GREEN FINANCE IN INDIA: TREND AND CHALLENGES

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Abstract

Sustainable finance implies the usage of funds for financing projects which are of social, economic and environmental importance and thus includes "green finance", "climate finance" and "low-carbon finance". Green finance is very critical to attain "low carbon – green growth". It plays a principal role of linking economic growth, environmental improvement and the financial industry with each other. Financing of such environmentally important projects has always been a challenging task for the Indian economy; especially the financing required to attain the production of 175 Gigawatts of renewable energy by 2022. In India, factors like high capital costs, lack of adequate debt financing and short-term maturity of loans have always acted as a hindrance for financing of renewable energy projects. The paper is divided into multiple sections. Firstly, it identifies the importance of green finance. The second section discusses the various measures taken up by the Government of India and the Indian economy in this direction. Further, section three talks about the various challenges for the Indian economy. The last section provides concluding remarks as to what lies ahead for the economy of India to further its green investments.

Keywords: Sustainable Development Goals, Paris Agreement, Green Initiatives, Green Bonds, Green Investments

Introduction:

1. IMPORTANCE OF GREEN FINANCE

Climate change acts as a great threat to the environment; mainly due to the excessive usage of fossil fuels. If the usage of fossil fuels continues at the existing level, the temperature of our planet is likely to increase by 4 to 6 degree Celsius above the pre-industrial level (pre-industrial level refers to the time period before the industrial revolution started which can be taken as the 19th century when the signals of climate change started appearing); which will prove detrimental to the human health, food production, and can even threaten the survival of some communities and the biodiversity at large. Many governments have started to be cautious of this issue and have agreed to abide by and follow the path of Sustainable Development Goals (SDGs) and the Paris Agreement (adopted in 2015) which states that the global warming should be well below 2 degree Celsius and the countries should pursue

efforts to limit the increase to 1.5 degree Celsius, compared to pre-industrial levels.

Another major problem which persists in the global economy is the problem of low rate of investment. After the global financial crisis of 2008, the economies and the central banks of emany high-income countries tried to stir up income, spending and employment, mainly by lowering the rate of interest and this strategy proved successful to some extent. Yet, a problem with significantly lowering of interest rates persists i.e., investors borrow mainly for speculative purposes at lower rate of interests. The result of this led to the overall decrease in the quality of investments.

What was and is actually required is the increase in long-term investments for green and environmentally constructive projects. In majority of the countries, the public sector has not been able to afford such long-term financing and the private sector has always been unwilling to do so - given the associated risks and the low rate of return.

The funding of such green projects in any economy is dependent primarily on three sources:

a) Domestic public finance – Funding provided directly by the government of a country.
b) International public finance – Funding provided by international organizations and international development banks.
c) Private sector finance – Funding provided by both domestic and international private players.

The renewable energy sector in India is primarily owned by the private sector, unlike the conventional forms of energy – where two-third of the ownership rests with the Central and State governments. This poses a greater challenge for the financing of such projects - given the uncertainties of the private sector.

Thus, Green Finance can be defined as "The strategic alignment of the financial sector to promote projects which seek to achieve climate change mitigation, renewable energy advancement, low carbon emissions, efficient use of resources and, thus strive to achieve a greener economy at large." There are three major constituents of green finance – environmental improvement, financial sector, and economic growth.

Such green projects can not only help to reduce the carbon emissions but also foster energy security and energy self-sufficiency – in line with the Sustainable Development Goals and the Paris Agreement.

2. GREEN FINANCE INITIATIVES IN INDIA

The first ever strategic step taken in this direction by the government of India was the signing of International Solar Alliance (ISA) with France on 1st December, 2015, the aim of which was to address the climate concerns by taking joint global efforts in this regard. Financing for green projects becomes more crucial for a developing country like India – given the increased demand for energy due to

high economic growth, rapid industrialization, and urbanization. Initiatives like "Make in India" and other Smart City Projects were also introduced in the country to scale up the required financing for such increasing consumption and production. India is expected to witness an addition of 600 million consumers of electricity by 2040, which will lead to a profound increase in the electricity demand (International Energy Agency, IEA 2015). At present, the government of India is primarily dependent on debt funds for financing such green and renewable energy projects. According to the report of 'Task Force for Creating National Infrastructure Pipeline', India is projected to require infrastructure funding of $4.5 trillion by 2040 mainly for green housing, electric vehicles, and for achieving national renewable energy targets.

The Ministry of New and Renewable Energy (MNRE) was formed in 2006 which stands responsible for the tasks like research and development, protection of intellectual property and promotion and coordination of renewable energy resources. Three types of incentive schemes prevail in the Indian context of renewable energy financing i.e., accelerated depreciation (AD), viability gap funding (VGF) and generation-based incentive (GBI).

Accelerated depreciation is a tax-based incentive for the developers of the projects. Earlier introduced in 2009 mainly for wind projects and discontinued in 2012, it was reinstated in 2014 and now continues to drive the zeal of investment mainly for solar power projects.

Viability gap funding is a one-time grant for infrastructure projects which are economically justifiable but not financially viable – meaning those projects which are necessary for the development of the economy as a whole(for example – a bus route is to be set up in a location with no access to road transportation), but which may not be earning any profits in financial terms i.e., the revenue earned from operation of the infrastructure project (sale of tickets in this case) may actually be less than the expenses incurred to keep the project in operation(like fuel, staff salary, and other costs). A glaring instance of this incentive has been its usage by the Solar Energy Corporation of India (SECI) for the generation of solar energy.

Generation-based incentive focuses on the actual generation of solar and wind energy rather than focusing only on the setting up of projects. It provides an incentive of INR 2.00 for each unit (kWh) of solar power generation and an incentive of INR 0.50 for each unit (kWh) of wind power generation.

In addition to these incentives, several other efforts have been made to establish new mechanisms and institutions to accelerate the generation of green and clean energy production in India.

2.1 Priority sector lending (PSL) recognition

The Reserve Bank of India (RBI) has labelled the sector of green financing and renewable

energy as a "Priority sector" in April 2015. It was done to boost up the competitiveness of the Indian economy and to enhance employability. The guidelines stated that the banks ought to allocate 40% of their net credit or an amount equivalent to off-balance sheet exposure, whichever is higher, for the priority sectors like wind mills, solar power generators, street lighting systems, micro-hydel plants and the like.

A positive trend in this direction commenced around the year 2019. In the preceding years, the required finance was not flowing from the banks to such a crucial sector. This was mainly due to the including of 'renewable energy' within the term 'energy' which resulted in a large amount of fund flowing to the non-renewable energy sector. But now, banks like Bank of Baroda, Canara Bank, Central Bank of India, Punjab National Bank, and other nationalized banks have increased their priority sector lending to housing, education and renewable energy.

2.2 Green Banks

The first ever step in the direction of green bank in India was the conversion of 'Indian Renewable Energy Development Agency (IREDA)' – a Non-Banking Financial Company (NBFC) into a green bank, in the year 2016. Green bank refers to an institution which finances environment-friendly practices and strives to reduce carbon emissions with the help of banking activities. IREDA was established with the aim of boosting clean and green energy and to mobilize the funds of the private sector for such projects.

Consequently, several other banks like State Bank of India, Union Bank, etc. have converted themselves into green banks. SBI offers long-term loans at concessional rates of interest to finance green projects and has launched 'Green Home Loan Scheme' for providing loans at concessional rates for residential projects which are environment-friendly. Bank of Baroda has initiated a scheme for assisting the small and medium-sized enterprises (SMEs) in the acquisition of the required equipment and necessary measures to enhance energy conservation.

Likewise, ICICI bank has been able the provide the necessary finance for undertaking projects related to clean energy, energy efficiency, mitigation of greenhouse gas emissions, and clean technologies.

2.3 Green Bonds

Green bonds are those fixed-income securities, the proceeds of which are used for financing projects which are environmentally viable. Like every other bond, these bonds also have to acquire the required credit rating from the rating agencies to become financially viable. The first green bond in India was launched by YES Bank in the year 2015. Subsequently, IREDA launched its unique 5-year green bonds in 2017 which were named 'Green Masala bonds'. These bonds became the first to be listed on the International Securities Market

(ISM).

According to a report by IndiaCorpLaw (September 2021), Indian corporates have been able to raise nearly $4.96 billion through such green bonds. Also, Ghaziabad Nagar Nigam has become the first issuer of Green Municipal Bonds, in the year 2021.

The report further stated that India is the second largest emerging issuer of green bonds, after China. The successful acceptance of such green bonds depends on their risk perception by the investors. What is required further in this regard in the Indian economy is increased awareness among the investors, a standardized process and lucrative incentives for the issuers and the investors.

2.4 Soft loans from IREDA

IREDA offers loans at concessional rates for several environmentally-concerned projects. It gets its funding from international banks and other agencies. European Investment Bank (EIB) granted a long-duration loan of Euro 150 million for financing projects of renewable energy and the World Bank extended $100 million to IREDA for the construction and development of solar parks. In addition to the soft loans, IREDA plays an agency role by engaging in the discounting of energy bills, providing credit enhancement facilities, and the like.

Recently, IREDA has come up with some new schemes and polices – 'Loan against securitization of future cash flow of renewable energy projects', 'Bridge loan against generation-based incentive (GBI) scheme claims payable to renewable energy developers under Ministry of New and Renewable Energy (MNRE) scheme for GBI grid interactive wind and solar power projects', 'IREDA scheme for discounting of energy bills' – for fostering a climate of green finance in our economy. As of financial year 2020-2021, IREDA has successfully sanctioned loans worth INR 11,000 crore and disbursed loans worth INR 8800 crores. (IREDA 2021)

2.5 Crowd funding

Crowd funding, which basically implies many investors investing in a specific project via a pooled fund, has been successfully able to mobilize the required funds from the private investors in countries like Western Europe and North America. In India too, it is witnessing great popularity due to increasing awareness and use of information and communication technology (ICT). In India, 'Bettervest' and 'SunFunder' have been able to induce the needed investment for green projects.

Bettervest is a Germany-based crowd funding platform. It has invested in projects like 'Boond Engineering' and 'MeraGao Power' to strengthen renewable energy production and consumption in the rural India.

SunFunder, which is based in Kenya, launched a $47 million 'Beyond the Grid' (BTG) fund in 2017, focusing on Sub-Saharan Africa, India and the Pacific region. The aim of this fund is to bridge the gap between the demand and

supply of reliable electricity and to provide debt capital financing to off-grid solar companies.

3. CHALLENGES FOR INDIAN ECONOMY

A major problem that has always existed in the Indian economy is the high cost of debt. This, coupled with the short tenure of loans, makes investing in green projects a less lucrative option for the investors.

A second issue that persists is the disclosure requirement for the issuance of green bonds. Securities and Exchange Board of India (SEBI) lists down disclosure requirements for offer document and does not state anything in particular. It just states that the annual reports shall include 'a brief description of such project(s) and/or asset(s) disbursed' (SEBI, 2017, p3). Looking at the future viability of such projects, these projects require a large amount of funding from various stakeholders and thus they require a properly sketched out report, rather than just a uni-dimensional summary.

Further, SEBI has demanded the issuers to estimate 'qualitative performance indicators and, where feasible, quantitative performance measures' (SEBI, 2017, p3) but it has not established any particular metrics for the same. Thus, the lack of standardization and the usage of diverse range of indicators create a problem and thus render different projects incomparable.

Lack of a proper framework and policies which are aligned with each other pose a significant problem in our country. The country has listed out various circulars, polices and agendas revolving around the environment, sustainability, and renewable energy, but they are not linked to each other. For instance, India's 12th Five Year Plan exhibits core indicators that 'reflect the vision of rapid, sustainable and more inclusive growth' (Government of India, 2012, p35). On the other hand, the environmental targets specify that India plans to increase the forest area by 1 million hectares per year, its renewable energy capacity by 30,000 Megawatts and to reduce the emissions by 20 to 25 percent (Government of India, 2012, p35-36). But these quantifiable standards are not established and incorporated into the above-mentioned environmental targets. Thus, such a barrier has always kept the size of India's green financial market much below the full potential level.

The Global Business Practices (GBP) list out four main components of green financing to serve as guidelines for the bond issuers – process for project evaluation and selection, use of proceeds, management of proceeds, and reporting. They demand an appropriate and elaborate description of the entire process in a legal manner. SEBI, on the contrary, requires the issuers to disclose in a brief manner only the manner of utilization of funds, thus making the investors doubt the credibility of green projects in our country.

Another significant issue that persists is the issue of 'greenwashing' which implies an act of making misleading claims about a green project

and then capitalizing on such claims and other such environmentally rich products. Many Indian corporations and government agencies have been involved in such activities. HCL was found guilty when it declared to remove brominated flame and toxic poly vinyl chloride from the manufacturing of its computers, once it was able to get some economically viable alternatives. However, Greenpeace criticized the company for avoiding its duty and responsibility by making false claims and promises – without any clear resolution for the use of eco-friendly materials (Insight, 2009).

4. CONCLUDING REMARKS

Taking into consideration the growing population of the country and the increased demand for energy coupled with the ever-increasing pollution and other environmental concerns, green financing is the need of the hour for a developing economy like India. The government should focus on a long-term view of green financing in India and should thus have a strategic view of the same.

In our country, green bonds and other tools of green financing lack the competitive advantage when compared with the conventional forms of energy because of the perceived investment risks, technology risks, high cost of debt, low operational costs, lack of awareness, lack of a proper regulatory framework and short tenure of loans. A more transparent and conducive policy framework is necessary to induce the required funding from the domestic as well as international investors. So far, the green financial market of India has been able to successfully avoid any major scandals or revelations due to the fact that it has not been able to realize and capitalize its full potential.

India has a long way to go until it becomes a self-sufficient and resilient green economy. A balanced and sound mix of investors, issuers and green investment projects is recommended for the economy of India to provide it with the much-needed competitive edge for a sustainable and green future in the coming years.

References

1. Azhgaliyeva Dina, Liddle Brantley. Introduction to the special issue: scaling up green finance in Asia. *Journal of Sustainable Finance & Investment* (2020);Vol(10):83-91
2. Dikau Simon, Volz Ulrich. Central banking, climate change and green finance. *ADBI Working Paper* (2018);[Sep 2018, No. 867]
3. Freytag Julia. Challenges for Green Finance in India: An Analysis of Deficiencies in India's Green Financial Market. *Digitala Vetenskapliga Arkivet* (2020):1-95
4. Hafner Sarah, James Olivia & Jones Aled. A scoping review of barriers to investment in climate change solutions. *Sustainability* (2019);Vol.11(11):3201
5. Jha Babita, Bakhshi Priti. Green finance: Fostering sustainable development in India. *International Journal of Recent Technology and Engineering* (2019);Vol.8(4):2277-3878
6. Sachs Jeffery D., Woo Wing Thye, Yoshino

Naoyuki & Taghizadeh-Hesary Farhad. Why is green finance important? *ADBI Working Paper* (2019) [January 2019, No. 917]

7. Sarangi Gopal Krishna. Green energy finance in India: Challenges and solutions. *ADBI Working Paper* (2018) [August 2018, No. 863]
8. Singagerda Faurani Santi, Sahoo Bibhu Prasa, Shichiyakh Rustem Adamovich, Kaur Karman & Chauhan Rahul. A study on trend analysis of priority sector lending towards housing, education and renewable energy. *PalArch's Journal of Archaeology of Egypt/ Egyptology* (2020);Vol.17(6):7787-7794
9. Soundarrajan Parvadavardini & Vivek Nagarajan. Green finance for sustainable green economic growth in India. *Agricultural Economics* (2016);Vol.62:35-44
10. Tolliver Clarence, Fujii Hidemichi, Keeley Alexander Ryota & Managi Shunsuke. Green innovation and finance in Asia. *Asian Economic Policy Review* (2021);[Vol.16(1):67-87]