

Clean Water, Good Jobs: BlueGreen Alliance Joint Policy on Water Issues

Water is essential to life and critical for a healthy community, prosperous economy, and clean environment. Our nation's water infrastructure is vital to the treatment, distribution, and protection of clean drinking water. Yet age, continued strain from population growth, lack of investment, and emerging threats from climate change have increased the burden on our current water infrastructure system and waterways.

Many U.S. cities rely on pipes that are, on average, a century old.¹ Leaking pipes lose an estimated 7 billion gallons of clean drinking water a day and are known to leach contaminants and breed bacteria in drinking water, jeopardizing the health of our nation's communities.²

Many communities across our nation are already experiencing the water-related effects of climate change as they confront increased flooding, prolonged periods of drought, and severe weather events. Potential impacts of climate change on the nation's waterways include flooding in low-lying areas, loss of routes for transportation and water infrastructure, and the spread of contaminants.³ Significant investments and upgrades in appropriate water infrastructure will be necessary for communities to adapt to the effects of climate change, maintain access to safe drinking water, and adequately treat storm and wastewater.

Contaminated waters pose a serious threat to public health. Every year millions of Americans become ill when they come in contact with or ingest water or shellfish that have been contaminated with microbial pathogens or toxics.⁴ Water contamination is linked to the discharge of untreated sewage which occurs when rain overwhelms combined sewer systems that collect and treat both stormwater and sanitary sewage. Separate storm sewer systems also carry pollutants washed off hard surfaces by rainfall directly into waterways, typically without treatment. Substantial upgrades and investments in the capture, treatment, and mitigation of stormwater are needed to prevent such discharges from occurring.

The continued economic competitiveness of our future generations depends on a clean, safe water supply and on surface waters that are clean enough for industrial use, recreation, agriculture, and other designated uses; we must act now to address these pressing needs. Immediate investment in our nation's water infrastructure is critical and will create numerous good paying, green jobs. **Every \$1 billion invested in water infrastructure is estimated to create more than 20,000 new jobs.** We must ensure domestic sourcing provisions using American-made iron, steel and manufactured goods are attached to water investment initiatives to ensure that the public and private funding that we direct creates jobs and benefits in sectors across the national economy. Investing in water infrastructure has the potential to stimulate and support many economic sectors including construction, manufacturing, transport, and tourism. Additionally, our water systems must be properly managed in order to deliver the greatest benefit. Water and wastewater systems are public goods and as such are best left in public hands, given water's role in public health, economic development, national security, and quality of life.

Job Creation Opportunity

In 2009, The American Society of Civil Engineers gave America's water infrastructure a grade of D-. Their study found that aging facilities, many of which are vital for meeting clean water standards yet near the end of their useful lives, are in critical need of upgrade or replacement.⁵ To meet this urgent and critical need, the Congressional Budget Office estimates the difference between current capital spending and

future costs, known as the funding gap, to be \$3.0 - \$19.4 billion annually for both drinking water and wastewater systems.⁶ This amount of funding is required to meet standards of water quality and to maintain and replace assets cost-effectively.⁷

Needed investment in water infrastructure programs will create thousands of jobs through the replacement and upgrade of pipelines, treatment plants, storage tanks, and the installation of green infrastructure projects. A key part of job creation is the use of gray water systems, water reuse-recycling, hot water circulating systems, and rain water catchment systems. These water saving components can be retrofit in existing facilities and thus add work opportunities in existing and new facilities. In addition to the work created by these piping systems, there is a supply side of industries that will benefit from manufacturing the various pieces of equipment required. These investments will put people back to work and ensure that our communities have access to safe, clean water.

Addressing environmental problems such as untreated runoff and combined sewer overflow creates valuable opportunities for job creation. The sewer systems in our nation's major cities are often inadequately equipped to handle stormwater run-off, particularly given climate change-induced extreme weather that is increasing the intensity and frequency of precipitation events. Combined sewer overflows (CSO) occur when storms or sudden downpours overwhelm combined sewer systems that collect both stormwater and sanitary sewage. As a result, sewage often floods basements and streets, and cities must also open their floodgates to discharge stormwater and untreated sewage into local rivers and lakes. This problem can be mitigated by constructing additional sewer pipes, retention basins, and treatment facilities, along with incorporating green infrastructure projects such as permeable pavement, vegetated roofs, parks, and other natural areas. These types of 'green infrastructure' allow for rainwater to be absorbed naturally, which reduces runoff and protects important ecosystems. At the same time, green infrastructure investments provide additional benefits, like enhancing biodiversity in cities, providing habitat for wildlife living in and around urban areas, reducing energy costs and resulting carbon emissions from treating wastewater, reducing urban heat island effects, and providing opportunities to connect urban residents with nature while increasing recreational opportunities.

Green infrastructure, like all water infrastructure, must be installed and maintained correctly to be effective.

Watershed Focus:

From January 2009 through January 2010, five cities on the U.S. side of the Great Lakes — Detroit, Cleveland, Buffalo, Milwaukee, and Gary, Indiana — discharged 41 billion gallons of untreated sewage and filthy storm water into the lakes.⁸ These discharges pose serious health risks to humans, harm wildlife, and hurt tourism. Combined sewer overflows contaminate the Great Lakes with toxic chemicals, dangerous pathogens, and debris that pollute beaches, threaten human health and wildlife, and harm the region's multi-billion dollar tourism economy.⁹ Cities need to invest more heavily in green infrastructure projects to solve the problems posed by CSOs, and given the impact CSOs have on regions and waterways, state and federal agencies have a significant role to play in supporting and coordinating these efforts. Green infrastructure is a proven, cost effective way to capture and clean stormwater before it overwhelms sanitary sewers and flows into the Great Lakes watershed.

Skilled workers are needed to ensure the installation and construction of green infrastructure projects are effective and maintain water quality standards. In addition, green infrastructure, along with traditional water systems, requires routine maintenance and upkeep to function optimally, thus sustaining job creation and employment opportunities.

Climate change is placing additional strain on our nation's water infrastructure. Increased precipitation in the Midwest and East Coast is likely to contribute to flooding and increased CSO, requiring cities to invest in and build infrastructure to effectively manage stormwater. Decreased precipitation in the western U.S. will have drastic effects on water availability and supply. Carbon emissions will increase as western cities become increasingly reliant on energy-intensive processes to treat, pump, and deliver clean water. Improving drinking water infrastructure through investments in water recapture, reuse, and transport will save water and energy, reduce the carbon dioxide emissions that result from energy used to pump water, and create employment to meet these emerging needs. Additionally, investment in low-water and no-water technologies in the energy sector will further support sustainable infrastructure objectives.

The water dependence of many power plants, combined with rising electricity demands, creates a strain on the nation's water resources. Modernizing fossil fuel and nuclear plants with more water-efficient cooling technologies and investing in energy efficiency and renewable energies such as wind will save water and energy, lessen risks of water-related power conflicts, benefit local ecosystems, and create jobs through an innovating energy sector.

Federally funded infrastructure programs, such as the state revolving funds (SRFs) support millions of jobs. Since the Clean Water State Revolving Fund was established in 1988, it has leveraged more than \$74 billion in water infrastructure investment, creating 1.4 to 2 million jobs through the U.S. economy.¹⁰ By ensuring domestic sourcing provisions are attached to these taxpayer-sourced investments, we can ensure these investments promote technology and innovation here in the U.S., create quality jobs, and deliver the highest benefit to the taxpayers and the U.S. economy.

Every \$1 billion invested in water infrastructure creates between an estimated 20,000 and 26,700 jobs.¹¹ By incorporating Buy America provisions in federal infrastructure investment, we can ensure that water infrastructure projects have an even larger benefit on the U.S. economy since those investments will boost American businesses throughout the economy and supply chain. Every \$1 billion in direct investment results in an estimated \$3 billion in economic impact through industries that are directly or indirectly related to building or improving water and wastewater infrastructure throughout the economy.¹²

The following are further examples of direct and indirect job creation from water infrastructure and green infrastructure investments:

- Construction
- Steel and iron inputs
- Pipe fabrication
- Manufacturing equipment and machinery
- Heavy equipment operations and truck transport
- Architecture and engineering services
- Landscaping design and installation
- Technical equipment and instrumentation

Regulations Protect Clean Water and Create Jobs

Environmental regulations, such as those that implement the Clean Water Act and the Safe Drinking Water Act, have a legacy of protection for the health of our citizens and the safeguarding of our environment.

Regulations protect our water and improve our standard of living while creating new jobs. By adopting and enforcing water protection policies, such as the Clean Water Act, we can ensure the integrity of our waters for current and future generations. Protected watersheds that provide clean drinking water and support abundant fish and wildlife are critical to the health of communities and local economies.



Photo: a worker fixing a water main break. The EPA estimates that there are 240,000 water main breaks per year in the United States.

Clean, healthy waters that are fully protected by the Clean Water Act are valuable to the U.S. economy. Farms rely heavily on clean water for irrigation, manufacturing companies use nine trillion gallons of fresh water yearly, the beverage industry uses more than 12 billion gallons of water annually to produce products valued at \$58 billion¹⁴, and around 40 million anglers spend \$45 billion annually to fish the nation's waters.¹⁵

Additionally, environmental regulations safeguard health, increase property values, and promote a healthy middle class. The impact of pollution on streams can impose real costs to the economy, slowing growth and harming human health. Clean water ensures safety and good health, resulting in fewer missed days from work and lower expenses for health care. Jobs that stem from environmental regulations concerning clean water are diverse, and include engineers, factory workers, truck drivers, and construction workers. These jobs require various skill sets, encompass a range of occupations, and are vital to supporting a strong middle class.

Investment related to environmental regulation creates jobs. Regulated firms often hire additional workers to increase environmental control in the same way that they hire more workers to produce more output. Reducing pollution tends to be more labor intensive than producing many commodities.¹⁶

Furthermore, environmental regulations spur innovation and development, and create new products for the market that raise environmental quality. Finally, higher environmental standards create new jobs in the maintenance of facilities and in monitoring and operating control equipment.

Water Infrastructure Jobs are Good, Green Jobs

Not only are water infrastructure jobs key to conserving water, reducing the impacts of flooding and droughts caused by climate change, and mitigating pollution, they are also good, green jobs. By properly investing in water projects, we will create thousands of jobs that will strengthen our economy and communities and bolster the middle class. We must ensure that these green jobs are good jobs by requiring prevailing wage provisions and benefits as outlined under the Davis-Bacon Act. The Davis-Bacon Act ensures that local laborers hired under federal contracts are paid prevailing wages and fringe benefits on federally-assisted construction projects. Our nation's construction workers are at the vanguard of building the vital infrastructure necessary to support a growing green economy and healthy, sustainable communities.

Action

Water protection, infrastructure, and efficiency investments offer significant opportunities to create good jobs that strengthen our economy and our communities, safeguard human health, and protect our environment. The following policy and regulatory approaches represent potential ways to maximize investment to fully realize these opportunities:

Restore the protections of the Clean Water Act

(CWA): Supreme Court rulings in 2001 (SWANCC) and 2006 (Rapanos) have weakened the CWA. Subsequently, Clean Water Act protections have been called into question for an estimated 20 million acres of wetlands and about 2 million miles of streams. These wetlands and waterways feed a larger system of waters which communities depend upon for health and economic productivity. Clean waters are a powerful economic engine supporting millions of jobs across recreational, manufacturing, and transportation sectors. By restoring the full scope of the CWA, we ensure that CWA pollution protections apply throughout the watershed, and we can ensure the health of our citizens, economic competitiveness of our nation, and environmental integrity of watersheds that are vital to supporting life.

Watershed Focus:

The Chesapeake Bay, with an estimated economic value of over one trillion dollars, is the largest estuary in America. Clean Water Act protections play a vital role in protecting and restoring the Chesapeake Bay by stemming pollution and wetland loss throughout the extensive Chesapeake Bay watershed. However, recent Supreme Court rulings (2001, 2006) have called into question Clean Water Act protections for thousands of miles of small streams and thousands of acres of wetlands that feed the Chesapeake Bay.

In addition, the Clean Water Act-mandated clean up plan for the Chesapeake Bay is being challenged in court by the American Farm Bureau Federation. The Chesapeake is threatened by excessive nitrogen, phosphorous, and sediment pollution which is exacerbated by the destruction and pollution of smaller streams and wetlands. The over abundance of these pollution agents feeds massive algal blooms creating large "dead zones" that deplete the Bay of oxygen, leaving less available for the Bay's wildlife. Without a strong, Clean Water Act clean up plan implemented throughout the entire watershed, pollution will continue to deteriorate the health of the Bay. As a result, the 17 million people who live in the Bay watershed and rely on it for recreation and their economic livelihoods face an uncertain future.¹³

Defend environmental regulations: Regulations protect our waters from contamination and provide necessary standards to ensure safe, clean water. Strong regulations, applied to waters large and small, protect human health and improve our standard of living. Such regulations create jobs in the manufacturing, operation, and implementation of current and new technologies to mitigate pollution.

Additionally, regulations create jobs in protection and enforcement by prompting industries and communities to invest in the restoration of wetlands and streams as well as infrastructure to treat wastewater and storm-water runoff.

Fully fund clean water and water conservation programs: Clean water programs, such as watershed grants, section 319 and 106 grants among others, are necessary to protect and defend America's great network of waters. These programs are vital to preventing environmental damage which threatens public health and can reduce people's ability to work effectively, and providing us with a cleaner, healthier natural environment. Clean waters and healthy communities are inextricably linked. EPA's WaterSense program assists consumers and communities by labeling the most water-efficient products and services, helping to conserve water resources and reduce unnecessary demand on our water and wastewater infrastructure. Recent funding curtailments for this small but effective program should be reversed.

Fully fund State Revolving Funds: The Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF) provide low interest loans to communities to expand and repair water infrastructure. However, these funds have not kept pace with the needs of U.S. communities. Despite a growing funding gap, Congress has continued to slash funding for the State Revolving Funds in recent years. The FY2011 continuing resolution budget cut the CWSRF by 27 percent and the DWSRF by 30 percent from 2010 funding levels. Appropriations for FY2012 diminished state revolving funds even further. The proposed FY2013 budget proposal would slash funding yet again, and the SRFs are expected to be a major casualty if the federal government fails to agree on a plan to cut the budget deficit by at least \$1.2 trillion by the end of the year. By underfunding state revolving funds, our nation's water sources, the health of our communities, and significant job creation potential are at risk. We must increase investment for state revolving funds, and guarantee they contain provisions to ensure that domestically produced iron, steel and manufactured goods are used to build

American infrastructure.

Create a national registry of water main breaks: The EPA estimates that there are 240,000 water main breaks per year in the United States.¹⁷ A national registry should be established for public water suppliers to annually report all water main breaks, along with key information associated with each event, including the size, composition, age, and bedding material of the broken water main. Such a registry would help identify patterns of vulnerability and inform both local and federal assessments of the condition of this crucial but invisible water infrastructure. Over time, this information will facilitate benchmarking our performance in maintaining safe and reliable water supplies and our commitment as a nation to provide the resources necessary to accomplish the task.

Better address energy-water collisions: Water demand from power plants is combining with population growth to strain water resources across the country, especially during droughts and heat waves. The first step in addressing these 'energy-water collisions' is improving information to make smart energy and water decisions – we need to ensure power plant operators report accurate and timely information on their water use and water quality issues to the Energy Information Administration, the EPA, and state-based agencies. Modernizing fossil fuel and nuclear plants with more water-efficient cooling technologies, deploying more energy efficiency, and using more low-water renewable energy sources such as wind and solar PV can save water and energy, lessen risks of water-related power conflicts, benefit local ecosystems, and create jobs through energy sector innovation.



Encouraging the development of sustainable water infrastructure is a major component of the BlueGreen Alliance's **Jobs21!** plan.

Jobs21! is a comprehensive plan that responds to the critical nationwide need for a job-creation strategy. **Jobs21!** can solve America's jobs crisis by focusing on the jobs and industries of the 21st century — renewable energy, energy efficiency, manufacturing, transportation infrastructure, recycling, green chemistry, broadband Internet, and smart grid technologies.



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