

# Private Financing and Delivery Frameworks of Large-scale Green Infrastructure Implementation

by

**Sanjiv K. Sinha, P.E., Ph.D.**

**Great Lakes & St Lawrence Green Infrastructure  
Conference**

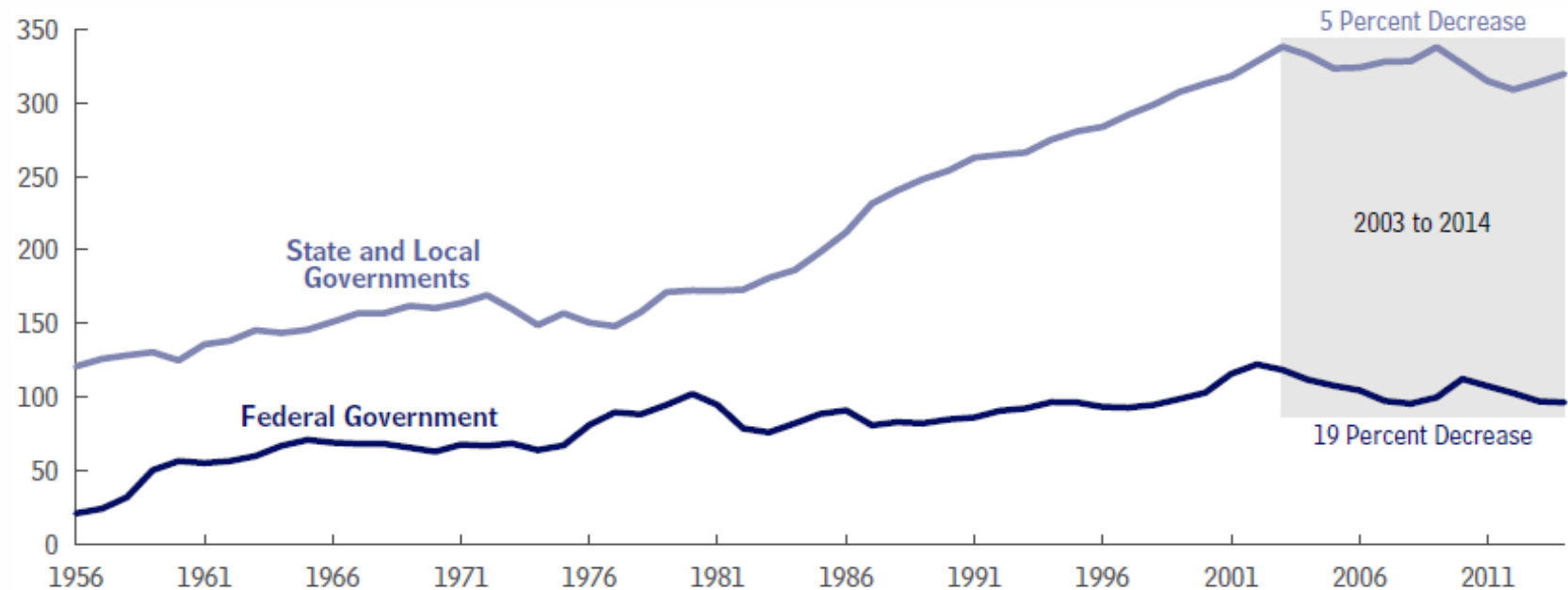


# Why Are We Talking This Topic??

# Infrastructure Investment Gap is Growing

## Public Spending on Transportation and Water Infrastructure, by Level of Government, 1956 to 2014

Billions of 2014 Dollars



Source: Congressional Budget Office based on data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis.

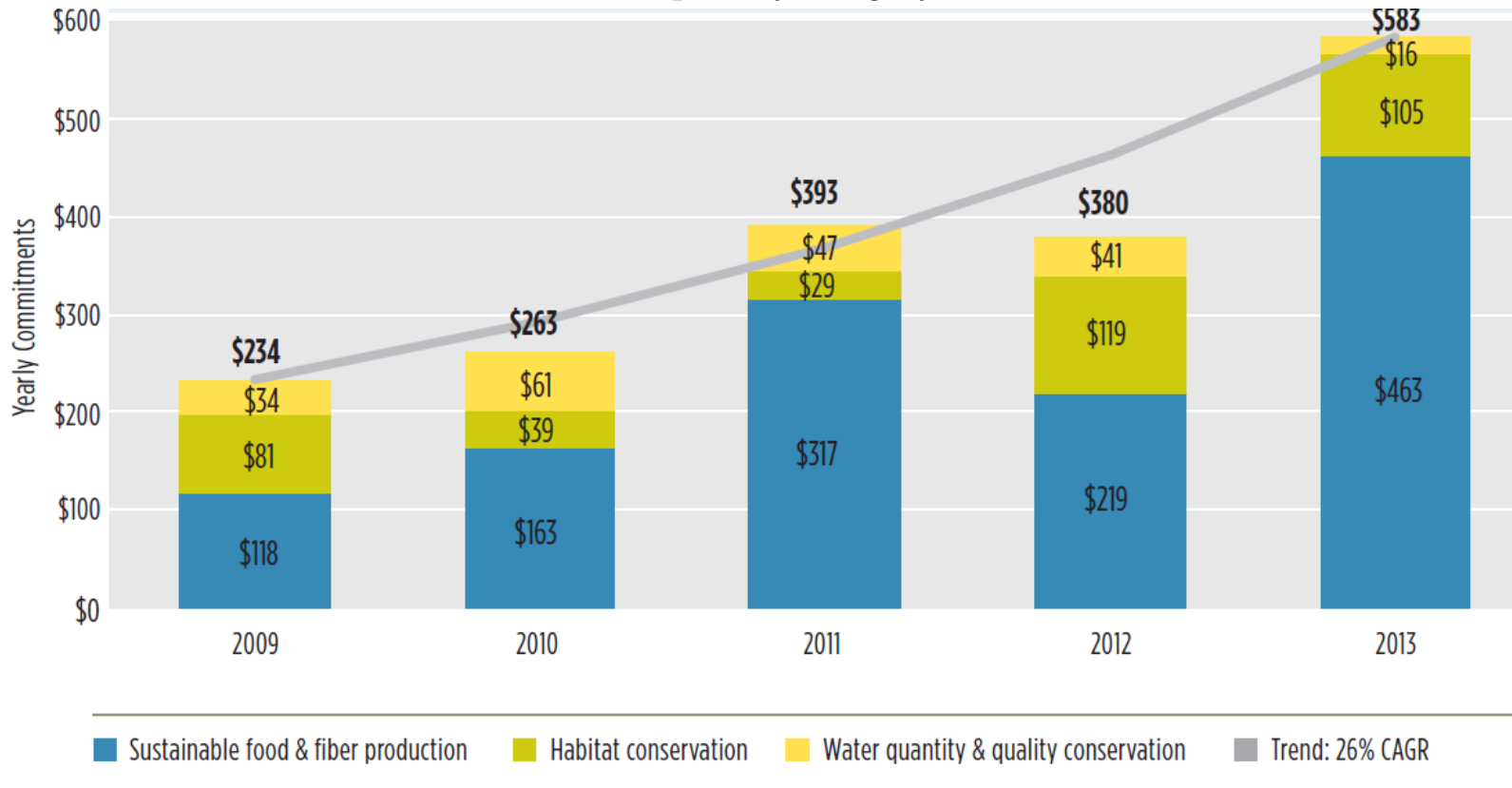
Note: Dollar amounts are adjusted to remove the effects of inflation using price indexes for government spending that measure the prices of materials and other inputs used to build, operate, and maintain transportation and water infrastructure.





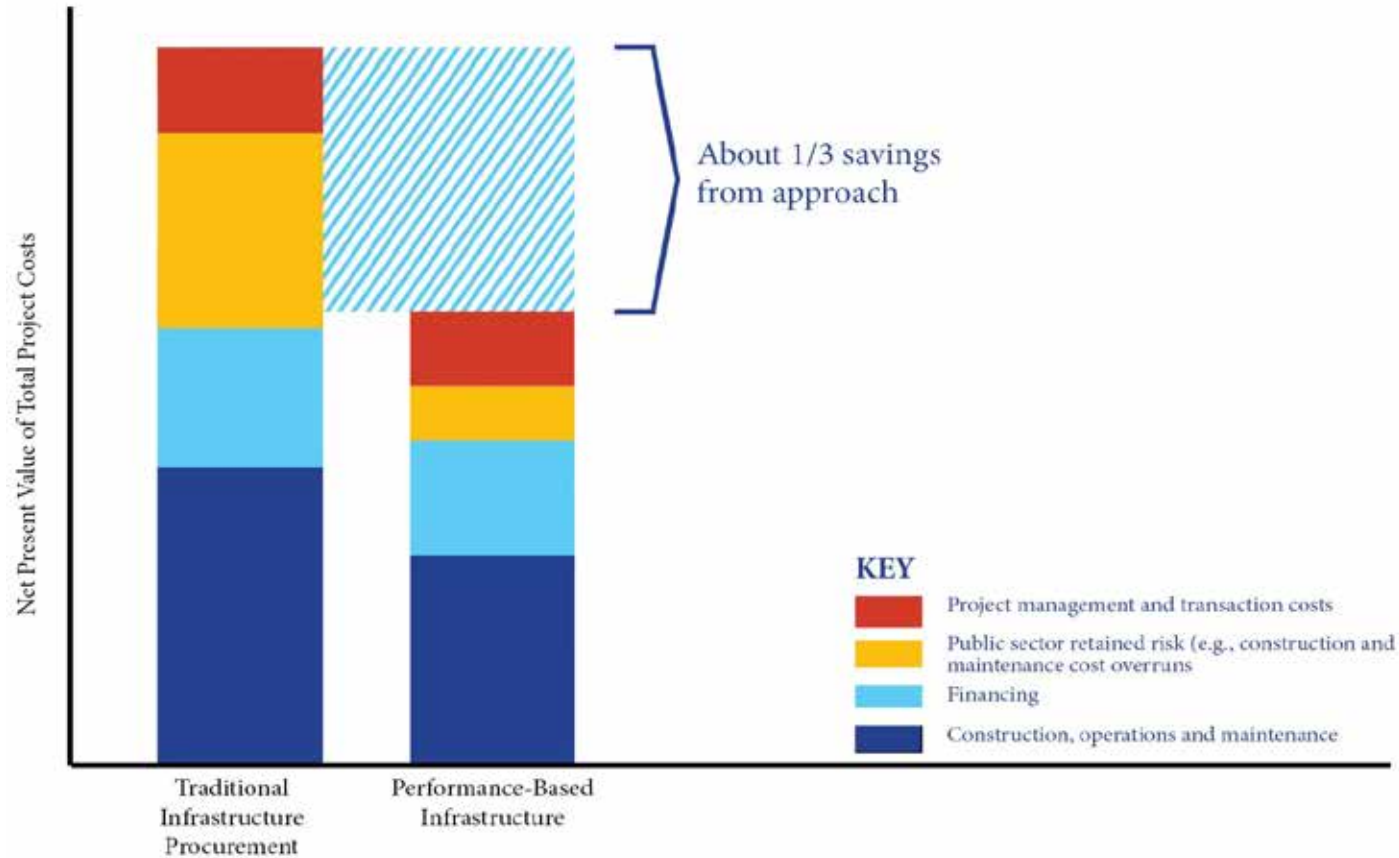
# Private finance trends... Commitments grew at ~ 26% CAGR, and represent a possible shift in future conservation funding space

Private sector investment pace by category, 2009-2013 (\$ millions)



Source: Encourage/TNC survey of 5 Development Finance Institutions and 51 private investors (fund managers, corporations, nonprofits, high net-worth individuals, family offices, etc) that had 1,300 transactions between 2004-2013.

# Private delivery drivers... Spectacular savings via aggregation. And this is only one of its many benefits.



Source: Sinha et al. 2017, Prince George County 2016



# Politics

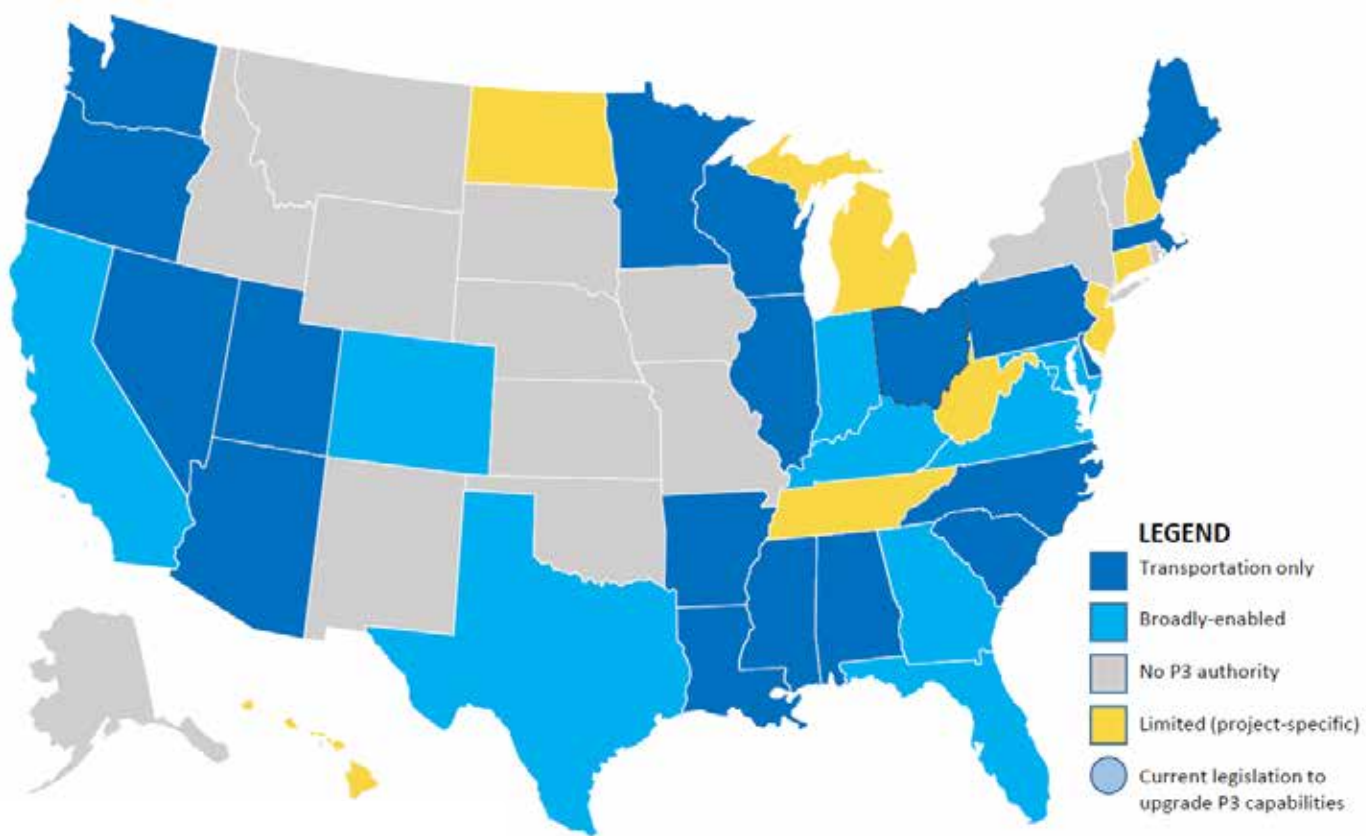


# P3s and the New Administration

- | **A trillion dollar plan**
  - 1:5 leverage
- | **Tax Credits (\$167 billion)**
  - Lower required equity returns, making P3 more competitive
  - Address viability gap for rural and poorer communities
- | **Accelerated delivery**
  - Streamline approval processes by reducing regulations
- | **Legislation for federal projects (USACE, USBR, USDA, etc.)**



# Status of P3 Statutory Authorities



35 states have P3 legislation  
12 states have water authority

Source: AIAI (Association for the Improvement of American Infrastructure) 2017

# Market Size of Green Infrastructure in the Great Lakes Basin

- ✓ In states of Ohio, Minnesota, Wisconsin, Illinois, and Indiana: A third of utility revenues can support over a billion dollars investment
  - | > \$50 Mil => \$912 Million market
  - | Between \$10 and \$50 Mil => \$225 Million market
- ✓ Caution - Market valuation models: future is the same as the past
- ✓ New York, Pennsylvania, and Michigan are at a significant disadvantage

# Panelists

## | Mr. Alex Eidson, Encourage Capital:

- ⌚ Overview of innovative private financing tools such as Environmental Impact Bonds (EIBs)

## | Mr. Troy Hunt, Corvias Solutions:

- ⌚ Overview of a Community-Based Public-Private Partnership (CBP3) in Prince George's County in Maryland that, to-date, is one only two such stormwater CBP3s in the country
  - Discuss cost-savings and other benefits

## | Mr. Jim Gephardt, U.S. EPA's Water Infrastructure and Resiliency Finance Center:

- ⌚ How does the federal government see P3s
- ⌚ How public dollars can support "Market-Based Solutions" involving private parties



[ssinha@ectinc.com](mailto:ssinha@ectinc.com)  
734-272-0859