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Green Finance As A Tool to Support The Transition to A Sustainable Economy in Developing Countries

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Abstract: Green finance is a financial service and product which is designed specifically to fund green projects and investments impacting positively on the environment including renewable energy projects, sustainable transportation, and efficient water and waste management, and green buildings. It is a qualitative change in the classic financial thought, as it incorporates the aspects of environmental concerns environmental and social considerations are included in the investment decision-making standards. The developing countries are most challenged, they bear the brunt of the climate changes even though they have the least contribution to the historical emissions and they have a huge funding gap estimated at over one trillion dollars per annum to implement the climate adaptation and mitigation projects and the actual flow of funding does not exceed with \$100 billion per annum and international green finance is one of the strategic tools to close this gap and finance the shift of a sustainable economy balancing economic growth, social justice, and the preservation of the natural resources that will serve future generations. A complex web of international sources of green finance, multilateral sources, including IMF green Climate Fund, World Bank Group, regional development banks, including African and Asian Development Banks, specialized funds and bilateral financing by the developed countries is of great benefit to developing countries as it provides a way of great economic diversification, green employment, and transfer of clean technologies, but the difficulties of the developing countries lie in the fact that the structure is not well developed to fully utilize it, the most significant of which are weaknesses in the institutional and legislative frameworks, limited depth of domestic financial markets, technical capabilities, and high. Thus, enabling the role of green finance will entail the incorporation of facilitating economic policies constructing the requisite regulatory frameworks, localization of the financial market, and empowering of the partnerships between governments and the business sector is needed to secure the intended transformation into more sustainable and sustainable economies amidst global climatic predicaments.

Keywords: Green finance, Sustainable economy, Developing countries, Green bonds, Green sukuk, Sustainable development.

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1. Introduction

The international economic system is experiencing a paradigm change in the current development model being pursued, as the international calls continue to rise towards the need to shift towards more sustainable and inclusive development models, particularly in the face of increased rate of environmental problems and the exacerbation of climatic change. This worldwide change has been incorporated in two major combined frameworks of the 2030 Sustainable Development Goals embraced by the United Nations. The 2015 Paris Climate Agreement that has set a global path to cut carbon emissions. developing countries have been placed in a unique situation during this change. On the one hand, it is the worst hit by the climate change regardless of their lower contribution

to historical emissions on the other hand, it suffers structural funding gaps which limit its capacity to adapt clean technologies and projects of sustainable infrastructure. It is within this complicated international environment where green finance is an innovative solution to connect the world environmental needs and local financial capacity as it is a new source of funding capable of turning the environmental challenges into real development opportunities in light of such a global reality, developing countries find themselves at a crossroads in history, with a trillion environmental needs and a trillion development solutions offered but being in a position to fulfill either, with the result that the funding needs of climate finance alone in the developing countries exceed a trillion dollars per year, and with the actual flow being no more than hundreds of billions, they have a huge, untapped Green finance in this regard is not a luxury or a second best alternative, but rather a dire strategic requirement to attain energy security energy, economic self-sufficiency, and inclusive sustainable growth.

Green finance, according to this urgent requirement, is a qualitative and radical change in the conventional financial philosophy in that it introduces systematic and systematic approaches to the investment decision-making criteria to incorporate environmental and social considerations into the investment decision-making criterion. This underlying paradigm is not confined to the ethical or humanitarian component only, but also incorporates good and practical economic sense, as many of the studies and the available empirical data reveal that green investments bear fruitful and sustainable financial returns besides serving the purpose of mitigating systemic risks related to climate change. The role of green finance in the particular developing environment is not merely to help fund individual environmental projects, but to develop comprehensive institutional capacity and transference of enhanced clean technology that facilitates the development of new green employment opportunities, the betterment of popular health, and the enhancement of national economies in the global markets. In this holistic sense, the study of the mechanisms of green finance activation gains unparalleled significance and feasibility, as it will be aimed at drawing a roadmap to realism in the environmental, economic and social dimensions, and help to make a positive contribution to the creation of more sustainable, fair and equitable future of developing nations and their citizens.

The significance: The role of international green finance as a new way of financing the move towards a sustainable economy in the developing countries, and the model suggested to realize its full potential to achieve an environmentally and socially balanced growth is the issue of this research.

The research problem: is answered in the following main question: Does international green finance become an effective instrument to facilitate and attain the shift towards a sustainable economy.

Research hypothesis: The research is premised on the hypothesis that the international green finance contributes positively and centrally to the process of ensuring a sustainable economy in the developing countries, by financing green projects and enhancing environmental, economic and social indicators, even though there are institutional and market challenges that limit its efficacy entirely.

Research Objectives:

1. To investigate the theoretical nature of the concept of green finance and the international tools and mechanisms.
2. To examine the present situation of green finance and amounts of its flows in the developing countries.
3. To determine the value of international green finance in promoting the process of moving to sustainable economy in developing states.
4. To elaborate on the obstacles to the implementation of green finance and suggest mechanisms by which maximum benefits of green finance can be achieved.

2. Materials and Method

Part 1: The Conceptual and Theoretical Framework of Green Finance and Sustainable Economics in Developing Countries.

First: Conceptual and Theoretical Framework of Green Finance in Developing Countries:

1. The Concept of Green Finance

Green finance assumes various definitions, and it depends on the various viewpoints and organizations that have dealt with it. This contemporary idea, connecting the financial sector to the environmental one, has been of particular interest to international institutions and governments. The organisation for economic co-operation and development (OECD) defines green finance as: "finance that aims to achieve economic growth while reducing pollution and emissions greenhouse gases, minimizing waste, and improving the efficiency of natural resource use" [1].

International definitions agree on the close link between finance and environmental sustainability. The People's Bank of China (PBOC) defines green finance policy as "a set of policies and institutional arrangements designed to attract private investment towards green industries, such as environmental protection, energy efficiency, and clean energy, through various financial instruments this includes loans, private equity funds, bonds, and stocks. On the other hand, some definitions broaden to link green finance to inclusive sustainable development. For example, the Indonesian Financial Services Authority (OJK) defines sustainable finance as "the comprehensive support from the financial services sector for achieving sustainable development arising from a balanced relationship between economic interests social and environmental [2]. green finance can therefore be defined as the set of financial services and products designed to promote investment, financing, and risk management in projects and sectors with a positive environmental impact, such as clean energy, resource conservation, green buildings, and sustainable transport.

2. Characteristics of Green Finance: Green finance is characterized by a set of features that distinguish it from traditional finance, the most prominent of which are [3]:

- Direct environmental focus: Green finance is characterized by directing capital exclusively towards projects with measurable environmental benefits, such as renewable energy, energy efficiency, and waste management, with the aim of addressing climate change and protecting nature.

- Integration and sustainability: Green finance involves inculcating environmental, social and governance (ESG) standards in the very fabric of investment decision-making, where the financial sustainability and the production of a positive social impact are balanced in the context of sustainable development models.

- Financial instrument diversification: Green finance encompasses a niche product, with most of the more common being green bonds and loans, sustainable investment funds, and green insurance, which are tailored to meet defined environmental objectives.

- Transparency and Accountability: Having clear standards on reporting on the environmental impact and frequent performance reports are necessary to achieve the credibility of green projects and win the investor and regulator confidence.

- Climate Risk Management: This helps in the process of identifying and mitigating the financial risks of climate and the environment which helps in creating greater resilience of investment portfolios in protecting assets against future environmental and regulatory shocks.

- On-going innovation and development: This encourages the birth of new financial technologies and services to serve the green economy, and constantly develops to keep in line with new environmental needs and international policies, including the Paris Agreement [4].

- International standards: The organization of its standards in accordance with the internationally accepted models, including the Green Bond Principles (GBP) and the

Green Loan Principles (GLP) to be consistent and effective in meeting the global environmental objectives.

3. The Importance of Green Finance:

Green finance is a strategic instrument of attaining balanced and sustainable economic growth and its significance is reflected by the following key aspects [5]:

- Developing essential sectors: It subsidizes investments in sustainable agriculture, water resources management, fisheries and forestry, which lead to better land productivity and food security.

- Better use of resources: It increases the efficiency of water consumption in essential industries, which minimizes the use of groundwater and surface water resources and saves it to the future generations.

- Poverty reduction: It assists in reducing poverty by having the best utilization of natural resources and natural ecosystem, so that the benefits of the natural capital go where they are needed most.

- Creation of jobs: It also helps in creating jobs in areas that have potential like green transportation, renewable energy and sustainable agriculture.

- Breaking the linkage between economic growth and environmental degradation: This enables the economic growth without requiring more strain on the environment through directing investments to green projects, which is aided by proper economic policies.

- Restructuring the economy: This is a reorganization of the basic, institutional and economic structures to have the green sectors contribute to the gross domestic product.

- Towards cleaner production: This promotes the use of production processes that are more energy and raw material efficient and thus waste and gas emissions are minimized [4].

4. Green Finance Instruments

Green finance instruments are advanced financial tools that can be used to fund environmentally friendly project endeavors. They are significant in the selection of capital in favor of sustainability and the realization of the Sustainable Development Goals. To be more specific, we will describe them as follows:

- A- Green Bonds: Green bonds are the bonds that are issued to raise funds that are specifically used to fund qualified green projects and follow the principles of green bonds to make them transparent and disclose the uses and environmental impact like renewable energy projects and sustainable buildings [6].

- B- Green Loans: The loans are part of lending money to fund environmental activities and projects and they also adhere to the principles of international green loans. They entail such areas like enhancing energy efficiency and sustainable transport systems [7].

- C- Green Investment Funds: The green investment funds concentrate on the firms and projects that have excellent environmental performance and are judged on the basis of environmental, social and governance (E-S-G) factors to guide the savings of the investors towards the making the economy more sustainable. This is achieved by enhancing the relationships between producers and consumers. This is done through strengthening relationships between producers and consumers [8]

- D- Green mortgages: These will provide special treatment to borrowers who buy or build very green efficient houses hence fueling the green building market and helping to cut down on the emissions of the housing industry [9].

- E- Green Islamic Finance: These are instruments that integrate the Islamic Sharia with the aims of the environment to make Sukuk and Islamic financial products focus on financing green projects that bring social and environmental goals [10].

- F- Mixed finance: Mixed Finance is an alternative method of financing, a blend of the capital available through the public and the private sources, which is used to boost investments in priority-based green projects. The public capital serves as an incentive to bring in the private investments by lowering the risks that are involved in sustainable

projects, and it is a very effective instrument used in financing the green projects with high environmental impact and with high financial risk [11].

g- Innovative financing: Innovative financing mechanisms include environmental impact bonds, green incentive financing and crowdfunding of environmental projects, which focus on experimental financing models aimed at drawing the attention of the private sector to urgent environmental issues [12].

3. Result and Discussion

Second: The Green Economy and Sustainable Development:

The sustainable economy is an all-inclusive reference system in the realization of a balanced development of the economy by incorporating economic, social and environmental dimensions. The main purpose of it is to increase the quality of life of the existing generation and the future generation by a reasonable utilization of resources and preserving the environment, which will foster social justice and reduce poverty the idea cuts across the old paradigm of economics, focusing on the economic growth without damaging the environment and exhausting the existing natural resources [13]. One can say that sustainable economy is a holistic development model, which strives to reach dynamic balance between the needs of economic growth, the needs of the environment and the attainment of welfare and social justice, this model is reached with the help of collaboration and combination of the functions of all stakeholders, such as the governments, adult sector and civil society.

A sustainable economy is thought to be a comprehensive plan that tries to bring a balance between the economic, social and environmental aspects. The design must have effective strategies that guarantee sustainability of the natural resources and enhance the livelihood of people and society. A sustainable economy has the following goals [14]:

-Sustainability development: It is one of the core objectives of a sustainable economy since a sustainable economy aims to satisfy the needs of the current generation without affecting the capacity of the upcoming generations to satisfy their own needs. This includes the effective and sustainable utilization of resources and this means that economic processes are conducted in a manner that safeguards the environment and continuity of resources of the environment such as development of renewable energy and sustainable agriculture. Through sustainable development, the nations would be able to guarantee sustainable economic growth which improves the welfare of the society.

-Environmental protection: maintaining the environment is also a major objective of sustainable economy. This involves limiting the polluting economic practices like carbon emissions and industrial wastes. Through the implementation of environmentally friendly production, the adverse effects on the environment may be reduced to a minimum, and the quality of air and water may be enhanced. In addition, the environmental protection should also incorporate conservation on biodiversity, since healthy ecology is important in sustaining life on earth, this needs to have the natural resources like forests and water conserved so that they can be maintained by future generations [14].

-Social justice: A sustainable economy will also strive towards social justice through offering employment opportunity and enhancing living standards. This involves the establishment of an economic climate where every person irrespective of his or her social or economic status has access to economic opportunities. Through decreasing economic disparities among various communities, strong social cohesion and stabilizing the country is also achievable and thus enhancing human rights and gender equality which helps in creating a more equitable and inclusive society [15].

-Improving economic efficiency: Economic efficiency is an important goal of sustainable economy with the aim of better usage and minimized wastes of natural resources. This necessitates the acquisition of new technologies and production and distribution innovations. It will increase cost-efficiency by increasing resource (and

consequently cost reduction), and productivity (thereby aiding growth), so that the aspect of innovation in the field of renewable energy and waste management can help in achieving sustainability objectives.

-Economic stability: Economic stability is one of the main goals of sustainable economy because it aims at decreasing reliance on non-renewable resources like oil and coal. This demands the diversification of the source of income and the advancement of sustainable sectors of the economy like tourism and sustainable agriculture. With the attainment of economic stability, they will be in a better position to confront economic and social issues and will therefore help in improving the well-being of the society [16].

-Achieving food security: Food security is an essential goal of a sustainable economy and this is aimed at making sure there is adequate and balanced food to all. This entails the establishment of sustainable farming by adopting the use of modern and efficient farming technologies. Food security can be attained by ensuring that communities have better ways to enhance their crop productivity and minimize losses, and community health can be improved through sustainable water resource management since water is a basic component in agriculture.

-Community participation: Community participation is one of the goals of a sustainable economy, which tries to engage the community in the economic decision making and in sustainable policies. This necessitates the creation of avenues of communication between the government, the civil society, and the private sector and this way the economic policies drawn can address the needs and aspirations of all people since better and more sustainable results can be attained as people feel that they are involving themselves in the economic process [17].

-Adapting to climate change: Adapting to climate change is an important goal of a sustainable economy, which aims at finding effective mechanisms of adapting to changes in the environment that has implications on the natural resources and economic activities. It will involve a profound comprehension of the issues of climate change, including the growth of temperature and augmented frequency of natural disasters and alterations in rainfall patterns, and by introducing adaptation policy, nations and groups will have more capacity to handle the issues of climate change and this will aid in preserving the environment and natural resources.

-Encouraging innovation and technology: The encouragement of innovation and technology is one of the aims of the sustainable economy, which will contribute to the increased application of modern technologies to increase the efficiency of production processes and minimize the environmental impact. This necessitates allocation of funds in research and development to come up with new and sustainable solutions in fields like renewable energy, waste management, and agriculture through encouragement of innovation, major advances can be made in the efficiency of resources and cost-cutting.

-Enhancement of international cooperation: International cooperation is another crucial goal of a sustainable economy, that aims at increasing cooperation between nations to solve international issues like climate change and poverty. This entails establishing good working relationships between governments, non-governmental organizations and the private sector which can help in achieving the Sustainable Development Goals with the exchange of knowledge and experiences, countries can rely on the experiences of others and come up with efficient strategies that can be used to deal with the common challenges [18].

Third: Foreign exchange finance and the development of the environment:

The green finance of the international level is a primary contributor to the development in environmental aspects of the developing countries as it is one of the primary links between the global goals of sustainable development and the domestic economic reality of the developing countries, which languish in insufficient resources in the face of growing climate pressures, such countries are in a triple dilemma: they are the first affected by the changes in the environment, the last to adapt, and the need to develop

economically, which in many cases requires the unsustainable models. International green finance plays an important role in turning these challenges in reality development opportunities [19].

The last few years have seen the radical change in the architecture of international finance when green finance became a strategic instrument to cope with the global environment and climate issues. With the colossal financing gap that impedes the shift to a sustainable economy in developing nations, international green financial sources are diversifying and multiplying to compose an integrated mechanism between the donors and beneficiaries through innovative institutional pathways [20]. An intricate web of international sources of green finance is also needed to facilitate the shift to sustainable economy both by developing countries and multilateral organizations, bilateral development organizations, and specialized funds [21].

1. Multilateral International Financial Institutions

Multilateral institutions are the cornerstone of international green finance, representing institutional and formal financing channels, and include:

- Green climate fund: Green climate fund is the primary financial system of the United Nations Framework Convention on Climate Change. It was created in 2010 as the biggest global fund specifically on climate action, and its mission is to assist developing countries in the transition to a low-emissions development that is resilient to the effects of climate change climate change, and the balance of its funds is between the mitigation and adaptation projects. The fund works by facilitating an integrated combination of grants, concessional loans and equity guarantees through a system of approved bodies with the purpose of rallying more financing in the private sector [22].

- The World Bank Group: The World Bank Group is an institutional partnership that offers funds and expertise to the developing nations. Its major environmental activities are:

- Furthermore, there exists the Global Environment Facility: It deals with the problem of biodiversity and land degradation.

- Forest Investment Program: The Program: Helps in cutting down on deforestation.

- Clean Technology Fund: The group is devoted to implementation of renewable energy technologies and is committed to devote a substantial amount of its funds towards climate related projects and the target is to achieve an average of 35 percent in the period 2021-2025.

- International Bank for Reconstruction and Development (IBRD): The IBRD is the first multilateral international financial institution in the world The Bank took an important step in 1970, adopting a specific environmental policy which became the first precedent in considering environmental factors in development finance [23]. As a Bank committed to the 2030 Sustainable Development Goals, in 2001, it adopted an environmental strategy grounded on three pillars, i.e., increasing living standards, enhancing the quality of economic growth, and conserving shared regional and global environmental resources [9].

2. Regional Development Banks

Green finance Regional development banks constitute an essential network of financial assistance to the areas where they operate, which include:

- European Bank of Reconstruction and Development (EBRD): EBRD is a multilateral development financial institution, which has made a center stage to incorporate the concepts of environmental sustainability in its practice, and has strategically adopted to become a green bank [21]. Its policies undertake to make sure that most of its financing is climate related and invests in climate friendly environments that engage in a large-scale investment in energy saving initiatives, renewable and sustainable transport initiatives.

- Asian Development Bank: The Asian Development Bank is one of the key contributors of green finance in the Asia-Pacific region, which has realized that environmental sustainability is a condition to sustainable, inclusive economic growth. In 2022, the bank

published a revised environmental policy document that will direct the bank operations to sustainable infrastructure and clean energy projects [9].

-African Development Bank: The African Development Bank is about to make environmental sustainability, climate change a core element in its strategy and green financing priorities are developing renewable energy (particularly solar energy), climate-smart agriculture, and protection of important ecosystems [24].

-Inter-American Development Bank: The Inter-American Development Bank devotes an ever-growing part of its portfolio to fund climate action to balance mitigation and adaptation projects and focus on the protection of crucial ecosystems like the Amazon rainforest [9].

European Investment Bank: The European Investment Bank is the financial body of the European Union and it focuses its financing priorities to 5 main areas of work that are related to environment and climate and thus it plays a key role in financing the objectives of the European Green Deal.

-American Central Bank of Economic Integration: This is a bank with the objective of enhancing economic and social integration with a specific emphasis to sustainable development. It operates a 3-pronged strategy that involves funding the small and medium-sized enterprises that have a favorable environmental effect, funding the environmental projects directly, and funding the key projects connected with the administration of the water and energy resources [24].

3. International Development Funds

-International Development Association: The International Development Association is the outfit by which the World Bank loans and offers favorable grants to the poorest nations of the world on extremely advantageous terms. Statistical evidence also shows that sustainable urban development and environmental protection projects made a significant share in the association portfolio as it received approximately 10 percent of the total loans issued in 2002.

-Global Environment Facility (GEF): The GEF is the primary multilateral funding institution that is focused on supporting the worldwide environmental issues of the greatest concern, and its missions are aimed at mitigating four global environmental threats biodiversity loss, climate change, degraded water resources, and chemical and hazardous wastes pollution [22].

Fourth: Green Finance as an Instrument to facilitate the adoption of a sustainable Economy (Morocco Case Study):

Morocco is a country with complicated environmental and economic issues which demand paradigm shift in development policies. Its ratio of energy dependency is up to 97, and it is being hit by massive water stress, accompanied by a growing loss of natural resources (Economic Commission for Africa, 2025, p. 3) The shift towards a green economy, in this case is a concerted strategic action that incorporates the realization of economic growth, social justice and environmental conservation. The national report indicates that the shift towards green economy green will help in attaining sustainable development and eliminating poverty. This strategy has condensed in a strategic vision that is geared towards making Morocco a regional power in the realm of renewable energies and the sustainable economy, and green finance is a key tool in terms of financing this structural change.

Morocco has developed an elaborate legislative framework which is regarded as the best in the region. The primary law that governs environmental policies is the Law 12-99 (the National Charter of the Environment and Sustainable Development) [25]. A set of specialized environmental laws that include areas of vitality, such as Law 95-10 that governs resources water resources, Law 03-11 that governs environmental protection and rehabilitation, and Law 03-12 that requires an environmental impact study of the project, and regulations on pollution control (03-13), waste management (00-28), and protection of the controlled area (07-28) provide a solid legal basis of transition to the green economy.

These legislations complement the National Sustainable Development Strategy which promotes transformation in the environmental sphere as it is an indicator of the desire by the Kingdom to develop a sustainable model development that balances economic growth and natural resources conservation. This body of legislation has been developed in a very specific regard that is the energy sector; this has been seen in Decree 2-94-503 (1994). The legislative pivots which triggered the involvement of private sectors in electricity production included 09-13 (2009) on renewable energies, 09-57 (2009) that created the Moroccan Agency of Solar Energy (MASEN), and 09-16 on the National Agency of the Development of Renewable Energies and Energy efficiency [26]. This specialized legislation is one of the key pillars this provides an opportunity to translate the holistic vision of the environment into specific projects so that investments can be standardized on the energy transition and facilitate the realization of a sustainable development in the country. The top institutions in the green economy of Morocco are indicated in table (1).

Table 1. Leading institutions in the green economy in Morocco

Legal framework	Year of establishment	Specialization/Main Role	Foundation
Law 57-09	2010	Developing giant renewable energy projects, issuing green bonds	Moroccan Agency for Sustainable Energy (MASEN)
Law 09-16	2016	Improving energy efficiency and developing renewable energies	National Agency for Renewable Energies and Energy Efficiency
Structure of the general union	-	Encouraging and supporting companies in their involvement in the green economy	Green Economy Committee of the General Confederation of Moroccan Enterprises
Ministerial decisions	-	Funding for environmental rehabilitation programs and sustainable projects	National Environment Fund

Source: Economic Commission for Africa Report (2025, p. 7)

Innovative Green Finance Mechanisms in Morocco

1-Specialized Local Funds: Morocco has developed a banking system of specialized funds to direct investments thematic of green projects, including the National Environmental Fund which aims to fund environmental rehabilitation projects and sustainable projects with grants and low-interest loans to industrial and traditional units (Economic Commission for Africa, 2025, p. 12), and the Industrial Pollution Control Fund, which finances environmental rehabilitation projects and sustainable projects with grants and low-interest loans to industrial and traditional units. (Tabani and Atwi, 2021, p. 44). on top of the Moroccan Solar Energy Company with a capital of 1 billion dirhams that serves as the instrument of financing large solar projects. It is essential to note that the emphasis is on soft skills and branding since the organization's future operations will rely on these (Economic Commission for Africa, 2025, p. 11)

2--Green bonds as one of the most popular financing instruments: Morocco has become one of the first countries in the region to develop the green bond market. The publication of the Green Bond Framework by the Moroccan Capital Market Authority in the year 2016 followed the COP22 conference, which led to a bunch of successful issues (Moroccan Capital Market Authority, 2016).

Table 2. Major Green Bond Issuances in Morocco (2016-2025)

Funded projects	interest rate	Issuing currency	Value	the date	Source
Noor Bourzazate Project	5.25% variable	MAD	1.15 billion dirhams	November 2016	MASEN
Renewable energy and energy efficiency	4.5% fixed	MAD	2 billion dirhams	November 2016	Central People's Bank
Energy efficiency projects	3.5% fixed	EUR	135 million euros	June 2017	Commercial Bank
Green infrastructure	1.75% fixed	EUR	1 billion euros	October 2021	Government of Morocco
Railway electrification	4.8% fixed	MAD	2 billion dirhams	January 2025	National Railway Office

Source: sustainable banking network, creating green bond markets, insights, innovation, and tools from merging markets, by climate bonds and ifc, october 2025, p 29.

3-International Financing and strategic alliances: Morocco has been enjoying a nice experience with the international financing to finance its green transition with the World Bank, which has financed Morocco more than 4 billion dollars since 2010 with 800 million dollars alone in December 2020 through three agreements of the Green Program and Sustainable Urban Transport. Another example is the Islamic Development Bank, where a \$206 million action plan of 2019-2022 was concluded, with assistance to the National Initiative of Human Development and the Rural Development Project (93.8 million). Moreover, the European Union committed through the Neighborhood Programme to allot an amount of 43 million euro of the Green Climate Fund to climate change adaptation programs and another 80 million euro to renewable energy programs.

Green Finance Green Finance in Morocco- Achievements.

1-A Qualitative Leap in Renewable Energy: The portion of renewable energy increased to 42 percent in 2023 through the assistance of green funding of up to 6 billion dollars, and the emissions dropped to 3.2 million tons a year [27].

2-Creation of Employment and Economic Inclusion: Green finance generated 50,000 jobs, 2,500 small businesses and 8% renewable energy sector growth rate.

3-Creation of an Advanced Green Financial System: Morocco was the first country to take the lead with the issue of the green bonds of 4.5 billion, and the green lending became 15 percent, and the first green equity index was created.

4-Increasing the indicators of sustainability and environmental governance: The environmental performance rose by 15 positions, the carbon intensity reduced by 25 percent, and the number of protected areas increased to 30 percent of the state territory.

5-Promoting innovation and the transfer of green technologies: Investment of 800 million dollars in research and development led to 250 patents, 50 technologies transfer and 5000 specialists training. Nonetheless, the researchers emphasized that this organization encounters difficulties due to the lack of an effective communication strategy. However, the authors also noted that this institution faces challenges because it has no proper communication strategy.

6-Regional leadership and international integration: Morocco has not only been a regional center with the first African carbon exchange and export of 1,200 megawatts of green energy, but also has also been the recipient of international awards.

Fifth: Problems and Perspectives of Green Finance in Developing Nations.

Green Finance Issues in Developing Countries-

The issue of developing green finance in the developing nations is a complex one, though it is crucial in financing the process of ensuring the country shifts to a sustainable economy. These challenges are caused by the combination of the structural, political, technological and economic forces that prevent the mobilization and focus of the required capital by these countries on the green projects. The above issue is compounded by the increasing pressure of global climatic conditions and the urgency of the need to respond these issues in the design of a working and fair financing system that addresses the requirements of sustainable development in these nations. Among these difficulties there are:

1-Weak institutional and legislative framework: The regulatory gap in most developing countries is very high, as they do not have clear and integrated legislation frameworks, to define the green financial instruments, to have specific criteria on classification of sustainable projects, and to have transparency requirements on disclosure of environmental and climate impacts. This lack of such legislation results in a legal uncertainty situation on the part of the investors and it causes the risk of greenwashing to increase and local financial institutions are in a bad situation to create unique and dependable green financing instruments, which destroys the confidence in the market and prevents the development of the sustainable finance sector at its core (Economic Commission for Africa, 2025, p. 18)

2-Minor financial market depth, and private participation: The capital markets of most developing nations are small and not particularly liquid, and most of the financial market is ruled by the traditional short-term banking market, where bond and stock market activities are second fiddle. It leads to the shortage of long-term green financial instruments (including green bonds) environmental projects have to be invested, and their demand is low because of the absence of a wide base of institutional investors (including pension and insurance funds) willing to participate in sustainable investments and the lack of willingness to do it on the part of the private sector because of the perceived risks and the lack of proper incentives. (Tabani & Atwi, 2021, p. 73)

3-The knowledge gap and the inability to perform technical functions: The absence of awareness and expertise at a specific level is a significant obstacle at multiple levels. The policymakers and financial institutions are mostly lacking a clear insight on the needs and mechanics of green finance and borrowers (particularly the small and medium-sized enterprises) lack the ability to formulate viable green projects to be funded through green finance with clear business models and the technical skills to measure, assess and report on the environmental impact of the projects themselves are few and costly and this makes the process of reviewing and certifying a project as being green a pain and makes the issuance of the green financial instruments more expensive. (Al-Khalil and Faqihi, 2024, p. 92)

4-Opposing priorities and state budget considerations: The demands of green finance, where high start-up costs and long-term payoffs are the features of this category are conflicting with the pressing needs of development in the third world, where the demand is to create jobs and access to the basic services (health and education). Governments are in a dilemma between the two priorities between international commitments on climate and local realities results in the allocation of the limited resources to the green transition. This dilemma is further compounded by the sovereign debt crisis and budgetary constraints since the funds available are first utilized to eliminate the current deficit and fund social programs, to the disadvantage of funding green infrastructure [28].

5-International finance dependency and volatility: Since most of the developing economies heavily depend on international public finance (grants and concessional loans) and foreign direct investment to fund their large-scale green projects, they are very vulnerable to fluctuations in international finance. The source is however unstable and

fluctuating given that its flow is also tied to the fluctuating agendas and policies of the donor countries and investors besides, the terms and the conditions that come with such funds are not always in tandem with the national priorities and settings. This reliance makes the flows of green finance vulnerable and unsustainable and restricts the capacity of the state to develop and deliver long-term and independent plans of green transformation.

Opportunities offered by green finance to developing countries:

1-Existence of global climate finance: Developing countries can get a access to specialized sources of global climate finance via programs like the Green Climate Fund (GCF), World Bank partnership programmes and adaptation funds. These sources of finance are particularly aimed at financing sustainable projects in the emerging economies this gives easy access to credit facilities, non-refundable grants, and investment guarantees. The nations that implement national plans of renewable energy ambitious can receive specific financing of the development of the solar or wind power plants as well as the encouragement of the domestic capacity development and technological transfer. This funding is not confined to the investment domain only, but also extends to the technical training and development The institutional frameworks that are needed to make the projects sustainable (G20 Insights, 2017)

2-Diversifying the economy and generating new green jobs: Green finance is a viable means to decouple economic growth and environmental depletion, and through investment in other green sectors, such as renewable energy, sustainable agriculture and ecotourism, and integrated waste management, developing countries can diversify the economy not completely based on the finite nature resources, and each of the green sectors provides a new employment value chain, both in technical jobs in the installation of solar panels, in energy efficiency engineers, to other jobs in the management of Nature reserves tend to be more stable and better paid (Krushelnyska)

3-Encouraging Localization of Clean Technologies and Technological Innovation: Green finance is a powerful incentive to localize clean technologies and develop local innovation by financing green business incubators through supporting startups in clean water technology or sustainable building materials, developing nations are building a new knowledge-based industrial base. It is not only the importation of technology, but also leads to local research and development and educates domestic talent in future-related areas, which empower the local communities and enhance the quality of life, as well as lowering the total expenditure of citizens and the nation over the long term.

4-Climate Change Adaptation and Community Resilience Building: The projects on climate change adaptation are the areas of financing since it is a significant and urgent demand of the developing nations, particularly those ones that are susceptible to drought, floods, or a rise in the sea levels. Green finance might be channeled to resilient infrastructural projects, including the construction of smart irrigation systems, better flood resistant drainage systems and planting of trees to fight desertification. The investments do not safeguard lives and property not only that, but it also keeps agricultural productivity and water and food security, saving the economy a lot of long-term losses. improving resilience is a preventive investment with high economic and social payoffs [29].

5-Building green and innovative local financial markets: The world needs sustainability gives developing nations a chance to build and expand its local financial markets, with the help of innovative instruments, central banks and regulating agencies can establish instructions of the green finance and prompt the banks to create green loans. The national savings can also be pooled into a local green bond market so as to fund sustainable projects. This is not only an effective way of creating local liquidity but also an enticement to the international financial institutions seeking assets that meet the environmental, social and governance (ESG) sustainability criteria, which puts the country in a better position on the financial map of the world.

4. Conclusions and Recommendations

First: Conclusions

1-The research hypothesis was also proved that international green finance is a powerful and effective instrument to assist the transition to a sustainable economy of developing countries, with the help of financing green projects and environmental, as well as economic and social indicators, despite the existing challenges.

Mobilization of green finance has been proved successful in

2-Case studies: the innovative Islamic green sukuk model used in Malaysia, the effective application of sovereign green bonds in Egypt, and the ambitious green finance-supported energy transition in Morocco, which support the idea that it is possible to make models national.

3-The green financial catalysis is not only important in financing but also in the establishment of the institutional capacity, clean technology transfer, financial inclusion, and establishing new employment opportunities in the promising green sectors.

4-Developing countries have experience in common structural challenges to the growth of the green finance, the most prominent being weak regulatory frameworks and unified standards, lack of depth and tools of local financial markets, and excessive dependence on fluctuating international finance, which requires mitigation of such barriers to provide sustainability of finance flow.

5-The role of green finance needs supportive macroeconomic policies, political intent to shift environmental and climate issues into a national issue, and the introduction of green aspects in the very essence of development planning and state investments, particularly in the light of the massive financing gap between requirements and real flows.

Second: Recommendations

1-In the developing countries, governments must devise and put in place open national legislative and regulatory frameworks of green finance such as definitions and criteria of green projects, and disclosure and review mechanisms, to thwart the activities of green money laundering and to establish investor confidence.

2-Trying to build and strengthen the local financial markets through encouraging the issuance of local green bonds, incentivizing the banks to design green financing instruments (e.g. green loans) and motivating the institutional investors (e.g. pension funds) to generate sustainable local demand that uses green financial instruments.

3-The necessity to contribute to the establishment of technical and institutional facilities in the sphere of sustainable financing, by giving specialized training to financial institutions, to the companies operating in the private sector and to the policymakers, and, in particular, to the evaluation and reporting of environmental and climate effects.

4-Enhancement of public- private partnerships and coming up with new forms of mixed financing where the public capital makes guarantees or initial funding to minimize their investment risks in green initiatives and induce investments by the private sector particularly sustainable infrastructural projects.

5-The developing countries must aim to ensure that they reap the most out of international climate finance (including the Green Climate Fund) by getting bankable projects ready that are aligned with country-determined contributions (NDCs) and at the same time seek to diversify the sources of funds to minimize reliance on fluctuating foreign flows.

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