



water is life

District of Columbia Water and Sewer Authority
George S. Hawkins, General Manager

Innovations in Infrastructure Funding at DC Water

Presentation for:

Chesapeake Bay and Water Resources Policy Committee

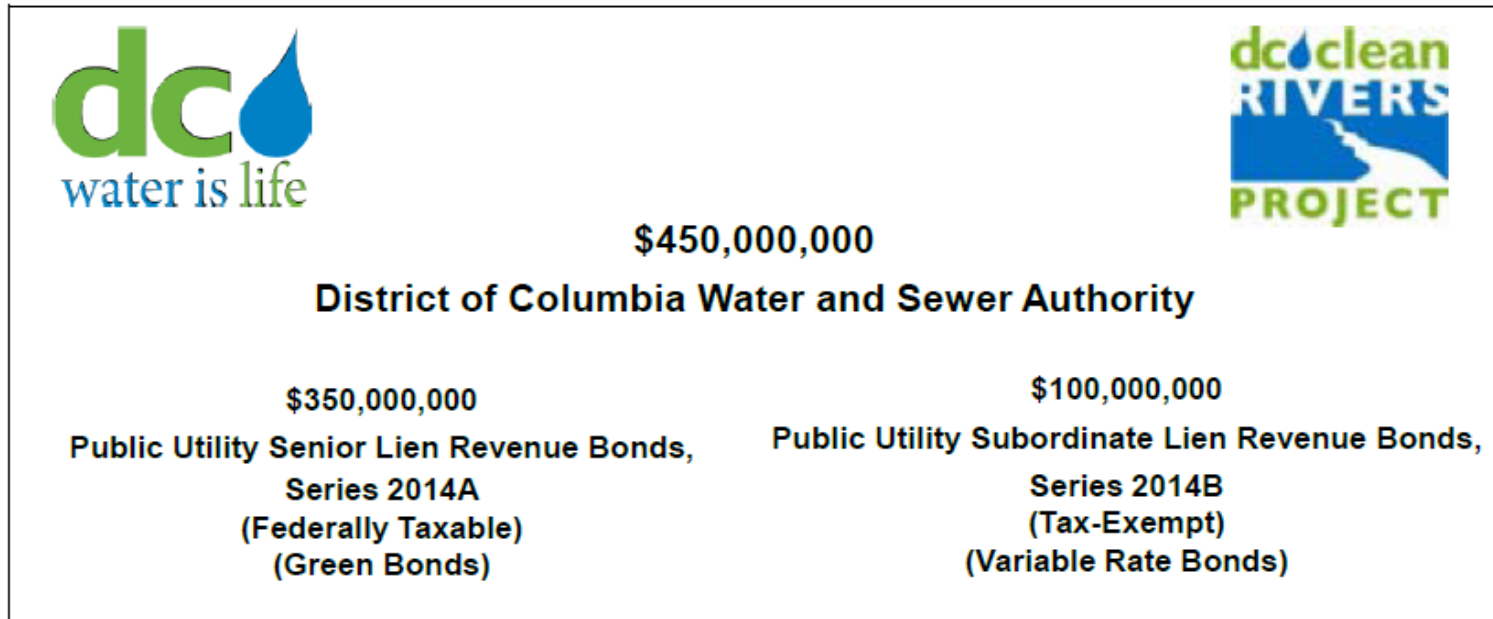
Maureen M. Holman
Sustainability Chief

May 15, 2015

Innovations in Infrastructure Funding at DC Water

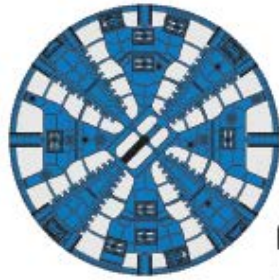
Green Century Bonds

DC Water's Plan of Finance



■ 100-Year Green Bonds

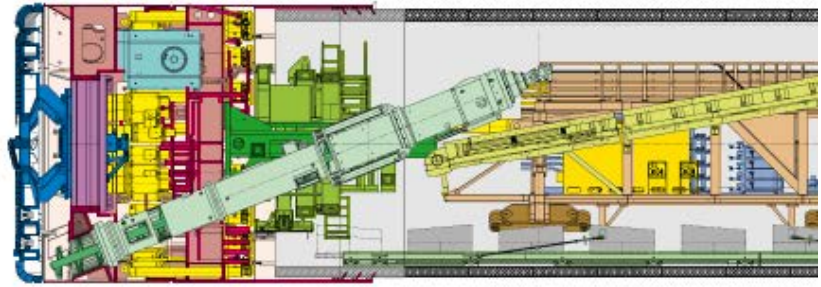
- 1st U.S. municipal water/sewer utility to issue century bonds
- 1st U.S. municipal water/sewer utility to issue green bonds
- 1st "certified" green bond issue with an independent opinion in the U.S.
- 1st 100-year green bond issued globally



26 feet tall



weighs 1,248 tons



350 feet long





DC Clean Rivers Project Overview

- **Clean Rivers Project is DC Water's long term control plan for combined sewer overflows (CSO's)**
 - Federally mandated consent decree; \$2.6 billion; 20-year project (2025)
 - Comprises a series of three tunnel systems designed to transport CSOs to Blue Plains for treatment
 - When fully implemented, CSOs will be reduced by a projected 96%

- **Investment in extraordinarily long-lived infrastructure assets**
 - All three tunnel systems are designed to achieve a minimum 100-year service life
 - Minimal mechanical equipment – tunnel systems are designed to operate by gravity
 - Minimal maintenance required – inspection once every 10 years
 - Useful life of 100 years is certified by Registered Professional Engineers and an Independent Engineering Opinion

First Century Bond Issued by a Water/Sewer Utility

■ **Asset-liability matching**

- Financing targeted to a one-time expansion of system capacity
- Not routine repair and replacement of traditional infrastructure assets (e.g., pipes)

■ **Intergenerational equity and fairness**

- Financing plan amortizes the costs more affordably and fairly over the generations of customers and ratepayers who will benefit
- Potential for near-term cashflow savings versus more traditional financing structures

■ **Committed, long-term, low-cost capital**

- Absolute and relative interest rates remain at historic lows
- Eliminates interest rate and market access risk versus alternative options

First “Certified” Green Bond in U.S.



■ DC Water’s Inaugural Green Bond Issue

- Dedicated use of proceeds exclusively financing Clean Rivers Project
- Expand and diversify the Authority’s investor base by targeting SRI (socially responsible investment) funds
- Alignment with DC Water’s mission and purpose as a steward of the environment

■ Independent 3rd Party Opinion

- **Vigeo** is one of the leading sustainability consultants and Green Bond opinion providers
- Evaluated Clean Rivers Project eligibility against core outcomes:
 - **Water Quality** – projected 96% reduction in CSOs from current level of 2 billion gallons/year
 - **Climate Resilience** – overland flood mitigation in low lying areas of the District of Columbia (e.g., Bloomingdale)
 - **Quality of Life** – promotion of biodiversity, removal of harmful nutrients from waterways, waterfront restoration





Investor Outreach and Marketing

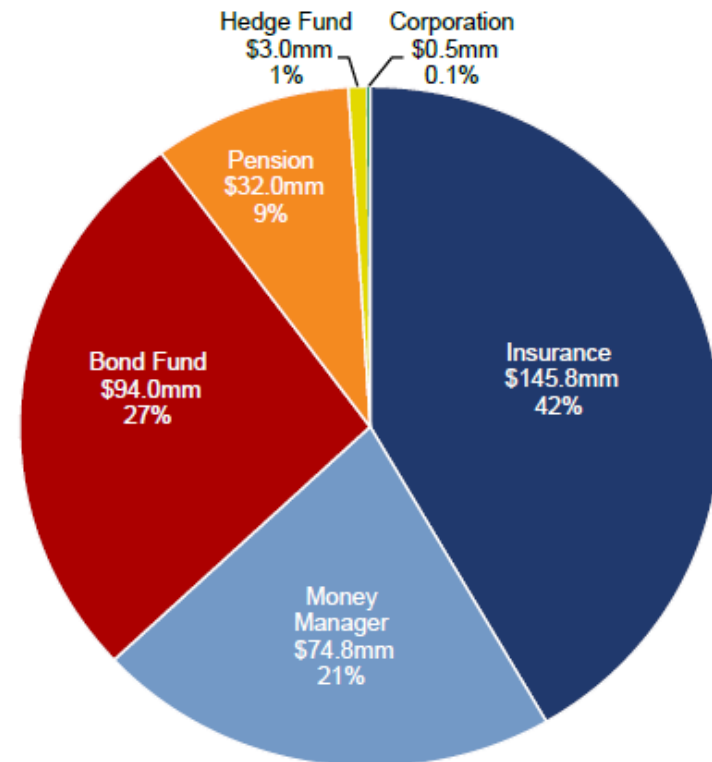
Marketing Strategy

- 6 “one-on-one” investor meetings
- 10 telephonic meetings
- Group presentation to 7 different investors
- 37 separate investors viewed Net Roadshow
- Types of investors include: bond funds, hedge funds, money managers, insurance companies, pension funds and corporations

Investor Highlights

- Over \$1 billion of orders from 36 investors
- Top 10 accounts (by order size) totaled \$751 million
- More than \$600 million of orders from non-traditional municipal investors
- Nearly \$100 million of orders from investors with Socially Responsible Investment (“SRI”) funds

Summary of Distribution





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Green Century Bonds

National Recognition in the Press



Washington, D.C., 'Green' Bond Greeted With Strong Investor Demand

District of Columbia Water and Sewer Authority Sells \$350 Million in 100-Year Bonds

By MIKE CHERNEY
Updated July 10, 2014 5:41 p.m. ET

Investors are placing a 100-year bet on the water and sewer system in the nation's capital.

Climate Bonds INITIATIVE

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DC Water issues AA+ \$350m 'green century bond' – yes that's right, the very first 100 year green bond! Now THAT is tenor. Plus, it's the first US green bond to get an independent review – at last!

Posted: Jul 15, 2014 by Sean Kidney

District of Columbia Water have just announced the close of the first 100 year maturity 'green century bond' to finance water projects. Yes, you read that right, 100 years!

Innovations in Infrastructure Funding at DC Water

Patents and Licensing Opportunities



Different approaches considered...

- Corporate Model
 - Patents from R&D, for products, primary-business driven
 - Goals
 - Monopolize revenue products
 - Prevent/defend lawsuits
 - Inventions are works-for-hire
 - Often licensed, occasionally pooled
- University Model
 - Also applies to government labs
 - Bayh-Dole Act, 1980
 - Goals
 - Support American business with new tech
 - Bring private products to market
 - Universities/labs hold patent and can license
 - Conditions: must disclose, must share revenue



DC Water Strategy

- 12 years of R&D
 - Wastewater plant improvements
 - Partners worldwide
 - Cutting-edge
 - CAMBI
 - Nitrite shunt
 - Anammox
 - Patents filed, but not leveraged
- Future patents from everywhere else, too
- New licensing efforts
 - Personnel policy asserting ownership of IP
 - University model (UMCP provided guidance)
 - Industry partnerships
 - Royalty on licensed sales
 - Goals
 - Non-ratepayer revenue
 - Bring new tech to WW industry
 - Recognition of DCW R&D



Efforts to Date

- Current Patents
 - 4 filed from R&D, dating as far back as 2006
 - 2 more R&D in process
 - 1 provisional from the welding shop
 - Company-wide search in progress
- Licenses
 - 2 in negotiation
- Additional Notes
 - Revenue shared with inventor(s)
 - Make use of industry knowledge and connections
 - Cost tracking to measure success

Innovations in Infrastructure Funding at DC Water

Q & A

*for more information please contact:
Maureen M. Holman, Sustainability Chief
maureen.holman@dcwater.com*