

# GREEN BONDS- GROWTH & OPPORTUNITIES

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**Abstract:** Across the globe in different economies, as the investment sector grows, there is an increasing realization of the need for green investment. Green bonds also known as Climate bonds are backed by earmarked investments to be used for environmental projects. Green bonds can be raised in the international & domestic markets, but funds are usually raised in dollars. Generally, green bonds finance projects aimed at energy efficiency, pollution prevention, sustainable agriculture, fishery and forestry, the protection of aquatic and terrestrial ecosystems, clean transportation, sustainable water management and the cultivation of environmentally friendly technologies.

The present paper aims at providing the growth & opportunities of Green bonds. Further an attempt has been made to highlight the importance of green bonds for the overall growth of the country.

## I. INTRODUCTION

Green Bond Market is contemporary trending instrument for helping financial resources for funding greener projects. It is basically issued to mobilize funds for Green energy projects. A bond refers to the fixed income investment in which an investor loans money to an entity (typically corporate or governmental) which borrows the funds for a defined period of time at a variable or fixed interest rate. The bond market is a financial market in which the participants are provided with the issuance and trading of debt securities.

### 1.1 How Green bonds are important for India?

- The green bond market can play an important role in meeting the financial needs to achieve the ambitious goal of the prescribed national contribution under COP-21.
- Presently, the need for funding to take India's renewable energy capacity from 30 Gigawatt to 175 Gigawatt in 2022 can be fulfilled through this.
- The funds allocated through the market for the promotion of renewable energy have been unfinished. More investment can be made in the field of renewable energy by the financial institutions. Therefore, the role of Green Bond market in India is very important for promoting renewable energy sector. India entered green bond market in 2015 with the issuance of green bonds worth \$ 110 million by major banks like Yes Bank, Indian Import-Export Bank, CLP Pawan Mill Machinery and IDBI.
- In March 2015, the EXIM Bank issued \$500 million worth of green bonds in overseas at a coupon rate of 2.75%, which is the first green bond of India. It was subscribed by 3.2 times showing tremendous interest among investors. Proceeds from green bonds are given by EXIM Bank to companies to finance renewable energy projects.

## II. TYPES OF GREEN BONDS

Type	Proceeds raised by bond sale are	Debt recourse	Example
"Use of Proceeds" Bond	Earmarked for green projects	Recourse to the issuer: same credit rating applies as issuer's other bonds	EIB "Climate Awareness Bond" (backed by EIB); Barclays Green Bond
"Use of Proceeds" Revenue Bond or ABS	Earmarked for or refinances green projects	Revenue streams from the issuers though fees, taxes etc are collateral for the debt	Hawaii State (backed by fee on electricity bills of the state utilities)
Project Bond	Ring-fenced for the specific underlying green project(s)	Recourse is only to the project's assets and balance sheet	Invenergy Wind Farm (backed by Invenergy Campo Palomas wind farm)
Securitisation (ABS) Bond	Refinance portfolios of green projects or proceeds are earmarked for green projects	Recourse is to a group of projects that have been grouped together (e.g. solar leases or green mortgages)	Tesla Energy (backed by residential solar leases); Obvion (backed by green mortgages)
Covered Bond	Earmarked for eligible projects	Recourse to the issuer and, if the issuer is unable to repay the bond, to	Berlin Hyp green Pfandbrief; Sparebank 1

Type	Proceeds raised by bond sale are	Debt recourse	Example
	included in the covered pool	the covered pool	Bolligkredit green covered bond
Loan	Earmarked for eligible projects or secured on eligible assets	Full recourse to the borrower(s) in the case of unsecured loans. Recourse to the collateral in the case of secured loans, but may also feature limited recourse to the borrower(s).	MEP Werke, Ivanhoe Cambridge and Natixis Assurances (DUO), OVG

### III. THE INDIA WE DREAM TO BUILD

The Indian economy is forecast to grow at seven to eight percent in 2018-19, the fastest rate of growth amongst the G20 countries. India is still amongst the lowest quartile of nations in terms of per-capita income. People's quality of life is held back by, amongst others, the country's inadequate infrastructure. India's infrastructure challenge is different to that of most other G20 countries. Instead of an *infrastructure transition*, India's journey is one of *infrastructure creation*. It has the option to skip the growth trajectory adopted by many other countries and move straight to an economy fit for the 21<sup>st</sup> century. India can move directly to the 21<sup>st</sup>-century paradigm of renewable energy sources, circular-economy materials flows, and high-density planned cities with mass-transport systems.

India's Nationally Determined Contributions (NDCs) includes pledges to reduce the emissions intensity of GDP by 33 percent–35 percent by 2030 below 2005 levels and to increase the share of non-fossil-based energy resources to 40 percent of installed electric power capacity by 2030, with the help of transfer of technology and low-cost international finance. These are ambitious promises and are recognised by analysts as being broadly consistent with a 2°C world. To achieve these targets, India is setting out on a huge programme of investing in solar PV and wind with targets to have 175 GW of installed Renewable Energy (RE) capacity by 2022; this represents a 50-percent increase in India's current electricity generation capacity of 345 GW. India is also seeking to electrify its mass transportation system through completing the electrification of its broad gauge rail (16,500 km) by 2022, electrifying its vehicle stock between 2015 and 2017. The sale of Electric Vehicles (EVs) and hybrids saw an impressive seven-fold increase, rising from 10,321 vehicles in 2015 to 72,482 in 2017. E-rickshaws have grown to an estimated 1.5m. India has avoided setting targets for electrifying its vehicle fleet; many other countries have done so and it is likely that global car manufacturers will shift their R&D and manufacturing plants away from petrol and diesel drive trains.

Agriculture's contribution to India's GDP is only 17 percent, yet it provides the livelihood of more than 40 percent of India's 1.3-billion population. The ever-increasing demand for food has put productivity pressure on agriculture, leading to increased mechanisation and increasing its dependence on an increased supply of energy

### IV. STATE OF THE INDIAN GREEN BONDS MARKET AND OPPORTUNITIES TO SCALE

The Indian green bond market had its first green issuance three and a half years ago and 20 green issuances have happened since. By November 2018, the total green bond issuance reached US\$ 7.15 billion making it the 12th biggest issuer in the world by dint of the size of the Indian economy and the sophistication of its financial sector.

Issuing institutions have included non-financial corporates like Greenko, private banks like Yes Bank and also public sector backed entities like IREDA, and the Indian Railway Finance Corporation. The growth in issuance of the green bond market can be seen in Figure 1.

The year 2018 was relatively flat in terms of growth mainly due to tight market conditions. The major issuer in 2018, the State Bank of India, increased its issuance by US\$ 150 million to a total of US\$ 650 million. It is set to issue on a repeat basis like many others in the leading club of issuers.

All green bonds have been oversubscribed and have attracted a wider pool of investors than vanilla equivalents by the same issuer. Additionally, greater investor diversification has also led to a pricing advantage - albeit a mathematically conclusive result establishing this assessment is not available mainly due to limited availability of data. However, anecdotal estimates suggest that pricing advantage for Indian issuers has been between seven to 14 basis points. The experience of the first issuer of Green Bonds, the European Investment Bank shows that its green bonds trade much tighter than an equivalent non-green bond, supporting the argument about a pricing advantage on green bonds.

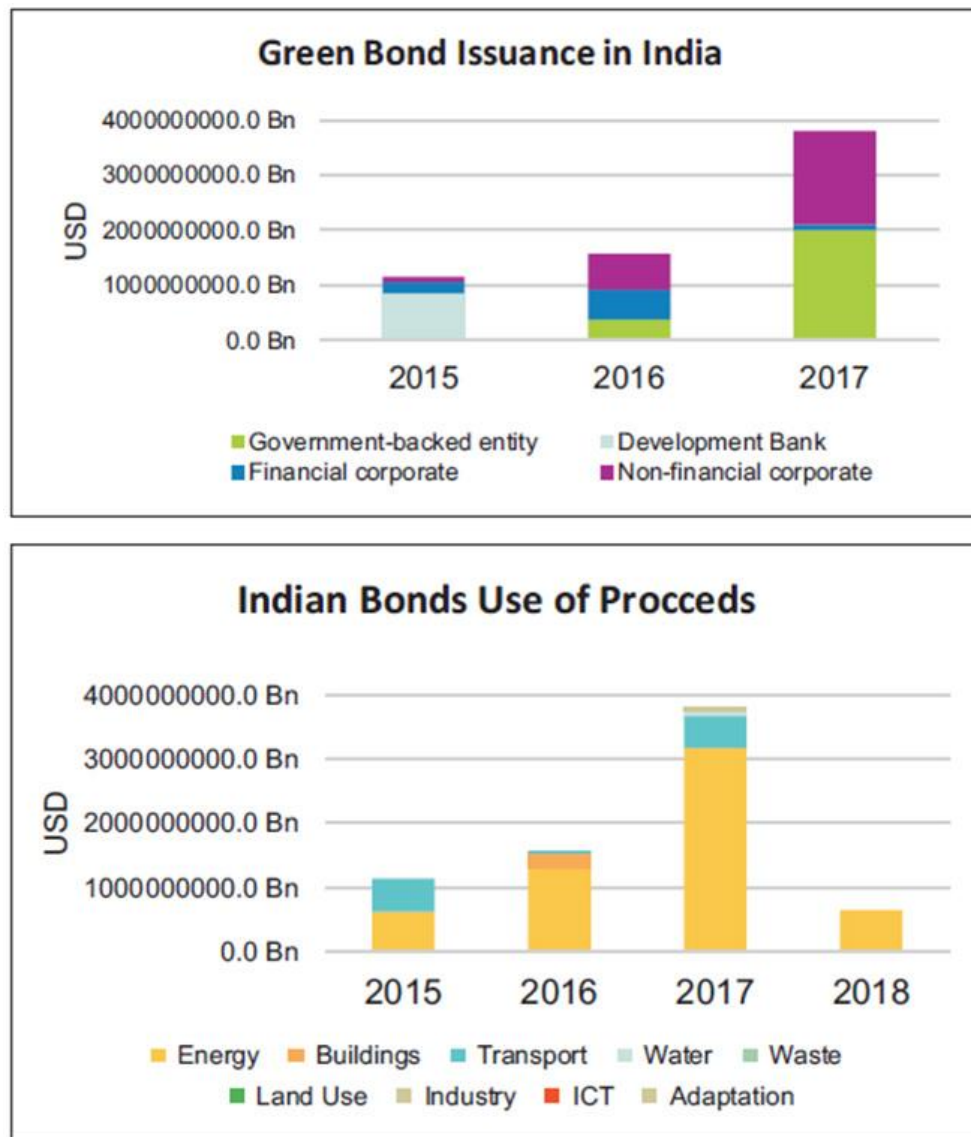


Fig. 1: Green Bonds issuance in India 2015-Q32018  
Data Source: ORF Special Report No.85, April 2019

## V. FUTURE PROSPECTS OF GREEN BONDS IN INDIA

*"Green Bonds are an important financial instrument that can mobilize private sector investment into climate-smart infrastructure projects."*

*Monish Mahurkar , vice president, Corporate strategy and resources, IFC*

- As per Fortune India, Amazon founder Jeff Bezos calls India one of the fastest growing markets in the world.
- According to Bank of America Merrill Lynch (BofAML) Report, the country spends approximately \$140 billion every year, of which 30% gets categorized as green infrastructure. A minuscule amount of that comes from green financing , including green bonds.
- So far, India has raised \$ 6.15 billion through green bonds since 2014, still, lagging way behind china which raised \$37 billion in 2017 alone.

The latest report on Green Bonds Pricing in the Primary Market (analysis done for US\$ and EUR denominated bonds for January to June 2018) suggests that the spread compression was eight basis points (bp) for green bonds as against seven bp for vanilla in EUR and 18bp as against 14 bp for US\$ denominated green bonds lending. Even though the gains are currently narrow, they are encouraging.

Additionally, performance in the immediate secondary market showed that 62 percent of green bonds tightened more than comparable bonds seven days after pricing and 90 percent had tightened more than their comparable index. After 28 days, this changed to 59 percent for comparable bonds and 66 percent for comparable index.

Opportunities for fully-aligned entities to issue green bonds exist all across the world

### Top 10 fully-aligned issuer countries

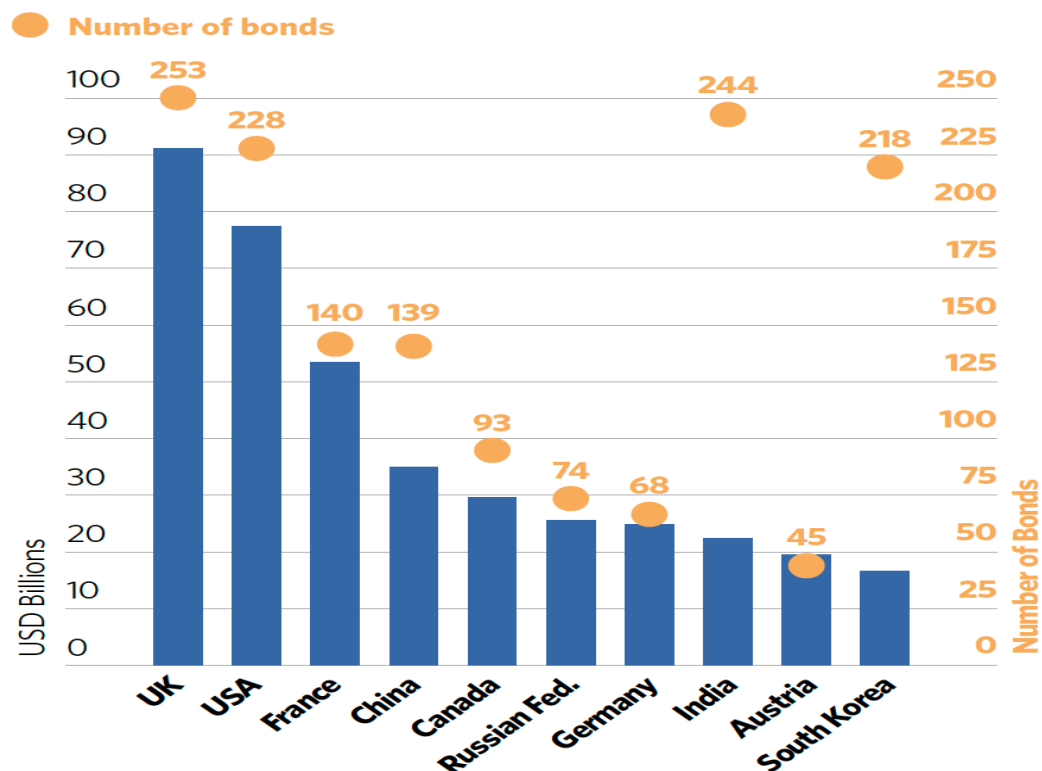


Fig. 2: Top 10 fully aligned issuer countries  
Data Source: Climate Change State Market, 2018 Report

## VI. CONCLUSION

India's active engagement in international policy processes is thus not only desirable but also necessary. In 2017, green bond issuance soared to a record high, accounting for \$161 billion worth of investment worldwide, according to the latest report from ratings agency Moody's. Green bond issuance is expected to surge to more than \$200 billion in 2019, Moody's estimates. The surge in 2016 was attributable largely to Chinese borrowers, who accounted for \$32.9 billion of the total, or more than a third of all issuances. But the interest is global, with the European Union and the United States among the leaders too. The World Bank is a major issuer of green bonds. The institution has been very active through 2016, especially in the United States, where its issuances total over \$500 million in U.S. dollars, and in India, where its issuances total over \$2.7 billion Indian rupees. World Bank green bonds finance projects around the world, such as India's Rampur Hydropower Project, which aims to provide low-carbon hydroelectric power to northern India's electricity grid. So for the sustainable development, policies should be framed to encourage the green projects in order to mobilize green finance.

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