RBC Capital Markets’ Green Bond Conference

Post Event Summary

MARCH 2015
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INTRODUCTION

Green bonds have emerged as a popular debt instrument for supranationals, development banks, governments, and corporations to unlock private capital for a variety of sustainable projects. The increasing appeal of green bonds lies in their ability to support sustainability projects while maintaining the risk/reward characteristics of traditional fixed income products.

In April 2014, RBC was the first Canadian bank, and part of the second wave of international banks, to endorse the Green Bond Principles which strive to provide voluntary guidelines for the process and development of green bonds. Since 2010, RBC Capital Markets has acted as Lead Manager on several green bond issuances with notable global issuers, including The World Bank, European Investment Bank, the Province of Ontario, and most recently KFW.

On February 25, RBC Capital Markets hosted its 2nd annual Green Bond Conference in Toronto. This conference brought together surpanational, government and corporate issuers, institutional investors and other experts to explore the growth of the green bond market globally and its future development in Canada.

The conference was developed as part of RBC’s commitment to promoting sustainability. Our active involvement in the growing green bond market is a testament to our global Debt Capital Markets and team’s ability to deliver emerging and innovative fixed income products to our clients.

The following is a summary of the themes and highlights that took place during the conference.
Our history of environmental stewardship and sustainability dates back to 1991, when we appointed our first environmental risk manager and introduced our first formal environmental policy. Our programs and policies have evolved significantly over the past two decades. In 2007, RBC published the first RBC Environmental Blueprint, which served as our multi-year plan for integrating environmental sustainability into RBC’s business activities, operations and community initiatives.

In June 2014, we launched the new RBC Environmental Blueprint, a roadmap that outlines how we will approach environmental sustainability globally from now until 2018. Every roadmap needs a destination, so this document not only sets out the corporate environmental policy, objectives and priorities, but also includes aggressive targets in three areas of focus: climate change, water and sustainable communities.

2014 Environmental Sustainability Highlights include:

<table>
<thead>
<tr>
<th>Reducing Our Environmental Footprint</th>
<th>Managing Environmental and Social Risk</th>
<th>Offering Environmental Products and Services</th>
<th>Promoting Environmental Sustainability</th>
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<tr>
<td>Powered our entire Canadian ATMs and in-branch digital displays with 18,044 MWh of renewable energy, enough to power over 1,500 Canadian homes for a year.</td>
<td>Conducted over 1,100 detailed environmental credit risk assessments on financial transactions worth $7.9 billion.</td>
<td>Traded over 240 million tonnes of carbon credits through the RBC Capital Markets emissions trading desk.</td>
<td>Donated $6.3 million to environmental charities globally.</td>
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<td>Occupied over 225,000 m² of LEED (Leadership in Energy and Environmental Design) certified green office space – the same size as 31 soccer fields.</td>
<td>Maintain eight corporate policies to help our clients manage environmental and social risk.</td>
<td>Managed over $3.7 billion in socially responsible investments on behalf of our clients.</td>
<td>Celebrated our fifth annual RBC Blue Water Day in June, where more than 20,000 employees from 24 countries participated in 721 community makeovers to help protect water.</td>
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<td>Tracked the disposal of over 395 tonnes of electronic items from 21 countries. 99% of the items were diverted from landfills through resale, donation, redeployment or recycling.</td>
<td>1st Canadian bank to adopt the Equator Principles environmental and social guidelines for project finance in 2003.</td>
<td>Over $2.7 billion in loans and trading line exposures to renewable energy companies.</td>
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<td>Reduced our greenhouse gas emissions from energy use by 43% since 2009.</td>
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# RBC Capital Markets’ Green Bond Conference Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>8:30 – 9:00am</td>
<td>Breakfast and Registration</td>
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<tr>
<td>9:00 – 9:05am</td>
<td>Opening Remarks</td>
<td>Paul Belanger, Managing Director, Debt Capital Markets, RBC Capital Markets</td>
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<td>9:05 – 9:15am</td>
<td>RBC Sustainability Speech</td>
<td>Sandra Odendahl, Director of Corporate Sustainability and Social Finance, Royal Bank of Canada</td>
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<td>9:15 – 10:00am</td>
<td>Research Report Presentation and Q&amp;A</td>
<td>Andrew Calder, Head of Canadian Credit Research, RBC Capital Markets</td>
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<td>10:00 – 11:00am</td>
<td>SSA Issuer Panel Panel Discussion</td>
<td>Chad Buffel, Principal Portfolio Manager, Export Development Canada</td>
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<td>Denise Odaro, Head, Investor Relations, International Finance Corporation</td>
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<td>Heike Reichelt, Head, Investor Relations and New Products, World Bank</td>
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<td>Milosz Slazak, Capital Markets Officer, European Investment Bank</td>
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<tr>
<td>11:00 – 11:15am</td>
<td>Break</td>
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<tr>
<td>11:15 – 11:45am</td>
<td>Ontario Green Bond Update In Conversation</td>
<td>Mike Manning, Executive Director, Ontario Financing Authority</td>
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<td>11:45 – 12:30pm</td>
<td>Green Bond Investor Panel Discussion</td>
<td>Barbara Lambert, Senior Portfolio Manager, Fixed Income, Addenda Capital</td>
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<td>John Anderson, SVP Senior Managing Director, Head of North American Corporate Finance, Manulife</td>
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<td>12:30 – 1:30pm</td>
<td>Lunch</td>
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<td>1:30 – 2:15pm</td>
<td>Green Bond Index Presentation and Q&amp;A</td>
<td>Kevin Horan, Director of Fixed Income Indices, S&amp;P Dow Jones Indices</td>
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<td>2:15 – 3:00pm</td>
<td>3rd Party Verification Presentation and Q&amp;A</td>
<td>Vikram Puppala, Manager, Advisory Services, Sustainalytics</td>
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<td>3:00 – 3:45pm</td>
<td>Infrastructure Finance Panel Discussion</td>
<td>Felix Amerasinghe, Senior Portfolio Manager, Corporate and Project Finance, Province of BC</td>
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<td>Paul Hughes, Senior Director, Cost Consulting and Project Management, Altus Group</td>
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<td>3:45 – 4:30pm</td>
<td>Future of Green Bond Market In Conversation</td>
<td>Sean Kidney, CEO, The Climate Bonds Initiative</td>
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<td>Toby Heaps, CEO, Corporate Knights</td>
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<td>4:30pm</td>
<td>Closing Remarks</td>
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After welcoming remarks, the day began with a summary of the recent research report published by RBC Capital Markets on green bonds. Highlights from that report, *Green Bonds, A Market Coming Into Its Own*, include:

**Globally, 2014 was a significant year for green bonds with $37B of issuance.**
This marked a significant jump from the $11B issued in 2013, and brought aggregate issuance to $60B since the first issue in 2007. Climate Bond Initiative (CBI) estimates that green bond issuance in 2015 could triple to $100B. In this research note, we provide an update on the state of the market and highlight key trends and drivers underlying its growth.

**Domestically, 2014 saw inaugural green bonds issued in Canadian dollars.**
It was a hallmark year for the Canadian dollar green bond market, with C$1.2B of green bonds issued by Province of Ontario (C$500MM), TD Bank (C$500MM deposit note), and Province of British Columbia’s North Island Hospitals Project (C$231MM); they were joined by Export Development Canada, which issued in USD (US$300MM). The current trend towards more socially conscious investing and the solid demand for the C$ green bonds indicates to us that there is appetite among Canadian investors to finance green project opportunities. Ontario has a sizeable pipeline of infrastructure projects and appears poised to be a regular green issuer.

**Bond indices further support the notion that this is a market coming into its own.**
Globally, market growth is well supported – investments in green infrastructure will be increasingly necessary from both the public and private sectors as environmental sustainability becomes a more important consideration for both social and corporate responsibility. Green bonds provide a means to unlock private capital flows into projects that support such purposes. Reflecting the trend, there are now three green bond indices (Barclays/MSCI, BofA Merrill Lynch and S&P). Index criteria differs but revolves around use of proceeds, the process for selecting green projects, management of proceeds and reporting. In our view, having benchmark indices is another mark of progress for the green bond market, by giving investors the ability to benchmark performance, as well as enhancing the liquidity of issues within the index.

The issuer base is diversifying.
Green bonds have been issued predominantly as AAA-rated securities by supranationals, but the market is expanding rapidly in terms of issuer diversity, number of issuers, and investor involvement. To date, 56 per cent of total issuance has been from supranationals, but the proportion declined noticeably in 2014 (44 per cent, $16B) as issuance from private corporations rose to 43 per cent of 2014 issuance ($16B) from 31 per cent in 2013. There were more than 60 new green bond issuers in 2014, a trend we expect to continue given the preponderance of green-friendly projects/businesses, and applicability of the green label to a variety of sectors. To this end, the broader ‘climate themed’ bond market is estimated to be $503B (CBI); the instrument is well suited for the Real Estate (including Pension Fund), Public Transportation, Power Generation and Utility sectors. For context, Canadian dollar issuers in these sectors have general obligation bonds of approximately CAD$100B outstanding; we believe a portion of bonds issued by these sectors would lend themselves to climate-themed initiatives.

Challenges of scale, liquidity and standardization moving in the right direction.
We estimate a healthy domestic green bond market requires a market size of CAD$10-20B, made up of bonds rated BBB or higher. Furthermore, liquidity will be enhanced through standardization – issuers and investors require a single set of standards for (1) the acceptable use of green bond proceeds; and (2) processes to evaluate and report on green projects being funded. To this end, not-for-profit agencies and commercial banks have launched a set of standards for verifying the credentials of green bonds, with a view to improving the clarity of the market.
ISSUER PERSPECTIVE

The late morning sessions of the conference focused on the perspective of issuers and how they are seeing the green bond market develop. Key observations and advice from the issuer group included:

- Green bond programs are being developed for a number of reasons, but primarily to expand and diversify the investor base funding sustainability projects while raising awareness for environmental and social issues.

A Growing Array of Issuers

- Supranationals were the pioneers in issuing green bonds, helping to build the market, raise awareness, educate investors, and establish credibility for this emerging debt instrument. Recently, corporate and government issuance has grown and the goal is to have accelerated participation from the private sector.
- There is more choice in the green bond market than ever before and important precedents have been set in green bonds that address climate change through renewable energy, energy efficiency and sustainable transportation projects. Examples were provided of green bonds issued under public private partnership (3P) consortiums like the North Island Hospitals Project green bond. There are also examples of thematic bonds that address social issues by promoting employment, women entrepreneurs and lending to economically disadvantaged areas.
- Issuers need to anticipate that the issuance process takes more time and planning than a regular bond issue, often requiring coordination with other areas of the organization.
- Advice for potential issuers: reach out to other green bond issuers and dealers to get feedback and advice as most market participants are keen to help further the development of the green bond market.

Standardization is Very Important

- Strong consensus that transparency is key to market growth, especially ensuring that green bond proceeds are directed to approved projects that have real environmental impact. In fact, 67 per cent of conference participants identified a clear definition of what is “green” and standardization in tracking the impact of projects as important factors to help improve the credibility of the market.
- To enhance transparent and credible reporting, not-for-profit agencies and commercial banks have launched a set of standards for verifying the credentials of green bonds like the Green Bond Principles developed by the International Capital Market Association (ICMA).
- Standardization benefits issuers by enhancing market credibility, reducing transaction costs and time to market.

Further support that this is a maturing market is the emergence of three green bond indices (i.e. Barclays/MSCI, BofA Merrill Lynch and S&P). Index criteria differs but revolves around the use of proceeds, the process for selecting green projects, management of proceeds, and reporting.

Understanding Investors

- More supply is needed to meet demand as many of the recent green bonds issued have been significantly oversubscribed (e.g. the recent Ontario Green Bond had a $2.4 billion order book for a $500 million issue). Balance is to have more issuers while maintaining a high level of credibility in the market.
- Issuers need to raise awareness of green bonds in the investor community. With awareness comes an increased level of comfort, understanding and desire to participate in the market.
- Some issuers give preferential treatment to green investors in new issue allocations, but there is some concern from investors who are not obvious pure play Socially Responsible Investors (SRI) that they may be disadvantaged in the allocation process.

Reporting

- Bonds that support renewable energy and energy efficiency projects seem to be leading the market in the standardization of impact reporting (e.g. energy or GHG reduction metrics) as there is a critical mass of science and technology that supports strong disclosure for these types of projects.
- Issuers are seeing reporting requirements increase considerably and are questioning if this adds value as there is duplication of reporting to authorities and other interest groups.
INVESTOR PERSPECTIVE

The early afternoon sessions of the conference focused on the perspective of investors and how they are seeing the green bond market develop. Key observations and advice from the investor group discussions included:

- A common factor driving investor demand for green bonds is SRI and/or impact investing mandates. SRI investors incorporate factors related to environmental sustainability, social responsibility and corporate governance with traditional financial analysis, allowing investors to choose investments that are consistent with both their financial goals and their stakeholders’ values. Impact investing is investment in businesses that tackle social and environmental challenges, while generating a financial return.

- Green bonds are attracting a wide variety of investors, in addition to funds with explicit SRI mandates. Pension funds and insurance companies who are making a greater commitment to ESG investing are active and even central banks are starting to participate in the green bond market.

Key Questions/Issues

- Big questions for investors: Are the green bonds really green? Can the money be traced to green projects? Is the impact measured and reported? Can a company with poor Environmental Social Governance (ESG) performance issue a green bond?

- Should green bonds support projects that reduce Greenhouse Gas (GHG) emissions from carbon intensive sectors? An example would be retrofitting coal plants that can significantly reduce GHG emissions from the energy sector. One opinion is that these types of projects don’t make sense from a green perspective as we need to retire these assets, not extend their life.

- Investors are not typically willing to pay a premium for green bonds and new issue yields are typically in line with an issuer’s regular bond curve.

Defining ‘Green’

- Differences in what investors define as green are common. General consensus that renewable energy, energy efficiency and sustainable transportation projects are green, but questions can still arise within these sectors. For example, how green is investing in large scale hydroelectricity generation or in rail infrastructure projects that would transport fossil fuels and other hazardous chemicals?

- Investors expect eligibility criteria for green bonds to be clear and well-defined to ensure they align with their SRI mandates.

- Many large investor groups have in-house subject matter expertise related to the analysis of the technical, environmental and social aspects of projects (i.e. employees with engineering, science or sociology backgrounds).

- In addition to screening green bonds and their supported projects, some investors undertake a review of the issuer’s ESG performance to ensure they have the credentials and expertise required.

- Green bond certifications and second opinions can provide comfort to investors that the green bond is credible, but not all investors in the green bond market see this as a requirement.

- More research that can tie ESG issues to financial performance can help grow and add credibility to the green bond market.
GREEN BOND MARKET OUTLOOK

The final session of the day brought together a panel of experts to discuss where the green bond market is headed globally and in Canada. Key observations from this panel included:

- A large driver behind the growth of green bonds internationally is the fossil fuel divestment movement and investors looking to reduce the carbon intensity of, or “de-carbonize”, their investment portfolios.
- Climate science is compelling and has presented a strong case that urgent measures are required to address climate change from both a mitigation and adaptation perspective.
- Governments are also “waking up” to the realities of climate change and taking action. One example is the recent U.S.–China announcement to work together on reducing GHG emissions and to work with other countries to reach a new international climate change agreement at the United Nations Climate Conference in Paris in 2015. The Ontario government has also recently announced plans to put a price on carbon emissions.
- Not all green bonds are related to addressing climate change, but the expectation is that climate change, as an issue, will be the dominant market driver as governments look to mobilize capital to address this issue.
- Canada has seen slower growth in the green bond market compared to the U.S. and EU markets.
- Issuers need to develop simple and clear green criteria for their projects and the verification process needs to be straightforward and not cost prohibitive.
- The market needs to find better ways to build liquidity and scale.
CLOSING

At the end of the conference there was strong agreement that the green bond market is building momentum globally and in Canada as both the public and private sectors look to unlock capital flows into projects that address environmental and social issues. In fact, 67 per cent of conference attendees expect to participate in a green bond transaction this year. There were varying opinions on how and what is needed to ensure the market builds scale and liquidity quickly, but there was solid consensus from both issuers and investors that transparency is key to market growth. It is clear that capital from both the public and private sectors will be increasingly necessary to complete sustainability initiatives around the world. Green bonds provide a vehicle to match this capital with the required investments in climate change and RBC looks forward to remaining an active participant as more socially responsible investors participate in the growing green bond market.