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MEASURES AND TOOLS TO STREAMLINE THE TRANSITION TO GREEN ECONOMY IN ROMANIA

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Abstract

The green economy is currently a hotly debated global pillar as it has a significant impact on sustainable development. The implementation of this concept aims to identify viable solutions for the development, conservation and protection of the environment as a result of economic and social aggression. At the same time, international organizations are generating alternatives to combat the long-term negative factors that may affect the well-being of the population. In order to reach the proposed objective, that of implementing a sustainable economy, a coalition is needed between the private sector and the legislative power in Romania. The private and public spheres must reach a common point through which they can reduce the wear and tear of economic growth with the aim of reducing environmental risks, enhancing the use of resources and increasing the quality of life. This paper aims to identify the tools needed to adopt a Green Economy by analysing current opportunities for economic development based on sustainable policies and investments. In the context of those presented, the paper proposes some measures and tools to streamline the transition to a green economy in Romania. To reach the result of this descriptive analysis, research methods were used based on reports, studies, papers and specialized publications both online and offline. As a main result of this paper we can mention the identification of some changes at the level of demographic indicators but also the identification of some notable results in terms of share of renewable energy in gross final energy consumption and recycling rate, important factors for the analysis of the green economy at national level.

Key words**:** *green economy, recycling rate, sustainable tools, investments*

INTRODUCTION

The green economy is currently a topic of interest, presenting a very complex reality, an accumulation of activities that are found in all economic sectors and that have in common the direct reporting to the environment in an effort to protect quality and stop degradation. to preserve or restore natural balances, to protect and safeguard non-renewable resources, including by identifying and promoting innovative alternatives.

A milestone in this area was the publication of the "Growth Limits" Report by the Rome Club in 1972. At the moment, the field of green economy has become one of the fashionable topics on the agenda of global discussions. The current trends, which imply the need to change the models of economic development, are indicated by the increasing emphasis on issues related to environmental degradation. The green economy was one of the topics of discussion at the United Nations Conference on Sustainable Development Rio + 20 (Rio de Janeiro, June 2012) [15].

and at the Conference of Environment Ministers "An Environment for Europe" (Batumi, June 2016) [16, 17].

Ideally, this type of economy is a set of activities that do not produce pollution, do not produce waste or can implement technologies that have the ability to recycle them to reintroduce them into the natural circuit without unbalancing the ecosystem, activities or systems that not to produce elements harmful to humans or the environment and to use natural resources rationally without affecting their quality or regenerative capacity [2].

In fact, such an economy does not exist. The Community cannot suddenly abandon the traditional production procedures that consume non-renewable, polluting, aggressive

resources in relation to the natural environment.

The technological development of classical production systems over time cannot be stopped until they are replaced by new or innovative systems that ensure similar comfort and are also efficient. At the same time, no substitutes have been identified for all non-renewable sources that have a similar quality and exist in quantities above the current need.

All this hat developed around the green economy is just a contemporary model of transition from the classic model, which focused strictly on environmental protection and was perceived as an economic burden, to an innovative model, focused on tools that use protection environment as a resource in ensuring the sustainability of economic growth.

In the near future, we must all treat the green economy as one of the main pillars of sustainable development, poverty reduction and resource conservation in an innovative way. This is just a tool that can bring to light technologies based on low carbon, lower energy consumption, reducing waste. All this with a single purpose: the eradication of risk factors on the environment [10].

The solution to avoid or mitigate these risks is to consolidate and develop the green economy. This cannot be done in the short term. It takes a long transition period to resolve the many and complex issues involved in such a process. Scientific research must contribute to the success of the transition and to shortening its duration, in order to provide solutions to technical problems. Entrepreneurs are also motivated to invest in new sectors of economic activity and consumers of products/ services that, through their options and demand, will support the growth and proliferation of the green economy. Last but not least, governments that, aware of the scale of the risks and the need to act to avoid or mitigate their consequences, will act, with the means at their disposal, to encourage and support all activities that make up the green economy [11].

The transition to a green economy will generate major economic opportunities. Replacing the traditional economy with the green one is a new growth process, a generator of decent jobs and a sustainable strategy to eradicate poverty. This green mechanism can turn many challenges into economic opportunities and can avoid the negative impact on the environment. The green economy will also stimulate economic growth and the number of jobs in the environmental sector, which require specific environmental skills [17].

In this context, the purpose of the paper is to provide an analysis of a number of considerations regarding the challenges and opportunities facing Romania in the transition and implementation of the principles and objectives of the green economy, as well as the impact on society in general.

MATERIALS AND METHODS

To achieve the objective of the paper, specific research methods and mechanisms used in the field of the green economy have been applied to analyze the impact at national level. Also, we used a descriptive analysis based on a series of reports, studies, works, statistics and publications.

The analyzed data were collected from specialized literature in the green economy field.

The research methodology used is based on three phases of analysis. The first phase of collecting information and research documentation, the second phase provides a detailed descriptive transposition of the analyzed data, while the third phase summarizes the information collected and concretizes through conclusions.

RESULTS AND DISCUSSIONS

Making an analysis at national level, Romania has launched since 2008, the National Strategy for Sustainable Development of Romania Horizons 2013–2020–2030 [12]. We find in this document some aspects related to the objective of promoting the habits of consumption and sustainable production. The national objective proposed to be implemented by 2020 was to dissociate

economic growth from environmental damage by highlighting performance indicators regarding the sustainability of consumption and production. Analyzing this aspect, we find that no measures have been imposed to achieve this goal and from a technical point of view, we are at point 0.

Also for 2020, as a national goal for sustainable development, it aims to reach the current average level of EU countries at the main parameters of responsible management of natural resources. Some of the measures aimed at sustainable development and the transition to a green economy aimed at:

-adoption of ecological technologies;

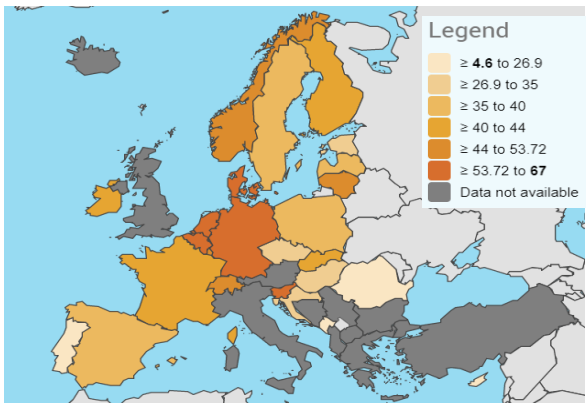
-stimulating eco-innovation;

-green public procurement.

As a target for 2030, the Strategy proposed: bringing the EU member states closer to the average level of sustainable production and consumption at that time.

With regard to integrated waste management, the aim is to move from waste disposal to selective collection and recovery of a greater proportion of recyclable waste, including the conversion of organic waste into compost, and its exclusive use in urban areas. of ecological landfills.

In terms of waste, Romania separately collects 13.7% of waste in 2022 (Map 1). The goal we need to achieve is 55% by 2030, and the European average is 45%.



Map 1. Recycling rate of municipal waste
Source: Eurostat [7].

However, Romania ranks 32nd in the top of the world's greenest economies, in a ranking led by Denmark, Luxembourg and Switzerland. Yale's Top Composite Environmental Performance Index (EPI) [18]. looks at dozens of indicators, including waste management, air quality and biodiversity (Table 1). The analysis took into account only those countries considered by the World Bank to have high incomes. Romania is far from the top of the ranking, obtaining a total score of 64.7 points, compared to over 80 points in the top five. It is interesting to note first of all that in the ranking there are mainly European countries, only 12th being Japan, and 13th Australia, followed by New Zealand 19th. At the same time, it is noted that at the top are some of the richest countries in the world, states whose agenda has been on environmental protection for many years.

Table 1. Top countries with the greenest economies

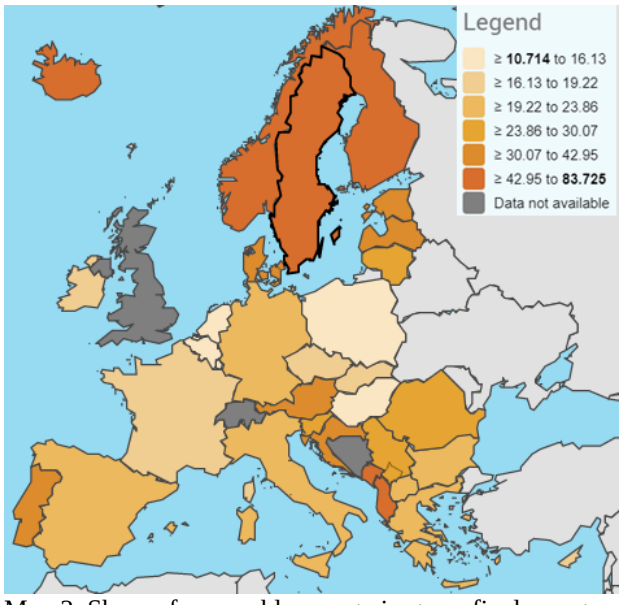
Position	Country	Score
1	**Denmark**	**82.5**
2	**Luxembourg**	**82.3**
3	**Switzerland**	**81.5**
4	**Great Britain**	**81.3**
5	**France**	**80.0**
6	**Austria**	**79.6**
7	**Finland**	**78.9**
8	**Sweden**	**78.7**
9	**Norway**	**77.7**
10	**Germany**	**77.2**
…	**...**	**…**
32	**Romania**	**64.7**
33	**Hungary**	**63.7**

Source: Yale's composite Environmental Performance Index (EPI), https://epi.yale.edu/, [18].

If we talk about resources, at the moment we do not use them at all rationally and sustainably and this puts more and more pressure on our planet. The population should favor the use of mechanisms to facilitate the transition to a green economy, moving beyond the scope of policies that focus exclusively on waste and based on green design, innovation and investment. Research can sustain innovation not only in production but also in business models and funding mechanisms.

Speaking of the rational use of resources, we took into account for the analysis and the situation of renewable sources as a share in the gross domestic energy consumption of Romania. With the growing interest in the

green economy, the amount of renewable energy produced has suddenly increased in Europe. We are talking about an increase from 16.6% in 2016 to 20.9% in 2020 in the share of renewable energy in gross final energy consumption. This is not accidental but is related to the mandatory legal aspects of Directive 2009/28/EC on the promotion of the use of energy from renewable sources. At the level of our country, the situation is favorable. Romania is slightly ahead in terms of the share of energy from renewable sources compared to the European Union average. In 2020, the target of 24% of total energy consumption from renewable sources has been reached (Map 2). For 2030, the new target set by the Romanian government is 30.7%. Thus, Romania is on the 10th place in the EU and above the average level of the European Union. In 2020, the production of electricity in Romania came in proportion of 12.4% from wind energy, 3.4% from photovoltaic solar panels and 27.6% from hydropower. In total, the production of renewable energy (wind, photovoltaic and biomass) accounted for 16% of the total.



Map 2. Share of renewable energy in gross final energy consumption
Source: Eurostat [8].

Eco-innovation and research that promotes innovative solutions are essential for the transition to a green economy (Fig. 1). Innovation is not limited to production processes, but could also encourage and support new business models. There are already many examples of innovative solutions that focus on providing services instead of marketing products: for example, you don't have to own a car to meet your transportation needs [4].

Such collaborative business models, which focus on service delivery, could benefit from the new financing mechanisms, given that, over time, investment and profit follow different patterns of evolution [3].

Analyzing the Eco-Innovation Index we can see that our country has no high performance results and ranks 25th with a score of 57. This score places us below the average performance of many countries in Europe and we do not perform on any analysis indicator of this index. We can talk about results when we analyze the efficiency of resources or socio-economic indicators, but this performance is in a continuous decrease compared to the last analyzed report. Taking into account all the eco-innovative factors of analysis, the results of our country place us at half the average level of the EU [6].

The green economy can be applied to all sectors of activity with the capacity to achieve synergies that can provide new development opportunities with major impact. Achieving notable results requires active involvement not only at the level of public policy but also at the level of enforcement in the territory of the measures through the instruments proposed at regional level.

In this sense, local public authorities have an important role in the design and implementation of innovative systems:

-for efficient collection, for all the types of wastes;

- production of energy from renewable sources and ensuring local consumption;

- "pay as you throw" schemes that allow the implementation of the "polluter pays" principle in practice.

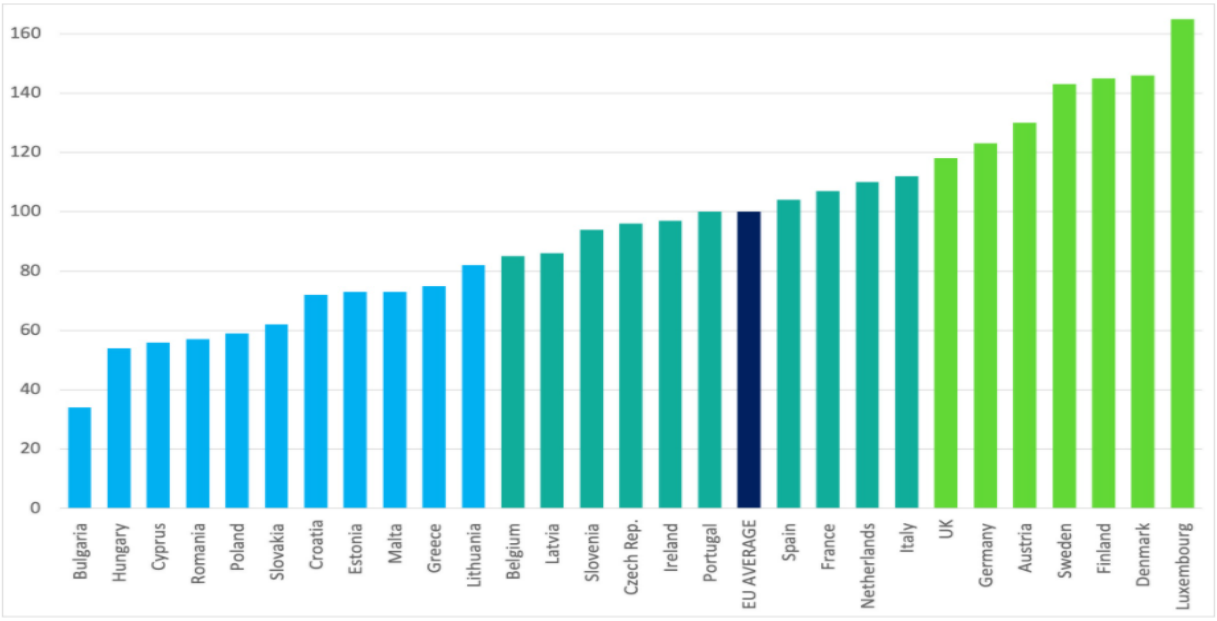


Fig. 1. Eco-innovation Scoreboard ranking and eco-innovation index composites for Romania
Source: Ecoap, Romania [5].

For the construction of the Romanian model of the green economy, the existing good practices at international and European level have an important role. At the moment we do not have a significant start but progress can be made by implementing projects financed from the structural and cohesion funds that need to be actively supported. Funding of this kind is essential to recover the long periods in which no development projects in the green sphere have been implemented at all [9].

Education plays an important role in the transition to a green economy and this is where the factors that educate consumers about the role and importance of resource efficiency, prevention and combating food waste come into play. Raising consumer awareness of the marketing of new waste products has a key role to play in promoting sustainable business models that contribute to the rapid development of advanced concepts and ideologies. In this sense, the transition from the theoretical approach of the green economy to its implementation requires facilitating the transfer of waste from one company to another company, respectively supporting the implementation of industrial symbiosis processes, both physically and electronically.

Another measure to facilitate this transition is to encourage the development of new skills and jobs for the reconversion of the unemployed and young people.

The green economy and its ability to generate new resources, to create new opportunities and sustainable business models, has attracted special attention, being found in the strategies and action plans of public authorities, business environment, research institutes and non-governmental organizations.

Identifying solutions and technologies for the reuse of secondary resources as a raw material in as many production circles as possible is an objective included in the policies and strategic plans of the private and public environment.

At present, Romania is beginning to take small but important steps towards promoting the green economy, namely a national model of good practice, which will contribute considerably to the promotion of new sustainable business models and encourage both the public sector to efficiently manage energy resources. which disposes. We believe that a more careful approach is needed at the national level to competitive advantages from a circular economy perspective, namely the ability of sectors to recycle resources and generate new resources for other industries [13].

Economic growth can be influenced by the protection and conservation of the environment, the moderate use of natural

resources or their replacement with innovative solutions that can represent the challenges underlying the transition from the traditional economy to the green economy. For Romania, the green economy is an opportunity in itself to develop and stimulate competitiveness in new sectors of economic growth (eco-business, eco-innovation, eco-design, etc.) but also to stimulate an efficient management of resources for traditional economic sectors. There is clearly a strong economic logic behind this transformation: for example, European calculations show that the circular economy could create a net profit of almost one trillion euros, ie a GDP gain of 7% [1].

Encouraging and developing new sustainable business models that promote the efficient use of resources is the main way to make the transition to a green economy in Romania. In this sense, it is necessary to develop digital tools that promote an industrial symbiosis, which facilitates trade relations and direct transactions of residues and waste from production on all types of waste so as to become cost-effective and economically sustainable.

CONCLUSIONS

The transition to a green economy involves shaping a policy and investment-based economy that links economic development, the ecosystem, biodiversity, climate change, health and well-being of the population in the medium and long term. Thus, a favorable economic growth can be achieved only after the creation of synergy relations between all these factors in order to implement the identified mechanisms and tools [14].

The concept analyzed in this paper can be presented through different approaches that bring to the fore the obligation to analyze all the factors that can bring changes to the traditional model of economic growth. The activities through which it is desired to make the transition to the green economy, must also respect the aspects related to the economic, social or environmental impact. The whole process can lead to legislative damage that can have repercussions on civil society. The application of this concept aims to involve all stakeholders in all sectors of activity, not just waste management or green energy.

Transforming this type of economy into a sustainable one that will add value to the national economy, involves the transition to new business models, oriented towards innovation and not quantity. Also, the application and use of eco-efficient technologies, which actively contribute to the reduction of GHG emissions, represent challenges for developers and create opportunities for civil society.

In order for Romania to reach a stable green economy in the future, it is necessary to assume public policies from both the Government and the line ministries, as well as the involvement of all public authorities, but also of the private environment and NGOs.

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