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CHALLENGES AND OPPORTUNITIES IN THE FINANCING OF THE CLIMATE TRANSITION AT THE EU LEVEL

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Abstract*:* The paper aims to analyze the major need to transition to a climate-neutral economy, which represents both a challenge and an opportunity for the European Union member states. Mobilizing the necessary funds for this transition is essential, and the EU has developed numerous financial mechanisms to support green projects. However, these funds face major challenges, including administrative and bureaucratic obstacles that limit access to funds for many regions or small businesses, and the complexity of the processes to access funds and the lack of administrative expertise are significant factors that prevent the absorption of funds. The economic and technical discrepancies between the member states make it difficult to implement green projects in the less developed regions. Access to funds is also influenced by a lack of knowledge among potential beneficiaries regarding the availability of financing opportunities. At the same time, the COVID-19 pandemic has had a major impact on the European economy, creating both difficulties and new opportunities in the financial sector. Climate transition financing, while facing many challenges, represents a unique opportunity to transform the European economy into a sustainable and competitive one. Adaptation to the new economic realities and the mobilization of private capital, along with more equitable and efficient access to European funds, will be essential for the long-term success of the transition to climate neutrality. The EU and its member states are the largest provider of public financing to fight climate change worldwide.

Keywords: *challenges, climate changes, funds, impact of Covid-19, sustainable development, targets*

JEL code: *Q01, Q56*

1. Introduction

The transition to climate neutrality is not only an ecological and social necessity. It is foreshadowed to be both an absolute necessity of the future and an opportunity to build a sustainable and a resilient Europe-wide/global economy. It is constituted as an essential step to prevent and combat climate change, protect the environment and improve the quality of life. European and international policies play a crucial role in supporting this transition, and cooperation between states, the private sector and civil society will be essential to achieve the climate goals.[2]

It represents one of the most significant challenges of the 21st century, generating a major impact on the economy, environment and society. As a first step, climate neutrality aimed to reduce greenhouse gas (GHG) emissions, with the European Union being among the main major economies that got involved, so that in 2020, EU GHG emissions fell by 31 % compared to 1990 levels, exceeding the EU's 20% emissions reduction target by 2020. Through the Net Zero Strategy, aiming to balance the amount of greenhouse gases (GHG) and absorb existing GHG emissions from the atmosphere, in consideration:

- reducing GHG emissions generated by human activities, especially from the energy, industrial and transport sectors, which are the main causes of a large number of extreme climate events - floods and droughts, melting ice caps, loss of biodiversity, shortages of food and fresh water, desertification as well as displacement caused by natural disasters.[3] By transitioning to climate neutrality, it is possible to prevent the global temperature from rising above the critical threshold of 1.5°C established in the Paris Agreement;

- the reduction of GHG emissions regarding the protection of biodiversity and ecosystems, the protection of all living beings, the interactions they have with each other and with the environment in which they live. By adopting sustainable practices, it will be possible to slow down the process of environmental degradation, preventing the disappearance of species and the deterioration of natural habitats because only through healthy ecosystems will the climate balance be maintained. through CO_2 absorption;

- reducing GHG emissions by switching to renewable energy sources, such as solar energy, wind energy and green hydrogen - a strategic priority - will ensure energy security: the development of renewable energies, energy storage technologies and energy efficiency solutions. Energy transition reduces dependence on external sources and vulnerability to fuel price fluctuations while ensuring long-term energy stability and accessibility;

- the creation of economic opportunities and the creation of jobs as the transition to a green economy stimulates innovation and new markets, technologies and new jobs, so traditional industries will need to adapt, creating demand for new skills and professional retraining, with the potential to revitalize the industrial regions affected by the transition;

- the reduction of GHG emissions will have a positive impact on the health of the population, respiratory and cardiovascular diseases will decrease significantly with the transition to clean energy sources, the air quality in cities and industrial areas will be improved, reducing the heavy economic and social burden of problems related to pollution;

- reducing GHG emissions is essential for aligning with international commitments to which the European Union and many other countries have assumed ambitious goals and to avoid economic sanctions/political isolation on the international stage. Through the European Green Deal, the EU has set out, as is well known, to become the first continent neutral from a climate point of view by 2050, which will have global effects on environmental policies;

- reducing GHG emissions mitigates climate change that could generate major risks to financial markets and global economic stability, preventing financial risks. A rapid and well-managed transition to climate neutrality ensures that these risks are minimized, ensuring that economies are climate-resilient.

2. Achieving the climate transition - EU actions to support financing

The EU is committed to a sustainable, low-carbon and efficient from the point of view of the use of resources. Together with its Member States, the EU is the world's largest provider of climate change finance.[9]

Access to European funding for projects related to climate transition, however, faces numerous difficulties:

- bureaucratic procedures and strict eligibility criteria limit access to funds for many regions or small enterprises;

- the complexity of the application process and the lack of administrative expertise at the local level are significant factors preventing the absorption of funds;

- economic and technical discrepancies between member states make it difficult to implement green projects in less developed regions;

- lack of knowledge among potential beneficiaries regarding the availability of financing opportunities.

Challenges in financing the climate transition

- high costs of the transition as the decarbonisation of the economy requires massive investments, both from the public and private sectors. Estimates show that, at the EU level, investments of around 350 billion euros are needed annually in the energy sector alone to achieve the climate objectives. The instruments and policies proposed to decarbonize the electricity sector must be balanced according to national particularities, as the degree of dependence on natural gas and its role in electricity sector scenarios varies from one country to another. Massive investments are needed to develop renewable energy infrastructure, modernize transport networks and invest in green technologies;

- major regional - economic and technological discrepancies between EU member states create a challenge in the equitable distribution of funds; less developed economies (especially those in Central and Eastern Europe) have greater difficulties in attracting investment for the green transition due to aging infrastructure and fossil fuel dependence;

- difficult access to funds, as the bureaucratic and particularly complex procedures are sometimes an obstacle to the efficient use of available resources; local actors and SMEs, which play an important role in the green transition, often face administrative obstacles and lack of expertise to access them;

- dependence on private investments, as the transition to climate neutrality cannot be achieved without the mobilization of private capital, even if public funds play an important role; the challenge is to attract them to sectors considered risky/with low profitability (for example, green infrastructure projects in less developed countries);

- political and regulatory changes can affect investor confidence and delay the financing of the transition; the lack of coordination between national and European/global climate policies causes uncertainty among those who want to invest in green projects.

Opportunities in financing the climate transition

- the allocation of European funds to support the green transition through mechanisms that provide important financing opportunities for green projects, especially in the more economically vulnerable Member States - Just Transition Fund, Recovery and Resilience Facility, InvestEU, Innovation Fund, Sustainable Europe Investment Plan;[4]

- interest in green bonds used to finance sustainable projects, has increased, this market being booming and representing a significant opportunity to attract private capital for renewable energy projects, sustainable transport and other environmental initiatives;

- supporting technological innovation because the climate transition requires the development of new technologies, which creates benefits for research and innovation. Technologies, such as green hydrogen, advanced energy storage, carbon capture and storage solutions and optimal management of energy resources are areas where significant investment can be made;

- Public-Private Partnerships (PPPs) support the transition to climate neutrality by supporting collaboration between governments and the private sector; Public-private partnerships offer an opportunity to mobilize private capital for large green infrastructure projects while reducing risks for investors;

- the transformation of financial markets through Environmental, Social, Governance (ESG) criteria - criteria related to environmental protection and sustainability, are becoming increasingly important in the investment decisions of funds and financial institutions. Starting from 2025, companies will be obliged to come up with sustainability reports in 2026. Money with ESG addressability for companies is available in several formats and can come through different financing channels from international financial institutions, banks, investors. This trend provides an opportunity for sustainable investment, stimulating the allocation of capital to projects that contribute to the climate transition and a green economy. Today, ESG criteria are no longer just a trend in the investment field, but an essential element to attract investors' attention;

- post-COVID 19 recovery plans are prompting governments to adopt economic recovery measures based on green investments, providing significant opportunities for financing climate transition.

Therefore, we note that even if the challenges exist, the climate transition also creates a series of opportunities. The European Green Transition and Innovation Funds have stimulated the emergence of new financial mechanisms such as green bonds and sustainable investment funds, which have attracted the attention of institutional and private investors.[8] Also, there is a growing demand for financial products that support projects with positive social and ecological impact, and the banking sector is starting to pay more attention to Environmental, Social, and Governance criteria in the allocation of resources.

The impact of the COVID-19 pandemic in financing the climate transition

The COVID-19 pandemic has had a dual effect on climate finance. First of all, the economic crisis generated by the pandemic has redirected significant public funds to support the economy, thus limiting investments in green projects. In many Member States, funds originally allocated to the climate transition have been redistributed to cover budget deficits and social support.

Among the major challenges are:

- reduction of investments in green projects because economic uncertainty has led companies and investors to postpone/reduce investments in renewable energy projects, energy efficiency, green technologies, etc., financial priorities being oriented towards maintaining vital activities and the appropriate management of economic effects generated by the pandemic;
- many governments opted to redirect public funds to economic and health support programs, to the detriment of investments; This reallocation for a time affected the funds available for green projects and green infrastructure development;
- due to the restrictions imposed by the pandemic, many green infrastructure projects have suffered *delays in the implementation of green projects*, as well as in their financing, because many sources of financing are dependent on the execution deadlines;
- *negative impact on the financial markets* because in the conditions of uncertainty generated by the pandemic, green bonds and other sustainable financial instruments suffered, temporarily, as investors no longer wanted to take risks in these conditions;

At the same time, the pandemic highlighted the need for a resilient economic system – post-pandemic economic recovery plans that included important measures for green investment, which directed significant funds towards the green transition and a better awareness of the links between public health and medium.

As emerging post-Covid-19 opportunities we mention:

- economic recovery oriented towards the green transition, the pandemic has led governments and international institutions to recognize the need for a sustainable economic recovery – for example, NextGenerationEU. " Table 1" [7]

Tabel 1: Breakdown of NextGenerationEU

Recovery and Resilience Facility	723,8 to invest in reforms and projects (billion euro *)	
	in loans 385,8	in grants 338,0
ReactEU	50,6	
Horizon Europe	5,4	
InvestEU Program	6,1	
European Regional Development Fund (ERDF)	8,1	
Just Transition Fund (JTF)	10,9	
RescEU	2	
Total	**806,9**	

Source: Eurostat data, European Commission
*Note: *at 2022 prices*

- increasing demand for green bonds - the investors seeing these bonds as an opportunity to support ecological recovery, and governments and international organizations issuing green bonds to finance sustainable projects - European Union has become the largest issuer of green bonds as part of its economic recovery plan;
- increase in private investments, the pandemic accelerating awareness of the risks associated with climate change - Investment funds and financial institutions have stepped up their commitments on sustainable investment;
- Environmental, Social and Governance – ESG- have become an essential criterion in investment decisions, taken into account by investors when analyzing companies, attracted by the long-term growth potential of green projects;

- strengthening the EU policies on green financing - the European Green Deal is the basis of a competitive and efficient EU economy, from the point of view of resource use, with the primary targets:

- zero net emissions of greenhouse gases until 2050;
- recording an economic growth dissociated from the use of resources;[5]
- equity for citizens, sectors and regions and to encourage sustainable financing. The 2030 Agenda is linked to the European Green Deal which will define the development strategy of the EU - the first climate-neutral continent by 2050. Post-pandemic European policies have reflected a clear commitment to climate neutrality and financial support for the green transition , which increased funding opportunities for green projects;
- pandemic crisis has stimulated innovation in many sectors, including that of green technologies. Investments in renewable energy, energy efficiency and sustainable technology solutions, such as green hydrogen and energy storage solutions, have seen an acceleration in the context of the global economic crisis.

The funds raised thanks to the Next Generation EU instrument, as well as the new EU budget, are channeled through EU programs, with a view to making available every euro invested for Europe to recover, to intensify the double transition, both the green and the digital, with the final goal of building a more equitable and resilient society. Technological innovations such as the use of green hydrogen, carbon capture and storage solutions and the digitization of energy infrastructure are considered priority investment areas.

Financial mechanisms of the European Union to achieve climate neutrality

"For Europe to transition to a climate-neutral economy, we need political commitment, but also massive investment. The European Green Deal shows the determination to mitigate climate change, which we now support [...] We need to change our way of thinking if we want to make investments focusing on sustainability"[1]

In order to achieve climate neutrality, we must have an overview of the most important financing mechanisms available in the EU for achieving the transition to climate neutrality.[6] Financial mechanisms play an important role in supporting EU Member States, local authorities and the private sector to finance green projects. “Table 2"

Table 2: European Union's main financial mechanisms

Financial mechanism	**Description**	**Estimated budget** (billion euro)	**Main objective**	**Period**
European Green Deal	The main EU strategy to achieve climate neutrality by mobilizing public and private resources	+1.000	Transition to a green and sustainable economy, reducing CO_2 emissions	2021-2030
Just Transition Fund (JTF)	Financial support for the regions and sectors most affected by the green transition	17,5	Support for professional conversion and infrastructure modernization	2021-2027
Recovery and Resilience Facility (RRF)	Key tool for post-pandemic recovery, supporting green investment	723,8	Financing green and sustainable infrastructure projects	2021-2026
InvestEU	Program to mobilize private investments in sustainable sectors	372	Support for investments in renewable energy and green technologies	2021-2027
Innovation Fund	Support for innovative projects with low carbon emissions	10	Developing technologies such as green hydrogen and carbon capture	Până în 2030

Green Bonds	Financing instrument for sustainable projects by attracting private capital	depending on the governments, companies, or organizations that issue these securities, as well as the economic context, financial markets, and local legal requirements	Financing green projects in transport, energy and environment	Permanently
Sustainable Europe Investment Plan	Part of European Green Deal, mobilizes public and private resources	+1.000	Creating a favorable framework for green investments	2021-2030

Source: European Commission, 2022

In order to transform the EU economy and society, to realize the ambitious climate objectives set, a series of measures have been initiated with the aim of adapting EU policies in the fields of climate, energy, transport and taxation, to reduce greenhouse gas emissions, with at least 55% by 2030 compared to 1990 levels. The sharp decrease of these emission in the period 2021-2030 is essential for Europe to become both the first climate-neutral continental bloc by 2050 and the concretization of the European Green Deal.

The goal of financing is to ensure long-term security, but also the relaunch of Europe's economy, ecological recovery, as efficiently as possible and in the shortest possible time.[10]

3. Conclusions

The transition to a climate-neutral economy is both a global challenge and a huge opportunity for EU member states.

Financing the climate transition involves many challenges, but these can be overcome through the efficient use of European funds, attracting private capital and stimulating technological innovation. Emerging opportunities in the financial sector and support from the EU provide a solid framework for mobilizing the resources needed to achieve climate goals, helping to create a sustainable and resilient economy.

The COVID-19 pandemic represented both a challenge and an opportunity for financing the green transition. Although in the first phase, the global economic crisis caused a reduction in investments and delays in the implementation of projects, recovery plans and post-pandemic policies have emphasized the importance of the green transition. The European Union has strengthened its financial commitments for climate neutrality, mobilizing significant resources to support green projects and accelerate the transition to a sustainable and resilient economy.

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Europe must make efforts to ensure that what started as a pandemic, then turned into an economic emergency, does not become a real social crisis. We all stand to gain from Europe's economic recovery, and we all need to contribute. The investments will ensure new jobs throughout the economy, especially in the area of green and digital transition.

A transformation is expected that will work in conditions of fairness and reliability for the whole of Europe. We will support all citizens, sectors and regions that will have to make greater efforts to achieve this change, this is the EU's commitment in the name of solidarity and equity.

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