

# EUROPEAN UNION SUPPORT FOR THE IMPLEMENTATION OF THE EUROPEAN GREEN PACT IN THE COUNTRIES OF THE EASTERN PARTNERSHIP

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## **Abstract:**

*The European Union is a leader in the implementation of sustainable development objectives both in its internal and external policies. Several brand projects were initiated through which the EU offers support to the countries of the Eastern Partnership (EaP) to identify their own ways to achieve sustainability, based on the best European practices. The objective of this research is to analyze what is the specificity of the initiatives undertaken in different countries of the PaE with the support of the EU, to ensure a better governance of sustainable development, especially through the implementation of the EU4Environment project. Another research direction is to assess the impact of policies, initiatives and actions taken by EaP countries throughout the partnership period with the EU, highlighting their results, both successes and difficulties of EaP countries in terms of sustainability. The dynamics of macroeconomic indicators, international score tables, EU4Environment reports of EaP countries and OECD green growth indicators were analyzed. The research results demonstrate that EU support is largely oriented towards strengthening sustainability governance capacities and the green transformation of SMEs.*

**Key words:** Sustainable development, European integration, EaP, EU4Environment, sustainable progress

**JEL classification:** O2, H43, F15, O44, O57

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## **1. INTRODUCTION**

Sustainable development has long been a central policy objective of the European Union (EU), enshrined in its treaties, since 1997. The EU pays essential attention to sustainable transformation also in its foreign policy through the implementation of the European Neighborhood Policy (ENP). Several flagship projects are implemented in the countries of the Eastern Partnership (EaP) pursuing various thematic transformations in the six countries: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. Later, cooperation with Belarus was suspended. The EU4Environment project, with a budget of about 20 million euros, with EU funding constituting 19.5 million euros, started in 2019, with the aim of supporting the EaP countries in identifying their own steps for their sustainable transformation. The European Ecological Pact was recognized by the Environment Ministries of the 5EaP countries as a benchmark, good to follow in the development of their own country strategies to achieve the SDGs, modernize economies and reduce the carbon footprint [7, 8, 9, 10, 11].

The purpose of the research is to analyze the specifics of the initiatives undertaken, with the support of the EU in 5EaP countries, to ensure a better governance of sustainable development. Another direction of research is the evaluation of the impact brought by the implementation of projects carried out from European funds and highlighting the results and successes of EaP countries in terms of sustainability.

## **2. RESEARCH METHODS**

The research method consists in the analysis of the national reports of the 5EaP countries, presented within the EU4Environment project, with the aim of identifying the actions taken, the results obtained, the successes and reserves of each country in achieving sustainability progress. In order to assess the current progress of each country, the analysis of the dynamic series of Eurostat and OECD indicators was carried out. Comparative analysis between countries and with the EU

average was used. The use of pairs of indicators, selected at the discretion of the authors according to the availability of data, from each of the 5 green growth indicators of the OECD, allowed the construction of five positioning matrices of the countries in terms of progress per group. The method helps to better visualize the correlation between two indicators for assessing countries' performance. The 5EaP countries participate in various international sustainability measurement reports. Three International Sustainability Country Ranking Scoreboards were analyzed to identify the comparative progress of 5EaP countries. The analytical analysis of the current state of the countries allows highlighting the specifics of the countries, the emphases placed or the chances avoided in their development policies and the identification of opportunities that would contribute to a sustainable development.

### **3. SUSTAINABLE TRANSFORMATION OF THE EASTERN PARTNERSHIP COUNTRIES WITH THE SUPPORT OF THE EUROPEAN UNION**

#### **3.1. INTEGRATION OF SUSTAINABILITY IN THE POLICIES OF THE EUROPEAN UNION**

The pro-active role of the European Union in promoting the sustainable development of society has been manifested since the origins of the concept, then being actively involved in the identification of the Millennium Development Goals, and later the Sustainable Development Goals (SDGs) of the Agenda 2030. Another commitment of the EU member countries was the ratification of the Paris Agreement (PA) on climate change, by which the signatory countries undertook to reduce by at least 55% of greenhouse gas emissions by 2030 from 1990 and to keep the increase in global average temperature well below 2°C, subsequently falling to a limit of 1.5°C.

The SDGs together with the provisions of the PA on climate change are actively integrated into the internal policies of the EU and together with the member states, the EU has committed to be a leader in the implementation of these commitments. The EU Sustainable Development Strategy, adopted in 2001, constituted a common and coherent plan on how to meet the challenges of sustainable development in the EU. The Europe 2020 Strategy, adopted in 2010, presented a growth agenda for the next decade, focused on the three key growth priorities: smart, sustainable and inclusive, which are mutually reinforcing. In November 2016, in response to the 2030 Agenda, the European Commission adopted its Communication which provided an overview of what the EU is currently doing to contribute to the 2030 Agenda by highlighting the main EU policies for each of the 17 SDGs [6].

The EU's current development strategy, the European Green Deal, approved in 2019, is ambitious and aims to make Europe the first climate-neutral continent by 2050. The set of policy initiatives is focused on adapting to climate change, clean energy, more energy-efficient buildings, sustainable and intelligent mobility, sustainable food production and consumption, conservation and restoration of natural ecosystems and biodiversity, zero air, water and soil pollution and the transition to the circular economy [2].

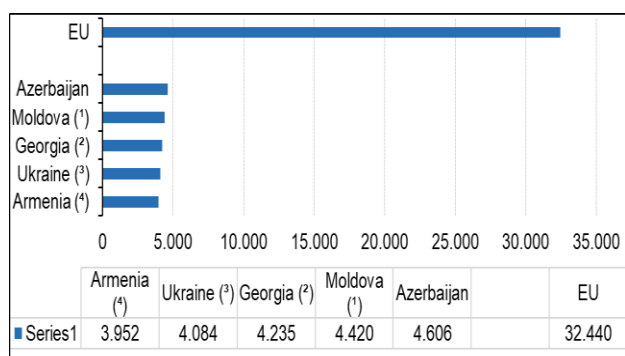
#### **3.2. BRIEF HISTORY OF THE EASTERN PARTNERSHIP**

Since the declaration of independence, 6 states, the former Soviet republics: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine have started the process of drawing up their own internal and external development policies, which even today continue to be improved in function by national priorities and international cooperation relations. As early as 1990, the EU started a process of redefining strategies with the newly independent states and identifying the legal framework for initiating political dialogue between the parties. Establishing relations with the EU constituted an objective of strategic importance, starting with the conclusion of Partnership and Cooperation Agreements with each of the 6 countries, which led to the institutionalization of relations and their consecration as direct partners of the EU. In 2009, as part of the EU

Neighborhood Policy (ENP), the Eastern Partnership (EaP) initiative was launched, the main objective of which is to establish political, economic and cultural ties between the EU and its eastern neighbors, structured around bilateral and multilateral policies. The political and socio-economic transition evolved differently depending on the different internal problems and developments of these countries, their history, culture and geopolitical context. There is no single model of regional integration, the reasons and processes vary from case to case [1]. Meanwhile, at different times, with each of the 6 EaP countries, they started negotiations for a higher level of relations, having as objectives: the establishment of democratic governments and the rule of law, respect for human rights and socio-economic stability, migration and mobility, trade and energy security. Thus Georgia, Moldova and Ukraine in 2014 signed Association Agreements and Deep and Comprehensive Free Trade Agreements, Armenia in 2017 signed a Comprehensive and Consolidated Partnership Agreement, Azerbaijan in 2018 agreed on new priorities of the partnership with the EU, and Belarus, from 2021, suspended its participation in the EaP. In 2022, Moldova and Ukraine obtained the status of candidate countries for EU accession [13].

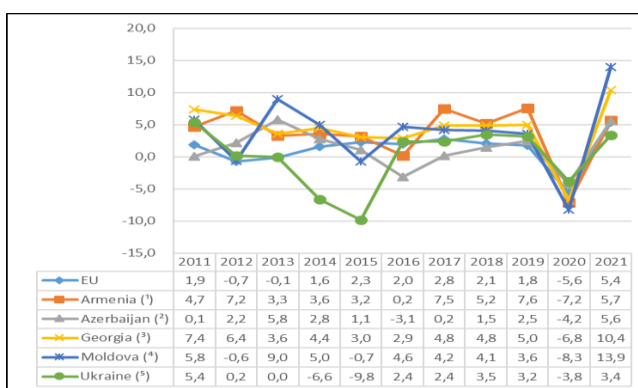
The success of countries a decade into the EaP partnership can be tracked by looking at Eurostat data. Gross domestic product (GDP) of the EU in 2021 was €14.5 trillion, about 57 times higher than the combined GDP of the 5EaP countries. Ukraine had the highest GDP in 2021, of €169 billion, but per capita, the leader is Azerbaijan with approx. €4.6 thousand per capita, followed by Moldova with approx. €4.4 thousand per capita, Ukraine being fourth after Georgia. The GDP per capita of the EU is about 7 times higher than the average GDP per capita of the 5EaPs countries (Figure 1).

Starting from 2014 and until 2019, most countries register increases in GDP, with some exceptions (Figure 2). In 2012 the economy of Moldova was affected by the reduced demand for national exported products and the severe drought which caused the decrease of the value added in the agricultural sector by 23%, and in 2015 the reduction of GDP was largely affected by the regional crisis and the tense situation in trade relations with Russia. Ukraine's GDP has been declining for two consecutive years, 2014-2015, a situation conditioned by the military conflicts in the east. Azerbaijan in 2016 recorded a decrease in GDP, being affected by low oil prices worldwide. In 2020, all countries suffered the consequences of the COVID-19 crisis, with the largest reductions in GDP recorded in Moldova, Armenia and Georgia.



**Figure no. 1. Gross domestic product (GDP) per capita, 2021, (€ per capita)**

Source: <https://ec.europa.eu/eurostat/statistics-explained>



**Figure no. 2. Real GDP growth, 2011-2021**

Source: <https://ec.europa.eu/eurostat/statistics-explained>

The structure of the EU economy is represented by a large contribution of the service sector to the formation of Gross value added (GVA), with about 73%, and a small share of agriculture, with about 1.8% (Figure 3). The situation is characteristic of developed and highly industrialized economies, which is manifested by the dominance of sectors with high added values and the low weight of sectors with low added values. In the 5EaP countries, the share of agriculture remains higher compared to the EU, especially in Armenia, Ukraine and Moldova, between 12-12.5%. The largest share of the industrial sector is recorded in Azerbaijan, approx. 46.5% in 2021, respectively

the smallest service sector, approx. 40.7%. Noting the small share of energy consumption in the industrial sector of Azerbaijan, we infer that industrial ecosystems are formed by short value chains, especially the extractive oil and gas sector (Figure 4). The highest consumption of industrial energy is in Ukraine, which indicates the ownership of several links of the chain of creation of added value in industrial production.

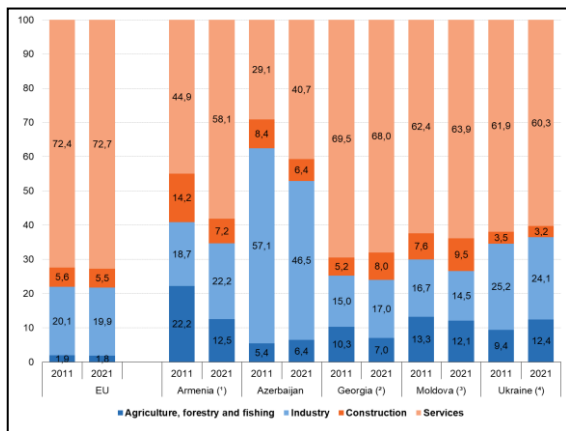


Figure no. 3. Gross value added (GVA) by economic activity, 2011 and 2021

Source: <https://ec.europa.eu/eurostat/statistics-explained>

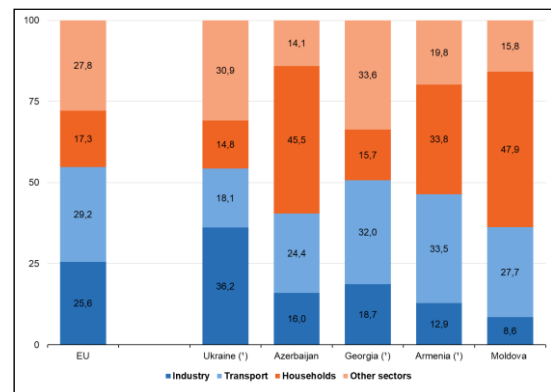


Figure no. 4. Final energy consumption, by sector, 2021, (% based on tonnes of oil equivalent)

Source: <https://ec.europa.eu/eurostat/statistics-explained>

In the EU, the unemployment rate is decreasing compared to 2011 for both men and women (Figure 5). Out of 5EaP countries, female unemployment decreases in Armenia and in Moldova it decreases for both sexes, at the same time being the lowest level of unemployment in the analyzed geographical area. In Georgia unemployment has increased compared to 2011 and together with Armenia they have unemployment values much higher than the European level. In Ukraine, the employment rate is worsening for both sexes, unemployment being above the European level. Regarding labor productivity, unlike the EU, where the variations are relatively constant, except for 2019, in the EaP countries the variations have very varied amplitudes: negative, small and large, a fact that speaks of the lack of economic coherence and stability, but also about the negative influence of crisis situations in the area (Figure 6). After the pandemic COVID19 in all 5EaP countries labor productivity increased.

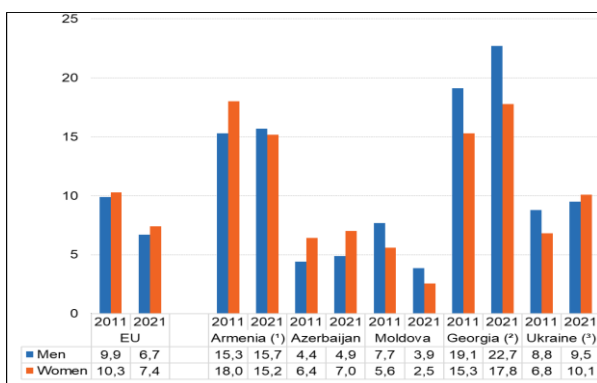


Figure no. 5. Unemployment rate by sex, 2011 and 2021, (% of persons aged 15-74)

Source: <https://ec.europa.eu/eurostat/statistics-explained>

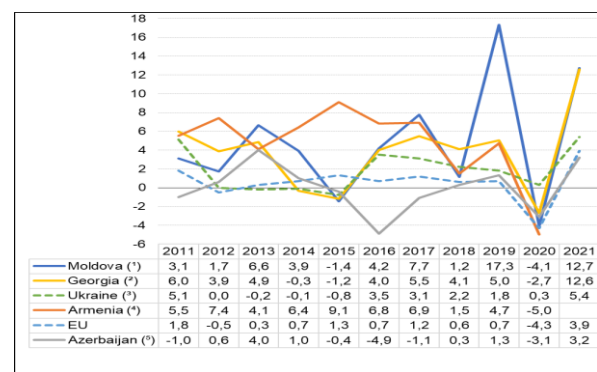


Figure no. 6. Labour productivity in GDP (constant prices) per person employed, 2011-2021, (annual rate of change, %)

Source: <https://ec.europa.eu/eurostat/statistics-explained>

Some opinions claim that the EaP idea is more political and is based on a very fragile economic base, some interstate development trends may minimize or neglect/reduce European efforts [4]. Even so, with small steps, applying the "more for more" principle, with updated and

necessary goals and objectives, European standards are becoming a benchmark for EaP countries. In 2019, based on the success of previous relations, the New EaP Policy was launched, which provides for the EU together with partner countries to contribute to achieving the commitments of the Paris Agreement and the SDGs, by creating resilient, sustainable and integrated economies, by protecting society, establishing the rule of law and respecting human rights, through green and sustainable partnerships, through digital transformation and expanding the benefits of the Digital Single Market, through building stronger societies based on involvement and civic spirit.

### 3.3. A PARTNERSHIP THAT GREENS

One of the five objectives of the current EaP policy is to build green and sustainable partnerships. It is clear that the green transition requires urgent actions to strengthen governance for modern, resource-efficient, circular and competitive economies, powered by local and renewable energies, creating new green jobs, increasing societal awareness for protecting the environment, moving towards sustainable and smart mobility and developing areas that are essential for people's health and well-being. EU support is essential for accelerating the green transitions of the EaP countries both through the expertise it can disseminate and through the financial contribution. The "European Union for Environment" - EU4Environment project, initiated in 2019, has the main objective of improving people's well-being and facilitating ecological transformation in line with the European Green Deal and the SDGs in EaP countries. The project is based on important achievements of previous cooperation programs based on sustainability, such as Green Economies in the Eastern Neighborhood (EaP GREEN), Forest Law Enforcement and Governance (FLEG) and the Emerald Network, which were completed in 2017-2018 but also of the emblematic projects EU4Climate, EU4Business, EU4Energy, EU, SIGMA with which synergies will be created in the current implementation process. The project is structured on five thematic areas: (i) green decision-making; (ii) circular economy and new growth opportunities; (iii) an environmental level playing field; (iv) ecosystem services and livelihoods; (v) regional knowledge sharing and coordination [16].

Analyzing the country reports on project achievements for 2021-2022, presented in Table 1, we conclude that in all 5EaP countries laws have been developed or amended to contribute to environmental protection. In the direction of circular/green economy, trainings were carried out in all countries, in Armenia a Green economy concept and roadmap being prepared, in Moldova New green economy action plan for 2023-27 being prepared. All countries have developed/amended or are in the process of developing waste management laws and waste Enterprise Resource Planning (ERP) system implementation.

Regarding Sustainable public procurement (SPP), all countries benefited from video training in their national languages about the benefits of SPP. Georgia and Moldova are at a more advanced stage, being determined by the drafting of legislation on the SPP, and Ukraine - at the stage of establishing the interministerial coordinating body on SPP set up.

Eco-labelling is on the work agenda of the specialized groups from Moldova and Ukraine regarding the elaboration of the legal framework and transposing European practices, Georgia is at the initiation stage and Armenia and Azerbaijan have not yet paid enough attention to this topic.

Strategic Environmental Assessment (SEA) & Environmental Impact Assessment (EIA) is in the area of interest for all countries. Thus, they have undertaken pilot SEA actions in either urban/rural planning or strategic industrial planning to help integrate environmental, climate and health considerations into the planning process.

All countries pay special attention to increasing sustainability performance for SMEs. Companies benefit from the online tool to assess their environmental performance. The use of the Resource Efficient and Cleaner Production (RECP) methodology enjoys increased interest for businesses in identifying sources of waste reduction and saving financial resources.

According to [12], the EaP countries can be divided into three groups depending on the degree of integration of sustainability in country policies: 1 - Moldova, with a high degree of alignment with EU standards; 2 - Ukraine and Georgia, which aspire to a greater degree of



integration of EU standards, 3 – Armenia, Azerbaijan, Belarus, which, due to subjective and objective factors, are more reluctant to take action.

In the future, the implementation of EGD in 5EaP countries will be based not only on the basis of awareness and responsibility, but also on the basis of necessity, because the EU will introduce a mechanism for the border adjustment of the tariff for carbon dioxide emissions, applied for certain sectors [2].

**Table no. 1. Spotlight achievements of 5EaP countries as a result of the implementation of the EU4Environment project for the period 2021-2022.**

| Spotlight achievements   | Armenia  | Azerbaijan  | Georgia   | Moldova  | Ukraine  |
|--|--|---|---|--|--|
| Environmental protection   | Subsoil Code & Water Code amended; Sustainable economy development strategy being prepared; Energy Sector Development Program 2040 foresees increasing share of solar generation to 15%;   | Environment protection law amended on polyethylene bags and plastic containers and tools; | New law on environmental liability adopted; New Forest Code adopted;  | Law on environmental protection amended; New environmental strategy to 2030 being prepared; Ministry of environment established as a separate body;    | Draft bilateral agreement (Ukraine-Romania) on transboundary environmental impact assessment under preparation   |
| Green/Circular Economy   | 30 experts trained on circular economy and 9 civil servants trained on green economy; Green economy concept and roadmap being prepared.  | In-depth training for seven civil servants in green economy;                              | 12 civil servants trained in green economy through in-depth course;   | New green economy action plan for 2023-27 being prepared; 14 civil servants trained on green economy;  | A video on circular economy principles and practices application, prepared in Ukrainian, helped promote benefits of the circular economy and practical steps in its application. |
| Waste Management & Enterprise Resource Planning (EPR)                            | Deposit refund system being introduced to reduce waste; Packaging waste law and EPR system being developed; Law on waste amended;  | Packaging waste law and EPR system being developed.                                       | Waste management strategy for 2016-30 updated; National Waste Management Action Plan 2022-26 under development; Regulations on EPR adopted for 4 waste streams. | National waste management programme 2022-27 and national waste action plan 2022-25 developed;  | Packaging waste law and 2 roadmaps to establish EPR developed; 2 localities were selected to undergo industrial waste mapping activities   |
| Sustainable public procurement (SPP)   |  |   | Legislation on SPP developed.   | Legislation on SPP developed   | Inter-ministerial coordination body on SPP set up;   |
| Eco-labelling  |  |   | 53 officials and experts trained on eco-labelling;  | Assessment of the legal framework was completed for drafting a regulation on eco-labelling to transpose Regulation 66/2010 of the European Parliament. | Legal framework amendments on eco-labelling suggested;   |
| Strategic Environmental Assessment (SEA) & Environmental Impact Assessment (EIA) | Preparatory phase of the SEA was launched in parallel to development of the micro-regional plan for Gegharkunik province (2022-23)   | Political will to create green cities through SEA application in spatial planning;        | The pilot strategic environmental assessment (SEA) of the spatial plans for 2 localities;   | Amendments to EIA and SEA laws prepared; The pilot SEA of the draft Programme on Industry Development 2030 was launched.                               | Guidelines on SEA for Urban Planning Documents help mainstream environment, climate and health considerations in the planning process;   |
|  | A video on transboundary environmental impact assessment (EIA)/Espoo Convention available in national language helped raise public awareness about and promotes application of transboundary EIA in compliance with international law. |   |   |  |  |
| SMEs sustainable performance   | 13 companies working in food and beverage production, textile,   | Online self-assessment tool for   | 8 SMEs selected from hospitality and  | Over 580 SMEs benefitted from the online tool to assess  | Technical visits and assessments of ten enterprises helped   |

| Spotlight achievements                           | Armenia   | Azerbaijan   | Georgia   | Moldova  | Ukraine   |
|--|---|--|---|--|---|
|  | metal goods and construction materials, chemicals and plastic manufacturing sectors benefitted from coaching sessions held by the RECP experts.                   | greening SMEs helping Azerbaijani enterprises assess their performance.  | agriculture sectors to develop roadmaps for introducing eco-innovation. | their environmental performance; 10 SMEs selected from wine-making and apparel markets for the provision of technical support.   | identify RECP opportunities to reduce material inputs and reduce pollution.   |
| Resource Efficient and Cleaner Production (RECP) | The concept of a national RECP platform identified priority steps to institutionalise RECP in the country; EUR 13 800 saved per year by an company applying RECP. | Azerbaijan 2030: 3 of 5 priorities related to RECP; 2 new RECP clubs; 15 experts in training, 15 enterprises under assessment. | Creation of 2 new RECP clubs, comprising 17 enterprises.                | 15 enterprises became "demonstration" enterprises of RECP methodology; Evaluation of the potential transformation of 2 selected industrial parks into Eco-Industrial Parks | The social media and RECP web page helped promote RECP activities in Ukraine; 150 tonnes of waste reduced per year by an Ukrainian company applying RECP. |

Source: author's compilation, based on: [3, 7, 8, 9, 10, 11].

The 5EaP countries use a variety of indicators to measure sustainability performance and participate in international ratings. The next step of the research is the comparative analysis of the performance evolution of the countries for a 10-year interval. Table 2 shows the change in the ranking position from 2023 compared to the 2013 position. An increase in the position indicates an improvement in performance and a decrease in the position indicates a deterioration in performance. We analyzed 3 International Scoreboards. According to The Global Sustainable Competitiveness Index (GSCI), four countries register improvements, the strongest being for Ukraine, with an increase in rating by 45 points, followed by Georgia. Azerbaijan dropped in the ranking with 31 points. The general GSCI index is conditioned by subcategories.

For the "Natural Capital" subcategory, all countries rose in rating, which means that all countries have strengthened their human capacities to improve or modify the availability of natural capital: the physical environment and climatic conditions, the leader being Ukraine. In "Resource intensity", only Ukraine increases in the rating by 62 positions, which means that it has increased the ability to effectively manage the available resources (natural capital, human capital, financial capital). For the other countries, the decrease in the rating speaks of an overexploitation of the existing natural resources. This phenomenon is most strongly recorded in Azerbaijan, with a drop in rating by 137 positions, which affected the CSCI general index.

A nation's social capital is the sum of the social stability and well-being (perceived or real) of its entire population, provides a stable environment for the economy to thrive, and prevents overexploitation of natural resources. Armenia, Georgia and Moldova managed to improve this category, while Azerbaijan and Ukraine fell in the rating.

Four countries, Armenia, Georgia, mostly Moldova and less Ukraine, have reduced their intellectual capital compared to 2013, which indicates that products and services are less competitive on the global market in terms of quality and price, and value chains have a large external reach and there is an over-reliance on the service sector. The reduction of intellectual capital is also conditioned by the decrease in research and development capacity. This dependence is confirmed in the case of Armenia and Moldova by the decrease in the Global Innovation Index rating. According to the ranking, only Azerbaijan managed to improve its intellectual capital, especially due to external demand for oil products.

**Table no. 2. Dynamics of positioning in international scoreboards performance indicators of 5EaP countries, 2023 rating change from 2013 (↓ - Deteriorated, ↑ - Improved)**

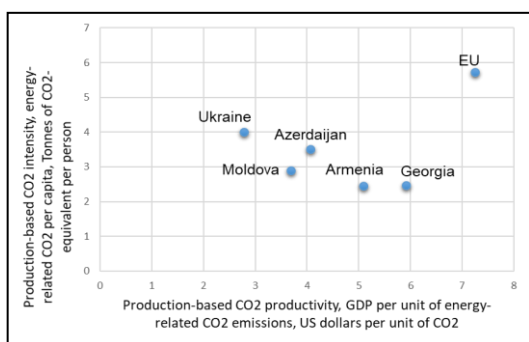
| 5EaP countries | The Global Sustainable Competitiveness Index (GSCI) |      | Natural capital (GSCI) |      | Resource Intensity (GSCI) |      | Social capital (GSCI) |      | Intellectual capital (GSCI) |      | Global Innovation Index |      | World Energy Trilemma Index (WETI) |      | Energy security (WETI) |      | Energy equity (WETI) |      | Environmental sustainability (WETI) |      |
|----------------|---|------|------------------------|------|---------------------------|------|-----------------------|------|-----------------------------|------|-------------------------|------|------------------------------------|------|------------------------|------|----------------------|------|-------------------------------------|------|
|                | 2013  | 2023 | 2013                   | 2023 | 2013                      | 2023 | 2013                  | 2023 | 2013                        | 2023 | 2013                    | 2023 | 2013                               | 2023 | 2013                   | 2023 | 2013                 | 2023 | 2013                                | 2023 |
| Armenia        | +3  | ↑    | +29                    | ↑    | -101                      | ↓    | +28                   | ↑    | -18                         | ↓    | -13                     | ↓    | +27                                | ↑    | +14                    | ↑    | +15                  | ↑    | +3                                  | ↑    |
| Azerdaijan     | -31   | ↓    | +48                    | ↑    | -137                      | ↓    | -2                    | ↓    | +56                         | ↑    | +16                     | ↑    | +39                                | ↑    | -9                     | ↓    | +24                  | ↑    | +7                                  | ↑    |
| Georgia        | +34   | ↑    | +79                    | ↑    | -107                      | ↓    | +75                   | ↑    | -8                          | ↓    | +8                      | ↑    | +26                                | ↑    | +20                    | ↑    | +6                   | ↑    | -11                                 | ↓    |
| Moldova        | +7  | ↑    | +27                    | ↑    | -55                       | ↓    | +27                   | ↑    | -44                         | ↓    | -15                     | ↓    | +54                                | ↑    | +23                    | ↑    | +23                  | ↑    | +32                                 | ↑    |
| Ucraina        | +45   | ↑    | +111                   | ↑    | +62                       | ↑    | -10                   | ↓    | -1                          | ↓    | +16                     | ↑    | ...                                |      | ...                    |      | ...                  |      | ...                                 |      |

Source: author’s compilation, based on: [17, 18, 19].

According to the World Energy Trilemma Index (WETI) all countries are consolidating their positions, with some exceptions on subcategories. Surprisingly, but in Energy security, which relates to shocks related to the supply side, Azerbaijan falls in the rating with 9 positions, explained by essential reduction of diversity of electricity generation. All countries increase in the "Energy equity" rating, which means the accessibility of energy supply among the population. "Environmental sustainability" performance is determined by financial energy intensity, low carbon electricity generation and CO2 emission per capita. In this category, Moldova greatly strengthened its position during this period, while Georgia fell in the rating.

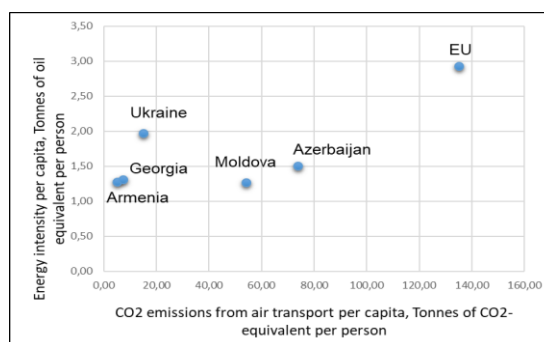
Another method of assessing the progress of the 5EaP country used in research is the construction of performance maps based on pairs of indicators selected from the 5 groups of green growth indicators (GGIs) of the OECD: GGIs1 – environmental and resource productivity of the economy; GGIs2 – natural asset base; GGIs3 – environmental quality of life; GGIs4 – Environmental opportunities and policy responses and GGIs5 – socio-economic context. The use of country performance maps allows better comparison and visualization of the sustainability situation.

From Figures 7 and 8 we see that the 5EaP countries have lower CO2 emissions per capita compared to the European average. Georgia and Armenia are the best positioned, having the high productivity of energy-related CO2 but also the lowest CO2 emissions per capita in general and in particular from air transport.



**Figure no. 7. Map of 5EaP countries according to OCDE GGIs1, 2021**

Source: Own elaboration, using: [ 5, 14]



**Figure no. 8. Map of 5EaP countries according to OCDE GGIs1, 2020**

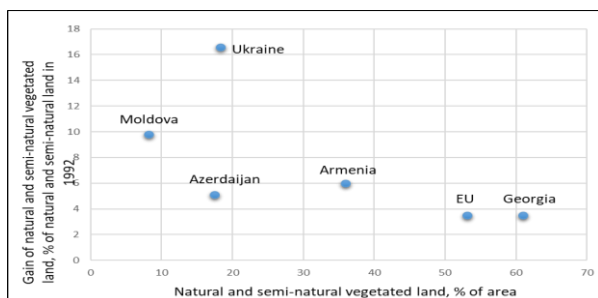
Source: Own elaboration, using: [ 5, 1 4]

Regarding the natural heritage, in Georgia the proportion of natural and semi-natural vegetated land is higher than in the EU and the lowest proportion is in Moldova. 4EaP countries have degrees of recovery of these lands higher than the European average, but the highest degree is



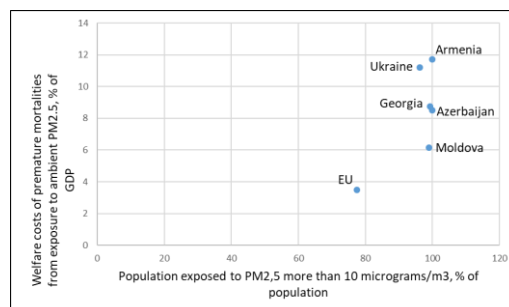
in Ukraine (Figure 9). Health and quality of life depends on air quality that can be affected by so-called extremely small particulate matter (PM). Depending on their size, we distinguish PM2.5 or PM10. From figure 10, we see that all 5EaP countries have a very high percentage of population exposure to air polluted with PM2.5, the European average being lower. Accordingly, the share of costs for treating PM2.5 related diseases in these countries is higher than the European average, with Armenia and Ukraine leading the way.

The largest share of protected land is registered in Armenia, close to the European average level, and the largest share of development of environment-related technologies from national inventions are made in Azerbaijan (Figure 11). In the EU, this share is related to world inventions.



**Figura nr. 9. Map of 5EaP countries according to OCDE GGIs2, 2019**

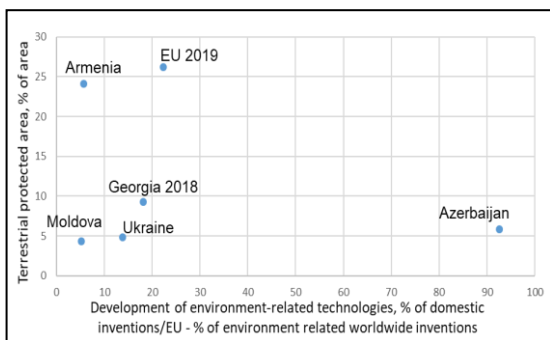
Source: Own elaboration, using data from [5, 14]



**Figura nr. 10. Map of 5EaP countries according to OCDE GGIs3, 2019**

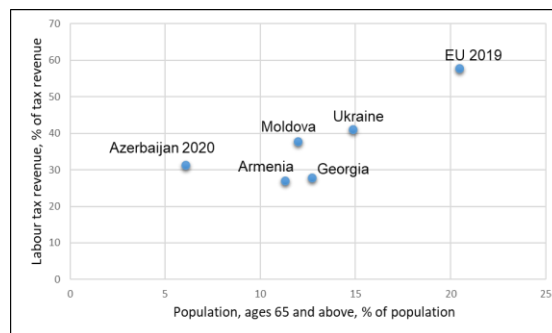
Source: Own elaboration, using data from [5, 14]

The socio-economic aspect of green growth is reflected in Figure 12, from which a direct correlation can be observed between the share of the elderly and the share of labor taxes in tax revenues, with the exception of Georgia, which is second in the 5EaP according to the share of the elderly but the share of labor taxes they are among the smallest. For both indicators, the maximum values are held by the EU. Among the 5EaP countries, the largest share of labor taxes in total tax revenue belongs to Ukraine and the smallest to Armenia.



**Figura nr. 11. Map of 5EaP countries according to OCDE SGIs4, 2020**

Source: Own elaboration, using data from [5, 14]



**Figura nr. 12. Map of 5EaP countries according to OCDE SGIs5, 2021**

Source: Own elaboration, using data from [5, 14]

#### 4. CONCLUSIONS

The 5EaP countries are quite diverse in their economic development. Two directions for guiding the efforts of governments can be identified, which reinforce each other: adjusting national economies according to the principles of smart specialization through the development of strategic ecosystems and increasing the level of governance of sustainability and attracting green investments to ensure a sustainable international competitiveness of local products.

Since the agricultural sector has a large share in the economies of the EaP countries, it is necessary to develop long value chains, with links mainly in local markets, connected to the industrial sector and with export potential. The industry cannot pull the economy alone, it needs

infrastructure, services that strengthen the industrial ecosystem and increase the added value. The share of agriculture in the formation of GVA must be reduced at the expense of the development in the spirit of sustainability of the industrial sector with high added value and the service sector, especially at the expense of those that can be exported, such as tourism, engineering and IT services, consulting services. Domestic consumption must be encouraged to support local producers and economic growth must be based largely on investment and exports. The role of the state is to create an attractive business environment with complex ecosystems for the key sectors of the countries, based on the principles of smart specialization. This will encourage private investments in strategic sectors with high added value, facilitate the increase in the absorption of European funds for eco-innovations and the implementation of green processes. And last but not least, educating national consumers in the spirit of sustainability is very important. Local consumers have a role to hold local producers responsible for increasing the competitive advantages of their businesses based on sustainability principles. The 5EaP countries must be prepared for trade on the European market, which will be taxed based on the carbon footprint, by introducing green transformations in the business environment and adjusting country policies to European standards.

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