

UNLOCKING EUROPEAN FUNDS FOR SUSTAINABLE ENERGY AND RESPONSIBLE DECOMMISSIONING IN THE REPUBLIC OF MOLDOVA

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Abstract: *The renewable energy sector in the Republic of Moldova has experienced significant growth in recent years, driven by geopolitical challenges and the country's commitment to European integration. This paper aims to analyze the role of European funds and international support in accelerating the transition toward sustainable energy, while also emphasizing the importance of responsible decommissioning practices. The research is based on the analysis of official reports, legislative frameworks, and international best practices. The findings highlight that while Moldova has made substantial progress in increasing renewable energy capacity, there is a growing need to integrate environmental impact assessments and financial provisions for dismantling infrastructure. The study concludes that aligning national policies with European Union standards will ensure both sustainable growth and long-term environmental protection.*

Key words: *renewable energy, European funds, Moldova, energy transition, decommissioning, sustainability*

JEL CLASSIFICATION: Q42, Q48, H54, F36

INTRODUCTION

The renewable energy sector in the Republic of Moldova has experienced significant growth over the past three years. This progress has been driven primarily by two factors: the energy crisis that affected Europe, including Moldova, as a consequence of the war in Ukraine, and Moldova's clear commitment to joining the European Union. This commitment includes integrating its energy system with Romania and, by extension, the European network, while adopting best practices for sustainable energy production and consumption.

Over the past three years, energy production in the Republic of Moldova has shown an impressive upward trend. According to the National Bureau of Statistics, output in 2024 is reached 1,521 TJ, marking an 81% increase compared to 2023 and a 51% rise from 2022. The National Energy Regulatory Agency (ANRE) reports in its annual review that renewable sources—such as solar panels, wind power, and prosumers (end-users who generate their own electricity and feed it into the grid)—accounted for 43.1% of total energy produced in 2024, up from 32% in 2023 and just 20% in 2022. According to ANRE's latest report on electricity market for the first quarter of 2025, the number of renewable energy producers has reached 300 units, marking a 125% increase compared to 2023.

What enabled this rapid growth? The primary driver was Moldova's urgent need to reduce reliance on traditional energy sources from the Transnistrian power plant and, consequently, Russian gas. This necessity became evident following the outbreak of the war in Ukraine in 2022, which served as a wake-up call for the country.

MAIN CONTENT

Technical Assistance and Capacity Building through International Programs

Undoubtedly, the biggest supporter for an independent and sustainable energetic system in the Republic of Moldova, was European Union and international organizations like: USAID, UNDP, EBRD and EIB. Using external funds in the past year were performed:

1. Major International Financing Agreements for Energy Efficiency and Renewable Projects

The Government of Moldova has signed and implemented several major financing agreements

with international partners to support the transition to renewable energy and energy efficiency. Notable examples include:

- Grant and Loan Agreements with the World Bank (IBRD) and the Multi-Donor Trust Fund “M-GROW” for the project “Sustainable Transition to Energy Efficiency in Moldova (STEEM)”, supporting large-scale investments in energy efficiency and renewable energy infrastructure.
- Loan Agreements with the European Bank for Reconstruction and Development (EBRD) for the “Interconnection of Electricity Networks between Moldova and Romania, Phase II”, which directly supports the integration of Moldova’s energy system with the European grid and increases the share of renewables.

2. *Technical Assistance and Capacity Building through International Programs*

The government has leveraged technical assistance and capacity-building programs funded by external partners to accelerate renewable energy adoption:

- USAID’s Moldova Energy Security Project (MESA) and UNDP have provided technical support for drafting and implementing key regulations, developing national strategies, and building institutional capacity for renewable energy integration.
 - Expertise France, GIZ (Germany), and the Open Society Foundation (SOROS) have supported pilot projects, legal studies, and the development of community energy initiatives, including the legal and regulatory framework for energy communities and net metering.
3. *Implementation of Competitive Auctions and Support Schemes for Renewable Energy*
- With support from the EBRD and EU4Energy, the government has established and implemented:
- Competitive auctions for large-scale renewable energy projects, ensuring transparent allocation of capacity and attracting private and foreign investment.
 - Support schemes for renewable energy producers, including fixed tariffs and net metering mechanisms, which have been notified and authorized by the Competition Council with technical assistance from international partners.
 - Development and adoption of secondary legislation (with EU and UNDP support) to align with EU directives, such as the Renewable Energy Directive (RED II), and to facilitate the integration of renewables into the national energy mix.

ENVIRONMENTAL PERSPECTIVE AND OBSERVATIONS

Traveling across Moldova this summer, I was struck by the frequent sight of wind farms and solar panels. It gave me confidence that the reported growth in renewables is real and filled me with pride and hope that Moldova is truly on the path toward energy independence. Yet, this observation sparked another thought: while striving to become “greener” in terms of energy, are we overlooking the environmental impact of our accelerated development?

My perspective is shaped by experience auditing renewable energy entities in Romania. Following EU best practices, Romania adopted Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU. This directive harmonizes principles for environmental impact assessments by introducing minimum requirements regarding the types of projects evaluated, the obligations of project initiators, and the involvement of competent authorities and the public—ultimately ensuring a high level of environmental and human health protection. Under the Renewable Energy Directive, EU member states must, by February 2026, identify “renewables acceleration areas” for at least one type of renewable energy technology. These zones should benefit from simplified and expedited permitting procedures for projects developed within them. The designated areas must be particularly suitable for such projects and selected on the basis that the chosen renewable energy source is unlikely to cause significant environmental impact.

These practices serve as an example we should follow to ensure sustainability throughout the transition to green energy. Renewable energy producers need to assess their impact on land erosion—both for wind farms and solar panels—as well as their carbon footprint and residual waste. Based on industry knowledge, a significant portion of land is leased from local municipalities for periods exceeding 20–30 years, reflecting the expected lifespan of these parks. Although 30 years seems long-term, measures should be implemented from the early stages, including plans for dismantling the parks and restoring the land once their operational life ends. Consequently, the government should promote investment initiatives aligned with local, national, regional, and European policies for transitioning to a low-carbon economy while addressing physical environmental impacts. These efforts should also support the objectives of climate change control policies, particularly concerning renewable energy infrastructure.

Responsible decommissioning plans should be assessed by management not only for operational efficiency but also for their impact on financial reporting. Consulting specialists to determine the necessary measures for environmental restoration during the dismantling of energy parks will result in recognizing dismantling provisions. These financial liabilities must cover the estimated costs of dismantling, removal, and land rehabilitation at the end of the asset's useful life, in line with legal and contractual obligations, aligning the local financial reporting with the best IFRS practices.

CONCLUSIONS

In conclusion, the renewable energy sector of Republic of Moldova has made remarkable strides, driven by geopolitical challenges, EU integration efforts, and substantial international support. These achievements demonstrate the country's commitment to energy independence and sustainability. However, true progress requires more than expanding capacity—it demands responsible planning to mitigate environmental impacts and ensure long-term environmental rehabilitation. Aligning national strategies with EU directives, implementing responsible decommissioning plans, and adopting best practices for environmental assessments will safeguard both ecosystems and financial integrity. By combining ambitious growth with accountability, Moldova can not only secure a low-carbon future but also set a precedent for sustainable development in the region.

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