

THE IMPACT OF EU'S ENVIRONMENTAL REGULATION IN ITS PERIPHERY

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Abstract

The European Union's desiderate of fully decarbonization until 2050 led to the adaptation of a comprehensive regulation that set ambitious environmental targets. EU's vision regarding the energy transition is very well expressed through its programs and policies. Currently, European Green Deal and NextGenerationEU mechanism are ambitious strategies that can make the EU's desires for a sustainable future reality. The first strategy intends to transform the European Union into a modern, green, and competitive economy and to decouple from fossil fuels. The second case refers to the recovery plan that follows to restore the EU's economy affected by the Covid pandemic. This plan, recently adopted, among his directions, had proposed reforms that make possible the green transition. How do these efforts affect the EU's neighbourhood in their climate action? Is there substantial evidence that shows the European Union's influence in shaping the environmental regulation of EU's neighbours?

This article aims to answer these questions using a comparative analysis that includes two EU neighbours, Georgia and the Republic of Moldova. This analysis follows to measure the influence of the EU's environmental efforts among its neighbours and explore those factors that favor this process. The results of the comparative analysis will be interpreted using the theoretical framework from the Europeanization literature.

Keywords

EU Neighbourhood; Europeanization; Environmental Policies; Environmental Public Policies; European Neighborhood Policy.

1.INTRODUCTION

Climate Change is a major global threat to human societies and ecosystems. Its adverse effects are more visible today than ever. Rapid and effective measures are required to mitigate it. European Union's efforts are essential in combating climate change. In the last four decades, the EU gained an impressive tradition in designing and applying effective legislation to combat climate change. Member states already have experience implementing climate policies in different sectors and improving their domestic capacity to implement necessary measures to reduce their carbon footprint. They have been designing new institutions, mechanisms, and agencies and allocating considerable resources yearly to become a climate-neutral economy by 2050. For example, The European Green Deal Investment Plan is designed to attract at least one trillion euros worth of public and private investment over the next decade in order to support the EU climate action (European Parliament 2018). The result of this effort can also be seen in the evolution of emissions in recent years. According to the European Environment Agency, the Union achieved its 2020 targets (reducing greenhouse gas emissions by 20% compared to 1990, growing the share of renewable energy to 20%, and 20% rise in energy efficiency) (European Environment Agency 2021).

Saving energy is one of the critical actions that can lead to an effective cut in emission output. It consists of using less energy in economic and social activities but keeping the same level of productivity or a higher. Furthermore, this can help lower energy fees, combat climate change, improve the quality of life, and raise energy security by reducing the dependency on external suppliers.

Combating climate change is a common goal for many states in the world. They have set high targets for 2020. Canada sought to obtain a 17% emission cut above 1990, The US, 9% above 1990, China wanted to reduce GHG emission intensity of GDP by 360-396% above 1990, India followed to reduce GHG emission intensity of GDP by 278-300% above 1990, South Africa 20- 73% above 1990, Japan 9% below 1990. South Africa and EU countries are the top countries adopting ambitious policies to mitigate global warming; the worst performers are Russia, the US, and Canada (Zheng et al. 2019, 1129).

The same is for countries close to the EU borders, like the Balkans, Türkiye, and post-soviet countries. They set up essential measures to reduce their carbon output even for energy efficiency. However, as the literature suggests (Börzel 2011a; Schimmelfennig 2012; Lavenex and UçArer 2004), the EU influences these countries, especially in developing a system of modern laws to address new challenges, ways of governing, and models of institutions. Central questions arose: How do EU climatic efforts affect the environmental policies of its neighbours?

In this paper, I intend to explain the EU's environmental influence beyond its borders, proposing a comparative study with two countries, Moldova and Georgia. Both have close economic and political ties with the European Union, part of the European Neighbourhood Policy (ENP). ENP is a mechanism that governs EU relations with its neighbours and other countries in this program. From another point of view, this policy can be seen as a tool to transfer EU influence beyond this border. But, it is not enough. The host country needs to accept the new model of governance and institutions.

This article aims to contribute to the Europeanization scientific debate, focusing on this phenomenon beyond the Union's borders. Europeanization is understood, in this article, as the influence of the EU at the member and non-member states level. The paper will focus on the energy efficiency field and will explore to what extent the national legislation in Georgia and Moldova has been influenced by EU legislation. To do so, I will compare the EU's Energy Efficiency Directive with Moldova's and Georgia's laws in the same area. The paper will continue with the presentation of methodology and data, the literature review, findings, and discussion.

2.METHODOLOGY AND DATA

The central question from which this research starts is: “How do European Union’s climate ambitions and efforts impact its neighbourhood climate actions? The question will be forward operationalized with the following: To what extent have the EU’s environmental targets influenced the climate targets and policy tools set up by Moldova and Georgia in the field of energy efficiency? The hypothesis employed here is that: the EU impacts climate targets and public policy instruments in the area of energy efficiency when the degree of democratization and administrative efficiency is higher at the domestic level.

The data needed to assess the hypothesis will be collected applying the following two- dimensional matrix, proposed by Annette Elisabeth Toller (Exadaktylos and Radaelli 2010, 57), which can measure the Europeanization of legislation in a specific sector, in this case, energy efficiency. These dimensions are:

The breadth of a regulation scans a legislative act to detect those components influenced by EU regulation. For example, “for the claim that of the five regulatory aspects that a piece of legislation includes, three have been Europeanized whereas two have not” (Exadaktylos and Radaelli 2010, 57)

The depth of a regulation, which allows analysing intensively what part of the national legislation was the subject of the Europeanization process:

- the instruments of the Regulation or Directive (whether bans, license systems or quota certificate systems are required);
- overall objectives (without necessarily touching upon instruments);

I have selected the main piece of legislation concerning the energy efficiency field in Moldova’s (Law No. 139/2018 (Parliament of Georgia 2018) and Georgia’s (Law No 5898/2018(The Republic of Moldova Parliament 2018) rules and their correspondent law at the EU’s level. Using the above matrix, I will scan these two laws and compare them with the EU 2012 Directive on energy efficiency (European Parliament and the Council 2012). Then, the observed result will be interpreted by the explanatory approach from the literature on Europeanization in Non-EU countries.

3. LITERATURE REVIEW

There is a growing interest in energy efficiency studies. Some researchers (Liobikienė and Butkus 2018) are interested in the effects of energy efficiency on the economy, especially in the link between energy consumption and economic growth. Others are interested in studying how governance quality or political institutions can increase energy efficiency performance. Most of them are looking for the impact of a specific policy that can reduce energy consumption. Others are interested in policy design, asking if the EU directive effectively reaches the energy efficiency goal. They also analyse if the targets are appropriately calculated (Tischler, 2018, 9–10). Tajudeen, et al. (2018, 37013) consider that effective policies would positively affect environmental conservation, especially for countries that exhibit carbon-emitting attitudes, like the EU-28 club.

Apergis and García (2019) consider that governance quality can increase energy efficiency performance. They point out that the most efficient countries are in the group with higher GDP per Capita.

There is also a debate about the type of policies that EU member states could adopt to reach their target. Finnerty et al. (2017) consider that energy efficiency can be achieved through different actions, such as hard and soft measures. Soft measures include good management, education, and behavior change. On the other hand, complex steps contain investments in energy measures, such as equipment upgrades or new technology installation, use of modern technology, etc.

Some papers analyse the member states' progress in implementing articles belonging to EED 2012. Forster et al. (2016) focus on member states' efforts to implement Article 7. Fawcett et al. (2019, 58) discuss the role of EEOS in EU energy policy and the future of long-term EEOS. Even if all member states did not adopt it, they consider this mechanism an effective tool for the EU to achieve the energy efficiency targets for 2020. This topic is also addressed by Rosenow and Bayer (2016).

Some studies are investigating how the economy could adapt to energy-efficiency measures. Tobias Fleiter et al. investigate the factors driving the

adoption of energy-efficiency measures by small and medium-sized enterprises (SMEs). They found out that high investment costs impede the adoption of energy efficiency measures, even if they are deemed profitable. Hence, investment subsidies or soft loans may help to accelerate the diffusion of energy-efficiency measures in SMEs. Also, this paper pointed out that the quality of energy audits affects the adoption of energy efficiency measures. Effective regulation should involve quality standards for energy audits, templates for audit reports, or mandatory monitoring of energy audits. (Fleiter, Schleich, and Ravivanpong 2012, 863). The role of an energy audit in a small and medium enterprise is also investigated by Fresner et al. (2017, 1652).

J Malinauskaite et al. review the EU strategies and policies on energy efficiency and argues that further focus should be placed on industrial energy efficiency. This sector remains one of the most significant energy users in the EU and needs a specific regulatory framework for energy efficiency. They explained how the European and national policies in the selected jurisdictions, such as Italy and the UK, address energy efficiency in the industry. The authors conclude that, for both countries, this policy is the heart of a low-carbon economy. The study emphasizes the role of evolving mechanisms in promoting energy efficiency. Specifically, in Italy, the scheme of White Certificates is considered the best practice due to its outcome (Malinauskaite et al. 2019, 267). Djula Borozan studied the European energy industry efficiency under environmental regulation, technology change, and unstable economic conditions. They state that energy transition is necessary for energy companies to survive in this business environment. Also, the authors found “an inverse relationship between company size and efficiency, indicating that larger companies are less agile in adapting to market changes that improve efficiency than their smaller counterparts” (2018, 6).

Ziolkowska and Ziolkowski (2015, 22-24) explained the correlation between accurate measurement of energy and energy efficiency policies in the transport sector. They found out that the carbon intensity in the transportation sector for EU-27 decreased in 2000-2010, especially for Germany, France, Italy, the United Kingdom, Sweden, Spain, Belgium, and the Netherlands. In other EU countries, carbon intensity increases. They advised implementing environment-friendly

technologies for sustainable energy use and environmental conservation, accelerating the transformation to a renewable resource economy.

Another sector where energy efficiency strategies play a significant role in reducing emissions is buildings. EU efforts in this area are considerable; its target is to achieve a “nearly zero-energy building” (Annunziata, Rizzi, and Frey 2014, 364). Annunziata et al. conducted a statistical analysis to investigate which factors influence the adoption of energy efficiency in municipal buildings. They found out that capacity building through training courses and technical support provided by energy audits positively affects the adoption of energy efficiency in municipal edifices (Annunziata, Rizzi, and Frey 2014, 364).

Regarding the eastern neighbourhood, Gulchokra et al. (2013, 19) consider that achieving energy efficiency goals depends on overcoming the main barriers, such as legislative and regulatory weaknesses, the needy investment climate, and the deficiency in training and capacity at the country level. In the case of Moldova, these authors consider that the critical action in the energy sector is to steadily approximate the Moldovan legislation with the EU’s one in the energy efficiency field, promoting the rise of awareness of the economic rewards provided by energy savings (2013, 8).

As mentioned in the introduction, this paper aims to contribute to the Europeanization of EU environmental policies abroad its eastern border. The field of Europeanization is quite a recent one. The studies that fit this area analyse the impact of the European Union on its member states (Radaelli 2003, 28). First, the effect on the EU membership candidate and the influence on the countries that are not member states and do not necessarily want to become EU members can do this. Europeanization refers to the process of change affecting domestic institutions, politics, and public policies. These changes occur when political behavior at the European Union level has a transformative effect on domestic political behavior” (Exadaktylos and Radaelli 2010, 1).

In the case of Europeanization with EU environmental laws, Todor and Helpciuc consider that the relevant literature in the field of Europeanization can be divided into two main categories: “A first branch focuses on the variation in the ambition, characteristics, and adoption of the EU’s environmental policy in various historical periods (2021, 12). The findings of the studies across this

branch show how ecological approaches have evolved in the last decades. For example, a temporary decline is observed in environmental ambitions in the years after the economic crisis (Burns et al., 2020). The second branch aims to explain the success of implementing the EU's environmental procedures, focusing either on the EU's capacities or variations at the EU member state level (Todor and Helpciuc 2021, 12).

Discussing Europeanization abroad, Börzel 2011b (395) considers that the EU seeks to transform the domestic structures of the Newly Independent States (NIS), which are now in its immediate vicinity. Also, she found evidence suggesting that the EU's impact depends on three factors, the cost of adaptation to EU norms and the capacity and willingness of the inner agents to deal with the cost imposed by the new rules (Borzel 2011b, 400).

Schimmelfennig (2005) considers that democracy is a relevant explanation for the degree of acceptance of EU laws, norms, and principle ideas in non-member countries. Hence, the cost of adapting regimes that started their way to democracy is lower than in authoritarian regimes, which will oppose EU requirements. Going back to Borzel (2011b, 408), she revealed that state capacity is another essential explanation. So the higher the state capacity, the lower the ability to adapt to the EU conditions and ideas.

In another relevant article on understanding the processes that made possible the EU dissemination of its institutions and rules of governance in the international system, Schimmelfennig 2012 argues that there are two types of mechanisms, direct and indirect. By direct, we understand those instruments in which the EU is a proactive agent that follows to transfer its type of governance and values beyond the borders. So, this is something assumed and wanted by THE European Union. In opposition, there are indirect mechanisms in which non-member actors are active in the process, or the simple presence of EU determined unforeseen effects. In the first category, the author places the Conditionality and Socialization process and the second one, Externalization and Imitation.

Conditionality is a process in which the EU influences the other agent's rational decisions, calculated as a cost-benefit choice. This can be understood as the EU's active efforts to share its system and governance rules with pairs by setting them

conditions. In this process, the Union provides non-member states benefits, which vary from trade agreements and market access to financial aid. In some cases, membership can be the desired reward from a non-member country.

Socialization consists of the EU's efforts to transfer its modes and rules by convincing other actors about the relevance of values and ideas behind them. The logic of this mechanism can be found in the external actor's decision to adopt EU rules if they consider them to be legitimate and appropriate. In this category are actors acting in new and uncertain environments and wanting to be part of the EU club. This may be the case for states located in post-soviet space. A critical factor that favors the downloading of the EU model is the high resonance with EU traditions, cultural heritage, and norms.

Externalization is a mechanism that also functions in the logic of cost-benefit calculation. Nevertheless, the main difference in contrast to conditionality is that the EU does not actively promote its vision of governance beyond its borders. Actors adopt its model because avoiding it will lead to additional costs. Countries with strong relations with the EU economy are placed in this category. The effect of Europeanization improves when the market relations with non-countries are high.

The final explanation is called imitation. This works equivalently with socialization. What makes the difference is the lack of an EU proactive role in sharing its values outside its borders. Non-member countries act like the EU because they consider EU rules suitable solutions to their issues. This is the case for countries that act in an uncertain and risky international environment. They are prone to imitate the EU if they are in close contact with the EU, and their beliefs and practices are similar to the EU ones.

In conclusion, for this literature review, I point out that scholars have a growing interest in studying how EU public policies are implemented in each member state and non-member states. This can be seen as a natural experiment where an advanced system of governance is applied in countries with different cultural, social, and political backgrounds. The main explanations regarding the various degrees of influence in non-member countries are related to the quality of democracy, the state capacity, the economic development, the relationship between external actors and the EU, and the preference for the EU model in

contrast to other models that are dominant in the regions. Also, there are arguments related to cost-benefit calculations. If the cost to adopt EU rules and governance type is low, then non-member states are more likely to accept this model. As the literature revealed, the performance in the energy efficiency field is improved if legislative and regulatory barriers are outdated, the investigation environment is stable, and state capacity is high. In this case, the EU governance model and rules can be seen as potential solutions for the mentioned issues.

4.FINDINGS

Starting from the matrix proposed in the methodology section, I have created the below research grid that aims to comparatively measure what domestic law on energy efficiency is more Europeanized. The table contains the main regulatory dimensions of the Directive on Energy Efficiency. For each of them, I underlined the goal or target that shall be fulfilled and the policy instruments proposed to achieve them. Then I looked into Moldova's and Georgia's laws to see which one took over most aspects of the European Directive. The results can be seen in the following table.

Table 1: The degree of Europeanization of Moldova's and Georgia's law on energy efficiency

No	Directive dimension	Moldova		Georgia	
		Target	Policy instruments	Target	Policy instruments
1	Building renovation	Yes	Yes	Yes	Yes
2	Exemplary role of public bodies' buildings	No	Yes	No	Yes
3	Purchasing by	Yes	Yes	Yes	Yes

	public bodies				
4	Energy efficiency obligation schemes	Yes	Yes	No	No
5	Energy audits and energy management systems	Yes	Yes	Yes	Yes
6	Metering	Yes	Yes	No	No
7	Billing information	Yes	Yes	No	No
8	Cost of access to metering and billing information	Yes	Yes	No	No
9	Consumer information and empowering programs	No	No	Yes	Yes
10	Promotion of efficiency in heating and cooling	Yes	Yes	Yes	Yes
11	Energy transformation, transmission and distribution	Yes	Yes	Yes	Yes
12	Availability of qualification, accreditation and certification schemes	Yes	Yes	Yes	Yes
13	Information and	No	No	Yes	Yes

	training				
14	Energy services	Yes	Yes	No	No
15	Other measures to promote energy efficiency	Yes	Yes	Yes	Yes
Total (similar to the directive)		12 out of 15	13 out of 15	9 out of 15	10 out of 15

The analysis shows that Moldova's energy efficiency is more Europeanized than Georgia's. Energy Efficiency Obligation Schemes; metering details, billing information, and cost of access to metering and billing information are the main regulatory aspects present in the first case but not in the second one. According to Directive 27/2012, each member state shall set up cumulative end-use energy-saving targets for distributors and/or retail energy sales companies by obligation schemes. Metering refers to the final customers provisioning with meters that accurately show the final energy consumption of the customer. Billing information refers to the situation where final customers do not have smart meters and assures measurement accuracy. The measurement system consists of self-reading by the final customers, which will communicate the readings to the energy supplier. Then another aspect is the cost of access to metering and billing information. It is expressed by the fact that the final customers receive all their bills and billing information for energy consumption and that the last customers also have free access to their consumption data. Finally, there are differences in the visibility energy services dimension, which is present in Moldova but not in Georgia's law. This dimension refers to member-states measures to promote the energy services market and access for the stakeholders to this market.

The aspects where Georgia's law is more Europeanized than Moldova's one are those referring to public awareness of the advantages gained by consumers when saving energy, empowerment, and information and training. These details are more visible in Georgia's legislation.

From the targets and instruments point of view, we can see that the EU has slightly fewer influences targets than the public policy instruments in both cases. This can be observed especially in the case of the role played by public buildings in adopting measures that aim to save energy. The directive sets a 3% renovation target of the total floor area of heated and/or cooled buildings owned or used by public agencies. In the two countries analysed, the target is 1%. However, the public policy means proposed to achieve the target are the same per the directive.

5.DISCUSSIONS

In this section, the findings will be interpreted based on the explanation provided by the main explanations in the literature. The high impact of the EU on both laws will be analysed using Schimmelfennig's (2012) arguments on europeanization mechanisms. The differences in the similarity with energy efficiency directives in both laws will be interpreted using Börzel's view concerning the impact of state capacity, democracy quality, and market relations between the EU and a non-member country.

EU's impact on energy efficiency in both laws is explained by the fact that both countries gained independence three decades ago. They were searching for a suitable model to define and develop their state capacity and democracy. There is also another robust model that is a competitor for the European Union: Russia. However, regarding adopting and implementing the ambitious environmental law, Russia is not performing too impressively. According to Zheng et al. (2019, 1129), it is among the worst performers, in contrast with the EU. Then, from the security point of view, the environment where Georgia and Moldova are placed is quite unstable. Considering Russia's aggressive actions in the last decade, culminating with the war against Ukraine in February 2022, this international environment is unsure for countries like Moldova and Georgia, which are small countries with limited military capabilities. More than that, both have additional issues with separatist territories, which Russia supports. So, in this case, both are searching to adopt the EU governance and institutions to

decrease the risks posed by Russian Federation. This may also be applied to the environmental field.

Additionally, as Schimmelfennig (2012) has suggested in his work, conditionality and socialization are the primary mechanisms through which EU influence is manifested. These mechanisms are implemented through the European Neighbourhood Policy (ENP), which provides incentives for neighbouring countries, like liberalized access to goods and persons in the EU, advantageous trade treaties, and financial aid. However, the most crucial motivation, the perspective of Union accession, is missing. If the conditionality is incomplete, ENP is seen more as a socialization mechanism. Hence, EU rules transferred during ENP negotiations and other interactions can be seen as long-term benchmarks in designing effective public policies. In the case of the energy efficiency field, EU legislation may be seen as a valuable model of governance.

As the literature suggests, the difference in the Europeanization seen in these two laws can be explained by the state's capacity. So the explanation here is that the higher the administrative capacity of a country, the higher the degree of europeanization. This explanation will be checked by comparing the quality of public administration in both countries. This indicator is provided by World Bank (World Bank 2021) and shows that Georgia has higher administrative efficiency than Moldova. So, from this point of view, the state capacity argument didn't explain that Moldova's law on energy efficiency is more europeanized than Georgia's one.

To assess democracy quality, Democracy Scores provided by Freedom House will be used. There is very little difference between these two countries in the quality of democracy. Both are considered Transitional or Hybride Regimes, but Moldova's score is higher than Georgia's. This is in line with Börzel's (2012) hypothesis that the less democratic a state is, the higher the domestic cost of Europeanization is.

The last explanation exposed is the economic relations between EU and non-member countries. According to the literature (Schimmelfennig 2012), the effect of Europeanization improves when the market relations with non-countries are high. Market relations will be expressed as exports level and imports of a non-country to and from the EU. The data for 2021 shows that Moldova is better on

both indicators. Moldova's exports to the EU were worth 2.17 billion dollars. In contrast, Georgia only has 959 million dollars (Trading Economics 2021b). Regarding imports, the value for the first country is 3,76 billion, and for the second one, 2.40 billion (Trading Economics 2021a).

6. CONCLUSIONS

This paper argues that the influence of the European Union beyond its eastern border is visible in the case of the environmental policy area. EU's type of governance, public policy, values, and even targets are considered potential solutions for countries located in a more uncertain and, to some extent, from a security point of view. Georgia and Moldova have downloaded in their laws on energy efficiency goals and policy tools inspired by the EU, even if the possibility of EU membership is not guaranteed. The primary mechanism that made this possible is ENP, which set up incentives for both countries to comply with the *acquis communautaire* on this policy field.

There is also variation in the similarities between the Union's directive on energy efficiency and the national laws analysed in this paper. Hence, I conclude that Moldova's law is more European than Georgia's. The main explanation here is the economic dependency on Union. From this point of view, Moldova is more connected than Georgia. Here, the geographic position and the common cultural heritage between Moldova and Romania, which has been a member state since 2007, may play an important role.

I did not find a link between state capacity and adaptation of EU rules at the domestic level. Moreover, democratic quality partly explains the observed variation. As per Freedom House, Moldova's rating is slightly higher than Georgia's. Based on these observations, a conclusion can be drawn that the Europeanization degree of energy efficiency law is not a matter of state capacity but rather one of the economic relations and a result of the decision-making process at the domestic level.

As future research directions, this work can be continued by a process-tracing analysis that will qualitatively analyse the political debates and decisions behind

adopting the energy efficiency law and also the links between the potential independent variables and the degrees of Europeanization of the environmental legislation in these two countries.

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