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Stratan Alexandru, Habilitated Doctor, University Professor, C.M of AȘM

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"COMPETITIVENESS AND INNOVATION IN THE KNOWLEDGE ECONOMY"

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THE TRANSITION TOWARDS A GREEN AND CIRCULAR ECONOMY IN ORDER TO CREATE OPPORTUNITIES FOR THE SUSTAINABLE DEVELOPMENT OF THE REPUBLIC OF MOLDOVA

NATALIA ZAMFIR

PhD, Associate Professor,

Jean Monnet ECOCONS project member,

nataly.zamfir@yahoo.com

ORCID 0000-0001-6023-7091

Abstract: The aim of the article is to set priorities for further, very ambitious for Moldova's legal approximation and implementation of EU Acquis and common actions under the Paris Agreement on climate change (the 'Paris Agreement') commitments in Moldova, taking into consideration of "a renewed discussions" of the ongoing debate on the European Green Deal and how far the states could join possible join to the European Green Deal it. In relation to the enhance capacity to reach net-zero targets set up in updated nationally determined contribution (NDC). Moldova seeks to establish of legal framework of regulation of circular economy, which ensures the achievement of the objectives for energy and the long-term greenhouse gas emissions commitments, in particular for the first period, from 2025 to 2030, the RM's 2030 targets for long-term objectives. In order to facilitate energy market integration and cost-efficient climate action policies and measures set up in the integrated national energy and climate plans (NECPs), the Republic of Moldova shall ensure multilevel dialog in cooperation and consultation among the Contracting Parties, and identify opportunities for further regional cooperation in efficient guidance. The article shall serve as a basis for further in-depth deliberations on the establishment and implementation of a governance mechanism that will ensure the planning, monitoring and reporting on the achievement of the 2030 climate and circular targets and long-term objectives and targets in line with the 2015 Paris Agreement, while limiting administrative complexity and give consumers, including households and businesses, secure, sustainable, to foster research and innovation by means of attracting investment, which requires a fundamental transformation toward the green economy.

Key words: climate actions, consumers; green deal; green economy; circular; greenhouse gas emissions, governance mechanism

JEL Classification: K32, K33, Q52, Q54

Introduction

The Paris Agreement sets an ambitious collective target on climate change, allowing for individual countries to develop individual climate objectives through nationally determined contributions (NDCs) in line with their “state individual responsibilities to common response”.

A strong transition to a green economy is essential for containing the risks of dangerous climate change effects. Limiting global warming to 1.5°-2°C, the central goal of the 2015 Paris Agreement, will require climate policy and legislative packages that drive transformative changes within their harmonization with the EU standards.

Moldova ranks among the most climate vulnerable countries in Europe and Central Asia based on a range of social and economic indicators and faces a number of adaptation challenges in conformity with the Global Adaptation Index.

In accordance with the third Biennial Update Report of the Republic of Moldova, over the last 132 years, the Republic of Moldova has experienced changes in average values of temperature and precipitation. The country had become warmer, with an average temperature increase of more than 1.2°C, while increase in precipitation was only 51.3 mm. [1]

Moldova is yet to fully implement the commitments ensuring from the EU - RM Association Agreement, which although being a political priority, it still polarizes Moldovan society.

Also, there is still insufficient political will to prioritize the mechanisms of the circular economy at national level. For the past 10 years, environment and climate change legislation has not been on the government agenda's priority list.

Moldova's waste sector, distinguished by the most one of important contribution to GHG emissions in the Republic of Moldova (11.2%, 2019), will significantly contribute to meeting the country's commitments to reduce GHG emissions. [1]

Alignment with new Circular Economy Action Plan is to set priorities for further, ambitious legal approximation and implementation of provisions of the Green Deal in Moldova, taking into consideration the recent EU candidacy admission of the Republic of Moldova.

Data and Methodology

The present article aiming to provide an overview on how selected elements of the EU acquis are expected to be updated in the course of the new Association Agreement on climate, circular economy and environment related legislation, proposals taking in consideration the current capacity level of institutional and legislative.

Achieving more ambitious NDC targets will be possible through:

- i. Advanced alignment with EGD related acquis and in the context of Energy Community Treaty on climate, environmental and circular economy matters;
- ii. Approximation of Moldovan legislation with the EU standards based on the framework for achieving climate neutrality of the European Climate Law;
- iii. Establishment of concrete guidelines for the implementation of the extended producer principle and Circular Economy Roadmap taking in consideration the ongoing debate on the EGD and the recent EU candidacy admission of the Republic of Moldova.

The methodology of the article is based on desk research, gathering of official information by means of submission of information requests to respective state authorities, constant actualization of data, legislative framework, legal assessment, comparative analysis and compliance review.

In preparing the article we followed main approaches:

- elaboration of the gap analysis between the regulation and legislation framework on setting clear of European Green Deal targets and legislative framework of the Republic of Moldova;
- description of the most relevant provisions as well as an explanation how these relate to the existing rules of law in Moldova;
- write the conclusions and recommendations for efficient implementation the European Green Deal regulation and legislation framework taking in consideration the current capacity level of institutional and legislative.

Literature review

The present assessment contributes to the identification of legal gaps in national climate, environmental and circular economy legislation in Moldova, which has been undergoing substantial revision since the Association Agreement was signed.

The national environmental legislation has been continuously developing based on the most important international climate and environmental legal frameworks ratified by the Republic of Moldova.

The Republic of Moldova has committed in 2020 in its updated NDC the intention to achieve more ambitious reduction targets than those included in the INDC from 2015. The updated unconditional target provides for a reduction of GHG emissions by up to 70% by 2030 compared to the level of the reference year 1990, instead of 64-67% undertaken in the INDC. Regarding the conditional target, instead of the 78% undertaken in the INDC, the reduction commitment expressed above could be increased to 88% as compared to the 1990 level, provided that external support is obtained, including in form of low-cost financial resources, technology transfer, and technical cooperation, etc. [2].

In achieving more ambitious the NDC targets, it will be possible through advanced regional cooperation. In this regard, the Republic of Moldova should transpose and implement all commitments in conformity with the Association Agreement between the Republic of Moldova, of the one part, and the European Union and the European Atomic Energy Community, and their Member States (2014), and with the Treaty establishing the Energy Community (2010).

The commitment to implement the European standards on climate change mitigation in the Republic of Moldova-EU AA (Annex XII) is set in following acts: i) Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading; ii) Regulation (EC) no. 842/2006 on certain fluorinated greenhouse gases, replaced by Regulation (EU) no. 517/2014; iii) Regulation (EC) no. 1005/2009 on ozone-depleting substances; iv) Directive no. 98/70/EC on the quality of petrol and diesel.

Only one of the four EU acquis provided for in the Moldova-EU AA is transposed into the national legislation. Directive 98/70/EC on quality of petrol and diesel oil is fully integrated in the GD no. 1116/2002, amended in 2019. Rest of EU acquis regulations, for which the transposition deadline has already expired (in 2018-2019), are partially transposed into the national legislation with the exception of Directive no. 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading (until 2022).

Regarding climate change, Energy Community recommended for implementation following two EU provisions: i) Recommendation 2016/02/MC-EnC on preparing for the implementation of Regulation (EU) 525/2013 on the mechanism for monitoring and reporting greenhouse gas emissions; ii) Recommendation 2018/01/MC-EnC on preparing for the development of integrated national energy and climate plans. Only the Recommendation 2016/02/MC-EnC has been transposed into national legislation.

The main political strategy in the area, is the Low Emission Development Strategy of the Republic of Moldova until 2030 (LEDS) and the Action Plan for its implementation, approved in 2016.

In 2020, after expressing more ambitious targets for reducing GHG emissions in the updated NDC, it was developed, and approved the Low Emission Development Program of the Republic of Moldova until 2030 (LEDP) and the Action Plan for its implementation, which is to replace the former LEDS 2030 and to serve as guidance and officially approved document for achieving the targets included in the updated NDC.

The Climate Change Adaptation Strategy of the Republic of Moldova and its implementation Action Plan covers the timeframe 2014- 2020 and approved prior to signing of the Republic of Moldova of the Paris Agreement and the country's NDC declaration.

The new National Climate Change Adaptation Strategy in conformity with the updated NDC objectives was elaborated with the support of the Project "Advancing Moldova's National Climate Change Adaptation Planning", has been approved recently.

The sub-chapter "Waste management and resources" of the Republic of Moldova-EU AA provides for the transposition of Directive 2008/98/EC on waste, within the term of 4 years from the entry into force of the agreement. In particular, the implementation of the Art.14 on "establishing the full cost recovery mechanism in accordance with the polluter pays principle and with the extended responsibility principle the producer" is implemented starting from 2018.

The new of the National Program for waste management for the years 2023-2027 and the Action Plan for its implementation in conformity with the updated NDC objectives was elaborated with the support of the Project "EU4Environment", has not been approved yet.

The Adjustment of sectorial adaptation strategies to climate change by including gender equality is established in the National Strategy on Ensuring Equality between women and men (2017-2021) in the Republic of Moldova and the Action Plan for its implementation, approved by the GD no. 259/2017, which aims at greater reduction of gender gaps due to the social, economic and environmental vulnerabilities exacerbated by climate change. The gender policy is regulated by the Law no. 5/2006 on ensuring equal opportunities between women and men, which stipulates that in the Republic of Moldova, women and men have equal rights and freedoms and are guaranteed equal opportunities for their work.

The Program for promoting “green” economy in the Republic of Moldova for the years 2018-2020 covers the timeframe prior to signing of the Republic of Moldova of the Paris Agreement and the country's NDC declaration.

Secondary legislation.

The Waste Management Strategy for the Republic of Moldova for 2013-2027, approved by the GD no. 248/2013, enhances the measures in application EU and national standards: extending the current system of primary collection and storage from urban to rural waste, improving the water supply and sanitation infrastructure.

Law on waste No. 209 of 29.07.2016 establishes the legal framework and the necessary measures for protection of the environment and the health of the population by preventing or reducing the effects of waste generation and management and set up the regulations based on the extended responsibility principle the producer.

Law no. 1540/1998 on payment for pollution of the environment establishes a system of economic activity in which it becomes inappropriate to cause any damage to the environment; incentivizing construction and operation of pollutant capture and neutralization systems; establishment of ecological funds for financing the activity oriented towards improving the quality of the environment.

Secondary legislation

Government Decision no. 444/2020 on establishment of the mechanism for coordinating activities in the field of climate change, establishes organization and operation of: the National Commission on Climate Change through the intersectoral coordination mechanism for coordinating nationally appropriate mitigation action.

GD no. 1277/2018 on establishment and operation of the National Monitoring and Reporting System for Greenhouse Gas Emissions and Other Information Relevant to Climate Change regulates monitoring the methane emissions.

GD no. 561 of 31.07.2020 on approval of Regulation on packaging and packaging waste lays down priority measures to prevent production of packaging waste and principles of reducing final disposal of packaging waste through reuse, recycling and recovery.

In order for the facilitate application of the Law no. 209/2016 on waste several legislative acts were adopted the GD no. 501/2018 on the Instruction on keeping records and transmitting data on waste and its management, GD no. 682/2018 on the approval of the Concept of the Automated Waste Management Information System, through which the reporting system www.siamd.gov.md was developed.

GD no.212/2018 on approval of the Regulation on waste electrical and electronic equipment, GD no.586/2020 on approval of the Regulation on batteries and accumulators and waste batteries and accumulators sets out waste stream related rules, concern the management of various type products once they became waste based on the Extended Producer Responsibility (EPR) approach.

Actually, existing laws and secondary laws represent a good starting point that shall be kept in process of development of the climate legislation.

There are no provisions on Extended Producer Responsibility (EPR) in the context of climate change mitigation and adaptation measures in primary legislation and no legal basis which creates concrete impediments in the law-making process and in the implementation of new administrative procedures, in strengthening clear institution obligations in the data management and low data accessibility.

European union green deal related acquis relevant for the Republic of Moldova

The aim of the assessment of the European Green Deal (EGD) related acquis relevant for the Republic of Moldova is to set priorities for further, very ambitious for Moldova legal approximation and implementation of EU acquis and actions in Moldova, taking in consideration of new candidate status of the RM.

The European Green Deal (hereinafter – EGD) is the new growth strategy for an EU economy that aims to be sustainable, cleaner, safer and healthier by turning climate and environmental challenges into opportunities across all areas of policy in a way that is fair and inclusive. EGD sets out a plan of action for ensuring:

- an economy with net-zero greenhouse gas emissions by 2050;
- boost the efficient use of resources by moving to a clean, circular economy;
- restore biodiversity and cut pollution.

The EGD contains proposals for action which cover a number of policy areas:

(i) The **Climate Action Initiatives** under the EGD include:

- the **Roadmap - Key actions** [3] in above mentioned policy areas;
- the **European Climate Law** [4], which includes a legal objective for the Union to reach the goals set out in the EGD. The Regulation (EU) 2021/1119 (**‘European Climate Law’**) will help to meet the European Green Deal objectives while taking fairness, solidarity and cost-effectiveness;
- as part of the EGD, the Commission through **European Climate Pact** encourages people, communities and organizations to connect and sharing knowledge, learning about climate change and development solutions to fight climate change;
- **2030 Climate Target Plan** [5] Commission has proposed to increase the EU's ambition to cut greenhouse gas emissions by at least 55% by 2030 sets Europe on a responsible path to becoming net-zero greenhouse gas emissions by 2050. The package contains legislative proposals under the **“Fit for 55”** to revise the entire EU 2030 climate and energy framework, including the legislation on effort sharing, land use and forestry, renewable energy, energy efficiency, emission standards for new cars and vans, and the Energy Taxation Directive;
- **EU Strategy on Adaptation to Climate Change** [6] aims to realize the 2050 vision of a climate-resilient Union by making adaptation smarter, more systemic, swifter, and by stepping up international action. This would mean adaptation awareness and planning spread to every single local authority, company and household; adaptation implementation well underway for those most affected; and global leadership in areas such as climate services, climate proofing, or nature-based solutions.

(ii) **Taxation of GHG emissions and Emissions Trading System.** The taxation of energy products and electricity plays an important role in the area of climate and energy policy. The proposal for recasting framework for the taxation of energy products and electricity is part of the EGD and of the **“Fit for 55”** legislative package focuses on environmental and climate issues to achieve the EU's domestic greenhouse gas emissions reductions objectives and air pollution reduction. Reducing man-made GHG emissions can help to limit global warming. The **EU Emissions Trading System** is a basic pillar of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively. It is the world's first major carbon market and remains the biggest one. Companies that are regulated by the EU ETS include stationary installations (such as power plants, industrial plants and other large energy users) and airlines. The sectors of the economy not covered

by the EU ETS must reduce emissions by 30% by 2030 compared to 2005 as their contribution to the overall target through the **Effort Sharing Regulation** (Regulation (EU) 2018/842) translates this commitment into binding annual greenhouse gas emission targets for each Member State for the period 2021–2030, based on the principles of fairness, cost-effectiveness and environmental integrity. Finally, the ESR, its relevance as a regulatory instrument and its scope will be subject to review for the development of the climate and energy framework post-2030, taking into account the interactions between the various instruments, in particular the extension of emission trading to new sectors and the regulation of an agriculture land use and forestry pillar. The proposal [7] determines to reduce GHG emissions by ensuring parallel coverage of ESR and ETS in case of an extension of the ETS, to buildings and road transport.

(iii) **Carbon Border Adjustment** determines reduce GHG emissions by ensuring the fairness through dampening any negative competitiveness effects. The Carbon Border Adjustment Mechanism (CBAM) is intended to complement the **Emissions Trading System** and level the playing field between EU and non-EU businesses, ensuring that production of carbon-intensive goods does not shift from within the EU to third countries in order to take advantage of less stringent climate policies. It is due to take effect in a transitional form from 1 January 2023 and be fully operational from 1 January 2026.

➤ Proposal for a Regulation of the EU Parliament and of the Council establishing a carbon border adjustment mechanism (CBAM) 2021/0214 from 14.7.2021[8] The CBAM seeks to replace the existing mechanisms (free allocation of EU ETS allowances and financial measures to compensate for indirect emission costs incurred from GHG emission costs (Directive 2003/87/EC)) by addressing the risk of carbon leakage in a different way, namely by ensuring equivalent carbon pricing for imports and domestic products.

(iv) **Transition to greener mobility.**

Sustainable and Smart Mobility Strategy [9] sets out actions to transform the transport sector into a truly multimodal system of sustainable and smart mobility services. As the first pillar, uptake of low- and zero-emission vehicles as well as renewable and low-carbon fuels for road, waterborne, air and rail transport. Support research and innovation on competitive, sustainable and circular products and services, ensure that the right vehicles and fuels are supplied by the industry, put in place the necessary infrastructure, and incentivize demand by end-users.

➤ The CO₂ emissions performance requirements for new passenger cars and for new light commercial vehicles are set out by the *Regulation (EU) 2019/631 setting CO₂ emission performance standards for new passenger cars and for new light commercial vehicles*. In the context of “Fit for 55” legislative package, the Commission introducing amendments to Regulation (EU) 2019/631[10] as regards the CO₂ emission performance standards for new passenger cars and new light commercial vehicles.

The **Zero Pollution Action Plan** [11] further supports the shift toward zero-emission vehicles. Emission standards for passenger cars and light commercial vehicles were seen as key drivers for reducing CO₂ emissions in the sector throughout. This draft law aims to accelerate the transition by requiring average emissions of new cars to come down by 55% from 2030 and 100% from 2035 compared to 2021 levels. All new cars registered as of 2035 should be zero-emission.

In order to achieve the broadest possible use of alternative fuels for transport, while ensuring technological neutrality, and to promote sustainable electric mobility throughout the Union, must take suitable measures for the implementation of the strategy set out in the Communication entitled ‘**Clean Power for Transport: A European alternative fuels strategy**’[12]. For this purpose the Commission propose the new Regulation for the deployment of alternative fuels infrastructure, which will repeal *Directive 2014/94/EU on the deployment of alternative fuels infrastructure*. This initiative seeks to

ensure the availability and usability of a dense, widespread network of alternative fuels infrastructure throughout the EU.

(v) **Industrial policy package.** The *update the 2020 New Industrial Strategy: Building a stronger Single Market for Europe’s recovery* [13] is a targeted update, which focuses on a tailored assessment of the needs of each industrial ecosystem and how all market players can best work together. And it identifies a set of strategic dependencies and capacities and proposes measures to address and reduce them.

(vi) **Biodiversity and ecosystems.** *EU Biodiversity Strategy for 2030* [14] is a main pillar of the European Green Deal and comprehensive, systemic, ambitious long-term plan for protecting nature and reversing the degradation of ecosystems. It addresses the five main drivers of biodiversity loss—changes of inland and sea use, overexploitation, climate change, pollution, and invasive alien species—and it sets out an enhanced governance framework to fill remaining gaps, ensures the full implementation of EU legislation, and pulls together all existing efforts. The main regulatory instruments are the Birds and Habitats Directives, will focus on completing the Natura 2000 network, the effective management of all sites, species-protection provisions with strict protection for areas of very high biodiversity and climate value.

(vii) **A Clean Air Programme for Europe** [15] proposes legislation to reduce harmful emissions in the longer term which contribute to poor air quality and promote measures which mitigate atmospheric warming and climate change. The objectives for the emission reductions are fully consistent with the *EGD* and *EU Action Plan: Towards Zero Pollution for Air, Water and Soil*.

(viii) **Circular economy.** *The 8th Environment Action Programme* [16] aims to achieve that by 2050 the prosperity within the planet’s ecological limits that healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is conserved, valued and restored in ways that enhance resilience to climate change. *The new Circular Economy Action Plan* presents a set of initiatives to establish climate-neutral, resource-efficient and competitive economy. *Bioeconomy Strategy* based on sustainability and circularity will drive the renewal industries, the modernization of primary production systems, the protection of the environment and will enhance biodiversity and will provide ‘no emissions’ economy, in line with the *EGD*.

(ix) **Renewable energy targets.** The common system to promote energy from renewable sources across the different sectors has established by the *Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources*. The key points of the Directive are part of the package of measures needed to reduce greenhouse gas emissions by at least 40% below 1990 levels by 2030 comply with the *EGD* and the *EU climate and energy policies in the period from 2020 to 2030*. It establishes a common set of rules for the use of renewables in electricity, heating and cooling, and transport in the EU.

Clean Energy For All Europeans [17] is the legislative proposal cover energy efficiency, renewable energy, the design of the electricity market, security of supply and governance rules for the Energy Union. This initiative sets out a range of specific measures to improve the regulatory, economic and investment environment for innovation in clean-energy technologies and systems.

Energy efficient buildings. The strategy to start a *Renovation Wave for Europe* proposed by the Commission Communication enhance the energy and resource-efficient renovation, supporting fresh

investment over a sustained period starting from public and less efficient buildings, spurring digitalization and creating employment and growth opportunities across the renovation supply.

Energy system integration. *Powering a climate-neutral economy: An EU Strategy for Energy System Integration* [18] proposes policy and legislative measures at EU level to gradually shape a new integrated energy system, while respecting the differing starting points of Member States in achieving the target to climate neutral economy at the least cost across sectors, while strengthening energy security, protecting health and the environment.

Conclusions and recommendations

Climate change adaptation and mitigation in the Republic of Moldova is considered essential for the protection of well-being and the achievement of continuous progress in circular economy development, priorities that were reflected in the draft of the National Development Strategy “European Moldova 2030”.

The objectives to ensure functioning circular economy for achieving climate change adaptation and mitigation goals in context are:

- developing strategies at the national level and implement technologies that could reduce threats to global climate change over time;
- developing a legislative framework, which provides the institutional, legal and procedural framework, for establishing the efficient mechanisms implementing adaptation and mitigation policies on climate change;
- identifying lessons learned from implementation experience at the national level and initiate the enhancement and amending the secondary legislative application;
- developing IT tools for ensuring data accessibility and strengthening the data management;
- adopting an efficient enforcement mechanism (including sanctions).

The main barriers and constraints related to aligning the national legislation with the EU are the lack of institutional, technical and financial capacities.

Despite the fact, that the approximation of European Green Deal (EGD) related acquis means that the Republic of Moldova as an candidate state must align their national laws, rules, and procedures in order to give effect to the entire body of EU legislative framework.

There are some technical impediments on transposition of the climate change Acquis EU due to the law-making procedure:

- all legislative drafts should be based on primary legislative justification, but we underline that there are no provisions on climate change mitigation and adaptation in primary legislation, which creates some impediments in promoting new administrative procedures, like a GHG permits etc.;

- the administrative procedure incorporated in the secondary legislation, without clear imperative norms in primary legislation, creates an inefficient and low application, for, ex. low data accessibility in implementation of the GD no.1277/2018 on establishment and operation of the National Monitoring and Reporting System for Greenhouse Gas Emissions and Other Information Relevant to Climate Change;
- the implementation mechanism of transposed in legislation the EU standards are no efficient due to lack of new secondary legislation elaborated in time;
- the implementation mechanism of transposed in national legislation the EU standards are no efficient due to lack of new sanctions incorporated in time in the Contravention Code No. 218/2008 and Criminal Code 985-XV/2002.

We underline the necessity of elaboration the new Law on Climate Actions (LCA), which will consolidate of adopted legal framework on: i) mitigating and adaptation policy actions; ii) inter-institutional coordination; iii) National Monitoring Reporting System and National Inventory System and will create the legal framework in enhancing the management of greenhouse gas emissions (inclusive the ETS MRV system); iv) set up basics for enhancing carbon pricing revenues for renewal industries, the modernization of primary production systems.

The Law on Climate Actions could include regional cooperation to facilitate better coordination of national policies and measures and implementation of relevant policies and measures of the circular economy, joint approaches to renewable development, support to cross-border projects and cooperation between subnational actors.

In order to facilitate the regional cooperation should be promoting market integration, cost-efficient policies, effective cooperation, partnerships and consultations, identify further opportunities for regional cooperation covering basics dimensions of the Energy Union in accordance with the European Green Deal (EGD) related acquis, with a long-term vision and based on existing market conditions.

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