Natalia Khoteyeva, Candidate of Economic Sciences,
Associate Professor
Odesa National Marine University
Odesa, Ukraine

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GREEN BONDS AS AN EFFECTIVE TOOL FOR FINANCING RENEWABLE ENERGY

The transition from fossil fuel-based energy systems to renewable energy sources represents one of the most significant challenges in addressing climate change and achieving sustainable development.

This transition requires substantial and long-term financial investment. Among the various financing available mechanisms, green bonds have emerged as one of the most effective and widely adopted instruments for financing renewable energy projects at both national and international levels.

This earmarking of funds distinguishes green bonds from conventional bonds and enhances their credibility as a targeted financing mechanism [2].

This ensures that capital raised is directly channeled into renewable energy development, unlike general bonds where funds may be used for mixed purposes.

Institutional investors such as pension funds, insurance companies, and sovereign wealth funds increasingly prioritize Environmental, Social, and Governance (ESG) criteria [1].

One of the key advantages of green bonds is their potential to reduce the cost of capital for renewable energy projects.

Strong investor demand for environmentally sustainable financial instruments often enables green bond issuers to access financing at lower interest rates compared to conventional bonds. This cost advantage is particularly important for renewable energy projects, which are typically characterized by high upfront capital requirements and long payback periods. Additionally, green bonds frequently benefit from policy support mechanisms, such as government guarantees, tax incentives, or backing from multilateral development banks, which further reduce perceived investment risk. By lowering financing costs and improving risk allocation, green bonds enhance the financial viability and competitiveness of renewable energy projects, thereby accelerating their

deployment and supporting the transition toward low-carbon energy systems.

Green bond issuance is typically accompanied by strict reporting and monitoring requirements. Issuers are expected to disclose how funds are allocated and to report on the environmental impact achieved, such as reductions in greenhouse gas emissions or increases in renewable energy capacity. This emphasis on transparency strengthens investor confidence and ensures accountability, addressing concerns related to greenwashing and reinforcing the effectiveness of green bonds as a sustainable finance tool.

Many governments and international organizations actively support green bonds through tax incentives, guarantees, and regulatory frameworks [2; 3]. This backing reduces investment risk and encourages further expansion of renewable energy markets, especially in developing economies.

Tax incentives and backing from multilateral development banks (MDBs) play a critical role in reducing the perceived and actual investment risk associated with green bonds financing renewable energy projects. Tax incentives, such as tax-exempt interest income, tax credits, or preferential tax treatment for green bond investors, increase the after-tax return on investment, thereby enhancing demand and lowering borrowing costs for issuers.

At the same time, multilateral development banks-including institutions such as the World Bank, the European Investment Bank, and the Asian Development Bank–often participate in green bond markets as issuers, guarantors, or anchor investors [2; 8; 9].

Their involvement improves creditworthiness through guarantees, co-financing arrangements, or risk-sharing mechanisms, particularly in developing and emerging economies where political, regulatory, and currency risks are higher. The presence of MDBs signals strong institutional support and policy credibility, which strengthens investor confidence, reduces risk premiums, and facilitates the mobilization of private capital into renewable energy projects.

In several countries, governments provide tax-exempt or tax-advantaged green bonds, such as the Clean Renewable Energy Bonds (CREBs) program in the United States [1], which allows public entities to finance renewable energy projects with reduced interest costs through federal tax credits. Similar tax incentives in European and Asian markets increase investor demand by improving after-tax returns, thereby lowering the yield required by investors.

The World Bank has been one of the largest issuers of green bonds globally, using its high credit rating to attract investors while channeling funds into renewable energy and climate mitigation projects in developing countries [8].

The European Investment Bank (EIB), through its Climate Awareness Bonds, has financed large-scale wind and solar projects across Europe while providing long-term, low-cost financing.

Ukraine has introduced green bonds into its legal framework as a distinct class of debt instruments intended to finance environmentally beneficial projects, including renewable energy, energy efficiency, waste management, and clean transportation.

Green bonds can be issued by governments, corporations, banks, and development institutions, allowing renewable energy financing to scale rapidly across regions. Their standardized structure makes them suitable for global capital markets.

Under current Ukrainian tax law, investment income from securities (which would include interest earned on corporate or green bonds) is generally treated as taxable income for individuals [4-5].

The Tax Code explicitly includes income obtained from sale, redemption, or other disposition of securities in the taxable base for personal income tax. This means that without special incentives, individual investors in green bonds face the same taxation as other securities holders [10].

Developing such incentives is viewed by experts as a way to stimulate market growth and investor participation.

Even without direct green-bond tax incentives, Ukraine already offers several useful tax provisions for renewable energy and capital investments that can indirectly support financing.

These measures improve project returns and can indirectly make green bonds financing more attractive to investors by enhancing project cash flows.

There are ongoing discussions in Ukraine about introducing tax benefits and formal incentives for green finance instruments, potentially including tax breaks for green bond investors or issuance structures designed to attract both domestic and foreign capital [6-7].

In conclusion, green bonds represent one of the most effective and scalable mechanisms for financing renewable energy.

Their ability to mobilize substantial capital, reduce financing costs, ensure transparency, and align financial markets with environmental objectives makes them a critical instrument in the global transition toward

sustainable energy systems, but such generating financial resources mechanism requires systemic support, which includes the corresponding tax instruments and control system.

References:

1. Climate Bonds Initiative. Green bonds market summary and policy frameworks 2023. Available at: https://www.climatebonds.net (accessed: 15.01.2026).
2. European Investment Bank. Climate Awareness Bonds and green finance instruments Luxembourg, 2022. Available at: https://www.eib.org (accessed: 15.01.2026).
3. International Finance Corporation. Green bond impact reporting and investor transparency Washington, DC : World Bank Group, 2021. Available at: https://www.ifc.org (accessed: 15.01.2026).
4. Zakon Ukrainy “Pro rynky kapitalu ta orhanizovani tovarni rynky” vid 19.06.2020 № 738-IX [Law of Ukraine “On Capital Markets and Organized Commodity Markets” dated 19.06.2020 No. 738-IX]. Available at: https://zakon.rada.gov.ua (accessed: 14.01.2026).
5. Podatkovyi kodeks Ukrainy : Zakon Ukrainy vid 02.12.2010 № 2755-VI (zi zminamy) [Tax Code of Ukraine: Law of Ukraine dated 02.12.2010 No. 2755-VI (as amended)]. Available at: https://zakon.rada.gov.ua (accessed: 15.01.2026).
6. Stockholm Environment Institute. National comprehensive assessment of green finance in Ukraine. Stockholm, 2023. Available at: https://www.sei.org (accessed: 15.01.2026).
7. Organisation for Economic Co-operation and Development. Green finance and investment: Mobilising resources for sustainable energy. Paris : OECD Publishing, 2020. 210 p.
8. World Bank. The role of multilateral development banks in green bond markets. Washington, DC, 2022. Available at: https://www.worldbank.org (accessed: 14.01.2026).
9. European Commission. EU Green Bond Standard and sustainable finance framework. Brussels, 2021. Available at: https://finance.ec.europa.eu (accessed: 15.01.2026).
10. Financier Worldwide. Legal and tax incentives for renewable energy projects in Ukraine. 2022. Available at: https://www.financierworldwide.com (accessed: 14.01.2026)