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Green Bonds: Country Experiences, Challenges and Opportunities

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Abstract

The financial crisis of 2008turned out to be amajor event for regulating and practicingof capital market participants and changed behavior of financial players. Individual and Institutional Investors are currently more hesitant about funds allocation. This studydiscusses the green project bonds as an alternative way of financing along with discussingthe scope and challenges of the same on a global level.Green Bondscan be measured as asset-backed options tied to specific green infrastructure projects but till date have most commonly been issued in form of "use-of-proceeds" bonds for raising capital to be allocated across a portfolio of green projects.

Keywords: Green Bonds, Green Finance, Bonds, Coupon rate, Global, Challenges and Opportunities

Introduction

As per the ICMA,green bond is: "any type of bond instrument where proceeds arespecifically applied to finance or re-finance partially or completely on new and/or existing eligible Green Projects" or in other words debt instruments for financing green projects resulting in environmental benefits. As compared to traditional bonds, green bonds involve issuing entity with guaranteeof repayment of the amount borrowed over certain period of time, and remunerating creditors through fixed or variable interest. The momentum of continued issuance and market demand led to increasing consensus on what makes a green bond and

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progress has been made on standards and criteria for what defines a green project or activity.Green bonds have becomepopular financial instrument to be used by various development banks, state and municipal entities, as well as private companies forissuing capital for green investments in order to tone downtheclimate change and accelerate the global transformation towards resource-efficient and low-carbon sustainable economies.

Literature Review

Apart from the routine characteristics, it is surethat proceeds of green bondsshould specifically be used for "green" objectives. The green bond market started in 2007 withEuropean Investment Bank issuing its first ever climate awareness bondsfollowed by a $400mn green bond issue by World Bank in 2008(Moid 2017). As far as market is concerned, only few bonds can be labeled as "green", in particular SRI and ethical funds, , the green market is still very small (Schroders, 2015).

Even as the demand for green bonds grows, there are mixed reactions on the performance of green bonds as compared to the standard ones. Some economists argue that the pricing and yields of both types are same, whereas as per others green bonds deliver a lower yield (Schroders, 2015). Green Bonds provide long-term source of debt capital meantspecifically for investment in renewable infrastructure projects. Given the option that cost of project finance debt given by banks is higher than return for investment-grade project bonds, it is possible to get reduction in weighted average cost of capital for green infrastructure financed or re-financed by bonds. It is important to reduce cost of capital for renewable energy because around 50-70 per cent of the costs of electricity generation are in financial cost of capital, with balance remaining for physical or operational costs of the installation(Timmons et al 2014). Thus, even a small change in WACC can have a majoreffect on long-term cost of capital-intensive renewable energy projects and their competitiveness. Talking about benefits, Wu & Shen (2013) showed a positive relationship of corporate social responsibility and financial performance, in form of return on assets, return on equity and non/net interest income. On the contrary, they find a negative relation with nonperforming loans, which means that issuers turn to green bonds purely out of strategic motives

An important question is whether green bonds have the same price and same return as conventional bonds. Gillis (2015) claims that this has been the case historically. However, in the case of green bonds the issuers experience additional costs concerning reporting to investors, buying second opinions from

independent parties and tracking of bond proceeds.

Global Market Trends – Green Bonds

The markets for Green Bond has been expandingever since 2013, with newissue of stocks in previous two years resulting for about 80 percent of total outstanding(Moid, 2017). As per figure 1, the total outstanding investments in Green Bonds as on October 2014 is USD 54 billion, including USD 32.5 billion of fresh issuances, more than cumulative issue of Green Bonds over previous eight years. In the third quarter of 2014, the total Green Bonds issued was 28 with total value at USD 9.2 billion.

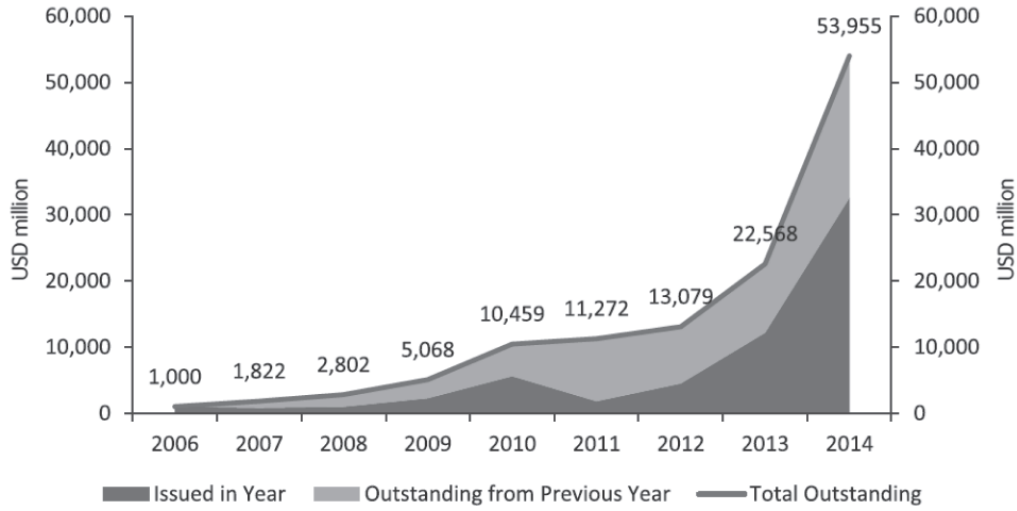

Figure 1: Historical Issuance of Green Bonds

Source: USAID

The growth of Green Bond markets over last few years can partly be attributed to an overarching trend towards including environmental, social and governance (ESG) issues into the decision process for investments by institutional investors. It is important to study the trend of international market while exploring Green Bonds for Indian market. The key learning from the international market can be presented as below:

Interest arbitraging against normal bonds does not exist: Green Bonds market is at its initial stage but is rapidly moving and reaching critical mass with larger investor participation(Global Capital, 2017).The current market trends indicate

that while demand and supply gap exist, it is still not highlighted into pricing advantage for Green Bonds.

Green Bond investments are not social funds: All issuers should consider Green Bond issuance to be competing with other normal bonds and not as funds for social responsibility. On the contrary, investors prefer Green Bonds over normal bonds falling into similar risk/reward equation.

The bond tenures are still low against requirement: The recently issued Green Bonds have maturity between 3-10 years; however still there are bonds that with maturity of over 15 years. For the Indian market, shorter tenure Green Bonds issuance is suggested in the initial stage and should go for longer tenure after the international reputation in the bond market develops.

Overview of Green Bonds in India

India has set striving energy goals for improving energy access and energy security while taking action on climate change. Forgetting the requisite finance for achieving the national targets, it is the attention of India's climate commitments made at the 2015. UN climate negotiations, Government of India is working with disparate market players for market creation and removing key impediment for mobilizing finance. Similarly, investment from multilateral and national development banks can set up standard models and provide market liquidity. The Government of India with its keen interest in green bonds approached minimum eight domestic lenders for raising lowcost, long-tenure funds through green bond energy plans. Encouraging national players like Rural Electrification Corporation (REC), Power Finance Corporation (PFC), Industrial Development Bank of India (IDBI), Indian Renewable Energy Development Agency (IREDA), and private sector entities including India Infrastructure Finance Corporation Limited (IIFCL), ICICI Bank, and Yes Bank for entering the bond market canhelp scaling up green bonds in India. The green bond market kick-startedin 2015, with smaller issued capital of $100 million to $200 million. Green bonds are also varied in terms of credit ratings (AAA to BBB) with most green bonds rated as AAA to A, ensuring stability and higher quality. However, challenges existing for green bonds issuance includehigh currency hedging cost, poor sovereign rating (BBB-) and lower tenure causing obstruction in growth. Several entities have issued green bonds in India, raising more than Rs120 billion ($1.85 billion) so far mentioned as under:

Yes Bank: Yes Bank issued its first green infrastructure bond in February 2015 as Euro denominated R10 billion ($161 million) 10-year issue and received a AA+ rating.

Export-Import Bank of India: Exim Bank was among few of the players who issued India's first ever and Asia's second dollar-denominated green bond in March 2015. The issue was oversubscribed by more than three times with mainly investors including asset managers, with banks and sovereign wealth funds with insurance companies accounting for remaining interested parties.

IDBI Bank: India's State-Owned IDBI Bank raised $350 million in BBB-rated 5-year green bonds for renewable energy projects in November 2015, and became first public-sector bank of Indiafor raising funds through green bonds.

IREDA: In January 2016, IREDA issued tax-free Rs.10 billion ($150 million) green bond that was oversubscribed five times on the opening day and offered retail investors up to 7.68 percent interest rate for duration ranging between 10 and 20 years. Factoring in tax savings, the effective interest rate for investors is majorly higher than bank fixed deposits attracting income tax on interest income.

The Regulatory Rhymes

The SEBI (Issue and Listing of Debt Securities) Regulations, 2008 ("SEBI Debt Regulations") governs public issue of debt securities and listing of debt securities issued through public or private placement route, with recognized stock exchange in India. On-shore Green Bonds have been issued and listed under SEBI Debt Regulations. However, due to absence of clear directions or provisions in SEBI Debt Regulations it was not specifiedclearly as to what would constitute a Green Bond or what process is required to be followed? With the objectiveof brining uniformity related to Green Bonds and for removing future confusion around the subject matter, SEBI approved the new norms for issuing and listing of 'Green Bonds'.

Even though the process of issuing Green Bonds and any other corporate bonds is same, few additional disclosures arerequired related to periodic reporting of fund allocation. The issuer would have to disclose aspects like use of proceeds, listing of projects to which Green Bond proceeds have been allocated in the annual report and periodical filings made to stock exchanges. The other salient features are mentioned below:

i. The issue and listing of Green Bonds shall be governed by existing SEBI regulations for issuance of Corporate Bonds i.e. SEBI (Issue and Listing of Debt Securities) Regulations, 2008. However, fewadditional disclosures/ follow procedures are required to be done.

ii. The definition of Green Bonds should bespecified by SEBI from time to time and care must be exercised in defining the green label for such bonds and should be associated with the international guidelines and investors expectations.

iii. Requirement of independent third party reviewer/ validator, for reviewing/ certifying/ validating the pre-issuance and post-issuance procedure including project evaluation and selection criteria, for lending credibility to issue Green Bonds is present. However, given the fact that availability of such third party reviewer/ certifier/ validator in India is not properand globally such review is not mandatory, it has been kept optional by SEBI.

iv. Escrow account for tracking proceeds of Green Bond is not made mandatory by SEBI. However, for issuer it isimportant to present details of the systems/ procedures to be used for tracking the proceeds of issue, including investments made and/or investments earmarked for eligible projects and the same to be verified by the external auditors.

Benefits:

The green bond market can offer several important advantages for green investment:

Providing additional source of green financing. Given huge green investment needs, bonds are acomplete financing optionfor addressing such issues. With traditional sources of debt financing beinginsufficient in light of immense green investment needs, there is massive need for introducing new means of financing influencing a wider investor base including institutional investors (such as pension funds, insurance companies and sovereign wealth funds) managing over USD 100 trillion in assets globally (OECD,2013).

Enabling long-term green financing by addressing maturity mismatch. In many countries, the ability of banks of providing long-term green loans is inhibited due to shorter maturity of their liabilities and lack of instruments for hedging duration risks. Corporate sector accessing short-term bank credit also face refinancing risks for long-term green projects. If banks and corporate sector can issue medium- and long-term green bonds for green projects, these obstacles on long-term green financing can be mitigated.

Enhancing issuers' reputation and clarifying environmental strategy. Issuing a green bond is a method ofdeveloping and implementing a credible sustainability strategy for investors and general public by specifying how proceeds raised will contribute towardsa series of tangible environmental projects. Green bonds can

thus help enhancing an issuer's image along with internal sustainable development policies, as this is a proper way for issuersfor displaying their commitment towards improving environmental sustainability. These enhancements may result in providing benefits for product marketing as well as potential government policy incentives for business operations.

Offering potential cost advantages While cost advantage is not yet clear in the current burgeoning green bond market, it is quite possible that, once the market attracts wider investor base both domestically and internationally, better pricing for green bonds vs. regular bonds may emerge with the condition that demand is sustained. In some countries, government providing incentives like tax reduction, interest subsidies and credit guarantees, are also being discussed as an optionto further reduce the funding costs for green bonds.

Facilitating the "greening" of brown sectors. The above mentioned benefits of green bond market can function as analteration mechanism for encouraging issuers in less environmental-friendly sectors for taking part in the green bond market (provided they ring-fence proceeds for green projects) and also for reduction ofenvironmental footprint by engaging in green investment activities that can be funded via a green bond.

Making new green financial products available for responsible and long-term investors: Pension funds, insurance companies, sovereign wealth funds and other institutional investors with special preference for sustainable (responsible) investment and long-term investment are looking for new financial instruments for achieving their investment targets. Green bonds are providing these investors with access of such products and options for many other investors for diversifying their portfolios. As the bulk of assets under management globally are passive investments tracking indices, green bond indices are important to ensure accessibility of green bond investment for the mainstream, passive funds facilitating green bond market to be scalable, avoiding being only a niche market.

Global Experiences:

Japan: The Ministry of the Environment, Japan has set up "Green Bond Guidelines, 2017" on March 28, 2017 with the objective of regulating issue of Green Bonds and investments in them(Moid, 2017). The guidelines have been developed with the objective of increasing issuances of Green Bonds and investments in them in Japan. In course of development, for ensuring trust worthiness of the green characteristics of Green Bonds, the Guidelines seek to prevent "green-wash" bonds from being issued and investment therein.

As the International Capital Market Association continues to upgrade its recommended Green Bond Principles with theobjective of improving integrity and transparency of green bond market internationally, development in Japan also continues to move toward this goal (ICMA). One of the developments that have been in growing practice among some issuers for arrangingof second opinions on compliance of product with ICMA's Green Bond Principles.

Singapore: Sustainable investments have gone mainstream, and Singapore is taking steps for matching demand by growing green bond market with global green bond market growing rapidly over the years, reaching more than US$80 billion (S$112 billion) in 2016.Under the green bond grant scheme, issuers can offset up to $100,000 of costs incurred from obtaining independent review based on international green bond standards. For qualifying, bonds can be denominated in any currency but should be issued in Singapore, with a minimum size of $200 million and tenure of at least three years.

Other Asian Economy: In a region dealing with excessive pollution and greenhouse gas emissions, climate change-induced droughts and floods, exacerbated by high coal-fuelled energy consumption, countries in Asia are exploring innovative clean and green financing products like green bonds for moving towards sustainable, low carbon economy.

The Asian market for green bonds is dominated mainly by China, South Korea, India and Japan.

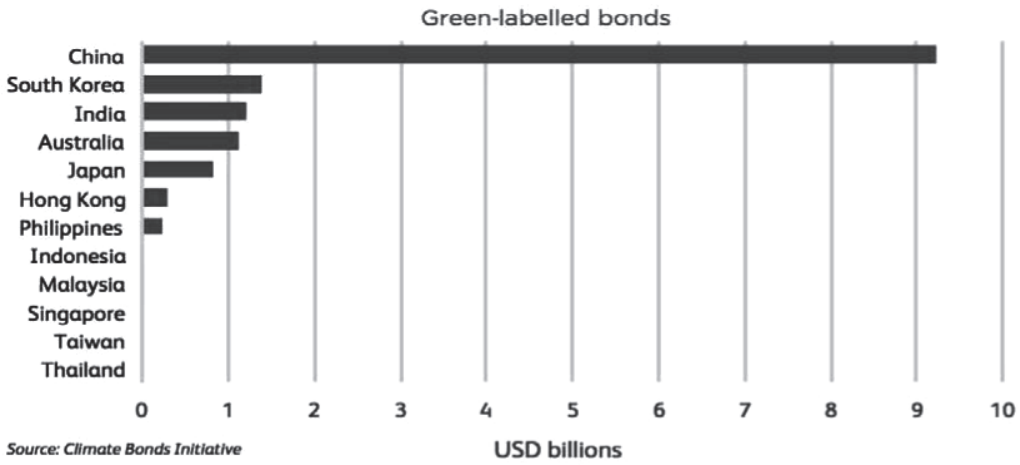

Figure 2: Asian markets for Green Bonds

Source: http://www.scmp.com/business/banking-finance/article/2117507/china-shifting-green-bond-market-green-financing

Asian markets witnessed a majorupturnin green bond transactions recently, including China, India, Japan, South Korea and the Philippines. Green bonds are going mainstream in the overall bonds market, mainly because of the growing increasing global awareness about the continuous need for environmental protection.

USA: In 2008, World Bank issued firstfixed-rate bond withgreen label and in less than a decade, the market grown to $118 billion in outstanding bonds labeled green. In addition, another $576 billion in unlabeled bonds fund climate-friendly projects.Investors around the world are increasingly becoming familiar withobstruction of climate change and energy conversion with many of them clamoring for investment tools taking environmental criteria into account. They are showing interest in bonds with "100% green" investing. While green bonds remain comparativelya small phenomenon, the market is expanding rapidly.However, green bonds still represent less than 1% of the worldwide bond market. Green bonds comprises of merely 0.061% of the total U.S. bond market representing a significantly lower percentage than China, India, and South Africa, and order of magnitude below the share in the Nordic countries, Germany, the Netherlands, and France (Moid, 2017). The relatively slow speed of U.S. green bond issuance is a major obstacle to this country's efforts of addressing climate change. Many market participants challenge that the problem in United States is lack of supply and not of demand. Green bond issues are typically oversubscribed. Reason behind weak U.S. green bond activity is still not clear with mainly focusing on market's lack of maturity as one of the cause.

UK: UK became a global hub for green finance initiatives with a wide range of original green finance initiatives and organizations based in London. London Stock Exchange is attracting international green bond issuance in different currencies and has been issued in London markets in a range of currencies. In July 2015, stock exchange established range of dedicated 'green bond' segments forincreasing the visibility for investors. As of January 2016, 10 green bonds were listed on London Stock Exchange. In January 2016, the Green Finance Initiative (GFI) was launched with an objective to mobilise the capital required forimplementing the Paris climate change agreement and the UN's Sustainable Development Goals. (IISD,2016)

Issues with "green" bonds:

1. **Green Bond Standards:** The International Capital Markets Association

(ICMA) provided the green bond principles and the Climate Bonds Initiative has the climate bond standards. There are also green bond indices being developed by the various banks and rating agency spelling out standards and practices defining what should be considered as "green". However, the definitions also led to great deal of confusion over what is considered green. CICERO, a second-party reviewer of green bonds, offered "shades of green" methodology, through which green bonds are graded "dark, medium or light" green depending on the underlying project's contribution to "implementing a 2050 climate solution". A second problem faced by green investors is their restricted capacity of analyzing green projects, in which case the role of third party guarantors like CICERO and audit firms like KPMG and EY becomes vital.

Investors: So far, all Indian green bond issues have seen an increase of 15-20 per cent investment by dedicated green funds including supra-nationals like International Finance Corporation, KfW, European Investment Bank, Asian Development Bank, and other funds, having a compulsion clause of investment in green projects (Roy, 2016). For any pricing advantage over conventional bonds, this proportion needs to improveby 50 per cent.

Funding: Banks are the major source of direct green infrastructure financing. But the scale of investment along with the "maturity mismatch" significantly exceeding the capabilities of post-financial crisis banking sector. Indian PSU banks are already grappling with huge NPAs and are credit reticent. Bond markets, which provide both an option and complement to bank financing of debt, will be required to play animportant role. Bonds with long tenures are potentially a good option with institutional investors' long-term liabilities, allowing for asset-liability matching.

Low Credit Rating of Potential Green Bond Issuers: Infrastructure companies in India do not have a very good credit rating history. In addition, apart from biggest names in power generation sector like NTPC and Tata power, no other company has credit rating for issuing bonds in the stock markets. Because of the nature of business, power generation is capital intensive and relies mainly on debt for funding, which further prohibitsnew companies from being able to raise debt in the capital markets.

Cost: The issue of "green bonds" entails an additional monitoring and certification cost. Although this is completely voluntary, it does tend to increase the cost of a "green" issue.

Policy Recommendations

Given the ambitious goals but limited budget capability of government, the cost effectiveness of government policies becomes an important issue. According to a study by Climate Policy Initiative and the Indian School of Business, debt related policies are most cost effective incentive for green financing. In particular, combination of reduced cost and extended debt tenors are most effective. Green bonds have the ability of reducing cost of debt for green projects by 150-200bps as compared to project finance loans.

Following measures are recommended:

Regulatory changes in IRDA: Regressive regulations are one of the major reasons behind the under developed market for corporate debt. A couple of regulatory changes by PFRDA and IRDA will go a long way in creating a market for debt in India. Regulations to some extent arehampering the growth of bond market in India and needs to be eased out. But, it is not recommended that IRDA mandates insurance companies to invest in areas if they choose not to.

a. The Insurance Act does not permit insurance companies for investing in private limited companies preventing them from investing in many infrastructure projects and renewable projects, specifically because renewable power developers are usually smaller companies that are privately held.

b. IRDA requires 15 per cent investment in infrastructure and housing for life insurers; 10 per cent in infrastructure by non-life insurers ;(The Hindu). But the following regulations are restrictive:

i. Investment is permitted only in highly credit rated companies.

ii. Exposure is allowed up to 25 per cent of net worth of the infrastructure company (Most infrastructure SPVs are up to 75 per cent debt financed, making their net worth low as compared to the size of the investment required. This restriction requires a number of insurance companies to invest for even very small projects, viz., for Rs 100cr project, Rs 75cr of debt would be required and this would still require investment from 20

insurers. Exposure norms should be restructureddepending on net worth of the insurance company and not the project SPV(RBI.org).

iii. Recently, IRDA allowed exposure up to 20 per cent of project cost but requires 100 per cent guarantee by AA rated parent. This restriction becomes very capital intensive for the guarantor preventing the development of a vibrant bond market.

2) Regulatory changes required in PFRDA: Pension Funds/EPS/ PPF/EPF/NPS: As in case of insurance, it is not recommend for pension funds be forced to take risks that they are not willing to, but with the size of the EPS and PPF corpus, even a small allocation to infrastructure or green projects will definitely help in developing the market.

3) **Revisiting PSL Norms for Green Investing (RBI):**The RBI priority sector lending requirements allow bank loans up to INR 15 crore for purposes like solar power generators, biomass power generators, wind mills, micro-hydel plants and non-conventional energy based public utilities to be eligible to be classified as priority sector loans under "Renewable Energy". The RBI most probably wants banks to lend to newer borrowers and not classify their existing renewable loans to large players to be classified as PSL.

4) **Clear Specifications and Monitoring for Green Bonds (SEBI):** SEBI, in December 2015, came out with a concept paper for issuance of green bonds in India, which stated that no additional regulations are required for issuing green bonds in India. However, government incentives cannot operate in grey areas where defining of green is "voluntary". If it is decided to provide incentive for green bonds, the definition of "green" must be standardized.

5) **Retail Tax Incentive for Green Bonds:** For mobilising retail savings, government can include or create a new category for green bonds on the lines of infrastructure bonds which receive an exemption under Sec 80CCF, helping Indians to save more while directing money towards renewable energy.

Conclusion

The "green" bond market is relatively a new phenomenonin global capital markets and has been pioneered by multi-national institutions. Although it

comes under the fixed income umbrella, the number of dedicated investors with compulsion for socially responsible investing is increasing every year. Considering that fossil fuels have enjoyed subsidies throughout the history and have led to environmental degradation and contributed to global warming; it is better that renewable energy and technologies reducing the carbon footprint get the same advantage. Green bonds are just another method of classifying and channelizing investments in "green" projects. Although the market is burgeoning, broad guidelines are coming to the front. As the market matures, investors will require that green bond issuers report on the status of deployment and environmental outcomes of the investments.

Majorcut off is that green bonds are changing the scenario of available investment options, addressing solutions to global environmental challenges, and their variety of options to choose from for institutional and individual investors. It is believed that this will continue to grow in the future as investors, in particular millennial, look for a positive impact in their communities and worldwide through their investment portfolios.

References

Bacani, B., Robins, N. and McDaniels, J. (2015). Insurance 2030. UNEP Inquiry/ Principles for Sustainable Insurance.*http://unepinquiry.org/wp-content/uploads/2015/06/Insurance_2030.pdf*

Bloomberg (2015), *EIB Links Green Bonds to Projects inPush for Climate*, October.

Buiter, W. & Fries, S. (2002, June). *What should the multilateral development banks do?* European Bank for Reconstruction and Development. Retrieved from http:// www.ebrd.com/downloads/research/economics/workingpapers/wp0074. pdf

Caldecott, B. (2011). *Green infrastructure bonds: Accessing the scale of low cost capital required to tackle climate change*. Climate Change Capital, London. Retrieved from http://www.climatechangecapital.cn/images/docs/publications/ ccc_thinktank_-_green_infrastructure_bonds_-_accessing_the_scale_of_low_cost_ capital_required_to_tackle_ climate_change.pdf

Cherney, M. (2013). Banks launch new indexes for green bonds. *Wall Street Journal*. Retrieved from http://online.wsj. com/articles/banks-launch-new-indexes-for-green-bonds-1415885411

IISD,(2016), *UK- China Collaboration on Growing a Global Green Bond Market,* retrieved

from https://www.climatebonds.net/files/files/-CBI-IISD-China%20Roadmap%20Paper4-EN.pdf

Gillis, A. (2015) World Bank Green Bonds: Financial and Environmental returns. Peripheral Risks. Available at: .]Accessed February 05, 2017

Kaminker, C. and F. Stewart (2012), "The Role ofInstitutional Investors in Financing Clean Energy",*OECD Working Papers on Finance, Insurance and PrivatePensions*, No. 23, OECD Publishing, Paris.

Kennedy, C. and J. Corfee-Morlot (2012), "MobilisingInvestment in Low-carbon, Climate ResilientInfrastructure", *OECD Environment Working Papers*,No. 46, OECD Publishing, Paris.

Kochetygova, J., &Jauhari, A. (2014). Climate Change, Green Bonds and Index Investing: The New Frontier. Retrieved from S&P Dow Jones Indices: Environmental Social & Governance website: http://au.spindices.com/index-family/environmental-social-governance/green-bonds

KPMG (2015), *Gearing up for green bonds: keyconsiderations for bond issuers*.

Moid,S.(2017),*Greening Financial Markets: Country Experiences, Challenges and Opportunities*, NMIMS Journal of Economics and Public Policy,II(3), 29-42.

Roy,S. (2016), *Green Bonds,*Pehle India Foundation retrieved from http://pahleindia.org/pdf/Discussion%20Paper%20-%20Green%20Bonds%20Edited-SR.pdf

Schroders 2015. Green Bonds – A Primer. Talking Point retrieved from http://theses.ubn.ru.nl/bitstream/handle/123456789/3225/16.042%20Antoniya_Petrova_mathesis.pdf?sequence=1

Timmons, D.,Harris,J.M.,&Roach, Brian(2014),*The Economics of Renewable Energy,*GDAE Teaching Module on Social and Environmental Issues in Economics, retrieved from http://www.ase.tufts.edu/gdae/education_materials/modules/RenewableEnergyEcon.pdf

OECD (2013),*The Role of Banks, Equity Markets and Institutional Investors in Long Term Financing for Growth and Development,*OECDPublishing, Moscow.

OECD (2016), *Mobilising the DebtCapital Markets for a Low Carbon Transition*, OECDPublishing, Paris.

WEF (2013), *Reducing the cost of capital for green projects*.

World Bank. (2014a). Growing the green bond market to finance a cleaner, resilient world. Retrieved from http://www. worldbank.org/en/news/feature/2014/03/04/growing-green-bonds-market-climate-resilience

World Bank. (2014b). Main mechanism for financing infrastructure. Retrieved from http://ppp.worldbank.org/public-private-partnership/financing/mechanisms

Wieckowska, M. (2013). The Role Bonds in Financing Climate Resilient Economy. *Copernican Journal of Finance and Accounting, 2*(1), 153-167

Wu, Meng-Wen & Shen, Chung-Hua, 2013 Corporate social responsibility in the banking industry- Motives and financial performance. Journal of Banking & Finance 37

Zongwel Luo (2011).Green finance and Sustainability, Business science reference(IGI global).

Web Search

http://www.sebi.gov.in/cms/sebi_data/boardmeeting/1453349548574-a.pdf accessed on 5th August, 2017

15http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf last visited on 5th August, 2017.

http://www.sebi.gov.in/cms/sebi_data/attachdocs/1449143298693.pdf accessed on 5th August, 2017

http://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/GBP_ accessed on 5th August, 2017

http://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/GBP-2016-Final-16-June-2016.pdf accessed on 6th August, 2017

http://www.chinadaily.com.cn/business/2017-03/17/content_28589210.html accessed on 6 August 2017

http://growthcrossings.economist.com/article/scperspectives-asia-follows-chinas-path-to-green-bond-growth/ accessed on 6th August 2017

http://www.straitstimes.com/business/singapore-to-roll-out-green-bond-grantsaccessed on 10/07/2017.

http://www.globalcapital.com/article/b12bgd7ydfsd0g/schuldscheins-critical-mass-draws-issuers-and-investors accessed on 2/11/2017

https://www.cbd.int/financial/greenbonds.shtml accessed on 3/11/2017

http://www.constructionweekonline.in/top-30-infrastructure-companies/ accessed on 5/11/2017

http://www.thehindu.com/business/Industry/investment-norms-for-insurance-firms-revised/article4488460.ece accessed on 7/11/2017.

https://rbi.org.in/Scripts/NotificationUser.aspx?Id=5129&Mode=0 accessed on 8/11/2017.