

Water infrastructure: Green investments create jobs, save money



Crumbling pipes, failing levees

Our country is fast approaching a crisis point when it comes to clean water. The U.S. has an outmoded and crumbling water infrastructure system that cannot cope with our drinking water, wastewater or flood protection needs. The American Society of Civil Engineers grades both wastewater and drinking water systems a D-, the lowest ratings of any infrastructure category. On top of these challenges, global warming is beginning to cause more floods, droughts and waterborne diseases, further taxing our already aging infrastructure.

- U.S. annual flood damages increased, adjusting for inflation, from \$1 billion in the 1940's to **\$5 billion** in the 1990's.
- Water managers in 40 of 50 states have forecasted **significant water shortages** in the coming five years.
- It is estimated that each day in the U.S. more than **six billion gallons** of clean drinking water are lost to leaky pipes, or 14% of water that is used.



2007 Chehalis River flood, Washington

19th & 20th Century Solutions Are Not the Answer

19th and 20th century solutions like dams, flood walls and underground stormwater tunnels are hugely expensive and inflexible, are energy-intensive and won't meet future needs. We do need increased investment in water infrastructure – but the kind that makes sense today. We cannot afford to rebuild or create new infrastructure modeled on outdated designs and assumptions.

Green infrastructure creates jobs, saves money, protects public health and safety

America needs 21st century green infrastructure solutions. Green infrastructure incorporates both the natural environment and engineered systems. It means choosing water efficiency instead of building an expensive water supply dam. It means restoring floodplains instead of building taller and taller levees. And it means planting trees and installing green roofs, rather than building a costly new water treatment plant.

Green infrastructure creates jobs in many sectors that can't be outsourced, including plumbing, landscaping, engineering, building, and design. Green solutions also support supply chains and the jobs connected with manufacturing of materials from rain barrels to permeable pavement.

A new agenda for water

It is time for a new national public works program that can solve America's water needs, support economic growth, and create new American jobs. The following core principles should guide water infrastructure funding so that proven, cost-effective green solutions are chosen instead of old, outdated, costly approaches:

- 1) **Nature works best:** We should let rivers, floodplains, and forests do their jobs of filtering clean water because they do it best. By protecting the land around its Catskills reservoirs, New York City has been able to save **\$6 billion** in capital and maintenance costs for water treatment.
- 2) **Don't waste money:** Spending money wisely means investing in multi-purpose solutions that lower costs and provide more benefits. By using wetlands, trees, and downspout disconnection to limit stormwater flows into its combined sewer system, the City of Indianapolis is saving over **\$300 million**.
- 3) **Enhance community safety and enjoyment:** Green solutions give communities the flexibility they need to protect safety and quality of life. Napa, CA solved flooding problems by choosing to restore the Napa River's natural channel and wetlands, rather than lining the river with concrete. The effort has protected 2,700 homes and prevented **\$26 million** in flood damage each year.



Jersey City wetland preserve, Courtesy Flickr.com



Green roof, Courtesy PNWRA

Green investments will jumpstart the economy

American Rivers, NRDC and other groups have collected a list of **211 water-related green infrastructure projects worth \$1.1 billion** ready to begin within 6-9 months in cities and counties across the country. An economic analysis conducted by the Alliance for Water Efficiency estimates that a direct investment of \$10 billion in water efficiency programs can **boost U.S. GDP by \$13 billion to \$15 billion and boost employment by 150,000 to 220,000 jobs**. American Rivers estimates that if 600 U.S. cities installed green or "living" roofs on **just 1 percent of their large roofs, more than 190,000 jobs would be created each year. At 5 percent, nearly 953,000 jobs would be created.**

Many communities are prepared to begin construction on a wide variety of green infrastructure projects but lack the financial resources. Funding these projects would provide an immediate stimulus to the economy while ensuring that plentiful clean water will be available in the future to drive economic growth.

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