



# **GREEN BONDS: Financing for Transportation Projects**

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# Agenda



- Transportation's Impact on Climate
- What is a Green Bond?
  - Definitions and principles
  - Market trends
  - Municipal Green Bond examples
- Key Considerations
  - Potential drawbacks (risks)
  - Potential benefits (rewards)
- Risk vs Reward
  - Pricing Premium vs Costs
  - Role of third-party verification

# Transportation Impact on Climate Participation at COP21



- Transportation accounts for about 28% of Total U.S. Greenhouse Gas emissions
- Aviation accounts for 3-5% of global man-made CO<sub>2</sub> emissions
- Representatives from International Civil Aviation Organization (ICAO) participated in bilateral COP21 meetings
  - ICAO will be establishing agreement on market-based measures in 2016
- Growing Investment Commitment to Green Transportation (e.g., Green Bonds)

# What is a Green Bond?

Exactly the same as a “vanilla” bond but with a “green” benefit

- **“Labeled”**: Issuer formally declares funding must go to eligible Green Projects in Official Statement; typically follows *Green Bond Principles*
- **“Unlabeled”**: Although funding may go to eligible categories, there is no requirement that funds be “ring fenced” nor is there a formal declaration

# How Does the Market Define “Green”

*Define your green bond in-line with available guidance and investor expectations*

- Green Bond Principles (2015)
- Climate Bonds Standard 2.0
- Sector-specific guidelines (GRESB 2015)
- Green bond indices & assessment methodologies
  - Barclays/MSCI, BOA-ML S&P, Moody’s
- Green City Bonds Coalition (CBI, C40 Cities, NRDC, CDP, CERES, As You Sow)



# Green Bond Principles

- Use of Proceeds
  - Declare eligibility
  - Direct financing vs. re-financing
- Project Evaluation and Selection
  - Verifiable process
  - Clear criteria
  - Clear environmental objectives
- Management of Proceeds
  - Verifiable process to Ring Fence Assets
  - Allocated and unallocated funds
- Reporting
  - Performance Disclosure
  - Assurance

# What is a Green Project?

## Eligible Categories\*

- Renewable energy
- Energy efficiency
- **Clean transportation**
- Pollution prevention & control
- Sustainable management of natural resources
- Biodiversity conservation
- Sustainable water management
- Climate change adaptation
- Eco-efficient Products & Technologies

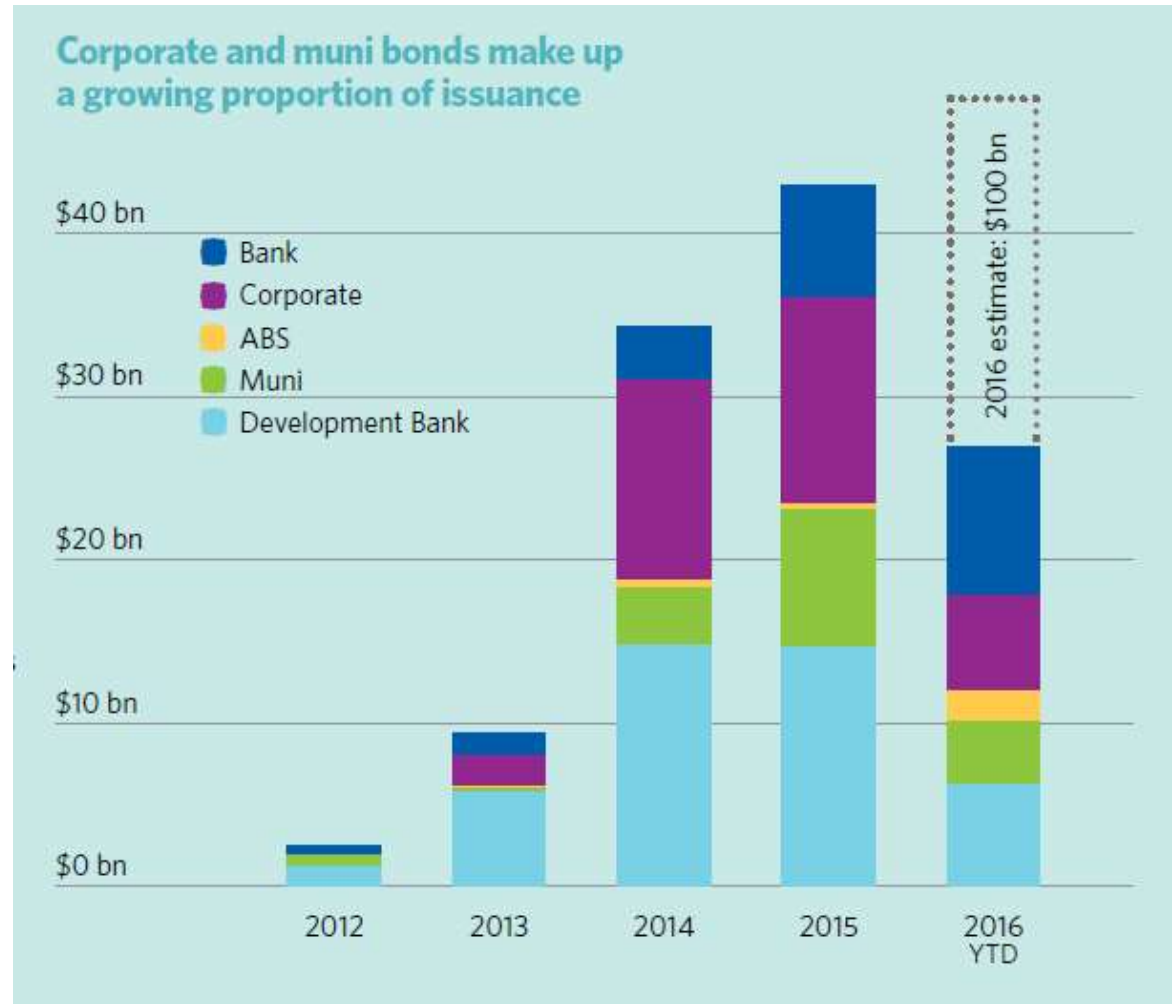


\* Pursuant to the 2016 Green Bond Principles

*“Green bonds are one of the most significant developments in financing of low-carbon, climate resilient investment opportunities.”*  
**UN Secretary General**



# Market Trends



Source: Bonds and Climate Change, State of the Market 2016, CBI



# Municipal Green Bond Programs

- **State of Massachusetts (2013)**
  - First to formalize municipal General Obligation “Green” Bond program
- **State of Connecticut (2014)**
  - \$250 million “All” Green Bond for clean water and drinking water
- **New York Green Bank (2014)**
  - Established key mechanisms for issuing Green Bonds



# Green Transportation Bonds

## Highlights of North American Transportation Green Bonds to Date

Agency	Date Issued / Anticipated	Value
New York MTA - Refinancing	February/May 2016	\$782M/\$500M
Puget Sound Area Transit Systems – 2/3 <sup>rd</sup> Refinancing	September 2015	\$700M
Ontario Finance Authority	October 2014	CAD \$202M

# Green/Climate Bonds – MTA



- In January 2016 MTA offered \$500M Certified Climate Bond
- Due to investor demand (wholesale and retail) increased offering to \$782M.
- Growing retail demand resulted in an additional \$500M in May
- Recognition as the first transportation agency to issue a Climate Certified Bond

# Green/Climate Bonds – MTA



- **MTA climate bond** was certified under Climate Bonds Standard's new Low Carbon Transport Eligibility requirements
- Mass transit: subways, light rail
- Rolling stock for railways
- Rail track capital expenditure
- Electric vehicle infrastructure, vehicle fleets, consumer loans
- Bus Rapid Transit Systems (minimum ITDP bronze rated)
- Zero- and low-emission vehicle fleets

# Key Considerations

## Drawbacks

- Lack of preparedness for Green Bonds
- Potential risks (e.g., greenwashing)
- Market uncertainties, including evolving standards
- Additional transaction costs

## Benefits

- Access to new investors
- Enhanced green reputation for the issuer and buyers
- Resilience or Adaptation are acceptable categories
- Increased demand resulting in Pricing Premium

# Green Bond Pricing



- Initial signs of favorable pricing:
  - Vornado real estate issue saw a Pricing Premium of 1-15 bps\*
  - DC Water lowered yields by 2-6 bps\*\*
  - Barclays Research 20bps pricing premium and growing!\*\*\*
  - FlexiGroup compared two groups of ABS: Certified Climate Bonds saw a 5 bps premium (“apples to apples”)
- Potential impact
  - “There is now an undeniable pricing advantage” – ABN AMRO (May 2016)
  - Potential savings offsetting additional transaction costs

\* Dentons Law, February 2015 presentation

\*\* DC Water, Investor Relations, October, 2015

\*\*\* Barclays Research, Secondary markets, Sept 2015

# Are Verified Green Bonds Worth It?

Let's Do  
the  
Math!

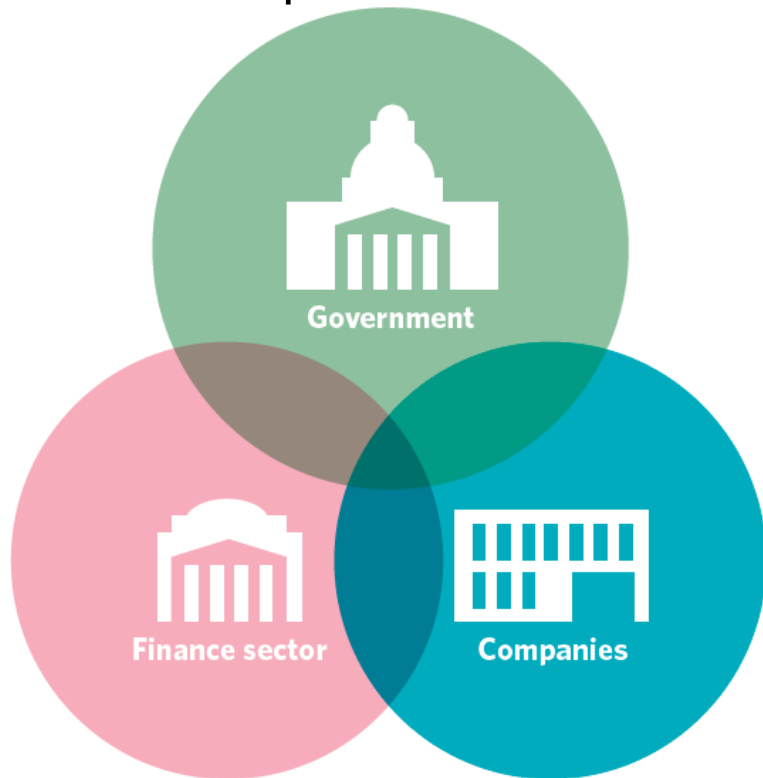


- MTA announced \$500 M Transportation Green Bond
  - Strong Retail Demand drove offering to \$782.5 M
- MTA stated publically only additional costs are verification, etc.: “\$25K to \$35K”+
- Assume 5 pbs pricing premium results in Net \$350,000+ Lower Cost of Capital: 10X+ return on transaction costs!

+ Bond Buyer Newsletter,  
December 14, 2015

# Conclusion

Public – Private -  
Partnerships



- Green/Climate Bonds will be vital in addressing sustainable Transportation projects given the scale of the investments required and the urgency with which we need to make them.



# About First Environment Green Bond Support Services

**Initial Green Bond Training**  
(e.g., Green Bond Basics, Risk Management)

**Green Framework Development  
and Readiness Assessment**

**Third Party Verification/Certification  
and Litigation Support**

# For More Information



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