

Green Job Creation in the Nation's Largest Stormwater Programs



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About the project team

Started in 2020 and funded by the Great Lakes Protection Fund (GLPF), the **Resilient Infrastructure for Sustainable Communities** (RISC, www.risc.solutions) was created to establish a resilience and finance leadership cluster of municipal resilience officers and other sustainability leaders across the cross-national Great Lakes region.

RISC's key goals include providing a forum for collaboration and innovation on an inter-regional scale on new models for project delivery, investment, financing, and asset management; promoting One Water; and helping implement largescale investments that lead to sustainable stormwater infrastructure and green neighborhoods in Great Lakes communities, thus directly addressing water quality and quantity challenges presented by the changing climate.

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Corvias Infrastructure Solutions (CIS) is a national leader in the development and implementation of public infrastructure solutions, focusing on improving the environmental, economic, and social condition of the nation's infrastructure through solutions that drive local economic inclusion and equity, reduction of public risk, and increased community investment and buy-in. CIS also offers related advisory and research expertise and services on topics including One Water, nature-based solutions, climate resilience, disaster prevention, equity, environmental justice, finance, water affordability, and public trust.

Summary: Green Jobs in Green Infrastructure

The Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) are profoundly influential for green infrastructure and green job creation. These two new laws present substantial funding avenues for a diverse array of entities – including nonprofits, local governments, underserved communities, and indigenous populations. Each fosters an encouraging environment for prospective funding applicants within the green infrastructure sector and broader climate action across the economy.^{1,2} To succeed in securing funding, it can be beneficial for these entities to meticulously align new and existing projects with the triple bottom line approach -- a comprehensive framework emphasizing commitment to environmental, social, and economic benefits.

Both laws – the BIL and IRA – strongly encourage applicants to robustly articulate the multifaceted impact of their projects, underscoring the requirements for clear demonstration of positive environmental, social, and economic results. With escalating exigencies of climate change, a pronounced demand and robust capacity can lead to expanding green jobs across the economy.

In total, an approximate \$62.25 billion combined for the Water, Wastewater and Stormwater Industry can be allocated according to the BIL and IRA criteria via Grants, Loans and Direct Tax Credits. The green infrastructure industry is poised to adeptly harness these funds for the pivotal creation of green employment opportunities, which can contribute meaningfully to mitigating climate change impacts.

Furthermore, empirical evidence underscores the potential employment impact of substantial investment

in green infrastructure. A study conducted by the Political Economy Research Institute explains that each investment of \$1 million is correlated with the creation of 14.7 green jobs within the Water/Wastewater Industry.³ Extrapolating from this, an investment approximating \$62.25 billion holds the promising potential to spur an estimated 933,000 green jobs, advancing both environmental sustainability and economic vitality.^{ibid}

An all-industry wide analysis conducted by Green for All, in collaboration with the Economic Policy Institute and American Rivers, finds that every \$1 of federal investment in green infrastructure can yield \$1.40 in economic return (i.e., growth in GDP).⁴ The development of underserved communities is of central importance. Funding requirements from the BIL and IRA allocate a substantial amount of investment for underserved communities, which are disproportionately vulnerable to the effects of climate change. The EPA reports that for every federal dollar invested, \$2.17 have benefited local communities.⁵

Part 1 of this paper – titled “The Landscape of Green Job Creation in Green Infrastructure” – examines the triple bottom line approach to Green Infrastructure, observing its co-benefits on environment, society and economy while highlighting industry-leading examples from pioneering Water, Wastewater and Stormwater Authorities. These early innovators – including the Buffalo Sewer Authority, Philadelphia Sewer Authority, the Milwaukee Metropolitan Sewer District, and Maryland's Prince George's County – have adeptly harnessed funding to realize an array of successful green infrastructure initiatives.

These innovators' pronounced focus on fostering partnerships among underserved communities, non-profits, and local governments is compelling. Through communicative, consistent outreach, these projects effectively educated community members about opportunities in green job training and skills, establishing a robust career pathway in green infrastructure. These partnerships are tailored to construct and sustain resilient green job training programs, thereby fostering opportunities and ensuring success for local community members in obtaining family-supportive careers while bolstering environmental sustainability.

A novel example of this model is the Clean Water Partnership between Maryland's Prince George's County and CIS. This partnership underscores the significant environmental and economic impacts achievable for the local community through innovative green stormwater infrastructure projects, supported by a comprehensive green jobs training pipeline.



To bolster the green jobs pipeline, paid training opportunities are brought to the forefront. Participants acquire valuable skills without the accompanying opportunity costs of employment elsewhere. Notable job training programs such as Power Corps Philadelphia and PUSH Buffalo, which offer paid training, have reported increased participation in green job training programs and subsequent green job creation.

In summation, the research highlights the significance of a multifaceted approach, encompassing partnerships, community engagement, and comprehensive training programs in fostering green infrastructure development, enhancing environmental and economic outcomes.

Part 2 of this paper – titled “Funding Sources and Strategies” – explores funding avenues primarily encompassing the two laws, the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA) amounting to \$62.25 Billion in Funding for Water Infrastructure Projects.

The BIL allocates an unprecedented \$1.2 trillion for green transition projects. **\$52.2 billion of the allotted funds will focus on Water Infrastructure Projects.** Specifically, clean drinking water and green stormwater infrastructure – with significant allotments for disadvantaged, rural, and indigenous communities, ensuring extensive reach and impact. The BIL's robust commitment to green job creation reinforces a steady demand for many skilled workers.

The IRA provides nearly \$400 billion in government funding towards clean energy initiatives with **\$10.05 billion for water related initiatives.** Uniquely, the IRA introduces a unique direct payment structure, especially beneficial for non-taxable entities such as non-profits. The law allows these entities to directly monetize tax credits, simplifying their access to crucial funds and incentivizing their participation in green projects, including local and disadvantaged communities, similar to the BIL.

Table 1: Federal Funding Allocations from Bipartisan Infrastructure Law and Inflation Reduction Act for Water Infrastructure

| Federal Funding for Water Infrastructure Initiatives | Funding Amount |
|---|------------------------|
| Bipartisan Infrastructure Law (BIL) | \$52.2 Billion |
| Lead Service Lines Drinking Water State Revolving Fund | \$15 Billion |
| Clean Water State Revolving Fund Traditional | \$11.7 Billion |
| Drinking Water State Revolving Fund Traditional | \$11.7 Billion |
| Emerging Contaminants in Small and Disadvantaged Communities | \$5 Billion |
| Emerging Contaminants Drinking Water State Revolving Fund | \$4 Billion |
| Environmental Programs and Management | \$2 Billion |
| Brownfields Revitalization (Includes Green Job Training Emphasis) | \$1.5 Billion |
| PFAS Clean Water State Revolving Fund | \$1 Billion |
| Save Our Seas 2.0 | \$275 Million |
| Infrastructure Reduction Act (IRA) | \$10.05 Billion |
| Flood and Climate Resiliency | \$5.5 Billion |
| Drought Relief | \$4 Billion |
| Domestic Water Infrastructure | \$550 Million |
| Total Funding for Water Infrastructure from BIL & IRA | \$62.25 Billion |

Programs, such as the **IRA's Neighborhood Access and Equity Grant Program**, which receives funding from the Flood and Climate Resiliency initiatives, specifically address community connectivity barriers. Projects eligible for this funding must demonstrate community engagement, local employment plans, and oversight by community advisory boards, to ensure that funds directly benefit the areas they serve.

Furthermore, the IRA's focus on green job creation is slated to foster over one million green employment opportunities across diverse disciplines within the next decade. The emphasis on compliance with high-standard labor requirements and engagement with certified apprentices from registered programs underlines its commitment to bolstering the green workforce while ensuring workers' welfare. Essential training programs such as the **National Green Infrastructure Certification Program (NGICP)** play a pivotal role, equipping workers with vital skills for green infrastructure roles while offering paid training opportunities.

Both BIL and IRA present extensive funding opportunities for green infrastructure projects with a strong emphasis on community investment, green job creation, and adherence to labor welfare standards, setting a solid foundation for a sustainable, green future.

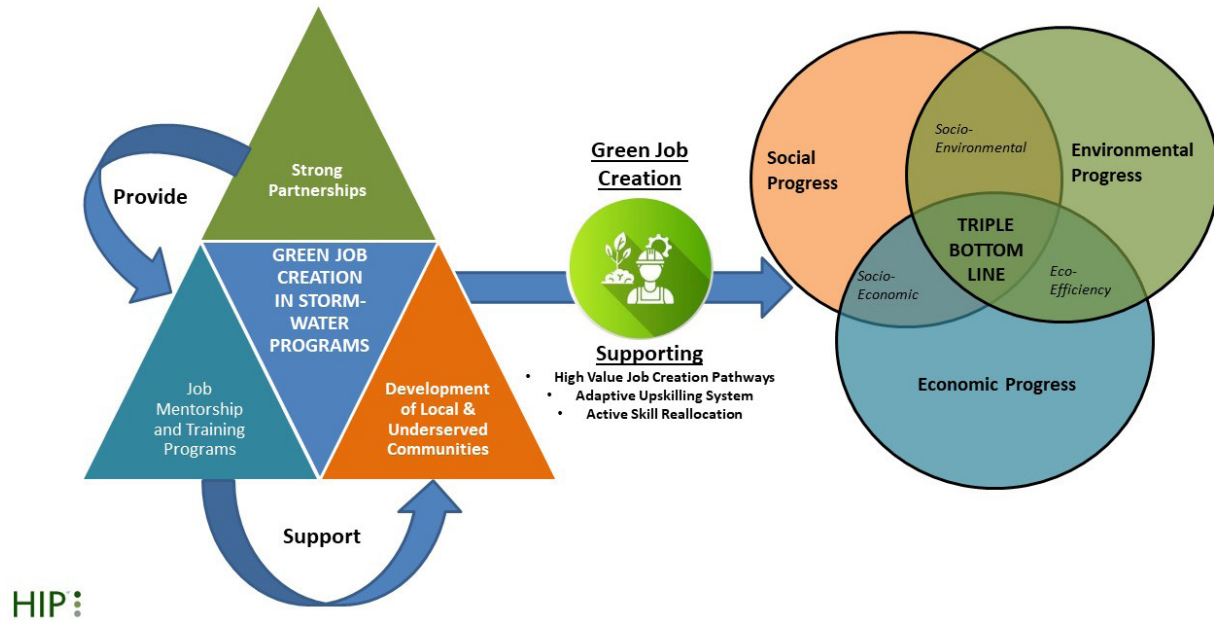


Key Takeaways for Successful Funding Applications

An important lesson for grant seekers is to be able to **clearly demonstrate how their projects, programs and partnerships achieve triple bottom line benefits, especially for those in underserved communities.** As a result, thoughtful stormwater authorities can implement more green infrastructure projects and create more green jobs.

By focusing on the triple bottom line, fund and grant seekers can increase their chances of success in securing funding for green infrastructure projects. Both the Bipartisan Infrastructure Law and Inflation Reduction Act are critical investments in the future of our communities and environmental prosperity, and the stormwater community can play a key role in advancing the goals of green infrastructure and climate action.

Part 1: The Triple Bottom Line in Green Infrastructure



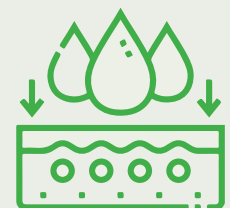
A Environmental: Nature-Based Solutions to Climate Change

Green infrastructure plays a pivotal role in benefiting the environment through various ecological processes, including stormwater capture, carbon sequestration, and shading-induced cooling. These natural processes can yield a multitude of positive environmental outcomes.

Supporting aquatic ecology: Adverse effects of climate change have been observed to disproportionately affect areas that contain lakes and rivers. Aquatic ecosystems, such as lakes and rivers, are particularly vulnerable to the various effects of climate change, with an array of negative consequences forecasted for the future. These potential consequences include: increased flooding, greater intensity of pollutants, more prevalent sediment, and extended periods of drought due to the higher frequency of extreme weather events.⁶



Adaptation to impervious surfaces: In urban areas, due to the high occurrence of impervious surfaces, increased rain events pose a serious concern. The inability of impervious surfaces to naturally absorb water leads to higher risk of flooding and stormwater overflow. In times of increased precipitation, rainwater accumulates and rapidly flows into storm drains, leading to detrimental consequences for streams in critical ways.



Mitigating sewer overflows: According to an EPA estimate, every year sewer overflows contaminate U.S. waters with 850 billion gallons of untreated sewage. The consequences are often detrimental, as an estimated twenty million people in the U.S. become sick each year from drinking contaminated water.⁷ Moreover, these types of consequences will often disproportionately impact low-income communities and communities of color.⁸



Green infrastructure offers innovative nature-based solutions to the problem of impervious surfaces, which traditionally prevent water absorption and lead to increased runoff and flooding. Unlike conventional methods that focus on funneling stormwater away through drains and pipes, green infrastructure employs techniques that mimic natural processes. It incorporates permeable pavements, green roofs, rain gardens, swales, and constructed wetlands to absorb, filter, and manage stormwater.^{9,10} These features allow stormwater to infiltrate the ground rather than flowing over hard surfaces, reducing the risk of erosion and water pollution.

By mimicking the natural water cycle, green infrastructure not only lessens the strain on conventional drainage systems but also aids in replenishing groundwater supplies, improving water quality, enhancing urban biodiversity, and providing aesthetic benefits. It represents a multifaceted and sustainable approach to the complex issue of impervious surfaces in urban environments.¹¹

Due to these intensifying weather caused by climate change, the importance of green infrastructure is elevated because of nature-based solutions which can safely mitigate the adverse consequences, such as stormwater runoffs. Solutions presented by green infrastructure represent a multifaceted and sustainable approach to the complex issue of impervious surfaces in urban environments.

B Social: Fostering Deeper Community Connection

The triple-bottom-line framework emphasizes also the significant social co-benefits. Numerous studies demonstrate that an enhanced connection of people to the natural environment directly contributes to the health, safety, and overall well-being of residents.^{12,13,14}

Better citizen well-being: Green infrastructure has been correlated with better well-being due to the increased green spaces and social bonds.¹⁶ This enhancement of an individual's community fosters a sense of pride and belonging among the community members, leading to stronger social cohesion and a greater sense of community identity. Additionally, the reduction of stress achieved from green infrastructure projects becomes highly beneficial.¹⁵



Lower stress: Stress is a significant health concern. By incorporating green spaces that offer opportunities for relaxation and recreation, green spaces promote better mental health and overall well-being. Community members can access these spaces for rest and social gatherings, further reinforcing community bonds and social support networks.^{16,17}



Less crime: Moreover, green infrastructure's role in lowering crime rates has a significant social impact.¹⁸ As a result of community cooperation within the green infrastructure initiatives, creation of well-maintained and well-utilized green spaces have helped areas become safer and more inviting, discouraging criminal activities, and promoting positive social interactions. Safer neighborhoods contribute to an increased sense of security among residents, encouraging community engagement and a more vibrant feeling of connectedness.



Green infrastructure can bring a range of social benefits for the community. The improved quality of life, safer neighborhoods, and stress reduction foster stronger social connections, community cohesiveness, and a healthier, happier populace. By recognizing and incorporating these social benefits, the TBL framework is committed to creating not only a sustainable environment but also a thriving and inclusive community for social betterment.

C Economic: Green Job Creation

By 2030, the IRA's commitment to green job funding is projected to benefit approximately 1.3 million workers across all sectors. In economic terms, this proactive stance is set to fuel a growth in GDP by at least 65% within the same timeframe.¹⁹

According to a study conducted by the Political Economy Research Institute, **for every \$1 million invested in the Water and Wastewater Industry, a total of 14.7 green jobs are generated.**

Additionally, the analysis estimates that per every \$1 million dollars invested, a resulting 12.8 jobs would be created for Inland Waterways, 18.8 green jobs created for occupations related to Levees and 18.6 for Dams. Furthermore, The institute's research indicates that a specific \$10.5 billion investment could lead to the establishment of about 150,000 direct green jobs in projects associated with water and wastewater infrastructure. With an investment of \$62.25 billion in the Water and Wastewater Industry, the creation of nearly 933,000 green jobs is anticipated over the course of a decade.²⁰

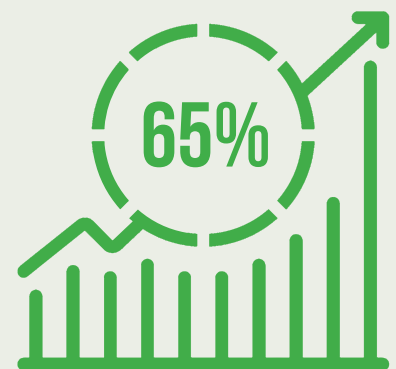


Table 2: Green Job Creation per \$1 million in Investment ^{ibid}

| Industry | Direct Green Jobs | Indirect Green Jobs | Induced Green Jobs | Total Green Jobs |
|------------------|-------------------|---------------------|--------------------|------------------|
| Water/Wastewater | 5.9 | 3.4 | 5.4 | 14.7 |
| Inland Waterways | 4 | 3.9 | 4.9 | 12.8 |
| Levees | 8.1 | 3.8 | 6.9 | 18.8 |
| Dams | 8 | 3.8 | 6.8 | 18.6 |

Moreover, upskilling for green jobs is relatively frictionless as many of the skills are transferable from existing industries and does not require higher education. **Research from Deloitte²¹ indicates that 80% of skills required from the green transition in the short to medium term already exist.** A study conducted by Green for All, in partnership with the American Rivers and Economic Policy Institute²² finds that most of the occupations associated with water infrastructure projects do not necessarily require high levels of formal education.

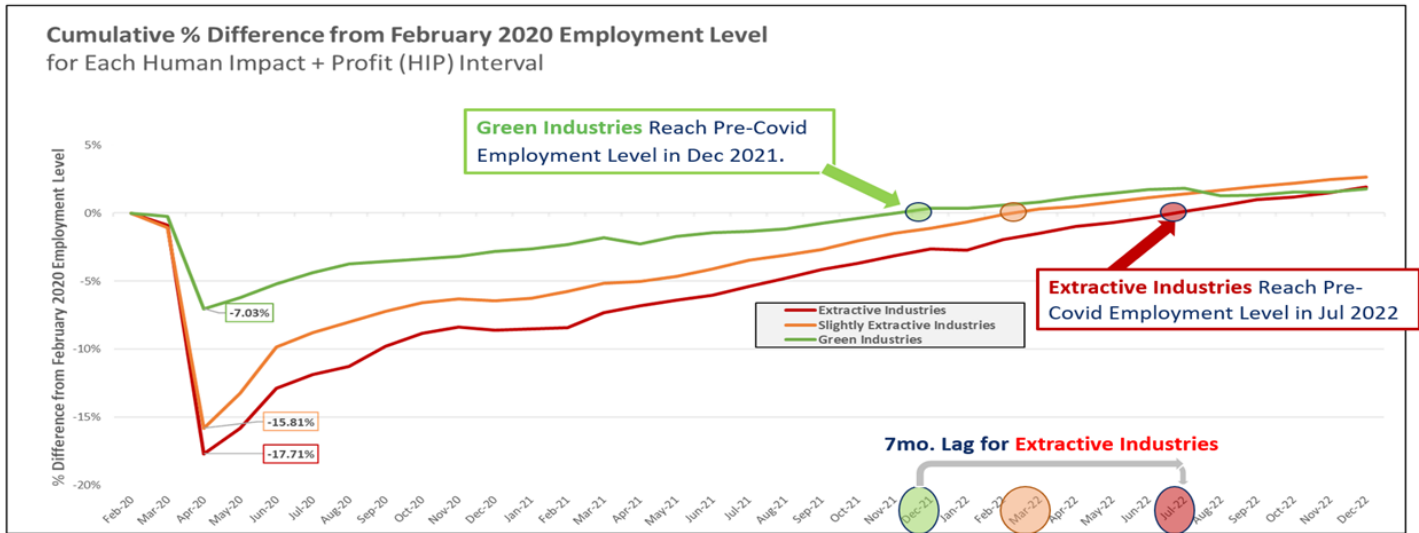
The majority of these green infrastructure jobs are accessible to individuals without a four-year college degree. The Green for All study found that out of the 15 listed occupations related to Green Infrastructure, 13 had an entry level requirement of a high school diploma along with additional post-secondary education or training.^{ibid} This can be advantageous as green upskilling will require less training time due to the educational requirements and due to the fact that many existing workforce skills are transferable to green jobs.

Due to the increasingly adverse effects of climate change, there is an increasingly urgent need for standardized green skill training programs that establish a pipeline of talented individuals in the green job sector. Standardized training programs are

essential for success. Job certification programs help foster green skills as a gateway to job opportunities with a triple bottom line approach. However, acquiring these green skills is not always immediate or straightforward for workers. Therefore, policy plays a crucial role in establishing and supporting skilling programs for individuals.

The National Green Infrastructure Certification Program (NGICP)²³ equips entry-level workers with essential skills for constructing, inspecting, and maintaining green stormwater infrastructure. This program actively engages young people aged 18 to 30 in the rapidly expanding environmental sector, providing them with targeted training, support, and placement opportunities. By offering comprehensive work readiness skills training, support services, and on-the-job experience in green infrastructure maintenance, the program aims to create a talent pipeline certified through NGICP.

Green jobs can provide good wages for workers, as compared to non-green jobs. The IRA and BIL have standards that ensure appropriate wages through the Davis-Bacon prevailing wage requirements. Since 2020, HIP Investor’s green jobs analysis and monthly report observed that jobs in Greener Industries have been more resilient, paid higher wages and resulted in fewer job losses.²⁴



During the Covid-19 pandemic, Greener Industries were the fastest to recover back to pre-covid levels, a testament to their resilience even in recessionary times.



Examples from Leaders in Green Infrastructure and Green Job Creation

Prominent leadership from stormwater authorities is being pursued by:

- ⦿ Buffalo Sewer Authority
- ⦿ Philadelphia Sewer Authority
- ⦿ The Milwaukee Metropolitan Sewer District
- ⦿ Maryland's Prince George's County



These innovators show that Green Infrastructure and Green Job Creation can be compelling and can generate benefits with a triple bottom line approach, benefitting the environmental, social, and economic aspects.

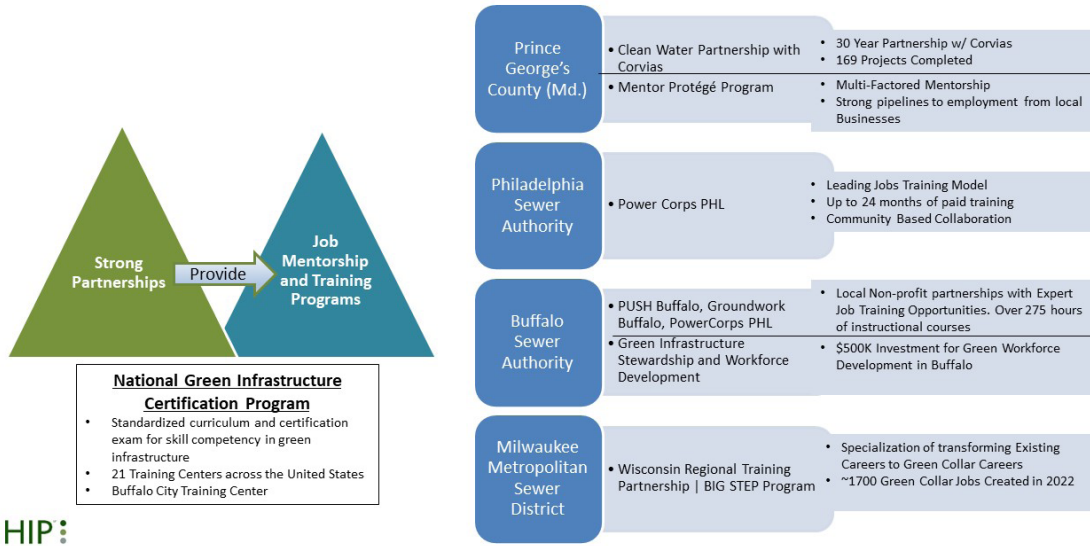
Innovative stormwater authorities establish strong partnerships with nonprofits, underserved communities, businesses and the local governments. Strong partnerships focus on the development or maintenance of green job training programs in order to produce co-beneficial returns on investment for the economy, environment, and social progress.

The Clean Water Partnership between Maryland's Prince George's County and CIS provides an excellent example of achieving economic, social and environmental co-benefits through a Community-Based Public-Partnership framework, and bolstering green job growth for their local disadvantaged communities.

Buffalo Sewer Authority, Philadelphia Sewer Authority, and the Milwaukee Metropolitan Sewer District have also emphasized the importance of local community green job creation and have established green job training pipelines through partnerships with local non-profits, such as Powercorps PHL.

Green jobs welcome a diverse set of skills and career interests that is inclusive of a larger group of workers. Many of the skills required already exist in our current workforce. This gives opportunity to only provide a green transition to foster economic growth and promoting social equity while protecting our environment and biodiversity.²⁵

A Seek Partnerships that Provide Green Job Training Programs



Partnership, Training, and Mentorship Program Importance

The Philadelphia Sewer Authority's partnership with PowerCorps PHL, a non-profit organization in Philadelphia, provided a pipeline for thriving careers in Green Infrastructure. The PowerCorps PHL program provides paid training for participants and gives access to hands-on training in green water systems. The program is comprehensive, and applies a standardized course curriculum which takes up to 24 months to complete.²⁶

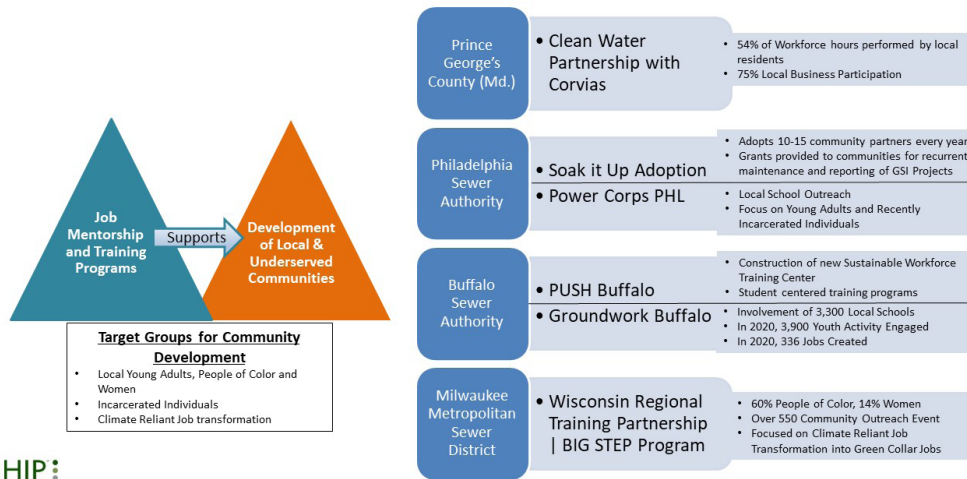
The partnership between the Buffalo Sewer Authority and PUSH Buffalo provided an essential green-skilled workforce through a curriculum including over 275 hours of relevant green-skill training experience and career opportunities in green infrastructure.²⁷

PUSH Buffalo, a local nonprofit in Buffalo, New York adopted the PowerCorps PHL framework and implemented it through its community-based job training. As a result, the local non-profit established a pipeline for careers in fields like green construction, solar installation and green infrastructure. In turn, this benefits not only the individuals who will gain new skills and career opportunities, but also the communities that are made more resilient.

Milwaukee Metropolitan Sewer District's partnership with BIG STEP created over 1,700 Green Jobs in 2022 for Milwaukee alone.²⁸ This program specialized in transitioning existing jobs into Green Jobs, incorporating both new and existing laborers; 80% of the skills required for Green Jobs exist today.²⁹ Occupations related to construction, groundskeeping, maintenance, plumbing, electricians, water systems operations, and geographic information services (GIS) are in demand and can be quickly adapted to requirements needed for Green Job work.³⁰

Maryland's Prince George's County provides a strong pipeline to employment through incorporation of local businesses. The Mentor Protege Program emphasizes inclusion and support for the local community.³¹ The Clean Water Partnership with CIS has also led to many successful progress in the community through its direct emphasis on employing the local communities.

B Strong Partnerships and Training Programs Develop the Local Community



The Clean Water Partnership between CIS and Maryland's Prince George's County stands as a remarkable model of committed local community engagement and demonstrable positive impact. This collaborative venture has, to date, provided over \$176 million in business spending for local, veteran-owned businesses, reflecting the partnership's commitment to economic revitalization and empowerment within the community. With the successful completion of over 169 projects, the partnership underscores its productive and effective operational capacity. Notably, 54% of work hours are credited to local residents, a factor that underscores the direct benefits reaped by the community in terms of employment and skills enhancement. Impressively, the partnership surpassed its initial objectives, achieving a substantial 75% local business participation, a figure that is 26% above its original goal.

This achievement highlights the partnership's dedicated effort to involve local enterprises in project implementation. Furthermore, the partnership's attention to equity is evinced by the notable 79% work participation from disadvantaged groups, showcasing a commitment to inclusivity and equal opportunity for all community members in the projects undertaken. The Clean Water Partnership thus emerges as a comprehensive and thoughtful initiative, playing a pivotal role in community

involvement, economic enhancement, and the promotion of equity and inclusivity.³²

Buffalo Sewer Authority, through its partnership with Groundwork Buffalo incorporated a large proportion of local schools. As a result of young outreach, over 300 new Green Jobs were created.³³ **Philadelphia Sewer Authority through its partnership with Power Corps PHL,** similarly focuses on youth outreach but also places emphasis on hiring recently incarcerated individuals.

The Milwaukee Metropolitan Sewer District partnership with BIG STEP also detailed how they place emphasis on underserved communities. In 2022, the partnership held over 550 outreach events and as a result 280 green jobs within the construction and manufacturing industry were created. Of those new jobs, 60% of workers were people of color and 14% women.³⁴

For grantseekers of federal funding, it is important to track and be transparent on how your program or project is serving the local community and advancing green job creation. Training programs are pivotal, as they strengthen the workforce through development of green skills needed for Green Infrastructure and climate action more broadly.

Funding Opportunities for Green Infrastructure

A Bipartisan Infrastructure Law (BIL)

The Bipartisan Infrastructure Law, a groundbreaking American legislative achievement, commits an impressive \$1.2 trillion to revitalize and enhance the nation’s infrastructure. While this comprehensive law spreads its funding across roads, bridges, broadband, and energy, a significant emphasis lies on water infrastructure. Specifically, \$52.2 billion is allocated to the EPA for the enhancement of clean drinking water and the development of green water infrastructure.³⁵ The majority of these water-focused funding is managed through two State Revolving Funds (SRFs): the Clean Water State Revolving Funds (CWSRF) and the Drinking Water State Revolving Funds (DWSRF).

Table 3: Funding Allocations from Bipartisan Infrastructure Law for Water Infrastructure

| Bipartisan Infrastructure Law (BIL) | Funding Amount |
|---|-----------------------|
| <u>Total funding for Water Infrastructure from BIL</u> | \$52.2 Billion |
| Lead Service Lines Drinking Water State Revolving Fund | \$15 Billion |
| Clean Water State Revolving Fund Traditional | \$11.7 Billion |
| Drinking Water State Revolving Fund Traditional | \$11.7 Billion |
| Emerging Contaminants in Small and Disadvantaged Communities | \$5 Billion |
| Emerging Contaminants Drinking Water State Revolving Fund | \$4 Billion |
| Environmental Programs and Management | \$2 Billion |
| Brownfields Revitalization (Includes Green Job Training Emphasis) | \$1.5 Billion |
| Emerging Contaminants Clean Water State Revolving Fund | \$1 Billion |
| Save Our Seas 2.0 | \$275 Million |

The Clean Water State Revolving Funds (CWSRF)^{36,37} provides low-interest loans for projects focused on water quality enhancement, covering a vast array of needs from wastewater treatment and stormwater management to nonpoint source pollution control. This fund supports a broad beneficiary base, including municipalities, wastewater systems, communities, and even individual homeowners.



The Drinking Water State Revolving Funds (DWSRF)³⁸, while also offering low-interest loans, focuses on drinking water infrastructure. This encompasses endeavors such as the construction or improvement of drinking water treatment facilities, reservoirs, and wells, and also initiatives aimed at health compliance to ensure adherence to the Safe Drinking Water Act standards. Its primary beneficiaries are public water systems.



Central to both the CWSRF and DWSRF is their state-federal partnership structure. Through the EPA, the federal government seeds funds to the states, which in turn contribute an additional 10% to 20% to these funds. This pooled money is then loaned to localities for water-centric projects. As these loans get repaid, the funds are reinvested, creating a self-sustaining cycle of improvement. In essence, while the CWSRF addresses wastewater and pollution challenges to keep water sources pristine, the DWSRF ensures that communities have consistent access to safe, potable water. Together, these revolving funds play a crucial role in fortifying the nation's water infrastructure, echoing the overarching objectives of the Bipartisan Infrastructure Law.³⁹



1 Underserved Community Focus for BIL

The Bipartisan Infrastructure Law is distinctly crafted with an emphasis on bolstering water infrastructure in underserved communities. These communities often encompass low-income individuals, people of color, tribal groups, and others grappling with environmental justice challenges.

Central to the BIL's commitment is its specific funding allocation requirements. The law mandates that 49% of the resources from both the DWSRF and the Lead Service Line Replacement DWSRF be distributed as grants or forgivable loans to these underserved areas. Furthermore, at least 25% of the DWSRF Emerging Contaminants Funding is similarly set, targeting disadvantaged communities or public water systems catering to fewer than 25,000 residents, particularly in rural or indigenous areas.

When it comes to the CWSRF, the directive is that 49% of its General Supplemental Funding should be channeled as grants or forgivable loans, determined either by state-decided affordability metrics or designated projects, ensuring

compliance with the Clean Water Act. In addition, the Emerging Contaminants Small & Disadvantaged grants allocate \$5 billion to mitigate chemical contamination issues, particularly benefiting communities of color and low-income locales.

In essence, the BIL firmly anchors its approach in elevating underserved communities. This dedication is highlighted by the staggering provision of a minimum of \$20 billion specifically aimed at enhancing the quality of life for people of color, tribal communities, and low-income neighborhoods.^{ibid}

2 BIL's Focus on Green Job Creation

The Bipartisan Infrastructure Law becomes a chance to invest and grow in local, community-based green job creation and strengthen America's climate resiliency. The creation of green jobs is vital for a sustainable future. BIL incentivizes creation of a pipeline for environmentally progressive projects, which as a result, creates a demand for green jobs. The creation of green jobs can result in a multitude of returns on investment, which includes not only economic growth benefits, but at the same time the work results in social and environmental progress as well.^{ibid}

The Bipartisan Infrastructure Law (BIL) has underscored its commitment to green job growth by allocating over \$1.5 billion to EPA's brownfields program. A significant portion of this investment, \$30 million, is specifically pledged to future Brownfields Job Training grants.⁴⁰ In the subsequent five years, various communities, states, and tribes will be poised to apply for these larger grants, with a vision to enrich existing job training schemes with a more comprehensive environmental curriculum geared towards green jobs.

The Brownfields Job Training grants historically empower entities such as nonprofits, local governments, and other organizations. These grants are tailored to train and position unemployed and under-employed individuals from areas impacted by brownfield sites.

Ever since the program's initiation in 1998, the EPA has granted 371 Brownfield Job Training awards. Owing to these grants, an impressive tally of over 20,341

participants have completed their training. Furthermore, a commendable count of more than 15,168 individuals have ventured into career paths focused on land rehabilitation and overarching environmental safety and health.⁴¹

Graduates of the Brownfield Job Training Program acquire specialized skills, paving their way to sustainable roles in fields like hazardous and solid waste management, wider environmental sectors, sustainable cleanup, and chemical safety. Crucially, Green Infrastructure offers nature-based remedies for remediating hazardous brownfields.^{ibid} One of its central goals in brownfield sites is to effectively manage stormwater, preventing it from percolating into the soil, unlike practices on uncontaminated areas. Green Job Training Programs not only create jobs that create positive environmental impact but they also create jobs that support family livelihoods.

The commitment to creating meaningful family-supporting sources of income from green jobs is underpinned by requirements mandated by the BIL. To be eligible for funding, projects must adhere to strict workers' compensation standards. Specifically, SRF projects need to comply with the Davis-Bacon prevailing wage stipulations. These requirements outline a comprehensive wage package, consisting of an hourly rate coupled with benefits tailored to specific job classifications. The goal is to ensure wages are sufficient to support a family. Eligible project contractors encompass those engaged in green infrastructure enhancements, as well as traditional clean and renewable energy initiatives.

B Inflation Reduction Act (IRA)

The Inflation Reduction Act invests close to \$400 billion in government funding towards clean energy initiatives, aiming to significantly reduce the country's carbon emissions by the close of the current decade. Of that \$400 billion, \$10.05 billion is allocated to the Domestic Water Infrastructure, Drought Relief along with Flood and Climate Resilience. A majority of the funding grants and loans can be used as tax credits for the recipients.^{42,43}

Table 4: Funding Allocations from Infrastructure Reduction Act for Water Infrastructure

| Infrastructure Reduction Act (IRA) | Funding Amount |
|--|------------------------|
| <u>Total funding for Water Infrastructure from IRA</u> | \$10.05 Billion |
| Flood and Climate Resiliency | \$5.5 Billion |
| Drought Relief | \$4 Billion |
| Domestic Water Infrastructure | \$550 Million |

The IRA has pledged \$5.5 billion for Flood and Climate Resilience, distributed between two major Administrations. Of this, the Federal Highway Administration (FHWA) will manage \$1.9 billion, while the National Oceanic and Atmospheric Administration (NOAA) will oversee \$3.6 billion. These allocations seek to address stormwater runoff challenges and strengthen coastal defenses against severe rain events.⁴³

Specifically, the FHWA will concentrate its efforts on aiding vulnerable and underserved communities. Their funding will support natural infrastructure and improve road surfaces for effective stormwater management. Central to the FHWA's mission is their Neighborhood Access and Equity Program, which sponsors projects aimed at renovating transportation facilities that obstruct community integration or adversely impact the environment, prioritizing disadvantaged or underserved areas.^{ibid}

NOAA's funding will predominantly focus on coastal areas prone to hurricanes and heavy rainfalls. This will support a variety of activities including research, data collection, and the procurement of essential equipment.

In addition, a significant \$4 billion will be put towards Drought Relief, focusing on establishing and sustaining a reward system for water users who curtail their water usage. A distinct \$550 million grant from the IRA is slated to wholly cover the costs of water projects' planning, design, and construction. This aims to ensure continuous water supplies for underserved communities and households lacking reliable water access, marking a pivotal move in addressing the deep-rooted issue of water equity.^{ibid}

1 Underserved Community Focus in IRA



1a IRA's Direct Payment Option benefiting Local Non-Profits, Underserved Communities and Indigenous Populations

Unique to this act is a direct payment structure for non-taxable entities, such as nonprofits. Qualified entities are allowed to directly monetize tax credits. This payment structure allows for better access to nonprofits and provides direct funding to the local community.⁴⁴ By converting certain tax credits into direct payments through the Internal Revenue Service, the IRA significantly simplifies the process for these key players, such as non-profits, underserved community leaders, and indigenous populations. This streamlined mechanism not only enhances their access to crucial incentives but also fortifies their commitment to investing in local underserved communities.

Funding from the IRA is, in part, to be put towards creating green opportunities for communities across the country. By creating a greater incentive with direct payments, entities that are traditionally tax-exempt are further incentivized to take part in green job creation and the implementation of green infrastructure projects.

1b IRA's Neighborhood Access and Equity Grant Program ⁴⁵

As part of the IRA, the Neighborhood Access and Equity Grant Program, managed by Federal Highway Administration (FHWA) receives \$3.2 billion in funding (as part of the \$5 Billion for Flood and Climate Resilience) for projects that improve transportation access by addressing barriers to community connectivity, such as crime, or create negative impacts on the human and natural environment.

- ⦿ \$1.9 billion is for eligible projects, including but not limited to green infrastructure projects.
- ⦿ \$1.3 billion is allocated specifically for disadvantaged communities.

To receive funds for projects in disadvantaged communities:

- ⦿ There must be proof that the applicant has entered into a community benefits agreement with a representative.
- ⦿ There must be a demonstrated plan for employing local residents in the area impacted by the activity or project proposed under the program.
- ⦿ Projects must be overseen by a community advisory board.
- ⦿ The area must also qualify as underserved, or located in an area of persistent poverty.

Since the **Neighborhood Access and Equity Grant Program** is part of the IRA, it also provides the unique direct payment structure for the eligible entities, which include non-profits, underserved communities and indigenous populations.

Eligible projects related to green infrastructure include projects that reduce or manage stormwater run-off, through natural infrastructure along with pervious, permeable or porous pavement projects. Additionally, projects involved with planning and capacity building activities in disadvantaged or underserved communities also qualify. For example, projects that identify or monitor: gaps in flood prone transportation infrastructure, gaps in tree coverage, air quality, greenhouse gas (GHG) emissions tracking, or areas of extreme heat. Additional funds from this program are also available for training assistance for projects that are delivered by the local government.

1c Green and Resilient Retrofit Program ⁴⁶

The Inflation Reduction Act provides funding for the Green and Resilient Retrofit Program provides funding to owners of HUD-assisted multifamily housing to make their properties more resilient to climate hazards. The program will provide up to \$750,000 per property or \$40,000 per unit for construction and transaction costs for eligible projects such as:

- Green Infrastructure Improvements
- Reducing Carbon Emissions
- Incorporation of Renewable Energy Sources

Both the Inflation Reduction Act and Bipartisan Infrastructure Law include provisions that focus on underserved communities and creating green jobs. Both factors play a crucial role in the grant application process, and projects serving both subject areas have a higher success of receiving funding.

2 Green Job Creation Requirements from the IRA



Third-party evaluations of the Inflation Reduction Act have unveiled a substantial capability to foster investment in the green infrastructure, climate and clean energy domain. These investments are projected to create over one million green employment opportunities in the energy, climate, green infrastructure and related fields within the next decade.⁴⁷

The IRA establishes a robust framework to encourage compliance to high-standard labor requirements in project development. The Green Jobs created must align with providing prevailing wages and there must be engagement with certified apprentices from registered apprenticeship programs. It is a central goal of the IRA to implement green job creation and facilitate standardized routes to careers in green industries, for example, the Green Infrastructure and Clean Energy fields.

For eligible entities to qualify for direct payment or tax exemption under the Inflation Reduction Act, they must comply with the following criteria ^{48,49}:

- ⦿ Payment of the locally established prevailing wage, as delineated by the US Department of Labor standards and the Davis-Bacon prevailing wage requirements.
- ⦿ Employment of an adequate ratio of workers from officially registered apprenticeship programs. This includes the engagement of these skilled apprentices for a minimum of 10% of labor hours on tasks related to construction, alteration, or repair. The prescribed percentage will escalate to 12.5% for projects commencing in 2023 and reach 15% in 2024 and ensuing years.

Having these requirements for workers in the Inflation Reduction Act provides an insightful intersection of economic policy and labor welfare, offering more potential for societal impact, especially in local and underserved communities.



Conclusion: Green Jobs in Green Infrastructure Can Produce Triple Bottom Line Benefits In Your Region

The passage of the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA) marks a significant stride toward bolstering green infrastructure projects, particularly in underserved communities that are most vulnerable to the impacts of climate change.

The Implementation of Green infrastructure is pivotal in addressing climate change impacts, especially those related to aquatic ecosystems and urban stormwater management. Providing a triple bottom line approach with positive environmental impacts through innovative nature-based solutions, such as permeable pavements and constructed wetlands, it tackles issues arising from impervious surfaces, mitigating stormwater runoffs, and enhancing water quality. Social benefits through improving the overall well-being of the local community. Reducing stress levels, building stronger social cohesion and lowering crime rates with the implementation of green spaces. And lastly, providing economic growth through the creation of green jobs with family supporting pay and job loss resiliency.

The emphasis on the triple bottom line within the BIL and IRA funding requirements underscores the commitment to ensuring that these projects not only contribute positively to the environment but also bring tangible social and economic benefits. The real-world success stories from the likes of Buffalo Sewer Authority, Philadelphia Sewer Authority, the Milwaukee Metropolitan Sewer District, and Maryland's Prince George's County, amongst others, stand as robust testimonials to the immense potential of well-leveraged funds.

The examples from these innovative water, wastewater and stormwater authorities underscore the pivotal role of transparent partnerships, local community engagement, successful green infrastructure project implementation and robust green job training programs with opportunities for paid training, and highlights a path that other entities can follow to tap into the funding opportunities provided by the BIL and IRA.

To achieve the highest success of approval for funding opportunities provided by the BIL and IRA, applicants

must meticulously demonstrate the triple bottom line benefits of their proposed projects, ensuring they contribute constructively to environmental sustainability, social equity, and economic prosperity, particularly for underserved communities. Clear, compelling, and well-articulated proposals that display these values stand a higher chance of receiving the much-needed funding, which, in turn, can amplify the impact on green infrastructure development, climate action, and community enhancement.

In the light of the present and future challenges posed by climate change, the strategic and thoughtful utilization of the BIL and IRA funds for green infrastructure projects will play an indispensable role in shaping resilient, sustainable, and equitable communities. Beyond the immediate economic returns and job creation, these projects implemented by leading water, wastewater and stormwater authorities provide a framework building a greener, more inclusive future through commitment to environmental stewardship, social equity, and economic growth for local communities that need it most.

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Green Job Creation in the Nation's Largest Stormwater Programs

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