

Emerging Green Finance in India: A Case Study

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KEYWORDS

*Green Financing,
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Global
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ABSTRACT

When the level of globe increases in between developing and developed world many things change whether it's in overall temperature, environment or technology or lifestyle. None of them appears to care for environment, climate and sustainable development by the government or policy makers. The worldwide investment (in renewables and energy efficiency) went down by 3% in 2017, and will decline further in the future. Green finance is intended to be the mechanism for delivering increased financial flows (from banking, micro-credit, insurance and investment) from the public, private and not-for-profit sectors to priorities like sustainable energy and adaptation that benefit the poorest and most vulnerable. UN has been collaborating with various nations to chart out its path to channel the flow of finances to achieve sustainable development goals by 2030.

This paper focuses on the definition, concept meaning, and the importance of green financing theory and benefits as well as the nature of green financing offerings. The research is secondary data based on various sources. It also attempts to showcase the present scenario regarding green finance in India and its relevant schemes.

1. INTRODUCTION

In the economy of any nation the combined backbone from which on a broader aspect economic growth can be observed in developed and developing countries is its financial sector. So with the rising of financial sector and economy it directly impacts the environment. Similarly with the advancement & progress in every sector of economy, nature's resources are being over-exploited thus leading to a huge climatic change which is shrinking the future generations' requirements. This shift has led to the acceptance of a new concept, Green Financing, which is an investment in environmentally friendly or sustainable goods and services with the goal of encouraging environmental healing and protection. Green financing is considered future directed – with the ultimate goal of minimising GHG emissions, controlling all forms of pollution (be it noise, water, land and air pollution), managing waste and safeguarding biodiversity as a whole. Not only India has been one of the fastest growing economies in the world but also it had a major change in its energy systems and structure recently with strategic policy focus on promoting renewable energy' (Sarangi, n.d.). The green finance is the loan and investment where its purpose is processes in favoring the environmental activities. It is said to be significant child privilege as it all serves and facilitates the circulation of securities and other intermediate services, for the creation of an adaptation to this or that sort of business sustainable model; investment; economic, commercial and different social projects made in form of policy by government or buildings.

2. OBJECTIVES

- To learn about Green Finance and its principles.
- To understand green finance, what they are and their significance and benefits.
- To learn the different programs and schemes operating under green finance.
- To analyze the green finance work in India at present



3. REVIEW OF LITERATURE

(Soundarrajan & Vivek, 2016) Attempted to deliberate on contemporary developments, future prospects and challenges in green financing for emerging India. Objective of the paper The study on Green finance would be purposed to justify that it is a viable concept under Indian industries which will mitigate out the ecological depreciation between carbon gases absorbed and dissimilating in atmosphere.

(Assistant Professor, Jaipuria Institute of Management, Jaipur et al., 2019)The paper has endeavored to make a review on the green financing programmes made in the public and private sector organizations/ banks for environment protection in India. The paper highlights the different challenges pertaining to green finance in India and suggests several measures to overcome them. The research is descriptive in nature and the secondary data was collected from various government reports and other reports of public and private institutions companies & banks of India.

–(Ansari, 2022)The paper is structured in several phases. Overview 1st phase This stage explains importance of prudent finance, 2nd stage Constitutes sources which was taken to realise the dream by GOI and Indian economy and in 3rd phase the various challenges for the Indian economy has been discussed. The study concludes that India is very much a struggling green economy. He also added that a fair and well-distributed mix of investors, issuers as well as green projects is desirable in India.

(Dhoot & Awate, 2023) The article discusses the current status and future outlook regarding green finance in India. Goals of paper The objective behind this paper is to study the contemporary trends and let the people know about it. The findings of the study stress that it is important to increase the flow of green finance in order to reach NDCs. He noted that private sector contributes significantly to green finance flows but it needs to be better in order to reach the targets.

(Charles & Philip, n.d.) In this paper the author attempts to look at the recent trends, green finance opportunities and challenges as well as some of the investments in greening India. It also endeavored to investigate the origin of green financing and attempted to realize what has been achieved so far from the scheme launched by the Indian government. In his paper he concludes the India has to be more concentrated on to green finance and also have to contribute more for funding infrastructure to achieve sustainable development goal.

(A Study on Emerging Green Finance)The paper aims to highlight the emerging trends and future prospects in green finance in India. The paper holds commendable directions to serve the crisis on environment that prevails in India.

(Rasoulinezhad & Taghizadeh-Hesary, 2022)Using the show the impact on the population, affluenceand technology (STIRPAT) model, it also attempted to operationalise CO2 emissions in environment, energy efficiency and green energy stock index (GEI), green routing amount of each group introduced to top 10 economy under theme of \green finance. The study ended by an output that the green bonds are one of appropriate ways to consider for financing green energy projects and also for reducing CO2 emission.

4. RESEARCH METHODOLOGY-

A descriptive-based study can be seen in this paper. Secondary source of data that was utilized from different websites, magazines, E-Journal, E-Articles newspapers etc....

Hypothesis

H0: There is an increase in green finance observed in India. Ha: We don't observe significant growth of green finance in India.

5. LIMITATIONS

The study is limited to this geographical area, and doesn't include all other things in the universe. Since the time available is very limited and it was conducted with a limited resource; secondary data has been used in the study which were collected from various sources.

Green Finance (meaning and concepts)

Green Finance is "a loan or investment that holds the potential to support environmentally positive activities, such as purchasing an eco-friendly product and service, or developing green infrastructure'(Emeritus, 2023). TCSG is a strategic attempt to include the financial sector in the transformation of low-carbon and resource-efficient economies and in adaptation to climate change (Soundarrajan & Vivek, 2016) The green finance enables hours well especially with the economy and stated population agents by funding for maintaining the growth environmental goal.

Source:(Soundarrajan & Vivek, 2016)Green finance in India was commenced in 2007 with the issuance of guidelines by Reserve Bank of India along with "climate change" and "global warming" for sustainable development. United Nations views green finance as Toast of the town by United Nations Environment Program with a goal to serve the countries for their policy and regulatory review for financing system and preparing guidance on sustainable finance roadmaps through

resource efficiency program. It will also assist central banks and regulators in taking steps to enhance the regulatory framework of their domestic financial markets through creating enabling conditions and steering multi-country policy initiatives at the sub-regional, regional and global (Green Finance - Meaning, Objectives & Climate Financing for UPSC, n.d.). With 2nd rank in terms of population index and having the total population around 1.4 billion, the carbon emission from its economy has created a substantial effect on global emission and thus global climate change.

This year (2023) India see the hottest February since 1901, recorded at 29.54 degree Celsius. In 2021, India emitted an estimated 3.9 billion carbon dioxide (CO₂)-equivalent tonnes of greenhouse gas (GHG), making its output “the worlds third largest emitter”, behind China and the United States (India Incorporates Green Bonds Into Its Climate Finance Strategy, 2023) but with a relatively low per capita emissions level of only 2.8 CO₂-equivalent tonnes compared to a world average of 6.9 and the US’s 17.5 (Animashaun et al., 2016).

Main Areas of Green Financing:

- serves as a backbone for the public sector on policy environment.
- it encourages public-private partnerships on financing instruments such as green bonds.
- it contributes to the strengthening of capacities of diversified community green enterprises on micro credit.

Objectives of Green Financing:

The primary objective of green finance is to achieve the balanced development of every countries Environment and economy by driving the growth of green financing. It's some of the goals.

To support and fund green industry and enterprise.

For the purpose of low-carbon economy.

In order to fund various renewable energy projects.

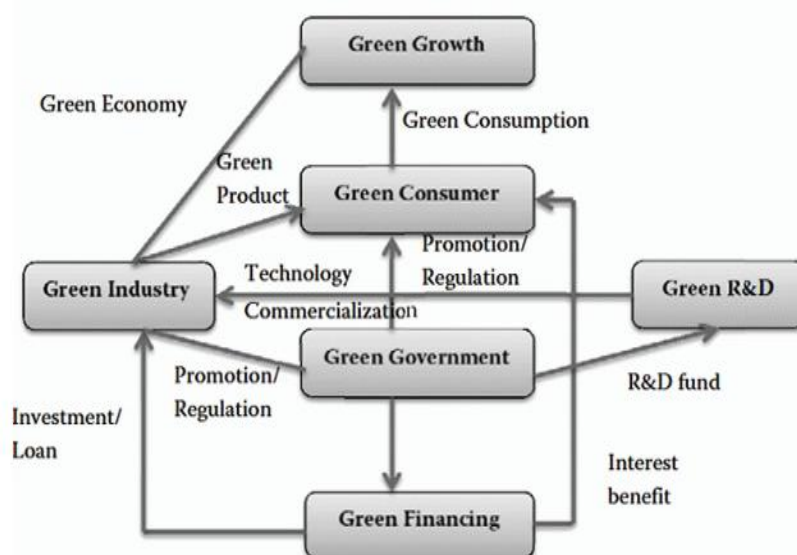
To avoid, mitigate and compensate the degradation of environment and climate.

Green Financing Compromises

Source: Compiled from different source.

Green financing Initiatives in India

So many initiatives have been taken in India at this topic but under the leadership of the Paris agreement, Indian focus to achieve 40% Electric generating capacity from non-fossil sources by the year 2030 and also reducing greenhouse gas excretion intensity, 33%-35% below from its 2005 level. India under INDC (India’s Nationally Determined Contribution) will also increase its forest reserve and the tree cover to sink the carbon. Some of the initiatives are:



Source: (Soundarrajan & Vivek, 2016)



Source: Compiled from different source.

- India ratified UNFCCC (United Nation Framework Convention on Climate Change) on 10th July 1992 and the fund vehicle, Green Climate Fund was set up in 2010.
- \$100 Billion Annually not paid to the affiliated Nations by Wealthy Countries towards Climate Change under Paris Agreement, then due to India's help now it will be give.
- Perform Achieve and Trade (PAT) System: PAT, is a government scheme aimed at cutting carbon emission from 13 energy-intensive sectors.

Indian government approved 100% FDI (Foreign Direct Investment) via automatic approach on Renewable Energy. Make in India and other Smart City Projects will have to upscale at financing that is needed for such growing consumption and production.

Importance of Green Finance-

The green finance is really of significance in the economy due to this because it helps and encourages financial instruments and other related services through which flow is present and maintained for creation or construction of sustainable business models (whether it be trade, economy, investment along with various social projects as well as policies). It serves as a financial crutch and help for eco friendly projects. It collects fund from various sources whether domestic or international. Too many schemes and initiatives are also initiated by the government protection of environment. Due to the 2006-2009 financial crisis, current global warming and sustainability businesses sustainable practices is needed Despite availability of Green financing from other perspectives Sustainable Finance initiatives have focused on the objective for 2030 for sustainable development. In other words, green funding can be construed as the future of financial sector toward constructive and sustainable externalities.

Challenges Related to Green Finance-

A few of the issues concerning Green Financing are:

- Short-term and expensive Debt financing: The high cost of debt was a problem that had been all along. This combined with the short maturing of loans discourages investors to invest in green activities—(Ansari, 2022).
- Weak Organization of Long-term Funding: It is argued that long term funding channels are fundamental to satisfy financial need of green financing market while the sector of green financing does not have a strong organization.
- Lack of Frame work and Policies: A disadvantage of green finance is the lack of framework and polices. India has mentioned many of the policies and agenda relating to environment, sustainability and renewable energy but these were not interconnected with each other.
- Short of Capital and Aktunkelangan: Small and medium-sized enterprises in capital short, less liquidity to reflect on a green financing sectors don't be available. The existing short-range time perspective inherent in business strategies neglecting long-term pros of green industries is another important barrier to private investments(Soundarrajan & Vivek, 2016).
- Global Collaboration -Global Business Practices (GBP) includes four major areas amongst which these are the guiding principles for green financing bond users- Project assessment and selection process, Proceeds used, Funds management and Reporting-(Ansari, 2022)). India In India however, as it is reported SEBI simply discloses in short supply the way of fund using, to allow Investors cast doubt on credit quality for green finance.

- **Green Washing:** When a misleading statement is made or when insufficient scrutiny of an investment or project can taint greening investments and projects, and then profiteering from such statements and similar other environment friendly products. In India a number of corporations and several government bodies have engaged in green funding initiatives.

Types of Green Financing

Green Bank: These are types of financial institution function in much the same ways as traditional lending banks, but which finance renewable energy and other environmentally friendly projects. This bank aim in the better and eco friendly banking services, this also help us in reduce carbon level footprints.

1.1. **Green Loans:** It means loans where the usage of loans is for environmental projects such as roof top solar loans, EV Loans, SME loans, energy efficiency projects etc.

1.2. **Green Saving Account:** This account helps the bank to generate funds in terms of savings deposited by the account holders. They said, “The more the costumers save, the more advantage to environment by providing funds for various environmental projects”.

1.3. **Green Credit Card:** Green credit cards including Aspirations' Zero card, plant a tree every time you spend.

customer makes a purchase'(Emeritus, 2023). It's basically an eco-friendly reward, or helping to advertise paperless banking. **Green Bond:** It refers to a debt or fixed income instrument specifically earmarked for climate and environmental projects with the proceeds allocated to the same. Specifically, green bonds are projects for use of proceeds targeted towards energy efficiency, pollution prevention, sustainable agriculture, fishery and forestry as well protection of aquatic and terrestrial ecosystems, clean transportation(Clean Technica: Green Bond Concept & Where We Are Heading In The Future,p.7)clean water/sustainable water management(Green Bond,n.d).

Green Loans Schemes: There are some schemes provided by commercial banks, and other financial institution; those helps these environmental projects. Some of them are Green Home Bank Loan Schemes at low interest by State Bank of India (SBI), Vehicle Finance scheme which computed to be 50% less interest by ICICI Bank and other purchase schemes (to develop solar water heater, water pumps, home lighting) alike Union Bank of India.

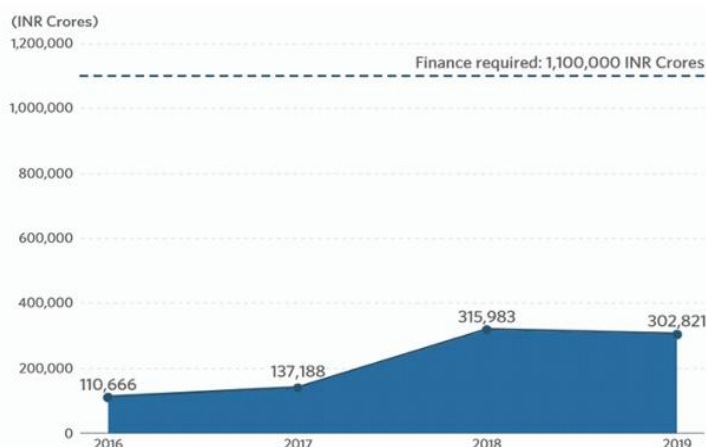
Recent trends of Green Finance in India (Current Scenario)-

Flows of green finance in India are lagging significantly behind the need in the country at present. Tracked green finance in 2019/2020 was INR 309 thousand crore per annum (~USD 44 billion) i.e., roughly a quarter of India's requirements (Landscape-of-Green-Finance-in-India-2022-Full-Report. Pdf, n.d.-a). The “Landscape of Green Finance India” fits green finance flows to the economic sectors (clean transport, clean energy and Energy efficiency). According to (Landscape-of-Green-Finance-in- India-2022-Full-Report. Pdf, n.d.-b) it is assumed that for fulfilling India s Nationally Determined Contributions (NDCs) under the Paris Agreement (international treaty on climate change), approximately INR 162.5 lakh crores (USD 2.5 trillion) would be required from year 2015 to year 2030 that translates into nearly INR 11 lakh crores (USD 170 billion) every year.

To absorb the specific environmental changes of this sector, India needs to invest \$2.5 trillion and it is scanning over USD 280 Billion (from 2021 – 2026) only for laying a foundation for green finance.” By absolute minimum calculations, India's tracked green finance till date accounts for less than 25% of the total requirement across sectors even to just meet NDCs (Dhoot & Awate, 2023).

Investments and finance required to finance current NDCs as green investment-

It can be seen from the report that green finance flows increased by 150% since



Source: <https://www.climatepolicyinitiative.org>

2017/18 to 2019/20. A general rise in 179% (public) and private sector 130 was detected. A Landscape report of green finance reads that to achieve the Panchamrit target, India requires around USD 2.5 trillion by 2030 and it will cost \$10.1 trillion for reaching Net-Zero emissions by 2070." A strong environment policy has long been claimed as need for India to green finance at a greater scale. In India, buildings absorb over 75 per cent of the electricity, and residential, commercial etc usage consume over 37 percent of total electricity consumption, Certified green building can save up to 20-30% energy as well as 30-50% water (Dhoot & Awate, 2023). Based upon the above information, it can be observed that an increase in growth of the green finance is seen as required to meet its target by 2030. As per this research Pass the H0 (Null Hypothesis) H0 which denotes that there is an increase in green finance seen in India is raised and rejected Ha(Alternative hypothesis) which observed that there is no growth under green finance in India.

Green Finance Future-

It was found to be the increasing area of investment including green projects, as environmental sustainability has becoming a critical issue on a global scale. For environment sustainability of banks various policies and guideline practiced by the government and RBI (Reserve Bank of India). RBI has advised the banks as well as the non-banking financial companies to accept green deposits and give green loans through various schemes. The aim is to ensure that the funds are used for energy efficiency, clean transport, climate adaptation, sustainable water and waste management, green buildings including related infrastructure and terrestrial and aquatic biodiversity (Green Finance Is Gaining Traction for Net Zero Transition in India, n.d.).

It is being said that in March SEBI (Security Exchange Board of India) has announced the ESG Category for mutual fund- these are environmental, social and governance funds placed in companies that align with ESG parameters and work towards benefiting environment. Government has further put in place several action on green financing including tax break for low carbon technology, within policy push for green financing instruments etc... many financial institutions are also in search of investing under the ground of green finance which will lead to increase demand on green bonds and funds.

It is said that India will reduce its carbon emission by 30% to 50 % till 2030 and for this it need an extra amount of 600 – 700 EUROS. International Finance Corporation has concluded to make investment of \$75 million in the green bond launched by Punjab National Bank. Programs for adaptation and mitigation of climate change have been also developed under the Council on Climate Change, that include among others:

National Action Plan on Climate Change 9 National Mission for a Green India: The overall goal of the mission is to enhance and maintain forest/ tree cover for maintaining ecological balance and environmental stability including providing goods and services. Jawahar Lal National Solar Mission National Mission on Sustainable Habitat and Clean India Take off. National Mission on Strategic Knowledge for Climate Change, National Clean Energy fund Green Housing/ habitat- rain water harvesting, waste array of management renewable/solar with energy sanitation eco friendly material. Biomass energy- Bio gas, Rice husk, Sugarcane bagasse /Molasses waste. Rural and eco-tourism Biofertilizer/ biopesticide, Azotobacter, Tricoderma, Tricogramma Auto Fuel vision and Policy 2025.

6. CONCLUSION-

From the above study one can observed that Green Finance /Green Banking is core subject of sustainable development among all this developing country in India. Every year the carbon emission can be watched increasing and that is the reason a growth is seen in the global warming. It is reported that the global warming is posing several challenges in environment. Hottest February month on record 2023 On this year as of then Throughout February, India experienced its hottest month yet comparing to the previous year. India is not an exception. Like the other country India is too running and trying to reach its sustainable development goals through different finances. Green finance mainly emphasis on to minimize the level of carbon and the greenhouse gas emission and for this many measures taken by India government as well as RBI in these some schemes are-mentioned above. The participation of various areas at the green finance flow is not enough to reach the rationing target in sustainable development in 2030.

REFERENCES

1. Ansari, K. (2022). GREEN FINANCE IN INDIA: TREND AND CHALLENGES. 2(4).
2. Assistant Professor, Jaipuria Institute of Management, Jaipur, Jha*, B., Bakhshi, P., & Associate Professor Banking and Finance at Jaipuria Institute of Management Indore. (2019). Green Finance: Fostering Sustainable Development in India. International Journal of Recent Technology and Engineering (IJRTE), 8(4), 37983801. <https://doi.org/10.35940/ijrte.D8172.118419>
3. A_Study_on_Emerging_Green_Finance_in_Ind.pdf. (n.d.).
4. Charles, G., & Philip, B. (n.d.). GREEN FINANCE: RECENT DRIFTS, CONFRONTATION AND PROSPECT OPPORTUNITIES FOR SUSTAINABLE DEVELOPMENT IN INDIA.

5. Dhoot, P., & Awate, S. (2023). Vidhyayanae journal.
6. Emeritus. (2023, January 9). What is Green Finance and What are its Benefits? Emeritus Online Courses. <https://emeritus.org/blog/finance-what-is-green-finance/>
7. Green Bond: Types, How to Buy, and FAQs. (n.d.). Investopedia. Retrieved December 26, 2023, from <https://www.investopedia.com/terms/g/green-bond.asp>
8. Green finance is gaining traction for net zero transition in India. (n.d.). Retrieved December 27, 2023, from https://www.ey.com/en_in/climate-change-sustainability-services/green-finance-is-gaining-traction-for-net-zero-transition-in-india
9. Green Finance-Meaning, Objectives & Climate Financing for UPSC. (n.d.). Testbook. Retrieved December 22, 2023, from <https://testbook.com/ias-preparation/green-finance>
10. India incorporates green bonds into its climate finance strategy. (2023, June 12). <https://blogs.worldbank.org/climatechange/india-incorporates-green-bonds-its-climate-finance-strategy>
11. Landscape-of-Green-Finance-in-India-2022-Full-Report.pdf. (n.d.-a). Retrieved December 22, 2023, from <https://www.climatepolicyinitiative.org/wp-content/uploads/2022/08/Landscape-of-Green-Finance-in-India-2022-Full-Report.pdf>
12. Landscape-of-Green-Finance-in-India-2022-Full-Report.pdf. (n.d.-b). Retrieved December 26, 2023, from <https://www.climatepolicyinitiative.org/wp-content/uploads/2022/08/Landscape-of-Green-Finance-in-India-2022-Full-Report.pdf>
13. Rasoulinezhad, E., & Taghizadeh-Hesary, F. (2022). Role of green finance in improving energy efficiency and renewable energy development. *Energy Efficiency*, 15(2), 14. <https://doi.org/10.1007/s12053-022-10021-4>
14. Sarangi, G. K. (n.d.). Green energy finance in India: Challenges and solutions.
15. Soundarrajan, P., & Vivek, N. (2016). Green finance for sustainable green economic growth in India. *Agricultural Economics (Zemědělská Ekonomika)*, 62(1), 3544. <https://doi.org/10.17221/174/2014-AGRICECON>.

