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“GREEN” BONDS AS A FINANCIAL TOOL FOR MUNICIPALITIES

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This article is devoted to the study of the peculiarities of the introduction and development of the market of “green” bonds in Ukraine, their impact on the economy as a tool for state and local authorities. All significant advantages, disadvantages and risks of this initiative are identified, its prospects are compared and analyzed. The order of formation and peculiarities of the organization of the market of “green” bonds in the USA for the period from 2013 and prospects of its further development are investigated. The current legal framework in this area has been studied, its main shortcomings have been identified, and directions for improving the legislation in this area have been identified for further, more favorable conditions for the development of “green” initiatives. Mandatory conditions for certification of this type of bonds, their compliance with international standards and the standards of the organization that controls all “green “initiatives”. The main ways of introduction of the market of “green” bonds are outlined, the main advantages and restrictions concerning use of each of these options in the territory of Ukraine are established. Conclusions are formulated on the possibility of implementing this project at the current stage of development of Ukraine and its expected consequences.

«ЗЕЛЕНІ ОБЛІГАЦІЇ» ЯК ФІНАНСОВИЙ ІНСТРУМЕНТ ДЛЯ МУНІЦИПАЛІТЕТІВ

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Ключові слова:

«зелені облігації», інвестування, муніципалітет, «зелені ініціативи», місцева влада.

Цю статтю присвячено дослідженню особливостей впровадження та розвитку ринку «зелених облігацій» на території України, їх впливу на економіку країни як інструмента для державних та місцевих органів влади. Визначено усі значні переваги, недоліки та ризики даної ініціативи, зіставлено та проаналізовано її перспективність. Досліджено порядок формування та особливості організації ринку «зелених облігацій» у США за період з 2013 року та перспективи його подальшого розвитку. Вивчено наявну на даний час нормативно-правову базу у цій сфері, визначено головні її недоліки та встановлено напрямки вдосконалення законодавства в цьому питанні для подальших, більш сприятливих умов розвитку «зелених» ініціатив. Визначено обов’язкові умови щодо сертифікації даного виду облігацій, їх відповідність міжнародним стандартам та стандартам організації, яка займається контролем усіх «зелених» ініціатив. Окреслено основні шляхи впровадження ринку «зелених облігацій», встановлено головні переваги та обмеження щодо використання кожного з цих варіантів на території України. Сформульовано висновки щодо можливості втілення даного проекту на сучасному етапі розвитку України та його очікувані наслідки.

Statement of the problem

Exacerbation of environmental problems, energy dependence of the country, the implementation of sustainable development goals necessitates the search for and implementation of effective tools and mechanisms to address these problems and goals, which accordingly requires the involvement of significant financial resources.

In Ukraine, there are many developed investment projects in the field of renewable energy, energy efficiency and other environmentally friendly projects, for the full launch of which there is a need to attract a significant amount of long-term financial resources. Such long-term financing is currently difficult to obtain from the Ukrainian banking system and the local capital market. At the same time, raising funds through the issuance of “green” bonds in recent years has become very popular in many countries around the world, and the use of this financial instrument has given countries access to a large and diverse investment incentive.

Analysis of recent studies and publications

In recent years, the topics of green economy and the development of green projects have become very popular due to the progress in reducing the environmental friendliness of production. Since the days of industrialization, the production and receipt of the final product has been the main goal of both enterprises and the state. Although this theme has been central for many years, environmental problems have become too visible since time immemorial and the development of production has sought new, more environmentally friendly directions.

Although the topic of green bond market development in Ukraine is not common, many scientists in recent years have turned to this topic in their research. Among such scientists are: Baker, M., Bergstresser, D., Momotyuk L., Chortok Y., Serafeim G., Veremienko O., Dhili H., Krasnyak V., Chigrin, O., Sotnik I. and Shvets I.

Objectives of the article

The purpose of this article is to study and analyze the current development of the topic of “green” bonds, aspects of the introduction of this area of investment, taking into account all the advantages and disadvantages, gaining experience on the introduction of “green” bonds in the US. organizational aspects of implementation of “green” initiatives on the territory of Ukraine and identification of results of this implementation.

The main material of the research

“Green” bonds or interest-bearing “green” investment bonds are a type of bonds issued by a person who implements (deals with) environmental projects. Funds from the placement of interest-bearing environmental investment bonds (“green” bonds) are used to finance and refinance the costs of environmentally friendly projects [1].

According to the Law “On Amendments to Certain Legislative Acts of Ukraine Concerning Simplification of Attracting Investments and Introduction of New Financial Instruments” of December 19, 2019, “green” bonds appear in Ukraine. Work on launching the market

of “green” bonds in Ukraine began in 2018. The draft of the Cabinet of Ministers provides for the introduction of the market of “green” bonds in two stages. At the first stage of 2020-2021, standard “green” bonds are expected to be put into circulation as securities. At the second stage – 2021-2022 – the creation of legal conditions and infrastructure for the circulation of other types of “green” bonds (project, income, securitized) is envisaged [2].

One of the important factors is the compliance of “green” bonds with the European principles of raising funds for environmental projects, namely:

- Use of funds – the use of funds should bring environmental benefits to the environment, and the ratio of the amount of financial resources to improve the environmental impact (reduction of emissions, reduction of natural resources) should be assessed.
- Cash management is the accounting of funds for “green” bonds in a separate bank account, with periodic reporting to the investor on their disposal. Involvement of third parties to verify the use of borrowed funds.
- The process of evaluation and selection of projects is a process of establishing priority areas for directing funds from “green” bonds, setting standards and criteria according to which the environmental project will be evaluated.
- Reporting – is to provide complete, truthful, relevant information to the investor in various forms of reporting for ease of use [3].

Thus, from the above principles it is possible to understand that raising funds through “green” bonds is accompanied by complex processes of justification, evaluation, environmental project management. In fact, the company has to find or create an environmental project, and it needs to scientifically substantiate it, for example, to calculate emission reductions. In this case, the business entity will already bear the costs of experienced professionals who will analyze and research the environmental project. There will also be some time and financial resources to place “green” bonds. According to the adopted Law “On Amendments to Certain Legislative Acts of Ukraine Concerning Simplification of Attracting Investments and Introduction of New Financial Instruments”, the NSSMC will inspect the bonds and will issue a permit to issue bonds based on the inspection [4].

As it is planned to raise significant funds from abroad, businesses will be required to report in accordance with IFRS, which means additional involvement of labor-intensive resources in the form of professionals in international financial reporting. Financial reporting according to international standards is a mandatory element of attracting additional funding at the international level, as it discloses detailed information about the financial condition of the enterprise.

The last point is the certification of “green” bonds through the only international organization that specializes in this – Climate Bonds Initiative [5]. In fact, a “green” bond becomes itself when it is certified by this organization or at least corresponds to the taxonomy of climate bonds (falls under the classification of “green” bonds from the Climate Bonds Initiative). This is argued by the fact that the above

organization is the only one that combines in its analysis of investing through bonds and the global climate. The Climate Bonds Initiative studies the climatic conditions in each country on the basis of which they make forecasts for investing funds through “green” bonds, they set criteria and standards for environmental projects in which funds will be invested. It is also important to understand that the environmental project and the “green” bond exist only in close cooperation with each other, so the bonds are valued through the environmental project.

Regarding the feasibility of using “green” bonds, there are several convincing advantages of these projects:

Turning to the topic of the implementation process of the issuer of “green” bonds has three ways to sell this type of bonds on the market (Fig. 1).

The first way is to find the buyer of the bonds by the issuer, while the bonds are registered only with the NSSMC (National Securities and Stock Market’s Commission), and they are not listed on the stock exchange. Such bond placement does not fall into the statistics of the Climate Bonds Initiative. But if the bondholder decides to sell the bonds through an exchange listed in the Climate Bonds Initiative register, the bonds will automatically be included in the organization’s statistics on “green” bonds.

The second option is the placement of bonds through an underwriter, in which the company incurs additional costs for the sale of bonds, but speeds up the process of raising additional funds. With this method, data on “green” bonds will be entered in the register of the Climate Bonds Initiative only through Crédit Agricole Bank, which is the only bank that cooperates with this organization. That is, information about “green” bonds can get into the global

register of “green” bonds through stock exchanges and through underwriters (mostly banks). In most cases, the first two methods do not meet the environmental standards of the international organization, and therefore do not provide much opportunity in choosing an investor [8].

The third way is the most effective way to raise funds for environmental projects, which gives large amounts of money and access to a large number of investors.

Advantages of issuing and certifying “green” bonds through the Climate Bonds Initiative:

- a more diverse base for investors: certification signals the environmental friendliness of the bond and is important for investors seeking climate-related investments;
- certification registers bonds in the market of “green” bonds, which gives easy access to their location. Investors can find data on bonds free of charge through the SVI service;
- reputation enhancement: certification allows the issuer to associate its organization as an economic entity that directs its financial flows to the preservation of nature for the future of mankind, while complying with independent scientific standards;
- lower value for investors, because the international organization of “green” bonds carefully inspects “green” projects and has a high reputation among companies, the investor spends less money on finding and verifying the investment project. This means that for a fee, the issuer receives a wide range of interested foreign investors.

The disadvantages include the need for skilled workers for international cooperation and for the creation of a scientific environmental project. Also, such cooperation means the need for large cash flows from the municipality.

Table 1 – Advantages and disadvantages of using “green” bonds at the municipal level [6]

Benefits	Disadvantages and risks
Local governments and companies can take advantage of the increased demand for socially responsible investors, who have been shown to have a strong appetite for “green” bonds by rewriting the issue.	The green bond market, which still relies on voluntary reporting, is not transparent and accountable. As the market grows, transparency is becoming an increasingly important issue.
The market is growing, but it is still young. Companies and government agencies can enhance their reputation by establishing themselves as innovative and sustainable.	Retail investment remains limited, as “green” bonds are not yet sufficiently integrated into fixed assets, indices and other products. In the future, the cost of issuing “green” bonds may be lower.
Investors benefit from financing “green” projects by helping them meet the commitments made as signatories to the Principles for Responsible Investment (PRI), as members of the Institutional Group of Investors on Climate Change (IIGCC) and / or other similar bodies.	Assessing the environmental benefits claimed by green bond issuers has become a key issue as the market has begun to grow. Reputational risk for issuers of “green” bonds, ie when bonds marked as “green” issued by other parties are not "green", remains high and may affect investor confidence.
“green” bonds can promote greater transparency in the use of bond proceeds and help report on the impact of fixed income investments on the climate.	The possibility of issuers defaulting and the risk of default due to the project’s inability to provide a sufficient level of cash flow to pay off capital and interest over time. Defaults in regulated markets can have a significant and long-lasting negative impact on a company’s credit rating.
“green” bonds can foster public-private partnerships, accelerate “green” investment and lead to the introduction of new technologies.	Lack of consensus on “green” bonds is a source of uncertainty in assessing long-term investment options and can lead to fraud in winning tenders and money laundering.
“green” bonds can attract large amounts of financial resources to support environmental projects, the financing of which may otherwise be unavailable or considered too unprofitable (those environmental projects implemented by state and local authorities).	If “green” bonds are issued abroad, additional risks should be considered, including changes in foreign market regulation of capital flows and exchange rates. In addition, in the long run, offshore markets may divert liquidity from the domestic market. However, these additional risks are often lower than the risks associated with bond issuance in underdeveloped markets.

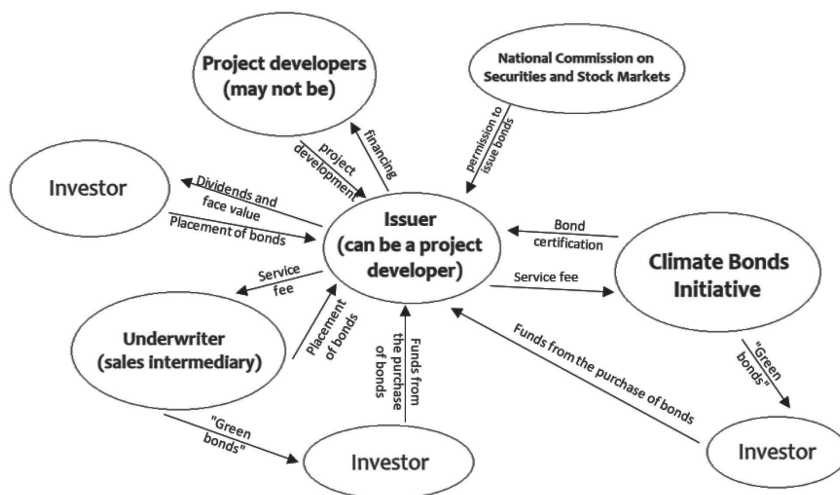


Fig. 1. The mechanism of raising funds through “green” bonds [7]

As of January 1, 2020, \$ 41.6 billion worth of certified “green” bonds were registered with the Climate Bonds Initiative [9]. The amount of “green” bonds that met the norms and standards of the Climate Bonds Initiative was 189.5 billion dollars. And the amount of non-compliant climate bonds was \$ 55.0 billion.

An important factor in attracting environmental investment through “green” bonds is the taxation of income of residents and non-residents of Ukraine who participate in this financial transaction. Thus, according to the TCU (Tax Code of Ukraine), income in the form of dividends, interest is subject to income tax. For residents or permanent establishments of non-residents who pay income to non-residents (the following schemes are meant: resident - non-resident, non-resident - another non-resident), the tax rate is 15% (Article 141.4.2 TCU). And for interest-free (discount) bonds, the income tax rate is 18% (Article 141.4.3 of the TCU) [8].

The issuance of “green” bonds by the state is more expedient and profitable because it will be able to issue bonds to attract large-scale funds while ensuring their return and payment of interest on them. As for enterprises, they can attract medium or small investments to “green” certain moments of production or sale of finished products. But the development of greening of enterprises strongly depends on the policy of the state, on its stimulation and encouragement.

A big problem is the taxation of investments through “green” bonds, which completely restrains this mechanism of raising funds. The Tax Code of Ukraine needs to be amended in the same way as: the Law of Ukraine “On Investment Activity”, the Law of Ukraine “On Securities and the Stock Market”, the Law of Ukraine “On State Regulation of the Securities Market in Ukraine” and other regulations; which will directly determine the mechanism of sale of “green” bonds on the stock market of Ukraine.

The prospects for “green” debt can be called very optimistic as more and more local government leaders recognize the benefits and prospects of green projects, as well as at the level of private enterprises and investment organizations (as well as individual investors). It can also

be noted that this initiative is more relevant and more expensive at the initial stage (initial investment) because it will require more infusion and capacity for its development.

If we consider examples of the use of “green” bonds at the municipal level in other states, we could focus on the United States. There is a special municipal bond market, where, among all others, “green” bonds are represented. This market is aimed at providing funding for strategically important projects that are too large, long-term and capital-intensive to implement them through private firms.

Municipal “green” bonds issued by state and local governments to finance environmentally sound

capital projects do not currently account for a significant share of total municipal bond issues, but have recently developed significantly. Since the first issue of “green” bonds for a total of \$ 100 million, the total issue has grown significantly each year and has shown very positive results. So in 2014, the year after the introduction of “green” bonds, the total amount of the issue increased to 2.9 billion dollars, and a year later showed a result of 4.3 billion dollars, which is 48% higher than the previous year. Although these amounts are very positive, the “green” bond market is only 1.2% of the total number of bonds issued in the United States. Even such figures are quite significant in comparison with many countries around the world, including Ukraine, which so far is just respecting the development in this direction [9].

Entering the market of “green” bonds is a strategically important step for the whole country both at this stage and in terms of prospects for economic development as a separate link and in terms of global cooperation. Of course, in addition, the issue of such bonds, and accordingly the launch of environmental projects is aimed at improving the ecological and climatic condition of our country.

Among the possible directions for our country to direct “green” bonds, which could be introduced under the leadership of municipalities, are the following types: construction of solar and wind power plants, construction of geothermal power plants and small hydropower plants, installation of cogeneration plants, biomass and biogas waste treatment plants, production of liquid biofuels, development of eco-transport and replacement of street lighting with energy efficient ones.

Among the problems that are relevant at this stage of development of this topic for the introduction of “green” bonds in Ukraine are:

1) some regulatory aspects that do not cover all activities of issuing “green” bonds and thus slow down the development of this type of bonds;

2) lack of knowledge and experience of issuers on opportunities to attract investment in environmentally friendly projects through the issuance of “green” bonds;

3) underdeveloped local stock market and low credit ratings of issuers;

4) ineffective mechanisms to protect the interests of investors.

All these circumstances are largely corrected by the establishment of the correct legal framework on the issue of “green” bonds and the development of investment attractiveness of our country in the international arena. All other issues are adjusted over time depending on the level of market development.

Conclusions

Although this topic is very specific and there are many administrative, legal and economic obstacles to the introduction of “green” bonds in Ukraine (at the moment), but their introduction can be seen not just as a good benefit, but rather as a necessity in the future. It is clear that at the moment it is simply impossible to immediately organize the full-scale introduction of this type of bonds throughout the country, in particular due to the unstable economic and political situation not only in Ukraine but also worldwide,

but the benefits of “green” bonds are too great to leave without a solution for a long time. After the introduction of the “green” bond market in Ukraine, the most significant positive consequences will be:

- reduction of fuel and energy consumption and reduction of greenhouse gas emissions;
- the multiplier effect of attracting investment in key sectors of the economy;
- strengthening the country’s energy independence and fulfilling national strategic goals (Energy Strategy of Ukraine for the period up to 2035 “Security, energy efficiency, competitiveness”);
- development of the securities market in Ukraine using world experience and practice;
- improving the country’s investment attractiveness, business climate and competitiveness;
- fulfillment of Ukraine’s international obligations (Paris Agreement, Association Agreement with the EU, Treaty establishing the Energy Community);
- as a consequence of all the above, the formation of a positive image of the state in the world.

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