GREEN FINANCE TO DEVELOP CLIMATE-RESILIENT ECONOMY

Abstract

Human civilization didn't care much about environment in its rapid progress of urbanization and pursue of self-interest. There had been apathy for decades to protect and preserve environment. Environment had been exploited for personal gain and fulfillment human society requirements. Now, in 21st century environment is at tipping point. The backlash of nature has become rampant. Heatwave, erratic rainshower, cyclone, cloudburst and landslide have troubled people like never before. Climate driven devastation and displacement have increased manifold. Humongous loss of habitat, infrastructure and lives have given wake up Call to human society. Time has arrived to channelize finance for environment protection, reduction of carbon emission and initiation of green drive to avoid catastrophic climate risk. Green finance is a well thought out initiative to provide loan or financial assistance for product or service which will reduce carbon emission substantially and make economic growth sustainable. Green finance will also sponsor environment centric activities and make society sensitive and proactive for natural resource optimum utilization, ecological balance, biodiversity maintenance and environmental preservation. Green finance is need of the hour to fix environment anomalies and protect lives of people, property, business, economy and planet earth.

Keywords: Green Finance, Environment compatibility, Ecology sensitivity, Investment for carbon neutrality.

Authors

Prof. Subhendu Bhattacharya
Assistant Professor
Amity Business School
Amity University Mumbai, India
sbhattacharya@mum.amity.edu

Prof. Indrayani A. Uthale
Teaching Assistant
Amity Business School
Amity University Mumbai, India
iauthale@mum.amity.edu

Copyright © 2024 Authors

I. INTRODUCTION

Green finance is progressing at a rapid pace. By 2023, the market for green bonds may be worth $2.36 trillion worldwide. It is viewed as a means of simultaneously addressing the requirements of capitalism and sustainability. Green finance may be defined as any organised financial activity—a product or service—that is designed to provide superior environmental results. It consists of various loans, debt structures, and investments intended to promote the growth of green initiatives or lessen the climate effect of more conventional enterprises or perhaps a mix of the two. Human civilization is at critical juncture. We face a danger to our long-term development and economic security from climate change. It has the potential to produce disruptions to the soundness and safety of regulated institutions as well as to monetary stability, economic, and financial stability. Future events will be influenced by a variety of variables, such as modifications to laws and policies pertaining to the environment, the advent of newer technology, and shifts in consumer behavior. We require a comprehensive approach that engages governments, businesses, financial institutions, civil society organisations, and the general people in order to ensure a smooth transition to a viable future. Green finance uses a variety of strategies, including impact investing, sustainable investment funds, green bonds, and green loans. Green bonds have drawn a lot of interest because they make it possible for businesses and governments to raise money, particularly for green initiatives. The expansion of green finance systems is further evidenced by the inclusion of ESG criteria in investment strategies and the growing number of sustainable investment funds. Typically, central banks are focused on monetary policy, economic growth, financial stability, and the regulation and oversight of the financial sector. The Central Banks are legally required in many nations, including India, to pursue a specific set of goals. They must thus handle the risks and dangers that influence their primary objective. Such a risk is indeed posed by climate change. They must thus control outcomes that could compromise the financial system's stability and the financial institutions' security and fiscal health. From the viewpoint of a banker Physical hazards and transition risks are the two main ways that climate threats might affect macroeconomic results. Physical hazards, such as wildfires, storms, and floods, directly result from climate phenomena. Transition risks, on the other hand, are risks associated with the process of adjusting the economy's emission intensity downward. For instance, harsh weather conditions like storms or floods can obstruct supply chains and manufacturing, leading to necessary commodities and services shortages. This may cause prices to spike suddenly, creating inflationary pressures. A further issue that might develop due to the physical risk component of climate change is an increased likelihood of loss for banks and financial institutions. First, if these financial institutions' operations are concentrated in a high-risk area, they might suffer financial losses due to climate-related disasters. Second, unfavorable climatic circumstances might cause the assets they have funded or used as collateral to become unavailable or lose value. Such loans might end up low-performing, limiting the bank's ability to make new loans. As a result, central banks are starting to identify and assess the risks that climate change may pose to monetary policy, financial stability, and regulated companies. More importantly, the threats brought on by climate change transcend national borders and industry divisions. Consequentially, combating climate change necessitates international coordination and cooperation. International institutions like the IMF and standard-setting authorities like the BCBS and FSB are intensifying their work on issues connected to climate change in light of these concerns.

Copyright © 2024 Authors

II. OBJECTIVE OF THE STUDY

The chief objectives of the research papers are explained below;

1. To explain about the necessity of green finance to build low carbon economy and withstand climate risk
2. To narrate about the changes needed in the government policy, industrial strategy and social outlook to make green finance fruitful.

III. RESEARCH METHODOLOGY

The research paper has been descriptive and analytical. In order to ensure rigour, accuracy, and thorough analysis, the research methodology for the paper on "Green Finance to Develop Climate-Resilient Economy" is based on secondary data and entails many crucial procedures. The technique has concentrated on acquiring, choosing, analyzing, and interpreting various data sources since secondary data refers to material that has already been gathered from published sources. Academic journals, reports from international organizations (such as the World Bank, IMF, UN and RBI), government publications, industrial reports, financial reports, and reliable news items were all taken into consideration as secondary data sources. These publications have given a thorough review of green finance practices, as well as how they promote resilient carbon neutral economies and sustainable development. Critical evaluations of the acquired secondary data sources' veracity, applicability, and dependability were conducted. The sources have been checked to make sure they are reliable, current, and in line with the purpose of the study. The sources with potential bias or obsolete information have been eliminated. Collected information has been well interpreted and ongoing trend related to green finance has been traced. Literature review has been comprehensive and provided the glimpses of works undertaken on the given subject. All critical aspects of green finance, stepping stones and stumbling blocks are outlined in lucid description. It has been an epistemological expedition where several facets of green finance were divulged. This study and complete narrative on green finance can be a reference point for future research-based exercise.

IV. LITERATURE REVIEW

Green financing has become a vital instrument for assisting in the shift to a more sustainable economy. The financial sector's involvement in supporting environmentally conscious investments and advancing sustainable development has grown in importance as the international community struggles with the problems of climate change, resource depletion, and environmental degradation. This overview of the literature on the topic of green finance and its implications for promoting a sustainable economy tries to summarize the most important results from academic studies and business reports. The term "green finance" describes financial goods, services, and investments that support social responsibility and environmental sustainability. It includes a range of financial products, including green bonds, loans tied to sustainability, and ethical investing funds. The requirement to lessen the effects of climate change is a major motivator for green financing. Research by Dietz et al. (2019) emphasises the compatibility between climate goals and green finance, highlighting the possibility of lower greenhouse gas emissions through sustainable investments. Green finance promotes investments in renewable energy, circular economy procedures, and eco-efficient technology to alleviate resource shortages (Scholtens & Wang,

Copyright © 2024 Authors

2020).The Paris Agreement and the Sustainable Development Goals (SDGs) are two regulatory frameworks and regulations that have pushed financial institutions to include ecological issues and environmental concerns into their regular business activities (EY, 2021).These fixed-income securities were released to finance green project funding. The expansion of the green bond markets and its potential to draw in new investors are highlighted by Claessens et al. (2019). These loans provide cash rewards for meeting predetermined sustainability goals. The usefulness of these loans in encouraging sustainable business behavior is examined by Fichtner et al. in 2020. To evaluate non-financial risks and possibilities, environmental, social, and governance (ESG) variables are included into investment choices. According to Friede et al. (2015), there is a link between financial results and ESG performance. For well-informed decision-making, trustworthy ESG data is essential, yet these gaps and inconsistencies still exist (Higgins & Schwartz, 2021). The comparability and legitimacy of green financial products are hampered by the lack of standardised criteria and indicators (Iyer et al., 2020). Sincere efforts can be undermined by deceptive assertions of environmental responsibility in finance (White, 2021). Investments in sustainable technology and renewable energy lead to job possibilities (IRENA, 2020). According to Bertels et al. (2017), green financing may stimulate the development of new clean technology and sustainable business models. By lowering risk exposure to environmental externalities, sustainable investments can result in long-term value creation (Bassen & Friede, 2019). To encourage green financing and include climate risks into evaluations of financial stability, central banks and regulatory organisations are putting regulations into place (Biswas et al., 2021). To establish uniform worldwide standards for green finance, cooperation is required from governments, international institutions, business chambers and civil society (UNEP, 2021).The examined literature stresses how important green finance is to fostering a sustainable economy. Although there are still issues with data quality, standardization, and green washing, there are significant potential advantages regarding resource effectiveness, climate change, and long-term wealth development. More research, legislative assistance, and industry cooperation are required to use green finance for a sustainable future unabatedly.

V. GOVERNMENT AND PRIVATE INITIATIVES TO FULFILL DECARBONIZATION OF ECONOMY AND DIFFUSE CLIMATE RISK

Several global projects are already in progress under the G-20's auspices. Numerous organizations that create standards are working diligently to address the risks brought on by climate change. The G20 adopted the Financial Stability Board's (FSB) "Roadmap for Addressing Financial Risks from Climate Change" in July 2021, which has since been amended. The roadmap encompasses four areas: firm-level disclosures, data, vulnerabilities, and regulatory and supervisory practices & instruments. It lays forth a thorough and coordinated strategy for managing climate-related financial risks. Climate event implications, intensity, severity, and frequency are challenging to quantify and anticipate. Even more challenging to estimate is how these events will affect banks and other financial organizations. Therefore, determining the level of exposure at risk is the first step in controlling the risks that banks and other regulated companies are exposed to from climate disasters. This conceivable is only if the businesses fully and honestly report the carbon intensity of their operations. Planning the transition requires access to data on how exposed businesses, banks, and financial institutions are to climate disasters. The International Sustainability Standards Board (ISSB) has been developing worldwide disclosures for sustainability. The guidelines will develop a uniform vocabulary for disclosure regarding the

Copyright © 2024 Authors

impact resulting from climate-related risks and opportunities on firms' prospects while also enhancing trust and confidence in sustainability disclosures made by businesses. Making sure that data is accessible and identifying vulnerabilities are the following steps in this process. To identify vulnerabilities for this, economy needs timely, transparent, harmonized, and forward-looking disclosures. The scenario analysis and stress testing would aid in framing the risk management strategies for specific entities at the business level. Banks and other lenders are being urged to find these weaknesses by central banks all around the world. Advice is about to be issued to banks in India about the stress testing of their loan portfolio for climate sensitivity. Globally, the number of funds with an ESG focus is rising. Institutional investors anticipate the investee firms they support to provide thorough financial disclosures relating to climate change, pursue net-zero targets, establish transition plans, and track progress. Private capital may be drawn to climate projects through the use of green bonds, climate funds, and hybrid financing techniques. The Reserve Bank has implemented a number of policy actions throughout the years to help and foster green financing activities. For instance, banks' Priority Sector Lending (PSL) portfolio now includes financing for renewable energy projects. The Reserve Bank helped the Government of India successfully issue sovereign green bonds (SGrBs) in early 2023. The earnings from the SGrBs are supposed to go towards government initiatives that would lower the economy's carbon intensity. The issuing of SrGBs would also aid in determining prices for other financial instruments and support the growth of a market for green finance in the nation. Transition finance is needed to encourage banks to help firms and industries that still need to be more environmentally friendly in adopting cleaner technology, boosting energy efficiency, and eventually becoming more environmentally friendly. Making India's economy adaptable to the effects of climate change may be significantly aided by green financing. The Hon'ble Prime Minister stated that India will reach net zero by 2070 during the COP26 Summit in November 2021. Due to this, a supportive ecosystem would need to be developed to fund India's shift to a green economy.

VI. ENTERPRISING ZEAL TO ACCELERATE GREEN FINANCE IN INDIA

In recent period of time, the notion of green finance has garnered tremendous traction around the world, and India has not been immune to this revolutionary trend. As a progressive developing nation, India confronts the dual challenge of nurturing economic growth and tackling environmental apprehensions. The foundation of India's economic development has traditionally been banks and financial institutions, and as the nation shifts to sustainable growth, they will need to take the initiative and speed up green loans. A variety of structural adjustments to the conventional banking method, such as the assessment and certification of projects' green credentials, appeared essential to enable this acceleration. Banks and financial institutions would need to invest in human resources and capacity development initiatives as well as include environmental and social risk concerns into their corporate credit evaluation systems in order to pay concentrated attention to scaling up green financing. The challenge is finding ways to balance the demands of credit expansion, economic growth, and social development while incorporating climate risk and ESG-related considerations into commercial lending and investment decisions. The Indian economy is at a phase where it is necessary to proliferate. Building on our early successes and tackling the difficulties of climate change would be significantly aided by collaborative involvement. India's ambitious legislative measures, such as the National Action Plan on Climate Change and the Make in India programme, which emphasises environmentally friendly manufacturing, showcase the country's dedication to sustainable development. However, significant financial resources are needed to switch to a low-carbon and ecologically sound

economy. A key strategy to bridge this financing gap is green finance, which entails allocating financial resources to ecologically sustainable initiatives and technology. The Indian government and financial institutions have acknowledged the value of including environmental factors in financial decision-making, setting the groundwork for the development of green finance. India has a lot of interest areas in adopting green finance in many different ways. Economically, it can encourage investment in clean technology, sustainable agriculture, energy-efficient infrastructure, and renewable energy sources. This stimulates economic growth and creates new business prospects in addition to jobs. Green finance also helps ecological sustainability, lessens the effects of climate change, and enhances air and water quality by lowering the harmful impact of numerous enterprises. Socially, it improves the quality of life by promoting healthier living conditions and assisting areas sensitive to climatic changes. Despite its promise, green finance in India confronts a number of difficulties. First, there needs to be more knowledge and comprehension regarding the advantages and workings of green finance among investors, decision-makers, and the general public. Secondly, evaluating the impact of investments is challenging due to the need for standardised environmental and social disclosure standards. Investors may also be put off by the perceived risk associated with green initiatives, particularly in the beginning. Last but not least, finding the long-term funding needed for sustainable infrastructure projects continues to be complicated. An entrepreneurial passion is essential to overcoming these obstacles and advancing green finance. Innovative thinking, resourcefulness, and a willingness to take measured risks are all characteristics of this attitude. Policymakers may play a crucial role by establishing a supportive regulatory framework that encourages green investments. In addition to setting precise disclosure requirements to provide investors with accurate information about the environmental effect of their investments, this might involve providing tax incentives, subsidies, and endowments to green enterprises. The Indian government and the reserve bank have taken some steps in this area. India has been actively engaging in international talks on climate concerns. In the Union Budget for 2022–2023, the government declared that combating climate change would be a top priority and suggested that Sovereign Green Bonds (SGBs) be issued as part of its total market borrowing in 2022–2023 to raise money for green infrastructure. The funds will be used for government initiatives to lower the economy's carbon footprint. Over time, the SGBs would serve as a price benchmark for Indian private sector companies looking to borrow money in INR for ESG-related loans. As a result, the creation of an environment that encourages a higher flow of finance into green projects and the companies carrying out such projects would be facilitated by the issuing of SGBs.

VII. CONCLUSION

The study paper explores the crucial part that green finance plays in promoting a sustainable economy in its conclusion. The results accentuate the urgent need for creative financial solutions that balance environmental protection and economic growth. A comprehensive strategy for supporting ecologically beneficial initiatives, green finance encompasses a range of products like green bonds, sustainable loans, and impact investments. This study emphasizes the concrete advantages of green finance on the economic and ecological fronts through a thorough review of case studies and actual data. Among these advantages are not only decreased carbon emissions and resource depletion, but also improved resilience to environmental dangers and chances to create new green jobs. The article also discusses the difficulties and hindrances that right now prevent the mainstream implementation of green finance practices. These include market uncertainty, regulatory

Copyright © 2024 Authors

ambiguity, and information asymmetry. However, these obstacles may be removed with the proper legal frameworks, open reporting requirements, and reliable risk assessment methods, opening the door for a more sustainable and equitable financial system. The report also emphasizes how crucial it is for businesses, civic society, financial institutions, and governments to work together to accelerate the shift to a greener economy. Such cooperation can make it easier to share information, build capacities, and create new financial products that support sustainable development. This study report claims that green finance is a must for tackling the urgent issues posed by climate change and environmental degradation, not merely a possible solution. Green Finance has the power to guide economies towards a path of resource efficiency, balanced growth, and a healthier world by rerouting financial flows towards ecologically friendly enterprises. Adopting green finance is a crucial step in securing a successful and sustainable future for future generations as the world community works to fulfil the Sustainable Development Goals and the goals of the Paris Agreement. Another important aspect of encouraging an entrepreneurial desire for green financing is launching education and awareness efforts. Stakeholders may be informed about the advantages of sustainable investments, clearing up misconceptions and allaying fears, by holding workshops, seminars, and training programmes. The inventive and proactive mentality embodied by this word becomes crucial as the country works to strike a balance between economic growth and environmental sustainability. India can use the potential of green finance to usher in a future that is both economically wealthy and ecologically resilient by overcoming obstacles, embracing innovation, and fostering a culture of sustainable investing. The nation will be able to demonstrate to the rest of the globe how entrepreneurial enthusiasm can transform financial landscapes in favour of a greener, more sustainable future.

REFERENCES

[1] Akomea-Frimpong, I., Adeabah, D., Ofosu, D., & Tenakwah, E. J. (2022). A review of studies on green finance of banks, research gaps and future directions. Journal of Sustainable Finance & Investment, 12(4), 1241-1264.
[2] Bassen, A., & Friede, G. (2019). Environmental, social and governance criteria and the demand for new bonds: Evidence from an event study. Journal of Business Ethics, 160(3), 643-662.
[3] Berrou, R., Dessertine, P., & Migliorelli, M. (2019). An overview of green finance. The rise of green finance in Europe: opportunities and challenges for issuers, investors and marketplaces, 3-29.
[4] Bertels, S., Papania, L., & Pohl, H. (2017). Drivers of Eco-Innovation in the US: Comparing Survey Results with Patent Data. Business Strategy and the Environment, 26(8), 1072-1084.
[5] Biswas, S. et al. (2021). Central banks and climate change: Mapping the challenges and opportunities. Bank for International Settlements.
[6] Claessens, S. et al. (2019). Global Green Bond Market. World Bank Policy Research Working Paper, 9009.
[7] Dietz, S. et al. (2019). Climate value at risk of global financial assets. Nature Climate Change, 9(10), 698-703.
[8] EY. (2021). Sustainable finance: Charting its growth and the path ahead.
[9] Fichtner, H. et al. (2020). Sustainability-Linked Loans: A new way of sustainable finance? Energy Policy, 147, 111838.
[10] Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance & Investment, 5(4), 210-233.
[11] Hafner, S., Jones, A., Anger-Kraavi, A., & Pohl, J. (2020). Closing the green finance gap–A systems perspective. Environmental Innovation and Societal Transitions, 34, 26-60.
[12] Higgins, L. M., & Schwartz, M. S. (2021). Environmental, social, and governance information: Implications for firm value, risk, and performance. Accounting Horizons, 35(2), 139-157.
[13] International Renewable Energy Agency (IRENA). (2020). Renewable Energy and Jobs – Annual Review.
[14] Iyer, V., Lim, W., & Mirza, R. (2020). From Financing to Impact: Green Finance in Asia.

Copyright © 2024 Authors

[15] Khan, M. A., Riaz, H., Ahmed, M., & Saeed, A. (2022). Does green finance really deliver what is expected? An empirical perspective. Borsa Istanbul Review, 22(3), 586-593.
[16] Meo, M. S., & Abd Karim, M. Z. (2022). The role of green finance in reducing CO2 emissions: An empirical analysis. Borsa Istanbul Review, 22(1), 169-178.
[17] Mohd, S., & Kaushal, V. K. (2018). Green finance: a step towards sustainable development. MUDRA: Journal of Finance and Accounting, 5(1), 59-74.
[18] Ozili, P. K. (2022). Green finance research around the world: A review of literature. International Journal of Green Economics, 16(1), 56-75.
[19] Sachs, J. D., Woo, W. T., Yoshino, N., & Taghizadeh-Hesary, F. (2019). Why is green finance important?.
[20] Scholtens, B., & Wang, T. (2020). The role of financial institutions in the transition towards a sustainable economy. Ecological Economics, 176, 106728.
[21] Taghizadeh-Hesary, F., & Yoshino, N. (2019). The way to induce private participation in green finance and investment. Finance Research Letters, 31, 98-103.
[22] White, L. (2021). Green Finance, Environmental Justice, and Discourse Power. Sustainability, 13(12), 7060.
[23] Zhang, D., Zhang, Z., & Managi, S. (2019). A bibliometric analysis on green finance: Current status, development, and future directions. Finance Research Letters, 29, 425-430.
[24] Zhou, X., Tang, X., & Zhang, R. (2020). Impact of green finance on economic development and environmental quality: a study based on provincial panel data from China. Environmental Science and Pollution Research, 27, 19915-19932.

Copyright © 2024 Authors