

A STUDY ON GREEN FINANCING PROGRESS IN INDIA

**Dr. GURUMURTHY K H¹, SMT. NEELAMMA K A
SATHYANARAYANA SHETTY², Dr. NAGARAJU G H³**

¹Associate Professor of commerce & in-charge principal

²Govt. First Grade College Kudur , Magadi (Tq) Ramanagara
(dt) 561101 Affiliated to Bangalore University

³Prof. of Commerce & HOD of commerce

Govt. First Grade College, Channapatna, Ramanagara (dt)
Affiliated to Bangalore University

KEYWORDS

Green financing,
sustainable
development,
projects, technology,
environment,

ABSTRACT

Environmental pollution is a severe challenge to human existence and comfortable living now a-days. Global climate change has become a great concern globally from the last few decades. Indian banks promoting green finance and supporting the country's sustainable development goals. Green financing involves funding eco-friendly projects, supporting renewable energy endeavours. social responsibilities and innovative green financial products and services to reduce carbon footprint and minimize waste. It represents an intelligent and forward-thinking mindset focused on envisioning sustainable futures. The purpose is to utilize the resources through recycling processes, paperless banking, technological devices, electronic (e) - banking services. Banks can play a proactive role to pursue environment friendly and ecologically congenial lending principle, which would force industries to go for investment to enhance environmental management, green factories, green technologies, use of pro- environment technologies and management systems. It serves both the commercial objective of the bank as well as its corporate social responsibility. Indian banks have launched various green finance initiatives to support environmentally friendly projects such as Green Banking, Sustainable Finance, Green Bonds and Renewable Energy. The study, being descriptive and analytical in nature, by using both primary and secondary data. Data analysis has been done qualitatively and quantitatively using statistical tools presented in table and charts

1. Introduction

Green Finance - the financial instruments and mechanisms that support investments in environmentally friendly projects and initiatives. In India, banks play a significant role in promoting green finance and supporting the country's sustainable development goals. So, bank financing, if at least a portion of it is used in green projects, would contribute to environmental up-gradation and global climate change mitigation. In India both public and private sector banks have increasingly adopted this concept and have significantly altered their operational processes to support and funded projects

like renewable energy projects- windmills, biomass project and generation of solar electricity.

In the developed countries a good number of banks are committed to work to save the earth by taking encouraging socially responsible business practices. In the world many developing countries green banking practices is yet to come in practice. For example, some banks of the (USA) united state of America and the (EU) European union are very active among the banks in the green initiative to protect the environment. The leading banks are extending their credits to the customers who have undertaken the green projects. All the countries across the world ensures that Zero carbon emission by 2050.

Public policy in India on Green initiative-

India has started on green finance as early as 2007. In December 2007, the Reserve Bank issued a notification on “Corporate Social Responsibility, Sustainable Development and Non- financial Reporting – Role of Banks” and mentions the importance of global warming and climate change in the context of sustainable development.

In 2008, The National Action Plan on Climate Change (NAPCC) was formulated with a vision to outline the broad policy framework for mitigating the impact of climate change.

In 2011 The Climate Change Finance Unit (CCFU) was formed within the Ministry of Finance as a coordinating agency for the various institutions responsible for green finance in India.

In 2012 the major strategic moves implementation of the sustainability disclosure requirements.

Since 2012 Security and Exchange Board of India (SEBI) made it mandatory for top 100 listed entities based on market capitalization at BSE and NSE to publish annual business responsibility reports

In May 2017, SEBI issued guidelines for green bond issuance specifying the disclosure requirements. In addition, the Ministry of Corporate Affairs imposed mandatory reporting of the progress on Corporate Social Responsibilities (CSR) under the Companies Act, 2013.

In October 2017, Report of the Committee on Corporate Governance has proposed that the board of directors shall meet at least once a year to specifically discuss strategy, budgets, board evaluation, risk management, ESG and succession planning.

Financial Incentives by Government of India

financial incentives introduced in India. These incentives are in line with India’s commitments under the 2015 Paris Agreement to reduce greenhouse gas emission intensity by 33 to 35 per cent below 2005 levels, and to achieve 40 per cent of installed electric power capacity from non-fossil sources by 2030

The Government of India (GOI) offers 30 per cent of the installation cost of the rooftop solar panels as subsidy to the institutional, residential and social sectors in most states. In some of the special category states, the subsidy is up to 70 per cent of the installation cost. In addition, beneficiaries can avail a generation-based incentive wherein they can receive Rs 2 per unit of generation, if the generation exceeds 1100kWh -1500kWh per year. Further, the excess power can be sold at a tariff set by the government.

The Reserve Bank has also been taking proactive policy measures to promote and support green finance initiatives. It has included the small renewable energy sector under its Priority Sector Lending (PSL) scheme

Government Initiatives- Considering the above initiatives, we will assess the progress of green finance in India, including the general awareness environmental sustainability. From the above mention data, it is clearly state that India focusses the major green in initiative are mentioned below

- **National Action Plan on Climate Change (NAPCC):** Outlines India's strategy for addressing climate change.
- **National Solar Mission, National Wind Energy Mission:** Promote renewable energy deployment. Aiming for 450 GW of solar energy by 2030.
- **Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) Scheme:** Incentivizes EV adoption.
- **Green Bond Guidelines:** SEBI has issued guidelines for the issuance of green bonds.
- **India Renewable Energy Development Agency (IREDA):** A dedicated financial institution for renewable energy projects.
- **National Clean Energy Fund (NCEF):** Finances clean energy projects.
- **Sovereign Green Bonds:** Issuance of sovereign green bonds to fund green projects.

As announced by central Government, India is committed to achieve the Net Zero emission target by 2070. The study attempts to explore the landscape of green finance in India, focusing on its relevance, progress and future projects

Green Finance Initiatives in India

Both Government and private sectors in India have launched various green finance initiatives to support environmentally friendly projects. SBI was the first bank in India to install windmills to generate green energy. Some of the notable initiatives include:

- 1) **Green Banking:** Many Indian banks have adopted green banking practices, which involve reducing their environmental footprint and promoting sustainable banking practices.
- 2) **Sustainable Finance:** Indian banks have launched sustainable finance initiatives, which involve providing financial support to environmentally friendly projects
- 3) **Green Bonds:** Indian banks have issued green bonds to raise funds for environmentally friendly projects.
- 4) **Renewable Energy Financing:** Indian banks have launched renewable energy financing initiatives to support the development of renewable energy projects in India.

2. Review of literature –

It focused on different past studies on green financing, that were analysed with a view to realize the key findings and to identify the gaps

¹**Volz, U. (2018)**, “Fostering green finance for sustainable development in Asia”, ADBI Working Paper Series (814) described that for survival and better live, environmental management should be in a sustainable

²**Reddy, A. S. (2018)**, “Green Finance- Financial Support for Sustainable Development”, International Journal of Pure and Applied Mathematics, 118(20), 645-650. He opined that eco-friendly financing which will have significant positive impact on environment

³**Rahman and Zareen. 2014**. They mentioned that for successful green banking an isolated effort by banking community may not bring much. All stakeholders need to be proactive and change mindset for sustainable development.

⁴**Vikas Nitin Nayak & Ankil Goel. 2014**. They Described that climate change issue is a complicated issue for the world. People should give more priority on this issue. For survival and better live, environmental management should be in a sustainable manner.

⁵**Jena, 2020** The author speaks about India has committed to reducing the carbon intensity of its GDP by 33-35 percent by 2030, it will need to raise \$2.5 trillion between 2016 and 2030. Climate-related investments, both governmental and private,

3. Objective of the study

- 1) To find out the present status of green financing in India

4. Hypothesis development for the Study

- 1) **Null Hypothesis** -Ho¹: Regulatory framework and the role of Regulatory Authority for green financing in India are inadequate

Alternative Hypothesis-H1¹: Regulatory framework and the role of Regulatory Authority for green financing in India are adequate

The following two Variable identified for testing the hypothesis

Variable 1: Perception of Regulatory Clarity (Scale: 1-5, 1=Very Unclear, 5=Very Clear)

- It measures how clear stakeholders perceive the regulations to be. lower score indicates a less clear and potentially inadequate framework.

Variable 2: Level of Regulatory Enforcement (Scale: 1-5, 1=Very Weak, 5=Very Strong)

- It measures the perceived strength of enforcement. Weak enforcement can contribute to inadequacy

5. Research methodology of the study-

- a) **Source of data** -My study-based on both primary and primary
- b) **Primary data:** collected from the respondents by administrating structure questionnaires
- c) **Sample size:** 50 Respondents consists of students, professionals, and industrialist

- d) **secondary data.** collected from various sources such as the banks official website, annual reports, sustainability reports, articles, RBI reports, climate Policy Initiative (CPI) SEBI guidelines etc.
- e) **Analysis of data-** Collected Data tested by using statistical tools - SPSS -inferential statistics and presented in tables and charts

Finding of the Study

1) To find out the present status of green financing in India-

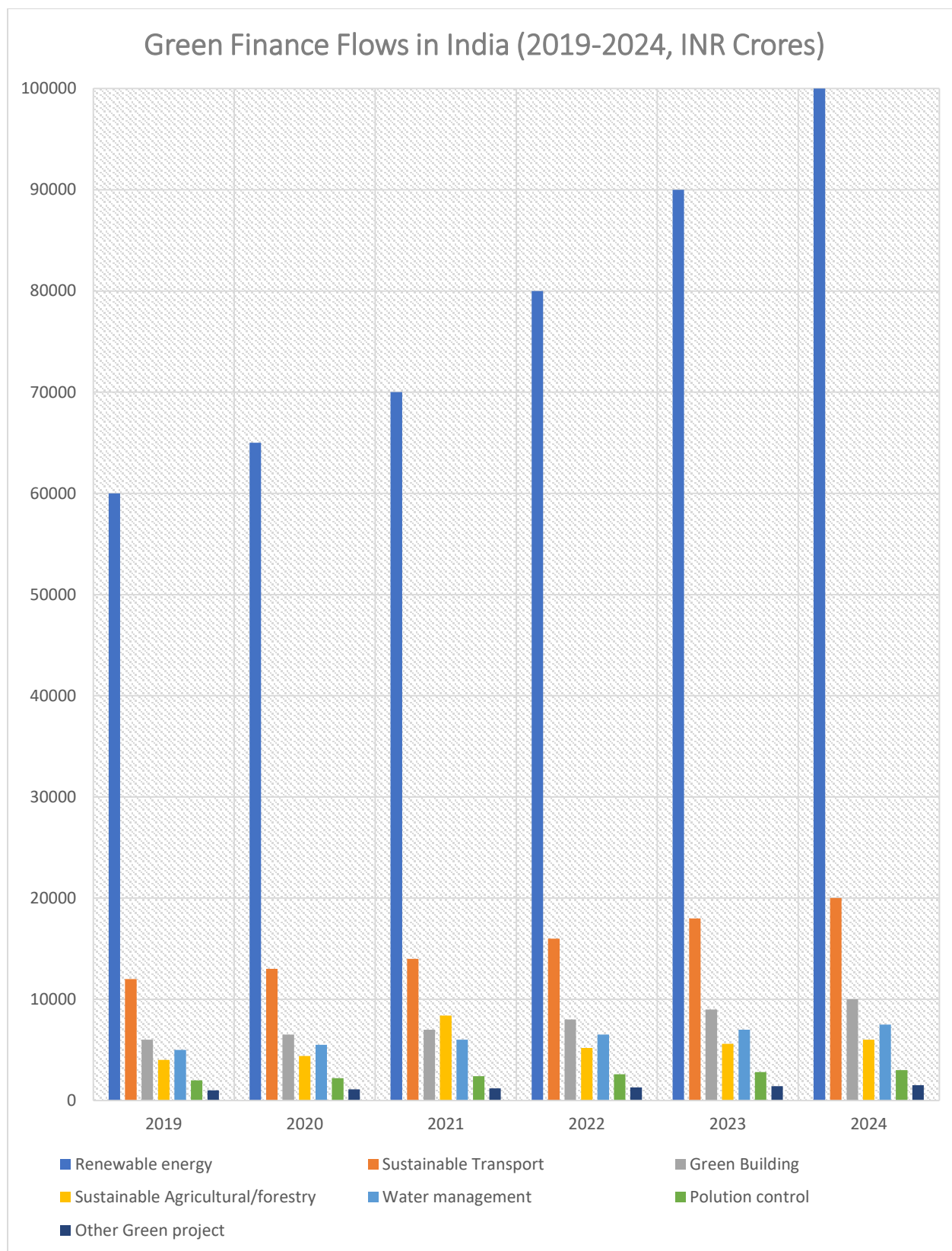
India has been actively advancing its green finance initiatives to meet ambitious climate goals, including achieving net-zero emissions by 2070.

Table 01
Green Finance Flows in India (2019-2024, INR Crores)

Sector/Category	2019(INR Crores)	2020(INR Crores)	2021(INR Crores)	2022(INR Crores)	2023(INR Crores)	2024 (INR Crores)
Renewable Energy	60,000 - 75,000	65,000 - 80,000	70,000 – 85000	80000 - 95000	90000 - 110000	100000 - 125000
Sustainable Transport	8,000 - 12,000	9,000 - 13,000	10,000 – 14000	12,000 - 16000	14,000 - 18,000	16,000 - 20,000
Green Buildings	4,000 - 6,000	4,500 - 6,500	5,000 - 7,000	6,000 - 8,000	7,000 - 9,000	8,000 - 10,000
Sustainable Agriculture	2,000 - 4,000	2,200 - 4,400	2,400 - 4,800	2,600 - 5,200	2,800 - 5,600	3,000 - 6,000
Water Management	3,000 - 5,000	3,300 - 5,500	3,600 - 6,000	4,000 - 6,500	4,400 - 7,000	4,800 - 7,500
Pollution Control	1,000 - 2,000	1,100 - 2,200	1,200 - 2,400	1,300 - 2,600	1,400 - 2,800	1,500 - 3,000
Other Green Projects	500 - 1,000	550 - 1,100	600 - 1,200	650 - 1,300	700 - 1,400	750 - 1,500
Total	78,500 - 105000	85,650 - 112700	92800- 120200	105550- 134600	120,300 - 151,800	134,050 - 173,000

Data Table 01-Compilation by the Author

Data Source: Secondary data- Annual report from private & Public sector Banks, RBI Report, Govt. and State-owned enterprises, green bonds etc



Chi-Square for Dependence Testing Hypothesis

Perception of Regulatory Clarity and level of Regulatory enforcement

	Level of Regulatory Enforcement Data Table				Total
	1.00	2.00	3.00	4.00	
1.00	1	0	0	0	1
Perception of Regulatory Clarity 2.00	2	1	3	3	9
3.00	0	6	3	6	15
4.00	0	4	10	11	25
Total	3	11	16	20	50

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
: Perception of Regulatory Clarity * Level of Regulatory Enforcement	50	100.0%	0	0.0%	50	100.0%

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
: Perception of Regulatory Clarity * Level of Regulatory Enforcement	50	100.0%	0	0.0%	50	100.0%

Test Statistics

	: Perception of Regulatory Clarity	Level of Regulatory Enforcement
Chi-Square	24.560 ^a	12.880 ^a
Df	3	3
Asymp. Sig.	.000	.005

P' value interpreted as under

- (a) NS= Not significant-if P value is greater than 0.05,
- (b) Sig= significant if P value is between 0.01 and 0.05,
- (c) HS=highly significant-if P value is between 0 and 0.01,
- (d) Conclusion is drawn on the basis of P value

The analysis from the above chi-square test reveals that, perception of regulatory clarity computed P value 24.560 which is above the standard/table P value 0.000 (P=.000) HS, indicates that there is highly significant, in terms of, “perception of regularity clarity” hence,

Null Hypothesis is rejected and accepted alternative is hypothesis.

The “Level of regulatory enforcement” computed P value 12.880 which is above the standard/table P value 0.005 (P=.005) HS, indicates that there is highly significant, in terms of, “level of regularity enforcement” hence, Null Hypothesis is rejected and accepted alternative is hypothesis.

Table-01 – Findings of the study	
Categories	Findings from the above table and charts
1. Renewable Energy	The trends of investment in renewable energy from 2019-2024. The trend indicates that increasing in investment in renewable energy. This would be the largest component. Includes solar, wind, biomass, small hydro. Based on various reports on renewable energy investments
2. Sustainable Transport	The trends of investment in sustainable transport from 2019-2024. The trend indicates that increasing in investment in renewable energy Includes investments in electric vehicles, public transportation projects (metros, buses), and related infrastructure.
3. Green Buildings	Investments in energy-efficient buildings, green building materials, and related projects.
4. Sustainable Agriculture/ Forestry	Investments in organic farming, sustainable forestry practices, water conservation in agriculture, and related areas
5. Water Management & Sanitation	Investments in water treatment plants, sanitation projects, and water conservation initiatives.
6. Pollution Control	Investments in projects aimed at reducing air and water pollution, waste management, and related technologies.
7. Other Green Projects	Includes smaller investments in areas like biodiversity conservation, eco-tourism, and climate adaptation projects.

Key Observations from the study

- 1. Growth Trajectory:** Green finance in India is expected to continue to grow significantly over the period.
- 2. Renewable Energy:** Renewable energy will likely remain the largest recipient of green finance, driven by India's ambitious renewable energy targets.
- 3. Sustainable Transport Surge:** The electric vehicle (EV) sector is expected to see substantial growth in investments.
- 4. Policy Support:** Government policies, including subsidies, tax incentives, and regulations, play a crucial role in driving green finance.
- 5. Private Sector Engagement:** The private sector is increasingly becoming a significant source of green finance, driven by both financial and reputational considerations.
- 6. Green Bonds:** Green bond issuances are expected to increase, providing a dedicated source of funding for green projects.

Conclusion

Green finance is an essential component of sustainable development, and Indian play a crucial role in promoting green finance. Despite the challenges, Indian public and private sectors have made significant progress in promoting green finance

Reference

1. B.S, K. (2013). A Study on Emerging Green Finance in India: Its Challenges
2. Chitra, V. (2020). Green Banking Trends: Knowledge and awareness. International Journal of Management
3. Ghosh, A. (2021). Making India a hub of sustainability financing.
4. Sharma, N. (n.d.). A study on customer's awareness on Green Banking initiatives.
5. Reports-RBI, SEBI, Banks, IBA and Annual economic survey report