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SECTOR IN-DEPTH
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Environmental Risks and Developments

Green Bonds Start to Bloom

Summary

» **Green bonds are a small, but growing, segment of the global bond market.** We expect that the nascent green bond market in Europe and the US (Aaa stable) will become more sophisticated, while developing countries start to explore this source of finance for environmentally friendly projects. The volume of green bonds sold in 2014 tripled to almost $37 billion last year according to the Climate Bonds Initiative, a not-for-profit organization.

» **We expect a wider range of issuers, maturities, currencies and bond features as the market develops.** India's Yes Bank Limited (Baa3 stable) sold the first green bond in the country, the world's third-largest emitter of greenhouse gases, in March 2015. It aims to use the proceeds to fund renewable energy projects. Companies and municipal governments combined overtook development banks, the pioneers of green bonds, as the biggest issuers last year, accounting for 46% of the total.

» **Sustainable, responsible and impact (SRI) investing is a key driver.** Investing in green bonds fits well with SRI fixed-income mandates. There has been steady growth in SRI strategies, which now account for approximately 35% of the value of professionally managed assets worldwide. Growth has been largely in equity markets so far, but attention is beginning to switch to fixed-income.

» **Issuers need to address standards and accountability for green bonds to gain more credibility.** Initiatives such as the Green Bond Principles have helped define the bonds for investors. However, compliance with these principles is voluntary and there are no enforcement mechanisms. This has relegated green labeling to a marketing strategy in the eyes of some market participants.

» **First update to the Green Bond Principles was a welcome step.** It strengthened them incrementally by adopting minimum performance standards for the project evaluation and selection process and for managing proceeds. The revision to the principles, which were launched in early 2014, also clarified and expanded the broad categories of eligible projects and recommended issuers use external independent assurance providers.

» **How we rate green bonds.** The repayment of "use of proceeds" green bonds is not conditional on the projects' completion and holders do not assume any project-specific risks. As a result, classification of bonds as green does not typically alter the way we evaluate their credit strength compared with standard bonds.

Green bonds are a small but growing segment of the global bond market

Since the European Investment Bank (Aaa stable) sold the first version of a green bond in 2007, an increasing number and variety of issuers have tapped this source of finance for environmentally friendly projects. We expect that the nascent green bond market in Europe and the US (Aaa stable) will become more sophisticated, while developing countries such as India (Baa3 positive) and China (Aa3 stable) explore these instruments for the first time, offering sizeable growth potential.

Complementing a climate-themed bonds universe (see Exhibit 1), green bonds are fixed-income securities that raise capital exclusively for projects or activities with specific climate or environmental sustainability aims such as renewable energy, waste management and energy efficiency.

A growing number of investors, issuers and intermediaries believe that bonds are particularly well-suited as a source of capital to finance a transition to a low-carbon economy. Capital market financing needs, combined with rising demand from SRI investors and the issuance of benchmark-sized deals that are effectively priced, both investment grade and, to a lesser extent, speculative grade, should lift green bond issuance over the next few years.

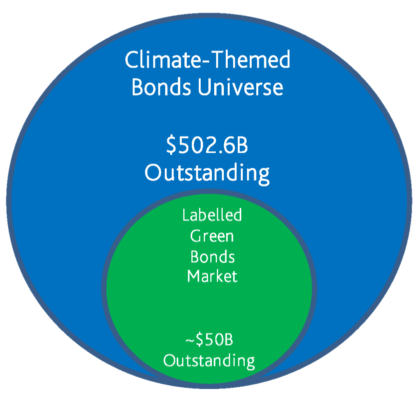
The volume of green bonds sold in 2014 tripled to almost $37 billion from the previous year, data from the Climate Bonds Initiative (CBI) shows. The CBI, a not-for-profit organization, and some investment banks think issuance could triple again to $100 billion in 2015, although this looks less likely based on volumes so far this year.

Despite their fast growth rate, green bonds are still only a tiny part of the global bond market at about 0.2%. For that share to grow significantly, voluntary guidelines that set out criteria for bonds labeled “green” will likely have to achieve a greater level of standardization and become more widely accepted by issuers, such as local governments, utilities, other corporates, and investors.

The prevailing guidelines, the Green Bond Principles, were updated in March 2015, following their launch the previous year by a group of investment banks. There were several incremental changes that we think make them a little stronger.

The repayment of “use of proceeds” green bonds, unlike revenue and project bonds or securitizations, is not conditional on the projects' completion and holders do not assume any project-specific risks. Therefore classification of bonds as green does not typically alter the way we evaluate their credit strength compared with standard bonds.

Exhibit 1
Climate-themed bonds universe and green bonds



Source: Climate Bonds Initiative, Bonds and Climate Change – The State of the Market in 2014

Issuance trends and outlook: We expect a wider range of issuers, maturities and bond features

We expect to see an increasing range of issuer credit profiles, maturities, currencies and bond features as the market grows. So far, the vast majority of green bonds have been sold by issuers in Europe and the US, where government environmental policies and the associated need to finance projects supporting greenhouse gas emissions (GHG) reduction targets are more advanced than in developing countries. However, some of these countries are starting to make the transition towards more environmentally sustainable economies, which could offer good opportunities for future green bond growth.

For example, India's Yes Bank Limited (Baa3 stable) , a large commercial bank, sold the country's first green bond in March 2015. It aims to use proceeds from the 10-year INR10 billion note to fund renewable energy projects in the country, the world's third-largest emitter of greenhouse gases. That was followed by the Export-Import Bank of India (Baa3 positive) which issued a five-year $500 million bond to finance low-carbon transport, solar and wind projects.

China, the world's largest emitter of greenhouse gases ahead of the US, has sizeable investment needs to reduce pollution and there are initiatives to get a green bond market off the ground there. At the same time, China has flagged its intention to open its debt capital markets to increase transparency and diversify funding options away from the current bank-dominated system, also increasing access to the country's large pool of domestic savings. This presents opportunities for green bonds, which could potentially transform the market if backed by clear regulation as well as standards, verification and reporting systems.

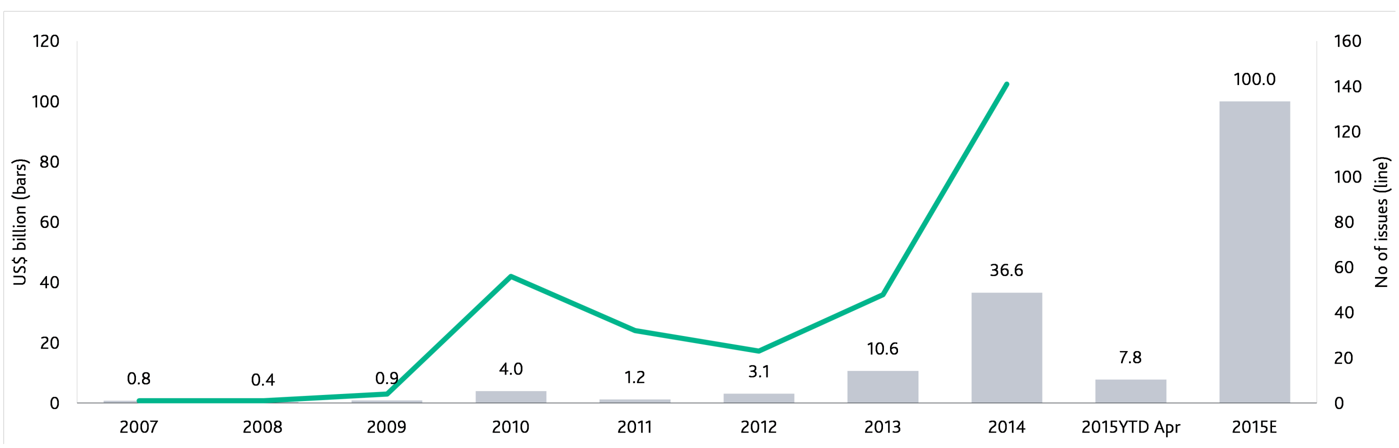
Meanwhile, the United Arab Emirates (Aa2 stable) is considering issuing the first Islamic bond, or sukuk, aimed at financing green energy projects this year. The World Bank (Aaa stable) recently indicated that it was in the early stages of a mandate to support green financing, which could include a Sharia-compliant bond.

Some $7.8 billion of green bonds were issued globally between January and mid-April this year, according to the Climate Bonds Initiative, well below the average $8.3 billion a month that would be required to hit its $100 billion forecast for the whole of 2015 (see Exhibit 2)

Corporate issuance, which was the main driver behind the tripling of volumes last year, has been muted so far this year, with just five issues. That's in sharp contrast to 2014 when first-time issuers from sectors such as property, construction and the paper industry joined utilities (new issuers and those that had already tapped the market), accounting for one third of new volumes.

Exhibit 2

Green bond issuance volume tripled in 2014 but growth rate has been slower in Q1 2015



Source: Climate Bonds Initiative, Year 2014 Green Bonds Final Report

We believe that non-bank corporates are currently holding off for the following reasons: They fail to see any pricing benefit from selling green bonds compared with regular bonds. Costs, including third-party certification and continuous monitoring and reporting, might be a barrier to entry for potential new issuers especially while low interest rates mean regular bonds are a cheaper way to raise money. Lastly, notwithstanding the benefits of a more diversified investors base and improved market access, issuers might want to avoid any potential criticism in the form of negative publicity about how they use the proceeds.

The recent changes to the Green Bond Principles might remove some of this uncertainty. Nonetheless, we do not believe that would be enough to trigger a new wave of corporate issuance and as a result are more cautious on issuance volumes from non-bank corporates this year.

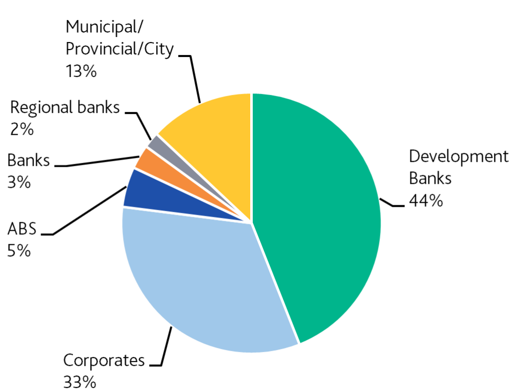
In contrast, we expect issuance by municipal governments to increase as more investors that typically don't buy this type of bond enter the sector. In the US, many municipal bonds for projects such as clean water and sewer treatment already meet the standards for green labeling and require little additional disclosure or reporting. Several particularly high-volume issuers, such as the Commonwealth of Massachusetts (Aa1 stable) and the State of Connecticut (Aa3 stable) , have noted the benefit of diversifying their investor bases by marketing already planned offerings to green investors. This year, smaller issuers are following suit, such as the City of Venice, Florida, Water and Sewer Enterprise (Aa2) with a $15 million offering in March.

While multilateral development banks were responsible for the majority of 2014 issuance (44% of the total), the significant share of corporate (33%) and municipal issuers (13%) shows how the market has changed since its early days, when green bonds were sold only by development banks (see Exhibits 3 and 4). Last year saw the largest green bond issuance by a company, with French gas and electricity group GDF Suez SA (A1 stable) finalising €2.5 billion of bonds. It earmarked proceeds for investments related to the development of renewable energy production and the promotion of energy efficiency, including the acquisition of companies active in these fields.

Exhibit 3

Cumulative corporate and municipal issuance overtook development banks in 2014

2014 issuers profile breakdown



Source: Climate Bonds initiative

Exhibit 4

Top 10 issuers in 2014

Issuer	Issuance Size	Issuer Profile
EIB	USD5.6 bn	Development Bank
KfW	USD3.5 bn	National Development Bank
GDF Suez	USD3.4 bn	Electric & Gas Utility
World bank	USD3.1 bn	Development Bank
Toyota	USD1.45 bn	Car Manufacturer
AfD	USD1.3 bn	National Development Bank
Iberdrola	USD1 bn	Electric & Gas Utility
Unibail-Rodamco	USD1 bn	Commercial property company
Ile de France	USD829 mn	Region
Hera	USD680 mn	Electric & Gas Utility

Source: Climate Bonds Initiative

The expansion in the types of issuer has resulted in a wider range of ratings for green bonds. While development banks are Aaa-rated, companies and local governments typically have lower ratings. At the end of 2014, the first high-yield green bonds were issued by US renewable and conventional generator NRG Yield, Inc. (Ba1 stable) and Spanish renewable energy services company Abengoa Greenfield S.A. (B2 stable) .

There were also new types of green bonds compared with the standard senior unsecured profile of a typical issue. Japanese car manufacturer Toyota Motor Corporation (Aa3 stable) issued bonds backed by car leases, with proceeds allocated to the development of environmentally friendly vehicles, such a hybrids. As the market develops, the number of currencies that bonds are issued in has increased. Until 2009, bonds were denominated in either euros, US dollars or Swedish krona. Last year there were 16 different currencies.

Drivers behind green bond issuance

Green bonds are useful instruments for their pioneers, the development banks, because investing the proceeds in environmentally beneficial projects serve their goals of sustainable economic development and social progress. Along with other types of issuers, they also benefit from selling bonds beyond their traditional investor base to capture a broader and growing group of investors that want to engage on environmental and social issues. From a credit ratings perspective, this more diversified funding base is a credit positive. Smaller less-frequent issuers say selling green bonds can create an “awareness factor” that stimulates repeat buyers for both their existing and future regular bonds. While this is not the case today, a larger pool of investors could also theoretically drive borrowing costs down. Green bonds can also enhance an issuer’s reputation and increase visibility in the marketplace, without necessarily adding administrative burdens or high costs for all issuers. However, there is always a risk costs could increase and issuers could attract negative publicity or suffer damage to their reputations if proceeds from the bonds are used in non-green or questionable projects.

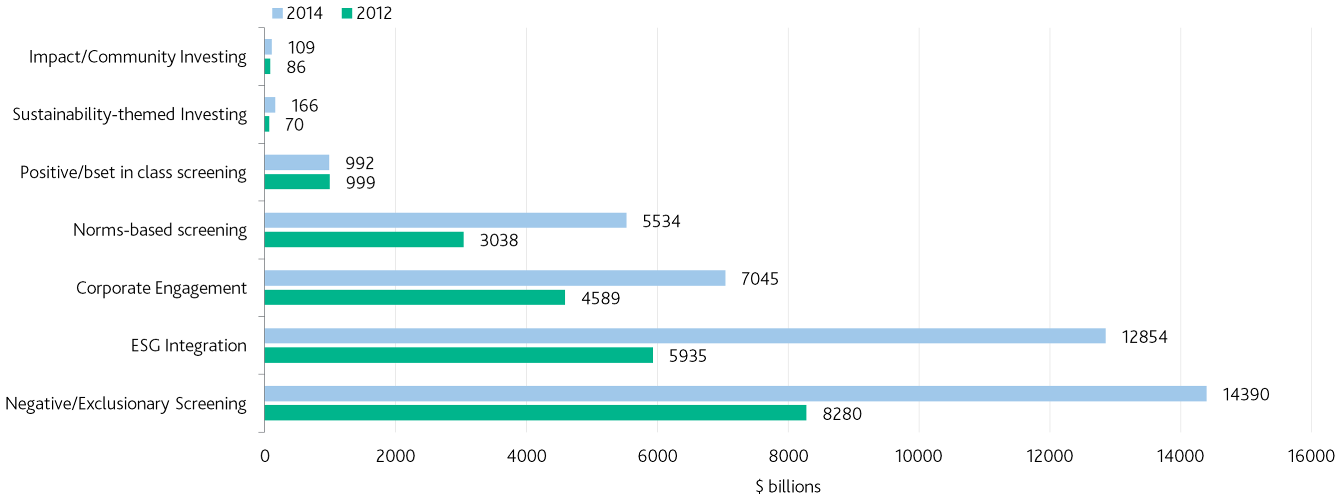
On the demand side, there has been steady growth in SRI strategies, which now account for approximately 35% of the value of professionally managed assets worldwide. This has so far largely happened in the equity and, to a lesser extent, real estate markets, because applying SRI strategies to fixed-income mandates has proven more difficult. However, attention has begun to shift to fixed-income, both taxable and tax-free, the largest and most complex segment of the capital markets. Investing in green bonds fits well with SRI fixed-income investment mandates and represents an easier way to implement this strategy.

SRI investing has grown in recent years due to a number of factors. Investors have been motivated by governance failures that led to the 2008 global financial crisis, increases in the number and severity of catastrophic climate events attributed to global warming and people's increasing sensitivity to social concerns. This has moved a growing class of retail, high net worth and institutional investors, including for example insurance companies, endowments, foundations and public pension funds in the US and Europe, to seek investments that can achieve a positive social and environmental impact alongside financial returns. In some cases, asset managers have adopted an investment thesis, supported by academic and financial research, that ESG factors can improve risk-adjusted returns and/or minimize volatility and downside risks.

The latest available data shows that an estimated $21.4 trillion globally in professionally managed assets are linked to SRI investing strategies in their investment selections and management. In the previous two years alone, SRI assets have expanded by 61% from $13.3 trillion.

Likewise, impact investing, shareholder engagement and a proactive approach where investors incorporate ESG data into their investment research and portfolio construction processes to enhance risk-adjusted return, are also gaining traction and have been growing more rapidly. As shown in Exhibit 5, most SRI strategies experienced strong growth in the 2012 to 2014 time period, with sustainability themed investing expanding at the fastest rate of 135%.

Exhibit 5
SRI strategies have grown substantially over the last two years



Source: Global Sustainable Investment Alliance, The 2014 Global Sustainable Investment Review

While we believe that the absolute numbers may be subject to some misreporting, the size and rate of change are unmistakable. This is validated by the growing number of institutional asset owners and investors that in the past five years have signed up to the Principles for Responsible Investment (PRI), an initiative to incorporate ESG issues into investment practices. At the end of 2014, there were nearly 1,300 PRI signatories, including 1,171 asset owners and investment managers, reportedly accounting for $45 trillion in assets under management.

The green bond market faces challenges to growth

For green bonds to gain more credibility and for the market to meet its full potential, issuers will have to address both standards and accountability.

Initiatives such as the Green Bond Principles (GBP) have made significant steps towards standardizing the definition of what a green bond is. However, compliance is voluntary and there are no enforcement mechanisms. This has relegated green labeling to a marketing strategy in the eyes of some market participants, who see no meaningful difference with other securities.

While difficult to quantify, in many cases environmental impact is not measured or directly related to reducing carbon emissions. Independent third-party organisations can be used to verify whether a bond meets certain standards, but their credibility, methodologies and recognition vary. Some issuers have simply marketed already planned financings to green investors as a way to increase demand for their securities. The lack of comparability makes investment choices difficult.

The GBP's recommended transparency and disclosure practices are intended as a guide to launching a credible green bond program without the need for a single authority or gatekeeper. Given the wide array of issuers, including multilaterals, corporates, municipalities and universities, flexibility is needed to accommodate their respective project funding and tracking regimes. As a result, some issuers are applying the GBP more broadly than others.

Another challenge for investors is that there is little accountability regarding the use of proceeds. Reporting is voluntary and some issuers are reluctant to take on the costs and commitment to report on the use of proceeds or impact of the investment. Municipalities are also reluctant, and in some cases forbidden, from creating obligations that could interfere with the priority of claims of existing pledges.

When reporting, most issuers include a list of the projects and the amounts funded while others, especially multinational development banks, have the capacity to provide detailed impact metrics. For example, the State of Connecticut is committed to reporting on

the clean water and wastewater treatment projects and will include the proceeds of its $60 million December 2014 green bond in the annual report on its Clean Water Fund Program. The state is also considering ways to report on the environmental impact of the financing, which may include measured levels of nitrogen and phosphorus removal.

The burden on issuers to assess, verify, document and monitor projects with climate goals is substantial. However, the additional costs that this incurs have not yet translated into a pricing differential compared with regular bonds. Furthermore, if investors fail to understand these processes there is a risk they will be unable to distinguish between a bond that promotes genuine environmental benefits and one that does not, leading to skepticism over the investment.

Alongside the GBP, which have now been adopted by 24 US, European and Japanese investment banks, there are at least two other sets of guidelines that seeks to encourage best practices. The Climate Bond Standard was published by the CBI in 2011 and preceded by work from the European Investment Bank and the World Bank, whose framework served as a blueprint for follow-on issuances of green bonds by multilateral development banks. More recently, the Ceres Investor Network on Climate Risk (INCR) set out a "Statement of Investor Expectations" for bonds that are labeled green.

Ultimately, investors will have to decide whether bonds issued under any of these frameworks meet their investment guidelines. For example, some investors may believe that nuclear power qualifies as a green project because its output of greenhouse gasses is lower than fossil fuel power, while others may exclude these projects due to concerns about nuclear waste. This illustrates the difficulty of achieving a common standard for what constitutes a green bond.

First update to Green Bond Principles was a welcome step

The recent update to the GBP strengthened them incrementally by adopting minimum performance standards for the project evaluation and selection process and for managing proceeds. The revision, the first since the principles were launched in early 2014, also clarified and expanded the broad categories of eligible projects and recommended issuers use external independent assurance providers. That was a subtle shift from the original GBP which merely suggested their use. In addition to clarifying the roles and definitions of independent assurance providers, the GBP reinforced the principles of disclosure and transparency to provide investors the information they need to make decisions. The key updates are:

Use of Proceeds: The GBP put more emphasis on issuers using proceeds to fund projects with environmental sustainability objectives. The broad categories of projects were modified slightly and expanded to include climate change adaptation (see Exhibit 6). That said, the principles don't preclude investments in other categories.

Exhibit 6

Suitable projects now include climate change adaptation

Previous GBP Environmental Categories	Revised GBP Environmental Categories
Renewable energy	No change
Energy efficiency (including efficient buildings)	No change
Sustainable waste management	No change
Sustainable land use (including sustainable forestry and agriculture)	No change
Biodiversity conservation	No change
Clean transportation	No change
Clean water and/or drinking water	Sustainable water management (including clear and/or drinking water)
	Climate change adaptation

Source: Green Bond Principles

Process for Project Evaluation and Selection: The decision-making process for project eligibility must now include three steps: Project eligibility process, eligibility criteria and environmental sustainability objectives. Project evaluation can be supplemented by a second-party review.

Management of Proceeds: The GPB say issuers "should" disclose to investors the types of temporary investment instruments used for the balance of unallocated proceeds, stronger language than the previous recommendation of this practice. This is in addition to encouraging a high level of transparency regarding the management of proceeds, which may be supplemented by the use of an auditor.

Reporting: The GBP now advocate at least an annual reporting cycle for the disclosure of projects to which proceeds have been allocated, a brief description of each project, the amounts disbursed and expected environmental impacts, subject to confidentiality and competitive considerations. Acknowledging the difficulties associated with the availability of impact metrics, the GBP encourages the development of an impact reporting model that others can adopt, and again reinforces its emphasis on transparency, including disclosure of methodologies and key underlying assumptions around impact reporting.

Assurance: The GBP now recommend the use of varying external independent assurance providers or outside inputs to confirm that issuers are following the key features of the principles. These assurances, which are not mutually exclusive, might include (1) second-party reviews and consultation with recognized experts in environmental sustainability to review or help establish a process for project evaluation and selection including project categories eligible for green bond financing; (2) audits of certain aspects of process-oriented practices, such as the internal tracking method employed and the allocation of funds from proceeds; and (3) third-party verification, which would in turn rely on second-party standards.

How we rate green bonds

We evaluate the credit quality of “use of proceeds” green bonds using the same rating approach and methodology applicable to the issuer or issue. As a starting point, we expect that green bond ratings will generally correspond to the ratings assigned to any other issuers or issues whose proceeds are not earmarked for environmentally beneficial purposes. This will also apply in the event of a guaranteed credit, US state or local government general obligation (GO) bonds. The performance of green bonds linked to the credit or performance of a particular project or projects are evaluated on the basis of structural considerations and cash flows. In this connection, non-GO bonds—predominantly revenue bonds—are repaid by revenues generated from an enterprise such as a water and sewer system, a hospital, a housing or infrastructure project, or from special taxes such as sales, gasoline, or hotel taxes, and here too the same rating approach and methodology applicable to the issuer or issue applies to the rating of non-GO green bonds.

We take this approach for several reasons. Green bond indentures and other forms of offer documents generally covenant that the designated green bond issue or tranche will be used to finance environmentally beneficial projects. The repayment obligation is not conditional on the completion of the projects. Bondholders have a claim on the issuers' assets and cash flows and the bond’s terms determine the bondholder’s place in line, or the priority of the claim. The bonds generally constitute direct, unconditional and unsecured obligations of the relevant issuer rank pari passu, or at the same level, without any preference among themselves with all other present and future unsecured and unsubordinated obligations of the issuer. While issuers could be exposed to reputation risks, green bond covenants do not include acceleration provisions or events of default language that kick in should the bond proceeds be redeployed for activities that are not beneficial to the environment. Priority is based on whether the bond is, for example, a secured bond, a senior unsecured bond or a junior unsecured (or subordinated) bond. In the case of a secured bond, the company pledges specific collateral—such as property, equipment, or other assets that the company owns—as security.

Special circumstances may be relevant to green bonds linked to the credit or performance of a particular project or projects or individual issues, particularly with regard to municipal finance and structured-finance transactions. These may factor into our rating decision.

Appendix I - Types of green bond and the biggest issuers

Exhibit 7

Types of green bonds and their characteristics

Type	Proceeds raised by bond sale are	Debt re-course	Example
Green "Use of Proceeds" Bond	Earmarked for green projects	Standard/full re-course to the issuer; therefore same credit rating applies as to issuers other bonds	EIB "Climate Awareness Bond" (backed by EIB)
Green "Use of Proceeds" Revenue Bond	Earmarked for green projects	Revenue streams from the issuers though fees, taxes etc are the collateral for the debt	Hawaii State (backed by fee on electricity bills of the state utilities)
Green Project Bond	Rind-fenced for the specific underlying green project(s)	Re-course is only to the project's assets and balance sheet	Alta Wind Holdings LLC (backed by the Alta Wind project)
Green Securitized Bond	Either 1) earmarked for green project or 2) go directly into the underlying green projects	Re-course is to the group of projects that have been grouped together (i.e. covered bond or other structures)	1) Nothland Power (backed by solar farms) or 2) Solar City (backed by residential solar leases)

Source: ClimateBonds.Net, Explaining Green Bonds

Exhibit 8

Development banks, corporates, and municipalities accounted for 90% of the total green bond issuance in 2014 with $33.0 billion

Top 5 Development Bank Issuers	$
EIB	$5.6B
KfW	$3.5B
World Bank	$3.1B
AfD	$1.3B
NWB Bank	$0.6B
Top 5 Total	$14.1B
Top 5 Corporate Issuers	**$**
GDF Suez	$3.4B
Iberdrola	$1.0B
Unibail-Rodamco	$1.0B
Hera SPA	$0.7B
Abengoa Greenfield SA	$0.6B
Top 5 Total	$6.7B
Top 5 Municipal Issuers	**$**
Ile de France	$0.8B
Ontario	$0.4B
DC Water	$0.4B
Massachusetts	$0.4B
California	$0.3B
Top 5 Total	$2.3B

Source: Source: Climate Bonds Initiative, Year 2014 Green Bonds Final Report

Appendix II - Green bond issues 2014

Exhibit 9

Issuer Name	Issuance Volume	Currency	Issue Date
University of Cincinnati	30,415,000	USD	Dec-14
Energia Eolica	204,000,000	USD	Dec-14
Massachusetts State College	91,375,000	USD	Dec-14
Utah State	21,390,000	USD	Dec-14
NAB	300,000,000	AUD	Dec-14
Vardar AS	300,000,000	NOK	Dec-14
Connecticut	60,000,000	USD	Dec-14
Rikshem AB	450,000,000	SEK	Dec-14
Spokane	181,225,000	USD	Dec-14
Credit Agricole CIB	32,000,000,000	IDR	Nov-14
East Central Wastewater - Florida	86,590,000	USD	Nov-14
Jefferson County	20,100,000	USD	Nov-14
OPIC	26,500,000	USD	Nov-14
Vasakronan AB	500,000,000	SEK	Nov-14
Hartford County, CN	140,000,000	USD	Nov-14
Verbund AG	500,000,000	EUR	Nov-14
Hawaii State	150,000,000	USD	Nov-14
Martha's Vineyard Land Bank	35,025,000	USD	Nov-14
NTE	750,000,000	NOK	Nov-14
Aligera	100,000,000	SEK	Nov-14
Departmente de L'Essonne	40,000,000	EUR	Nov-14
NRW Bank	500,000,000	EUR	Nov-14
Stockland Trust Management Ltd	300,000,000	EUR	Nov-14
Innovatec SpA	10,000,000	EUR	Oct-14
World Bank	50,000,000	USD	Oct-14
KfW	1,500,000,000	USD	Oct-14
EIB	1,000,000,000	USD	Oct-14
Orebro kommun	750,000,000	SEK	Oct-14
World Bank	1,123,000	USD	Oct-14
California State	300,000,000	USD	Oct-14
World Bank	10,000,000	EUR	Oct-14
BKK AS	1,100,000,000	NOK	Oct-14
Credit Agricole CIB	1,650,000,000	INR	Oct-14
Fastighets AB Förvaltaren	400,000,000	SEK	Oct-14
Province of Ontario	500,000,000	CAD	Oct-14
Development Bank of Japan	250,000,000	EUR	Sep-14
World Bank	30,000,000	USD	Sep-14
NIB	500,000,000	USD	Sep-14
Abengoa Greenfield SA	265,000,000	EUR	Sep-14
Abengoa Greenfield SA	300,000,000	USD	Sep-14
IFC	12,103,000	NZD	Sep-14
MIT	370,000,000	USD	Sep-14
World Bank	5,000,000	USD	Sep-14
OPIC	47,300,000	USD	Sep-14
Commonwealth of Massachusetts	350,000,000	USD	Sep-14
World Bank	50,000,000	BRL	Sep-14
IFC	5,595,000	USD	Sep-14
AfD	1,000,000,000	EUR	Sep-14
World Bank	250,000,000	USD	Sep-14
EIB	250,000,000	EUR	Sep-14
EIB	400,000,000	ZAR	Sep-14
EIB	500,000,000	EUR	Sep-14
Arise AB	350,000,000	SEK	Sep-14
World Bank	12,057,000	USD	Aug-14
IFC	100,000,000	USD	Aug-14
IFC	118,000,000	PEN	Aug-14

NRG Yield	500,000,000	USD	Aug-14
World Bank	35,000,000	BRL	Aug-14
EBRD	110,000,000	BRL	Jul-14
Advanced Semiconductor Engineering	300,000,000	USD	Jul-14
District of Columbia Water	350,000,000	USD	Jul-14
KfW	1,500,000,000	EUR	Jul-14
THP Partnership	231,523,000	CAD	Jul-14
Hera SpA	500,000,000	EUR	Jun-14
NWB Bank	500,000,000	EUR	Jun-14
EBRD	10,100,000	NZD	Jun-14
EBRD	8,300,000	AUD	Jun-14
IFC	500,000,000	RMB	Jun-14
World Bank	3,500,000,000	SEK	Jun-14
Vornado Realty Trust	450,000,000	USD	Jun-14
City of Johannesburg	1,458,000,000	ZAR	Jun-14
Credit Agricole CIB	17,000,000	BRL	Jun-14
World Bank	100,000,000	BRL	May-14
EIB	750,000,000	SEK	May-14
City of Gothenburg	1,810,000,000	SEK	May-14
Credit Agricole CIB	331,000,000	JPY	May-14
Unibail-Rodamco	1,500,000,000	SEK	May-14
World Bank	24,200,000	AUD	May-14
Enna Energia	3,200,000	EUR	May-14
EIB	350,000,000	EUR	May-14
World Bank	125,000,000	BRL	May-14
Rikshem AB	100,000,000	SEK	May-14
Regency Centers, L.P	250,000,000	USD	May-14
World Bank	465,500,000	BRL	May-14
World Bank	335,500,000	TRY	May-14
Stockholms läns landsting	1,100,000,000	SEK	May-14
GDF Suez	2,500,000,000	EUR	May-14
Aligera	300,000,000	SEK	May-14
Arise AB	1,100,000,000	SEK	Apr-14
World Bank	300,000,000	AUD	Apr-14
Ile-de-France	600,000,000	EUR	Apr-14
Vasakronan AB	1,000,000,000	SEK	Apr-14
Iberdrola SA	750,000,000	EUR	Apr-14
Landwirtschaftliche Rentenbank	15,000,000	EUR	Apr-14
Skanska AB	850,000,000	SEK	Mar-14
TD Bank	500,000,000	CAD	Mar-14
Unilever plc	250,000,000	GBP	Mar-14
EIB	500,000,000	GBP	Mar-14
World Bank	35,000,000	BRL	Mar-14
Svenska Cellulosa Aktiebolaget AB	1,500,000,000	SEK	Mar-14
EBRD	12,000,000	NZD	Mar-14
World Bank	550,000,000	EUR	Mar-14
EBRD	93,000,000	BRL	Mar-14
Toyota	1,750,000,000	USD	Mar-14
Vasakronan AB	1,000,000,000	SEK	Mar-14
EIB	5,000,000,000	JPY	Mar-14
EIB	550,000,000	ZAR	Mar-14
AfDB	1,000,000,000	SEK	Mar-14
Credit Agricole CIB	12,780,000,000	JPY	Mar-14
Unibail-Rodamco	750,000,000	EUR	Feb-14
EIB	750,000,000	EUR	Feb-14
AfDB	1,000,000,000	SEK	Feb-14
Credit Agricole CIB	150,000,000	TRY	Feb-14
EIB	900,000,000	SEK	Feb-14
NIB	40,000,000	EUR	Feb-14
EIB	250,000,000	ZAR	Feb-14
Credit Agricole CIB	38,000,000	TRY	Jan-14

Export Development Canada	300,000,000	USD	Jan-14
Credit Agricole CIB	10,620,000,000	JPY	Jan-14
World Bank	30,000,000	BRL	Jan-14
World Bank	550,000,000	USD	Jan-14
EIB	350,000,000	EUR	Jan-14
EIB	350,000,000	CHF	Jan-14

Source: Climate Bonds Initiative

Appendix III - Green bond issues so far in 2015

Exhibit 10

Issuer Name	Issuance Volume	Currency	Issue Date
University of Virginia	97,735,000	USD	Apr-15
Massachusetts Development Finance Authority	158,155,000	USD	Apr-15
Arizona State University	182,600,000	USD	Apr-15
KfW	600,000,000	AUD	Apr-15
Export-Import Bank India	500,000,000	USD	Apr-15
IFC	14,250,000	BRL	Mar-15
OPIC	37,400,000	USD	Mar-15
World Bank	63,000,000	INR	Mar-15
Paprec	295,000,000	EUR	Mar-15
Paprec	185,000,000	EUR	Mar-15
EBRD	200,000,000,000	IDR	Mar-15
Wallenstam	500,000,000	SEK	Mar-15
EBRD	48,000,000	BRL	Mar-15
Indiana State Finance Authority	139,715,000	USD	Mar-15
Asian Development Bank	500,000,000	USD	Mar-15
City of Tacoma	21,095,000	USD	Mar-15
City of Venice	15,355,000	USD	Mar-15
OPIC	46,500,000	USD	Mar-15
Vestas	500,000,000	EUR	Mar-15
World Bank	50,000,000	TRY	Mar-15
World Bank	600,000,000	USD	Mar-15
Credit Agricole	32,000,000,000	IDR	Feb-15
World Bank	436,000,000	INR	Feb-15
IFC	3,830,000	NZD	Feb-15
Iowa Finance Authority	321,530,000	USD	Feb-15
World Bank	30,000,000	EUR	Feb-15
EIB	400,000,000	EUR	Feb-15
Yes Bank	10,000,000,000	INR	Feb-15
Credit Agricole	1,250,000,000	INR	Feb-15
VASAKRONAN	400,000,000	SEK	Feb-15
DNB Bank	1,000,000,000	NOK	Feb-15
KBN	500,000,000	USD	Feb-15
Indiana State Finance Authority	100,000,000	USD	Feb-15
World Bank	348,500,000	INR	Jan-15
TerraForm Power	800,000,000	USD	Jan-15
OPIC	4,850,000	USD	Jan-15
Indiana University	58,960,000	USD	Jan-15
World Bank	91,042,000	USD	Jan-15
Massachusetts State Clean Water	228,155,000	USD	Jan-15
Chicago Met Water	225,000,000	USD	Jan-15
EIB	250,000,000	EUR	Jan-15

Source: Climate Bonds Initiative

Moody's Related Research

Sector In-Depth:
Impact of Carbon Reduction Policies is Rising Globally, March 2015 (1003462)

Sector Comment:
Connecticut's Second Green Bond Offering Adds to Fertile Market, May 2015 (180966)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

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