International Journal of Advances in Business and Management Research (IJABMR)
https://doi.org/10.62674/ijabmr.2025.v3isupp1.002
https://ejournal.svgacademy.org/index.php/ijabmr/

OPEN ACCESS

ANALYSIS ON GROWTH OF SUSTAINABLE FINANCE BUILDING THE FUTURE OF MONEY

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Original Article

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Abstract

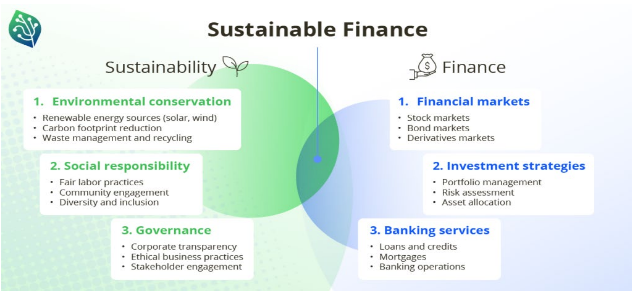
Sustainable finance plays a vital role in the development of the country. Sustainable finance is associated with ESG factors (environmental, social, and governance) and financial performance (financial markets, investment strategies, and banking services). This study explores various trends in sustainable finance, including green bonds. The study examines various aspects of sustainable finance growth, including carbon pricing, financing transitions, ESG funds, and additional related topics. It also studies trends in sustainable finance, starting from green investing activities to A.I. in sustainable finance. It also studies the timeline of sustainable finance. The objectives of the study focus on examining the evolution of sustainable finance. The study aims to examine the emerging trends in sustainable finance. Study the growth of sustainable finance in the future. Methodology Secondary data is used in various reports, articles, research projects, content analyses, case studies, and many more. Descriptive research is used for this study. This study explores the timeline of sustainable finance. This study examines various trends in sustainable finance and its future prospects.

Keywords: ESG (Environment Social Governance); Financial Performance; Sustainable Finance

Introduction

Sustainable finance has become very well-known globally recently. It has improved the understanding of a company's financial performance in relation to ESG factors (refer to Figure 1). With sustainable finance, investors can confidently make decisions without having to choose between profits and environmental concerns [1]. It mostly concentrates on ESG factors; the environmental aspect focuses on reducing carbon footprints, managing waste, and promoting recycling. Social factors focus on fair labour practices, as well as diversity and inclusion. Governance is concerned with ethical business practices, transparency and accountability, and stakeholder engagement.

Figure 1: Sustainable Finance



Source: Aquila [2]

Received 3rd June 2025; Revised 11th June 2025; Accepted 30th June 2025

Finance can take various forms, such as stocks or bonds. Investments Managing risk and allocating assets are crucial aspects of finance. The banking sector manages loans, microloans, funds, and operations. For any organisation, maintaining a balance between sustainable finance and financial performance is crucial for creating a better sustainable environment in the future and for developing the economy into a green one [3].

Research Objectives

1. To study the evolution of sustainable finance
2. To study trends in sustainable finance
3. To study on Growth of sustainable finance in Future

Literature Review

This study explains the challenges, barriers, and growth of sustainable finance in India. Integrating sustainability principles and ESG factors would yield significant benefits for investors, companies, the government, and the economy. The study has been conducted by using descriptive statistics and empirical analyses [4].

According to Agrawal and Mukti [5], green finance includes initiatives in India. The Indian economy confronts various challenges. It also talks about a low-carbon economy. Sociopolitical barriers, Data and transparency issues were given a clear discussion.

The authors of the article are Naeem et al. [6]. This article studies sustainable financial investments, specifically focusing on India. They have explored leading financial investors in India, like SBI, Axis, Kotak, and many others, for ESG funds. They have explained clearly how, sector-wise, ESG funds can be distributed in financial institutions in India.

According to Das [7], this study focusses on ESG bonds in India. Green bonds from an Indian perspective have been extensively explored. It also studies the regulatory framework for green bonds in India.

Jawadi et al. [8], this paper explores long-term business growth with sustainable finance. This paper explores the integration of ESG factors with financial practices. The analysis was designed according to the theory of planned behaviour. It discusses the challenges and provides ways to implement these strategies in India.

Methodology

This paper employs Descriptive research. Secondary data is used in a wide range of publications and reports from various financial sources relevant to Sustainable finance. The literature was collected from various journals from Scopus, Web of Science, JETIR, IJCRT, ResearchGate and the financial world. The study period, which spans from 2021 to 2025, focuses on GRI, CSR, SDGs, green bonds, and ESG funds. The timeline of sustainable finance is explained in the form of a table. Sustainable development growth is explained by taking Indian banking financial institutions for the sectoral distribution of ESG funds. The Ministry of Environment, Forestry, and Climate Change, India, has released a report on greenhouse gas emissions. India Sustainable Finance Market Forecast: The IMARC report indicates that India is experiencing significant profits from sustainable finance. This study is on secondary data; various sources have been used to know about Sustainable Finance and Trends in Sustainable finance in the future to build a sustainable environment (refer to Table 1).

Evolution of sustainable finance

Table 1: Evolution of Sustainable Finance

Timeline	Evolution of sustainable finance
1960's-1970's	Ethical investing
1980's-1990's	CSR

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1990's-2000	GRI
2000-2010	UN principles for responsible investment Green bonds SDG'S
2020-beyond	ESG Integration Regulatory changes Innovation in Sustainable finance instruments

Source: Collected by the Author

Result and Discussion

Ethical Investing-1960's-1970's

It is also known as sustainable or socially responsible investing. It primarily considers three important factors: Environmental, Social, and Governance, which contribute to a company's growth and enhance its financial performance. SRI (Social Responsibility Investing) focuses on the operations that impact society and the environment [9]. It involves both positive and negative screening. Positive screening refers to investing in activities that contribute to societal growth, such as healthcare and education. Negative screening excludes companies involved in tobacco and weapons. Ethical investing is also based on the personal values of the investor who will not think about financial profits. Limitations of ethical investing may include a lack of standardisation and limited investment options. One important part of Ethical investing is balancing financial and ethical considerations.

CSR (Corporate Social Responsibility)- 1980's-1990's

Corporate social responsibility is the obligation of businesses to positively contribute to society, people, and the planet by utilising their resources for the development of both society and the country. They follow the concept of the triple bottom line; it says that they must not only generate profits with our financial performance. Basically, 3 p's are used: profit, people, and planet. Further, they are divided into environmental sustainability, Ethical sustainability, Philanthropic sustainability, and Economic sustainability. CSR is an important goal for every organization— to contribute to and develop the economy and country [10].

GRI (Global Reporting Initiative)-1990's-2000

Governments, stakeholders, companies, and other entities need consistent data presented in reports to gain a clear understanding. They have built many regulatory bodies to maintain standards and improve transparency and accountability in reports [9]. It was mostly used to organise environmental, social, and governance data in the form of reports for standard regulatory bodies.

These reports also assist investors and others in making decisions.

2000-2010

UN principles for responsible investment

These voluntary guidelines are designed to assist the government, investment institutions, and organizations— as well as investors, in addressing ESG factors. These guidelines will help companies address ESG factors such as climate change, human rights, water and energy intensity, and labour force issues. Concentrate on how the company can enhance returns, improve risk management and reputation. UNEP FI was playing a crucial role.

Green bonds

The government or any other financial institutions provide bonds to the investors only for the green projects. These bonds contribute to the growth of environmental sustainability. The projects must include Renewable Energy Projects, Energy Efficiency Initiatives, Pollution Prevention, Clean Transportation. It can also be called debt security. It is an excellent way to balance finance and environmental issues. It can also provide tax incentives for the investors [10].

It has been rapidly growing for the past few years.

SDGs (Sustainable Development goals)
These goals were developed by the UN in 2000; they only developed eight Millennium Development Goals; later, they made 17 SDGS for the development of nations. These goals are helpful for both developing and developed nations to achieve future sustainability. The Paris agreement was made in 2015 (refer to Figure 2).

Figure 2: Sustainable Development Goals

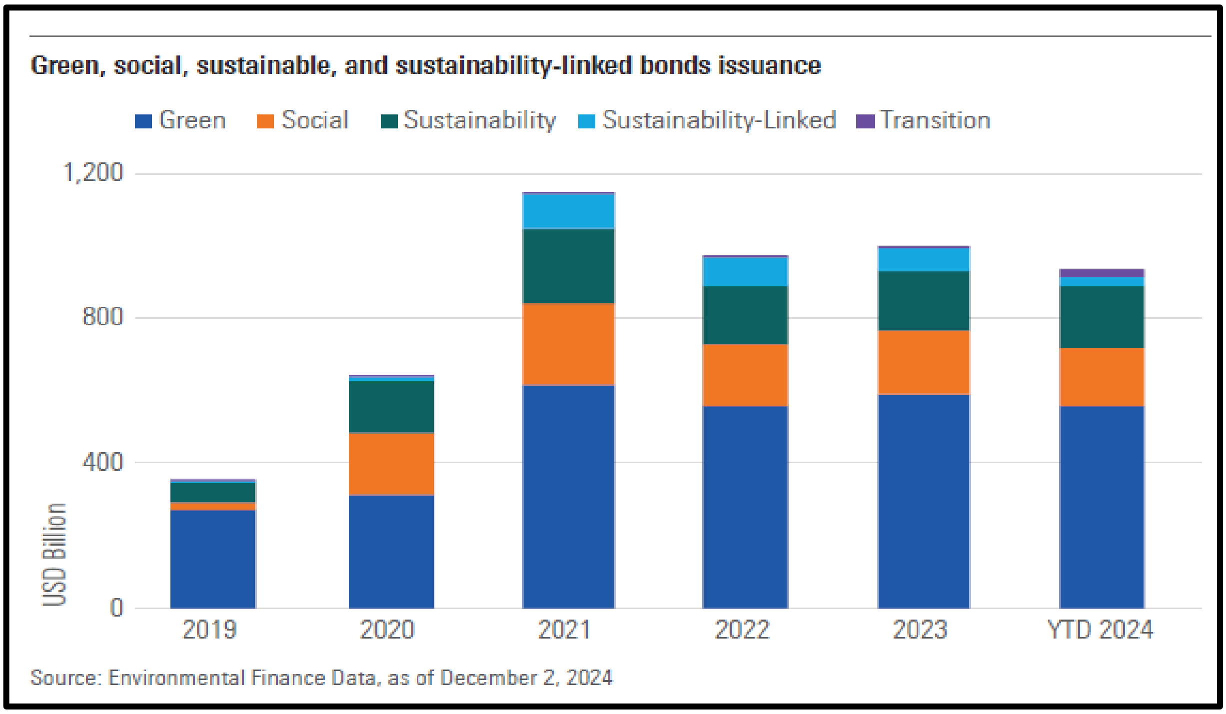
Source: National Geographic [11]

2020-Beyond
Sustainable finance instruments are experiencing a surge in innovation. Technology is advancing rapidly, and numerous changes are occurring in sustainable finance. Artificial intelligence is significantly transforming technology, while the encouragement of renewable resources and other initiatives is also contributing to this change. ESG integration has increased rapidly; every sector in the economy is encouraging ESG factors to integrate for future development and growth [11]. There are several regulatory bodies, like SEBI, BRSR, ESG Reporting, and many more, that have been improved and are changing the scenario of sustainable finance.

Trends in Sustainable Finance
Carbon pricing involves several gases being released into the environment, including carbon dioxide and other greenhouse gas emissions. It is causing several environmental issues, like climate change, among many others. A few years ago, this carbon price was charged to consumers and producers, but now it has been changed to the person who is manufacturing or involved in carbon pricing actions; they are the only ones responsible. They are classified into two types: Carbon Pricing and a cap-and-trade system. Government will permit only certain points of emissions; if they are crossed, strict action will be taken.

Green bonds are issued by the government or any other financial institution specifically for funding green projects. Green bonds contribute to the growth of environmental sustainability. The projects must include Renewable Energy Projects, Energy Efficiency Initiatives, Pollution Prevention, and Clean Transportation. It can also be called debt security [10]. It is an excellent way to balance finance and environmental issues. It can also provide tax incentives for the investors. It has been rapidly growing for the past few years. Below is a figure illustrating the EU market for green bond issuance (see Figure 3 below). In the past few years, there has been an increase in green bond issuance; they encourage green projects [12].

Figure 3: Green Social Sustainable and sustainability-linked bonds issuance



Source: Morningstar [13]

Sustainable finance growth is essential to balance financial performance with sustainability. Many financial institutions provide ESG funds, which have grown in popularity in recent times. Below is a table listing Indian financial institutions that provide ESG funds.

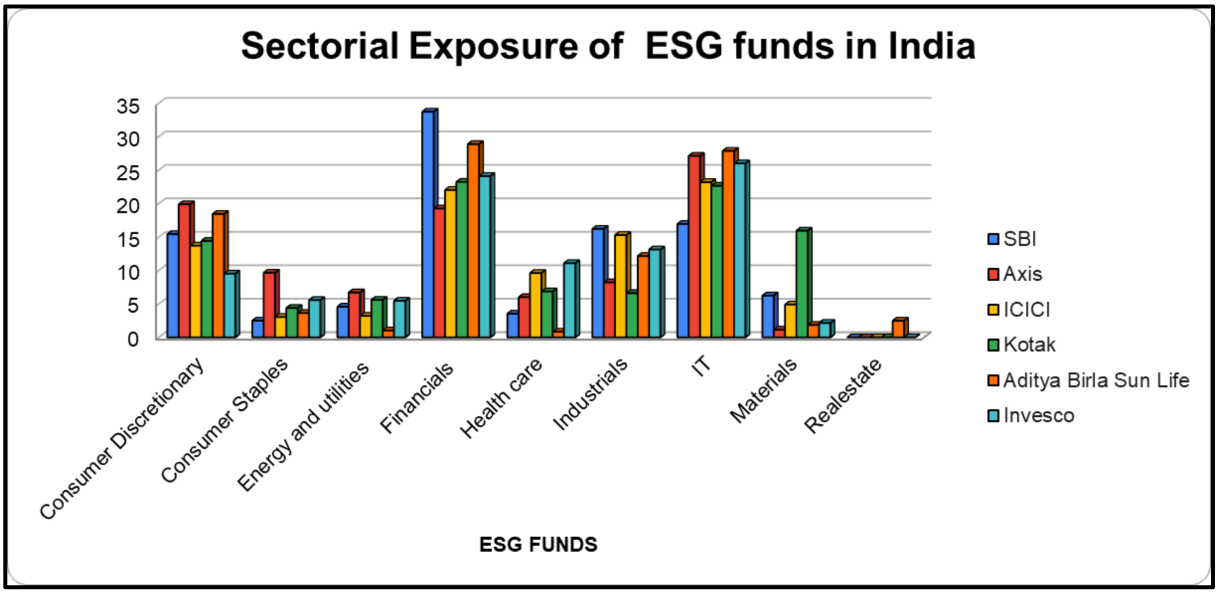
Table 2: Indian Financial Institutions providing ESG Funds

ESG Funds	Consumer Discretionary	Consumer Staples	Energy and utilities	Financials	Health care	Industrials	IT	Materials	Real estate
SBI	15.42	2.49	4.58	**33.72**	3.53	16.2	16.94	6.24	0
Axis	19.88	9.65	6.7	19.24	6	8.21	**27.11**	1.14	0
ICICI	13.7	3.04	3.21	22.01	9.61	15.29	**23.18**	4.9	0
Kotak	14.41	4.39	5.6	**23.22**	6.86	6.61	22.64	15.94	0
Aditya Birla Sun Life	18.43	3.64	1.02	**28.87**	0.84	12.15	27.86	1.86	2.48
Invesco	9.52	5.57	5.46	24.09	11.08	13.12	**25.99**	2.15	0

Source: Collected by author

From the above Table 2 it can be said that there are ESG funds that have been provided by SBI, Axis, ICICI, Kotak, Aditya Birla Sun Life, and Invesco financial institutions for different exposures among them SBI, Kotak and Aditya Birla Sun Life providing (33.72, 23.22, 28.87) on Financials. Axis, Invesco and ICICI are providing (27.11, 23, 18, 23, 18, 25.99) on IT below is the graph explaining the sectoral exposure of ESG funds in India by different financial institutions and banks (refer to Figure 4 below).

Figure 4: Sectoral Exposure of ESG Funds in India by Different Financial Institutions

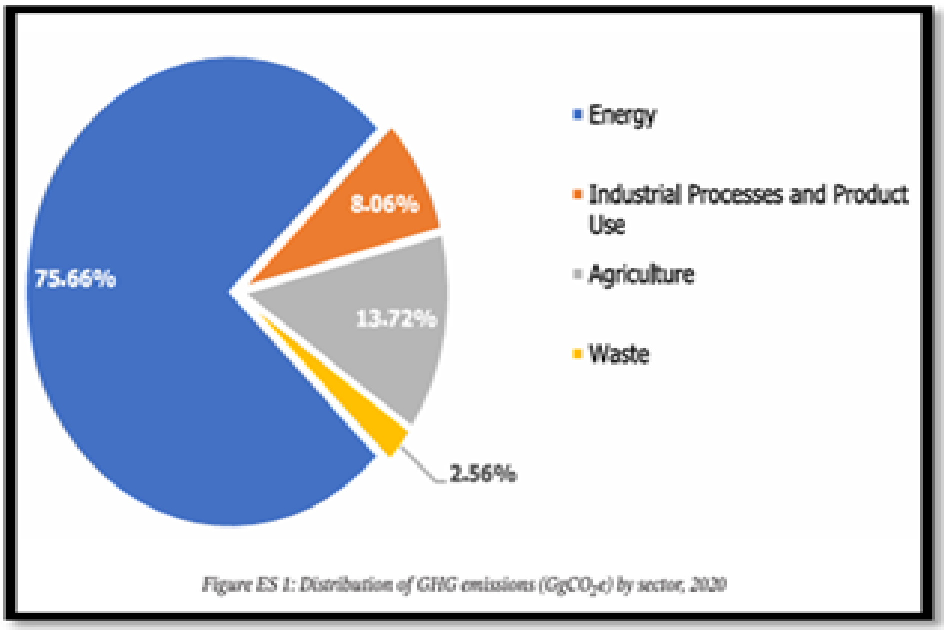


Source: Collected by Author

ESG integration in investment decisions requires a proper evaluation of ESG performance using the appropriate tools. Transparency, social responsibility, and accountability will be enforced by the organisation. ESG factors can be integrated into every aspect because it is important to save our environment [14]. This integration can assist investors by providing various reports and helping to maintain a balance between ESG factors and the company's financial performance.

Financing Transition is an activity that is financed to reduce emissions; it encourages renewable energy, a smaller carbon footprint, and other activities. Below is the figure that explains the distribution of GHG emissions: Energy contributes 75.66%, while processes and product use account for 8.06%. Agriculture accounts for 13.72% of the total emissions. 2.56% waste (refer to Figure 5 below).

Figure 5: Distribution of GHG Emissions



Source: Shan Karias Academy [15]

Impact Investing involves two approaches: socially responsible factors and ESG factors. It is an investment strategy that helps generate financial returns with positive social and environmental impacts. It could be any type of microloan, mutual fund, stock or bond.

Blended Finance gets different types of capital from various partners; it could be an advantage for investors and organisations in the form of fund and product capital. There could also be tax relief.

Sustainable Finance in technology is significantly influenced by advancements. Additionally, several effective technologies have been introduced in the field of AI. To enhance model efficiency, they are using pruning, quantisation, and knowledge distillation. The use of cloud-based technology has been integrated with sustainable finance ethics, which must be followed [16].

Adaptation to Climate Change – Every organisation wants to adapt to climate change; as they can see, there is global warming. It depends on local, national and global entities. These risks can be reduced by having green buildings in the form of infrastructure. Types of adaptation: proper balance in the ecosystem; they must be ready with fresh water, food, plants, flood management, and disaster management.

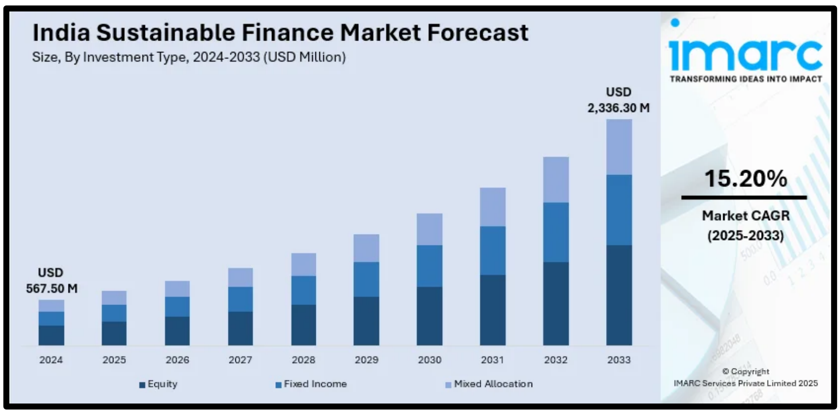
Sustainability Innovations – To support developing countries, they have adopted the SDGs framed by the UN, which include solar energy, green finance, a green economy, and green buildings; additionally, they need to follow a triple bottom line approach [16].

Development of Regulatory Bodies – There are several regulatory bodies for sustainable finance. The UN, GRI, SEBI, TCFD, ISSB and many other regulatory bodies are to be maintained; in the future, new ones may come. These regulatory bodies provide clear information and accurate data for sustainable finance.

Future of Sustainable Finance

1. It provides investors with a wide variety of investment options. Environmental, social, and governance activities
2. It creates huge job opportunities by encouraging new innovations in the sustainable market.
3. It also helps investors mitigate risks associated with ESG factors that can affect their financial performance.
4. It creates a sustainable economy that includes the use of renewable energy, waste management, and various other activities.
5. The financial performance of the companies can be improved by using ESG metrics and following ethical practices in sustainable finance.
6. Conducting a Climate Risk assessment could significantly enhance the understanding of climate-related portfolios and the impacts of climate change.
7. Encourage SDGS and Regulatory bodies to be strictly maintained for the development of the country.
8. Integration of technology: Currently, AI is actively utilising its large models trained on neural networks, deep learning, and machine learning; in the future, blockchain and other technologies could also be integrated with sustainable finance.

Figure 6: India Sustainable Finance Market Forecast



Source: Collected by Author

From the above Figure 6 it can be said that the Indian sustainable finance market will have huge growth from 2024 with USD 567.50 million until 2033 with USD 2,336.30 million, with a 15.20% market CAGR.

Conclusion

This study explores the journey of sustainable finance from the 1960s to 2020 and beyond. Several regular bodies were established during this timeline. Special preference was given to GRI, CSR, SDGs, green bonds, and many others. Trends in sustainable finance can be explored with Sustainable Finance Growth, where financial institutions use ESG funds for different sectors. Carbon pricing is used to save the environment. Technology is integrated with sustainable finance, like AI and blockchain. ESG integration in investment decisions is important for sustainable finance. Financing Transition is used to control the emissions. Impact investing and blended finance are used by investors as tools for financial profits. Encourage SDGS and Regulatory bodies to be strictly maintained for the development of the country. This approach provides investors with a wide variety of options for investing in environmental, social, and governance activities. It creates huge job opportunities by encouraging new innovations in the sustainable market. Every individual has a responsibility to protect our environment to create a sustainable green economy for the future.

Scope for further research

Further research can be done by exploring regulatory frameworks for green bonds, blended finance, impact investing, and the financing transition. This study needs to focus on sustainable growth in finance, carbon pricing, and adapting to climate change. They should integrate sustainable finance with technology, such as ESG reporting, AI, and blockchain technology.

Acknowledgement

The author acknowledges anonymous reviewers for their insights, which significantly enhanced the quality of the study.

Conflict of Interest

This research did not receive any funding, which may have derived advantages from the results. There is no sponsorship that played a part in the study's design, data collection, analysis, or publication decisions.

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