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A STUDY ON GREEN INVESTMENT FOSTER GREEN ECONOMY

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ABSTRACT

Financing remains the principal barrier to the rapid expansion of India infrastructure. The right policy settings and incentive structures must be adopted to enable investment to scale up to needed levels in India. Innovative financial mechanisms and institutions such as green bonds and green banks, respectively, which have proved successful on the state level and internationally, can help propel India's green projects. According to global state of the Market report in July 2016, India has maintained its strong growth into 2017 and retains its position amongst the top 10 of labelled global green bond issuers with USD 3.2bn issued as of 5th April 2017. India ranks 8th in green bonds outstanding. Domestic Investors in India have already shown strong demand for green bonds. Two top 10 Investors globally with the largest green bond holding are Indian based ICICI Prudential Asset Management and Reliance Capital Trustee co. Ltd. International issuance 14 green bonds issued by India registered entities, 6 have been listed in Singapore, with several dual listed in London or Berlin.

This paper discusses fundamental roles of corporate green investment activities on sustainable development. This article undertook a conceptual exploration and identifies how firm green investment practices contribute to economic sustainability, social sustainability and environmental sustainability in pursuit of generating a green economy. It studies the time lines of Domestic and International green investment. This paper focus on the issuance and Green Bond Market National and Global. The paper proposes a model on corporate green investment practice adoption, important in supporting sustainability objectives which are significant in generating a low-carbon or green economy.

Keywords: Green investment, sustainable development, clean energy, Green Projects, Environment Development. Green investment issuance.

INTRODUCTION

Green Finance is the financial investment done for sustainable development projects. It includes investment in environmental products and policies for the development of a sustainable economy. Green Finance comprises financing of green investment be it preparatory cost or capital cost. It also includes financing of public green policies and green financial system.

A green bond is a fixed-income financial instrument for raising capital through the debt market, like traditional corporate bonds. The key difference is that Green Bond offering are 'ear-marked' for use towards financing 'green' projects. Currently, green bonds are popularly issued as corporate self-labeled bonds, green asset-backed securities, green project bonds, supranational/International bonds, government and municipal bonds, etc.

With increasing focus on environmentally sustainable and green infrastructure, investments in the sector have increasingly been adopted as part of social and corporate responsibility by investors. Green Bonds, in this regards, provide means to unlock private capital flows into projects that support such purposes.

Green projects investment includes investment for climate change mitigation, elimination of greenhouse gas emission, biodiversity protection, sanitation, pollution control, investment in renewable energies, energy efficiency. Green Investment is critical as it requires significant financial resources and large-scale investment to adverse the green projects and brings sustainable development.

The first green bond was issued in 2007 and was initially characterized as a niche product pioneered by a handful of development banks. The "Climate Awareness Bond" was issued by the European Investment Bank (EIB) in 2007, followed by the World Bank issuing a "Green Bond" in 2008. The Government of India is interested in green bonds and has approached at least eight domestic lenders to raise low cost, long-tenure funds through green bonds energy plans. Encouraging national players like the Rural Electrification Corporation (REC), Power Finance Corporation (PFC), Industrial Development Bank of India (IDBI), Indian Renewable Energy Development Agency (IREDA), and private sector entities like Indian Infrastructure Finance

Corporation limited (IIFCL), ICICI Bank, and YES Bank to enter the market would help scale up green bonds in India.

There is a significant market potential for green bonds in India. In 2015, the green bond market in India kick-started with smaller issuances of \$100 million to \$200 million with high potential to scaling-up. Green bonds are also diversified in terms of credit ratings (AAA to BBB) with most green bonds rated AAA to A, providing stability and higher quality of bonds. However, challenges for green bonds issuance exist, including high currency hedging cost, poor sovereign rating (BBB-) and lower tenure causing hurdles for the growth.

According to the International Energy Agency, world need to investment \$13.5 trillion of funds in low carbon energy solutions by 2035 to reduce emissions. Global economy is significantly obstructed by three major challenges: climate change, energy constraints and financial crisis. To overcome these challenges strong government coherent policies and good framework conditions is desirable. To triumph sustainable growth, finance sector plays an imperative role. An innovative financial solution Green finance encompasses investment in ecologically defensible products and projects. One of the major sources of green finance is green bond.

Green Bonds Tenure and Issue Size, Issuers, Investors : Tenures of green bonds typically range from 18 months to 30 years. Presently, about half of the green bonds are issued for 1 to 5 years tenure. 30 percent are issued for 5 to 10 years, and 21 percent are issued for more than 10 years. Issuers of green bonds may be governments (including municipal, state and national governments and export-import banks), intergovernmental organizations such as the World Bank or regional development banks, financial institutions, and other sectors. Investors are institutional investors, specialist Environmental, Social, Governance (ESG) investors, Responsible Investors (RI), Corporate Treasury, Sovereign and municipal governments, and retail investor are all participating in the green bond market.

DIVERSITY OF GREEN BONDS AVAILABLE IN THE MARKET.

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Types of Bonds	Details
High-Yield Green Bonds	'High-Yield Green Bonds' are non-investment grade and use of proceeds bonds. They includes robust reporting. 'NRG Yield' issued the first high yield green bond in August 2014 for \$500 million.
Corporate Green Bonds	Green Corporate "earmarked" bonds helped create depth in the green market. Share of corporate issuance in the market is relatively small ranging from \$1 billion to \$3 billion.
Municipal Green Bonds	Started in the US in 2014 under green properties for universities and sustainable water projects. This was followed by green bonds issued by European cities and municipalities, leading to an increasing trend and several new entrants.
Commercial Bank Green Bonds	Bank green bonds use proceeds to finance a mixture of renewable energy, such as solar, wind and hydropower projects, and energy efficient property.
Asset-Backed Securities (ABS)	Toyota brought the first ABS bond in the market with \$1.75 billion. The innovative bond showcased how proceeds from a bond baked by car leases and loans can be earmarked for future green vehicles.
Labelled Green Covered Bond	First labelled green covered bond-a bond with dual recourse to the issuer and a cover pool of assets-was issued by real estate and mortgage bank BerlinHyp in May 2015 for \$568 million. The bond received a very positive reception and was four times oversubscribed.

REVIEW OF LITERATURE

In terms of green investments made by individual investors and households, recent research shows that behavioral determinants such as attitudes, beliefs and social norms, are often neglected by policy makers (claudy and O "Driscoll, 2008).

Several authors argue that another reason for the recognition and the growing interest of

the sustainable investment sector is that the traditional investments fail to take into account the increasing environment issues (Robins and Krosinski, 2009).

Over the past few decades' dramatic growth in population and consumption of natural resources in every continent, increased the need to be thinking how we can continue to survive and grow without consuming our planet. Only recently opportunities to invest in green emerged (Kimmel 2010).

Based on the publications made in the Green Investing report (2011), in the years after the recent financial and economic crisis, investments in the green energy sector increased to approximately US\$250 billion per annum, however this is only half through, of what the set targets were, meaning that there is financing gap of US\$250 billion per annum. "Given the long-term importance of growing the clean energy sector to both help address climate change and provide alternatives to traditional sources of energy, policy makers will need to find ways to make clean energy available at the lowest possible cost" (Galbreath, 2011) and (Green Investing 2011).

In recent research green investments have been described as 'the most recent investment niche to emerge from the larger socially responsible investment theme, with more emphasis towards environmental issues" (Chang, 2012).

Objectives of the Study:

1. To Study Importance and Relevance of Green Investment Bonds.
2. To study Green bonds markets and issuance entities.
3. To evaluate the issuance trends of Green bonds in global.
4. To study the policy overview by government in providing the subsidies for green projects.

Research Methodology

The Present study has been considered only secondary data

- sources like:
- journals,
- magazines,

- business line News paper,
- web sites etc.

Need for Green Bonds:

Infrastructure financing in India has traditionally been supported by the institutions such as banks, NBFCs and Financial Institutions. However, given the huge investment requirements in infrastructure space. It is widely accepted that current project financing sources may not be sufficient for capacity addition. Thus, there is a need to introduce new means of financing and innovative financial instruments that can leverage a wider investor base such as pension funds sovereign wealth funds, insurance companies, etc. that can invest in the infrastructure sector. Corporate bond markets have long been considered towards providing this much required alternate source of financing.

Green Bonds are a Necessary tool to leverage and support broad clean environment deployment in India. First necessary Green bonds expand the quantum of clean energy finance and broaden investor base. To meet India's clean energy targets. Infrastructure financing in India has traditionally been supported by institutions such as banks, non-banking financial companies (NBFCs) and financial institutions. Second necessary is Green bonds provide access to low cost, long term capital. Third necessary is Green bonds increasing liquidity and drive green investment by enabling refinancing. Fourth necessary is Green bonds create investment pipelines to meet climate commitment.

India's Intended Nationally Determined Contribution (INDC) document puts forth the stated targets for India's contribution towards climate improvement and following a low carbon path to progress. The document also impresses upon the need of financing needs for achieving the stated goals, where a preliminary estimate suggests that at least USD 2.5 trillion (at 2014-2015 prices) will be required for meeting India's climate change actions between now and 2030. In this regard the document talks about the introduction of Tax free Infrastructure Bonds of INR 0 billion (USD 794 million) for funding of renewable energy projects during the year 2015-2016.

Further, India has embarked upon an ambitious target of building 175 gigawatt of renewable energy capacity by 2022 and this requires a massive estimated funding of USD 200 billion. Thus, the financing needs of renewable energy space require new channels to be explored

which can provide not only the requisite financing, but may also help in reducing the cost of the capital. Green bonds as a part of corporate bonds space may be on the answer to this problem.

IMPORTANCE OF GREEN BONDS IN THE INDIAN ECONOMY

India's efforts for global finance: India is also looking how it can grow its own green finance market. Recently, Prime Minister Narendra Modi has made lots of ambitious pledges on renewable energy products and services. The securities regulators are in process of finalizing its official green bond requirements. Green bonds are seen as a valuable tool for meeting India's pledges for green finance at Cop21. Now we need international collaboration and coordination to make the most out of these valuable efforts.

The introduction of Green Bonds sets to resolve the issue of funding in the evolving renewable energy sector. India has set an ambitious target of 175 GW of renewable energy by 2022 and reduce its carbon footprint. An estimated investment of USD 200 billion is required to achieve that capacity. The delay in these 'green' projects has largely been due to lack of capital funding. Green Bonds is a fast emerging investment for clean energy. Some key benefits for issuing green bonds are:

1. **Investor diversification:** These bonds help the issuer to amplify funding sources and limit the dependency on specific markets by such issuers. Particularly, Green bonds have been quite popular with investors focused on sustainable and responsible investing (SRI), investors that come under the ESG criteria (Environmental, Social and Governance) etc.
2. **Potential for Pricing Advantage:** The green factor to these bonds brings with it, pricing advantage. The green bonds have high prospects to bring domestic and foreign capital for renewable energy on better financing terms, including lower interest rates, and longer repayment schedules.
3. **Risk Mitigation:** In the case of 'use of proceeds' bonds, the funds are raised for a specific project whereas the repayment is tied to the issuer and not to the success of the project. This reduces the risks of the bonds for investors.

4. Public Relations: Issuing green bonds enhances the issuer's reputation and demonstrates its green credentials.
5. Refinancing: Refinancing bank loans by issuing a green bond reduces the cost of funding for Brownfield projects by over 1.5 per cent. Since the project has started, its risks are lower enabling the issuer to reduce cost of funds and frees started, its risks are lower enabling the issuer to reduce cost of funds and frees up bank limits for new projects.

GREEN BOND MARKET AND CLIMATE CHANGE

The Indian green bond market:

According to Global State of the Market report in July 2016, India has maintained its strong growth into 2017 and retains its position amongst the top 10 of labelled global green bond issuers with USD 3.2bn issued as of 5th April 2017. **To date, Indian issuers have been leaders in demonstrating best practice by having most labelled green bonds receive a review or certification from an external body.**

Indian issuers are pioneers of Climate Bonds Certification:

4 out of 7 bonds issued in 2016 were certified against the Climate Bonds Standard and one bond received a review from Sustainalytics. In 2017, both IREDA and ReNew Power issued bonds which obtained the Climate Bonds Certification. Having bonds certified by external parties has been instrumental in ensuring International investor confidence in the green credentials of the Indian green bond Market.

Indian green bond market highlights include the INR20bn (\$299m) green bond issued by NPTC in August 2016, which is the 2nd green masala bond issued so far. NPTC is India's largest power utility. Despite its assets primarily being in fossil fuels this bond was issued to finance solar and wind power projects and associated transmission networks and infrastructure. This is a significant development as it is one of the few bonds which leverage a fossil fuel-based balance sheet to finance new green infrastructure-this model needs to be replicated globally by large fossil fuel companies to support the transition from brown to green assets.

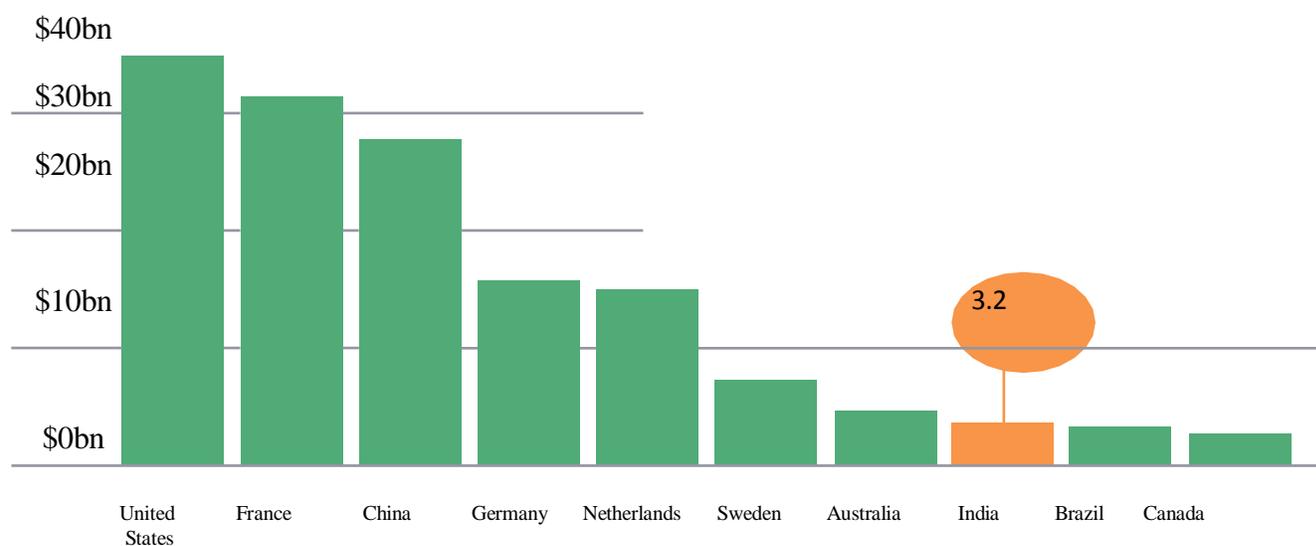
Axis Bank's USD500m green bond issuance in June 2016 was certified against the Climate Bonds Standard. The transaction achieved many milestones including the first listing of a green bond by an Indian issuer on the London Stock Exchange. The transaction achieved many milestones including the first listing of a green bond by an Indian issuer on the London Stock Exchange.

ReNew Power's InR5bn green bond issued in August 2016 was also awarded a Climate Bonds Certification for its 90.3MW wind power project in the state of Madhya Pradesh. A new certified green bond followed in February 2017, issued this time on the international market.

IREDA (Indian Renewable Energy development agency) just issued 2 green certified bonds in March 2017, whose proceeds are allocated to renewable energy projects, contributing to India's huge commitment to grow its clean energy output to 175GW by 2022.

\$2.5trn is required to meet India’s climate change mitigation targets by 2030 and approximately \$1trn investment in infrastructure every five years to satisfy demand. Around half of the total investment is expected to come from the private sector.

The Indian Green Bonds Council, formed in late 2017 as a joint project of the Federation of Indian Chambers of Commerce Industry (FICCI) and the Climate Bonds Initiative has launched its 2017 programme to build the country’s green debt markets. Indian regulators are also moving on market guidance. The Securities and Exchange Board of India (SEBI) is expected to publish its green bond requirements for Indian issuers later this month; and the Reserve Bank of India is working on green finance guidelines, including green bonds.



India Ranks 8th in green bonds outstanding

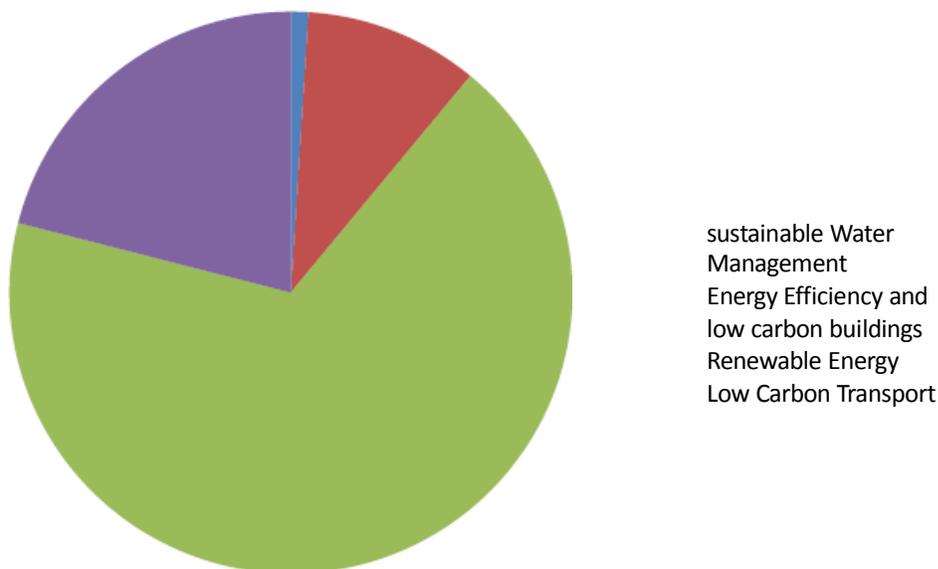
Table: 1.INDIAN GREEN BONDS INTERNATIONAL ISSUANCE FROM 2015 – MARCH 2017.

DATE	ISSUER	AMOUNT	COUPON	TENOR	CERTIFIED/REVIEWED	THEME
Feb 2015	YES BANK	INR10bn	8.85	10	n/a	Renewable energy and energy efficiency

Apr 2015	Export-Import Bank of India	USD500m*	2.75	5	n/a	Low carbon transport
Sep 2015	CLP Wind Farms India	INR6bn	9.15	3,4 & 5	n/a	Renewable energy
Nov 2015	IDBI	USD350m*	4.25	5	KPMG	Renewable energy, low carbon transport and water management
Feb 2016	Hero Future Energies	INR3bn	10.75	3 & 6	Climate Bonds Standard	Renewable energy
April 2016	PNB Housing Finance	INR 5bn	8.01	n/a	n/a	Low Carbon Buildings
June 2016	Axis Bank	USD500m*	2.88	5	Climate Bonds Standard	Renewable energy, low carbon buildings and transport
Aug 2016	ReNew Power	INR5bn	n/a	n/a	Climate Bonds Standard	Renewable energy
Aug 2016	NTPC	INR20bn*	7.38	5	Climate Bonds Standard	Renewable energy
Aug 2016	Greenko	USD500m*	4.88	7	Sustainalytics	Renewable energy
Dec 2016	YES BANK	INR3.3bn	7.62	7	n/a	Renewable energy
Feb 2017	ReNew Power	USD475m*	6	5	Climate Bonds Standard	Renewable energy
Mar 2017	IREDA(x2)	INR7bn	8.12 & 8.05	10	Climate Bonds Standard	Renewable energy

Source : www.climatebonds.net. *denotes International issuance.

Labelled Green Bonds 2015-17 Use of Proceeds



At the Paris COP 21 conference in 2015, International investors representing USD11.2 trillion called for new investment opportunities in green bonds. Labelled green bonds are bonds with proceeds earmarked for projects and assets that deliver environmental benefits. Labelling bonds as green under Internationally agreed rules reduces the due diligence effort required for investors and simplifies stakeholder reporting. It's best practice for bonds to be reviewed or certified by a second or third party. Issuers gain from investor diversification and, where issuance is in USD or EUR, some evidence of modestly lower interest rates.

Domestic investors in India have already shown strong demand for green bonds – two of the Top 10 investors globally with the largest green bond holdings are Indian based ICICI Prudential Asset Management and Reliance Capital Trustee Co. Ltd.

International Issuance and Exposure

Of the 14 green bonds issued by India registered entities, 6 have been listed in Singapore, with several dual listed in London or Berlin. International issuance has been mainly in USD and the ticket size of the bonds was significantly larger than for bonds issued domestically-ranging from USD299m to USD500m (average USD437m) compared to an average of USD75m (INR4.9bn) for domestic issuance. Issuing offshore has enabled Indian companies to tap deeper pools of capital and has also given foreign investors a tool for gaining exposure to the Indian

economy and, via masala bonds, its currency.

Average coupon for domestic issuers is significantly higher – 7.5% compared with 4.7% for International Issuance. This significant difference is linked to the currency risk of the INR and additional hedging costs would need to be considered to make these figures truly comparable. Currency risk also plays a role in the typical tenor of bonds, with international issuance typically being of shorter-term than domestic issuance: 5-7 years versus 3-10 years.

In August 2016, the first INR denominated green bond was issued internationally in by NTPC market with a 5 year INR10bn (USD150m) bond Certified and Verified using the Climate Bonds Standard.

There was significant oversubscription for this first-of-a-kind bonds, with the company receiving orders worth INR29bn (i.e x 2.9 times oversubscribed), and ultimately deciding to scale up the issuance to INR20bn (USD299m). The bond was dual listed in both Singapore and London and achieved a yield of 7.48% - higher than that of a comparable USD bond, but competitive with what could have been achieved through a domestic issuance.

The green Investment Opportunity.

There are many bond issuers who could easily be issuing green bonds. For example India Rail bonds would qualify. With the support of the Indian Green Bonds Council, these issuers have the opportunity to join the green bonds market. Investor demand for green product is growing, the potential now exists for India to attract significant international capital via a robust green bond market to meet national climate and development goals.

IFC to invest \$5-6 billion in Indian sustainability projects. (In the last financial year, IFC Invested \$450 million in the infrastructure sector, Including renewable energy projects). IFC, International Finance Corporation, the Private sector lending and Investment arm of World Bank, is considering Investment \$5-6 billion towards Sustainability Projects in India.

Jun Zhange, IFC country Manager for India, noted that in the previous financial year, which closed for IFC Just a few weeks ago (July 1 –July 30), IFC financed \$ 1.96 billion in about 40 Projects in India, over achieving its yearly target of around \$1.2 billion.

Focus on Renewables: Out of this Zhang said that around \$450 million had been Invested in the infrastructure Sector, including renewable energy projects. The segment will continue to be a priority for IFC, and a special focus will be on Waste Water Projects. Affordable Housing, SME Finance, Financial Inclusion and Healthcare are other focus areas.

Some of IFC;s largest transactions in the infrastructure space in the recent past include \$170 million Investment in Ostro energy, \$125 million the Hero Future energies and \$15 million in clean Max enviro energy solutions, all of them being solar players.

In a separate transaction, IFC has created a Joint Venture with Tata capital-Tata cleantech. IFC commuted to provide up to \$40 million to Tata Cleantech by subscribing to a senior debt instrument, structured as a green bond; although at the moment of transaction, the Instrument was not yet officially recognized as a green bond.

More recently, IFC Invested \$103 million in L & T Infrastructure Finance’s green bonds, the first ‘official’ green bonds recognized by SEBI. According to Zhang, the green bond market has huge potential for India, as, for example, compared with china (“India has a huge potential and IFC are very active in this segment. IFC want to do things differently from others. So rather than doing conventional financing, IFC want to do masala bonds, green bonds, green housing, Infrastructure”). IFC manager Noted “In IFC long-term planning, we envision 15-18 per cent growth in Portfolio in 3.5 years on average”¹.

Table: 2. ISSUANCE AND TIMELINE OF GREEN BONDS IN INDIAN

<u>Sl.</u>	<u>Name of the issuer</u>	<u>Issue Date</u>	<u>Issue Size</u>	<u>Purpose</u>	<u>Other Information</u>
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¹ The Hindu 2017 BusinessLine

2. <http://www.mnre.gov.in/>

3. <http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20indc%20TO%20unfccc.pdf>

4. www.climatebonds.net

No.					
1.	YES Bank	February 2015 and August 2015	Rs.1000 crores and Rs.350 Crores	Renewable energy projects such as solar, wind and biomass projects	Maturity:10 years Oversubscribed two times
2.	CLP India first Indian Corporate (non-bank)	September 2015	Rs.6 billion	Capital Expenditures refinancing wind asset	Maturity:5,6,7 years Coupon: 9.15% pa. Primarily attracted mutual fund investors.
3.	EXIM Bank	March 2015	\$ 500 million dollar denominated bond	The issue proceeds are directed towards funding eligible green projects in Bangladesh and Sri Lanka	Maturity:10 years Price: 147.5 BPS overs UST bonds. Coupon: 2.75% Oversubscribed 3 times and subscribed by asset managers, banks and sovereign wealth funds and insurance companies.
4.	ReNew Power Ventures	September 2015	Rs.4.51 billion	Refinance bank loans for the company's 85 megawatts (MW) wind power plant in Maharashtra.	Maturity: 17.5 years Institutional investors to support renewable infrastructure projects.
5.	Hero Futures Energies	February 2016	Rs.3 billion Climate bond NCD	Finance the development of wind energy projects in the states of Madhya Pradesh, Telangana, and Andhra Pradesh	Maturity :10 years Climate change institutional investors.
6.	IDBI bank first public sector bank	November 2015	\$ 350 million	Financing renewable energy	Maturity: 5 years

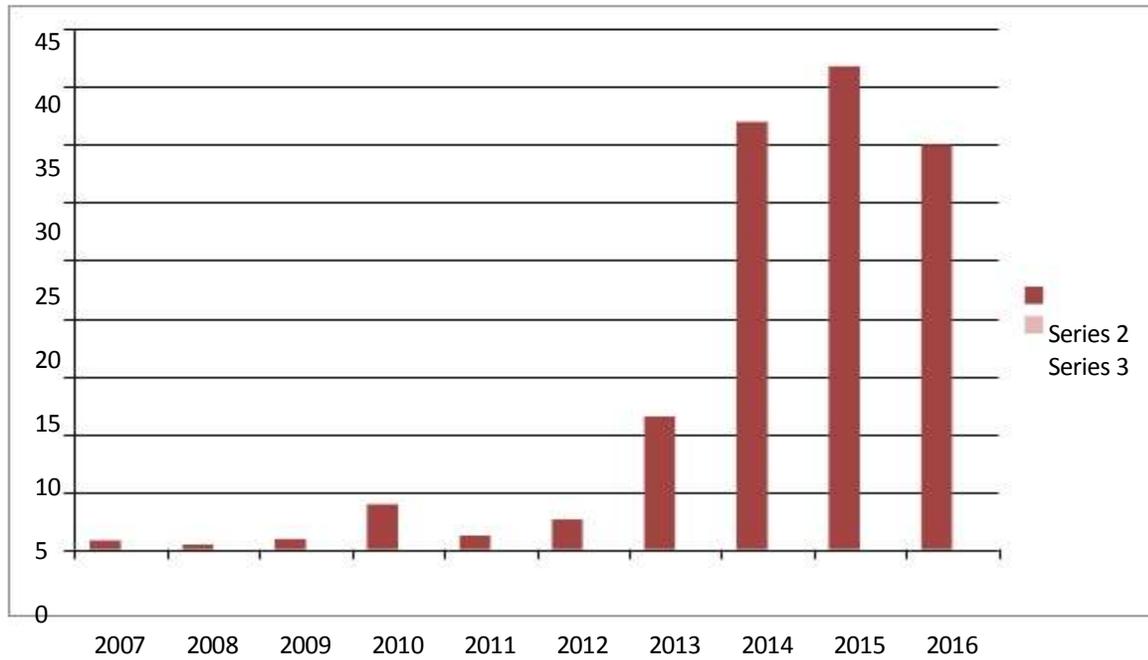
				projects	Price : 255 bps over US treasury Oversubscribed 3 times 8d2% from Asia and 18% Europe
7.	IREDA – Indian renewable energy development agency. Tax free bond	January 2016	Rs.10 million	Renewable energy projects across India	Maturity: 10-20 years Oversubscribed 5 times. Retail investor 7.68% HNI and Institutional buyers.

Source: NRDC report: April 2016

Green Bond is one of the major sources of green financing to achieve sustainability in environmental benefits, such as renewable energy, low carbon transport or climate adaptation. Green Bonds are typically issued for the period of 18 months to 20 years by government, Inter government, financial institutions and other corporates. YES Bank, CLP, Hero Future energies, IDBI and IREDA are some of the major issuer of Green Bond floated in India as well as international market for development of renewable energy, wind energy and climatic adaptation projects. There is significant market potential for Green Bond in India in coming years.

Figure 1: Annual Green bond issuance since 2007- 2016 (Green Bond Issuance (\$ billion)

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Source: Climate Bonds initiative

Country	Amount (USD)	Country	Amount (USD)
USA	10 billion	UK	0.7 billion
Germany	5.6 billion	Denmark	0.6 billion
Netherlands	4.1 billion	Brazil	0.6 billion
India	1.1 billion	Mexico	0.5 billion
China	1 billion	Japan	0.5 billion
Norway	0.9 billion	Hong Kong	0.3 billion

Table: 3. Top Countries for Green Bonds in 2015.

Policy overview

The government currently provides subsidies for green projects in the following ways.

1. **Accelerated depreciation provisions:** Capital expenditure for renewable energy is allowed to be depreciated by 80 percent in the first year and the remaining in the following 5 years under current regulations. This allows cash flow positive companies to depreciate their stock faster and pay their debts.
2. **Feed-in Tariffs:** Feed-in tariffs are long-term contracts with discoms to purchase power from renewable project, usually at higher rates than from conventional power generators.
3. **Viability gap funding:** Viability gap funding is a capital grant from the government that bridges the gap between the project cost under the prevailing electricity rate and the price quoted by the developer. It is done via a reverse bidding process where the feed-in tariffs are bid for.
4. **Generation-based incentive:** These are subsidies provided to power producers for every unit of electricity fed into the grid up to a specified limit. Under this scheme the government provides INR 0.5/kwh supplied to the grid, subject to a cumulative maximum of INR 10 million/MW. The incentive must be availed of in a period between 4 and 10 years of the project becoming operational.
5. **Renewable purchase/generation obligations:** RPOs are the minimum percentage of the total power the electricity distribution companies need to purchase from renewable energy (RE) sources. RPO creates a market for renewables in the absence of pricing externalities of conventional power generation. The National Action Plan on Climate Change (NAPCC) has set an ambitious RPO target of 15 percent by 2020, which has been implemented by 28 states in the country.
6. **Net Metering Incentive:** Net-metering allows customers who generate their own electricity from solar to feed unused electricity back into the grid and be compensated for it. Net metering incentives have been introduced in 12 states in India but have not yet taken off in a big way. Residential and agricultural tariffs are usually kept low, the actual average tariff rate varies widely in ranging from INR 2.8/unit in Chhattisgarh to INR 6.15/unit in Maharashtra for MSEDCL consumers. Residential rooftop solar PV systems produce electricity at an approximate cost at around INR 10/unit (2015). Thus, a Net-metering customer in Chhattisgarh will have to sell electricity at a loss of almost

INR7/unit. Only residential customers in the highest consumption bracket in some states can benefit from this as they can sell at a profit (their cost of electricity is higher than that of the general populace) and recover their investment.

FINDINGS:

More importance has given more priority to Renewable energy sector but still remaining sectors and areas are they were a development is required a lot i.e Protection of Biodiversity, Recycling the waste products, infrastructure development. About Green Bonds still no awareness in the rural areas to invest in green bonds. A awareness has to create among investors to come forwards to invest in Green Bonds.

RECOMMENDATIONS FOR IMPROVEMENT OF FLOW OF GREEN BONDS IN INDIA.

At present, the biggest challenge for Indian entities to participate in Green Bond issuances in foreign currencies is the high cost of hedging and low sovereign credit ratings. Based on the existing challenges and market analysis, to promote Green Bonds in India, The Government of India has to attract large pension funds, insurance companies, etc. India should seek support from Green Climate Fund to provide risk mitigation products such as partial credit guarantees, risk guarantees or hedging products for entities issuing Green Bonds.

CONCLUSION:

Green Bonds are the next step towards the proliferation of Green Projects and can act as catalysts for greening the country's sustainability practices including thermal, hydro power, generation, etc.

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