

# Green–Finance in India: Challenges and opportunities

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DOI: 10.52984/ijomrc1207

## Abstract:

*In recent era our country is more focusing on economic development without considering the environmental changes and sustainable development. Recently entire world suffering from environmental pollution and pandemic, climatic changes. It is the late time to focusing on coping with climate changes, reduce the environmental pollution and creating pleasant co-existence between people and nature to have a sustainable development of the global economy and society. The term green finance consist of the words “Green” and “Finance” both of which are controversial issues. Green finance is the innovative financial pattern adopted by the country to integrate environmental protection with economic development and profit. In this study the researcher’s focusing on the recent trends, opportunities, challenges, various investments avenues of Green Finance in India and to analyze in the path of green Finance and to know the target achieved till date from the initiative taken by the Indian Government of India. The National Government can support the cities by increasing the funding which suites the energy saving and also locally administrated. The Government can be finally sound and innovative programmes and also environmentally good in the Practice of Purchasing the green procurement. But also the climate sources of energy plays a vital role. From the analysis it is clear that India has to focus more on the green finance and have to contribute more to infrastructure funding to attain the sustainable development goal.*

**Keywords:** Renewable Resources, Green Investment, Green-Bounds, Green-Indices.

“Green Finance” is a board term that can refer to Financial investment, flowing into Sustainable Development Projects and Initiatives, environmental Products and Policies that encourage the development of a more sustainable economy. Green Finance include climate Finance but is not limited to it. It also refers to a wider range of other environmental objectives.

The Financing of Public and Private green investments (including preparatory and capital costs) in the following areas:

- Environmental goods and services (such as water management or protection of biodiversity and landscapes)
- Prevention, minimization and compensation of damages to the environment and to the climate.

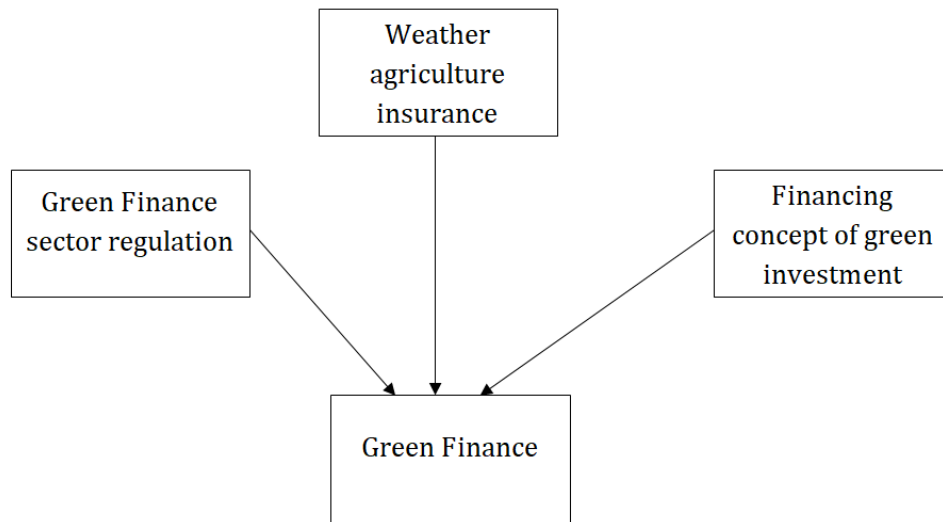
Components of the financial system that deal specifically with green investments, such as the Green Climate Fund or Financial instruments for green investments (e.g. green bonds and structured green funds) including their specific legal, economic and institonal framework conditions.

As climate change has a drastic cause and effect relationship with agriculture and rural development

activities, it has been recognised that activities like forestry, agriculture and other land use activities, viz..... daily, soil conservation energy use practices, use of renewable energy etc. have tremendous potential for reducing emission of GHGs. NABARD to address the issue of precious natural resources viz..... land and water had organised a workshop for bankers and other stakeholders on the theme of “opportunities in Green Finance”. Number of issue pertaining to opportunities in “Green Finance”. Number of issue pertaining to opportunities in Green Finance were deliberated and the workshop threw up several action points for various agencies, which need to be addressed urgently climate change and agriculture were interrelated and climate change may have significant effects on crop production and food availability. It is speculated that by 2050, there would not be any glaciers in the world. The melting of ice would result in frequent floods and significant rise in sea-level etc. It is estimated that transitioning to a low carbon and climate resilient economy and more broadly greening growth. over the next 20 years will require significant investment and consequently private sources of capital

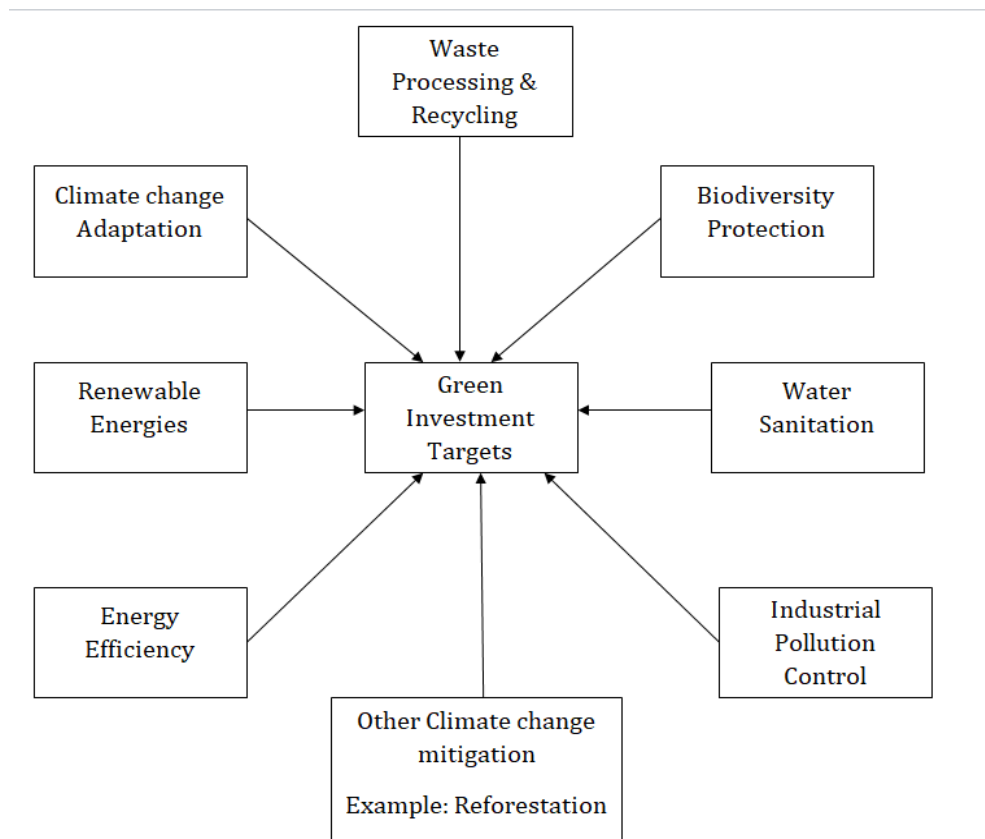
on a much larger scale than previously-particularly given the current state of government finances. Government policies are therefore needed to support the commercialization of new technologies and to correct market failure through carbon. In addition government

and multinational agencies can use so-called “Public Finance Mechanisms” to provide covers for risks which are new to Pension Funds or can not be covered in existing markets.



Source = “Author’s Illustration”

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"Green investment include climate investment"  
Source = "Author's Illustration"

### Attractive Green Finance Indices

Green Indices would identify and pool companies with solid environmental performance or in the green energy generation sector or on the basis of other "green" criteria. They can provide both a benchmark for green performance of companies in general as well as a benchmark for the Financial Performance of low carbon companies. It can be classified into these types they are:

- Tracking of companies performance in the environmental set and social governance which participates to be the best.
- The conceptual work of economic performance of companies with a specific sector. This is said to be as thematic indices.
- The conventional indices that give companies weights according to the climatic condition. The green indices offer (A). Diversification potential (B). Quality control (C). Screening on the basis of the number of green criteria (D). Aggregation of small green investments into large investment opportunities.

### Green Bonds

Green Bonds is a debt instrument that is specially reserved to raise money for climate and environmental projects. In 2009, the first official Green Bond was released by the World Bank. A Green Bond is a type of fixed income instrument that is specifically earmarked to raise money for climate and environmental projects. These bonds are typically asset-linked and backed by the issuing entity's balance sheet. So they usually carry the same credit rating as their issuer's other debt obligations.

Dating back to the first decade of the 21<sup>st</sup> century, Green Bonds are also referred to as climate bonds.

- Green Bond is a fixed income instrument designed specifically to support specific climate-related or environmental projects.
- Green Bonds typically come with tax incentives to enhance their attractiveness to investors.

- Around \$ 157 billion worth of Green Bonds were issued in 2019.

RATING OF BONDS	AAA	AAA	BB – CCC	AAA-BBB
RETURN OF BONDS	FIXED	FIXED & EQUITY	FIXED	FIXED

**Green Products/Services**

S. No.	GREEN PRODUCT	SERVICES
1.	Green Saving Products	
2.	Energy Efficient Mortgages	Loans for conversion of vehicles to cleaner fuels Offer larger mortgages to individuals who have low energy cost
3.	Alternative fuel conversion	Loans for conversion of vehicles to cleaner fuels
4.	Environmental Technology Leasing	Provide business leases for green technology
5.	Home Office Conversion Loan	Loans for seeking to start home working
6.	Community Housing Loan	Loans for communal housing facilities
7.	Environmentally Sound Construction	Provide lending at favourable terms for such activities Loans for efficient improvements
8.	Energy Efficiency Loans	Loans for combined transparent services equivalent to but cheaper than a private car
9.	Private Transport Finance Packages	Green Saving Accounts for children
10.	Green Children Accounts	Saving Product where the money is invested in “Green” Projects
11.	Green Investment Products	

India’s Energy Sector is experiencing a transition with increasing penetration of renewable energy in the energy mix. One of the major impediments in the process of such a transition is to secure the necessary finance to achieve the transformative goal of producing 175 giga watts of renewable by 2022. While India’s

energy sector is one of the fastest growing in the world and has attracting substantial investments meeting the country’s climate goals will require proportionate, transformative investment increase at sectoral level. Strong financial support and timely policy interventions from the Government of India have played a

crucial role in accelerating the growth of the country's renewable energy sector. But given current rates of penetration and the overall health of the sector combined with slowdown created by the COVID-19 pandemic, the government will have to find new and alternative ways to finance the transition and incentivize private sector participation to scale up investments for a sustainable and transformational impact. The fact that green investments are overwhelmingly preferable from a social perspective, the odds in the real world is stacked against them. In order to execute them the four main factors are:

- The return on green investment (we would want to increase this)
- The perceived risk of green investment (we need to reduce this)
- The return on dirty investment. (we would like this to fall)
- The perceived risk of dirty investments. (We want market sectors to factor in higher risk)

The poor investments are under price risk in coal fired power plants and even in gas turbines start to breakdown. This leads to a serious under estimation of price risk for dirty projects and means that far too much dirty investments than in financially sensible goes through. This Green House gas emissions drive climate change which is overwhelmingly harmful. The average carbon molecule stays in the atmosphere for around 200 years or so and it is the stock of GHG gases that drives global warming. Those emitting GHG gases now are also inflicting a cost on future generation so they also impose an inter temporal externality. The climatic risk will not be borne by the investor at any chance of time in green investment, climatic risk refers to both the impact that climate change itself might have on a business's physical assets, such as reduced agricultural productivity caused by a climate related disaster. But still some investors might come under this risk under due diligence for the long term investment. The climate risk of much form they are physical risk, information risk, cost risk, competitive risk, regulatory risk, reputational risk, climate litigation risk, awareness risk.

**Conclusion:**

**A successful Green Project Example = India**

India's energy supply is not able to keep pace with the high economic growth rates in the country. This results in persistent power shortages and frequent power cuts. In order to minimize import dependency in the conventional energy sector, the Indian Government is increasingly focusing on strategies for enhancing energy efficiency and utilizing renewable resources. The main emphasis here is on Micro, Small and Medium Enterprises schemes (MSMEs), because of their great importance for the Indian economy and in light of their huge potential for increases in efficiency. Energy efficiency in particular is often neglected by MSMEs due to limited access to technical know-how and appropriate financial products. On behalf of the German Federal Ministry for Economic Cooperation and Development's Is tapping into these potentials by providing industrial MSMEs in selected regions of India with access to advisory services, training and financial schemes that enable them to implement energy efficiency measures. This allows the companies to increase their competitiveness and simultaneously reduce their negative impact on the environment. The project pursued an integrated approach to scale up energy efficiency measures in the sector by developing and implementing a specific energy efficiency loan concept with the Small Industries Development Bank of India (SIDBI) and The State Bank of India (SBI) that is complemented by training on sustainability measures for MSMEs. In this way it makes a contribution to growth and environmental sustainability in the Indian MSME sector.

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