

# AFFORDABLE AND CLEAN ENERGY AGAINST CLIMATE CHANGE MOLDOVA REPORT

SHADOW REPORT ON THE ACHIEVEMENT  
OF SUSTAINABLE DEVELOPMENT  
GOALS 7 AND 13 IN MOLDOVA



7 AFFORDABLE AND  
CLEAN ENERGY



13 CLIMATE  
ACTION



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Moldova 2021

## EDITORIAL

The agenda 2030 on sustainable development was agreed on by all UN member states as a global plan for peace and prosperity on our planet. In 2015, our country Moldova signed the document and committed to the 17 sustainable development goals (SDGs) that are the heart of the agenda. Governments are expected to take the lead in monitoring and reporting on progress made against each of the SDGs and targets. However, few people in Moldova know about these internationally declared goals. If more people knew, they could better challenge their leaders and with strong arguments by reminding them of the promises we have all made to the global community.

Especially in countries like Moldova where, as one political crisis follows the next, it is easy for leaders to state that there are more important issues than sustainable development, the role of Civil Society Organisations becomes more important. We are the link between national concerns and international frameworks. We can help our society and our government by having a broader picture and an independent view.

We are a group of environmental activists in Moldova. In this first independent civil society report (shadow report) on SDGs, we will analyze state achievements and activities for the sustainability goals. We have studied official data and reports provided by the state, and collected impressions and statements from members of the civil society. This report is a result of consultations with stakeholders and independent experts, with recommendations to the government and civil society of what and how to improve in order to achieve the Sustainable Development Goals in Moldova by 2030. We believe that in a country as small as ours (3 million inhabitants), such feedback can reach and motivate our leaders but also our fellow citizens. The activists are motivated to push the topics of the SDGs more to the forefront of Moldovan society. For starters, we picked out two of the 17 SDGs that are entailed in their activities:

### Goal 7 - Affordable and Clean Energy

### Goal 13 - Climate Action

We provide a short overview of the goals, promises and activities of our government in 2015–2020. In the second part, we analyse those activities and give short and clear recommendations. We hope to succeed in raising awareness of the SDGs as a globally unifying process towards a better world to live in for all of us.

# ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

## Abstract

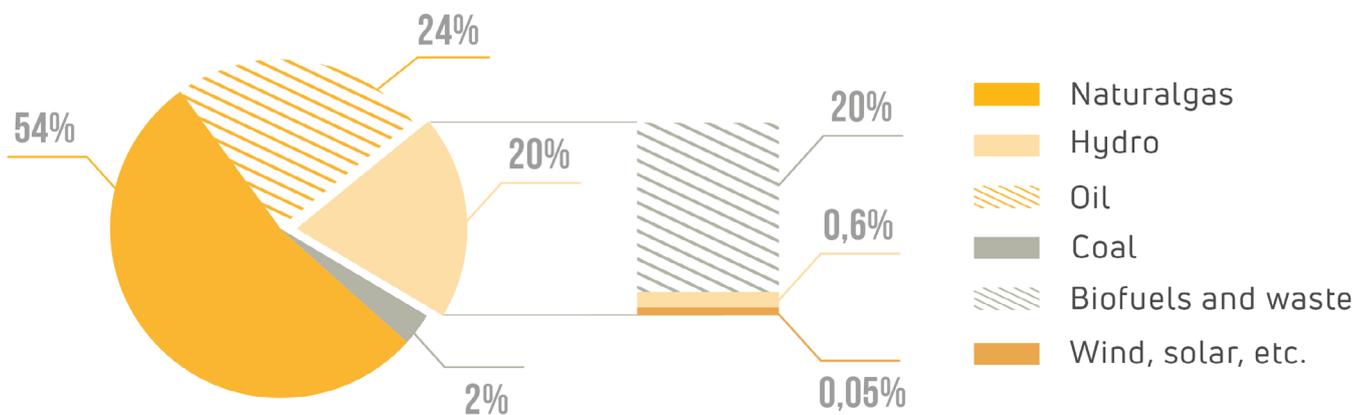
Moldova is a highly energy-dependent state which imports around 80% of energy resources. At the same time, the low income of the population exacerbates the issue and puts additional pressure on the state. In this report the main issues of the energy sector are presented alongside recommendations to solve these issues. The energy market should be further de-monopolised and necessary interconnections with Romania should be implemented to increase energy security. Renewable biomass should receive more attention as the majority of the population is currently using firewood, which badly affects the forestry sector. Small-scale renewable electricity installations should be supported instead of large-scale installations, introducing a feed-in tariff for 2–3 kW installations.

## Background information

The Republic of Moldova imports around 80% of its energy resources, which makes it a very [energy dependent state](#)<sup>1</sup>. Therefore, energy efficiency and energy supply reliability are important milestones for the [energy sector](#)<sup>2</sup>.

[An overview of the total energy supply of the country is presented in the graphic](#)<sup>3</sup>

### Total energy supply by source, ktoe (2018)



[100% of citizens](#)<sup>4</sup> have access to electricity at 8 EUR cents per 1 kWh (about 1,7 MDL), which is [the second lowest in Eastern Europe](#)<sup>5</sup> (the lowest in Ukraine – 5 EUR cents). At the same time, the reliability of the system is high. Therefore, it can be concluded that electricity supply is reliable and affordable, although in comparison to Moldovan household's income it is still perceived as expensive. [According to the National Bureau of Statistics](#)<sup>6</sup>, natural gas is available to 59% of the population (86% in urban and 41% in rural areas). The gas price increased 13 times from 1997, but still remains the third lowest [price in Eastern Europe](#)<sup>7</sup> (after Georgia and Ukraine).



Natural gas remains expensive for the majority of the population and many use firewood for heating. According to [the national statistics](#)<sup>8</sup>, 18% of the family budget is spent on household maintenance, the biggest share of which goes to energy. There are many families for whom the share of the budget for energy is more than 10%, which is considered energy poverty. Unfortunately, there is no precise data regarding the number of families that are in energy poverty.

Moldova is a signatory of the Paris Agreement, by which it is obliged to present its climate ambitions, submitting an annual report for the next five years on Nationally Determined Contributions (NDC). According to [the Moldova's Nationally Determined Contributions 2](#)<sup>9</sup> (NDC 2) submitted at the beginning of 2020, the ambition to reduce Greenhouse Gas (GHG) emissions is quite high – 70% unconditionally and 88% conditionally by 2030, compared to 1990 levels. The energy sector in Moldova is the main contributor to GHG emissions. According to NDC 2, which was adopted in January 2020, the energy sector is responsible for 68.1% of GHG emissions.

It is important to mention that the “ambitious” goals mentioned in the NDC 2) are not as high as they may seem upon first glance (see report on SDG 13, to follow). Since 1990, the level of CO<sub>2</sub> emissions dropped significantly due to the post-soviet economic collapse and the decreases of population – 12%, GDP – by 28%, electricity consumption – by 54%, heat consumption – by 83%, and primary energy resources – by 74% (NDC 2)[9]. Additionally, the implementation of the strategies/plans has a slow rate of uptake, or even shows no change at all. The Energy Strategy 2030, adopted on February 5th 2013, sets a goal for sector development by 2030. The implementation of the strategy was split into two phases – 2013 to 2020 and 2021 to 2030. According to the Energy Strategy 2030, Moldova set the following targets for 2020:

- to reduce energy consumption in buildings by 20% by 2020 compared to the 2009 level;
- to reduce energy intensity by 10% by 2020;
- to reach 20% renewable energy in total gross energy consumption, [by 2020](#)<sup>10</sup>;
- none of these objectives was reached.

## Major Problems and Challenges

### Lack of necessary capacities

Moldova has a great need to develop capacities in the field of energy. Managerial and financial knowledge in the energy sector are extremely weak. Existing structures, such as the Ministry of Economy and the Energy Efficiency Agency, deal with huge issues in the energy sector, which has little capacity in this field. The 2012 established Energy Efficiency Fund operated for six years, and during this time important capacities and know-how were developed. In 2018 it was unified with the Energy Efficiency Agency and many specialists have resigned from their jobs because of the low salaries at the Energy Efficiency Agency. At regional level, there is a need for energy management capacities. Currently, the law says that every Raion (in Moldova there are 32 raions or districts) may employ an energy manager. Due to the lack of capacities and financial support, this position has little impact and its introduction in 2011 created more confusion, rather than solving problems. **Developing capacities is key for the successful implementation of an accessible and affordable energy system for all.**

## Poor energy efficiency

Energy efficiency is the “silent renewable” and has the highest potential for GHG emission reduction, as well as reduction of energy poverty and energy dependence. The main issues of the implementation of the energy efficiency projects are:

- lack of knowledge;
- cheap financing (high interest rate);
- lack of leadership from the government;
- lack of mid-term and long-term planning horizons.

The majority of houses in Moldova are poorly insulated, though small interventions in insulation measures usually pay off within a few years. Lack of incentives, cheap financing and, most importantly, lack of leadership, leave the issue to stagnate. Moreover, energy efficiency standards are not applied and the energy certification is yet to be put into place, even though the law obliged public buildings to have energy performance certificates as of 2016.

## High energy dependence

In practical terms, **nearly 86% of the electricity is imported** (74% from a politically unstable region (Transnistria) and 12% from Ukraine). This creates a highly unstable situation. If the uncontrolled Left Bank of the river Nistru (Transnistria) ceases to supply energy to the Right Bank, the energy system will be under threat. Ukraine will not be able to deliver the necessary capacities to Moldova, due to limitations of the direct energy connection between Ukraine and Moldova.

On the other hand, the electricity market is weak and monopolized. Lack of a physical connection with the European market (Romania), as well as lack of transparency from ZAO MGRES (energy supplier from the Left Bank of the river Nistru) impose limitations for further market development. The aforementioned aspects bring many risks and make the system unsustainable.

[Electricity is mainly produced from natural gas and sometimes nuclear power](#)<sup>11</sup> (this is not clear, as the nature of the energy supplied from Ukraine is not known) rather than from coal. Only 6.2% of [the electricity is produced from renewable energy](#)<sup>12</sup> (hydro, biogas, wind and solar).

**Moldova is highly dependent on imports of natural gas** – 100% of gas is imported from PJSC Gazprom, Russia. At the same time, Moldova is making steps to de-monopolize the sector: by constructing the pipeline between Romania and Moldova, which has recently been completed, as well as de-monopolizing the transmission and distribution network by dividing the operators. Also, one of the biggest challenges is that MoldovaGaz has a debt of **7bn USD** for natural gas owed to Gazprom, which was generated mainly on the Left Bank of the Nistru (Transnistria) and never repaid. The size of this debt was caused by both conflict and corruption.

**Use of firewood is inefficient.** The biomass share in [the country's energy balance](#)<sup>13</sup> is 19%, and the biggest share of this energy consumption is in the residential sector – twice as high as gas consumption in [the residential sector \(870 ktoe vs 418 ktoe\)](#)<sup>14</sup>. Firstly, this is due to the fact that **not all** households are connected to the gas network (see above); secondly, gas tariffs are quite high compared to household income.

One of the downsides of the current biomass use is the low efficiency of wood stoves, due to which around 50% of the energy is lost. On the one hand this increases heating costs, but also puts additional pressure on the forest fund, which is extremely poor. The biggest share of this biomass usage is inefficiently-used firewood, often illegally logged.

**The development of renewable electricity is slow**, mainly with focus on large-scale installations – Photovoltaics (PV) and Wind. For example, the feed-in tariff is only offered for the installations that exceed 10 kW. This does not facilitate the development of small-scale PV, as it is expensive for a household to spend upwards of 10,000 EUR for PV installation. However, net metering, promoted by law Nr. 10 of 2016, gave the opportunity for the deployment of small-scale PV systems. In net metering, households balance their feed-ins with their consumption every year with the provider. In well-designed installations, people can make profits of 8 EUR cents (1.7 MDL) from the PV on their roof. More incentives for small-scale PV systems are needed to speed up the transition and catch up with other countries as the solar radiation potential on Moldovan territory is promising (on average 30% more intense than in Germany, for example).

## RECOMMENDATIONS TO THE MOLDOVAN GOVERNMENT

### Capacity building for stakeholders – government, Energy Efficiency Agency, civil society

- **Increase the capacity of the personnel from the Agency for Energy Efficiency** by ensuring more attractive working conditions in terms of payment and flexibility and organizing capacity building training;
- **Establish Energy manager positions at regional level**, not per Raion, as is currently the case. Optimizing the number of energy managers and increasing their salaries may attract knowledgeable and experienced specialists in Regions. Energy managers in this case should work at the Regional Development Agencies (South, Centre, North);
- **Re-establish the Energy Efficiency Fund**, with the same functions as it had before, but more independent from politics and state institutions. Existence of the Energy Efficiency Fund between 2012-2018 laid a good foundation for the implementation of energy efficiency projects in the public sector. This experience should be reproduced, lessons should be learned, and the Fund should continue its work;
- As the **topic of insulation and change of heating systems in houses is so crucial, start a national campaign** by offering free energy consultations and investment subsidies to homeowners. Consultations can be made by the Agency for Energy Efficiency, and subsidies can be offered by the Energy Efficiency Fund;
- **Adopt a new Law<sup>15</sup> on condominiums** that would help to improve the energy performance in buildings from the residential sector.

### Energy Efficiency

- **Limit the subsidies on conventional energy** like electricity and gas (Parliament, Ministry of Finance and Economy). This action alone can promote efficient energy use and boost investments in energy efficiency. In parallel, develop other models to support those in energy poverty.
- **Develop a legal framework for financial instruments** (Energy Performance Contracts (EPC), citizen financing (energy cooperatives) etc.), which will promote the democratization of the energy supply (Ministry of Economy and Infrastructure, Agency for Energy Efficiency).
- **A national rehabilitation campaign should be started**, applying for international assistance (the newly recreated Energy Efficiency Fund or Agency for Energy Efficiency).

## Renewable energies and biomass

- **Offer subsidies and reduce taxes for biomass producers**, putting biomass at the forefront of the renewable energy development in the country, for example, reducing VAT on renewable biomass and border taxes for the necessary equipment.
- **Offer subsidies for biomass boiler installations.** Replacing stoves with biomass boilers can increase energy efficiency by up to 50%.
- Introduce **sustainable forest management** (Ministry of Environment) in order to stop deforestation and to increase forest surface area.
- **Subsidize biogas production** (Agency for Energy Efficiency, Ministry of Economy and Infrastructure). Biogas is an important renewable source that can be produced from biodegradable waste (e.g. animal waste or biodegradable waste from production (sugar factory)). Supporting biogas production from waste could help to solve the waste management problem as well, which is the second biggest environmental problem in Moldova.

## Solar and Wind

- **Introduce support for solar hot water installations** (Ministry of Economy and Infrastructure) by reducing border taxes for equipment, offering financial support, etc.
- **Introduce support (feed-in tariff) for small-scale installations** rather than for large-scale installations (Ministry of Economy and Infrastructure, Agency for Energy Efficiency).
- **Introduce the obligation for new buildings to have a minimum percentage of renewable energy**, starting with enforcing renewable energy installations for public buildings.
- **Develop and approve the National Action Plan** for increasing the number of Nearly Zero Emission Buildings (NZEBs).
- **Allocate funds for academia and research organizations** which would support public authorities in the process of developing solutions, providing arguments for the decisions, etc.

# RECOMMENDATIONS TO THE MOLDOVAN CIVIL SOCIETY

## Capacity Building

- **Organise trainings and exchange programs** for energy managers and **Local Public Authorities** as well as education seminars regarding affordable energy and actions needed to satisfy SDG 7;
- **Help with the development of the Sustainable Energy and Climate Action Plans (SECAP)** for **Local Public Authorities** and engage politicians in the development and promotion of SDG 7;
- **Promote values** of renewable and affordable energy to stakeholders from private, public and civil society sectors;
- **Create information campaigns for efficient use of energy** (use of LED, changing energy efficiency appliances);
- **Promote the use of renewable biomass** as well as the installation of biomass boilers by organizing information campaigns;
- **Build know-how clusters for different technologies on solar and wind** and promote them through campaigns and financial support measures (e.g. crowd-investing).



# FOOTNOTES

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# TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACT

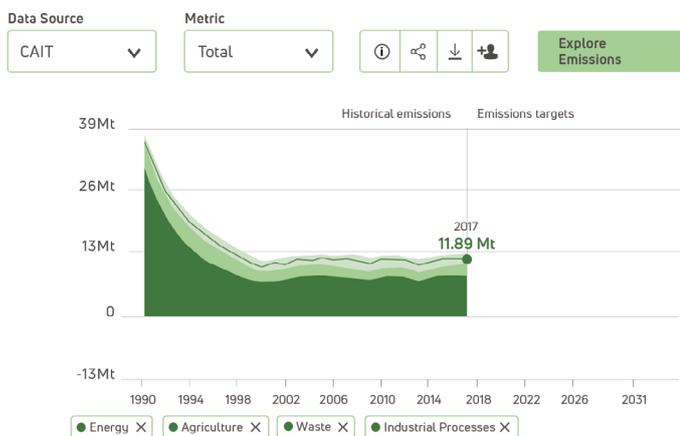
## Abstract

Moldova is the most vulnerable country to climate changes in Europe due to its high dependence on the agriculture sector and low investments in strategies to adapt to climate change effects. At the same time, considering a slow but continuous increase in emissions since 2000, the ambition to reduce GHG emissions by 70% unconditionally and 88% conditionally compared to the 1990 baseline, seems to be a convenient facade that covers feeble actions that try to fight burning realities. Therefore, **climate adaptation should become a priority topic for Moldovan politics, civil society and businesses.**

## Background information

In accordance with its obligations to the UNFCCC, at the 21st Conference of the Parties of the UN Framework Convention on Climate Change which took place in December 2015 in Paris, the Republic of Moldova has prepared and presented the document "Intentional Determined National Contribution" for the new Paris Climate Agreement. According to this document, the Republic of Moldova is oriented towards the unconditional reduction of the total national net greenhouse gas emissions by 2030, by not less than 70% compared to 1990, in support of the global effort to maintain the growth trend of average temperature of up to 2°C by 2100. The emission reduction target could be increased up to 88% conditionally (16) – according to a global agreement, which would address important issues, such as low-cost financial resources, technology transfer and technical cooperation. Intermediate targets have been set for the years 2020 and 2025 which provide for the reduction of total national greenhouse gas emissions by not less than 65% (by 2020) and 69% (by 2025) respectively compared to the level of the 1990 reference year.

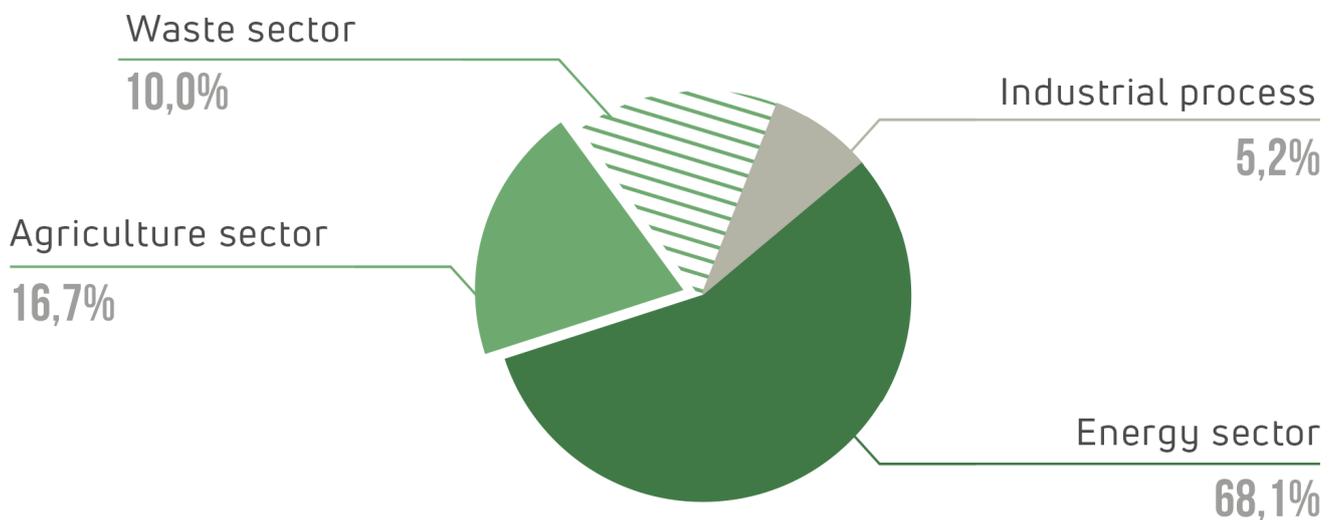
## Greenhouse Gas Emissions and Emissions Targets



It is understandable that all post-soviet countries prefer 1990 as a baseline, as the numbers seem ambitious due to the economic collapse. However, it would be more honest to climate-protecting ambition and more transparent to their own people, but also in an international setting, to set the year 2000 as the baseline. Since the year 2000, Moldova's GHG emissions increased by 17% – from 10.17 Mt to 11.89 Mt in 2017 (see the left graphic, by [Climate Data Explorer CAIT](#)). A reduction of the declared 70% from 1990 is actually an increase on 2000 emissions by 28%. Only the conditionally declared 88% would show significant ambition: a decrease by 51% from 2000 (see yellow dots in the left graphic). The lack of climate protection in Moldova over the past 20 years gets even clearer looking at the emissions per capita. Due to a reduction of inhabitants, the emission per capita increased to 24% between 2000 and 2017 and is at 4.32t CO<sub>2</sub> (right graph). Hence, where other countries have at least tried to fulfill some mitigation targets during the years that have passed, it seems that Moldova has done nothing to reduce GHG emissions.

Additionally, there is a lulling belief that Moldova contributes only 0.026% of total world GHG emissions, and that it is not "our" fault about the climate change phenomenon which, again, makes Moldovan politicians and citizens act feebly toward taking urgent action on GHG emission reduction. At the same time, according to the [Notre Dame Research Center](#)<sup>2</sup>, Moldova is the most vulnerable country to climate changes in Europe. Therefore, next to the mitigation targets for Moldova, Climate Change means a priority for adaptation.

### The biggest contributors to GHG emission in Moldova in 2016

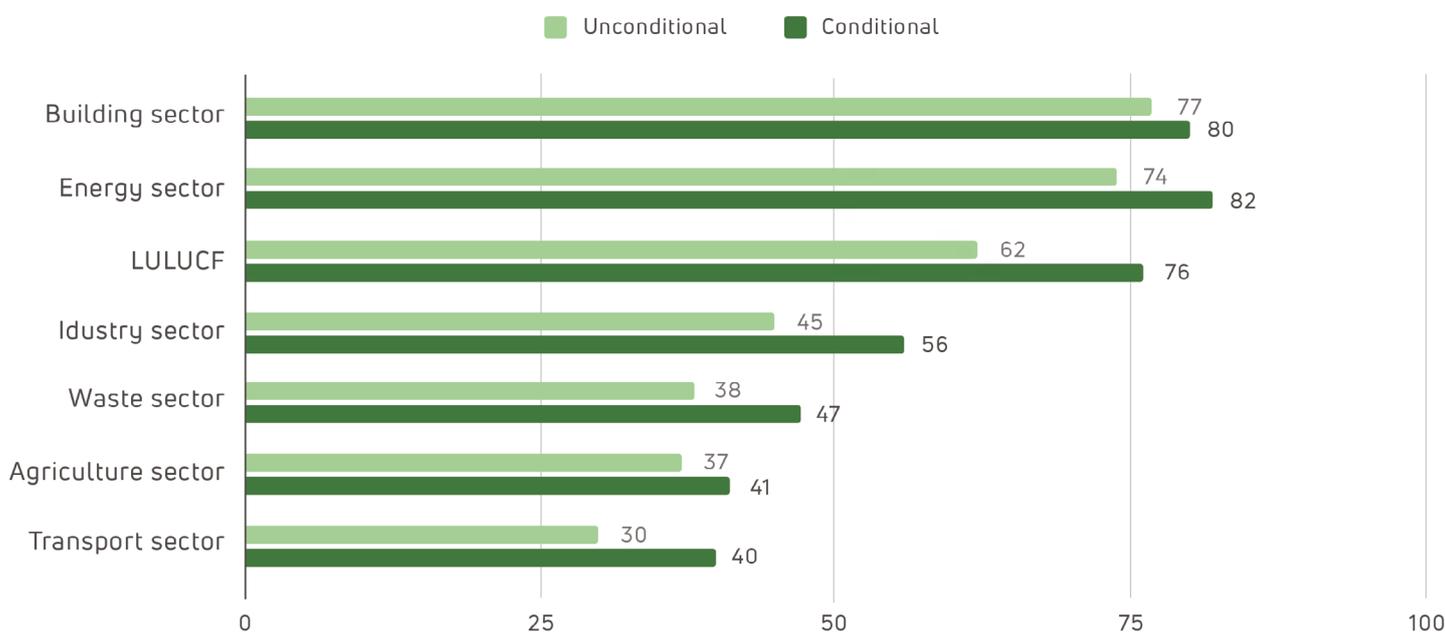


## Major Problems and Challenges: Official vision and strategic documents developed by government

In order to decrease the GHG emissions of the Republic of Moldova, several national strategies were developed and are at different stages of adoption or implementation. The strategic vision document, [National Development Strategy Moldova 2030<sup>3</sup>](#) that has been [debated in parliament since November 2018<sup>4</sup>](#), includes four pillars of sustainable development, with 10 corresponding long-term general objectives. The tenth general objective - Ensuring the fundamental rights to a healthy and safe environment - contains the following priority actions that are directly related to climate change:

- Empowering stakeholders to know and claim their right to an environment;
- Creating a system for monitoring and assessing the quality of environmental factors in accordance with international requirements;
- Expansion of forested land and natural areas protected by the state, as well as ensuring the efficient and sustainable management of natural ecosystems; the extension of forested areas. In 2021, less than 11% of Moldovan territory is covered by forest;
- Creation of the integrated air quality management system, reducing emissions of pollutants into the atmosphere and of greenhouse gases compared to the reference year (1990); promoting the modernization of the car fleet in the Republic of Moldova, including the introduction of a differentiated environmental tax for vehicles;
- Integrating the principles of environmental protection, sustainable development and green economic development, adaptation to climate change in all sectors of the national economy;
- Creation of an integrated multifunctional system for the detection and management of dangerous substances.

### The specific objectives relative to 1990 of Low Emissions Development Strategy of the Republic of Moldova until 2030



From the specific objectives presented above, we can conclude that the biggest expected challenges for the government in the [low-emissions development](#)<sup>5</sup> of the country are the agriculture sector, with 37% unconditional and 41% conditional GHG predicted emission reduction relative to 1990, and the transport sector, with 30% unconditional and 40% conditional GHG predicted emission reduction relative to 1990. In contrast, the ambition in the energy and building sectors is high and should promise courageous steps and measures.

Also, according to [official reports](#)<sup>6</sup> up to 2019, some of the priority actions and objectives were addressed to different extents. Most of the actions performed up to 2019 were related to legislative initiatives and the promotion of green ideas in the energy sector, both in private and governmental structures. Though the development processes were deployed, the rate of progress is slower than scheduled in the strategic documents, therefore the effects of climate change exceed the development rate, thus increasing the risk of a systemic collapse.

## Major problems and challenges: Vision of the Civil Society

The geopolitical area where the Republic of Moldova is located and the high dependence of the economy and rural communities on the agricultural sector make Moldovan society extremely vulnerable to climate change. Natural phenomena such as droughts, late frosts, heavy rainfall, ice storms, lack of absorption capacities (due to land deforestation) and landslides have had a significant impact on the Moldovan economy in recent decades and are recognized by Moldovan citizens and government as challenges of climate change.

But there are indirect challenges that make the country vulnerable towards climate change effects, such as the **political crisis**. Moldova is located in an unstable geopolitical area, which makes it very hard to implement a unilateral, long term, focused country strategy. Though country strategies are produced, their implementation boils down to a long and irresolute political debate. For example: the National Development Strategy Moldova 2030 that ought to serve as a basis for a series of national actions towards a green transformation, has been stagnating in parliament debates since November 2018.

Another challenge is the **top-down approach** of the Moldovan government towards the promotion of climate protection actions. Until 2019, most of the actions were focused on changing laws, structural transformation of government apparatus and the promotion of green ideas within governmental departments. This is important work, but at the same time, ordinary citizens of Moldova, who represent a critical mass and can significantly contribute to the paradigm transformation, do not acknowledge the urgency of transitioning to green technologies and acting accordingly to the climate change context. In the UNDP's study "[The People's vote](#)"<sup>7</sup>, people in 50 countries were asked if they believe in a Climate Emergency. Moldova was in very last place, with only 50% of people agreeing. Moldova's lack of awareness beats countries like Iraq, Pakistan or Nigeria by at least 10%. This lack of information and awareness is a huge problem for any policy and has to be tackled by all players.

# RECOMMENDATIONS TO THE MOLDOVAN GOVERNMENT

## Take urgent actions to combat climate change:

- Make climate adaptation a topic in political debates.
- Undertake clear research on how climate change affects Moldova, communicate the results to the Moldovan people so they better understand the actual situation and act accordingly. Moreover, this report could serve as a tool for international climate negotiations.
- Provide real tools and technologies to adapt to climate change.
- Include civil society in the promotion of climate change topics.
- Be more honest and ambitious with mitigation targets by taking the year 2000 as baseline at the very least when communicating with the Moldovan people.

## Protect and restore forests:

- Make afforestation a national priority – it is a long-term ecological investment.
- Improve the management and transparency processes of Moldsilva.
- Offer transparent data on wood production at regional and national level.
- Include civil society in the monitoring of deforestation/afforestation processes.
- Support civil society afforestation initiatives.
- Look for external funding to increase the forest area.

## Foster adaptive, sustainable and resilient agriculture:

- Help villages and farmers to adapt to droughts with new farming technologies like agroforestry, saving rainwater and ensuring better soil protection.
- Educate farmers for low till and/or no till agriculture – include/support NGOs in the education process.

## Increase the role of civil society in the development process:

- Offer grants for implementation of specific actions (education, research, monitoring, etc.)
- Offer subsidies to farmers and businesses for using green technologies and/or production processes.
- Be transparent, offer real time data analysis.
- Make transparent and inclusive decisions.

## Include a grassroots approach in the low-emission development strategy and green transition:

- Include grassroots NGOs in data collection and education of the population.
- Offer grants to local Civil Society organizations or initiatives for contributing to the green transition.
- Encourage decentralized local decision-making as a response to local needs.
- Create a consultation mechanism for Local Public Authorities towards the green transition that could involve Civil Society organizations, interested businesses or individuals.

# RECOMMENDATIONS TO MOLDOVAN CIVIL SOCIETY

## Take advocacy actions for green development:

- Strengthen cooperation within the NGO sector on SDG topics, both inside the country and internationally, such as building know-how clusters.
- Build capacity on monitoring areas of your domain on a local and national scale.
- Invest in the expertise development of your organization in the area of your work.
- Support other organizations and initiative groups in their efforts towards green transformation.
- Promote climate protection as an important topic, keep asking politicians on local and national level for their opinion and measures taken on this topic.
- If you are a mass-media organization – create more materials and put pressure on topics like climate protection, green technologies and low-emission country development.
- Develop open-source, attractive and professional educational materials on climate-related topics that could be used by other organizations or schools.

## Become your own an example of green development:

- Promote and act in a climate-friendly way within your organization and your private life by setting an example: [green office, vegan/vegetarian diet, biking, energy efficiency, green office, etc.](#)<sup>8</sup>
- Redirect private investments into climate protection.
- Start lighthouse projects in villages and urban areas with rainwater saving systems, solar energy usage, afforestation, building with natural materials etc.
- Help families to insulate their houses through information campaigns and expert clusters.
- Help households to use energy more efficiently and sufficiently through workshops and campaigning.
- Promote alternative ways of transportation by setting a good example.

## FOOTNOTES

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