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GREEN FINANCE AND ECO INOVATION AS THE BASIS OF THE TRANSITION TO A GREEN ECONOMY

Dragica Stojanović
Business School „Čačak", Higher Education Institution for Applied Studies, Zemun, Serbia

e-mail: gicadra60@gmail.com
https://orcid.org/0000-0001-5689-9818

Abstract: Coordination economic growth with sustainable development and green transition is a universal challenge for most countries. Setting up regional economies on the road to sustainable development requires shifting investment from natural resource intensive industries and greenhouse gas emissions towards a new and more efficient model of development. In this model of development the central role is taken by the financial sector, i.e. green finance and eco-inovation. Green finance is a new area of finance that has its application in the process of integrating environmental protection and economic profit. The aim of the paper to explore the role of green finance and eco-innovations in the transition to a green economy. The methodological basis of the article are the fundamental the theory of green finance and innovative development. The conclusions demonstrate the urgent need for a green transformation and the importance of developing a policy for financing eco-innovation activities that might enable eco-friendly business practices for present and future generations.

Key words: *green finance, eco inovation, green economy, sustainable economic development.*

INTRODUCTION

Recent years, with the magnitude and urgency of the needs to finance sustainable development,green finance has gained prominence globally in line. While the green financial sector assists in transferring financial flows in green investments, the private sector plays a crucial role in solving urgent environmental issues like climate change.

In order to support green transition, green finance should incorporate new technologies, financial products, industries, and services that consider the environment, energy efficiency, and the reduction of pollutants' emissions (Stojanović, 2019).

The author Hee Jin Noh was among the first to address green finance infrastructure (Fig. 1).

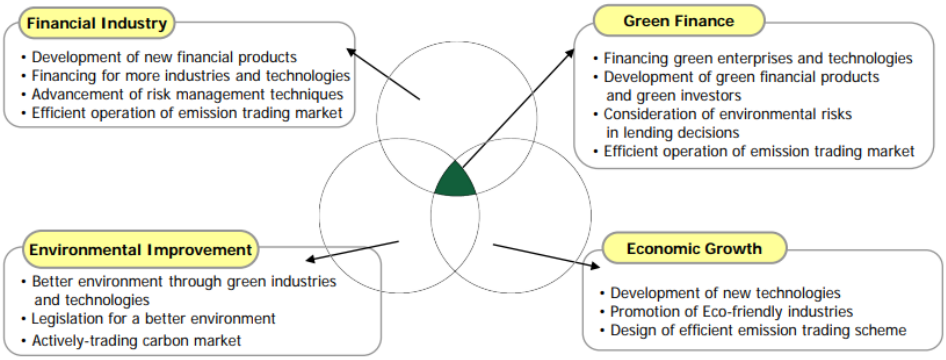

Figure 1. Green finance

Source: Noh, 2010

Green financing is an idea that blends the strength of operations and finance with the strength of environmental behavior. This is a broad category that encompasses producers, investors, lenders, and consumers, both private and commercial.

Green financing can take many forms, depending on the number of participants. On the one hand, it might be because of financial incentives or because people want to protect the environment. On the other hand, these two might be combined. In contrast to conventional financial operations, green financing places a greater emphasis on the advantages of protecting the environment and industry (Wang, Zhia, 2016).

In addition to the fact that green investments, as a fundamental component of green finance, have a broad mapping in relation to the objectives of the green economy and sustainable development, there are some conflicts between green finance and environmental protection that must be resolved. Green economy provides a practical and flexible approach to achieve concrete, measurable progress on all its economic and environmental principles, while at the same time fully taking into account the social consequences of greening the dynamics of economic growth. The focus of Green economy strategies is to ensure that natural assets can fully realize their economic potential in a sustainable manner.

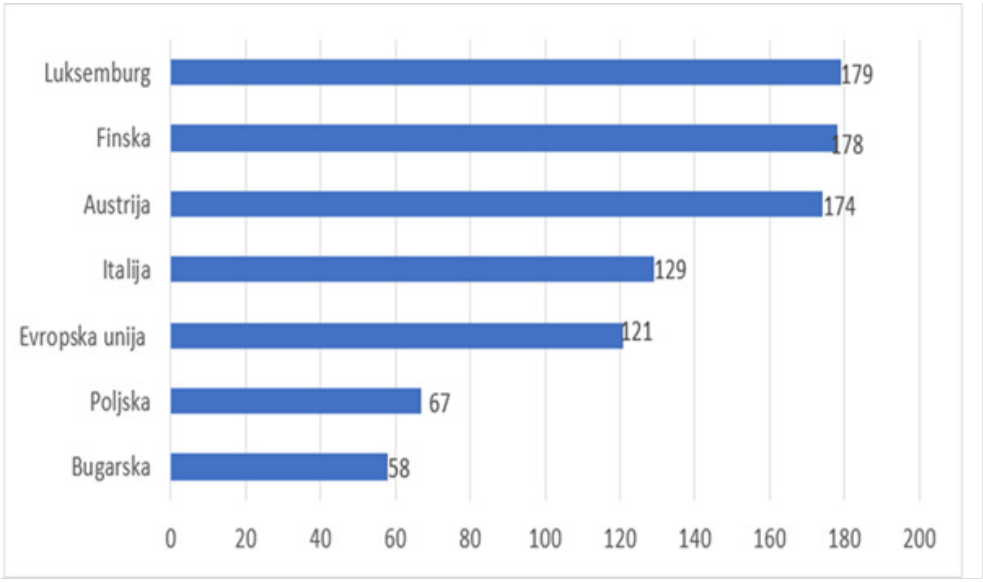

Figure 2. Eco-innovation index (2022)

Source: European Enviroment Agency, 2023

When talking about defining eco-innovations, there are two approaches. Eco-efficiency, which means improving the quality of the environment. On the other hand, resource efficiency is significant at the company level and leads to a reduction in production costs (Tarnawska, 2013).

The development and implementation of innovations require new vsignificant investment, therefore, this makes it necessary to find effective mechanisms for financing "green" innovations that determine the dynamics and depth of the processes of greening the economy. For modern , eco innovations and green finance represent a huge potential for obtaining positive economic and environmental effectseffect . A positive relationship between eco-innovation, innovation activity, R & d intensity and business financial performance was revealed in the study Scarpellini et al. (2019).

MATERIALS AND METHODS

In order to research the interrelationship between financing policy, innovative activities and the green economy, the paper adopts a comprehensive research approach. To this end, in order to gain insight into this area, analytical articles and studies of global economic organizations were used: the World Bank, the IMF and the United Nations.

The methodology used in the paper included a combination of literature review, analytical study reviews and qualitative data collection. The literature review served

as a basis for understanding the current state of knowledge in this area. In order to point out the necessity of financing and supporting green transformation and eco-innovation activities, the paper also used a graphic method based on the collected data.

This method was applied in order to visually reflect the trends in the financing of innovative activities and research and development. Complex empirical and applied analysis in the paper gives the possibility of determining directions, conditions and mechanisms of financial support for green transformation and development of eco-innovations.

RESULTS AND DISCUSSION

Since technological progress is one of the main drivers of economic development, today innovation policy is one of the main policies of the European Union. As of 2022, the prominent leaders of eco-innovation in Europe are: Luxembourg, Finland, Austria, Denmark, Sweden, Germany, France, Spain and the Netherlands.

Average eco-innovation indicators include: Italy, Portugal, Slovenia, Czech Republic, Ireland, Belgium, Greece, Estonia and Latvia. The following countries are included in the category "Understanding eco-innovation": Lithuania, Croatia, Slovakia, Cyprus, Romania, Poland and Bulgaria.

The performance of EU member states in terms of the dynamics of eco-innovation is measured using the eco-innovation index, which consists of five thematic areas: inputs into ecological innovation; activities in the field of ecological innovation; outputs of ecological innovations; results in the area of resource efficiency and socio-economic results of environmental innovations.

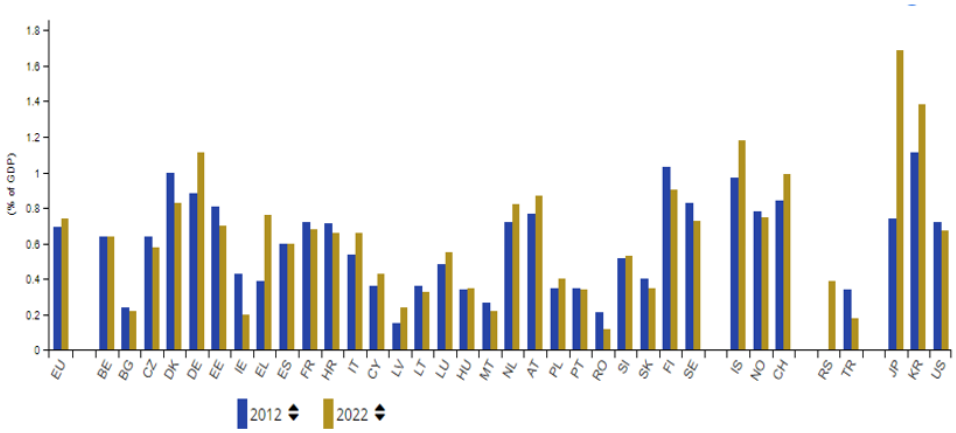

Figure 3. Eco-innovation index. Total value of green investment per capita (early-stage)
Source: European Commission, 2022a

Total government budget allocations for R&D. The percentage of gross domestic product (GDP) on average across EU countries is 0.8. In general, there is a close direct relationship between a country's economic development and the share of its R&D expenditures.

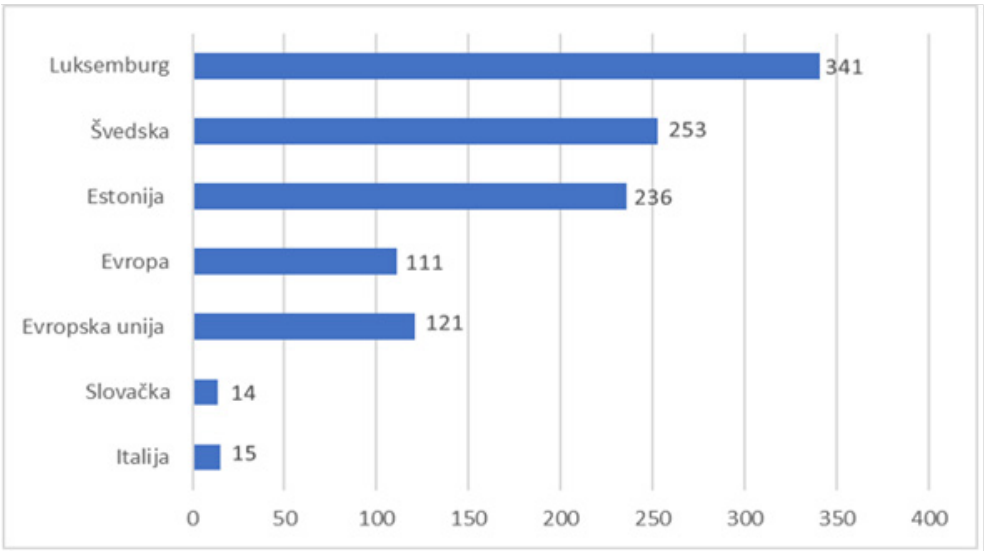

Figure 4. Total government budget allocations for R&D. Percentage of gross domestic product (GDP)

Source: Eurostat, (2024)

The new economy that is being formed is not only an economy of knowledge and human capital, but also an economy of conscious and responsible behavior for the consequences that may be felt by future generations.

The development of the green economy should take place in three dimensions: green innovation, sustainable and inclusive development.

What determines the development of the main factors are (World Bank, 2021):

- investments in human capital;
- preservation of nature and increase of social capital;
- implementation of macroeconomic and structural policy;
- development of institutions for innovative activity and economic transformation;
- capital mobilisation and attraction of private investments to finance
- eco-innovations (European Commission, 2021a).

Eco-innovations are becoming one of the main priorities of EU policy in almost all types of economic activity. At the level of the states and in the EU, it is necessary to

evaluate and define the promising social, economic and ecological dimensions of the development of the eco-innovation strategy (Gulac et al., 2022b).

The development of sustainable green financing requires the formation of a favorable policy, which includes:

- the policy of regulation of green
- financing; strategic plans for climate change mitigation and adaptation;
- green taxonomy; dissemination of ESG best practices; implementation
- of climate stress testing for enterprises of various sectors and financial
- institutions; regulation of environmental emissions; development of
- information disclosure platforms and changes in financial reporting
- standards; development and implementation of new financial instruments
- and products for green financing.

For the financing of eco-innovations, it is important to form the infrastructure of the financial market, which consists of (Matviienko, et al., 2022):

- financial regulators at the national and regional level,
- supervisory bodies, associations, stock exchanges, rating agencies, auditing
- companies, financial institutions (IFC, 2021).

The main economic systems that need to be financed for climate transformation are (European Commission, 2021a):

- climate-smart agriculture,
- green buildings and cities,
- development of renewable energy sources,
- distributed generation,
- energy efficiency,
- water supply and sewage systems,
- waste management,
- development of the circular economy,
- transport infrastructure and
- mobility.

Given the above, the transition to a greener economy must be supported by changes in qualifications and national education and training programmes. More precisely, in order to initiate eco-innovations, the development of digital skills are becoming increasingly important in all occupations. Also, the transition to a green economy requires an increase awareness of society about the environment.

Accordingly, it is important to cooperate with other companies, industries, countries in joint research and development.

More precisely, innovation today is a very interactive process. Cooperation leads to the expansion of the scope of development projects and increases the competence of the company. Accordingly, a strong and reliable system of environmental

innovations ensures technological sustainability and the realization of sustainable development goals (Matvienko at al., 2022).

CONCLUSION

In order to combat climate change and advance resource efficiency, green finance offers financial support for the shift to a green economy, which is defined by low-carbon technologies and sustainable development. Banks, international financial institutions, institutional investors, central banks, and financial regulators are the main players propelling the growth of green finance.

One of the main tools for the transition to a green economy is undoubtedly eco-innovation, which should be supported by appropriate public policy at different levels of government. All this imposes the need for further research into an appropriate measurement framework that will contribute to a better understanding of the obstacles and drivers of eco-innovation development in different EU member states.

The need to implement new initiatives due to geopolitical and energy crises in Europe is one of the main challenges for their financing of eco-innovations in the coming years. Also, one of the challenges is the improvement of international cooperation between countries for joint development and financing, the spread of eco-innovations, as well as access to digital databases. Therefore, sustainable financing should become part of financial decision-making at all levels.

The relative lack of academic literature in our region on eco-innovations and green financing was a challenge for the author when conceiving the theoretical framework of the work. Regardless, according to the author's opinion, the work represents the basis for some further research in this area and perhaps an attempt to draw the attention of policy makers to the importance of the development of the eco - inovation and green finance for financing the transition to a green economy in Serbia.

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