Green Finance: A Yardstick of Sustainable Development in India.

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Abstract: Green-Finance is the central to the overall discussion on Sustainability of economic growth. The environment is frequently sacrificed in order to achieve rapid economic growth. Green-Finance is a part of a broader-occurrence, from the incorporation of various non-financial or ethical concerns on to the financial universe. Generally, Green Finance is concerned as the financial support for green growth which reduces green-house gas emission and air-pollutant emission significantly. Dwinding natural resources, degraded environment and rampant pollution are hazardous to public health and pose challenges to the sustainable economic growth. In order to move to low carbon and climate resilient economy, it is integral that there is an adequate source of investment and private capital to support the commercialization of new technologies. Green-Finance is a broader term that can refer to financial investments flowing into sustainable development projects and initiative, environmental products, and policies that encourage the development of a more sustainable economy. In this paper, an attempt has been made to describe the role of Green-Finance in the perspective of the sustainable development in India.

Keywords: Green-Finance, Sustainable Development, Environment, Commercialization, Economic –Growth.

Paper-Type: Literature Review.

1. Introduction:

Green-Finance defines as financial support for green-growth which reduces Green-House Gases (GHGs) and air-Pollutant emissions significantly. Green-growth indicates as growth-make through the harmony between the economy and the environment. Finance in industrial and economic advancements with the reduction of green-house gas emissions and other environment-Pollution in green-finance. Green-growth is the solution to three current threats to the global economy namely climate change, energy consistent and financial crisis. And sustainable development is the organizing principle for meeting human needs under the lens to contribute towards environment sustainability. In this backdoor “Green-Finance” has become a hot topic among corporates globally. Green-Finance means to include all public and private entities which provide financial assistance for sustainable developments initiatives. Green-Finance is a term that can refer to Financial Investments flowing into sustainable development projects and initiatives, Environmental products and policies that encourage the development of a more sustainable economy. India which hopes to reduce its emissions intensity by 33-35% by 2030(from 2005 levels) and to make 40% of its population rely on renewable energy in order to meet environmentally Determined Contribution (NDC) goals, must rely on external funds to finance this green transition. The involvement of Indian banks and Development Financial Institutions (DFIs) as a facilitator of green growth becomes crucial in order to finance this green transition. There are several ways in which these banks and DFIs can contribute to green growth. Firstly, they can revamp their internal system to move towards energy efficiency and move to e-transactions and e-statements, converting their efficiency into green premises. Secondly, they can assess environmental, social and governance (ESG) risks while appraising projects for financing and thirdly they can introduce green financial products such as green bonds.

The green finance landscape in India has three notable features. Firstly, the cost of green capital is higher due to its unique nature, the risks involved and the lack of a supportive regulatory framework. Second, there is a lack of solid and verifiable green financial products in the market. The instruments that exist favoring debt instruments only partially protect the risk and size of long-term funding. Finally, there is a predominance of renewable energy capacity building projects with small allocations to energy efficiency. Difficult areas such as infrastructure, industry, resource efficiency, transportation have few projects. The challenge for developing economies like India is to integrate green finance to include environmental impact in commercial lending decisions while balancing economic growth with the needs of social development. Green finance is at the heart of low-carbon green growth as it links the financial sector, improves the environment and economic growth, and all of these are necessary for a country like India to be successful, maintained in the long term. In June 2017, YES Bank, the fourth largest private sector bank in India and FMO, together with DEG and Proparco, organized an investment symposium on “Opportunities for Green Finance in India” degree”, where four banks signed a charter to protect the green environment. finance, in India. Enhancing green finance requires access to diverse sources of capital, involvement of the public and private sectors, and the right financial structure. India recently ramped up its climate on targets that go beyond previously set Nationally Determined Contribution (NDC) targets to achieve non-fossil energy, 500 GW capacity, and reduced energy intensity. economy's carbon footprint to below 45% by 2030, and net zero emissions by 2070. At the same time, India also realizes that it needs to mobilize nearly $1 trillion in green financing to achieve it. achieve these goals.
2. **Objective of the Study:**
   1) To understand the various green financing initiatives taken by the public and private sector organizations/banks in India.
   2) To analyses the trends in green financing in India.
   3) Explore various green finance challenges in India.

In this paper, we attempted to describe green financing in some detail. Funding green projects is an important part of an organization's sustainability, as business is environmentally relevant. Our aim is to establish green financing in grass-root levels of India. Our research focuses on current and future global green finance programs.

3. **Methodology:**

   The study is of a descriptive form and is based on secondary data drawn from a variety of official reports released by the official of India and other published reports of public and private sector organizations and banks in India.

**DATA ANALYSIS GREEN FINANCE AND INDIA**

India commits to cut its emissions intensity by 33-35 percent below 2005 levels by 2030 in order to accomplish its Nationally Determined Contributions goals and to boost the use of renewable energy (RE) by 40 percent of installed electric power capacity by 2030. It is estimated by the government of India that around US$ 4.50 trillion (US$ 450 million per year) will be required over the next ten years to meet the targets for renewable energy and urban sustainability. The Government of India in the 2015 Union budget has declared the target of achieving 175 GW of RE by 2022. For financing green initiatives different private and public banks and non-banking financial institutions have committed funds of about $2570 million. Figure I reveal the funds committed by different financial institutions.

![Commitment made by Different financial Institutions for Renewable energy](image)

**Figure I. Funds Committed by Different Financial Institutions**


To meet the requirements of financing this renewable energy the government of India is majorly relying on Debts Funds. Table I shows the largest loans made to India's RE sector in 2017–2018. **Table I: Largest loans from financial institutions to the real estate sector in 2017-18.**
To extend debts to renewable projects, senior notes, nonconvertible debentures, and flexi line of credit is also used. Among the capital market instruments, green bonds offer an opportunity for tapping the domestic capital market. Green bonds are fixed income securities whose proceeds are allotted to green initiatives. The Indian green bond market is still in its nascent stage and till now only 20 green issuances have taken place. In India, the cumulative issuance of green bonds stands at USD 7.15 Billion between 2015 to 2018 November (Care ratings report, 2018).

**Figure 11: Issuance of green bonds by various Indian entities in 2018.**

**Green Bonds issuance by Different Entities in India**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Entities</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>Private Sector Non Financial Corporates</td>
</tr>
<tr>
<td>50%</td>
<td>Government Backed Entities</td>
</tr>
<tr>
<td>13%</td>
<td>Private Sector Financial Corporates</td>
</tr>
<tr>
<td>37%</td>
<td>Financial Institutions</td>
</tr>
</tbody>
</table>

Source: CARE Ratings Report, 2018

Green bonds proceeds are used in renewable energy projects, low carbon buildings, industry and energy intensive commercial, waste and pollution control and sustainable transportation projects. Figure 3 shows use of proceeds of green bonds in India.
Figure III: Use of Proceeds of Green Bonds in India 2015-Q3 2018

Source: [5] ORF Special Report No. 85, April 2019

Though debt financing mainly through debt instruments remains the major source of green financing in India, but several other initiatives are also being taken by the government, institutions and the other investors.

- Private equity investors participate in green finance mainly through equity and venture capital.
- In April 2015, RBI included drinking water facilities and small renewables energy projects in priority sector lending targets and it necessitates banks to allocate 40% of lending to key sectors.
- For boosting clean energy and its financing the idea of establishment of Green Banks was explored in India and the first step towards it was the formation of the first Green Bank, India Renewable Energy Development Authority (IREDA), Year 2016. Similarly, several other banks like SBI, Union Bank of India etc. are also taking initiative to convert themselves in green banks.
- Crowd funding is also emerging as a new source of financing in India wherein large number of investors invest in a particular project through a pooled fund. “Sun Funders” and “Bettervest” are playing a great role in financing green projects.
- Green finance is also being deployed by the International and multilateral organizations. The UNDP has recently supported India by approving funds of $43 million for boosting climate resilience along its coast by funding.

4. Conclusions:
In conclusion, sustainable development brings stability to environmental demands. This makes available resources for future generations. Sustainable development is a amazing way to conserve the resources provided by nature. With the phenomenal increase in pollution in India, it has become imperative to harness the untapped potential of green finance to fund green projects and investments. There is a need for blended finance which can reduce the overall cost of capital of private capital investors. The Government of India should frame a clear green investment strategy focusing on long-term, economy wide view. The regulatory policy should be transparent and more conducive so that it can create trust and confidence amongst investors. India should focus not only on domestic investors but also on foreign investors. The Green-Finance instruments should be designed in such a manner that it should attract both local and international investors.

5. Recommendations:
In the 21st century, green finance for sustainable economic and financial development is becoming a global concern. All countries are concerned about environmental changes and pollution. In the case of green finance, you need to (i) identify potential green projects and ensure that they are green finance. (ii) Funds to reduce waste generation and recycle waste into compost or other item projects. (iii) Increase funding for all green projects. (iv) It is necessary to raise awareness of rural residents at the grassroots level. (v) Establish a green project and promote replication. (vi) Motivate small and small farmers to engage in green agriculture. (vii) Plant trees as much as possible. (viii) Encourage investors to build green buildings (ix) Financing for environmentally friendly products. (x) Increased microfinance for prudent green products with very low interest rates, and (xi) Funding for rainwater harvesting, solar heating, lights and other renewable energy sources.

References: