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## **Green banking practices worldwide: prospects for Kazakhstan**

### **Abstract**

*Object:* The article aims to explore the concept of “green banks” and review current worldwide developments in green banking with the emphasis on the Republic of Kazakhstan.

*Methods:* Qualitative research methods: content analysis, abstraction, comparison, and generalization.

*Results:* The paper explores definitions of “green banking” and categorization of green banking practices. Some of the popular internal and external green banking activities are discussed. The authors found out that currently there is a global trend towards greening the banking sector. However, the scope of available green banking practices varies considerably across different countries and banks. The proposed greenness scale can be used to estimate banks’ activities from “slightly green” to “fully green banks”.

*Conclusions:* While green bonds and green loans are widely discussed in the literature, the topic of green banking is mostly ignored. Since the Republic of Kazakhstan has stepped towards Green Economy, the prospects of green banking should not be neglected. To conform with sustainable development, commercial banks should engage in internal and external green banking practices. Government and responsible agencies (i.e., AIFC) should work closely with the commercial banks in the greening process.

*Keywords:* green economy, green finance, green banking, sustainable banking, green bonds, green credit, Kazakhstan Green economy.

### **Introduction**

As a continuation of Millennium goals in 2015, the members of the United Nations announced 17 Sustainable Development Goals, which pose special attention to “green” economic growth, i.e. the long-term GDP growth that benefits the environment and population. As a member of this organization, The Republic of Kazakhstan has been following the overall trend toward a Greener Economy with sustainable economic development. In 2013, the government of Kazakhstan with the approval of the first president announced “the concept of transition of the Republic of Kazakhstan to Green Economy”, which defines the goals and provides a roadmap to move to a Green Economy by 2050.

Building a Green economy is impossible without the proper development of Green finance. Although there is no all-encompassing definition of “green finance”, usually the term refers to all private and public financial flows into environmentally responsible projects and initiatives (from government, banks, micro-credit, insurance, international organisations, private investors, etc.). Since banks are the largest players in the financial system, their contribution towards a Green economy should not be neglected: banks should adjust their profit-maximising behavior to conform with ESG principles.

As noted by Green Bank Network (Green Bank Network, 2018), “Green banks are the critical actor missing from the landscape of financial institutions”. Researchers and bankers use such interrelated terms as “green banks”, “sustainable banks” or “ethical banks”, which characterize the banks that place special attention to their impact on the environment, society and governance (i.e. ESG principles).

Researchers (Nath et al., 2014) point out that although banks do not directly affect the environment, their indirect impact through customers is considerable. Thus, it is essential for banks to contribute to the global sustainability movement. Moreover, there are direct benefits to banks themselves from adopting green practices. Bolton (2013) found that there is a positive relationship between a bank’s Corporate Social Responsibility and its financial performance. Another research by Ibe-enwo et al. (2019) found that green banking practices improve banks’ green image, bank trust and loyalty.

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Specifically, there are two ways banks may become green: first, by adjusting their internal business activities as environmentally friendly (e.g. reducing direct carbon footprint, using more efficient energy, less paper, etc.) and second, by offering specialized “green” financial products to their customers (e.g. green cards, loans, deposits, mortgages, etc.).

However, the scale of banking sector greenness varies across countries with the West (The USA, Europe) and some Asian economies (China, India) being ahead and establishing full green banks, while Kazakhstan and other post-Soviet countries are only stepping towards this path and offering limited green banking practices.

Considering the recent governmental initiatives, the Republic of Kazakhstan strives to become a regional hub for green finance. For example, in 2020 AIFC Green Finance Center in cooperation with ADB and DAMU fund launched the issue of the first green bonds. In 2021, “The Taxonomy for green projects” was prepared by AIFC. The present document defines major terms and currently proposes two financing options, which are green bonds and green loans.

The research question is how the banking sector can be incorporated into green growth. We study how banks, being the largest players in the financial systems, can contribute to green development by adjusting their behavior. The article aims to revise the current state of Green banking in the world practice and propose the course of development for Kazakhstan. The banking sector of Kazakhstan seems to lag behind this “greening” pattern. Currently, only limited products offered by Kazakhstani banks may qualify as green. Local researchers on green economy and finance have focused mostly on capital markets, neglecting green banking. Thus, the authors contribute by applying green banking to the context of Kazakhstan.

The authors hypothesize that the evolving green banking sector can be a significant contributor to sustainable development. Furthermore, the scale of green banking is a useful tool to estimate the greenness of banks worldwide. The results show that due to the limited availability of green banking practices, the Republic of Kazakhstan lags behind the worldwide trends in the greening of the banking sector.

### *Literature review*

Before turning to the discussion of green banking, let us review such concepts as green economy and green finance to understand their relevance to the Kazakhstani economy. The United Nations environment program defines a Green economy as “low carbon, resource efficient and socially inclusive” (<https://www.unenvironment.org/>). Thus, the concept is rather broad, encompassing not only environmentally conscious production and consumption but also the social aspects of economic activities. The Green Economy is one, which promotes employment, efficiency and sustainability.

As stated by the European Commission (European Commission, 2011), the term Green Economy is more than working in a green sector/project, rather it helps to build a more just and equal society. Moreover, the move to Green Economy not only contributes to the improvement in environmental and social issues but also brings positive economic impact on the countries. According to Mukhtarova (Mukhtarova et al., 2015), for Kazakhstan, the projected additional growth of GDP due to the development of a green economy will be around 3% by 2030.

According to the World Bank Group (World Bank Group, 2018), there are several reasons for the relevance of transition to a Green Economy in Kazakhstan:

1. Low diversification (i.e. high dependency on exports of oil and gas)
2. Low water quality and agriculture (e.g. The Aral sea problem).
3. Low human capital (e.g. poverty and low education level, especially in rural areas).

Therefore, to ensure long-term economic growth, it is essential for Kazakhstan’s economy to move toward sustainable development. Also, it is possible for Kazakhstan to become green due to the abundance of renewable energy resources. As such, it is estimated that its wind energy potential by 2030 will exceed the country's needs by 10 times (World Bank Group, 2018).

However, this transition is impossible without developing a system of Green finance, i.e. a set of financial instruments and products characterized by their positive environmental impact (AIFC, 2018). In general, the term Green finance may be applied to green banking, green capital markets, green insurance, etc.

In Kazakhstan, the banking sector is more mature compared to other financial markets. As of 2020 total assets of Kazakhstani banks exceeded 26 000 billion KZT, with constituted 40% of the country’s GDP (Finreg, 2020). The authors believe that the banking sector has great potential to contribute towards sustainable development, thus the state and prospects of green banking will be discussed further.

By now there have been some successful attempts by the Kazakhstani government in terms of institutional and legal changes to accommodate the transition to a Green Economy. Created in 2015 the Astana International Financial Center aims to become “a regional hub of green finance promoting the development and management of green financial instruments in the Central Asian and Eastern European region” (AIFC, 2018).

Currently, there is a separate body called AIFC Green Finance Center (i.e. GFC), which operates in order to increase the awareness of and promote various Green Finance Initiatives. One such prominent action of GFC was the debut issue of green bonds in August 2020 (total value – 200 million KZT, maturity – 36 months, coupon rate – 11.75%) on the Astana International Exchange in cooperation with Damu Entrepreneurship Fund and EBRD (AIX, 2021). The funds raised are to be placed with second-tier banks for investment into green projects, so the readiness of the banking sector for green practices is essential to achieve end goals.

### Methods

This article is prepared mainly using a qualitative approach to primary and secondary data sources. The authors reviewed the body of literature related to Green banking both in the world and specifically in the Republic of Kazakhstan. Thus, we provided a comparative analysis using the recent reports by international organizations, such as the International Development Bank, the World Bank, the Asian Development Bank, etc., and publications of Kazakhstani and foreign researchers. Moreover, we reviewed the steps by the government of Kazakhstan in terms of preparation of the legislative framework, such as “the concept of transition of the Republic of Kazakhstan to Green Economy until 2050” (approved in 2013), and current developments under Astana International Finance Center’s Green Finance Division. Such methods as abstraction, comparison, and generalization were applied to draw our conclusions.

### Results

Currently there is no all-encompassing definition for “green banking”, which may pose difficulties in classifying a bank as green. The literature uses such terms as “green bank”, “sustainable bank” or “ethical bank” to refer to the banking institution which somehow considers the environmental impact of their activities. This could be evident in their business model, strategy, ESG reports, etc.

Table 1 provides some of the definitions of green banking proposed by researchers. It can be noted that the authors stress the positive environmental impact from green banking activities. Overall, definitions can be grouped into two categories, which we define as: 1) general and 2) function-specific. General definitions of green banking (Biswas, 2011; Ahmed, 2012; Lalon, 2015) do not point out which activities of banks should bring environmental benefits. Whereas function-specific definitions (Zhelyazkova et al., 2015; Park et al., 2020) highlight the importance of transforming core banking activities into green financing. As such, green banks are the ones which usual financing operations (deposits and loans) support green projects and initiatives.

Table 1. Green banking definitions.

Definition	Authors
“any form of banking from which the country and nation gets <i>environmental benefits</i> ”	(Lalon, 2015)
“an effort by the banks to make the industries grow <i>green</i> and in the process restore the <i>natural environment</i> ”	(Biswas, 2011)
“provision of loans, deposits and other banking products (mutual funds and other investment products, custodian services etc.) that would have <i>positive impact</i> on the environment”	(Zhelyazkova et al., 2015)
“financing activities by banking and non-banking financial institutions with an aim to <i>reduce</i> greenhouse gas emissions and increase the resilience of the society to negative climate change impacts while considering other <i>sustainable development goals</i> ”	(Park et al., 2020)
“Green banking and green financial products stress on <i>environmental aspects</i> ”	(Ahmed, 2012)

Note – Compiled by authors

According to researchers from Rocky Mountain Institute (Whitney et al., 2020), currently there are approximately 30 banks worldwide, which can be considered as full green finance institutions. The majority of green banks are either publicly owned or quasi-public, with only two private green banks. Commercial bank-

ing worldwide has also been following the global trend towards environmental consciousness. Banks establish separate green branches, open green windows, develop special policies, and create various green alternatives to their customary products.

Table 2. Popular green banking practices

Green banking practices	Description
Online banking (mobile, e-banking)	<ul style="list-style-type: none"> <li>● reduce paper usage</li> <li>● decrease client visits to banks</li> <li>● paperless statements</li> </ul>
Waste management	<ul style="list-style-type: none"> <li>● recycle waste in offices</li> </ul>
Green cards	<ul style="list-style-type: none"> <li>● donate small percent from transactions to green funds</li> <li>● return cash bank on eco-friendly purchases</li> </ul>
Green car loans	<ul style="list-style-type: none"> <li>● offer lower interest rates, fees, or longer credit period on energy efficient transportation</li> </ul>
Green mortgages	<ul style="list-style-type: none"> <li>● offer lower interest rates, fees, increased loan amount, or longer credit period on green housing purchase/renovation</li> </ul>
Green deposits	<ul style="list-style-type: none"> <li>● used to invest in environmentally beneficial projects</li> </ul>
Green project loans	<ul style="list-style-type: none"> <li>● loans used exclusively to finance green projects</li> </ul>

Note – Compiled by authors

Table 2 summarizes some prevalent green banking practices worldwide. Generally, green banking across different banks can be divided into two main categories: 1. Internal activities and 2. External activities.

1. Internal activities (also called “in-house” activities) can be defined as actions and initiatives promoting environmental consciousness within an organization;

2. External activities are the ones facilitating the use of green financial products and services by bank clients;

Internal activities refer to adjusting internal business processes in banks to reduce their negative impact on the environment and climate change. As banks are large-scale businesses with many branches and thousands of people employed, their everyday operations can have a significant carbon footprint. Thus, the environmental consciousness of the banking sector is a crucial step in the green transition process.

The scope of internal green banking activities can be extensive. Banks can start by reducing paper usage and moving to electronic format (e.g. online and mobile banking). Energy-efficient bulbs and waste recycling options can be installed in their office spaces. Mass transportation can be provided to their employees to CO<sub>2</sub> emissions from personal cars.

However, we consider these as initial steps towards greening a bank. Many financial intermediaries abroad and in Kazakhstan have already established such kinds of green practices. At the next stage, banks should attempt to integrate green thinking into all of its business processes. Using green buildings as certified by LEED, contracting with environmentally responsible suppliers and donating to special Green funds are some examples of decisive actions qualifying as a green bank.

External green banking activities refer to offering and promoting specialized green financial products and services to their customers. Rakic et al. divide green banking into four categories (Rakic et al., 2012):

- (i) Green retail banking
- (ii) Green corporate banking
- (iii) Green asset management
- (iv) Green insurance

In retail banking, such financial products as green mortgages, green car loans, credit cards, are provided by green banks to their private customers. Bank clients can increase energy efficiency in housing, install solar panels, or switch to electric cars, thereby contributing to the climate change fight.

Regarding corporate banking, banks could engage by checking clients for environmental impact and financing green projects, offering green securitization and technology leasing. Eco funds and eco ETFs are examples of green asset management practiced by some foreign banks. Some banks also offer Green insurance for commercial buildings or automobiles for environment-friendly businesses.

Shaumya et al. (2016) propose another classification for green banking practices based on Freeman's stakeholder theory. According to their model of green banking, banks' "environmental consciousness" can be estimated on four dimensions, which are i) Employer-related; ii) Customer-related; iii) Daily Operations-related; or iv) Banks' policy-related practices (ibid.). Employer-related practices include promoting environmental education among bank workers or providing rewards for green behavior. Banks with customer-related green practices may offer green loans or green credit evaluations. Reducing paper usage, going online are examples of daily green operations. Banks' policy-related practices refer to incorporating green into their strategies and partnerships (ibid.). Comparing this framework with the internal/external division, we believe that green practices related to employers and daily operations can be regarded as internal activities, while customer and policy-related practices as external activities.

As green banking practices vary considerably, banks can be put on a scale of greenness to assess their involvement in the green transition. Below we propose a scale of green banking practices varying from "slightly green" to "fully green" labeling of banks (Figure 1). The bank could be considered as "slightly green" bank if it mainly engages in internal green banking activities, such as online/mobile banking, less paper usage, energy efficiency, etc. Given this limited scope of practices, the bank is at its early stage of green transformation. The bank is considered "more green" if its activities extend to contracting with green suppliers, exploiting green buildings, etc. This is usually the next stage of green development, when the bank incorporates green agenda in its business relations. However, for a bank to be identified as "fully green", it is essential that its financial products and services are compatible with sustainable growth: the bank offers such alternatives as green cards, green deposits or green loans to their customers. Thus, only at this stage of development the bank should be qualified as a green financial institution, when its major products reflect this green thinking.

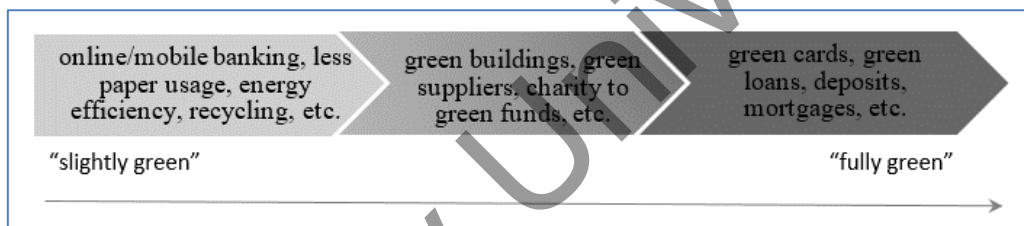


Figure 1. Scale of Green banking practices

Note – Compiled by authors

### Discussions

Considering the worldwide developments, the United States of America can be regarded as one of the best practices in green banking. According to the 2021 U.S. Green bank Annual Industry Report, there were 21 green banks in the USA, which funded 7 billion USD of sustainable investment in 10 years (American Green bank consortium, 2021). The USA established separate green banks, such as Connecticut Green Bank (CT) and New York Green Bank (NY), which demonstrated significant achievements in climate change. The activities of CT Green bank allowed its customers to switch to solar energy sources, which would not have been approved by traditional banks due to income insufficiency and poor creditworthiness. As such, in 2018 CT bank also invested 2.8 million USD for NGOs as a part of the "Solar for all" program. NY green bank's investments in green infrastructure exceeded 110 million USD in the same year. (Green bank network, 2018).

Regarding green finance in Asian countries (e.g. Japan, Korea, China), we can see that the green bonds market is rapidly developing. For example, in 2013 the Export-import bank of Korea issued the first green bonds and collected half a billion USD (Volz, 2018). This was followed by the successful issuance of green securities in India, Singapore, and other countries in the region.

India, as one of the global leaders in renewable energy, has decided to launch "green windows" in traditional banks, which would provide funds for clean energy projects (Green bank network, 2018). Sharma et al. (2021) also note that most Indian banks engage with green product development, green corporate social responsibility, and green internal processes.

Green lending by banks in Asia is also increasing, compared to Kazakhstan. For instance, in 2016, Chinese Banks provided green credits for a total amount of 1.14 trillion USD, which constitutes 3.2% of total banking assets (Volz, 2018).

China (People's Bank) has been a role model in setting up necessary standards and regulations for the development of a green financial system. These include Green Credit Policy, Guidelines for Green Credits, Green Bond Issuance Guidelines, etc. Some of the measures offered by Green Policy Guidelines include flexible interest rates (lower rates for green and high rates for polluting projects) and restrictions on loans to polluting industries (Weber et al., 2016). As a part of climate change initiatives, Chinese commercial banks are attracted to increase investments in green projects, by mitigating risks and raising public confidence in green financial products.

Considering Kazakhstan, multilateral development banks are the major source of green finance in the region. Large international institutions such as the Eurasian Bank of Reconstruction and Development (EBRD) and the Asian Development Bank (ADB) are key players in facilitating green financial flows. EBRD is the largest investor with a total of 7.3 billion USD in investment in green projects. Through the program known as the "Green Economy Financing Facility", EBRD supports local green investments by providing lines to credit to financial institutions (Wright et al., 2018). Some of the well-known green beneficiaries are Kazakhstan's largest solar project – Burnoye Solar Plant and Yereymentau Wind Farm (World Bank Group, 2018). The Asian Development Bank (ADB, 2019) with the aim to assist Kazakhstan's climate change policy provides technical assistance and financing to the city of Nur-Sultan in water management and low-carbon projects.

Similar to other regions, green bonds are considered the main instrument of green finance in Kazakhstan (Kozlova et al., 2020). In the green bonds market, development banks are also playing a vital role. To date, three out of four successful green bond issuances were made by Asian Development Bank and Eurasian Development Bank. The funds raised by ADB and EDB constituted more than 90% of the total value of green bonds issued in Kazakhstan (AIFC, 2021).

AIFC Green Finance center pointed out that the banking sector has played a limited role in the green economic development of Kazakhstan (AIFC, 2018). There are two explanations: 1) shallowness of banking sector and 2) residual effects of financial crises. Nevertheless, the authors note that the appetite for green investment projects is increasing among local banks.

One example of the increasing involvement of second-tier banks in green finance is the implementation of ESG principles. As such, the largest Kazakhstani bank Halyk Bank was the first to start a publishing non-financial report on sustainable development. Furthermore, in 2021 the bank provided the first "green loan" fully compliant with principles of green lending. The green project for constructing of bio-electric power plant received a loan of 7.9 billion KZT (AIFC, 2021).

Summarizing the above discussion on worldwide green banking activities and putting on the proposed scale of greenness, fully green banks could be the ones situated in the United States of America and South-East Asian countries (China, Japan, India). In the CIS region and Kazakhstan in particular successful examples of fully green banks cannot be currently found.

Still the scale of green financial products and services offered by Kazakhstani banks remains inadequate. Apart from several examples of green bonds and loans discussed above, we do not see green mortgages, green insurance, green credit cards, green car loans offered to a wider public. Thus, Kazakhstani banks should more actively engage in transition to Green economy by improving its external green banking activities.

However, the success of greening the banking sector requires active government support. Bodies like AIFC GFC should be the leaders in the transformation of Kazakhstan's banks into green institutions. Zhagyparova et al. (2019) call for the need to create a green financial system with AIFC having a key role in mobilizing green funds. Setting up necessary legislation, showing the world's best practices, and educating bank staff are some examples of governments' active involvement.

### **Conclusions**

The topic of green finance has gained interest from researchers worldwide. While green bonds and green loans are widely discussed in the literature, the greening of banking sector seems to be under-valued. Thus, the present article adds to existing literature on green banking.

Given the prominence of banking sector, the transition to Green economy requires active involvement of second-tier banks in green finance. Researchers point out that there has been increasing demand for green banking due to rising environmental awareness, consciousness, media coverage, and regulations (Rakic, n.d).

The authors present categorization of "green banking" based on definition and type of activities. Furthermore, we propose the scale of "bank greenness" as a useful tool to access the green bank transformation.

Thus, banks should transform their internal and external activities to be compliant with sustainable growth and be considered as full green institutions.

The present article discusses some available green banking practices worldwide and proposes to Kazakhstan to follow the global trends by extending the range of available green financial products and services (green loans, green mortgages, green cards, etc.). However, the government support in green transformation of the banking sector is essential.

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**А.Б. Біржанова, А.М. Нұрғалиева**

### **Әлемдегі жасыл банкінг тәжірибесі: Қазақстанның болашағы**

**Аңдатпа**

**Мақсаты:** Мақала «жасыл банктер» тұжырымдамасын зерделеуге және Қазақстан Республикасына баса назар аударып отырып, жасыл банкінг саласындағы қазіргі әлемдік тәжірибелерге шолу жасауға бағытталған.

**Әдісі:** Мақалада сапалық зерттеу, яғни контент-талдама, абстрактілеу, салыстыру және жалпылау сияқты сапалық зерттеу әдістері қолданылған.

**Қорытынды:** Мақалада «жасыл банкінг» анықтамалары және жасыл банктік тәжірибелердің санаттары зерттелген. Сонымен қатар танымал ішкі және сыртқы жасыл банктік қызметтердің кейбірі талқыланды. Авторлар қазіргі уақытта банк секторын жасылдандырудың жаһандық үрдісі бар екенін анықтады. Дегенмен, қолжетімді жасыл банктік тәжірибелердің ауқымы әртүрлі елдер мен банктерде айтарлықтай өзгереді. Ұсынылған жасылдық шкаласы банктердің қызметін «аздап жасылдан» «толық жасыл банктерге» дейін бағалау үшін пайдаланылуы мүмкін.

**Тұжырымдама:** Жасыл облигациялар мен жасыл несиелер әдебиетте кеңінен талқыланып, жасыл банкінг тақырыбы негізінен еленбейді. Қазақстан Республикасы жасыл экономикаға қадам басқандықтан, жасыл банкінгтің келешегі де назардан тыс қалмауы керек. Тұрақты дамуға сәйкес болу үшін коммерциялық банктер ішкі және сыртқы жасыл банктік тәжірибеге қатысуы қажет. Мемлекеттік және жауапты ұйымдар (мысалы, АХҚО) жасылдандыру процесінде коммерциялық банктермен тығыз жұмыс істеуі керек.

**Кілт сөздер:** жасыл экономика, жасыл қаржыландыру, жасыл банкінг, тұрақты банк қызметі, жасыл облигациялар, жасыл несиелер, Қазақстан.

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### **Мировые практики «зеленого» банкинга: перспективы для Казахстана**

**Аннотация:**

**Цель:** Статья направлена на изучение концепции «зеленых» банков и обзор текущих мировых практик в области «зеленого» банкинга с акцентом на Республику Казахстан.

**Методы:** В статье использованы такие методы качественного исследования, как контент-анализ, абстрагирование, сравнение и обобщение.

**Результаты:** В статье исследованы определения «зеленого» банкинга и классификации практик «зеленого» банкинга. Обсуждены некоторые из популярных внутренних и внешних практик «зеленого» банкинга. Авторы выяснили, что в настоящее время наблюдается глобальная тенденция экологизации банковского сектора. Однако объем доступных практик «зеленого» банкинга значительно различается в разных странах. Авторы предлагают использование шкалы «степени озеленения» для оценки деятельности банков от «слегка зеленых» до «полностью зеленых» банков.

**Выводы:** В то время как «зеленые» облигации и «зеленые» кредиты широко обсуждаются в литературе, тема «зеленого» банкинга, в основном, игнорируется. Поскольку Республика Казахстан сделала шаг в сторону «зеленой» экономики, перспективами «зеленого» банкинга нельзя пренебрегать. Для соответствия принципам устойчивого развития, коммерческие банки должны использовать внутренние и внешние методы озеленения банка. Правительство вместе с ответственными организациями (например: МФЦА) должны тесно сотрудничать с коммерческими банками в процессе экологизации.

**Ключевые слова:** «зеленая» экономика, «зеленые» финансы, «зеленый» банкінг, устойчивое банковское дело, «зеленые» облигации, «зеленый» кредит, Казахстан.