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**(Original scientific paper)**

**GREEN FINANCING: OPPORTUNITIES AND CHALLENGES  
FOR THE BANKING SECTOR IN THE REPUBLIC OF  
NORTH MACEDONIA**

**Abstract:** The last decade can be said to be a historic turning point in the fight against climate changes. In the process of adapting to these changes, green financing appears as one of the possibilities for financing projects that are essential for the future of all of us. Green finance is a broad term that can refer to financial investments in sustainable development projects and initiatives, environmental products and policies that encourage the development of a sustainable economy. Potential investors in the process of green financing could be commercial banks, pension funds, insurance companies, which, apart from being driven by profit, would also be active participants in the green transition both in the world and in the Republic of North Macedonia. This is where the main aim of this paper comes from, to analyze the trends of green financing in the Republic of North Macedonia, the challenges which the banking sector experiences nowadays, as well as the sources of green financing available to it. The concluding observations from this research showed that in our country, apart from the voluntary approach to defining guidelines for green instruments, certain financial and regulatory incentives are also needed for the process of green transformation of the financial sector in the Republic of North Macedonia.

**Keywords:** green financing, green bonds, green credits, EBRD, GGF  
**JEL Classification:** G1, Q5

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## **Introduction**

The last decade could be considered as a historic turning point in the fight against climate change. In the process of adapting to these changes, green financing appears as one of the possibilities for financing projects that are essential for the future of all.

Green financing is a broad term that can refer to financial investments in sustainable development projects and initiatives, environmental products and policies that encourage the development of a sustainable economy. Having regard to the estimates of the current financial needs for green investments, it can definitely be said that the state budgets are far from sufficient to support all projects. That is the reason why there is a need for large amounts of private capital and the active involvement of large institutional investors (OECD, 2006).

The function of international financial institutions is essential in supporting green financing and transition, in several aspects. The most important is that they have a pioneering role in finding and testing new ways of financing through the covenants they impose on their clients. Their role in mobilizing private capital is essential, regarding the process of mobilization through innovative instruments and channelling it into green projects.

The mobilization of capital for green investments, despite the rise of the green agenda in recent years, is still quite limited.

Basically, green financing includes financing public and private projects in environmental goods and services, as well as the prevention and mitigation of climate change.

The subject of this research is the challenge facing the financial sector in the Republic of North Macedonia when it comes to green financing. Bearing in mind that green financing in the Republic of North Macedonia is still in an initial phase, unlike world trends, the financial sector has a wide range of opportunities for the development of green financing that will be analyzed and summarized in this paper.

The main aim of this paper is to analyze the trends of green financing in the Republic of North Macedonia and the challenges facing the banking sector.

In this research will be made an appropriate analysis of the research subject through the collection of secondary objective data. The methods of analysis and synthesis, descriptive methods, comparison methods, quantitative methods, and deductive methods will be used, through which appropriate conclusions will be drawn.

This paper consists of five parts. The first part is dedicated to defining green financing and its essential meaning. The second part deals with topics related to green banking and the emergence of green banks. The third section elaborates on the role of international financial institutions in supporting green financing. The fourth part defines the position of the Republic of North Macedonia in relation to green financing and analyzes the development trends of green lending activities, while the fifth part emphasizes the importance of international institutions supporting green financing, with a special review of EBRD and GGF as one of the most active supporters when it comes to green financing in the Republic of North Macedonia. The last part of this paper contains the concluding observations.

## **1. Defining green financing and its meaning**

Defining green finance is a serious challenge. One of the reasons is that in all the papers the definitions differ from each other, and the second reason is its connection with other “types” of financing such as sustainable financing or responsible investment, however, when talking about financing and investing in environmental projects, it is mostly meant of green financing. The G20 green finance study group defines green financing as the financing of investments that deliver environmental benefits in the broader context of environmentally sustainable development. These environmental benefits include reductions in air, water and land pollution, reductions in greenhouse gas emissions, improved energy efficiency in the use of existing natural resources, as well as climate change mitigation and adaptation and their mutual benefits. The Organization for Economic Co-operation and Development (OECD) defines green finance as finance for achieving economic growth by reducing pollution and greenhouse gas emissions, minimizing waste and improving efficiency in the use of natural resources. In the simplest terms, green financing represents any structured financial activity, product or service, which is created to ensure a better environmental effect (Nelson, 2004).

In recent years, green financing has been the number one priority of the United Nations. Bearing in mind that green financing plays an important role in meeting the goals of sustainable development, the United Nations and its environment team are already actively working with the public and private sectors in an attempt to harmonize international financial systems. Green financing aims to increase the level of financial flows (from banking,

microcredit institutions, insurance and investments) from the public, private and non-profit sectors to sustainable development priorities. A key part is to be better at managing environmental and social risks, take advantage of opportunities that bring a decent rate of return and environmental benefits, and ensure greater accountability.

Green financing is growing rapidly and represents a significant commercial opportunity for companies dealing with financial services.

In addition to public finances, a significant increase in support from the financial services sector is also needed to achieve the set goals. This not only represents a commercial opportunity for the financial services sector but also an opportunity for the sector to demonstrate its social purpose, playing a key role in the transition to a sustainable world with low carbon emissions.

The financial sector represents a fundamental catalyst for increasing awareness of the need and volume of green financing. Currently, however, the financial sector as a whole is not “green”. Banks and investors still provide significant amounts of funds for environmentally destructive activities, including the burning of fossil fuels far above the levels that must be observed to prevent catastrophic climate change.

## **2. Green banking and green banks**

Most of the financing of green projects and investments in sustainable energy sources goes through banks. The term green banking itself can be defined as banking from which there are some benefits for the country to preserve the environment.

The emergence of green banks in the financial sector is a trend in the last five to seven years, although in recent years green financing and green banking have become top topics and priorities of all countries. Green banks are usually publicly capitalized entities, established specifically to facilitate the entry of private investment and capital into domestic infrastructure and industry aimed at reducing carbon emissions, mitigating the effect of climate change, and also other green sectors such as water and waste management.

As a trigger for the establishment of green banks in certain countries can be singled out the fact that in those countries there is a lack of funds for financing and supporting “green” projects.

The fact that they are created to fulfil a certain mission means that the trigger force of these banks is not profit but enabling a clean and sustainable environment. The mission of all green banks is to fight climate change fi-

nancially, however, certain green banks go a step further, which means, they engage in the fight and support to improve resilience and serve low-income communities.

An additional role of these banks is the presentation of profitability from investments in these types of projects, i.e. to act as a kind of catalyst in the development of this market. Green banks had the advantage that, unlike commercial banks, they are free from the pressure of competition.

Everything abovementioned highlights the importance of the existence and development of green banks, but despite this, there are significant barriers that they face.

The main obstacle can be said to be environmental, energy and climate policies and regulations that often favour investments in fossil fuels instead of green infrastructure.

Another barrier that can be singled out is regulatory policies that have unintended consequences.

The lack of appropriate financial instruments and funds with characteristics that private investors are looking for, can be pointed out as the third barrier.

Thus, as an additional barrier appears the lack of objective information, data and skills to assess transactions and underlying risks.

Due to the barriers that exist, the role of green banks in developing countries is taken over by development banks.

### **3. The role of development banks in green financing**

State development banks have a great capacity as a catalyst when it comes to mobilizing key investments in order to transform an economy into a green economy with low carbon dioxide emissions. They are the basic instrument in the last decades with the help of which governments manage to make a serious step in greening the entire economy, as well as develop innovative financial solutions. Supporting these types of projects and investments by development banks is crucial because they require longer terms, low-interest rates, and alternative approaches to collateral evaluation.

In general, several key functions can be singled out for development banks, such as providing countercyclical financing, encouraging innovation and structural transformation, supporting the financing of infrastructure projects, promoting environmental sustainability and combating climate change. A key precondition for a state development bank to play its part consists of two

elements. The first element is to ensure a sufficient level of capital, which is usually provided by the government, while the second element is to mobilize and use private funds in the direction of financing projects that lead to the reduction of carbon emissions and the reduction of the effect of climate change. Banks with their capacity can be indebted more easily on the domestic and international capital market, so they can use these loans in the form of their own lending, according to current plans.

The provision of technical and consulting assistance by development banks for projects and investments related to the green economy is also of crucial importance for all investors who receive enormous assistance for the successful realization of these types of green projects.

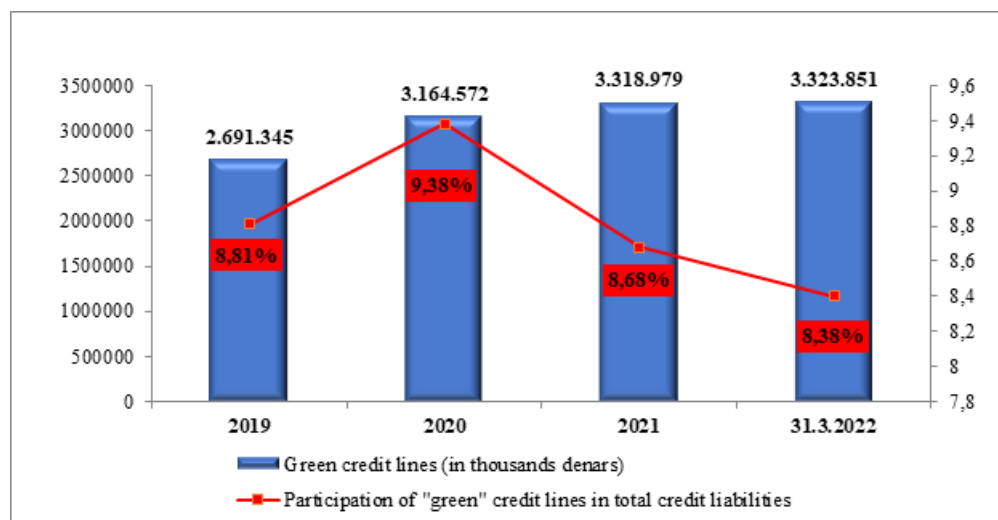
#### **4. The Republic of North Macedonia and green financing**

Macedonian banks are increasingly involved in the promotion of the green agenda and represent a kind of promoter of investments in sustainable energy sources. According to the information from the annual reports and the websites of the commercial banks, it can be concluded that the main sources of green financing in the Republic of North Macedonia are the European Bank for Reconstruction and Development - EBRD through the GEF fund and the GGF (Green for Growth) credit line for energy efficiency.

As at 2022, the National Bank has started publishing data connected to the sources of financing for green financing in the Republic of North Macedonia, which are mainly realized through the so-called green credit lines.

The definition of World Bank is taken as definition for green credits, which the term “green” credit explains as a method of financing that allows the credit user to invest exclusively in projects with a significant positive contribution to the environment and in projects that contribute to the reduction of negative effects from climate change.

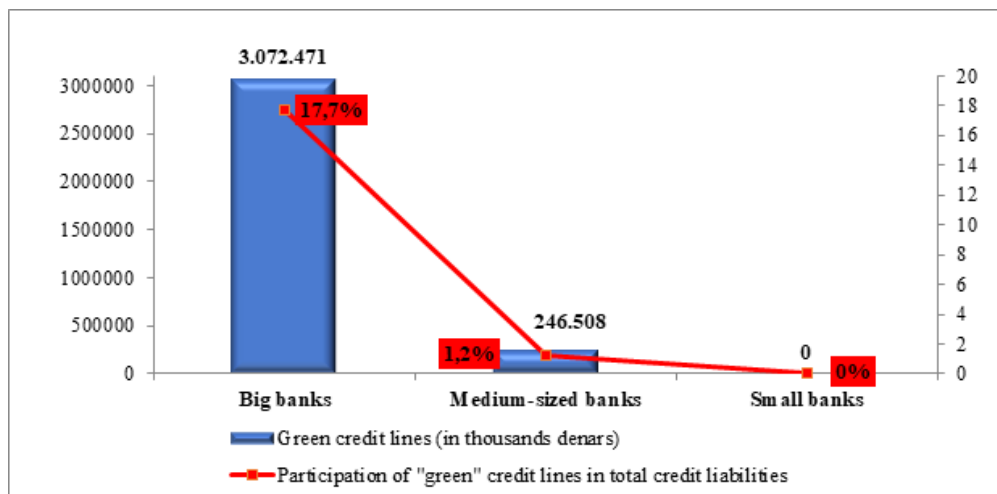
**Chart 1 – Green credit lines in the Republic of North Macedonia**



Source: NBRM, <https://www.nbrm.mk/>

According to the data from NBRM, as at December 31, 2021, presented in chart 1, the liabilities of the banks based on green credit lines are at the amount of 3,318,979,000 MKD. It can be noted that the bank liabilities in the section of green credit lines, as a part of the total liabilities for loans, show a modest trend of declining by 0.7% compared to 2020. One of the reasons for the reduction in the amount of credit lines intended for financing green projects is the Covid 19 pandemic, which forced banks to focus on liquidity, and support of the population and legal entities. The share of credit lines for green financing concerning total liabilities as at December 31, 2021, is 8.68%. If we look at the first quarter of 2022, it can be concluded that the growth of green loans during this year will be significantly increased compared to the current trend.

**Chart 2 - Green credit lines divided into bank groups for the Republic of North Macedonia as at December 31, 2021.**

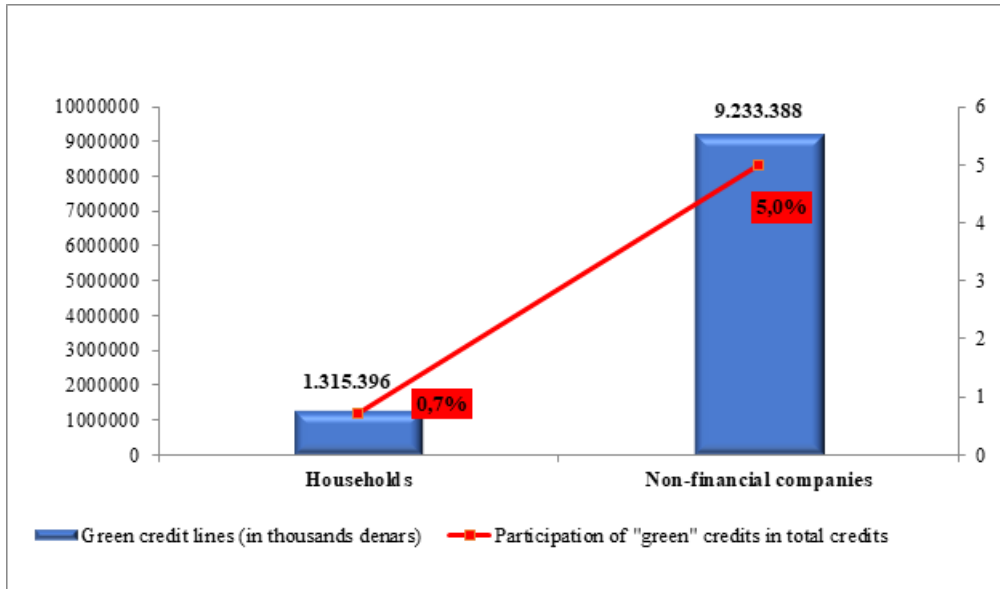


Source: NBRM, <https://www.nbrm.mk/>

The percentage of green credit lines used by the big 5 banks in relation to medium-sized and small banks is huge, i.e. 93% or 3,072,471,000 denars or 49.96 million euros out of a total of 53.97 as at December 31, 2021. One of the reasons that the concentration is high among the big banks is the trust that foreign creditors have towards the big 5 banks. Another reason that can be mentioned is the large customer base and the potential of big banks for quick and efficient allocation of funds. According to the data submitted to the National Bank, the portfolio of green loans of the big banks is 17.7% in relation to the total liabilities for loans, as at December 31, 2021 (chart 2).



**Chart 3 - Green credit lines by customer type for the Republic of North Macedonia as at December 31, 2021.**

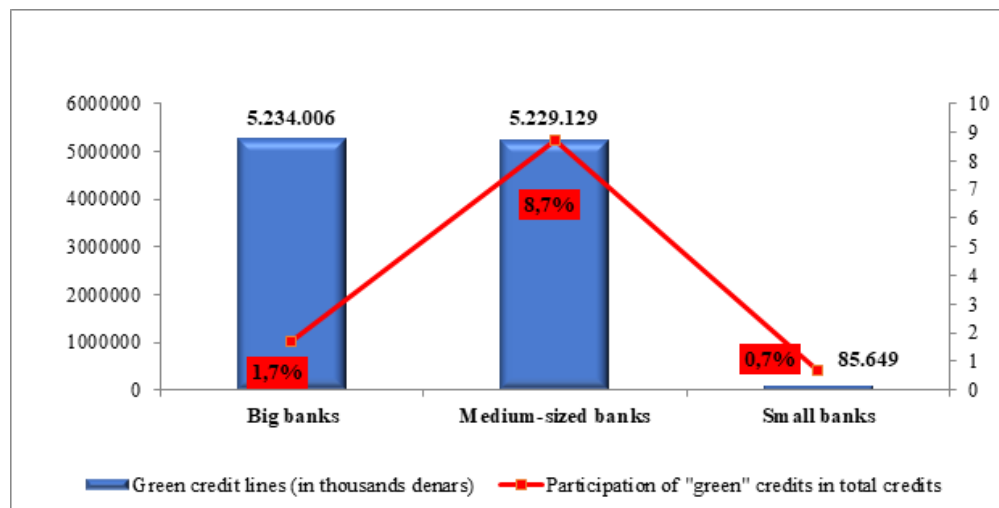


Source: NBRM, <https://www.nbrm.mk/>

Of the total number of green credits, 88% are credits given to non-financial companies, while 12%, i.e. 1,315,396 denars or 21.39 million euros, are given to green credits of the population as at December 31, 2021 (chart 3). The share of green credits in the total credits of legal entities is far greater than the green credits of the population, i.e. 5.03% and 0.67% in favour of legal entities. One of the reasons for the greater interest of legal entities is primarily their commitment to reducing operating costs through investment in energy-efficient projects.

If we compare the situation by the size of banks, the situation with green credit portfolio in terms of financing sources is diametrically different in the segment of big and medium-sized banks compared to small banks (chart 4). Thus, large and medium-sized banks participate with almost 50% each in the total portfolio of green loans, with the difference that among medium-sized banks, the percentage of participation of green loans in total loans given is much higher and is 8.73% compared to 1.68% among big banks.

**Chart 4 - Green credit lines by groups of banks in the Republic of North Macedonia as at December 31, 2021.**



Source: NBRM, <https://www.nbrm.mk/>

## 5. International institutions supporting green financing in the Republic of North Macedonia

The financial institutions that are most active in supporting green financing in the Republic of North Macedonia through commercial banks are the GGF fund (Green for Growth Fund) and the European Bank for Reconstruction and Development.

### 5.1 EBRD

The EBRD was founded in 1991 in order to finance structural projects in the former socialist countries of Central and Eastern Europe in the process of transition to a market economy.

One of the core determinations and commitments of the EBRD is the protection of the environment and the commitment to the promotion and support of renewable energy. In the last few years, the transition to a green economy has emerged as the main commitment of the EBRD, as well as a key element in the performance of the banks.

The Republic of North Macedonia joined the EBRD on April 21, 1993, by submitting capital in the amount of 17.62 million euros. Currently, 70 projects are active, so, the current portfolio comes to 819 million euros.

**Chart 5 –Sectors portfolio investments in the Republic of North Macedonia as at December 31, 2021.**



Source: EBRD, <https://www.ebrd.com/north-macedonia-data.html>

According to the information available on the website of EBRD, presented in chart 5, most of the investments in the Republic of North Macedonia are investments in sustainable infrastructure with 84%, then 12% in financial institutions and 4% as support in industry, commerce and agribusiness.

EBRD is also present in the Western Balkans and in the Republic of North Macedonia through the Green Economy Finance Facility (GEFF) with which, through commercial banks, they support households and the business sector in energy efficiency projects and energy-renewable products and services.

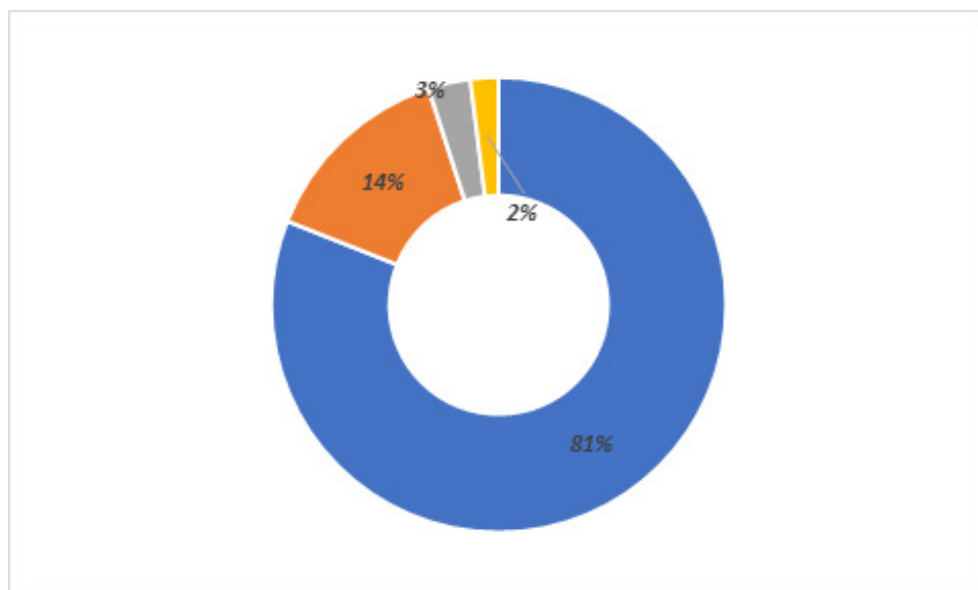
## 5.2 GGF

GGF, in addition to EBRD, has been one of the biggest supporters of green financing in the Republic of North Macedonia for the last 15 years. The fund was established in 2009 as an initiative of the European Investment Bank and the German Development Bank KfW as a public-private partnership.

GGF is an investment fund whose main focus is mitigating climate change and promoting sustainable economic growth by investing in projects and measures that reduce energy consumption, resource use, and CO<sub>2</sub> emissions.

GGF is present in the Republic of North Macedonia through 2 banks, Halkbank AD Skopje and Ohridska Banka AD (now Sparkasse Bank) and one direct investment in windmills. The initial investment in Halkbank is 20 million euros, while in Ohridska Banka it is 14 million euros. As at December 31, 2021, Macedonia in the total portfolio of the fund, which amounts to 606 million euros, participates with 3%, i.e. 19.8 million euros.

**Chart 6 –GGF Investments in the Republic of North Macedonia as at December 31, 2021.**



Source: GGF, <https://www.ggf.lu/>

Most of the fund's investments in the Republic of North Macedonia were made in the sphere of increasing the energy efficiency of buildings, i.e. 81%, while investments in commercial sources of renewable energy are 14% (chart 6). The technical assistance provided by GGF to its partner institutions as well as to end users is particularly important in increasing awareness of climate change and the need for transformation into sustainable and energy-efficient projects. The total amount of aid provided on this basis amounts to 600 thousand euros in 24 projects.

## **Conclusion**

One of the basic challenges facing the Macedonian banking sector is finding long-term sources of funding from domestic and foreign investors to support long-term sustainable projects. Taking into account the participation of green financing sources in the total liabilities, it can be said that banks have a serious challenge in animating institutional investors in green projects. The low level of participation of green financing sources in total sources is also a challenge for domestic banks to promote green financing instruments.

The role of the Development Bank and the GGF fund in the green agenda is really important. Until now, the Development Bank has taken an active part in the green transition both through support to the domestic banks and by animating the domestic and international institutional investors.

In conditions where there is a lack of private capital for green investments in the country, as is the case in the Republic of North Macedonia, it is necessary to create a favourable environment that will stimulate green investments. Above all, the developed business climate, the rule of law, as well as the definition of an investment regime for green investments would represent a catalyst for green investments. For all this, there must be a coordinated approach of all public and private actors in the financial sector at all levels.

The role of government is crucial when it comes to supporting strategic green finance policy. The government of the Republic of North Macedonia only with clear political signals can stimulate the actors in the financial sector to provide unselfish support for the development of green financing in the country. An additional contribution should be made by the Ministry of Finance, which, together with the National Bank, through the supervision of the banks, would help in understanding the risks and reducing them. Through fiscal policy, the government can contribute to increasing the rate of return on green investments, which will directly stimulate the private capital to invest in green projects. The government through various tax deductions can actively promote the allocation of funds to projects related to renewable energy sources.

In our country, apart from the voluntary approach to defining guidelines for green instruments, certain financial and regulatory incentives are also needed for the process of green transformation of the financial sector. Voluntary principles and guidelines for green instruments should apply to all elements of bank balance sheets, both loans and sources such as credit lines and obliges. An additional step would be the approach to defining a transparency policy for green financing in order to minimize the risk of green money laundering.

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