SUSTAINABLE BANKING: THE CONCEPT OF THE BANK’S ENVIRONMENTAL POLICY IN THE FIELD OF RESOURCE ALLOCATION TO FOSTER SUSTAINABLE ECONOMIC DEVELOPMENT

ABSTRACT

The article examines the importance of financial institutions’ participation in the process of sustainable transformation. In particular, the works on determining the state of fulfillment of banks’ obligations under the core principles of sustainable banking, identifying the contribution of banks and other financial institutions in promoting sustainable change in the economy, and ensuring the achievement of Sustainable Development Goals by 2030 are analyzed. A study of the state of energy consumption in Ukraine, trends in the market of renewable energy sources, and the implementation of biomass-to-energy projects was conducted. Key barriers to the implementation of such projects have been identified, including the need to establish effective financial support mechanisms, namely bank lending policies. The contribution of the banking sector in emerging markets to the promotion of sustainable transformation and the achievement of the Sustainable Development Goals has been studied.

The concept of the bank’s environmental policy in the field of resource allocation to foster sustainable economic development is formed, which is based on two key structural components. The first involves managing environmental risks in the field of lending, in particular, which would regulate the participation of banks in the implementation of environmental security measures by assessing their loan portfolio, analyzing all projects subject to lending for compliance with environmental safety and environmental standards, and refusal in consideration of loan applications to projects that pose a potential threat to the environment, and enterprises engaged in environmentally hazardous activities. The second determines the development of “green finance” programs as a structural component of the environmental management system of banks, in particular, for lending to various profitable environmental projects to increase the effectiveness of banks’ participation in their financing, as well as opportunities for banks to participate in investing non-profit territorial communities, cities in order to increase the environmental responsibility of banks and their participation in the sustainable development of the region in particular and the country in general.

Keywords: sustainable economic development, renewable energy, Energy Strategy of Ukraine, Principles of Responsible Banking, sustainable banking, bank’s environmental policy, environmental risk management, “green finance” programs

JEL Classification: Q01, Q4, Q5, G2

INTRODUCTION

The vector of sustainable development is one of the main in the modern world economy. Economically developed countries have reached such a level of security that production has already lost its self-determined goal for the sake of increasing the number of material goods. If we draw a certain analogy with meeting the specific needs of people, we can say about the loss of interest of consumers and producers, for example in the production of cars, to simply increase production and unlimited consumption, regardless of certain characteristics. That is, a level of supply of various goods and services has been achieved, at which the consumer no longer just wants to buy the product, but can wait to receive the product with specific qualities set by him.
Sustainable development provides an extremely important area of activity for all businesses - the environmental component. This means that along with the main goal of any business – to make a profit while meeting the needs of consumers – entrepreneurs must pay attention to the environmental impact of their production activities. The operation of their enterprises must be in compliance with national and international environmental legislation. Special attention is paid by government agencies and civil society to those economic activities that use environmentally harmful technologies. At the same time, a lot of attention is paid to institutions and organizations that cooperate with industry and agriculture. Thus, of course, it is worth emphasizing not only the work of insurance companies and the need to ensure environmental risks, but also banking and para banking institutions, which often lend to projects that have significant environmental risks.

**LITERATURE REVIEW**

Of great importance for solving the problems of environmental safety, ensuring sustainable development is the preparation of production, which would guarantee the maximum effect from the introduction of innovative technologies and products, at least at a certain level of technological excellence. At the same time, it is important to strive to combine scientific and technical preparation with environmental analysis not only of the production process but also the processes of maintenance, repair, and disposal of manufactured machines, mechanisms, devices, etc. The most well-known problem is the utilization of industrial waste and waste products. Instead, sooner or later there is also the wear of equipment used for the production of products. That is, the requirement to develop and implement technological processes of utilization should apply to both consumer products and industrial facilities (machines, devices, appliances, etc.). Such issues are already being developed and implemented in European and North American countries. In Ukraine, on the other hand, these aspects are still insufficiently studied and require both environmental and economic justification.

Another problem is that without the appropriate participation of banks, their perception of their social (including environmental) responsibility, as researchers write [1; 2; 3], it is impossible to form a financial strategy for sustainable development. Thus, Elisa Aracil et al, [4] have evaluated the literature review of the main provisions of sustainable banking, conducted a deep study of the evolution of the concept, and identified its framework. The authors Fernando Úbeda et al, [5] in their research also emphasize the significant role of the financial sector in achieving sustainable development goals, including reducing income inequality. The authors reaffirm the importance of banks’ efforts to reduce inequality.

Attention should also be paid to the results of a study by scholars Fernando Úbeda et al, [6] who point out that the establishment of stable banking activities has a positive effect on financial development only in countries with strong official institutions. And in countries with weak formal institutions, informal institutions can build the necessary trust in the banking sector.

The authors Satish Kumar et al, [7] make suggestions for future research on sustainable financing, including the implementation of innovative sustainable financing tools, as well as the possibility of using digital technologies such as artificial intelligence, blockchain, Internet of Things, and machine learning for sustainable financing.

The authors Weian Li et al, [8] conducted a detailed analysis of the relationship between regional economic development and the legal environment with a green governance structure and financial constraints of firms, which confirms our claims about the need to build a single financing mechanism involving businesses, financial institutions, and public authorities.

At the United Nations Climate Summit in 2019 (New York), we saw how banks have made new commitments to disclose carbon emissions in their investment and loan portfolios, adhering to the new Principles for Responsible Banking [9].

The Principles of Responsible Banking are a unique basis for ensuring that the strategy and practices of signatory banks are in line with the vision of a future society set out in the Sustainable Development Goals and the Paris Climate Agreement [10]. More than 270 banks, representing more than 45% of banking assets worldwide, have joined the movement for sustainable change.

According to The Green Targets Tool analysis of the world’s largest banks [9], not all of them have goals for sustainable financing. However, as noted, it is not so much the identification and compliance of commitments that is important as the importance of the bank’s involvement in sustainable financing and the promotion of sustainable transformation. It is clear that in order to help the world achieve the Sustainable Development Goals by 2030, it is necessary to transform the financial sector in emerging markets.
OBJECTIVES

The research objective is to investigate the impact of the key principles of sustainable banking implementation on the processes of a sustainable transformation in economic processes and to identify the basis of the bank’s environmental policy in the field of resource allocation to foster sustainable economic development.

METHODOLOGY

The methodological basis of the study are regulations and legislation on the formation of the Energy Strategy of Ukraine for the period up to 2035, monitoring the action plan for the use of renewable energy sources, reports on the implementation of biomass-to-energy projects in Ukraine, the United Nations materials on the Principles of Responsible Banking.

The research methodology is based on the analysis and identification of the principles of responsible banking in order to argue the importance of banks’ participation in resource allocation to promote the processes of a sustainable transformation in the economy and secure financing for sustainable development projects.

RESULTS

Sustainable economic development places special demands on all participants in market relations. Of course, the greatest requirements are for industrial enterprises that use technological processes that require fossil resources (gas, coal, oil, ore, etc.). Damage to nature, in this case, is caused, first, as a result of mining; secondly, in the process of their combustion, when it comes to obtaining electricity, heat carriers, or in the enrichment of ore and smelting of metal and so on; thirdly, when processing raw materials into materials, mineral fertilizers, plant protection products, etc.; fourth, in the processing of materials to obtain parts for components and assemblies, which leads to the accumulation of waste, as well as the use of fertilizers and plant protection products, resulting in chemical contamination of not only agricultural land but also groundwater, reservoirs, and rivers. At the same time, the environment undergoes negative changes in landscapes, in the composition of underground rocks, i.e., in the geological aspect. Negative changes occur in water resources and in the composition of the air that people use. All these, as well as other consequences of human intervention in nature, and in the environment, are well known. Although it is expected that over time, with the advent of new tools for environmental research, new data will emerge on the negative impact of man-made factors on the environment.

Three important conclusions should be drawn from the above. The first is that the harmful effects on the environment are caused by industrial enterprises due to disturbances in the structure of natural layers, including stone, sand, solid minerals, as well as water, oil, and gas, which leads to negative changes in the balance of natural resources. The second conclusion concerns the use of imperfect technologies. The third conclusion follows to some extent from the first and second, because the violation of natural balances and imperfect technologies depend on the decisions made by people. On the other hand, the development of natural resources and the perfection of technological processes largely depend on the thoroughness of previous scientific basic and applied research, the perfection of design, and technological developments, which are directly related to the presence or absence of sufficient funds for these works. Credit resources can play a significant role in this financial security, which can be obtained by manufacturing enterprises in banks and para banking structures.

That is why, in addition to manufacturing enterprises, it is also necessary to attract the attention of financial institutions to solve these problems. Financial and credit institutions need, first, awareness of owners, shareholders, investors, and senior management of the problem of sustainable development and the need for these institutions to take part of the responsibility for the process of environmental friendliness, especially financial responsibility. Secondly, the implementation of banks and para banking institutions is not just a “green office” measure, which is undoubtedly an important aspect of preserving some, albeit not very large, the share of diverse resources. Such measures play a greater role in shaping the environmental awareness of employees of financial institutions, which in their work environment can be quite a long time detached from the problems of clean water, clean air, and others. Third, the introduction of green lending practices is more important. It is often called “green finance”. However, it is more natural for a lender to talk about lending, because the principles of financing, when it comes to state and local budgets, provide somewhat different rules for obtaining and using funds. Of course, lenders can finance non-profit projects for urban landscaping, protection of soils that are open outside settlements but require temporary protection of the upper fertile layer, and other similar projects. However, expanding the practice of lending to production projects, taking into account environmental requirements, is extremely important for industrial enterprises to get more opportunities in the development and implementation of harmless technological schemes of production.
According to the International Renewable Energy Agency (IRENA) data analysis, which was published in 2015 in REmap 2030 Renewable Energy Prospects for Ukraine [11], in recent years, Ukraine has made significant progress in planning the future of its energy system and development of renewable energy policy. By 2030, the use of renewable energy will increase, which will lead to a reduction in the total costs of the energy system in Ukraine. According to IRENA, almost 80% of the total final potential of renewable energy is accounted for by biomass technologies, including for heating buildings and industrial enterprises (including district heating), electricity generation, and fuel transport.

Ukraine’s current energy policy, approved by the government, is called the Energy Strategy of Ukraine for the Period until 2035 [12, 13, 14]. The values given in Table 1, containing indicative figures for 2030 and the increase in energy efficiency proposed in REmap 2030 Renewable Energy Prospects for Ukraine, were used in the National Renewable Energy Action Plan (NREAP) in calculating Ukraine's Reference Case to 2030 [15]. The values for 2030 are estimated based on trends between 2014 and 2020 according to CoM (2014) (Communication from the Commission to the European Parliament, the Council, the European Economic, and Social Committee and the Committee of the Regions "A policy framework for climate and energy in the period from 2020 to 2030") [16].

### Table 1. Expected gross final energy consumption of Ukraine taking into account energy efficiency improvements according to the NREAP, 2009–2030. Notes: All data expressed in KTOE per year.

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<td>Heating / cooling</td>
<td>43 640</td>
<td>44 800</td>
<td>45 570</td>
<td>45 910</td>
<td>46 280</td>
<td>46 680</td>
<td>46 800</td>
<td>46 950</td>
<td>47 100</td>
<td>49 767</td>
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<td>Electricity (generation)</td>
<td>13 791</td>
<td>15 950</td>
<td>16 780</td>
<td>17 110</td>
<td>17 440</td>
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<td>18 930</td>
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<td>Transport</td>
<td>8 943</td>
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According to the REmap 2030 Renewable Energy Prospects for Ukraine, there are obstacles to the realization of a larger share of renewable energy, as determined by the data presented by the International Renewable Energy Agency. High capital costs create uncertainty for investing in renewable energy sources. On the other hand, changing the course of renewable energy policy also exacerbates this lack of investor confidence. Accordingly, it is necessary to formulate and maintain a predictable and stable policy over a long period of time to ensure the continuity of investment in renewable energy technologies.

According to Survey findings on Market conditions for biomass-to-energy projects in Ukraine [17], the market for biomass in energy is actively developing, in particular, a large share began to be occupied by private heat suppliers. A significant segment of the biomass market for energy is also occupied by industrial enterprises that use biomass for energy production for their own needs, agricultural companies, and electricity generation projects.

The study also identified the top barriers to the implementation of biomass-to-energy projects. The study is based on a survey of heat-supplying companies which consider the barrier to be important [17]. Among the key barriers to implementing biomass-to-energy projects identified by respondents are the following:

- a high loan interest rate;
- large initial investment;
- a lack of confidence in the stability of biomass supply;
- additional investment required for biomass storage;
- a lack of government support for biomass-to-energy projects.

It is obvious that banks play an extremely important role in the formation of sustainable transformation as a process in general and direct ways of implementation in Ukraine in particular. On the other hand, banks are struggling with many complex sustainability challenges, from climate change risk to opportunities for green financing.
The Banking Sector in Emerging Markets can significantly change the achievement of the Sustainable Development Goals (SDGs). The United Nations estimates that up to $7 trillion is needed each year to achieve the Sustainable Development Goals by 2030. For comparison, in emerging markets banks hold assets estimated at more than $50 trillion [18, 19].

International Finance Corporation (IFC) estimates there are US$ 23 trillion in climate investment opportunities in 21 emerging market countries until 2030. Banks need to increase the share of climate lending from 7% today to 30% in 2030 to mobilize necessary financing for investment opportunities presented by Nationally Determined Contributions (NDCs) in those 21 countries [20, 21].

The main objective for banking institutions is to maximize not only profits but also social efficiency, as it creates and maintains confidence in the bank, and its reputation. The basis for the formation of a socially-oriented banking system is the ability to respond to the needs of society. Accordingly, the bank’s activity should be grounded on its own principles formed primarily based on the principles of sustainable development, and corporate social responsibility. In terms of the social inequality and restructuring increasing the banking system acts as a catalyst for both institutional and public changes. The main prerequisites for the formation of a socially-oriented banking system are the intensification of crisis facts in the economics of the country, the worsening environmental problems, poor accountability, and risk management. So, it appears to be necessary to establish partnerships among business entities, states, and non-profit organizations. They share risk and responsibility through new social models and programs of public-private cooperation.

A bank’s ecological responsibility in the sphere of economic and sustainable development financing provides for the concept of bank environmental policy according to the influence of bank products on the surrounding environment. Bank environmental policy should include a system of methodological and applied approaches to ecological management and environmental risk management in lending. The environmental policy of the bank in the sphere of resource allocation to encourage economic sustainable development should include environmental risk management in lending (fig. 1).

**ENVIRONMENTAL RISK MANAGEMENT**
- regulating the participation of banks in the implementation of the system of environmental security measures
- loan portfolio evaluation
- analysis of all projects, which are subject to lending, for compliance with standards of environmental safety and environmental protection
- refusing to consider applications for loans to projects that have potentially dangerous to the environment, as long as businesses, deal with environmentally hazardous activities
- determining the list of activities not for lending, and standards of management of credit influence on the environment

**“GREEN FINANCE” PROGRAMS**
- lending for various profitable environmental projects in order to increase the efficiency of banks’ participation in their financing
- participation of banks in investing non-profit social and environmental initiatives of united territorial communities, cities in order to increase the environmental responsibility of banks and their participation in the sustainable economic development of the region in particular and the country in general

**Figure 1. The concept of the bank’s environmental policy in the field of resource allocation to stimulate sustainable economic development.**

This approach involves banks in the implementation of environmental safety measures through the assessment of their credit portfolio; reviewing all projects, which are subject to lending, for compliance with standards of environmental safety and environmental protection, and refusing to consider applications for loans to projects that have the potential danger to the environment, as long as businesses, deal with environmentally hazardous activities. In the context of the first block of banks’ environmental policy, it is necessary to develop specific criteria of conformity to the principles of environmental
responsibility. For banks such criteria involve the development of conceptual approaches to the management of environmental risks in lending, particularly determining the list of activities not for lending, and standards of management of credit influence on the environment. For companies, such criteria provide the development of the appropriate documentation according to compliance with the demands of environmental protection and safety. To assure the transition of the country to the concept of economic sustainable development, it is important to introduce for companies the compulsory inclusion of such documentation to the list of documents to apply for loans. This kind of document development would highlight a new step at the stage of enterprises’ scientific and technical preparation of production.

CONCLUSIONS

This shows that the environmental responsibility of economic entities is already being considered by scientists, and various aspects of the activities of industrial enterprises and related financial institutions are being studied. Although not enough attention is paid to environmental protection, development of necessary technical, technological, financial, and economic measures to protect the environment, conservation of natural resources necessary for a healthy lifestyle, and avoidance of harmful effects on humans, animals, and plants. The interconnectedness of all living beings is well known but the social and environmental responsibilities of all the enterprises and institutions involved in the production of the benefits of civilization, which are favorable to them, still need to be ensured.

The introduction and implementation of proposed activities will provide the achievement of key measures and strategic indicators, which estimate the progress of the reforms and programs realization, specified in the Draft Strategy of Sustainable Development "Ukraine – 2030". Besides this, the proposed recommendations will enable us to determine clearly the boundaries of banks and enterprises’ ecological responsibility in the context of government, business, and civil society areas of responsibility, developed by the Strategy.

REFERENCES / ЛІТЕРАТУРА


Стале банківництво: концепція екологічної політики банку у сфері розподілу ресурсів для стимулювання сталого економічного розвитку

У статті досліджено важливість участі фінансових інститутів у процесі становлення сталого перетворення. Зокрема проаналізовано праці стосовно визначення стану виконання банками своїх зобов'язань, визначених основними принципами сталого банківництва, ідентифікування вкладу банків та інших фінансових установ у процес стимулювання сталого змін в економіці та забезпечення досягнення Цілей Сталого Розвитку до 2030 року. Здійснено дослідження стану енергетичних використання і транспорту на території України, тенденцій розвитку ринку відновлюваних джерел енергії, праці по оптимізації альтернативних джерел енергії, саме в розумінні енергії з біомаси.

Сформовано концепцію екологічної політики банку у сфері розподілу ресурсів для сприяння сталому економічному розвитку, яка базується на двох ключових структурних компонентах. Перший передбачає управління екологічними ризиками у сфері кредитування, які зокрема регламентували б участь банків у впровадженні системи заходів безпеки навколишнього середовища шляхом оцінювання свого кредитного портфеля, аналізується відповідь на зміни, а також на предмет відповідності стандартам екологічної безпеки та охорони навколишнього середовища.
середовища, а також відмови в розгляді заявок на отримання кредиту проектам, які становлять потенційну загрозу для навколишнього середовища, та підприємствам, які займаються екологічно небезпечними видами діяльності. Другий обумовлює розвиток програм «зеленого фінансування» як структурного компоненту системи екологічного менеджменту банків, зокрема щодо кредитування різного роду прибуткових екологічних проектів із метою підвищення ефективності участі банків у їх фінансуванні, а також можливості участі банків у інвестуванні неприбуткових соціально-екологічних ініціатив об’єднаних територіальних громад, міст із метою підвищення екологічної відповідальності банків і їхньої участі в налагодженні процесів сталого розвитку регіону зокрема та країни загалом.

**Ключові слова:** сталий економічний розвиток, відновлювана енергетика, Енергетична стратегія України, Принципи відповідального банківництва, стале банківництво, екологічна політика банку, управління екологічними ризиками, програми «зеленого фінансування»

**JEL Класифікація:** Q01, Q4, Q5, G2