

# **A Local Perspective on Environmental Management and Economic Development**

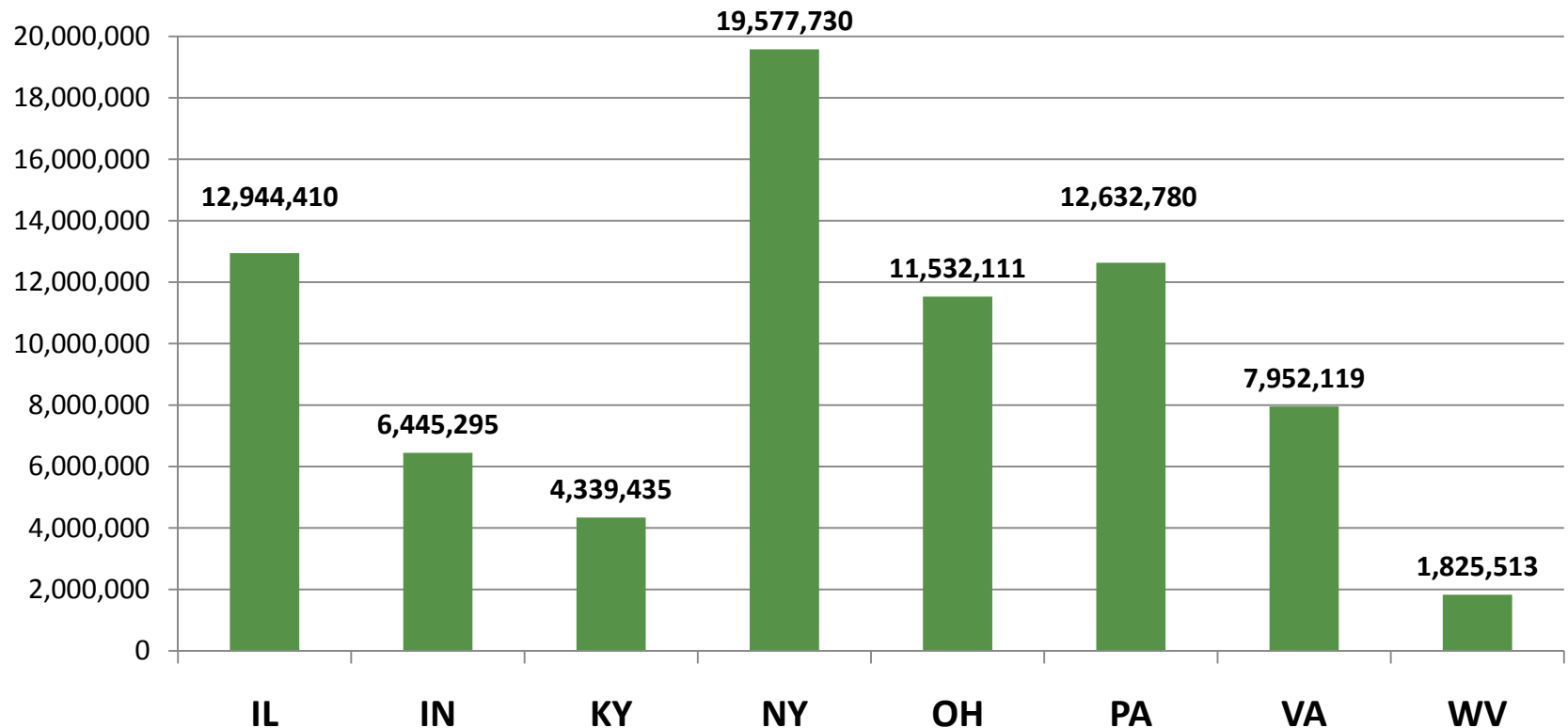
**Jeffery A. Eger**  
**Executive Director**  
**Water Environment Federation**



# 25% of U.S. Population Live in Ohio River Valley States

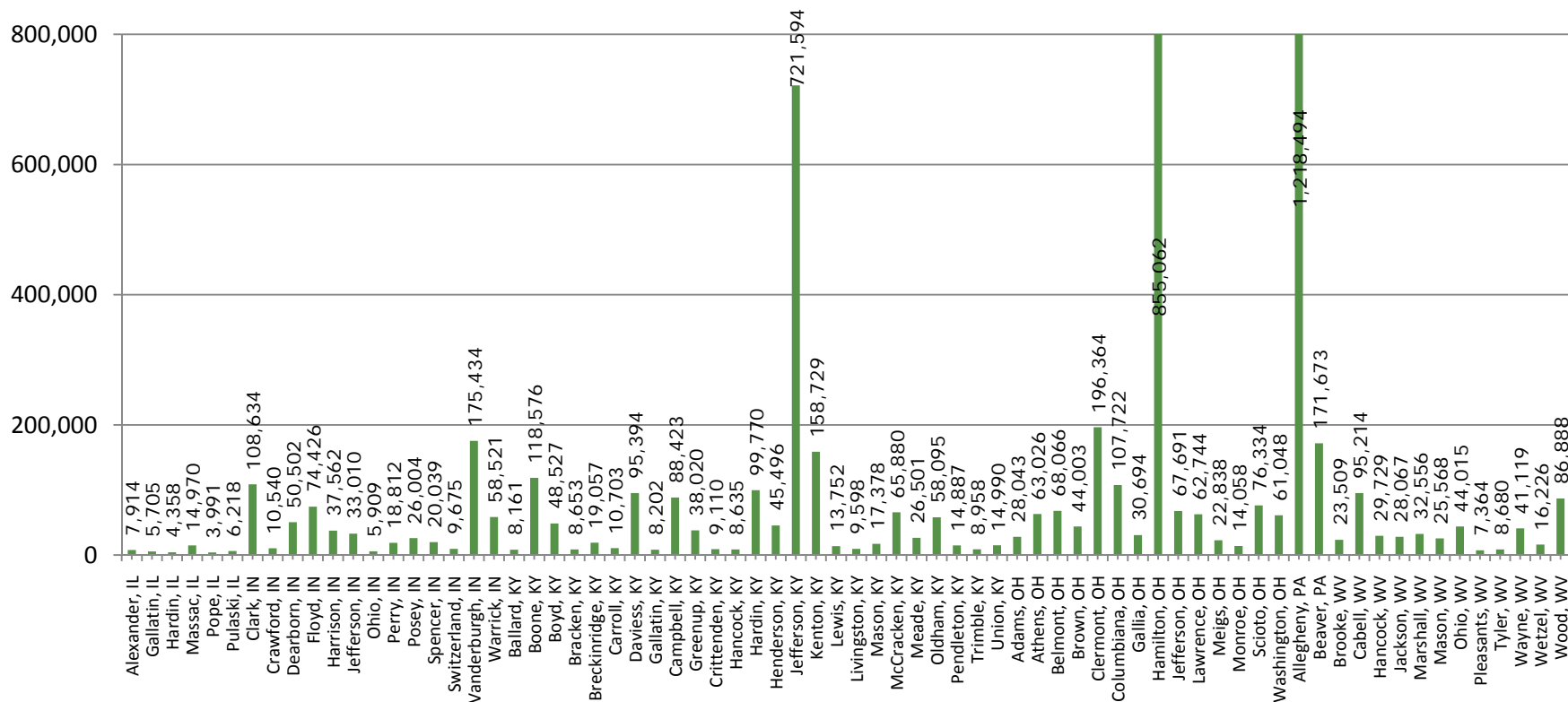
Ohio River Valley State Populations = 77,249,393

Total U.S. Population = 309,050,816



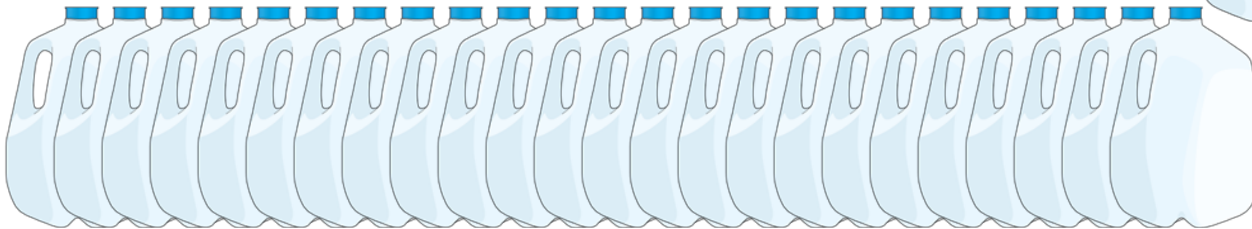
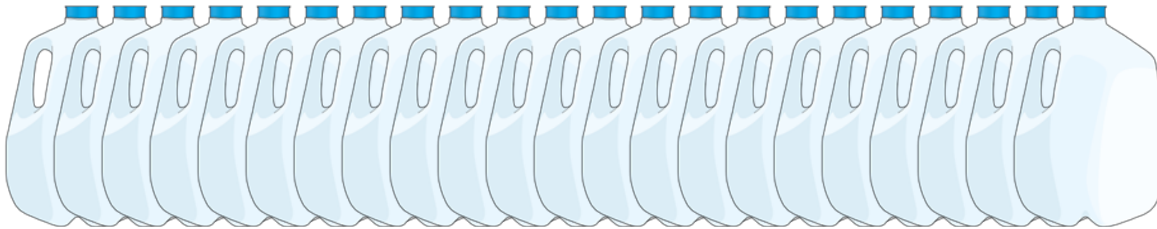
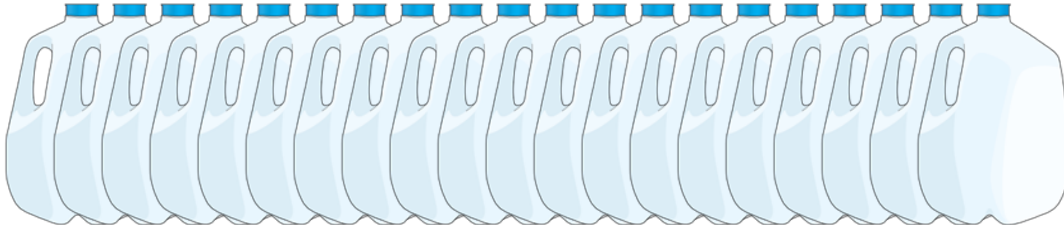
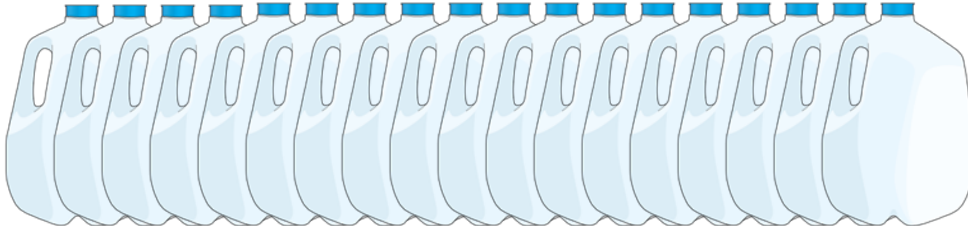
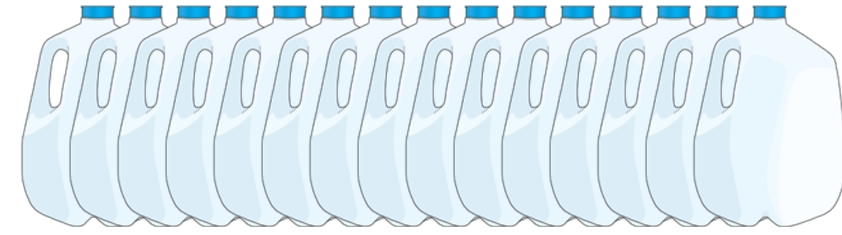
Population (Source: U.S. Census Bureau, Population Division, estimates 2010 Census)

# 1/3 of that 25% Population Live in COUNTIES BORDERING the Ohio River

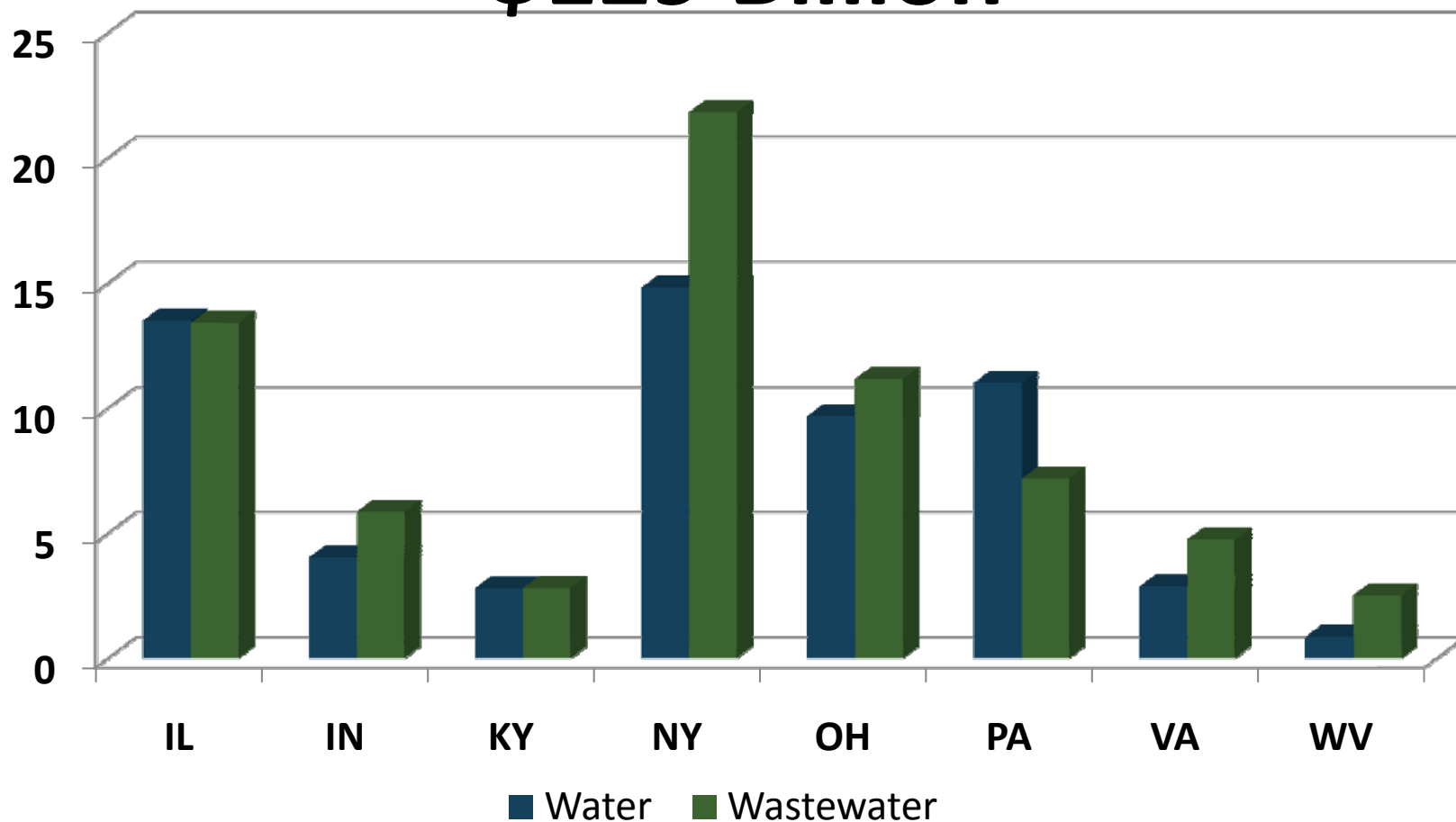


■ Population (Source: U.S. Census Bureau, Population Division, estimates by County 2009)

**Every person uses  
100 Gallons a day –  
and WE clean it!**

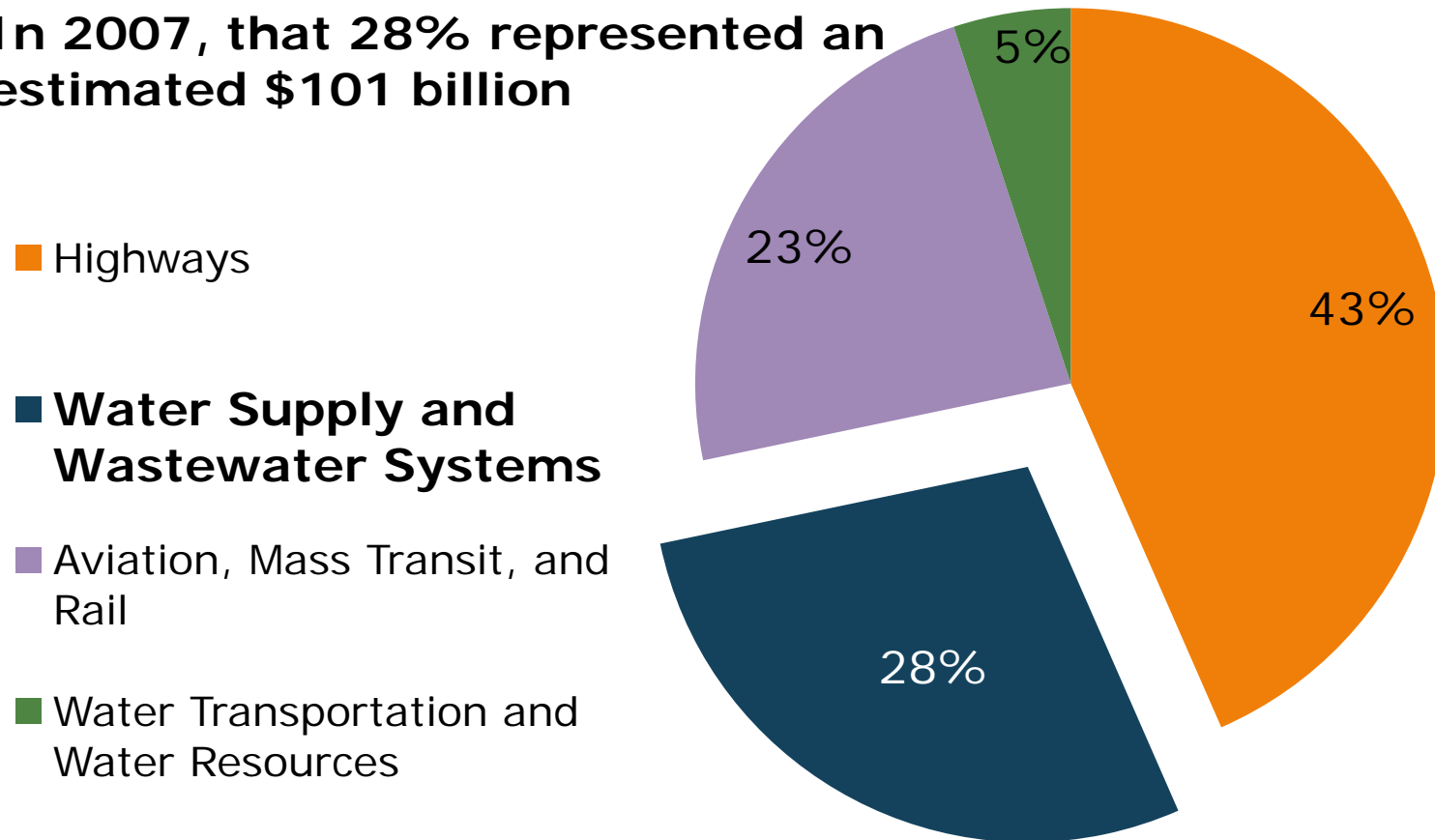


# Estimated Wastewater and Water Infrastructure Needs in Ohio River Basin States over Next 20 Years Exceed **\$129 Billion**



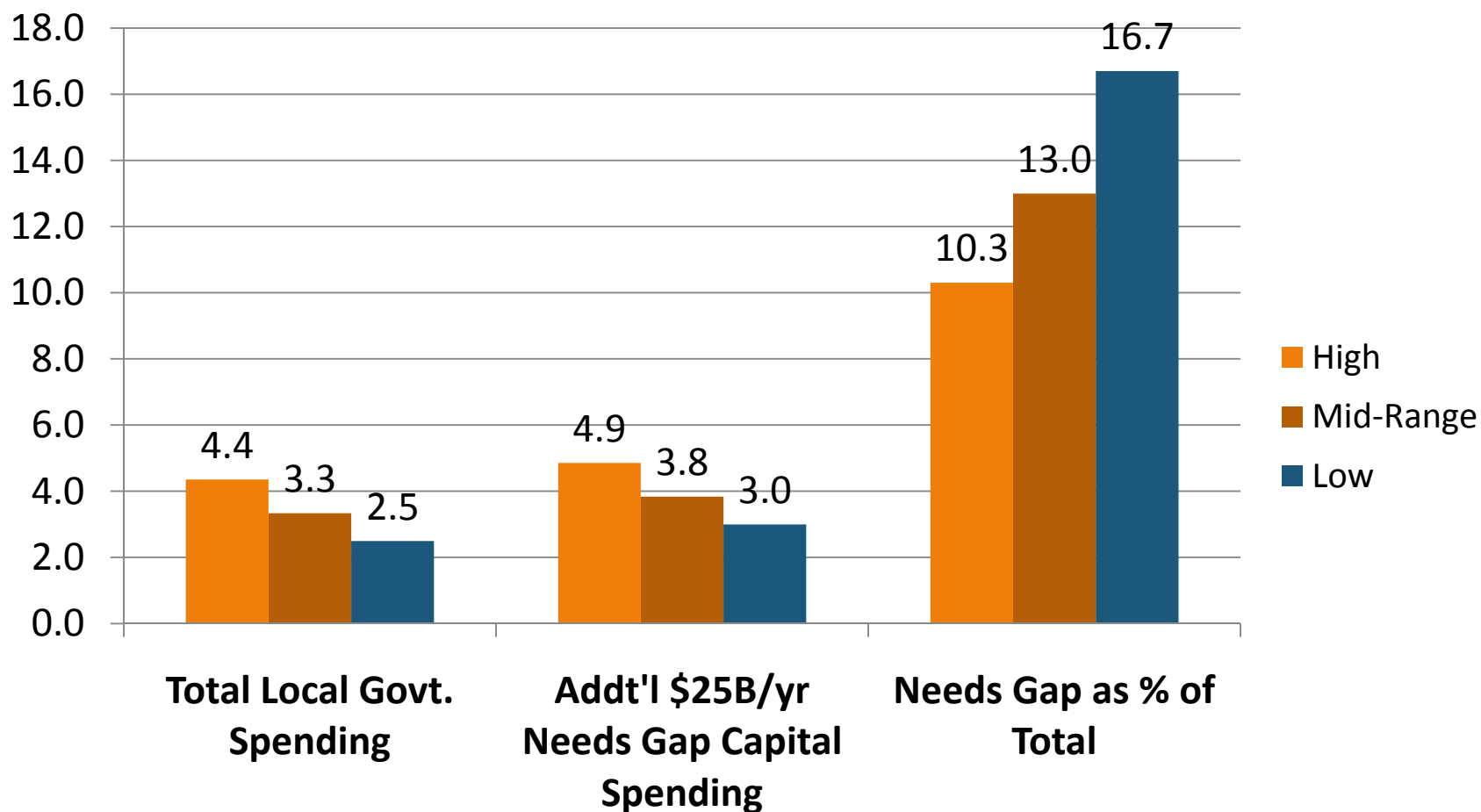
# Water/Wastewater Systems Accounted for **28%** of Total Public Infrastructure Spending in 2007\*

In 2007, that 28% represented an estimated \$101 billion



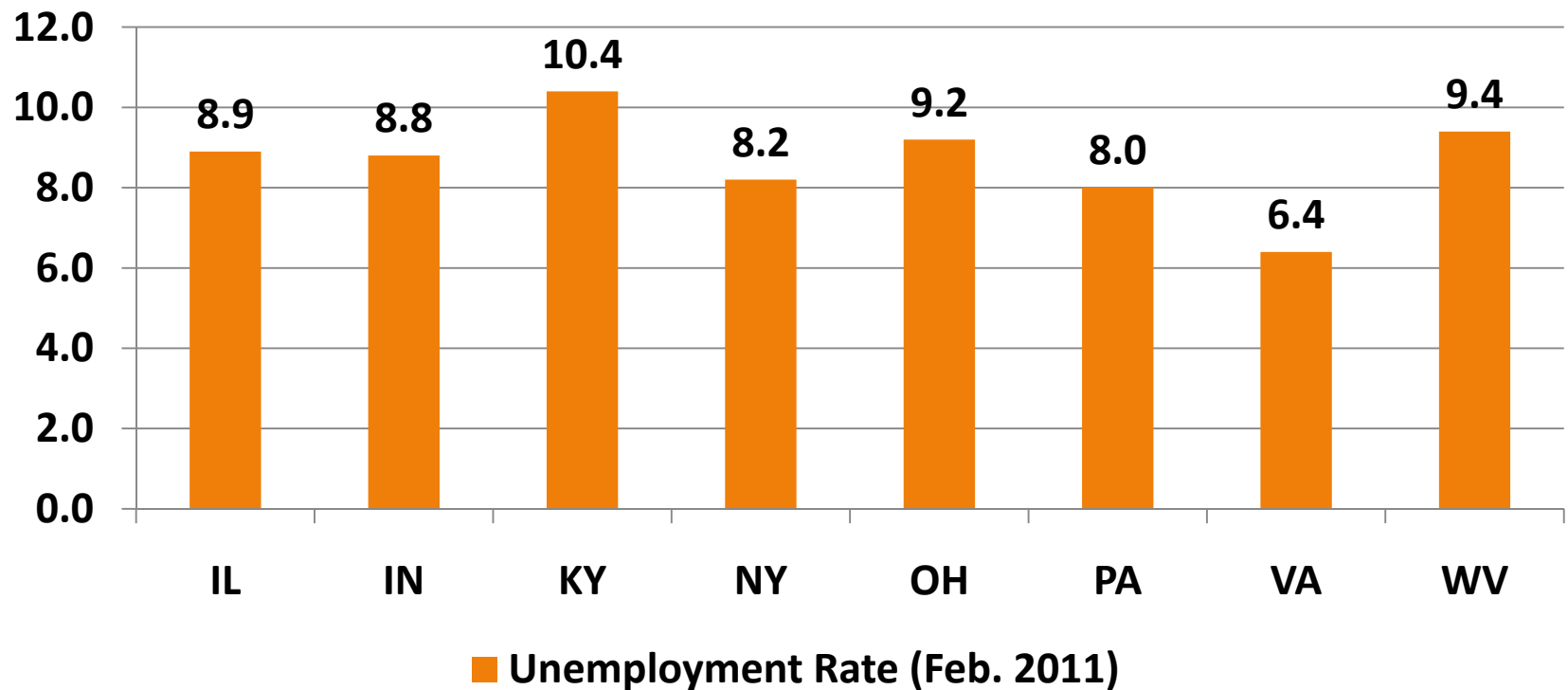
\*Source: "A CBO Study: Public Spending on Transportation and Water Infrastructure," CBO, Nov. 2010, p. 11

## 20 Yr. Projected Local Government Spending on Water and Wastewater Systems (in Trillions)



\*Source: "Trends in Local Government Expenditures on Public Water and Wastewater Services and Infrastructure: Past, Present and Future," Richard F. Anderson, U.S. Conference of Mayors, Mayors Water Council, Feb. 2010, p. 21-22.

# Current Ohio River Valley States' Unemployment Rates (%)



Source: Bureau of Labor Statistics, "Unemployment Rates, Seasonally Adjusted," Feb. 2011, Web. <<http://www.bls.gov>>



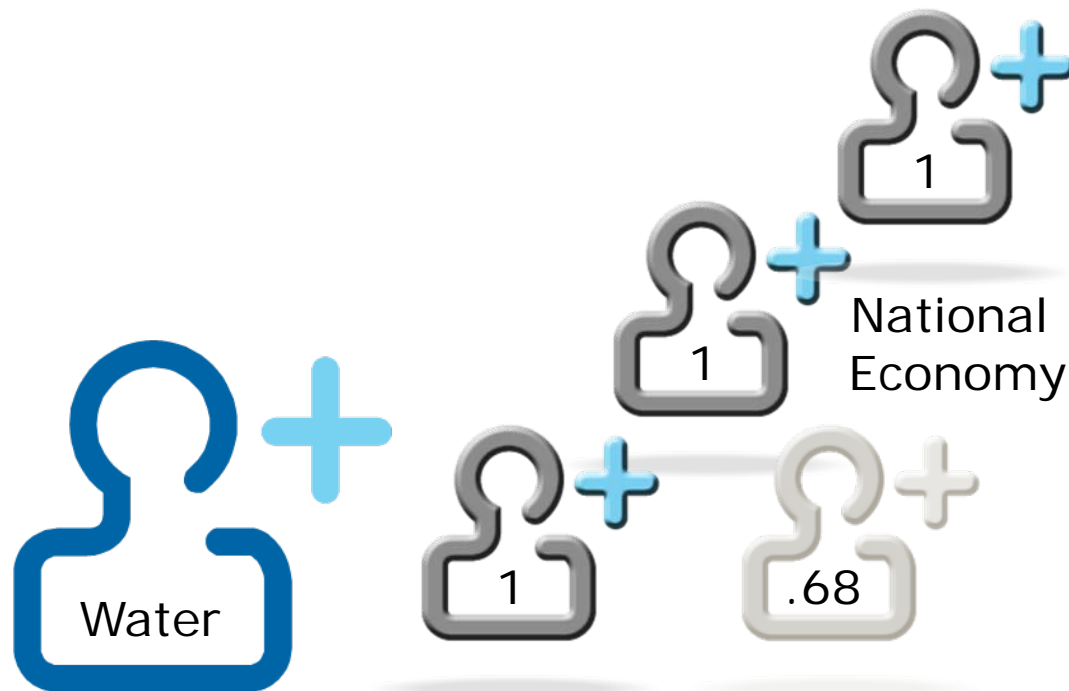
# How Investment in Infrastructure Drives our Economy

Investment Needs in Water Sector  
Infrastructure Over 20 Years

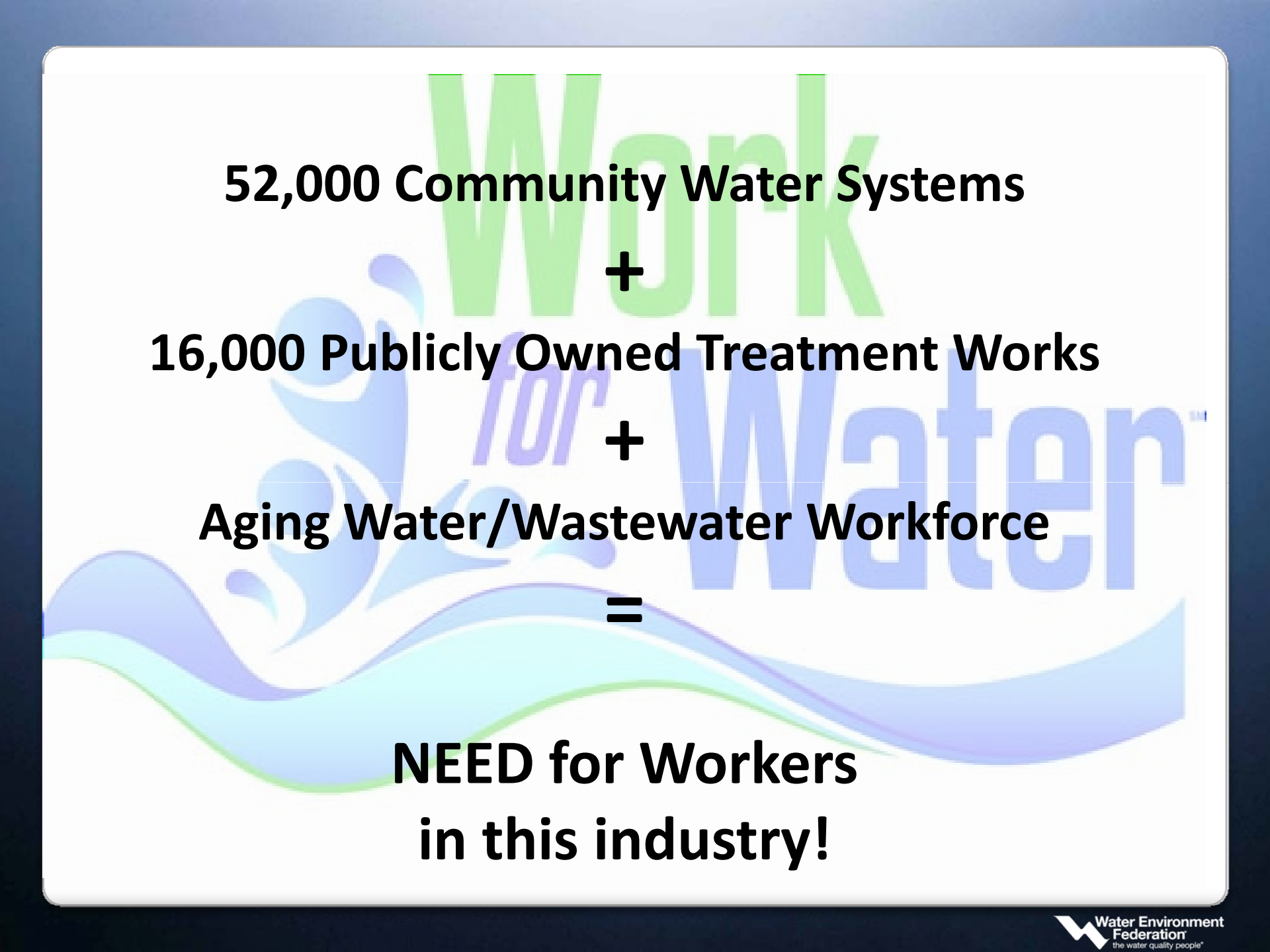
**JOBS CREATED**

<b>IL - 26.91 Billion</b>	<b>• 726,570</b>	<b>IL Jobs</b>
<b>IN - 9.89 Billion</b>	<b>• 267,030</b>	<b>IN Jobs</b>
<b>KY - 5.63 Billion</b>	<b>• 152,010</b>	<b>KY Jobs</b>
<b>NY - 36.63 Billion</b>	<b>• 989,010</b>	<b>NY Jobs</b>
<b>OH - 20.84 Billion</b>	<b>• 562,680</b>	<b>OH Jobs</b>
<b>PA - 18.17 Billion</b>	<b>• 490,590</b>	<b>PA Jobs</b>
<b>VA - 7.61 Billion</b>	<b>• 205,470</b>	<b>VA Jobs</b>
<b>WV - 3.382 Billion</b>	<b>• 91,314</b>	<b>WV Jobs</b>

# Jobs Created in the Water Sector Create Jobs in Other Sectors: 1 Job Added in Water and Wastewater Creates 3.68 Jobs in the Economy\*



\*Source: "Trends in Local Government Expenditures on Public Water and Wastewater Services and Infrastructure: Past, Present and Future," Richard F. Anderson, U.S. Conference of Mayors, Mayors Water Council, Feb. 2010, p. 43.



**52,000 Community Water Systems**  
**+**  
**16,000 Publicly Owned Treatment Works**  
**+**  
**Aging Water/Wastewater Workforce**  
**=**

**NEED for Workers  
in this industry!**

# Wastewater: The Green Energy Resource

If 1 gal of wastewater can power a 100-watt light bulb for five minutes\*,

then imagine what the population of the Ohio River Valley States can power:

Population - Ohio River Valley States:

**77,249,393**

Average Wastewater

Per Day:

**21,475,331,254 = 21 Billion**

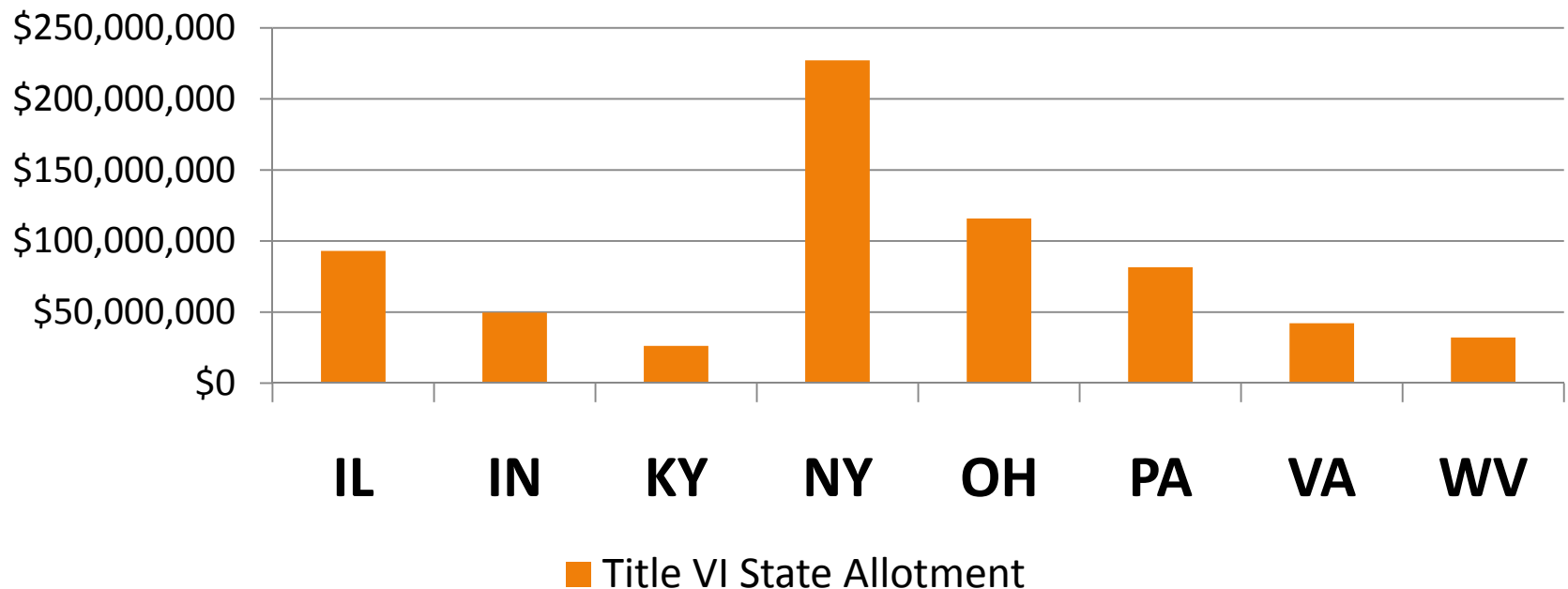
**100-watt light bulbs**



\*Source: "Developing News Sources of Energy: Sewage treatment plant wastewater as a huge new energy source," American Chemical Society, Feb. 28, 2011, Web. <<http://portal.acs.org/portal/acs/corg/content>>

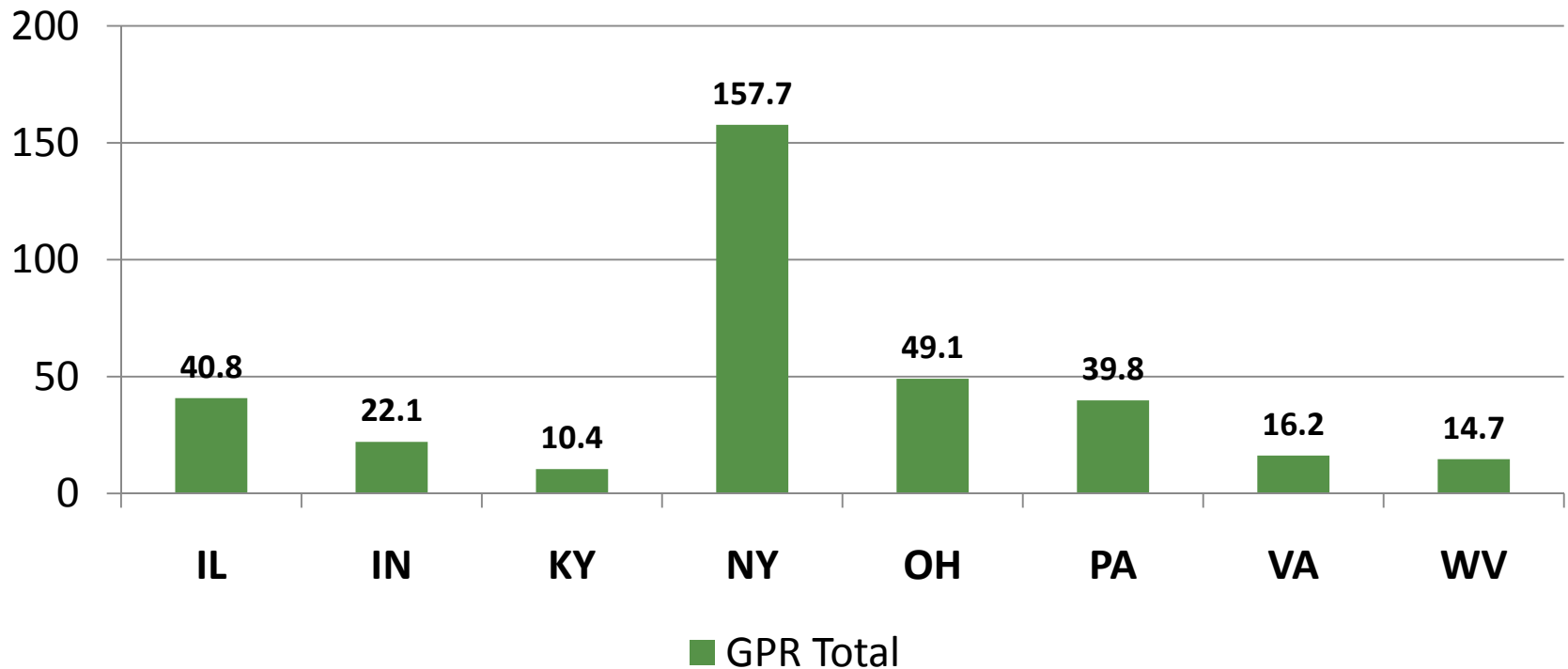
# Wastewater Infrastructure Funding in Ohio River Valley States: FY 2010 Enacted Final CWSRF Allotments (\$667,631,000)

## Title VI State Allotment



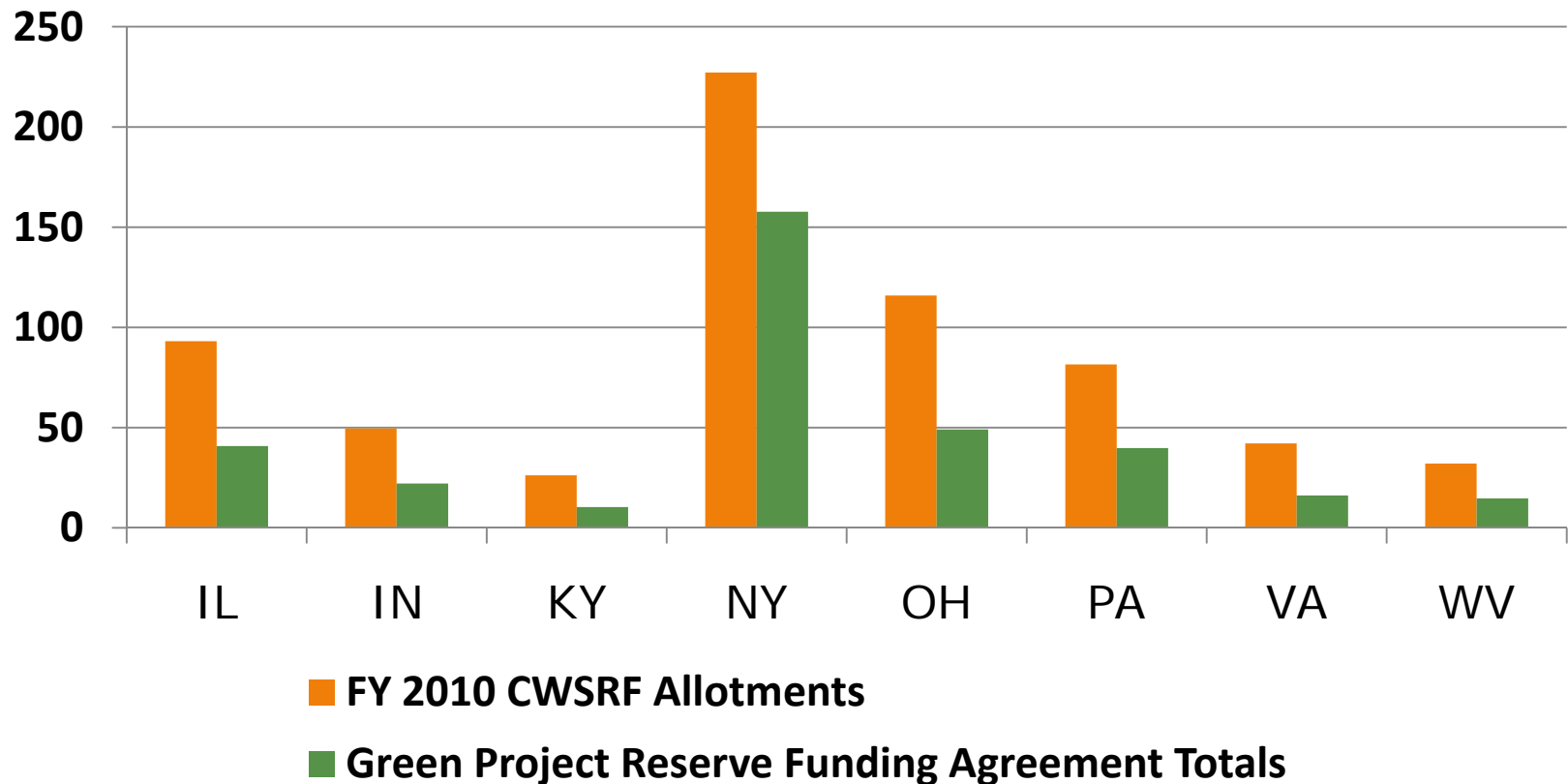
Source: U.S. EPA, FY 2010 Enacted Final CWSRF Allotments, Jan. 15, 2010,  
<[http://water.epa.gov/grants\\_funding/cwsrf/upload/CWSRF-FY-2010-Final-Allotments-Federal-Funding-Levels.pdf](http://water.epa.gov/grants_funding/cwsrf/upload/CWSRF-FY-2010-Final-Allotments-Federal-Funding-Levels.pdf)>

# Executed Funding Agreements Under CWSRF **Green Project Reserve** in Ohio River Valley States **(\$350.8 Million)**

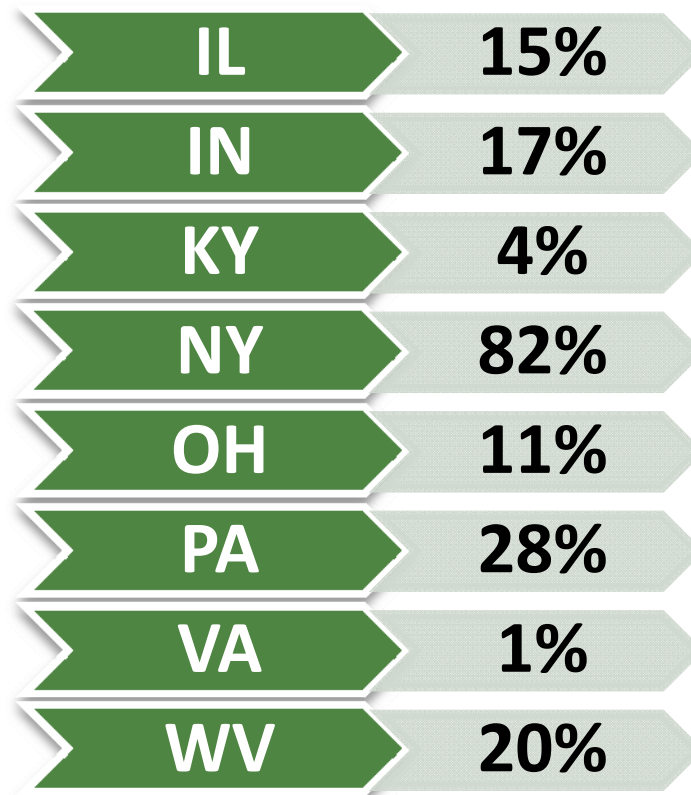


Source: U.S. EPA, "Clean Water State Revolving Fund Green Project Reserve Funding Status," June 8, 2010, p. 7, Web.  
<[http://water.epa.gov/grants\\_funding/cwsrf/upload/GPR-Funding-Status\\_6-8-2010.pdf](http://water.epa.gov/grants_funding/cwsrf/upload/GPR-Funding-Status_6-8-2010.pdf)>.

# Ohio River Valley States' Wastewater Systems Are Keeping it "GREEN"



# Ohio River Valley States' Wastewater Systems Percent **ABOVE** Green Project Reserve Requirement



Source: U.S. EPA, "Clean Water State Revolving Fund Green Project Reserve Funding Status," June 8, 2010, p. 7, Web.  
<[http://water.epa.gov/grants\\_funding/cwsrf/upload/GPR-Funding-Status\\_6-8-2010.pdf](http://water.epa.gov/grants_funding/cwsrf/upload/GPR-Funding-Status_6-8-2010.pdf)>.



# Implementing Green Wastewater Infrastructure Projects Encourages the Continuous Evolving of Resiliency in Triple Bottom Line Performance:

- Economic
- Environmental
- Social



**From Powering Cars** with hydrogen fuel derived from wastewater or butanol derived from algae

Rockaway Wastewater Treatment Plant, NY in collaboration with NY DEP and Univ. of Arkansas to harvest and process algae into butanol for cars

**To Powering Facilities** with methane produced at wastewater plants

York City Wastewater Treatment Plant, PA preparing to install a \$4.5 million turbine system to generate electricity from methane produced at plant

**Wastewater Systems Provide a  
Key to Resilient, Sustainable Future**

## **Sustainability Leadership in Ohio River Valley States:**

**IL** – Institute of Natural Resource Sustainability, Univ. of Illinois at Urbana-Champaign

**IN** – City of Indianapolis, Office of Sustainability

**KY** – Kentucky Institute for the Environment and Sustainable Development, Univ. of Louisville;

**U.S. Army Corps of Engineers** (*building-collaboration-for-water.org*)

**NY** – City of NY, DEP

**OH** – Center for Resilience at Ohio State University

**PA** – Sustainable Pittsburgh; 3 Rivers Wet Weather

**VA** – Virginia Tech

**WV** – WV Conservation Agency

# Questions/Discussion

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