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THE IMPACT OF SUSTAINABILITY AND SOCIAL RESPONSIBILITY ACCORDING TO THE NORDIC MODEL, PRACTICES FOR THE ECONOMIC DEVELOPMENT OF THE REPUBLIC OF MOLDOVA IN THE CONTEXT OF ACCESSION TO THE EUROPEAN UNION

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Purpose: This article investigates the potential impact of sustainability and social responsibility, as exemplified by the Nordic model, on the economic development of the Republic of Moldova, particularly in the context of its aspirations to join the European Union. The focus is on how the principles and practices of the Nordic model could influence Moldova's progress toward sustainable growth and development.

Methodology: The research adopts a qualitative approach, analyzing key socioeconomic indicators from the Nordic model and evaluating their relevance to Moldova's development strategies. It also explores Moldova's National Development Plan and its alignment with the United Nations' Agenda 2030 for Sustainable Development. By comparing these frameworks, the study identifies ways in which Moldova can integrate sustainable practices into its economic policies.

Conclusions: The results indicate that the Nordic model offers a useful framework for promoting sustainability and equality within Moldova's economic development. By incorporating eco-innovation and sustainable business practices, Moldova can achieve significant progress toward its development goals while addressing key challenges such as climate change and social welfare. The study emphasizes that adopting Nordic-inspired sustainability practices could foster a more resilient and equitable economy in Moldova.

Originality: This article contributes to the broader conversation on sustainability by connecting the Nordic model to Moldova's specific context. It provides practical insights for policymakers and stakeholders, suggesting that Moldova can learn from Nordic experiences to build a greener, more inclusive economy. The findings may inspire future policy reforms and initiatives that advance both economic growth and environmental sustainability.

Keywords: Sustainability, Nordic model, eco-innovation, sustainable development, green economy.

Introduction

In the current context of global challenges related to climate change and depletion of natural resources, the concept of circular economy has become a major priority for the international community. This innovative approach, aimed at minimizing waste and optimizing the use of resources, represents a paradigm shift from the traditional linear economic model of "take-produce-throw".

For the Republic of Moldova, which is currently going through a complete process of European integration, embracing the principles of the circular economy is not only a decision, but also an essential necessity. Joining the EU means joining common standards and practices in the fields of sustainability and environmental protection, as the circular economy is one of the fundamental pillars of the EU's sustainable development plan.

The choice of the Nordic model as a benchmark is not accidental. The Nordic countries (Sweden, Norway, Denmark, Finland and Iceland) are globally recognized for their leadership in sustainability and green innovation.

Materials and methods

The Republic of Moldova is undoubtedly taking strides toward a European future, especially in light of the 2024 referendum on support for EU membership and the growing prominence of pro-European movements in the nation.

This, however, in addition to undeniable economic and social benefits, also comes with a series of obligations, in the form of reforms for each level of state power, be it legislative, executive or judicial, with the ultimate goal of adapting and harmonizing the Republic Moldova with the other EU member states. Here, the 6 Clusters of the annexed negotiation chapters within the accession conference of the Republic of Moldova to the EU are highlighted [2]. In this chapter, according to the communication report on the EU enlargement policy, " Moldova is only beginning its environmental and climate change preparations." [3], offering the following essential recommendations:

- strengthening the implementation and enforcement of legislation, with an emphasis on horizontal legislation, nature protection, water management and waste management;
- allocating the necessary human and financial resources to the Ministry of the Environment and subordinate bodies;
- implementation of commitments from the Energy Community's 412ecarbonization roadmap.

At the European Union level, key initiatives such as the Climate Law and the Green Deal, adopted in 2021, established legally binding targets to achieve climate neutrality by 2050, reduce net greenhouse gas emissions by at least 55% by 2030, and plant 3 billion trees. As a candidate for EU membership, the Republic of Moldova must align with these goals, steering its economy towards sustainability and environmental responsibility. Achieving this requires a focus on two critical areas:

Enhancing energy efficiency

Promoting a circular economy

In response, the Moldovan government has taken initial steps through the "National Development Strategy: European Moldova 2030," which includes Objective 10: "Ensuring a healthy and safe environment." This objective encompasses actions such as afforestation, improving soil, water, and air quality, and transitioning to a green, circular economy. Key priorities in this shift include developing integrated waste management systems through appropriate infrastructure and services, modernizing transportation with variable environmental charges based on pollution, and fostering innovation by establishing research and support structures for technology transfer.

Understanding the circular economy's principles is vital for progress. Unlike the traditional linear model—characterized by the "take-make-dispose" approach prevalent since the Industrial Revolution and amplified post-World War II—the circular economy emphasizes minimizing waste, designing smarter products, prolonging their use, recycling, and regenerating natural resources. This approach aims to foster sustainability and reduce environmental impact.

Similarly, the Nordic model offers a notable example of integrating social and economic policies to support sustainable development. This model, applied in countries like Sweden, Norway, Denmark, Finland, and Iceland, blends the advantages of market capitalism with a strong welfare system. It includes key features such as:

A comprehensive welfare state

Significant investments in human capital by both public and private sectors

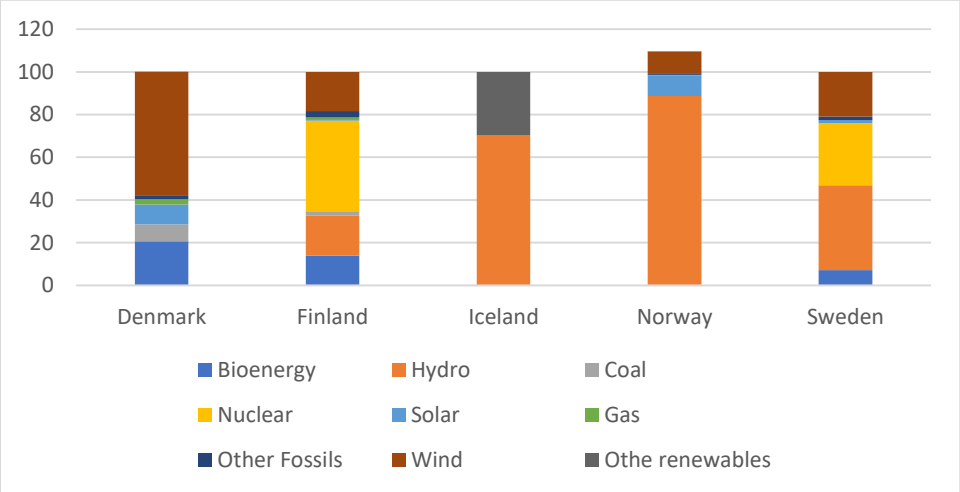
Robust labor market institutions with strong trade unions, employer organizations, and coordinated wage systems

Although the Nordic model is not defined by a singular framework, its principles demonstrate how a balanced approach to economic freedom and social welfare can contribute to sustainable development and societal well-being.

A key word associated by most authors with the Nordic model is "Welfare state", which according to T.H. Marshall represents "a higher stage in the development of civil rights" [5]. The Nordic model places the common citizen and his well-being at its core, as can be seen from the traits that have been provided. In this context, it is obvious that the well-being of the common citizen and his social rights include the right to live in a healthy and safe natural environment. From this, we may infer that the conditions for

the Nordic nations' success in addressing climate change and advancing the green economy also emerge. An important first step taken by the Nordic countries in the context of the green economy was the optimization of energy consumption through the use of renewable resources, each country, taking into account its own possibilities and circumstances, investing in locally available renewable resources, even if they are not the cheapest shortterm option. Thus, Norway, Iceland and Sweden have benefited from the use of water basins in the production of hydropower, Finland and Sweden from the efficient use of biomass in combined heat and power plants, Iceland from geothermal energy, while Denmark has the largest share of wind energy in world.

Distribution of electricity generation in the Nordic countries,2023



Source: Developed by the author based on [7]

The positive results are also due to national policies to encourage the energy economy and the transition to renewable resources. Also, CO2 taxes remain generally high on the territory of these countries, with Sweden, Norway and Finland occupying respectively the 4th, 5th and 6th places in the world in this chapter [16]. In addition to renewable energy, the Nordic countries, with a view to the circular economy, also pay more attention to waste management. In this chapter, however, there is some lack of cohesion between countries, with Denmark focusing on recycling and recovery, while Sweden, Finland and Norway use waste as a source of energy recovery through incineration. However, there is a common tendency to avoid landfilling as much as possible, which is largely made possible by solid waste sorting practices at the source. For example, Nordic countries make extensive use of biofuel obtained from the processing of wet waste to fuel public transport. Another strength is that the Nordic countries also enjoy a high rate of social acceptability for green policies, with ordinary people realizing the importance of switching to a green economy and the long-term benefit of this switch. Also, despite the lack of state incentives, more and more private households are abandoning the use of fossil fuels for greener alternatives such as biofuel or heat pumps. This can be linked to the population's economic well-being and high educational standards, as these countries provide free access to the entire education cycle. Another significant factor contributing to the rapid transition of Nordic countries toward a circular economy is the active and constructive collaboration between member states. In response to climate change, these countries have established various agencies and organizations to initiate, manage, and coordinate sustainability and green economy programs.

Results and discussions

Adaptable Practices for the Republic of Moldova:

Practice 1: National-Level Standardized Waste Sorting

Implementing a centralized mechanism for waste collection, either fully state-managed or operating under the supervision of a dedicated governmental task force, is essential. Such a system would ensure proper waste collection across all regions of the country, encouraging households to engage in source sorting. Drawing inspiration from the Swedish model, Sweden achieved a remarkable 99.2% waste recovery rate, as noted in [8]. Under the Swedish Environmental Code, municipalities are mandated to oversee the collection, transportation, and subsequent waste management, enabling effective monitoring and regulation. This adaptable framework improves waste sorting and recycling rates by aligning with market demands. Households in Sweden, for instance, sort their waste into at least eight categories [9].

Additionally, an ambitious but impactful initiative could involve constructing facilities to produce biomethane from organic waste. This biomethane could be utilized to fuel public transportation, reducing landfill waste and decreasing dependency on imported fossil fuels. However, this approach requires significant investments and widespread public awareness campaigns.

Practice 2: Legislation for Container Deposit Systems

To further encourage waste sorting and recycling, implementing a container deposit system could be effective. This model, widely adopted in Nordic countries, involves a refundable deposit applied to beverage containers at the point of sale. Consumers receive their deposit back when containers are returned to designated machines. Such a system ensures a high recycling rate for glass, plastic, and aluminum bottles by providing a financial incentive, as failing to return containers results in a monetary loss for individuals.



Figure 4.1. Container return machine in Sweden – PANT

Sursa : https ://studyinsweden.se/blogs/2019/07/13/practical-things-i-wish-i-knew/

Practice 3: Incentives for the real sector to innovate towards the green economy

In a modern economy, the well-being of a country is largely dependent on the real sector, which, in addition to contributing to the state budget through taxes, also has the primary role of bringing innovations to the territory of this country. Accordingly, by granting various incentives, such as fiscal facilities or subsidies and grants for green technologies, the state ensures that private companies will have the motivation to develop their production cycle in such a way that it is compatible with circular economy policies, such as would be the investment in renewable energy resources (solar, wind, biofuel, etc…)

Another way in which the state can stimulate innovations in the field of green economy is the creation of public-private partnerships. Respectively, using the above examples, we can see how the state can collaborate with private entities to implement the PANT system, offering the possibility of creating a new industry to create the respective machines, but also giving the possibility to the bottling companies to recover their containers, thus optimizing their production costs.

Practice 4: International cooperation and the creation of specialized agencies

Taking the Nordic model as an example, it is important to emphasize the need for international cooperation with states at a similar economic level, to be able to exchange experience, to create common

funds for green initiatives and last but not least, to create an environment mutual encouragement of members to persist and achieve their proposed goals.

In this vein, the creation of an Eastern European model can be discussed on this topic, potential members being Romania, Moldova and Ukraine, which, like the Nordic countries, are in close political relations and could collaborate on sectors of common interest, such as moving to a circular economy.

In addition, the analyzes in chapter 2 demonstrated that the Republic of Moldova has certain gaps in terms of having concrete studies and information regarding the current state of climate change and countermeasures. Respectively, this initiative would also have the effect of improving the communication and reporting of the current situation and future plans, through various articles and official reports of the organizations that are part of this model, thus ensuring a clear vision for the governing bodies and working groups, but and informing and educating the common citizen, thereby also raising societal support for green initiatives and investments. A clear proof of this is again the Nordic model, which enjoys an impressive number of articles, reports, research and information on climate actions and their impact.

Conclusions

The shift to a circular economy is a top priority in light of the Republic of Moldova's European aspirations and the requirement to conform to EU criteria. There is a notable disparity when compared to the Nordic nations, who are global leaders in ecological and sustainable practices, particularly in crucial sectors like waste management and green production. International research (EPI, SDR, The Green Future Index) continuously emphasizes how well the Nordic nations have performed in putting the circular economy's tenets into practice; they routinely rank top in the world rankings. The Republic of Moldova, on the other hand, is facing significant obstacles, particularly in regard to:

1. Low waste recovery rate (2.9 compared to the Nordic average of >80)
2. GHG emissions and air pollution associated with production
3. Lack of a systematic framework for waste management

The Nordic model offers valuable lessons for the Republic of Moldova, based on:

- *Consistent implementation of environmental policies*
- *Substantial investments in renewable energy*
- *Efficient waste management systems*
- *Close regional cooperation through various specialized bodies*

To accelerate the transition to a circular economy, it is recommended to adopt the following practices inspired by the Nordic model:

1. Systematization of centralized sorting of waste at national level

2. Implementation of a warehouse system for containers (similar to the PANT system)

3. Creating incentives for green innovations in the private sector

4. Development of regional cooperation by creating a potential "East European model"

It is crucial to keep in mind that the Nordic model's success is based on an all-encompassing approach where social development, environmental sustainability, and economic progress are all closely linked. The Republic of Moldova should see adopting these policies as both a condition for EU membership and an opportunity for modernization and long-term national growth.

In conclusion, although the challenges are significant, the Nordic experience demonstrates that the transition to a circular economy, although complex, is achievable through political commitment, technological innovation and the active participation of all social actors. It is essential that the Republic of Moldova accelerates this process, not only to align with EU standards, but to ensure a sustainable future for future generations.

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