

## **Future of Green Financing: Challenges and Opportunities**

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### **ABSTRACT**

*Green finance is characterized by the rational use of resources, a low carbon emission rate and social inclusion. The development of green finance has been gradual. First of all, it is the investor's awareness of social issues which then gave rise to a more in-depth environmental integration and a conviction of the actors of the need to include sustainability in the market. This branch from the field of international finance is widely used these days, given its influence on the greening of projects for the benefit of populations in the four corners of the world. This article gives an overview of green bonds and sustainable finance and tries to analyze the challenges in implementing green finance all over the world briefly in the African continent and India. Also, it provides a few sustainable solutions to implement the green finance system in a better way.*

**Keywords: Green Finance, Green Bond, Sustainable Finance**

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## Introduction

Since the industrial revolution, economic activities have been based on the massive exploitation of natural resources. The question of the sustainability of these resources only recently arose with the scale of climate change. Calling for a paradigm shift, the concept of the green economy emerged. According to the United Nations, *“it is characterized by the rational use of resources, a low carbon emission rate and social inclusion.”*

*“Sustainable finance is an opportunity to meet the immense ecological and economic challenges of our time and a way forward for future generations. This is a high-potential segment of the world of finance whose common thread is to decarbonise the economy by intelligently mobilizing funds for the preservation of the planet and the fight against climate change.”*<sup>1</sup>

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## Green Finance in India

The Environment ministry assesses that India will require USD 2.5 trillion to meet environmental change focuses, of which USD 280 billion is required in the following five years for green foundation alone. The size of speculations assessed isn't something India has at any point overseen previously, considering the nation's absolute interests in the foundation has been recently more than USD 1 trillion in the earlier decade and a half. Green finance—investments that have a positive impact on the environment or reduce the risk of climate change—is the need of the moment.

To place it in context, India needs about 3 times the all-out venture made in the infrastructure sector over the recent 10 years to handle environmental change during the current decade. Existing sources of capital will essentially not be sufficient. Incorporating the necessities of the climate into the financial backer dynamic will make capital bound to stream to resources that are viable with maintainability. Doing so will likewise assist monetary foundations with overseeing hazards, improving the strength of the monetary framework overall. As per Sandeep Bhattacharya of the Climate Bonds Initiative, *“The end objective would be that nearly all financial transactions are green and thus ‘green’ from green finance drops off.”* Cost is a significant factor because conventional shrewdness recommends that green ventures come to the detriment of development, and thus, creating economies centre around diminishing the expense of speculations to spur development.

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<sup>1</sup>Overview of Sustainable finance, European Commission, [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/overview-sustainable-finance\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/overview-sustainable-finance_en) (last visited 11 June, 2021).

## **Needs And Challenges in Implementing Green Finance**

Green finance enjoys an economic power that is supposed to generate positive externalities by encouraging promising projects that protect the environment and avoiding projects that destroy natural resources. This involves mobilizing financial resources and reorienting public policies by supporting the private sector in its necessary multifactorial change. Good climate policies are inherent in the success of green finance. Concerning the multidimensional aspect of green finance, the synergy between the economic powers as a whole and the institutional actors is a fundamental building block for the success of this new form of responsible financing.

Indeed, more than ever, the role of the strategic State remains central, particularly in terms of regulation and legislation, setting an example and providing impetus to help the ecosystem act effectively and promote the birth of generating green financial centres (i.e., new business and new perspectives). Carbon pricing can be an opportunity for the state and companies to influence the sector as a whole. The harmonious collaboration of public authorities and operators, whatever their role or their power, is essential to raise the development of green finance to the highest level, structurally based on socially responsible, ecologically efficient and economically competitive projects.

This pioneering innovation is capable of disrupting the financial markets by stimulating new niches able to attract investors concerned with profitability, competitiveness but also sustainability by strengthening investments with a low carbon footprint and strengthening the implementation of new green technologies.

This funding aims to promote initiatives to accelerate projects of general interest which are distinguished by significant ecological anchoring. It is through economic intelligence that new activities emerge with an emphasis on innovative financial tools and incentives. It is these strategic techniques that boost projects focused on protecting our environment, by increasing investments in renewable energies and energy efficiency. For example, this new lever for socio-economic development is reflected in the implementation of services and products integrating ecological criteria and aspects related to the financial risks potentially generated by operations throughout their life cycle. The scope of green finance also covers the restructuring of the economic model to make it more sustainable and through the diversification of financial instruments correlated with major social issues.

## **Overview of Green Bonds**

Green bonds make it possible to redirect investments towards eco-responsible projects. The green bond market is booming but insufficiently influential. This segment is in the minority compared to all outstanding's worldwide. It is essential to support this evolving "green bond" market by injecting more flexible assets and contributing to the definition of bond standards, particularly in terms of reporting.

In this regard, the contribution of blockchain technology in the field of green finance in the form of cryptographic transactions offers more security, transparency and performance in transactions as well as many opportunities facilitates the labelling and standardization of green bond for optimization of the financial circuit and better visibility concerning investors and issuers. It would be relevant to go beyond the

experimentation phase of these breakthrough technologies by accelerating the diversity of applications, by massifying their uses through pilot projects and by powerfully exploring the potential they offer. Also, these innovations are embodied mainly by fintech, which are young companies geared towards the democratization and digitization of financial services and products, occupy a structuring place in the climate finance ecosystem has given their anticipatory strategy and their futuristic vision. The transition to a sustainable economy is imperative for progress and economic development. The complementarity between FinTech and green finance makes it possible to deploy structured financial technologies to build a viable mechanism. Online banking and insurance solutions, cryptocurrency, sites dedicated to online money pools and crowdfunding platforms are concrete realities of these financial technologies at the service of everyday life. For example, the extremely successful Microworld platform is used to grant microloans to entrepreneurs wishing to develop the economy locally.

### **Importance of Green Bonds in the Indian Economy**

Green Bonds are designed to address the problem of finance in the rapidly developing renewable energy industry. India has set a lofty goal of producing 175 GW of renewable energy by 2022 to lessen its carbon impact. To attain such capacity, an estimated investment of USD 200 billion is necessary. The absence of capital backing has caused a significant delay in many “green” initiatives. Green Bonds are a new kind of sustainable energy investment that is quickly gaining popularity. The following are some of the major advantages of issuing green bonds:

**Investor diversification:** These bonds allow issuers to diversify their financing sources and reduce their reliance on certain markets. Green bonds have been particularly popular among investors who are interested in sustainable and responsible investment (SRI), as well as those that meet the ESG (Environmental, Social, and Governance) requirements.

**Pricing Advantage Possibility:** These bonds have a price advantage because of their green feature. Green bonds offer a good chance of attracting local and international funding for renewable energy on better conditions, such as lower interest rates and longer payback periods.

### **Process of Issuing Green Bonds in India**

To issue a green bond, you must follow the guidelines outlined in the Securities and Exchange Board of India (Issue and Listing of Debt Securities) Regulations, 2008 (“ILDS Regulations”) and the Green Bond Guidelines (“Circular”) released by SEBI (“Board”) on May 30, 2017:

- For securities to be listed, the issuer must apply for a recognised stock exchange. The issuer must designate merchant bankers who are registered with the Board, with one serving as a head merchant banker. It must also receive in-principal clearance for the stock market listing of green bonds, as well as a credit rating from a credit rating agency. The issuer must also engage in a depository agreement for the dematerialization of the green bonds.
- It shall also designate one or more debenture trustees in line with the Companies Act, 1956 (“Act”) and the SEBI (Debenture Trustees) Regulations, 1993, which govern the appointment and responsibilities of debenture trustees. Green bonds

cannot be issued for loans or the purchase of shares of anybody who is a member of the same group or is under the same arrangement.

- The offer document must provide all the important information that subscribers need to make an educated selection. The issuer and the lead merchant must ensure that the offer document contains - which discuss things that must be mentioned in the prospectus and reports that must be provided. And disclosures such as the past three years' annual report, the issuer's commitment, and so on. The purpose of the green bond, a summary of how the issuer evaluated the projects' eligibility and the mechanism for deploying the proceeds of the offering. Details about the projects that will be financed using green bonds, as well as the appointment of a third-party reviewer to confirm things like project assessment, selection criteria, and project categories that are eligible for green bond financing. The draft and final offer documents must be posted on stock market websites. Advertising for public concerns would include advertising in national papers; there should be no misleading content included; it should be accurate, fair, and clear; and it should only discuss the pertinent themes. Green bonds shall not be mentioned in any other product or marketing published by the issuer during the subscription period.
- The issuer wishing to issue green bonds online via the approved stock exchange's website must meet any additional conditions imposed by the Board. The issuer and the lead merchant banker will work together to decide the price or the price will be decided via the book-building process. The issuer may set the minimum subscription it wants to raise via the green bond offering and disclose it in the offer document.
- In three months after the issue closes, the issuer will execute a trust deed in favour of the debenture trustee. The trust must include provisions such as those set out in Section 117A of the Act and Schedule IV of the SEBI (Debenture Trustees) Regulations, 1993. A corporation shall establish a debenture redemption reserve for the redemption of green bonds in line with the Act and any circulars issued by the federal government. The trust shall not include any provisions that restrict the issuer's responsibilities and liabilities concerning the investor's rights and interests.
- In the case of secured green bonds, there should be a proposal to establish a charge or security that must be declared in the offer document and the issuer is required to make an assurance that the assets on which the charge is placed are free of any burden. The cash from the offering will be held in an escrow account until the offer document's paperwork for security, formation is completed.
- The issuer will maintain a decision-making procedure that establishes the projects'/assets' eligibility. Including, without exception, a declaration on the environmental goals of green bonds as well as a method for determining whether projects or assets are suitable for consideration. He will guarantee that the profits from the green bonds are used to support all projects and assets and that the goals are met. The offer materials clearly state how the profits will be used. The issuer or any agent of the issuer will disclose all facts in the offer document, disclosure document, and continuing disclosures if the issuer or any agent of

the issuer follows any internationally recognised standard for quantifying the environmental effect on the project or has a procedure for selecting projects or assets or using funds.

## Global Perspective

At the European level, the European Commission has set up a committee of experts to look into the question of the specification of eligible projects and the marking of investments. The European Union has launched a sustainable finance action plan and plans to build a climate bank to harmonize initiatives on a continental scale and participate in the robustness of projects. Despite the economic turmoil due to Brexit, Great Britain, which launched the “Green finance Initiative” With the support of the British Treasury, has a head start in this market<sup>2</sup>. Indeed, it oversees the European ranking in terms of issuance of operations in the field of green finance thanks to an anticipation of the transformations at work and a unifying financial sector. In France, a few banking institutions and large multinational groups, with the support of the government, are pursuing an aggressive policy in terms of green bond issues. France’s worldwide stock in this area is estimated at 20%<sup>3</sup>. This market volume is changing significantly. Also, the financial centres of Frankfurt and Zurich are very involved in this international movement. Other European countries stand out, such as Sweden, the Netherlands and Luxembourg, where the majority of European green bonds are listed.

The United States, most often playing the leadership role, is ranked behind the Chinese superpower, which has established itself as the leading issuer of green bonds by undoubtedly holding the most important market with nearly 40% of bonds. It is the financial centres of Shanghai and Hong Kong that are pulling up this vital sector for the country. The creation of a complete range of green products and the expansion of FinTechs are strengths of the Chinese experience. The example of the Lufax platform<sup>4</sup> specializing in loans between individuals illustrates this dynamic supported by large groups and banks.

## Special Challenges Faced by Africa

The African continent has joined many initiatives to shake up financial institutions and push them towards more collective responsibility. In this sense, the financial centre newly initiated by the economic capital of Morocco, Casablanca Finance City is positioning itself as the future African hub for green finance by signing cooperation agreements with several rapidly growing global financial centres. This positioning puts the focus on the financing of infrastructure, the sustainable agriculture sector and clean energies. Some countries in Africa are tackling the issue of green finance like South Africa, Nigeria and Kenya. It is the gathering of the African continent around common objectives that will consolidate the orientations of this financial centre with global ambitions. For this purpose, the installation of an ecosystem made up of banks, insurance companies,

<sup>2</sup>Globalizing Green Finance: The UK as an international hub, GREEN FINANCE INITIATIVE, <https://www.cbd.int/financial/gcf/uk-hubgreenfinance.pdf> (Last visited 11 June,2021)

<sup>3</sup> Green finance, International Finance corporation, [https://www.ifc.org/wps/wcm/connect/12ebe660-9cad-4946-](https://www.ifc.org/wps/wcm/connect/12ebe660-9cad-4946-825f66ce1e0ce147/IFC_Green+Finance++A+Bottomup+Approach+to+Track+Existing+Flows+2017.pdf?MOD=AJPERES&CVID=1KMn.-t)

[825f66ce1e0ce147/IFC\\_Green+Finance++A+Bottomup+Approach+to+Track+Existing+Flows+2017.pdf?MOD=AJPERES&CVID=1KMn.-t](https://www.ifc.org/wps/wcm/connect/12ebe660-9cad-4946-825f66ce1e0ce147/IFC_Green+Finance++A+Bottomup+Approach+to+Track+Existing+Flows+2017.pdf?MOD=AJPERES&CVID=1KMn.-t) (Last accessed on 10 May 2021)

<sup>4</sup> International Fintech, <https://internationalfintech.com/Company/lufax/> (Last visited 11 June,2021)

entrepreneurs, civil society, NGOs, institutional investors, donors, corporate issuers and management companies, dedicated to climate finance in Africa, makes sense to the extent that it helps to find financing for the massive needs of the energy transition, thus promoting humanly significant projects and which economically essential for the development of Africa. The phenomenon of climate finance is profoundly global because financial flows have no real border. It is for this reason that all financial centres should favour more cooperation and partnerships.

In Africa, the green economy encompasses activities in various fields ranging from agro-food to energy, including waste management, water, health and tourism. To meet the threefold social, environmental and economic profitability objectives, green activities require large investments or generate significant production costs. For example, renewable energies require significant initial investments although their operating costs are low, unlike fossil fuels.

The difficulties raised by entrepreneurs in the green economy are very often linked to access to financing or high-interest rate practices due to investors' reluctance in the face of high risks. Public policies are still reluctant to create favourable frameworks likely to mitigate these risks. Indeed, not taking into account negative externalities, traditional activities benefit from a lower production cost and more significant income linked to public subsidies. These support policies distort prices to the detriment of products from the green economy.

Also, certain intermediate goods entering into the production of the green economy such as solar panels, wind turbines, and products from ecological agriculture for example are still subject to taxes, which tends to increase the price of products of the green economy. Under these conditions, the profitability of investments in the green economy is lower, de facto limiting the financing opportunities for the actors of the sector. Financial efforts and a review of development models will make it possible to make the transition to a green economy that is resilient in the face of climate change. The financial and fiscal provisions which for the moment penalize the development of this economy can be transformed into factors favourable to the latter.

### **A Necessary and Timely Green Transition**

African states have economies based primarily on natural resources. They can derive more value from it by promoting activities that enhance and perpetuate this capital. Green activities create new markets and allow job creation. The transition to a green economy could only improve economic growth more than simply maintaining the status quo or hampering public policies. The financing needs of this transition are certainly important but according to the United Nations Environment Program, on a global scale, invest 2% of world GDP by 2050<sup>5</sup> in target sectors such as agriculture and energy would accelerate economic growth. This is how African leaders have linked the financing of the fight against climate change to that of the green transition.

As part of the fight against climate change, several economic instruments have emerged, in particular the clean development mechanism and the carbon market resulting from the

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<sup>5</sup>*Towards a Green Economy*, UNEP, [https://sustainabledevelopment.un.org/content/documents/126GER\\_synthesis\\_en.pdf](https://sustainabledevelopment.un.org/content/documents/126GER_synthesis_en.pdf) (Last visited 11 June, 2021).

Kyoto protocol. Public financial institutions, sovereign wealth funds and development banks have also started to direct part of their investments in the green economy favouring its development although it is still modest. However, African states have failed to capture the majority of these investments. For now, they are developing different strategies to increase their support for the green economy. These appear in particular in the nationally determined contributions (INDCs), subject to the Paris Climate Agreement. They have committed to quantified carbon emission reduction targets. The achievement of these objectives reflecting a low-carbon economy remains largely conditioned by external financial contributions.

### **Improve Financing Mechanisms and Rethink Investments**

Public funding plays an essential role in triggering the transformation of the traditional economy and meeting these expectations. At the global level, much remains to be done to make climate and environmental funds effective and improve their access to African states. They are still insufficient to initiate a true green transition, but they could be strengthened by resorting to additional sources of predictable funding such as taxes on transport and financial transactions in developed countries.

At the local level, the States which choose the concrete political options for a green transition will be the first to be resilient in the face of climate change. This is to limit spending and investment in areas that deplete natural resources while increasing them in green activities, training and capacity building. Many African states, for example, have a strong potential for sustainable tourism, organic farming and renewable energies. Act on the regulatory framework and not subject these activities to rigid tax regimes thanks to tax exemptions, tax credits, the establishment of well-oriented subsidy systems or national funds fueled by activities with strong negative externalities would be encouraging measures to promote a still fragile green economy.

*“The green finance market is around USD 200 billion annually. This is meagre compared to all the financial flows recorded at the global level. Today, it is clear that sustainable finance only weighs 1% of the global bond market, estimated at USD 80 trillion.”*<sup>6</sup> It is therefore up to the players to go a step further by accelerating the energy transition and transforming a niche market into a massive market.

The players are more and more aware of this funding model. In reality, climate finance presents a long-term economic issue because it is not only an environmental issue but also survival and financial sustainability. Natural disasters caused in part by climate change could have a strong impact on assets managed by financial institutions. Therefore, climate risk is considered a financial risk.

The most widely used financial instruments in green finance are debt and equity. The diversification of sustainable financial products represents a major challenge because it brings stability. New investment services and the reallocation of capital should be considered. Reducing prudential obligations and solvency criteria for green investors is an avenue to be seriously explored by stakeholders. Also, creating constructive bridges between issuers and investors based on converging interests is an effective approach. To

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<sup>6</sup>The Growing Opportunities for Green Finance, BBC FUTURE, <http://www.bbc.com/storyworks/future/bridge-to-a-better-tomorrow/the-growing-appetite-for-green-finance> (Last visited 11 June, 2021).



supervise this development, the establishment of an evaluation and action monitoring body seems judicious to modify a system in gestation.

Building the 21st-century financial centre calls for unlocking a completely sclerotic world of finance, rethinking software, overhauling capitalism and humanizing finance by stopping its excesses through regulation and permanent adjustment of the legal and technical framework. These principles are intended to meet the demands of the people in terms of protecting their living environment and improving climatic conditions. The financial centres of the future will be engaged, digitized and collaborative, thus responding to changes in lifestyles and economic models.

Changing uses, changing lifestyles and awareness of environmental risks are opening up new horizons in areas with high added value such as smart cities. On the other hand, these rapidly developing cities around the world require a fortiori the mobilization of financial intelligence focused primarily on sustainable and inclusive finance.

Indeed, local authorities often face shortages of revenue and budgetary restrictions which prevent them from carrying out sustainable local public policies that meet the aspirations of citizens. It is to compensate for these budgetary limits that climate finance can provide funding for projects oriented towards ecology and cutting-edge technology to help territories with a very strong environmental ambition to set up a global climate-energy plan.

Smart Cities offer endless opportunities to the financial market, which is nevertheless still shy and sometimes unable to support players from start to finish. It is up to the cities to adopt an attitude of openness towards lending organizations and to strengthen cooperation with the financial and technological ecosystem to identify priority and eligible projects.

The nature of Smart Cities oriented projects that can be supported by green finance is extremely rich. It can take the form of technological development allowing the improvement of air quality, the supervision of water systems to guarantee irreproachable sanitary quality, solar and connected lighting projects, the implementation of transport systems. Collective and low-emission, organic farming, circular economy, social and solidarity economy, green infrastructure, development of municipal libraries, nature in the city, technologies related to urban logistics, silver economy, security and resilience of urban systems.

### **Conclusion- The Path Ahead**

Climate financing is very global since no actual boundary exists for financial movements. Cooperation and partnerships between financial centres is an important argument for why all financial centres should choose to form partnerships. Making the shift to a more sustainable economy is achievable with the use of financial resources and a study of development patterns. The fiscal and financial measures that in the short term limit the economy's growth may be replaced by favourable circumstances that promote the growth of the economy.

Green finance creates an effervescence that can breathe fresh air into the entire ecosystem and promote virtuous investments having a positive impact on humans and the

planet. Succeeding in the challenge of responsible finance requires the commitment and determination of all direct and indirect players.

Beyond the effects of green-washing, banks supported by other players specializing in the field will be winners in the future thanks to better coordination and stronger investment in this source of environmental and social innovation, which also participates in creating positive value, capturing risks and consolidating issues related to compliance with the law, ethics and professional conduct. A change of gear is essential to deal with the multiple factors linked to this new situation and to provide 360-degree support to project leaders.



