match regional investments in multi-party and multi-benefit integrated water management planning and projects. \$102 million of this program is a required minimum to support engagement with members of low-income and pollution-burdened communities to develop ideas for projects and programs, and then to implement those ideas. This work funded by Proposition 1 is ongoing.

Decades of organizing and advocacy have directed attention and resources to address disparities in access to the benefits of water, wastewater, and stormwater infrastructure. There is still a long way to go, and more resources are needed.

Historically, there have been too many barriers for marginalized communities to participate as equals in water-related planning. As consultants, what is our role in supporting clients in implementing projects and programs that have an explicit focus on achieving water equity? The following case studies are examples of Stantec teams navigating this space.

Case Studies

Disadvantaged Community & Tribal Involvement Program – Integrated Regional Water Management

The Disadvantaged Community & Tribal Involvement Program (DACTIP) was created within IRWM by the Legislature alongside California voters as a strategy to ensure the involvement of members of disadvantaged, economically distressed, and underrepresented communities in the integrated regional water management planning process. The program was driven by conclusions made throughout the state in earlier stakeholder engagements and water integration efforts. The key insights?

- Community members are experts on their own communities, and their expertise must be recognized and elevated to be equal to that of the water managers.
- Community members should not need to understand the intricacies of water management to be able to express their needs and have those needs met.
- Water managers should develop projects and programs that meet community needs and gain community support by listening to and engaging those voices with intent, understanding, and compassion.

Stantec worked as a subconsultant to the Los Angeles-based non-governmental organization (NGO) TreePeople, and alongside the Council for Watershed Health, Sacred Places Institute for Indigenous Peoples, and a coalition of community-based organizations (CBOs), on a Strengths and Needs Assessment to identify strengths that should be reinforced and needs that should be addressed, to direct IRWM DACTIP efforts in the

Greater Los Angeles County area. Recognizing that the term “disadvantaged community” can be othering and alienating, the TreePeople team named the local effort WaterTalks. The Assessment engaged members of marginalized communities, and the schools and water-related institutions (water suppliers, flood control districts, wastewater agencies, city council offices, etc.) in those communities in a conversation about water management-related needs.

TreePeople convened the WaterTalks Leadership Group, a coalition of thirteen CBOs with expertise in building capacity and supporting their communities to engage in social and environmental justice efforts. Working alongside and with the WaterTalks Leadership Group allowed for the Strengths and Needs Assessment to engage with community members more comprehensively. The COVID-19 pandemic posed considerable challenges for equitable community engagement and involvement, and partnership with the Leadership Group was essential to adapt the Assessment process so that WaterTalks could continue to be responsive to community priorities.

The TreePeople team, proudly including Stantec, was then chosen for the next step in the region – to develop technical assistance programming and projects responsive to the findings of the Strengths and Needs Assessment. Stantec is leading project development, working with our partners to develop projects that reinforce strengths and address key challenges including groundwater contamination, local flooding, heat islands, lack of green space, and water supply reliability. The WaterTalks project development process is focused on identifying, planning, and designing community-driven infrastructure projects beginning with listening and continued engagement, proceeding with key checkpoints to ensure the work of the interdisciplinary project development team stays true to the aims expressed by community members.

Projects, once designed in partnership, are brought forward into existing local and state funding programs, seeking implementation resources. Local project proponent public agencies are onboarded at this step to guide and later “own” the built infrastructure.

Alongside project development, the technical assistance programming focuses on capacity exchange. An agency curriculum focuses on supporting public agencies in engaging with their communities to promote collaborative decision-making and multi-benefit project development. A vital part of the agency curriculum focuses on working with Native Nations and Indigenous Peoples, and understanding the impacts of settler colonialism on water management. A community curriculum focuses on supporting the WaterTalks Leadership Group in understanding and engaging in key water-related decision-making.

This capacity exchange is meant to build relationships and understanding to support continued development of water-related projects and programs that meet the needs of diverse communities in Los Angeles County.

California Safe and Affordable Funding for Equity and Resilience (SAFER) Program Administrators

In 2019, after years of advocacy by affected community members and environmental justice advocates, California passed a new law establishing the Safe and Affordable Drinking Water Fund and creating \$1.3 billion, 10-year effort to ensure everyone in the

state can access safe clean water. The new funds, complementing other existing state resources, are brought together in the Safe and Affordable Funding for Equity and Resilience (SAFER) Program. The Program, administered by the California State Water Resources Control Board, will strengthen the capacity of water systems to provide safe, clean drinking water for all Californians.

An often overlooked concept is that a functioning water system relies on a complex web of social, political, technical, managerial, and financial capacities working together. Traditional technical, managerial, financial (TMF) approaches may not be enough to achieve sustainable water management outcomes if they fail to incorporate social and political (SP) dimensions.

While water managers generally recognize that community engagement is important, fully understanding the political and social context will be essential to supporting the improvement of failing water systems. Each failing water system will have a unique combination of strengths and needs. Assessing the entire range of TMFSP will better uncover where support or intervention will be most effective. A potential solution without community support and buy-in is unlikely to lead to sustainable, positive change.

The SAFER Program has an option to assign an administrator to support a failing water system. Administrators can either be narrowly focused on an identified technical issue or be tasked so broadly as to essentially serve as the staff and management of a water system—or anywhere in-between. In many cases, an administrator will be charged with facilitating a consolidation or long-term partnerships between water systems. Partnerships and specifically consolidation can address the challenges of managing a water system in the face of increased source water contamination, impacts of drought, and other challenges – but can only be sustainable when community members are involved early and often in the process.³

To be successful, an administrator must adopt an ethic focused on collaborative and integrated decision-making led by community members. Many communities face burdens from historical and ongoing under-investment or marginalization. Sometimes this may require leading uncomfortable, open discussions about the compounding social and political challenges that marginalized communities experience—chronic underinvestment, disproportionate burdens of environmental contamination, and lack of representation in policymaking. Even through these challenges, communities often have remained proud, resilient, and strong. Recognizing and affirming these strengths must be part of the effort.

Ensuring an administrator is aware and capable of properly supporting the social and political contexts will be an important step for the managers of the SAFER Program. Assessing the full complexity of TMFSP dimensions of a failing water system will set the stage for properly identifying the processes and resources that can build capacity and long-term water system sustainability.

King County West Point Capital Program Equity and Social Justice Strategy

Stantec is assisting the King County Wastewater Treatment Division (WTD) by leading the development and implementation of a program delivery plan, asset replacement,

and facility upgrades at the West Point Treatment Plant (WPTP) in Seattle, Washington. The West Point Capital Program will streamline and efficiently deliver projects at the WPTP – the largest wastewater treatment facility in the Pacific Northwest. This poses an opportunity to think expansively about the transformational capacity of public agencies.

King County has an Equity and Social Justice Strategic Plan focused on implementing pro-equity policies, practices, and systems upstream of inequitable outcomes to address their root causes. To contribute to the goals in King County's Equity and Social Justice Strategic Plan, WTD requested Stantec support to develop a programmatic approach to achieving greater, or more impactful, equity and social justice outcomes through the West Point Capital Program.

The Stantec team started with strategic listening with WTD staff, managers, and leaders, and document review from across WTD and King County. A key takeaway from these strategic listening opportunities is that many WTD staff see the possibility of being the source of transformational change in their communities. They see their role in building a more diverse and inclusive workforce, in prioritizing pro-equity contracting to advance economic justice, and in building a stronger relationship between the WTD and its community. Second phase efforts will support pro-equity contracting, expanding the pool of candidates for WTD and Stantec internships in King County, and evaluating policies internal and external to WTD that would support the ability to make direct investment in community-driven capital projects.

Concluding Thoughts

Perhaps now more than ever before, there is funding for, and focus on, communities experiencing compounding social, environmental and political challenges. Chronic underinvestment, disproportionate burdens of environmental contamination, and underrepresentation in and exclusion from policymaking are at the heart of the issue.

These augmented resources allow engineering firms that may have historically only worked with environmental justice communities in a philanthropic capacity to turn more attention toward partnering with these previously overlooked clients. Making engineering expertise available may help address the technical challenges that have impacted communities' access to safe drinking water and equitable benefits of water, wastewater, and stormwater infrastructure. However, unless attention is paid to the social and political dimensions that have unjustly kept communities from sustained access to safe drinking water, work done by external actors has the potential to reinforce historical injustices.

Equity is not just an outcome; it is also a process. Prioritizing voices that have historically been ignored and focusing on the process creates an opportunity to support equity and justice beyond the water sector. This approach can allow for a long-term positive impact by honoring the vision and effort of impacted communities and advocates that made resources available for this work.

Extending beyond an individual project or program that our firms may support, we have an opportunity to reflect on how we prepare for this work. As individuals, we have opportunities to grow to understand disparities in access to the benefits of water,

wastewater, and stormwater infrastructure, and reflect on how our work can counter and not reinforce those injustices. As engineering firms, we have opportunities to reflect on who we hire and promote, what expertise is relevant to our work, how we support a more diverse workforce internal to our companies and more broadly –how these decisions influence the impacts we have.

Acknowledgements

Special thanks to authors Mike Antos and Tori Klug for leading the charge for Stantec's Water group, and thanks to all the organizations referenced for our case studies.

Call To Action

Now is the time to work together to ensure “water’s moment” becomes a movement to benefit current and future generations. If you are interested in answering the call to action, please join us in advancing environmental justice in the water sector. We are stronger together.

JULY 2022

The Private Sector's Role in Partnering with Water Utilities To Advance Environmental Justice

Private Sector Leaders Alliance

in partnership with
The National Association of Clean Water Agencies

