

## Green Finance and Its Role in Reducing Climate Change and Achieving Sustainable Development: Iraq as A Model

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### ABSTRACT

The research aims to demonstrate the role of green finance in reducing the impact of climate change and contributing to achieving sustainable development and preserving the share of future generations of resources. There is no doubt that climate change has become one of the most important challenges facing planners at all levels, and that working to find ways to limit this impact and create a suitable environment for development and creativity represents the ultimate goal sought by all those interested in the environment and economy, as these sciences are directly related to humans. The researcher concluded that the shift towards a green economy is one of the most important ways that represent logical solutions to reduce the impact of climate change

**Keywords:** *Climate change, green finance, sustainable development, green economy*

### 1. INTRODUCTION

The shift towards a green economy is an inevitable necessity to confront climate change and environmental pollution in its various forms, which in turn affects sustainable development, if many countries have worked to take clear steps towards enhancing the role of green projects in their economy by providing the necessary financing means (green financing) and have acquired the largest proportions of issuing green bonds to finance energy, construction and water projects that adhere to green environmental standards. There is no doubt that the shift towards enhancing the role of the green economy leads to many positive effects in favor of the sustainable development process, including (reducing the gap between supply and demand for resources and enhancing production). Climate change is one of the most important challenges facing the achievement of sustainable development, and the process of controlling or reducing it is not an easy matter, especially if we know that reducing the main causes of its occurrence greatly affects the economies of many major countries around the world, especially industrialized countries that contribute greatly to increasing the emission of polluting gases that cause the phenomenon of global warming. This explains to us the reasons that led to the failure of many conferences held around the world in addressing this problem and reducing gas emissions from the factories of those countries that have sovereignty and global decision-making. Here, it has become imperative for specialists in climate studies to find the appropriate solution to reduce the danger that can result from climate change

### 2. RESEARCH PROBLEM

What are the challenges that climate change produces to achieve sustainable development of water resources.

#### Research hypothesis

Climate changes contribute significantly to limiting the achievement of sustainable development of water resources.

## Research objective

The research aims to demonstrate the impact of climate changes on achieving sustainable development of water resources, and an attempt to propose a set of solutions through which the impact of these changes can be reduced and the rights of future generations to these resources can be secured

## The concept of green finance, its tools and its global development

The definitions that explain the concept of the green economy and finance have differed. The United Nations Environment Program defined the green economy as: the economy that improves people's lives and ensures their well-being and social justice. It also cares about preserving the environment and the ecological system from any risks that affect it in the present or the future., and the Organization for Economic Cooperation and Development defined it as: the financing that targets economic projects that preserve the environment and its capabilities, reduce the waste exposed to it to a minimum, and improve the efficiency of using available natural resources and seek to maximize them in the future. Shedding light on the importance of green finance by the United Nations Environment Program, which was represented by the Environment Program joining a group of commercial banks to enhance the awareness of the environmental program in the banking industries and enhance this initiative with a unique partnership between the United Nations Environment Program and the group of banks, which represents the first idea of green finance. Its importance is highlighted by the following:

1. Green financing provides the necessary financing for investment in the field of agriculture, which contributes to preserving agricultural areas and enhancing their productivity and efficiency.
2. Green financing contributes to raising the level of efficiency in the industrial sector and relying on renewable energy, which in turn works to reduce pressure on natural resources.
3. It contributes to opening up the field for planners in urban planning and taking sufficient opportunities to achieve a balance between uses within the city, which contributes to increasing the share of green sectors through the development of the economy.
4. Directing resources towards environmentally friendly economic sectors, which reduce waste and emissions of gases that cause global warming.

It can be said that the importance of green financing is that it balances the process of achieving economic growth and reducing environmental pollution, as it supports green projects and environmentally friendly projects and reduces harmful emissions and pollution in all its forms. The importance of green financing is also evident through raising the levels of efficiency in the agricultural and industrial sectors, enhancing the optimal exploitation of natural resources and separating the different impacts on the environment and reducing them within the framework of economic development, by adopting financing green projects in various development sectors.

## Green Financing Paths in Iraq

The term green financing is relatively new, so working according to this approach requires integrated strategies and programs between all parties that make the decision to implement this approach, including (the Ministry of Finance and government banks). Before that, there must be a legislative decision from the state to adopt this project, which in turn can contribute to enhancing financial stability by integrating sustainable development into the credit decision-making process, and directing financing towards green projects within the framework of investment. Directed towards achieving sustainable development goals.

In general, achieving sustainable development goals requires investment in the areas of infrastructure, clean energy, water, sanitation, agriculture, energy-saving products and other areas targeted by green financing. It is worth noting that these areas are environmentally friendly and investing in them aims to reduce pollution and preserve the environment.

These areas are the ways and means of green financing towards achieving sustainable development goals in a way that preserves the environment and reduces the effects of pollution caused by industries, carbon emissions, etc. Climate finance can be considered one of the areas and components of green finance that focuses on financial investment related to reducing the effects of climate change, which enhances the multiple efforts made to combat climate change within the framework of the United Nations Framework Convention on Climate Change. The global market for green finance has witnessed rapid growth in light of the development of various financial instruments classified as green to include the following

## Green loans

These are loans directed to finance environmental projects or those projects that maintain sustainable standards according to countries' plans towards green transformation and usually have relatively lower interest rates than other loans to encourage the borrower to establish projects that serve sustainable development goals that are favorable to the environment.

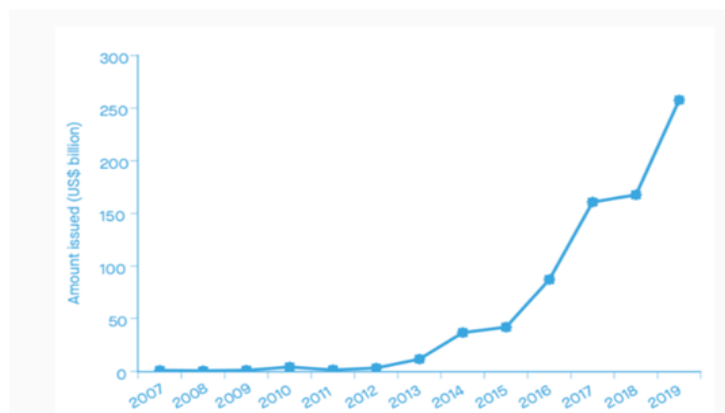
## Sustainable loans

Sustainability-linked loans are considered an alternative form of green loans with the only difference being the possibility

of increasing or decreasing the interest rate on the loan according to the borrower's change in sustainability rating during the loan period. When he deviates from the principles of sustainable financing, the interest rate usually increases.

### Green bonds

The World Bank defines green bonds as debt instruments issued to obtain financing for borrowed projects related to the environment and climate in order to encourage environmental conservation such as clean energy projects, climate conservation, sustainable waste management, etc. Green bonds also differ from others in that they create a commitment to spend the resulting financing in green projects. Green bonds are one of the most widespread and widely used green financing tools in countries around the world, whether in the private or public sector. Although green bonds have the same features as traditional bonds in terms of structure and expected returns, what distinguishes them is their environmental purpose dedicated to projects with positive results for climate and environmental sustainability. Interest in green energy projects has increased worldwide in implementation of the United Nations development goals. This interest is clearly evident by following the increase in global green bond issuances, which witnessed a significant increase after 2013, with an increase in issuances of more than 300 times what they were in the period (2007-2019) and an average annual growth rate of 104% during the same period. Demand for green bonds gained significant momentum after the formulation and signing of the Paris Climate Agreement in 2015, reaching about \$134 billion in 2017. Green financing continued to increase, reaching \$266.5 billion in 2019, compared to \$171.4 billion in 2018. By the end of December 2020, it reached \$269.5 billion, and continued to rise to reach \$279 billion in 2021. See Figure (1). Value of global green bond issuances during the period (2007-2019) US dollars



- ✓ This is clearly demonstrated through:
- ✓ Renewable energy: represents financing investments related to clean, low-carbon energy sources, such as investing in solar energy, wind energy, bioenergy and other environmentally friendly resources.
- ✓ Green buildings: the trend towards using environmentally friendly materials in construction and building, which has a long-term impact on the environment and falls within sustainable development or green development.
- ✓ Sustainable transportation: is investing in a less polluting transportation system and forming part of a safe ecosystem that does not affect the climate, environment and health.
- ✓ Waste management: is investing in recycling and reusing many products and converting them into other products of value and benefit that can be used again.
- ✓ Sustainable agriculture: is investing in increasing green spaces and reducing the cutting of forest trees due to their impact on the climate, in addition to reducing the negative effects facing the agricultural area from desertification, urban sprawl and soil erosion, which enhances efforts seeking to preserve green spaces.

### The positive effects of green financing in reducing climate change and achieving sustainable development

#### Introduction

Iraq has witnessed many challenges resulting from desertification, low water levels, and radiation resulting from internal and external wars throughout its long history, in addition to the absence of future planning that keeps pace with economic and environmental changes at the regional and global levels, which produced a weak economy and a repulsive environment in which pollution has spread widely, and diseases and other environmental problems have become the most difficult challenge facing the people of this country, which requires a major and serious shift towards comprehensive planning that ensures addressing all challenges, and that this shift can appear clearly through the shift towards a green financial system. This requires building a production base that relies on renewable energy sources in order to reduce pollution levels and work to support environmentally friendly projects and reduce dependence on fossil fuels in industry and increase green spaces and

good water management to preserve the planet, provided that it takes into account the environmental aspects in the use of traditional (depleting) and renewable energy, as the components of the shift towards a sustainable green economy must be available in Iraq from technology that can contribute to the use of renewable energy sources in addition to the availability of the costs of that shift in order to guarantee the rights of future generations from here. The necessity of Iraq's transformation towards a sustainable green economy is highlighted as it faces the problems that hinder the sustainable development process that the Iraqi economy needs in order to reduce dependence on traditional energy sources. Iraq has witnessed major changes throughout its history that led to the disparity in its economy. This is due, of course, to the circumstances that the country went through, in addition to the resources or sectors that worked in different periods of time. In the fifties of the last century, the predominant activity was agricultural activity, as more than half of the workforce depended on this activity. As for the industrial sector, it was limited to simple industries represented by handicraft industries, and most consumer goods and commodities were imported from abroad. After that period and the emergence of oil as an economic resource for the country, the Iraqi economy became rentier and depended on oil revenues to a very large extent. As for the eighties and nineties, Iraq lived through wars and sieges, which resulted in complete isolation that generated many economic problems. As for the changes that occurred after 2003, which changed many features of the Iraqi economy, which were represented in the transition from a central economy to an open market system and economic freedom, they were not sufficient to change the reality, but rather the reality of fragility and weakness in the economy continued, by reviewing some of the main economic indicators during the period (2005-2020).

And in light of the economic changes witnessed by the world, and in order to move towards building a green financial system capable of facing climate challenges in Iraq and reducing their severity, several strategies must be followed to ensure comprehensive change in the reality of the environment and the economy, and following these strategies according to a timetable, then this program is represented by the following:

1. It is necessary to move towards building a national strategy and developing medium and long-term plans to move towards an environmentally friendly and low-emission economy and move towards using renewable and clean energy sources.
2. Work on establishing state-owned investment funds that are dedicated to environmentally friendly investment and ensuring a favorable and stimulating environment in addition to building a regulatory and legislative framework specializing in green financing and a climate-friendly economy.
3. The necessity of working on building large financial institutions specialized in the field of green financing and capable of providing the necessary financial resources to finance environmentally friendly projects.
4. Work on urging and encouraging the private sector to implement environmentally friendly projects and provide them with special incentives and all the necessary requirements for that.
5. Moving towards applying the concepts of partnership between the public and private sectors, in which the environmental factor is the main element in these projects.
6. The necessity for the Central Bank to adopt a set of strategies and work to establish green banks and conclude agreements with specialized financial institutions and develop plans to establish green banks whose mission is to provide financial resources for environmentally friendly projects.
7. Encouraging the issuance of green bonds and bonds with a social impact that aim to provide social programs under the name (Pay for Success Contracts) and benefit from international expertise in this field.
8. Issuing instructions by the Iraqi financial market to start listing companies, institutions and banks specialized in the field of green financing and encouraging the issuance of green shares.

### 3. CONCLUSION

The green financial system's reliance on a set of financial instruments that can be called products and services can contribute to addressing and mitigating some environmental challenges. However, this process requires methods of controlling and enacting laws that facilitate the process of implementing green financing, in addition to initiatives that ensure achieving the goal of implementing the law or green financing. These laws and initiatives are as follows:

1. Establishing a partnership between environmental programs and a group of commercial banks, the aim of which is to find financing and enhance awareness of environmental programs in banking industries.
2. Investing in the fields of agriculture to preserve agricultural lands and protect them from desertification.
3. Relying on renewable energy in the industrial sectors to reduce pollution on the one hand and preserve natural resources from depletion.
4. Giving the environmental sector priority in the field of planning and increasing green spaces.
5. Monitoring imports of goods and merchandise and the need to direct that these materials be environmentally friendly

by reducing the level of waste.

Focusing on raising environmental and climate change issues in legislative and decision-making councils and holding training courses and workshops to enhance the skills of employees in the Ministry of Finance and banks in how to deal with environmental disasters and climate change

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