

# ASSESSING NATIONAL ENVIRONMENTAL PERFORMANCE IN THE EASTERN PARTNERSHIP COUNTRIES

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**Abstract:** *Since the launch of the Eastern Partnership and up to the latest Summit, in May 2015, notable progress has been registered within the framework in various areas, especially in issues related to climate change, environment and energy. Nevertheless, significant environmental problems still linger and require urgent tailor-made solutions. The paper seeks to highlight the environmental status quo as well as the main environmental challenges that the six Eastern European partner countries are faced with, in the context of their intention of alignment to the EU environmental requirements. An understanding of how environmental protection is tackled within these countries may help identify specific models of action for approaching environmental degradation and climate change issues in Eastern Europe. Furthermore, the pressing nature of some environmental problems emphasized here may encourage policy makers to take specific actions towards reversing the troubling trends in environmental degradation and building a healthier society.*

**Keywords:** *environmental challenges; environmental performance; Eastern Partnership; cross-country comparison; environmental policy*

## Introduction

The Eastern Partnership (EaP) was built as a common endeavour of the EU Member States and six Eastern European partners to provide a functional framework for cooperation and discussions on trade, economic strategy, travel agreements as well as other important issues. An official definition is provided by the European Commission through the DG Neighbourhood and Enlargement Negotiations (2016): “The Eastern Partnership is a joint policy initiative launched at the Prague Summit in May 2009. It aims to deepen and strengthen relations between the European Union and its six Eastern neighbours: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine”. EaP’s objectives were subsequently

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reconfirmed by the summits in Warsaw (27-28 September 2011), Vilnius (28-29 November, 2013) and, the latest one, in Riga (21-22 May, 2015).

Seen as a specific (Eastern) dimension of the European Neighbourhood Policy (ENP), the EaP is strongly committed to strengthen democracy, rule of law, human rights and fundamental freedoms, as well as the principles and norms of international law. Moreover, the Partnership fosters the initiatives and necessary support oriented towards the market economy, good governance and *sustainable development* (European Union External Action, 2016).

Within the latest EaP Summit, in May 2015, the EU and EaP partner countries reviewed the cooperation framework and provided the direction for further joint actions. Since its launch and up to the Summit, the Partnership recorded notable progress in various areas, especially in issues related to energy, environment protection and climate change as well as natural and man-made disasters – as noted in article 14 in the Joint Declaration (European External Action Service, 2015). Nevertheless, environmental degradation is a process that knows no boundaries. It is a global phenomenon with significant and sometimes irreversible consequences on current and future generations. In this context, various questions arise. What is the exact state of the environment within the six Eastern European Neighbours? How do they tackle the most ardent environmental issues?

In light of the above, the paper seeks to highlight the environmental *status quo* (existing situations and national approaches) as well as the main environmental challenges that the six EaP partner countries are facing in the context of their intention of alignment to the EU environmental requirements. Assessing the level of national environmental performance and understanding of how environmental protection is tackled within these countries may help identify specific models of action for approaching environmental degradation and climate change issues in Eastern Europe and determine to what extent these models answer the specific requirements established in New York by the recent United Nations Sustainable Development Goals (SDGs) and in Paris within the Climate Change Agreement.

Beyond the introduction, the paper includes three sections. In Section 1, the paper presents the overall status on the importance that is given to environmental protection within the EU, ENP and EaP and some governance mechanisms. The paper then proceeds in Section 2 with brief analyses on some of the most significant environmental challenges and priorities among the six Eastern European Neighbours (as shown in relevant reports drawn up by important international organizations as well as by governments and national institutions). In Section 3, the paper uses the Environmental Performance Index (EPI) to gauge the level of environmental protection within the EaP partner countries and to determine state rankings. The final Section is dedicated to conclusions.



## 1. Environmental protection in the EU, ENP and EaP

Environmental protection (hereinafter abbreviated as ‘EP’) is currently one of the European Union’s main concerns not only in relation with the member states, but also with regard to other important actors at a global level. If prior to 1987 environmental policy concerns were not explicitly expressed by the existing institutions (within the former EEC Treaty), in the context of rising environmental problems with significant impact on a European level, a specific legislative infrastructure was needed more than never. Thus, in 1987, with the entry into force of the Single European Act, EP received its own chapter in the Treaty of the European Union. Nevertheless, many argued that although the European primary law finally included increased powers aimed at EP, in terms of approach and practice, there seemed to be much more continuity than change – given that the Treaty codified many principles and approaches which can already be encountered in previous official policy papers (Hey, 2005). The following amendments brought by the Treaties on the European Union did not change substantially the principles and objectives referring to the environmental policy – the Treaty of Maastricht (1992), the Treaty of Amsterdam (1997) and the Treaty of Nice (2001) – but, at least the last two Treaties, brought significant changes with regard to the decision-making process, by introducing the co-decision procedure (Proelss, 2016).

Today, the EU’s environmental policy objectives are clearly specified in Article 191(1) of TFEU, as follows: “preserving, protecting and improving the quality of the environment; protecting human health; prudent and rational utilisation of natural resources; promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change” (European Union, 2012, p. 132). Additionally, in Article 3(3) of TEU, it is specified that the EU shall work “for the sustainable development of Europe based on ... a high level of protection and improvement of the quality of the environment” (European Union, 2008, p. 17). In conclusion, EP is clearly one of the EU’s main concerns embedded in the primary laws of the European Union (in TEU and TFEU). Moreover, its mandate to guard and improve the quality of the environment does not restrict it to the EU’s inside territory, but encourages it to act at a global level. Although TFEU’s articles do not explicitly refer to any geographical coverage by the Union’s actions of EP, there are some references in Article 3(5) in TEU which EU’s position in relation with the rest of the world (in promoting its values and interests with regard to EP, among others) and its contribution to “the sustainable development of the Earth” (European Union, 2008, p. 17). In fact, “for present and future generations, the EU leads the efforts for a sustainable world” (Vella, 2016).

Environmental degradation is a phenomenon that is not limited by geographic boundaries, yet it is more pronounced in some countries than in others. Environmental protection is in need of a significant international agreement which has to be backed up by all the important global players. Moreover, it must go beyond the limited results of the recently completed Kyoto Protocol which ended



without a successor agreement in place. The scarcity of achievements on protecting the environment at a global level is due either to the increasing reluctance of some countries to be part of important international agreements (especially USA) or to the belief of other countries that economic development prevails environmental protection ('by all means'). In this context, although the EU is a key global player which contributes to the international efforts of promoting EP, it has nonetheless limited options of achieving this desideratum outside its borders. One way to do it is to establish regional agreements with third countries and to seek that environmental protection is achieved via these frameworks. Moreover, it does that by promoting more effective environmental governance in the countries that wish to embrace sustainable development and incorporate it into their legislation – an aspect included in the Environmental Action Programme (7<sup>th</sup>), the basis of the current EU policy up to 2020 (European Union, 2014) as well as in the UN Sustainable Development Goals (SDGs).

The member states of the European Neighbourhood Policy (ENP) make no exception from the statement made above – although the ENP neighboring countries are divided between two conflicting economic integration projects, one promoted by the EU and the other by Russia (Drăgan, 2015, p. 10). Launched in 2004 in order to promote and ensure security, stability and prosperity in the European Union's close neighbourhood (Łapczyński, 2009), ENP went under review seven years later. However, the results of the review have shown that "EU support to political reforms in neighbouring countries has met with limited results" (European Union, 2011, p. 1), some of the remaining gaps being identified in the area of *environmental protection*. Therefore, among other aspects, EP is of great importance for the ENP framework and represents one of the cooperation areas between the EU and its southern and eastern neighbours. A study funded by the German Marshall Fund (Centre for Sustainable Human Development *et al.*, 2009) outlined some of the common environmental challenges that the Eastern ENP members have to face – the ENP-East region refers to the 6 non-EU countries that are also members in the EaP framework: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine (Eurostat, 2016). These challenges, also highlighted in a policy paper developed by Andrusevych *et al.* (2009, p. 3), refer to:

a) the Action Plans (APs), including those in the field of EP, are the main instruments in the ENP's mechanism but within the neighbouring countries these are not adequately implemented. As underlined in the next section, in some countries from the ENP-East region, the national strategies do not include the AP's recommendations, there is a lack of institutional structures or political willingness to implement the APs ('bottlenecks' in effective implementation) and even if the APs are implemented there are no clear timetables for implementation and/or monitoring.

b) environmental protection is not receiving a high priority in the Eastern ENP countries' national policies nor in the implementation procedure of the ENP Action Plans of these countries. Where such national policies exist, there is clearly a pressing need for an improved legislation or at least a harmonized one with the



EU's legislation on the environment. With regard to the existing national policies on EP in the Eastern ENP countries, there seems to be a low level of practical implementation at a national level, or at least an unsatisfactory one.

c) the existing information related to the state of the environment at a national level is scarce or outdated and the publics' involvement in the decision making process with regard to EP is quite limited or inappropriate.

The above mentioned Eastern ENP members (i.e., the six non-EU countries) together with the EU started a common endeavour in 2009 known as the EaP (complementing the ENP framework). It was created to provide a functional framework for cooperation and discussions on trade, economic strategy, travel agreements as well as other important issues, among which EP and sustainable development. EaP fosters the initiatives and necessary support oriented towards the market economy, good governance and sustainable development (European Union External Action, 2016). Within the newly established Partnership there is considered to be more dedication towards the development and implementation of economic and political reforms so that the EaP partners will get closer to the EU (Chochia and Hamulák, 2014). Although EaP has basically the same principles of ENP, it has nevertheless a more regional focus (Hamed, 2016, p. 144).

Additional to the bilateral agreements that are established between the EU and each partner country (seen as "strategic instruments towards a closer integration" by Borta (2015, p. 849)), multilateral agreements are also set up so as to "provide for cooperation activities and open and free dialogue serving the objectives of the Partnership. It would operate on the basis of joint decisions of the EU and the partner countries" (European External Action Service, 2009, p. 8). The multilateral framework is organized by the European Commission under four thematic platforms: democracy, good governance and stability; economic integration and convergence with EU policies; *energy security*; contacts between people. In the framework of the mentioned platforms, a new set of political instruments were designed: the 'Flagship Initiatives'. These refer to (Gromadzki, 2015, p. 8): integrated border management; small and medium-sized enterprises facility; *regional electricity markets, energy efficiency, and renewable energy sources*; prevention, preparedness and response to natural and man-made disasters; *environmental governance*.

Moreover, within the EaP, civil society plays a more important role and is more actively involved in the decision making process (at least when compared to the ENP framework). NGOs that originate in the EaP countries and in the EU have come together under the umbrella of the Civil Society Forum and operate through five working groups, one of which deals with "environment, climate change and energy security". In this respect, an important support towards the environmental governance within the EaP is provided by environmental NGOs, other civil society organizations, environmental activists as well as other informed stockholders.

In conclusion, topics such as environmental protection, climate change and sustainable energy have a significant importance for the EaP framework and are considered in the action plans, bilateral and multilateral agreements as well as



within the ‘Flagship Initiatives’. It is up to the EaP partner countries to effectively implement what was agreed upon with the EU, to eliminate the ‘bottlenecks’ from the process of implementation and to design tailor-made solutions based on their national profiles and ardent environmental problems (with the aid of various civil society representatives). Only then, these countries will display levels of national environmental performance that could be compared to the EU standards.

## 2. Environmental challenges and priorities within the EaP partners

With the overall status on the importance of EP within the EU, ENP and EaP being outlined above, the paper proceeds with brief analyses on some of the most significant environmental challenges and priorities among the six Eastern European Neighbours. Before the collapse of the Soviet Union, the six former soviet countries (as well as all the others countries that shared the same trait) placed the topic of environmental degradation on the bottom of their list of priorities. The heavy industrialization of the economies, in the context of a lack of new technologies and of investment of capital in production, led to an accelerated deterioration of the environmental quality characterized by a degraded natural landscape, smog, infested waters, high levels of deforestation, toxic accidents and a general decline in the public health. One could even say that the deterioration of the natural environment seemed to exemplify everything that was wrong with state socialism (Carmin & Fagan, 2010; Fagin, 1994). Nor did in the transition period the six EaP partner countries focus to a larger extent on their environmental performance; the governments preferred to channel all the efforts towards managing their financial problems, the existing social inequalities as well as the high level of poverty in their societies (Hamed, 2016). Although within these countries some structural changes took place geared more towards deindustrialization, the process of diminishing the negative environmental impacts reveals limited results.

More than two decades after the fall of the Soviet Union, significant environmental degradation still occurs in most of the countries in the Caucasus Region, Eastern Europe and Central Asia (EECCA). According to OECD, many EECCA countries are dealing with “continuing environmental degradation, high carbon emissions and pervasive energy inefficiency, obsolete and wasteful production technologies, increasing water scarcity and important water losses [...]” (OECD, 2012, p. 11). Unsolved issues related to energy inefficiency have even lead to cases of ‘energy poverty’ (Maxim *et al.*, 2016), a problem not looked into enough in these countries. As regard to all other environmental issues, significant ones still occur within most of the EaP countries (more specifically in Georgia, Moldova, Ukraine, and Belarus). Some of the most important environmental problems (‘hotspots’ or ardent environmental problems and ‘coldspots’ or secondary environmental problems) as well as the national approaches with regard to some of these issues are presented for each of the EaP partner countries in Table 1.



**Table 1. Environmental challenges within the six EaP partner countries**

	<p><b>Hotspots:</b> high level of untreated wastewater (containing persistent organic pollutants) and limited access to clean water; significant deforestation.</p>
	<p><b>Coldspots:</b> loss of high-value species and biodiversity, soil erosion, water withdrawal, air pollution.</p>
<b>Armenia</b>	<p><b>National approach:</b> no comprehensive EP programme has emerged, and environmental initiatives are typically addressed to an ad hoc basis (Norwegian Society for the Conservation of Nature, 2016a); the current system of environmental pollution and product charges is inefficient and insufficient to raise revenues in order to finance environmental improvements (OECD, 2004, p. 41); Armenia's first environmental priority refers to the preservation of Lake Sevan while other developments will consider the safeguarding and preservation of protected areas as well as implementing any other nature preservation measure (OECD, 2012, p. 141).</p>
	<p><b>Hotspots:</b> heavy discharges from untreated sewages; water pollution; air pollution (especially in major cities); inefficient waste management.</p>
	<p><b>Coldspots:</b> climate change; degradation of natural resources; extinction of biospecies; land degradation; desert's expansion; extreme grazing and continued degradation of pasturelands</p>
<b>Azerbaijan</b>	<p><b>National approach:</b> a clear national environmental policy for the next decade does not exist in Azerbaijan (Asian Development Bank, 2014, p. 20); although the people of Azerbaijan are generally aware of the need to protect the environment, the republic's environmental issues have not received significant attention from the government (Norwegian Society for the Conservation of Nature, 2016b); Azerbaijan's first and foremost priority is the preservation of biodiversity and restoration of natural resources, followed by the limiting of the desertification process (by restoration of pastures) and the ratification and harmonization of environmental regularity and enforcement framework with the EU legislation (OECD, 2012, p. 141).</p>
	<p><b>Hotspots:</b> air pollution (mainly from automobile exhaust, approximately 72% as well as from the chemical industry, petrochemical industry including oil refineries and machinery industry); waste management problems (especially industrial waste); water pollution</p>
	<p><b>Coldspots:</b> biodiversity; soil pollution; residuals of radioactive contamination from the Chernobyl blast; deforestation; climate change</p>
<b>Belarus</b>	<p><b>National approach:</b> in 2004, Belarus developed a National Strategy for Sustainable Development up to 2020, in accordance with the principles of "Agenda 21" and other UN documents, taking into account the country-specific natural resources, production, and economic and social potential (Ministry of Economy of Belarus, 2012); according to the Strategy "the primary objective of state policy in the field of ecological security is keeping it at a high level in the context of economic growth" (Wingqvist &amp; Wolf, 2013); nevertheless, as the UNECE environmental performance review shows, "primary legislation is very declarative and lacks provisions especially for detailed procedural aspects to implement the requirements of the laws [...]. The environmental legislation mostly follows a command-and-control approach. There is a need to develop tools for environmental management that are proactive and</p>



	encourage better environmental performance” (UNECE, 2005, pp. 26-27).
	<b>Hotspots:</b> air pollution (especially in the major cities); water pollution (which is mainly polluted by with industrial waste); waste management problems.
	<b>Coldspots:</b> chemical, marine and coastal pollution; soil erosion and contamination; forest loss; uncontrolled use of fertilizer; biodiversity degradation; climate change; ozone layer deterioration.
Georgia	<b>National approach:</b> according to the UNECE environmental performance review on Georgia in 2010, the Government assigns a low priority to environmental protection approving very few strategic documents on the environment and ignoring the economic value of environmental policy; also, it states that environment-related legislation is comprehensive, but, in many instances, it is somehow vague and it lacks the necessary implementation mechanisms (UNECE, 2010); Georgia’s priorities in terms of environmental protection are: enhancing environmental protection systems, sustainable use of mineral resources and enhancing monitoring and forecasting systems (OECD, 2012, p. 141).
Moldova	<b>Hotspots:</b> air pollution; water pollution; low protection form nature; waste management problems.
	<b>Coldspots:</b> climate change; land sliding; soil erosion; loss of biodiversity; waste water management problems; soil and ground and underground water contamination
	<b>National approach:</b> according to the National Development Strategy “Moldova 2020”, the Government’s strategic vision over medium and long term is the “reconciliation between the need for accelerated economic development and environmental protection in conformity with European standards” (Government of the Republic of Moldova, 2012, p. 10); the Moldovan government is still burdened with the Soviet legacy of ecological mismanagement (Norwegian Society for the Conservation of Nature, 2016c); Moldova’s priorities in terms of EP are: development of policy and management in the field of EP, improved control of persistent organic pollutants and other chemical substances as well as environmental safety and environmental quality control (OECD, 2012, p. 141); although environmental legislation is set up in many areas to some extent, there is a lack in the inter-ministerial coordination and cooperation and the implementation mechanisms are not fully developed given the limited administrative capacities or the shortages in financial resources.
Ukraine	<b>Hotspots:</b> water pollution; air pollution; deforestation and illegal logging; waste management problems; radioactive contaminations.
	<b>Coldspots:</b> unsustainable usage of natural resources and energy; climate change; soil degradation (especially from industrial and agricultural pollutants); protection from nature; illegal fishing of protected species; greenhouse gas emission.
	<b>National approach:</b> Ukraine’s priorities in terms of environmental protection are: implementation of quality standards for EP in accordance with the EU legislation, expansion of the environmental network of parks and reserves, and development of regulatory framework for an effective implementation of the Kyoto Protocol (OECD, 2012, p. 141).

According to Table 1, the list of environmental problems that the six Eastern European Neighbours of the EaP are dealing with, are to some extent rather similar: air pollution, water pollution, soil degradation, waste management



problems, loss of ecosystems and biodiversity. The national approaches nevertheless are different in terms of legislation, the degree of implementation and the progress registered so far; if in some cases the measures regarding environmental protection are more of a declarative nature, in other cases important progresses are visible (in line with the EU requirements and good practices).

### 3. Measuring the environmental performance of the EaP partner countries

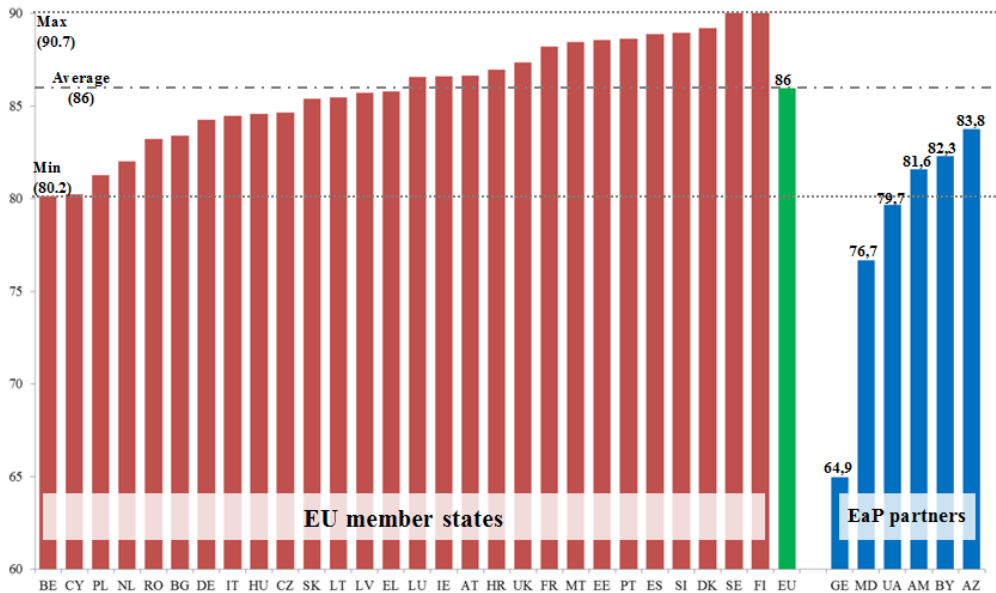
In the previous section, the paper depicts the importance that EP receives within the EU, ENP and EaP (as well as some governance mechanisms) and some of the most significant environmental challenges that the six Eastern European Neighbours have to face along with the priorities set up to deal with these issues. In light of the above, the society has shown an increasing interest in the performance of their countries with regard to EP (via national environmental performance).

The environmental performance of a country is given by its ability to produce environmental public goods (Duit, 2005). To measure it we turn to the Environmental Performance Index (EPI), a composite indicator developed by Esty *et al.* (2008), who form part of a group of environmental experts at Yale University and Columbia University. Other indicators that measure environmental performance are the ones proposed by the OECD and the UN, the Ecological Footprint, the Environmental Sustainability Index and the Renewability and Energy Sustainability Index (Gallego-Álvarez *et al.*, 2014). We use the 2016 EPI because it is aligned with the United Nations Sustainable Development Goals, adopted in September 2015. Some other data sources were also used to support the claims.

In 2016, the latest EPI report was launched at the World Economic Forum in Switzerland, highlighting new data and indicators for 180 countries. EPI ranks the performances of countries with regard to high-priority environmental issues in two areas: protection of human health and protection of ecosystems. Within these two policy objectives the EPI scores national performance in 9 issue areas comprised of 24 indicators. EPI uses the following indicators: a) to measure environmental health: environmental burden of disease, air and water pollution (effects on human health); b) to capture the ecosystem's vitality: air pollution effects on ecosystems, water effects on ecosystems, biodiversity and habitat, productive natural resources (forestry, fisheries and agriculture) and climate change (Hsu *et al.*, 2016, p. 11). The 2016 report provides a distinct 'Methods' section (Hsu *et al.*, 2016, pp. 26-33).

The data provided by applying the 2016 EPI offers us a clear view of the environmental situation in the six Eastern European Neighbours, which is also one of the political priorities of environmental authorities around the world, and reveals how far these six countries are from reaching the global targets of the SDGs.



**Figure 1. 2016 EPI scores for the EU and the six EaP partner countries**

Source: Author's calculation based on data from Hsu *et al.* (2016)

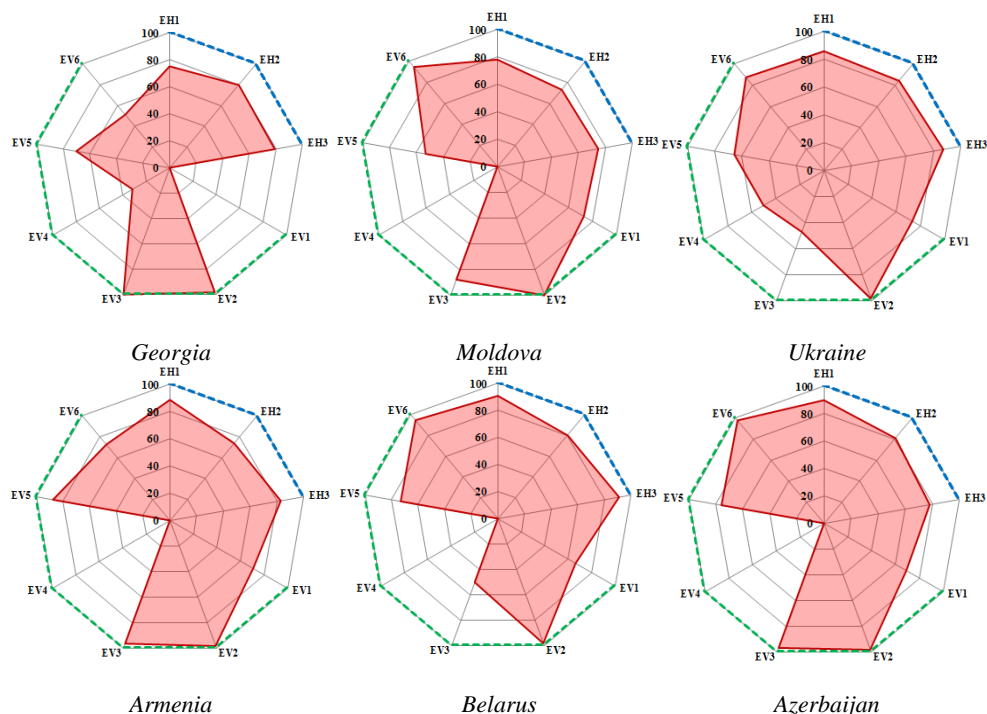
According to Figure 1, the 2016 EPI scores for the six countries are quite low when compared to the EU member states (ranging from 80.15 and 90.68) and even to the EU average (85.98). Only half of these six countries (namely Armenia, Belarus and Azerbaijan) barely exceed the EU's minimum threshold (the worst EU performer with regard to the EP). The other three have scores below 80 with the worst performer being Georgia, with an EPI value of almost 65. The best performer among the EaP partner countries with regard to environmental protection surpasses only six of the EU's worst performers. When compared to the other countries in the 2016 EPI report, the rankings for the six Eastern European Neighbours are: Azerbaijan – 31<sup>st</sup> place, Belarus – 35<sup>th</sup>, Armenia – 37<sup>th</sup>, Ukraine – 44<sup>th</sup>, Moldova – 55<sup>th</sup> and Georgia – 111<sup>st</sup>.

The reasons for which the EPI's values are so low for the Eastern European Neighbours can be found within the nine issue categories that comprise the 24 indicators (see Figure 2). These nine issue profiles frame each environmental problem included in the 2016 EPI, by looking into “the complexities involved in measuring national performance and distilling relevant policy signals from science and available data” (Hsu *et al.*, 2016, p. 25).

The Environmental Health Measure summarizes the health risk that polluted air and water pose to a country's citizens, weighted by how much the particular risk factor contributes to a country's overall burden of disease. According to Figure 2, the values of three indicators that compose this measure range between 75 and

90. The worst performers in this area are Georgia and Moldova which register the smallest values within the six countries for all three indicators (EH1, EH2 and EH3). These findings are in line with the observations depicted in Table 1 and confirm that Georgia and Moldova are confronted with serious environmental health risks given their exposure to weak air and water quality.

**Figure 2. The EPI's nine issue areas for the EaP partner countries**



Note: EH: Environmental Health Risk measures (blue line); EV: Ecosystem Vitality measures (green line); EH1: Health Impacts/ Environmental Risk Exposure; EH2: Air Quality; EH3: Water and Sanitation; EV1: Water Resources; EV2: Agriculture; EV3: Forests; EV4: Fisheries; EV5: Biodiversity and Habitat; EV6: Climate and Energy

Source: Author's calculation based on data from Hsu *et al.* (2016)

Regarding the values of the indicators that measure the ecosystem's vitality, these reflect specific problems in each of the six countries. Some of the most ardent environmental problems and that require immediate actions are presented below.

Georgia has serious problems with low fish stocks, important losses in terms of biodiversity (with many endangered species) and degradation of the habitat (maritime as well as terrestrial) as well as high carbon intensity with significant effect on the climate (see Figure 6). Nevertheless, the most important environmental problem refers to the water resources. As Figure 2 shows, Georgia registers the lowest performance

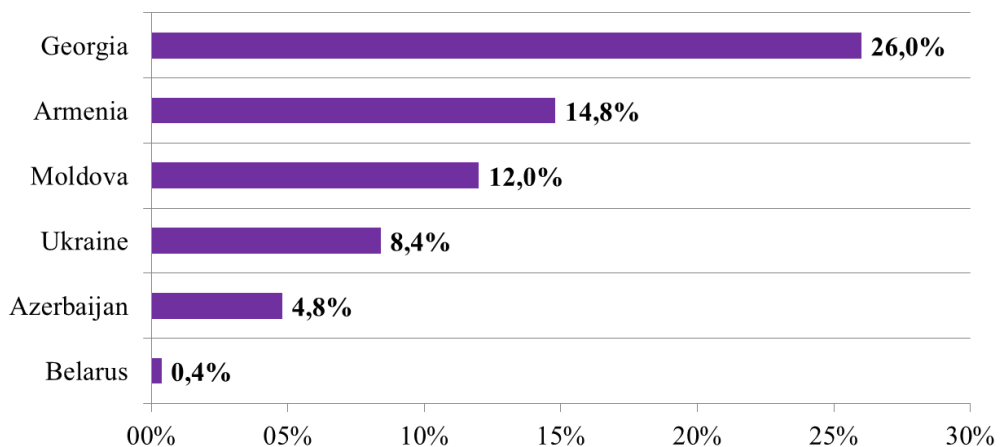


benchmark for this indicator. The indicator (i.e., EV1) tracks the proportion of wastewater from households and industrial sources and treated before its release into the environment.

This bad performance of Georgia is also backed up by the data included in the European Integration Index 2014 for EaP Countries. The index charts the progress made by the six Eastern European Neighbours towards integration with the EU and includes three main components (Eastern Partnership Civil Society Forum *et al.*, 2015, p. 13): linkages (growing political, economic and social ties between each of the six EaP countries and the EU), approximation (legislation, practices and institutions in the EaP countries converging towards EU standards and in line with EU requirements) and management (evolving management structures and policies in the EaP countries that aim at further European integration). Among all the other components of the Approximation dimension, one is of particular interest: environment and sustainable development. This particular indicator accounts for: 1) environment, climate change and sustainable development policy; 2) resource efficiency, pressure on/ state of the environment (p. 90). The indicator referring to the “pressure on the state of the environment” considers 8 variables, one of which refers to ‘waste waters’. This is calculated as the ‘share of non-treated waste waters in annual waste waters discharge’. The values for this indicator for the six EaP partner countries are presented in Figure 3.

As pointed out in Figure 3, Georgia’s situation with regard to this indicator is the worst one from all the six countries. In fact, the value is almost double when compared to the second worst performer (Armenia). According to the UNECE performance review, only 60% of the waste water is treated from solid waste while only 40% undergoes biological treatment (UNECE, 2010).

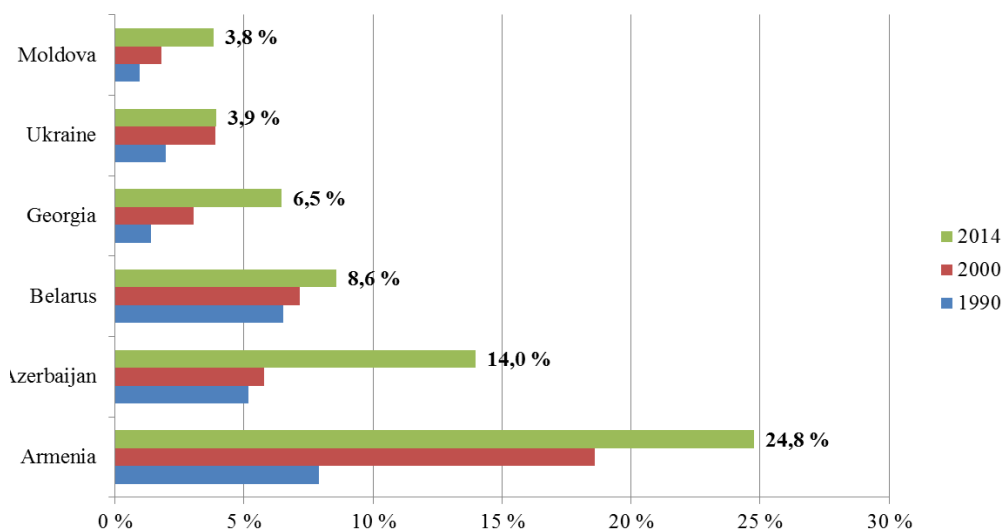
**Figure 3. The 2014 ‘waste waters’ indicator in the EaP partner countries**



Source: Author’s calculation based on data from the EPCSF *et al.* (2015)

Although Moldova performs rather well with regard to the Ecosystem Vitality indicators when compared to the other five countries, it has nonetheless serious problems with its biodiversity and habitat (with a values of 53.23), even when compared to all EU's member countries and other countries from Eastern Europe. The 'Biodiversity and Habitat' indicator of the 2016 EPI tracks the protection of terrestrial and marine areas as well as the species that conservation policies aim to protect. Moldova's bad performance with regard to its biodiversity and habitat is also supported by the World Bank. When looking at the indicator 'Terrestrial and marine protected areas', computed as the share of the total territorial area (The World Bank, 2016), one can see that Moldova is, for two decades a half, the worst performer from the EaP partner countries (see Figure 4).

**Figure 4. The 'terrestrial and marine protected areas' development within the EaP partner countries**

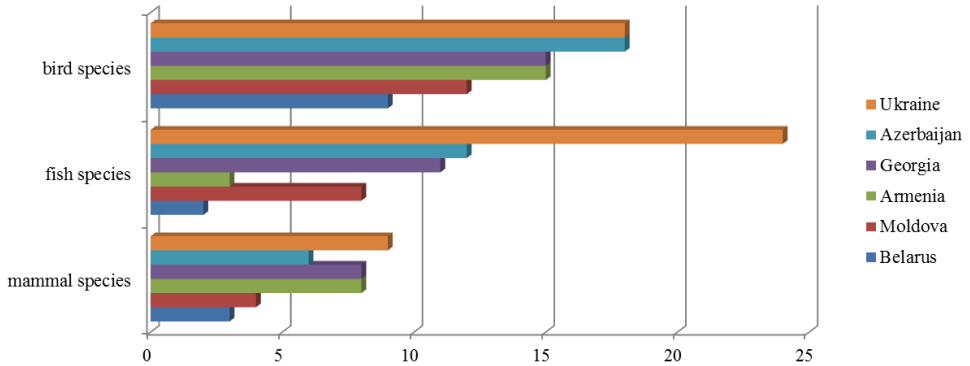


Source: Author's calculation based on data from The World Bank (2016)

Ukraine performs badly when speaking about forests (excessive deforestation and illegal logging), fish stocks and most of all, biodiversity (given mainly to the illegal fishing of protected species). According to Figure 5, Ukraine ranks first position in terms of threatened species (whether these are mammal species, bird species or fish species). The second worst performer in this regard is Azerbaijan (at least for threatened bird and fish species) and Georgia and Armenia (for threatened mammal species).



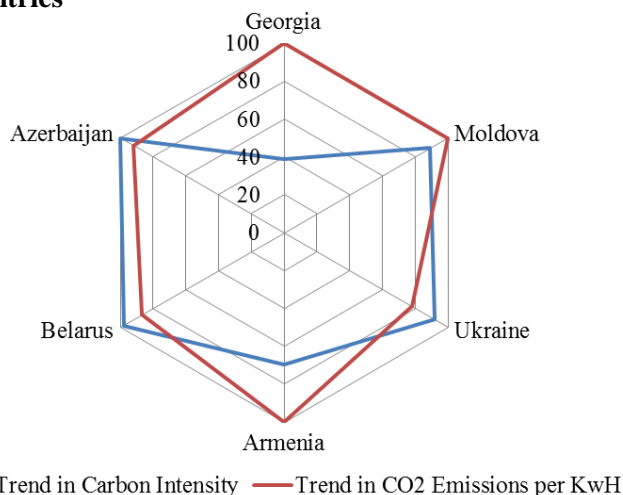
**Figure 5. The number of threatened species within the EaP partner countries**



Source: Author’s calculation based on data from The World Bank (2016)

Armenia is a bad performer mainly in terms of water resources (having high level of untreated wastewater). According to Figure 3, Armenia is the second worst performer in terms of untreated waste water. Also, the country registers a poor performance with regard to the EV6 indicator, ‘Climate and Energy’. This indicator measures the countries’ abilities to reduce the intensity of carbon emissions per unit GDP, relative to a country's economic peers, and takes into account two main components: ‘trend in CO2 Emissions per Kwh’ and ‘trend in Carbon Intensity’. According to Figure 6, it is the development in carbon intensity that pulls the overall indicator down for Armenia and Georgia (even lower than the minimum EPI scores registered by the EU members).

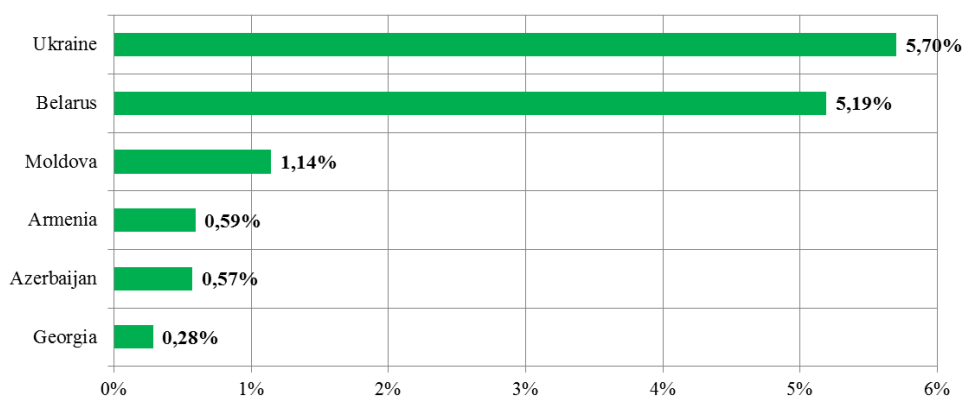
**Figure 6. The trend in CO2 emissions per Kwh and carbon intensity in the EaP partner countries**



Source: Author’s calculation based on data from Hsu *et al.* (2016)

Belarus registers low levels in the ecosystem vitality mainly because the waters are affected by the waste management problems (the quality is improving nonetheless, as shown in Figure 3) and their treatment is superficial and there is a loss in biodiversity (mainly with regard to bird species – see Figure 5) and habitat (with 8.6% the share of terrestrial and marine protected areas in the total territorial area, in 2014 – see Figure 4). Also, deforestation is an important issue for Belarus), its situation been ‘surpassed’ only by Ukraine (who is the worst performer in terms of forest loss). Belarus registered important tree cover losses, not only in terms of share from the total tree coverage (see Figure 7), but also in absolute values (472.96 KHa, as well as 634 KHa in Ukraine).

**Figure 7. Share of forest loss (2001-2014) relative to tree coverage (2000) for the EaP partner countries**



Source: Author’s calculation based on data from Global Forest Watch (2016)

Azerbaijan performs badly mainly because of its heavy discharges in waters from untreated sewages (4.8% of non-treated waste waters end up in waste waters discharge – as shown in Figure 3) and important losses in terms of biodiversity (mainly with regard to threatened bird and fish species – as shown in Figure 5). It is the good performance with regard to the other three indicators (EV2, EV3 and EV6) that pushes the overall indicator of Ecosystem Vitality upwards.

## Conclusions

Environmental degradation is a phenomenon that knows no boundaries, yet it is more visible in some countries than in others. No matter the country where an environmental destruction originates, it tends to spread and affect a wider area which then calls upon national policies that take effect beyond state borders. In this context environmental protection is a nations’ duty that must be fulfilled not only



for the protection of its citizens but also for the safety of and moral obligation towards its neighbours. The European Union is an example of a key global player which contributes to the international efforts of promoting environmental protection. It does that not only within its borders but also beyond them (although it has limited options of achieve this desideratum). The European Neighbourhood Policy (ENP) and the Eastern Partnership (EaP) are just examples of frameworks where EU promotes environmental protection. The extent to which the member countries of such partnerships go beyond declarative statements varies nonetheless. After analyzing the level of environmental protection in the six EaP partner countries (and how EP is approached at national level), we may say that there is more overall improvement than decline in time. However, these countries tend to stand out from the group with specific problems. Either it is high deforestation (especially in Ukraine in Belarus), significant threatened species (Ukraine in Azerbaijan), intensity of carbon emissions (Armenia and Georgia), loss of habitat (Moldova and Ukraine) or waste water problems (Armenia and Georgia), it is clear that the six EaP partner countries need to mobilize all available means and resources to develop urgent tailor-made solutions so that their governments would reverse the troubling trends and build a healthier society for present and future generations.

One solution to tackle some the aforementioned problems was the creation of the so-called Eastern Europe Energy Efficiency and Environment Partnership (E5P) Fund in 2009 to encourage municipal investments in energy efficiency and environmental projects. Although the initial function of E5P was to help Ukraine in reducing its energy consumption, in time it extended its coverage and currently it proves to be a valuable instrument in designing, developing and financing projects aimed at encouraging energy efficiency and decreasing CO<sup>2</sup> emissions. The regional coverage of E5P includes Ukraine (where it was initially active), Armenia, Georgia and Moldova (included in 2014), as well as Azerbaijan and Belarus (where it will also seek to operate).

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## References

Andrusevych, N., Agrasot, P. and Kochladze, M. (2009), "Using the European Neighborhood Policy in the Black Sea region to improve environmental protection", *Policy Paper*, available at: <http://www.rac.org.ua/en/priorities/environmental-dimension-of-european-integration/using-the-european-neighborhood-policy-in-the->





- black-sea-region-to-improve-environmental-protection-/policy-paper-2009 (accessed 2 May 2016).
- Asian Development Bank (2014), "Azerbaijan: Country Environment Note", *Country Partnership Strategy (2014-2018)*, 19, available at: <http://www.adb.org/sites/default/files/linked-documents/cps-aze-2014-2018-sd-04.pdf> (accessed 10 April 2016).
- Borta, L. (2015), "The EU's Neighbourhood Trade Arrangements", *CES Working Papers*, Vol. VII, No. 4, pp. 840-850.
- Carmin, J. and Fagan, A. (2010), "Environmental mobilisation and organisations in post-socialist Europe and the former Soviet Union", *Environmental Politics*, Vol. 19, No. 5, pp. 689-707.
- Centre for Sustainable Human Development, EcoLex Centre for Environmental Law, Association Green Alternative, EcoTIRAS Association, Society and Environment Resource and Analysis Centre, EU Regional Office of the Heinrich Böll Foundation, *et al.* (2009), *Assessing Implementation of the ENP Action Plans in Armenia, Azerbaijan, Georgia, Moldova and Ukraine*.
- Chochia, A. and Hamulák, O. (2014), "The European Neighbourhood Policy Focused on South Caucasus", in: Naděžda, Š. (ed.), *From Eastern Partnership to the Association. The Legal and Political Analysis*, Cambridge Scholars Publishing, Newcastle upon Tyne, UK, pp. 135-147.
- DG Neighbourhood and Enlargement Negotiations (2016), Eastern Partnership. *European Neighbourhood Policy*, available at: [http://ec.europa.eu/enlargement/neighbourhood/eastern-partnership/index\\_en.htm](http://ec.europa.eu/enlargement/neighbourhood/eastern-partnership/index_en.htm) (accessed 1 April 2016).
- Drăgan, G. (2015), "Deepening the economic integration in the Eastern Partnership: from a Free Trade Area to a Neighbourhood Economic Community?", *Eastern Journal of European Studies*, Vol. 6, No. 2, pp. 9-26.
- Duit, A. (2005), "Understanding Environmental Performance of States: An Institution Centered Approach and Some Difficulties", *Working Paper Series*, Göteborg University, Göteborg, Sweden.
- Eastern Partnership Civil Society Forum, Open Society European Policy Institute, International Renaissance Foundation and PASOS (Policy Association for an Open Society) (2015), "European Integration Index 2014 for Eastern Partnership Countries", *EaP Index*, available at: [www.eap-index.eu](http://www.eap-index.eu) (accessed 26 April 2016).
- Esty, D., Levy, M. A., Kim, C. H., de Sherbinin, A., Srebotnjak, T. and Mara, V. (2008), *Environmental Performance Index*, available at: [http://www.yale.edu/epi/files/2008EPI\\_Text.pdf](http://www.yale.edu/epi/files/2008EPI_Text.pdf) (accessed 15 February 2016).
- European External Action Service (2009), "Joint Declaration of the Prague Eastern Partnership Summit (Prague, 7 May 2009)", *Presse*, available at: [http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/er/107589.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/er/107589.pdf) (accessed 11 April 2016).
- European External Action Service (2015), "Joint Declaration of the Eastern Partnership Summit (Riga, 21-22 May 2015)", *Presse*, available at:



- [http://eeas.europa.eu/eastern/docs/riga-declaration-220515-final\\_en.pdf](http://eeas.europa.eu/eastern/docs/riga-declaration-220515-final_en.pdf) (accessed 11 April 2016).
- European Union (2008), Consolidated version of the Treaty on European Union. available at: <http://www.refworld.org/docid/4b179f222.html>.
- European Union (2011), "A New Response to a Changing Neighbourhood: A review of European Neighbourhood Policy", *Joint Communication by the High Representative of The Union For Foreign Affairs And Security Policy and the European Commission*, available at: [http://eeas.europa.eu/enp/pdf/pdf/com\\_11\\_303\\_en.pdf](http://eeas.europa.eu/enp/pdf/pdf/com_11_303_en.pdf) (accessed 2 May 2016).
- European Union (2012), Consolidated version of the Treaty on the Functioning of the European Union, available at: <http://www.refworld.org/docid/52303e8d4.html>.
- European Union (2014), "Environment". *The EU explained*, 21, available at: <http://www.refworld.org/docid/4b179f222.html>.
- European Union External Action (2016), Eastern Partnership, available at: [http://eeas.europa.eu/eastern/index\\_en.htm](http://eeas.europa.eu/eastern/index_en.htm) (accessed 20 March 2016).
- Eurostat (2016), ENP-East region *European Neighbourhood Policy countries (ENP)*, available at: <http://ec.europa.eu/eurostat/web/european-neighbourhood-policy/enp-east> (accessed 2 May 2016).
- Fagin, A. (1994), "Environment and transition in the Czech Republic", *Environmental Politics*, Vol. 13, pp. 479-494.
- Gallego-Álvarez, I., Vicente-Galindo, M. P., Galindo-Villardón, M. P. and Rodríguez-Rosa, M. (2014), "Environmental Performance in Countries Worldwide: Determinant Factors and Multivariate Analysis", *Sustainability*, Vol. 6, pp. 7807-7832. doi: 10.3390/su6117807
- Global Forest Watch (2016), *Country profiles*, available at: [www.globalforestwatch.org/countries/overview](http://www.globalforestwatch.org/countries/overview) (accessed 15 March 2016).
- Government of the Republic of Moldova (2012), Moldova 2020 - National Development Strategy: 7 Solutions for Economic Growth and Poverty Reduction, available at: [www.old.cancelaria.gov.md/lib.php?l=en&idc=435](http://www.old.cancelaria.gov.md/lib.php?l=en&idc=435) (accessed 20 April 2016).
- Gromadzki, G. (2015), The Eastern Partnership After Five Years: Time For Deep Rethinking. In Directorate-General for External Policies of the Union (ed.), *Policy Department DG External Policies*, Belgium: Directorate-General for External Policies of the Union.
- Hamed, A. (2016), "The European Union and Protection of Environment in Eastern Partnership Countries", in: Kerikmäe, T. and Chochia, A. (eds.), *Political and Legal Perspectives of the EU Eastern Partnership Policy*, Springer International Publishing Switzerland, London, pp. 137-152.
- Hey, C. (2005), "EU Environmental Policies: A short history of the policy strategies", in: S. Scheuer (ed.), *EU Environmental Policy Handbook. A Critical Analysis of EU Environmental Legislation*, European Environmental Bureau, Brussels, pp. 17-30.
- Hsu, A. et al. (2016), *2016 Environmental Performance Index*, Yale University, New Haven, CT.



- Łapczyński, M. (2009), "The European Union's Eastern Partnership: Chances and Perspectives", *Caucasian Review of International Affairs*, Vol. 3, No. 2, pp. 143-155.
- Maxim, A., Mihai, C., Apostoiaie, C.-M., Popescu, C., Istrate, C. and Bostan, I. (2016), "Implications and Measurement of Energy Poverty across the European Union", *Sustainability*, Vol. 8, pp. 483-503. doi: 10.3390/su8050483
- Ministry of Economy of Belarus (2012), Sustainable Development of the Republic of Belarus based on "Green" Economy Principles, available at: <http://www.by.undp.org/content/dam/belarus/docs/green-economy-belarus-en.pdf> (accessed 1 May 2016).
- Norwegian Society for the Conservation of Nature (2016a), Environmental issues in Armenia. *Country report*, available at: <http://naturvernforbundet.no/international/environmental-issues-in-armenia/category931.html> (accessed 2 April 2016).
- Norwegian Society for the Conservation of Nature (2016b), Environmental issues in Azerbaijan. *Country report*, available at: <http://naturvernforbundet.no/international/environmental-issues-in-azerbaijan/category932.html> (accessed 2 April 2016).
- Norwegian Society for the Conservation of Nature (2016c), Environmental issues in Moldova. *Country report*, available at: <http://naturvernforbundet.no/international/environmental-issues-in-moldova/category940.html> (accessed 2 April 2016).
- OECD (2004), "Environmental pollution and product charges in Armenia: Assessment of reform progress and directions for further improvement", *OECD/EAP Task Force Report*, available at: [www.oecd.org/countries/armenia/34500203.pdf](http://www.oecd.org/countries/armenia/34500203.pdf) (accessed 10 March 2016).
- OECD (2012), *Green Growth and Environmental Governance in Eastern Europe, Caucasus, and Central Asia*, Vol. 2, OECD Publishing, Paris.
- Proelss, A. (2016), "The Scope of the EU's Competences on the Field of the Environment", in: Nakanishi, Y. (ed.), *Contemporary Issues in Environmental Law. The EU and Japan*, Springer, Tokyo, Japan, pp. 15-28.
- The World Bank (2016), World Development Indicators. *Data Catalog*. available at: <http://data.worldbank.org/indicator> (accessed 15 March 2016).
- UNECE (2005), "Environmental Performance Reviews. Belarus (second review)", *Environmental Performance Reviews Series*, 22(ECE/CEP/129), available at: [http://www.unece.org/fileadmin/DAM/env/epr/epr\\_studies/belarus%20II.pdf](http://www.unece.org/fileadmin/DAM/env/epr/epr_studies/belarus%20II.pdf) (accessed 15 April 2016).
- UNECE (2010), "Environmental Performance Reviews. Georgia (second review)", *Environmental Performance Reviews Series*, 30(ECE/CEP/157), available at: [http://www.unece.org/fileadmin/DAM/env/epr/epr\\_studies/Georgia%20II.pdf](http://www.unece.org/fileadmin/DAM/env/epr/epr_studies/Georgia%20II.pdf) (accessed 15 April 2016).



- Vella, K. (2016), EU GreenWeek 2016 - my conclusions on our week, available at: [http://ec.europa.eu/commission/2014-2019/vella/blog/eu-greenweek-2016-my-conclusions-our-week\\_en](http://ec.europa.eu/commission/2014-2019/vella/blog/eu-greenweek-2016-my-conclusions-our-week_en) (accessed 4 June 2016).
- Wingqvist, G. Ö. and Wolf, H. (2013), "Environmental and climate change policy brief; Eastern Europe and Caucasus Region", *Sida's Helpdesk for Environmental Economics*, available at: <http://sidaenvironmenthelpdesk.se/wordpress3/wp-content/uploads/2013/04/Regional-EasternEurope-PolicyBrief-2013.pdf> (accessed 5 April 2016).

