An Evaluative Study of Green Bond Scenario in India

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Abstract- To achieve the goal of sustainable development while taking care of the environment is a challenging task. To achieve this goal, the countries need green finance. The green bond is a type of fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects. In this context, this paper seeks to explore India's case by evaluating various aspects of green bonds like the regulatory framework for issuance, the role of schedule commercial banks in issuance of green bonds in India, and international comparison of data related to issuance and use of proceed. This paper also discusses issues related to India's Green bond issuance market and recommends developing a national strategy for India's green bond market.

Indexed Terms- Green Bond, Securitisation of Green Bond, Green bond and India, Commercial Bank and Green Bond.

I. INTRODUCTION

With the rising economic activity, wealth, and development today, the world community is facing a severe problem in the form of environmental degradation. Such degradation will definitely affect our growth potential in the future. To make the growth inclusive and sustainable, it is essential to take care of the environment and growth. The cost of climate change is rising over the years as per the estimates of National Climate Assessment evaluates that the United States have to suffer the loss of 121 billion dollars in heat-related deaths whereas 118 billion dollars from sea level rise and 2 billion dollars from infrastructure damage by 2100[1]. It is found that the district in India warned fastest have seen gross domestic product grow less than that of those warmed slowest. Like this heatwaves, flooding, water scarcity, cyclone, sea-level rising, and other climate-related hazards are capable of affecting growth potential. Some studied suggest that the 1 degree Celsius of global warming costs India 3% of GDP a year. With the world second-largest country in terms of population (1.3 billion), the seventh-largest country in terms of geographical size, India is the seventh most vulnerable country among 181 countries according to the Global Climate Risk Index 2021[2]. The world community needs to modify its activity in such a way so that it doesn't cause any adverse impact or minimal impact to the environment and results in sustainable development. For making such modifications, we need a massive amount of financial resources. To finance such environment-friendly projects, we need some dedicated financing instruments i.e., green bond is one of such instruments that finance such green projects. Green Bonds are a fixed-income financial instrument where the proceeds are exclusively utilized to finance climate change-related projects and programs.

The term green bond has its root with an event of 2007, where a group of Swedish pension funds wanted to invest in projects that help the climate, they contacted the world bank treasury and within a year, the first green bond came into existence.

In 2015, in its document to United Nation Framework Convention on climate change (UNFCCC), India pledged to improve the emission intensity of its GDP by 30 to 35% by 2030 below the 2005 level. For these, the document also impresses the need of $2.5 trillion for achieving such a stated goal.

II. OBJECTIVES OF STUDY

1. To understand the concept of Green Bond.
2. To know about the regulatory framework for issuing Green Bond in India.
3. To examine the attempts made by the banks of our country.
4. To examine issues that impede to green bond market development.
5. To evaluate India's position in the Issuance of Green Bonds.

III. REVIEW OF LITERATURE

1. Chowdhury, T., Mohajan, H., & Datta, R. (2013). in their study "Green finance is Essential for economic development and sustainability," they conclude that Global warming creates problems in the economy. And they stressed that green financing would reduce greenhouse gas emissions significantly.
2. (Reddy, 2018) in his work "Green Finance-Financial support for Sustainable Development," he explains green finance as finance that protects or less deteriorates the environment. He also highlights the steps taken by the Government towards green financing. He concludes that India's green financing is still in the nascent stage, and there is a need for Government intervention to support green financing.
3. (Guha, 2019) in his work "Green Bonds: key to Fighting Climate change emphasized on the importance of Green financing for sustainable development.
4. (Manaktala, 2020) concludes in her work that green bonds are narrow in their significance and impact on climate resilience and deep decarbonization in developing economies like India.

IV. REGULATORY ASPECT OF GREEN BOND IN INDIA

SEBI (Issue and Listing of Debt Securities) Regulations, 2008 governs the public issue of Green Bond and listing of Green Bond issued through public issue or on private placement basis, on a recognized stock exchange. Hence for regulations of Green Bonds in India following parameters are setup every issuer of the bonds needs to comply with such parameters:

1. Definition of Green
2. Minimum eligibility criteria for issuers of Green Bond.
3. Project evaluation & selection
4. Certification requirement for the process
5. Management of Proceeds
6. Reporting

- Green Bond

'Green bonds' are the fixed income financial instruments that are linked to promoting and implementing climate change and environmental solutions. With this instrument, the issuer of the green bond gets the capital to finance green projects while the investors receive fixed income in the form of interest[3].

The definition by SEBI defines a green bond as a Debt security, proceeds from which are used to finance Green Projects.

Definition of Green:
According to the SEBI circular on green bond, any bond qualified to be called as green if the proceeds from such bond must be invested in projects like renewable and sustainable energy (wind, power, solar, etc.), clean transportation, sustainable water management (clean or drinking water, water recycling, etc., climate change adaptation, energy efficiency (efficient and Green Building), sustainable waste management (recycling, waste to energy, etc.), sustainable land use (including sustainable forestry and agriculture, afforestation, etc.), biodiversity conservation

Biodiversity conservation.
Further for broadening the definition of Green SEBI also includes the definition provided by Climate Bond Standard Report (Climate Bond initiatives).

- Project evaluation & selection

For evaluation & selection, the issuer shall have to provide details regarding the process followed (to be followed) for determining how the project(s) fit within the eligible Green project categories. For lending more credibility and transparency to the issuance of Green Bonds, an issuer can opt for an independent third-party reviewer/certifier/validator only if it is prior disclosed in the offer document. As per climate bond initiatives, Reviews can be pre-issuance or post-issuance. Under pre-issuance, there may be third-party assurance who assures that whether the green issuance is aligned with a reputable international framework such as the Green Bond Principles (GBP) or Green Loan Principles (GLP). The other type of green bond reviewer is Second Party opinion (SPO) provides an assessment of the issuer's green bond framework, analyzing the “greenness” of eligible projects/assets. Green bond rating agencies are another type of pre-issuance reviewer; they review the bond's alignment by following the Green bond principles and integrity of its green credentials. Based on such parameters, they rate the Bonds; Moody's, S&P Global Rating, JCRA, R&I, RAM Holdings are some rating agencies. Post-issuance reviewers consist of third-party or third-party assurance reporters who ensure the allocation of proceeds to eligible green projects. Impact reporting inquire and report regarding the impact of project/assets on the environment numerically.

- Certification requirement for the process

Before initiating the whole process of issuing green bonds, the issuer may opt for getting a certification about project categories eligible for green finance or not from the third-party reviewer/certifier or validators to ensure the integrity and avoid dilution of the seriousness of the issuance of Green Bonds. The review process is not mandatory.

The issuer of Green Bonds needs to clearly outline the 'environmentally sustainable objectives', including the proposed benefits in measurable terms from the proposed Green Investment- like Green House Gas reduction, water use, and reduction of harmful emissions.

If it is possible to express the desired impact of such a Green project according to the methodologies developed by UNFCC then such thing shall be described in offer documents.

V. MANAGEMENT OF PROCEEDS

- The issuer has to disclose the system/procedure followed to track the use of proceeds.
- The issuer of Green bonds needs to report the extent of proceeds utilized in defined green investments and the use of unutilized proceeds (in case of not opt for maintaining an escrow account).

VI. REPORTING

The issuer of the green bond needs to make investors aware of the status of the projects and about the utilization of proceeds toward the green project at least on a half-yearly basis.

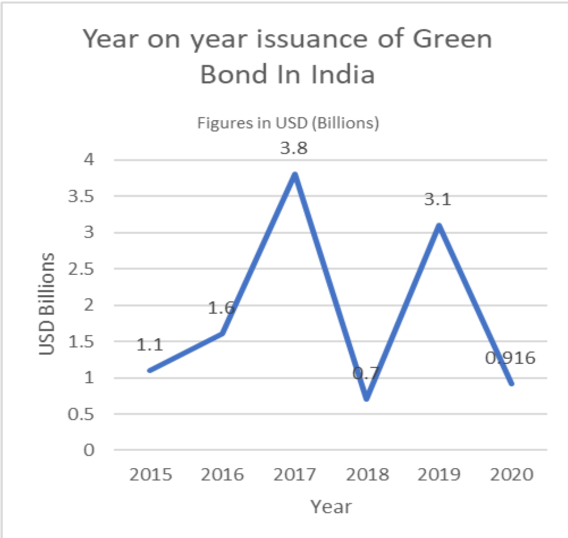
- Indian commercial Banks and their approach towards Green Bond

1. YES Bank- Yes bank is the forerunner in the issuance of Green Bond in India. Yes bank-issued India's first-ever Green Bond in February 2015 and raised INR 10 Billion. In August 2015, the bank again raised INR 3.15 Billion through Green Infrastructure Bond to International Finance Corporation. In December 2016, the bank once again issued a Green Bond of INR 3.30 Billion. Twelve wind energy projects and 43 Solar Energy projects are financed from the proceeds of the Green Bond issued by YES BANK.
2. IDBI Bank- IDBI Bank was the first commercial state-owned bank that issued a Green Bond of USD 350 million in 2015. The amount raised through the issue of Green Bond is used to finance solar projects, wind projects, Biomass, water recycling, and waste management.
3. Axis Bank: Axis Bank India's third-largest private sector Bank in India. It issued a Green Bond of USD 500 Mn in June 2016. It was the first Indian Green Bond certified under Climate Bonds Initiatives standards version 2.1. The bank further issued its second Green Bond, of USD 40 million, in April 2019. Out of the total amount raised through the issuing of bonds, approximately 79% was allocated in various projects, of which 76% was allocated for Urban Mass Transport, 5.40% was allocated towards Energy Efficient Buildings, and 19% in projects related to wind-solar power.
4. SBI Bank: In the year 2018, SBI India's largest public sector bank issued its first inaugural Green Bond of 650 Mn USD. The bond was issued to finance 49 solar Energy projects of capacity 1300Mw and 32 wind energy projects of installed capacity of 1300Mw. And on March 28, 2020, SBI once again issued a bond of 100 million.

- INDIAS POSITION IN ISSUING GREEN BOND

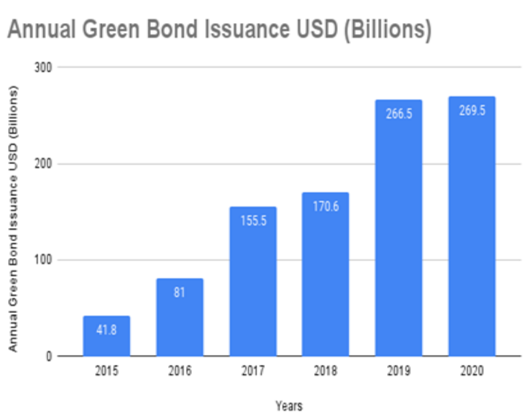
India's journey of Green bond started with the INR 10 Billion Green bond issuance by the Yes bank. India. In the year 2015, there is a total issue of USD 1.1 Billion and USD 1.6 Billion, USD 3.8 Billion, 0.7 billion, 3.1 billion, and 0.916 billion in years 2016,2017, 2018,2019, and 2020, respectively. This shows that

India's journey of Green Bond issuance is inconsistent with no continuous one-way movement.



Source- Various Edition of Emerging Market Green Bond issuance Report

Among emerging markets, India is the second-largest green bond issuing country, only behind China. China leads the emerging markets with the cumulative issued amount of USD 142900 million, whereas India is at second spot with the cumulative issued amount of USD 10897 million[4].



Sources-Climate Bond Initiative Various Edition

The cumulative amount of Green bonds issued globally stands at USD 1.002 Trillion, out of which developed markets are dominating the issue with the issuance of USD 719.5bn whereas the share of emerging market stands at USD193.4bn and the supranations contributing USD90.0bn towards the cumulative total[5]. The USA is leading the table in terms of Green bond issuance with the cumulative issuance of amount $212bn whereas China stands second in the list with the total issuance of USD 127.3bn, France third with USD 115.6bn, Germany fourth with USD78.3bn, Netherlands fifth with USD52.1bn, Sweden USD40.2bn, Spain USD34.0bn, Canada USD25.9bn, Japan USD24.2bn and Italy USD17.8bn are at 6th to 10th position.

By observing Table-2 we can conclude that green bond issuance has been growing rapidly over the years. 2019 was the most fruitful year in terms of issuance. In the year issuance register the jump of near about 94 billion in comparison to the year 2018.

- Use of Proceeds

Globally the use of proceeds from the issuance was primarily utilized in the form of investment in the energy sector which comprises at USD354.7bn, followed by low carbon buildings with USD263.5bn and transport in third place with USD190.7bn, water infrastructure is in 4th place with USD98.7bn, followed by waste management with USD36.9bn[6].

As per data of the year 2019, in India the most significant share of proceeds is used in renewable energy development, which is 33% of proceeds followed by low-carbon building at 30%, large-scale transport infrastructure accounts for 22% of total proceeds, 9% of total proceeds allocated for the purpose of water infrastructure development.

- Issues impede Green Bonds Growth.

1) Lack of support from the public- Since the concept of the Green instrument is new and there is a lack of understanding of all its implications, the average domestic investor is wary of investing in these and perceives them as high–risk investments, the case is worse when any not well-recognized institutions issue it. This acts as a barrier to growth in Green bond.
2) Lack of support from Government- Although the Government had set up the rules and regulations regarding the issuance of Green bonds and also made some efforts to promote corporate bonds along with Green bonds by way of recommending in Union Budget speech to consider A-rated bonds

for investment[7].Apart from measures such as raising ceiling limits for partial credit enhancement to 50% of the issue size, allowing banks to issue rupee denominated bonds overseas under the extant framework of incentivizing issuance of long-term bonds by banks for financing infrastructure and affordable housing, allowing brokers to participate in the corporate bond repo market, to facilitate direct trading in corporate bonds, RBI in consultation with SEBI, allowed foreign portfolio investments (FPIs) to transact in corporate bonds directly without involving brokers by the RBI to develop corporate bonds, Government may also provide other incentives like tax incentives and institutional support to develop the Green Bond markets. It may be beneficial for the growth of the Green bond market.

3) The literature suggests that the illiquidity of corporate bonds markets and lack of expansion of green bonds, the market relatively small in size, with an assortment of stakeholders, standards, and processes are the other key hurdles in developing the Green bond market in India.

VII. SUGGESTIONS

1. India's large pool of domestic savings (31 percent of India's GDP) are predominantly locked up in physical assets and not open to financial intermediation[8]. In the period March 1951 to March 2020, the average rate of Gross Saving is 31.4%. In the year 2020, the gross saving rate stands at 31.4%. Of the household financial savings, more than half are in the form of short-term bank deposits and do not match the investment criteria for infrastructure projects that are typically high risk, have enormous upfront capital costs, and pay returns after a long gestation period. Hence there is a need to induce households to invest in Green Bonds. This can be done by opting for measures such as guarantees, partial credit enhancement, tax incentives.
2. Regulatory reform:

a) For developing the green bond market in India, there is a need for credit enhancement of Green bonds. Credit enhancement can be done by providing guarantees and partial risk guarantees. In countries like China, their National Development and Reform Commission had suggested that local governments should set up green bond guarantee funds[9]. In the same manner, the Indian Government should also establish such agencies to provide guarantees that promote green bond issuance.

b) Pension funds, insurance companies, and retail investors, who are currently prohibited from investing in private debt, should face looser regulation and may even be given time-bound incentives to invest a certain percentage of their fixed income portfolio in green bonds (Agrawal, 2019). This would open up an enormous market, particularly for clean energy.

3. Market infrastructure development: To increase the promotion of green bond issuance in India, it is necessary to improve coordination between investment and environmental policies to make the mobilization of funds useful. Policies measures such as deepening the corporate bond market, standardization of green investment terminology, consistent corporate reporting, and removing information asymmetry between investors and recipients are vital for developing the green bond market in India.
4. Green securitization: Green securitization work as a stimulus in the issuance of a green bond. Securitisation refers to the process of transforming a pool of financial assets (for example, mortgages or lease receivables) into tradable financial instruments (debt securities). Securitizations are also referred to as asset-backed securities (ABS) because the pool of financial assets secures (or backs) the debt securities. A securitization can be defined as 'green' when the underlying cash flows relate to low-carbon assets or where the proceeds from the deal are earmarked to invest in low-carbon assets. Green ABS can help improve access to capital, potentially at a lower cost, for low-carbon and climate-resilient investments.
5. The benefits of securitization is that it enables tapping into the capital from institutional investors through bond market[10].

CONCLUSION

The development of green financing is going to be more crucial in the future. A developing nation like India needs more power and energy utilization to expand its economy; hence making a balance between development and environment is vital for the country. To keep such balance, it is obvious that the country needs a lot of resources to invest in Green projects like renewable energy. The development of Green bonds in India is still at its nascent stage with the cumulative issuance of USD 10 billion till 2020; according to INDC, India needs $2.5 trillion till 2030 to achieve goals set under India's intended nationally determined contribution. For achieving this goal, India needs great support from Green bond issuance.

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