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Integrated Climate Solutions: Green Bonds

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Integrated Climate Solutions: Green Bonds

Over the past decade, Green Bonds have emerged as a viable—but underutilized—funding source for muncipal infrastructure, coastal flood adaptation, and habitat restoration. Green Bonds also offer portfolio diversification and reduced climate risk. They are similar to general bonds, which has long been an attractive option for investors looking for fixed rates of return and high ratings for stability in financing or refinancing a project. In addition, Green Bonds incorporate requirements for a social and environmental return, in addition to a financial return.

In 2008, the World Bank issued the first Green Bond in response to concerns about pension fund assets' exposure to "climate risks"—the potential for significant market disruption due to the natural and social impacts of climate change. These concerns, and efforts to address them, have continued to grow.

HIGHLIGHTS

Outcomes

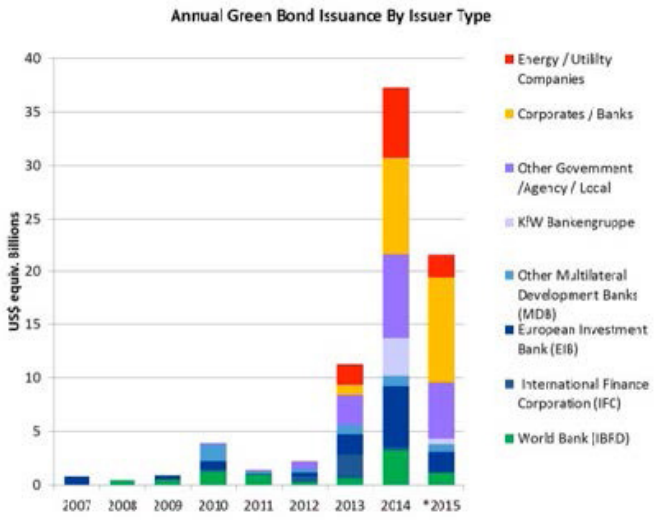
- More (and lower cost) available capital for climate and energy projects
- Environmental benefits
- Infrastructure renewal
- Community development
- Enhanced environmental/social justice
- Reduced climate risk for investors and thus a more stable global economy

Barriers

- Complexity
- Lack of standardization

At the UN Climate Summit in 2014, the global insurance industry pledged to make "climate smart" investments of $420 billion by 2020, a tenfold increase over expected 2015 investments. According to the Economist, "55% of pension fund assets are exposed to climate risks, including heavier regulation of dirty industries, and... buying Green Bonds helps offset such risks."

Since the World Bank piloted the Green Bond model, some U.S. states have followed: Massachusetts in 2013, Connecticut in 2014, and Rhode Island in 2015 have all found a way to isolate funds raised from the sale of bonds, and to track the spending on, and impact of, environmentally- and socially-beneficial projects. The amount of global capital invested in green bonds has risen from under $3 billion in 2012 to $42 billion in 2015 (see graph).



GRAPH 1: Annual Green Bond Issuance by Issuer Type

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MASSACHUSETTS LEADS THE WAY IN THE U.S.

In 2012, former Massachusetts Assistant Treasurer of Debt Management, Colin MacNaught, realized that investors were looking for financially transparent, socially responsible, environmentally-friendly projects in which to invest. MacNaught saw an opportunity to fund state projects while helping investors meet these goals. He reached out to the World Bank and began to develop a Massachusetts Green Bond to connect corporate and institutional investors to environmental and energy efficiency projects in Massachusetts.

The first step was to study the World Bank Green Bond process, and then to construct a framework to identify eligible project categories for investors. Green Bonds were developed to fund projects. Projects fell into one or more of four categories: clean drinking water, land acquisition/open space protection, river revitalization/habitat protection, and energy efficiency and conservation. Projects ranged from salt marsh restorations to state campus boiler upgrades to investments at water treatment plants.

The Commonwealth's goals in venturing into Green Bonds were to establish leadership in using an innovative financing tool in the US, and in so doing, to attract new investment which could increase available capital for future projects. For the inaugural issuance of Green Bonds, the State Treasurer's Office used a collaborative approach: along with the World Bank, they worked closely with the Massachusetts Executive Office for Administration & Finance and the Executive Office for Energy & Environmental Affairs to identify the best projects to support with new funds from Green Bonds, and to create a plan to implement and track the implementation and outcomes of those projects, which they would need to share with their investors as part of the Green Bond approach. The projects ranged from energy efficiency and renewables installations; to ecosystem-oriented projects to enhance community resilience and reduce flooding risk, to open space protection to preserve drinking water supplies.

"Green Bonds have the potential to increase states' capital budgets from current 10-20% on environmental issues to 40-50%."

- Colin MacNaught, Former Massachusetts Assistant Treasurer of Debt Management.

GRAPH 2: Represents what Mass Green Bond Issuance Funded

When the market opened for sal of $100 million of Green Bonds in Massachusetts in July 2013, demand exceeded supply by 30%, This effort was so successful that Massachusetts replicated the process and issued another $350 million in Green Bonds in 2014, to fund a marine terminal that would support offshore wind development; they were inundated with $1 billion in "buy orders" from investors who were excited about the opportunity to invest in a project with local environmental benefit. The high demand allowed them to offer a lower interest rate, leaving more funds to put toward meeting the state's aggressive energy and climate goals, rather than toward servicing debt.

SHADES OF GREEN - D.C. WATER'S APPROACH TO THE FIRST EVER CENTURY GREEN BOND

The infrastructure of the District of Columbia's water utility, D.C. Water, was built in the 1800s and wasn't designed to handle the population growth, nor the increased frequency and severity of storms that accompany climate change. For the DC Clean Rivers Project, a $2.6 billion deep tunnel system to transport and treat combined stormwater and sewage in order to reduce combined sewer over flows (CSOs). To help pay for the project, D.C. Water used Green Bonds. Theirs was the first Green Bond to be issued by a utility company and the first 100-year bond ever issue. It was also the first in the US to carry a "Second Party Opinion," which meant that they would engage a neutral outside firm with expertise in sustainability principles to evaluate and report on whether (and/or how) the Green Bond funds were supporting a project that was being implemented in an environmentally- and socially-responsible manner and that had clear, documented, socially- and environmentally-beneficial outcomes.

Since the typical term for bonds is not more than 30 years the introduction of a 100-year bond term required some "selling." As DC Water's CFO Mark Kim noted, "When you say you want to issue a bond for 100 years, they wonder 'Are you under financial stress? Are you unable to pay it in a traditional time frame?' We spent the better part of six months educating the [bond] rating agencies on multiple occasions."

Goldman Sachs and Barclay Capital assisted DC Water in structuring the 100 Year Bond, and served as joint underwriters and middlemen between DC Water and investors. They were chosen based on their reputation as leaders in their fields. Since no utility had ever issued a 100-year bond in the US, their credibility was also critical to the success of the project.

D.C Water believed it was important that their bonds, unlike the Massachusetts bonds, carry a Second Party Opinion. They worked with a European firm called Vigeo to determine what their environmental and social benchmarks needed to be in order to justify using a Green Bond, and to provide a neutral outside evaluation of the ways in which those standards would or wouldn't be met for the project. "Coming without [a second party opinion] would be like coming to market with unaudited financials and saying 'Just trust us,' said Kim.

From conception to execution, the deal took approximately 15 months- five times as long as is typical for a traditional bond. This was due to the added complexity of educating all of the relevant stakeholders, developing all of the needed partnerships, and working with Vigeo to analyze and document all of the project outcomes, implementation requirements and protocols.

However, when the bond offering finally did go to market, investor demand was so high that the planned $300 million offering was raised to $350 million, and the interest rate lowered. This meant that DC Water was able to access more, and significantly cheaper, capital, to finance the project. That capital is now being used to fund the Clean Rivers Project, which is slated to be finished in 2030.

"First, the challenge was the coordination between departments: engineering, finance, and accounting. We were remarkably successful in working across silos and have everyone understand what we were trying to accomplish with this project. The most important tool was common sense."

- Mark Kim, CFO, D.C. Water

One important aspect of this project is that it will reduce sewer overflows and flooding in some of the most economically-challenged areas of the District, and greatly improve the water quality of the Anacostia River, around which these communities are based, creating improved public health outcomes as well as a foundation from which to improve community economic development.

LESSONS LEARNED

Green Bonds Are a Useful Tool for Raising Capital

The experiences of Massachusetts and D.C. Water illustrate that Green Bonds are a viable way to finance capital investments. Given the International Energy Administration's estimate that we'll need global investment of $13.5 trillion by 2030 in the energy sector to address climate change, it makes sense to utilize Green Bonds.

D.C. Water suggests that the additional reporting requirements and working with an outside verifier can make issuing a Green Bond more taxing than a traditional bond; however the result offers lower interest rates and larger funds. As Green Bonds become more common and develop a consensus around standards and best practices, the barriers to participation could be reduced.

Investors Want Social & Financial Returns

From 2013 to 2015, demand for Green Bonds exceeded supply from 40-400%. Local investors are attracted to the potential for seeing tangible outcomes "close to home." Green Bonds offer a chance to see an improvement in the quality of life in local communities through infrastructure investments, as well as offering interest earnings on the loans that finance those projects.

Others invest in Green Bonds to hedge against climate risk. The Green Bond premise offers investors hopes of reducing that risk, though in the long run, these outcomes will hinge on market standards evolvement and enforcement.

Evolving Standards Present Opportunities and Challenges

The burden of evaluating the legitimacy of a Green Bond currently rests with the investor. However, many US and international organizations are working to create common standards for Green Bonds.

Seth Magaziner, General Treasurer of the State of Rhode Island, has called for more regulation, but others argue that fewer regulations may be good in these early stages of development, allowing for more innovation and creating fewer barriers for potential issuers. New policies would be designed to spur Green Bond issuances, balancing standards that facilitate a "triple-bottom-line" return, while allowing flexibility for issuers to take advantage of Green Bonds.

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Integrated Climate Solutions Case Study Series

This briefing was researched and written by the Climate Solutions New England research team: **Irene Queen**, Jennifer Andrews, Sarah Large Cameron Wake, Catherine Ashcraft, Henry Herndon, Irene Queen, and Tom Kelly. This briefing is part of Climate Solutions New England's "Integrated Climate Solutions" project. The "Integrated Climate Solutions" project aims to promote leadership and innovation by highlighting initiatives that provide opportunities for enhanced civic participation and democratic governance, economic development, public health, and social justice, while tackling climate change mitigation and/or adaptation. Full case studies on each of the solutions featured are in development, and will be available at climatesolutionsne.org.

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