**NECP – Executive Summary**

In 2018, the Ministerial Council of the Energy Community adopted Recommendation 2018/01/EnC-MC by which it is established that the the contracting parties to the CEn shall elaborate and adopt integrated National Energy and Climate Plans (NECP) to support the achievement of long-term public policy objectives in the field of energy and climate, reduce administrative burden, promote transparency and promote investment safety at regional level. Regulation (EU) no. 2018/1999 on the Governance of the Energy Union and climate actions, adapted by Decision 2021/14/EnC-MC of the Ministerial Council of the Energy Community, fixed a set of common rules on the planning, reporting and monitoring by the contracting parties of policies and targets in the fields of energy and climate. The Regulation includes a set of recommendations regarding the content, structure, way of drafting and approval by the contracting parties of integrated National Energy and Climate Plans. According to the Regulation, the first PNEC must cover the period 2025 and 2030 and subsequently ten-year periods starting from 2031 to 2040. Regulation (EU) no. 2018/1999 was transposed into the national legislation, and was adopted by the Government of the Republic of Moldova on January 10, 2024.

The NECP sets the national targets on greenhouse gas (GHG) emissions reductions, renewable energy and energy efficiency to be attained in 2030 and presents evaluated projections up to the year 2050. The document is intended to replace 10-year Programs in renewable energy sources and energy efficiency.

1. **Overview and Plan development process**

***Political, economic, environmental and social context of the Plan***

The Integrated National Energy and Climate Plan of the Republic of Moldova for the period 2025-2030 is developed on the basis of the relevant primary legislation in all sectors, official intentions of decision-makers to promote and implement policies and measures for decarbonization of economic sectors and on already adopted/discussed concepts like: Concept of the Energy Strategy 2050, Concept of Long-term buildings stock renovation strategy, etc. It provides an overview of the current state of the art of the energy system and the existing energy and climate policy framework. It also provides an overview of the national targets for each of the five key dimensions of the Energy Union and the appropriate policies and measures to achieve those targets. The NECP pays a particular attention to the targets to be achieved by 2030, including the reduction in greenhouse gas emissions, increase of energy production from renewable sources, promotion the energy efficiency, diversification of energy supply routes and strengthening of gas and power system interconnections. The NECP is consistent with and contributes to the achievement of UN’s Sustainable Development Goals. Thus, the NECP addresses the 5 dimensions of the EU and Energy Union:

* Dimension 1: Decarbonization
* Dimension 2: Energy efficiency
* Dimension 3: Energy security
* Dimension 4: Internal energy market
* Dimension 5: Research, innovation and competitiveness

The objective of the NECP is to outline existing, planned, and possible investments and policies to be implemented during the current decade. The document’s adoption does not in itself result in changes to tax policy, to allocated budgets, or to the regulatory framework described within the text.

The NECP covers the period from 2025 to 2030, setting the pathway to transitioning the economy and energy systems towards a more sustainable future. The plan builds upon what the Republic of Moldova should have delivered in its policies for 2020 (as a baseline) and includes a perspective until 2050.

Alongside with short-term crises, the Republic of Moldova faces several structural economic challenges. The country imports around 75% of its energy resources: over the past 3 years this indicator ranged from 67% to 80% accordingly to the National Bureau of Statistics. The Moldovan economy is extremely open and strongly dependent on its poorly developed and low value-added agricultural sector. According to estimations, more than 20% of the Moldovan active workforce’s revenues are being received in an unofficial (undeclared) manner, thus significantly diminishing revenues to the state budget. Moldovan citizens have access to both the EU and post-Soviet space visa-free, thus highly qualified and experienced specialists are attracted to higher-wage countries of the European continent. In general, a multitude of economic and social push and pull factors have contributed over the past two decades to a massive phenomenon of emigration of Moldovan citizens, mainly towards countries of Western Europe.

Currently, the competitiveness of Moldovan economic operators is low compared to that of the EU and the access of local companies to the EU market is rather difficult, energy intensity being one of the main underlying factors. Policies and measures planned to be implemented as part of the NECP aim to overcome these difficulties and to help local companies to become more competitive both on local and EU or other markets.

Along with Georgia and Ukraine, Moldova signed an Association Agreement (AA) with the European Union which fully entered into force on July 1st, 2016, after being applied provisionally since September 2014. The AA includes a Deep and Comprehensive Free Trade Area (DCFTA) with the EU which aims at diversifying exports and improving the legal framework for a market economy.

Social aspects are also very important in terms of tackling energy poverty and providing to all consumers accessibility to sustainable energy for their needs. These issues are correspondingly addressed in the NECP. Republic of Moldova has an ageing and continuously diminishing population that is ethnically and linguistically diverse, and still mostly rural.

Moldova has a "frozen conflict" within its Administrative-Territorial Unit on the Left Bank of the Dniester river (ATULBD) (also referred to as ‘Transnistria’, or ‘the Transnistrian region’; the rest of the country’s territory controlled by constitutional authorities is sometimes referred to in this document as ‘the Right bank of the Dniester River’). The NECP includes measures and policies only for the administratively controlled territory of the Republic of Moldova, as targets adopted within the Energy Community refer only to this part of its territory[[1]](#footnote-1).

Significant evolutions since 2019 in the legislative, socio-economic and geopolitical framework for energy and climate policies in the Republic of Moldova are reflected in the NECP. Among Moldova’s key structural challenges, the energy sector figures prominently. Moldova imports all its primary fuel needs (gas and oil), and electricity production is concentrated in ATULBD, which supplies the rest of the country with almost 80% of its requirements (this indicator differs from year to year). Its electricity network is interconnected and synchronised with that of Ukraine - and with all of ENTSO-E through the neighbour country - Romania. Until recently, Moldova was heavily reliant upon Russian gas – only recently has a gas pipeline been built, connecting the Republic of Moldova to Romania and respectively to ENTSO-G.

***Meeting European Union’s and Energy Community’s expectations***

The stabilization and resilience building of neighboring countries are the EU's main political priorities outlined in the European Neighborhood Policy (ENP) review of May 2017and in the EU Global Strategy of June 2016[[2]](#footnote-2). Sustainable economic development is the key to stabilization and to strengthening European Neighborhood countries' ability to tackle some of the challenges that are also a concern to the EU – from migratory flows, to radicalization, social instability and the urgent need to provide positive perspectives for growing and predominantly young populations. In this regard, supporting Moldova's political, social and economic development opportunities towards political association and economic integration with the EU will contribute to NECP goals.

The Energy Strategy 2030 of the Republic of Moldova has set the strategic objective of integrating the national energy market with the internal energy market of the European Union by fulfilling obligations under the Energy Community (EnC). However, this strategy is currently under the process of revision, and has been for quite some time.

An energy market transformation is underway as part of the Energy Community Treaty implementation including the adoption of numerous pieces of legislation in the period 2019 – 2023, which will have a strong direct and indirect impact on the NECP.

Meeting Moldova’s obligations will require further transposition of the Energy Community *acquis* into national legislation, consistent and determined implementation, further liberalization of the energy markets, development of renewable energy sources, and openness and increased interconnection to the EU energy systems, are some key factors for NECP. Interconnection with the EU will require both technical improvements and considerable investment in infrastructure.

***Main stakeholders, participants and aspects related to regional cooperation***

During the development of the NECP scenarios in TIMES model, an inter-ministerial working group was created to discuss input data and assumptions, as well as the results of the energy and climate scenarios. Working meetings, involving modelling teams have also been held to discuss various measures included in the NECP. Furthermore, a Strategic Environmental Assessment has been developed for the NECP which was subject to the statutory period of public comment.

As part of the drafting process, the NECP was distributed for consultations with main stakeholders (Ministry of Energy, Ministry of Environment, Energy Efficiency Agency, high level Advisers, National Agency for Regulation in Energy, other donors supporting development of energy sector), including social partners, and civil society.

The Energy Community Secretariat was responsible for direct communication with national stakeholders in energy and climate change policy. During the preparation of the NECP, all updates and relevant Directives adopted by the Ministerial Council of the Energy Community were taken in consideration and applied by all involved national stakeholders.

The Republic of Moldova is a Contracting Party to the Energy Community and therefore participates in a number of working groups on climate, energy efficiency, renewable energy, etc. The best practices of the other Contracting Parties have been considered regarding issues identified and lessons learned in the NECP development process. Also, aspects related to cross-border projects (such as electricity and natural gas trading) have been discussed with regional trading partners, and are updated in a continuous communication process. Moreover, the NECP of Romania was analyzed, as well as some regional studies.

Regional cooperation is considered in the NECP as specific measures to be implemented and described, mainly related to ongoing work on integration of energy markets in ENTSO-E and ENTSO-G in order to promote energy security and reduce overall system costs. Moldova’s participation in EU research and development programs is accounted for. Active involvement of Moldova in common challenges at regional level contributes to optimization of resources for the achievement of national and regional targets.

1. **National objectives and targets**

***Dimension Decarbonization***

The Decarbonization dimension of Moldova is based on the Paris Agreement of 2015, which is intended to limit global warming to well below 2 degrees Celsius when compared with pre-industrial levels.

***GHG emissions and removals***

Moldova is a signatory to the Paris Agreement and in March 2020 presented its updated Nationally Determined Contribution (NDC), to the UNFCCC Secretariat. The updated NDC of Moldova includes:

* A new economy-wide unconditional target[[3]](#footnote-3) to reduce greenhouse gas emissions by **70%** below 1990 levels by 2030 – equivalent to a maximum of 13.6 Mt CO2 eq, including the LULUCF sector. According to the latest National Inventory Report *“1990-2020: Greenhouse Gases and Sinks in the Republic of Moldova” [[4]](#footnote-4)*, in 2020 Greenhouse Gas (GHG) emissions were **68.7%** less than in 1990.
* A new economy-wide conditional target[[5]](#footnote-5), under which emissions could be reduced by up to **88%** below 1990 levels.

As a Contracting Party to EnC, the Republic of Moldova should reduce the net GHG emissions in 2030 by **68.6%**, or GHG emissions should not exceed **9.1 Mt CO2 eq**. There is no separate target for non-ETS sectors for Moldova. Moldova also does not have any specific targets for LULUCF sector within EnC.

Moldova has submitted in 2023 its Fifth National Communication to UNFCCC, with detailed assessment of decarbonization measures for all sectors[[6]](#footnote-6).

***Renewable energy (2030 Framework target)***

Moldova committed to a binding target of 17% of energy from renewable sources in gross final energy consumption by 2020, set by the EnC-MC decision in 2012, and a voluntary target of 20% by 2020 set in the National Energy Strategy 2030. The country exceeded its overall 2020 target of 17% by reaching 25.06% of renewable energy in 2020. However, only the sectoral target for heating and cooling was overreached, while contributions of renewable energy to electricity and transport are still very low.

According to the Decision of the Ministerial Council of the Energy Community No. 2022/02/MC-EnC, Moldova has a target for share of energy from renewable sources in gross final energy consumption of **27%** by 2030.

In the NECP the share of renewable energy in gross final energy consumption was estimated based on two scenarios: WEP (with existing measures) scenario and WPM (with planned measures) scenario.

In the WEM scenario, the ratio of renewable energy to gross final energy consumption will be of 25.6% in 2030. In the WPM scenario, the ratio of renewable energy to gross final energy consumption is expected to reach 31.4% and thus to exceed the target set by the EnC, of 27% by 2030. In 2016, the share was 26.6%.

The Law no. 10 of February 26th, 2016[[7]](#footnote-7) on promoting energy from renewable sources outlines the regulatory framework for renewable electricity. Government Decision no. 401 of 8 December 2021[[8]](#footnote-8) sets a maximum limit of **410 MW** of renewable energy capacity to be reached by 2025. Out of this, **165 MW** has been set for large-scale producers through auction.

***Dimension Energy Efficiency***

The Energy Efficiency dimension implementation in Moldova is based on the principle of “energy efficiency first”. The EU legislative package "Clean energy for all" is partially transposed into the new Law on energy efficiency of Moldova. Energy efficiency is the 1st priority for increasing Moldova’s energy security and resilience. The approved amendments to the Law on Energy Efficiency create a favorable legal framework for the more ambitious obligation of projects in the field of energy efficiency, which contribute to the reduction of energy consumption and greenhouse gas emissions.

According to the Decision of the Ministerial Council of the Energy Community No. 2022/02/MC-EnC, Republic of Moldova’s national energy efficiency contributions towards the EnC 2030 targets limit the final energy consumption to no more than 2.80 Mtoe in 2030 and the primary energy consumption to no more than 3.00 Mtoe in 2030.

The Republic of Moldova commits to implement energy efficiency at 3% per year in the buildings of central public administration authorities having a total useful area of over 250 m², and to save annually at least 0.8% of the average value of the energy consumption recorded between January 1st, 2019 and January, 1st, 2022 starting from 2024.

The target indicator of energy saving in the industrial sector in 2030 is Energy Intensity of Industry, and it is set to 0.075 ktoe/Mln EUR (51% reduction compared to 2020).

As for the energy sector, there is a significant potential to reduce energy losses during its transportation. Target indicators of energy savings in the transport of energy carriers in 2030 are:

***Dimension Energy Security***

The Energy Security dimension is based on the high dependency of Moldova on gas and oil products imports. Moldova imports 100% of gas and oil products, while 80% of electricity is generated in the ATULBD.

The goal of energy security is to reduce the dependence on energy imports and to diversify energy resources and import routes. This includes encouraging use of domestic biomass resources to a level appropriate within the context of decarbonization objectives, securing potential gas storage, continuing to expand the use of renewable energy to meet domestic needs (wind and solar), and encouraging energy efficiency in transformation, transmission, and distribution of energy.

Moldova also plans to significantly increase interconnectivity of its power system by constructing new AC lines to Romania and ENTSO-E, which will increase security of electricity supply and create new market opportunities in Moldova and in the region. The dimension of energy security has been elaborated within the framework of the Ten-Year Network Development Plan of TSO Moldova, Ten-Year Development Plan of Moldovagaz and Vestmoldtransgas, and draft Energy Strategy 2050[[9]](#footnote-9).

The Government of the Republic of Moldova implements a natural gas market mechanism by using the virtual reverse (backhaul) at the point of merging with Ukraine. This will allow, including Ukrainian service customers, to transport gas of non-Russian origin to the Trans-Balkan pipeline and make it economically viable. The decisions are extremely important for regional energy security and diversification of possible routes for gas imports both on the domestic market and European gas markets. Finally, and for Ukrainian service customers, there is an opportunity to transport the Trans-Balkan Corridor gas of non-Russian origin - from LNG terminals in Greece and Turkey or gas produced in Azerbaijan. Previously this mechanism was used mostly by customers from Moldova itself.

Dimension Internal Energy Market

***Energy Market Electricity interconnectivity***

The target level of electrical interconnectivity of EU Member States by 2030 is at least 15 %. Moldova, as an associated country with the EU, set as its goal the integration of the Moldovan power system with the European power system. On 03/16/2022[[10]](#footnote-10) the synchronization of power systems of Moldova and Ukraine with power system ENSTO-E Continental Europe was performed. The current Energy Strategy of Moldova[[11]](#footnote-11) states the strategic objective of integration into the European Union and its internal energy market, by fulfilling obligations under the Energy Community Treaty.

***Energy Transmission Infrastructure***

Projects for the construction of two new power lines 400 kV Isaccea -Vulcanesti-Chisinau and Balti-Suceava are a priority for Moldova in accordance with the Energy Strategy until 2030 and the Electricity transmission network development plan for 2018 – 2027. Other infrastructure projects aim at developing the internal network, but are important for the implementation of projects of mutual interest: SE “Moldelectrica” pays great attention on the modernization and reconstruction, renovation and expansion of the transmission network infrastructure.

In the beginning of 2023, several local projects in the natural gas sector that aimed to strengthen the internal natural gas market of Republic of Moldova.

The Development Plans of “Moldovatransgaz” LLC and “Vestmoldtransgaz” LLC include the schedule of planned works for the implementation of local projects and the necessary investments.

***Market Integration***

For the Electricity sector, the Concept of the Energy Strategy of the Republic of Moldova for 2050 includes a series of targets for the period up to 2030, that refer specifically to competitive energy markets and their regional integration:

* Implementation of coordinated capacity calculation, cross-border capacity allocation and congestion management in accordance with applicable TCE regulations (FCA and CACM).
* Implementation of a balancing mechanism and imbalance settlement in accordance with the current TCE and EU rules
* Launching day-ahead and intra-day markets on the assumption that market consolidation with neighboring markets will increase competition and provide multiple opportunities for electricity transactions

The same targets for the 2030 – 2050 period refers to the use of platforms developed by ENTSO-E for the exchange of balancing and system services.

In the Natural Gas sector, targets for the period up to 2030, as specified in the Concept of the Energy Strategy of the Republic of Moldova for 2050, include:

* Modernization of natural gas distribution and transport networks and reduction of losses;
* Transposition and implementation of Network Codes;
* Creation of natural gas trading platforms and a capacity allocation process at interconnection points;
* Continue market opening and gradual liberalization of the natural gas market.

For the 2030 – 2050 period, targets in the Natural Gas sector refer mainly to further compliance with applicable EU legislation and Sectoral coupling rules and hydrogen market integration.

EU support for the alignment of Moldovan legislation to EU regulations in the energy sector is carried out under the framework of the Energy Community; alignment should, in due course, contribute to the extension of the EU internal energy market to Moldova. Energy sector issues are covered in Chapter 14 of the AA and in particular in article 77, which includes, among others:

* + Energy strategies and policies;
  + The development of competitive, transparent and non-discriminatory energy markets in accordance with EU standards;
  + Energy infrastructure, including projects of common interest; and
  + Enhancement and strengthening of long-term stability and security of energy supply.

***Energy Poverty***

The Law on Energy Efficiency No. 139 of 07/19/2018 defines “Energy poverty” as *“a situation characterized by the final consumer's lack of access to modern energy sources and technologies and/or by the reduced purchasing power of consumers for energy resources, especially cooking fuels, electricity and/or thermal energy, and /or due to the lack of thermal comfort in the home or building”*.

The National Development Strategy “European Moldova 2030”[[12]](#footnote-12) includes the reduction by at least 50% of the level of absolute poverty in 2030.

***Dimension Research, Innovation and Competitiveness***

The Government of Moldova shows strong commitment to reforming the national science and innovation system. The Ministry of Education and Research is the key institution in promoting research and innovation.

Recognizing the potential for innovation, the Republic of Moldova has taken several important steps to reform innovation governance over the past years. These include:

* The National Program for Research and Innovation for 2020-2023 unifies previously fragmented policy areas and has an Action Plan that defines subsequent steps for achieving innovation policy objectives. The program aligns with other overarching policy objectives anchored in strategic documents on education, SME’s and industrial development.
* Various mechanisms to promote knowledge transfer and innovation are available. The Organization for Development of Entrepreneurship (ODA), an organization under the Ministry of Economic Development and Digitalization, is a dedicated SME’s development agency that supports businesses through programs and services aimed at strengthening entrepreneurship and competitiveness. A wide range of business plan and start-up competitions supports the growing start-up movement and fosters innovative entrepreneurship. Fiscal incentives applied in the Information Technology sector create a favorable business environment and stimulate demand for new technologies and sectoral growth.
* Legal frameworks for public-private dialogue and inter-ministerial consultation on draft policies are in place. Through advocacy and lobbying strategies, business associations also have a growing voice in policy design.

Enabling and promoting innovation also involves tackling a range of systemic constraints in the economy. To transform the human capital into a knowledge-based economy, the country must address the low demand for innovation and increase funding for research and development activities. A mismatch between educational outputs and job-relevant skills and low engagement of the private sector in Research and Development (R&D) obstruct commercialization efforts of innovative results.

National Agency for Research and Development (NARD) is a central administrative authority under the Government of the Republic of Moldova. NARD is the legal successor of rights and obligations of Center of International Projects, Agency for Innovation and Transfer Technology and Agency for Research and Development, public institutions under Academy of Sciences of Moldova. NARD is responsible for the implementation of the research, innovation and development of national policy, the EU Framework Program for Research and Innovation Horizon 2020 and other European Programs and the coordination of Moldovan Office for Science and Technology in Brussels (MOST). NARD has the mission to ensure excellence and performance in achieving national priorities in the areas of research, innovation and development. The agency is providing contest-based funding for research, innovation and technology transfer projects. NARD encourages public-public and public-private partnerships by matchmaking and organizing of brokerage events.

The State Agency on Intellectual Property (AGEPI) is a central administrative authority subordinated to the Government, responsible for promoting and implementing activities in the field of legal protection of intellectual property related to industrial property rights, copyright and related rights. AGEPI has the following main functions: strategically plans and implements the national system of intellectual property development; organizes and manages the functioning of the national system of intellectual property, under the legislation of the Republic of Moldova and the International Treaties to which the Republic of Moldova is party.

***Overview tables with key objectives and targets***

Table 1 below shows the key NECP indicators as a result of simulations performed with the TIMES software up to the year 2050, accordingly to the scenario With Existing Measures (WEM, unconditional) and to the scenario With Planned Measures (WPM, conditional) for the Right bank of the Dniester River. In gray the mandatory targets are underlined for 2030.

**Table 1. Summary of NECP indicators for the Right bank of the Dniester River up to the year 2050**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Final energy consumption, ktoe | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM | 2,521.95 | 2,644.26 | 2,701.32 | 2,705.69 | 2,682.11 | 2,667.42 | 2,615.49 |
| WPM | 2,518.39 | 2,602.61 | 2,554.16 | 2,414.45 | 2,204.08 | 2,113.28 | 2,083.42 |
|  | | | | | | | |
| Primary energy supply, ktoe | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM | 2866 | 2965 | 2998 | 3020 | 3006 | 3004 | 2976 |
| WPM | 2863 | 2905 | 2820 | 2698 | 2530 | 2523 | 2501 |
|  | | | | | | | |
| **GHG Emissions, ktCO2 eq** | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM energy sector | 5,412 | 5,116 | 5,185 | 5,066 | 5,051 | 5,023 | 4,933 |
| WPM energy sector | 5,412 | 5,156 | 4,898 | 4,356 | 3,808 | 3,733 | 3,604 |
| WEM non-energy sectors | 3,342 | 3,609 | 2,881 | 3,643 | 3,545 | 3,453 | 3,366 |
| WPM non energy sectors | 3,342 | 2,811 | 2,553 | 2,408 | 2,331 | 2,259 | 2,193 |
| WEM LULUCF\_sector | -122 | -920 | -1,757 | -3,167 | -3,096 | -3,026 | -2,958 |
| WPM LULUCF sector | -122 | -896 | -2,610 | -5,163 | -5,069 | -4,975 | -4,882 |
| **WEM Total (with LULUCF)\*** | **8,633** | **7,806** | **6,309** | **5,542** | **5,501** | **5,450** | **5,341** |
| **WEM Total (without LULUCF)** | **8,755** | **8,726** | **8,067** | **8,709** | **8,597** | **8,476** | **8,299** |
| **WPM Total (with LULUCF)** | **8,633** | **7,071** | **4,841** | **1,600** | **1,070** | **1,017** | **915** |
| **WPM Total (without LULUCF)** | **8,755** | **7,967** | **7,451** | **6,764** | **6,138** | **5,992** | **5,797** |
|  | | | | | | | |
| Share of RES in GFEC, % | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM | 24.23% | 24.68% | 25.62% | 25.85% | 25.72% | 24.82% | 25.31% |
| WPM | 24.24% | 26.29% | 31.37% | 37.31% | 41.73% | 44.85% | 47.52% |
|  | | | | | | | |
| Share of RES in electricity generation, % | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM | 3.12% | 6.10% | 10.57% | 10.80% | 14.45% | 14.55% | 17.58% |
| WPM | 3.12% | 13.11% | 34.07% | 56.17% | 66.41% | 78.19% | 84.53% |
|  | | | | | | | |
| Share of RES in transport, % | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM | 0.01% | 1.06% | 1.71% | 2.60% | 3.06% | 3.79% | 4.85% |
| WPM | 0.01% | 3.70% | 7.60% | 13.78% | 23.69% | 30.20% | 35.88% |
|  | | | | | | | |
| Average Electricity Supply costs, Euro/kWh | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM | 0.04 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| WPM | 0.04 | 0.06 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
|  | | | | | | | |
| Installed Capacity Wind, MW | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM | 41 | 71 | 171 | 171 | 233 | 255 | 315 |
| WPM | 37 | 142 | 600 | 1,200 | 1,762 | 2,539 | 3,074 |
|  |  |  |  |  |  |  |  |
| Installed Capacity PV, MW | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| WEM | 5 | 105 | 155 | 155 | 187 | 184 | 248 |
| WPM | 5 | 187 | 215 | 312 | 413 | 490 | 561 |

Figure 1 shows the evolution of GHG emissions up to 2050 in the WPM scenario for the Right bank of the Dniester River. In 2050 the GHG emissions, including LULUCF sector, are estimated to be 915 kt CO2 eq. Moldova is planning to set up the objective to attain climate neutrality in 2050. Therefore, additional measures should be identified for this purpose starting from 2035.

Figure 1. Projected GHG emissions of the Right bank of the Dniester River up to the year 2050

Figure 2 shows the projections of GHG emissions for the entire territory of the Republic of Moldova up to the year 2050.

Figure 2. Projected GHG emissions of Moldova (entire territory) up to the year 2050

1. **Policies and Measures**

The overview table 2 below presents the 99 policy measures contained in Chapter *3. POLICIES AND MEASURES* of the NECP. Each policy measure is attributed a code in the format PM\_XXi, the abbreviation XX is specific to each of the 5 dimensions, and i being the order number, as in the text of the NECP. Alongside the title, the policy measure code and its main objective, each insert presented in the NECP contains: description, the implementation timeframe, type of measure, sectors covered/affected, implementing entity, monitoring entity, progress indicators, relevant Energy Union dimension(s) affected, EU policy which resulted in the implementation of the measure, relevant national planning document(s), an estimation of implementation costs and financing source(s).

**Table 2. Key objectives and Policy Measures for each of the 5 dimensions of the NECP**

|  |  |  |
| --- | --- | --- |
| **Dimension** | **Key objectives** | **Policy Measures** |
| Decarbonization | GHG emissions and removals:   * Carbon emissions reduction: * Fulfilling obligations of the Paris Agreement and of the Energy Community; * Contributing to the EnC -60,9% GHG emissions reduction target with national emissions reduction in 2030; * Attaining the national GHG emissions reduction target for the Right bank of the Dniester River by 68.6% in 2030 compared to the 1990 level.   Renewable energy:   * Attaining the national target for Renewable Energy share in final energy consumption is of 27% in 2030 | PM\_DC1: Carbon Border Adjustment Mechanism |
| PM\_DC2: Implementation of an Emissions Trading System |
| PM\_DC4: Development of the projects of the Joint Credit Mechanism with Japan (JCM) |
| PM\_DC6: The Low Emission Development Program of the Republic of Moldova until 2030 and the Action Plan for its implementation |
| PM\_DC7: Preparation for and introduction of carbon tax |
| PM\_DC8: Implementation and monitoring of the Low-Carbon Development Program until 2030 and of the Action Plan for its implementation and of the National Climate Change Adaptation Program until 2030 and the Action Plan for its implementation |
| PM\_DC9: The program for the promotion of the green and circular economy for the years 2024 – 2028 |
| PM\_DC10: Law on Climate Actions |
| PM\_DC14: Substitution of clinker in the cement production |
| PM\_DC15: Environment Strategy until 2033 |
| PM\_DC16: Waste Management Strategy 2013-2027 |
| PM\_DC17: Moldova Solid Waste Project |
| PM\_DC18: Implementation of the “no-till” and mini-till conservative tillage system |
| PM\_DC19: Implementation of sustainable agricultural land management practices |
| PM\_DC20: Manure storage in communal platforms or individual warehouses |
| PM\_DC21: Promotion of cattle feeding technologies by using feed in the form of unique mixtures (monoration) without or with small amounts of green fodder |
| PM\_DC22: Promoting the use of grape marc in ruminant rations with the aim of reducing greenhouse gas emissions |
| PM\_DC26: Amended Law on promotion and use of renewable energy sources |
| PM\_DC27: Support scheme based on fixed prices |
| PM\_DC28: Support scheme based on fixed tariff |
| PM\_DC29: Support scheme based on net metering |
| PM\_DC30: Fostering deployment of RES in district heating |
| PM\_DC31: Promotion of heat pumps for the Heating & Cooling sector |
| PM\_DC32: Promotion of sustainable green cities for Moldova |
| PM\_DC33: Promotion of biofuels and bio-liquids |
| PM\_DC34: Promotion of the electrification of road and rail transport |
| PM\_DC35: Promotion of green technologies in private sector |
| PM\_DC36: Promotion of energy efficiency in SME |
| PM\_DC37: Promotion of innovative technologies in SME |
| PM\_DC38: Promotion of Rural Competitiveness and Resilience |
| PM\_DC39: Promotion of energy communities |
| PM\_DC40: Promotion of biomass for electricity production |
| PM\_DC41: Action Plan for implementing the Roadmap for preparing and instituting carbon pricing in the Republic of Moldova |
| PM\_DC42: Promotion of the national process of planning the adaptation of the Republic of Moldova to climate change (Stage 2) |
| PM\_DC44: Promotion of fiscal incentives for electrical vehicles |
| Ensuring the institutional framework for coordination in the area of monitoring, reporting and verification, as well as facilitating the integration of climate change aspects into national and sectoral programs and plans | PM\_DC3: Climate Change Coordination Mechanism |
| Specific objective 5: *“Increasing the resilience of priority sectors by financing activities in the field of adaptation to climate change and reducing the risks and negative impacts of climate hazards”*;  Priority action 5.2: *“Increasing the energy efficiency and resilience of the energy sector infrastructure by adjusting to forecasted hydro-meteorological parameters”* | PM\_DC5: The National Climate Change Adaptation Program until 2030 and the Action Plan for its implementation |
| Reduction of Pollution and GHG emissions | PM\_DC11: Development of the secondary regulatory framework for the implementation of the Industrial Emissions Law no. 227/2022 |
| F-gases emissions reduction | PM\_DC12: Law on fluorinated greenhouse gases |
| To manage usage, identify energy saving opportunities, conserve consumption and reduce carbon emissions | PM\_DC13: Implementation of the energy management system according to the Moldovan Standard SM EN ISO 50001: 2019 |
| Increase of carbon removals | PM\_DC23: Land afforestation |
| PM\_DC24: Creation of forest protection curtains |
| PM\_DC25: Planting of energy forestry crops |
| Pollutant emissions reduction | PM\_DC43: Promotion of considerable reductions in fine particle emissions and black carbon from roads |
| Energy Efficiency | Contribution to attaining the national target for energy consumption is of 2.80 Mtoe in the Final Energy Consumption in 2030.  In terms of maximum Share of Primary Energy Consumption, the target is of 3.00 Mtoe in 2030.  Implementation of the Directive (EU) 2012/27, as amended by Directive (EU) 2018/2002, Law on Energy Performance of Buildings;  Assessment of the implementation of Law No. 139/2018 on Energy Efficiency  Implementation of the Law No. 139/2018 on Energy Efficiency, transposition and implementation of Directive (EU) 2012/27/EU as amended by Directive (EU) 2018/2002;  Reduce greenhouse gas emissions and enhance climate resilience in the buildings sector, increase share of RES in electricity, increase share of RES in heating and Cooling;  Consumer protection and improvement of competition, enable EE at the supply side (i.e. through the reduction of losses) | PM\_EE1: Residential Building Refurbishment |
| PM\_EE2: Public Sector Building Refurbishment |
| PM\_EE3: Creation of databases (inventories) on the stock of buildings |
| PM\_EE4: Conducting a market assessment for the cost-optimal level of refurbishment |
| PM\_EE5: Development of the missing parts for the calculation methodology and minimum energy efficiency requirements for new and rehabilitated buildings |
| PM\_EE6: Creating a National Energy Efficiency Information System |
| PM\_EE7: Introducing energy efficiency certification of buildings (for inspection of heating/ventilation and air conditioning systems), adopt a plan for practically zero-energy buildings, etc. |
| PM\_EE8: Fully transpose the provisions of the EU’s Energy Performance of Buildings Directive (EPBD) |
| PM\_EE11: Promotion of energy services and energy performance contracts |
| PM\_EE12: Creation and development of the field of energy services, financial instruments and energy audit |
| PM\_EE13: Development of a national program for the renewal of the vehicle fleet by introducing a differentiated environmental fee depending on the level of pollution |
| PM\_EE14: Supporting the development of incentives for the import of electric and hybrid vehicles, as well as the development of national infrastructure required for electric vehicles, charging points and parking infrastructure |
| PM\_EE15: Create initiatives to support the transition of residential and urban public transport or freight transport to hybrid or electric vehicles |
| PM\_EE16: Increase in the share of rail transport |
| PM\_EE17: Promoting sustainable mobility |
| PM\_EE18: Implementation of a mandatory energy audit and ISO 50001 certification according to the Moldovan Standard SM EN ISO 50001: 2019 |
| PM\_EE19: Implementation of requirements for energy labeling for products of energy impact |
| PM\_EE20: Introduction of obligations on environmental procurement |
| PM\_EE21: Promoting of universal street lighting with a priority based on the supply from RES |
| PM\_EE22: Promoting/modernizing highly efficient CHP units |
| PM\_EE23: Modernizing of district heating networks |
| PM\_EE24: Promotion of measures for improving energy efficiency in electricity infrastructure |
| PM\_EE25: Promotion of measures for improving energy efficiency in natural gas infrastructure |
| PM\_EE26: Development of sustainable and innovative financing of energy efficiency projects |
| PM\_EE27: Improve the bankability of energy efficiency projects |
| PM\_EE9: Creation of financial mechanisms to support the environmental repair of apartment buildings and individual residential buildings, including with the integration of renewable energy sources |
| PM\_EE10: Implementation of smart metering systems and other advanced metering technologies to better respond to demand, remote metering and real-time consumption-based energy/gas billing |
| Energy Security | Diversification of routes, reduce import dependency from a single route, and single source, increase flexibility of the national energy system | PM\_ES1: Line 400 kV Vulcanesti-Chisinau |
| PM\_ES2: Line 400 kV Balti-Suceava |
| PM\_ES3: A feasibility study for interconnector capacity extension |
| PM\_ES4: Main gas pipeline Ungheni-Chisinau |
| PM\_ES5: Development of the natural gas transmission network and the possibility of two-way connection; diversification of routes and sources of natural gas supplies |
| PM\_ES6: Elimination of internal restrictions in the natural gas transportation system |
| Ensure energy security | PM\_ES7: Improving the process of risk assessment and emergency preparedness |
| Ability to cope with constrained or interrupted supply of an energy source, increase the flexibility of the national energy system | PM\_ES8: Creation of minimum reserves of natural gas |
| PM\_ES9: Creation of minimum oil products reserves |
| Increasing domestic capacity for energy production and diversifying the energy mix | PM\_ES10: Energy mix diversification |
| Internal Energy Market | Maintaining security of energy supply, increasing competitiveness and ensuring that all consumers can buy energy at affordable prices | PM\_IEM1: Transposition and implementation of Network Codes and EU guidelines for the electricity sector |
| Implementation of the Synchronous Space Framework Agreement; Ensuring compliance with ENTSO-E requirements by TSO; Development of opportunities for participation in the European electricity market […] | PM\_IEM2: Obtaining ENTSO-E observer status SE “Moldelectrica” and then full member status |
| Increased system flexibility and quality of electricity supply, market integration and coupling, […], implementation of intra-day and day ahead electricity transactions. | PM\_IEM3: Modernization of existing networks |
| Diversification of natural gas supply routes and sources | PM\_IEM4: Development of the natural gas transport network and bidirectional interconnection capabilities |
| Transposition and implementation of the proposal of the European Commission on the Decision of the Council of Ministers to integrate Regulation (EU) 2022/1032 on gas storage into TCE legislation. | PM\_IEM5: Creation of minimum reserves of natural gas. Exploring the possibility of building gas storage facilities (underground or terrestrial) in the Republic of Moldova |
| Increase transparency of energy markets, improve monitoring and data availability for market participants, increase system flexibility and quality of the supply of electricity and natural gas, develop market integration and coupling, increase the tradeable capacity of existing interconnectors, demand response, distributed generation, mechanisms for dispatching | PM\_IEM6: Increasing the transparency of energy markets |
| Appointment of a market operator to administer centralized markets | PM\_IEM7: Appointment of an electricity market operator |
| Integrate the market with neighboring markets, increase competition in the wholesale market, develop motivation and opportunities for market participants in electricity transactions; increase system flexibility and quality of electricity supply, market integration and coupling, increase the tradeable capacity of existing interconnectors, demand response, distributed generation, mechanisms for dispatching. | PM\_IEM8: Launch of day-ahead and intraday markets |
| Increase transparency of energy markets, improve monitoring and data availability for market participants, develop market integration and coupling, increase the tradeable capacity of existing interconnectors, demand response, distributed generation, mechanisms for dispatching, increase system flexibility and quality of electricity supply. | PM\_IEM9: Continued market opening and gradual liberalization of electricity and natural gas markets |
| Develop motivation and opportunities for market participants in electricity transactions; increase system flexibility and quality of electricity supply, market integration and the coupling, increase the tradeable capacity of existing interconnectors, demand response, distributed generation. | PM\_IEM10: Facilitating the process of changing the supplier |
| Develop a common methodology with neighboring states for determining the grouped capacity at the gas interconnection points. Use of a platform for capacity reservation and trading of natural gas. | PM\_IEM11: Creation of natural gas trading platforms and a capacity allocation process at interconnection points. Establishment of a compensation mechanism between TSO’s. Introduction of balancing responsibility of users of natural gas |
| Reducing the impact of energy crises and energy poverty | PM\_IEM12: Identification of appropriate social aids, adapted to the needs of vulnerable consumers |
| Research, Innovation and Competitiveness | Promotion of Research and Innovation | PM\_RIC1: Competition of Innovation and Technology Transfer Projects including the field “Environment and Climate Change” |
| PM\_RIC2: Improvement R&D and innovation management |
| PM\_RIC4: Establishment, involving and networking of intermediate bodies associated with the flow of information, management, technology and funding for technologies transfer |
| PM\_RIC5: Promotion of Smart Specialization |
| PM\_RIC6: Support the cooperation between other Member States in the technology transfer and exploitation of research results |
| Implementation of the he Law no. 226 of 11/01/2018 | PM\_RIC3: Promotion creation and operation of science and technology parks and innovation incubators |

1. **Current Situation and Projections with Existing Policies and Measures**

***Dimension Decarbonization***

Projections of total GHG emissions for the period 2020 – 2050 are presented for the WEM and WPM scenarios in the Table 3 below:

**Table 3. GHG emissions for the period 2020 – 2050 in both scenarios, in kt CO2eq**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **GHG Emissions – kt CO2eq** | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| WEM | 4,896 | 5,115 | 5,185 | 4,965 | 4,894 | 4,955 | 4,990 |
| WPM | 4,896 | 5,139 | 5,179 | 4,692 | 3,988 | 3,956 | 3,955 |

For the renewable energy, projections are presented for 3 sub-sectors: Heating and Cooling (RES-H&C), Electricity (RES-E) and Transport (RES-T, without and with multipliers). Modelled trajectories for these sub-sectors in the WPM scenario, based on existing data and on projections up to the year 2050 are presented in the Table 4 below:

**Table 4. Trajectories for renewable heating and cooling, electricity and transport (WPM) in the period 2016 – 2050**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Renewable trajectories** | **2016** | **2017** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** | **2035** | **2040** | **2045** | **2050** |
| RES-H&C (%) | 44.3% | 44.6% | 41.8% | 41.6% | 41.5% | 41.5% | 41.5% | 41.5% | 41.7% | 42.2% | 42.5% | 42.7% | 42.8% | 43.1% | 40.4% | 34.9% | 32.2% |
| RES-E (%) | 1.6% | 2.0% | 2.2% | 2.8% | 2.8% | 7.6% | 7.5% | 13.1% | 17.5% | 22.5% | 26.7% | 31.2% | 34.1% | 56.2% | 66.4% | 78.2% | 84.5% |
| RES-T (%) (without multipliers) | 0.0% | 0.0% | 0.0% | 0.0% | 1.3% | 2.4% | 2.5% | 3.7% | 4.5% | 5.1% | 5.9% | 6.8% | 7.6% | 13.8% | 23.7% | 30.2% | 35.9% |
| RES-T (%) (with multipliers) | 0.0% | 0.0% | 0.0% | 0.0% | 1.3% | 2.4% | 2.6% | 4.1% | 5.0% | 5.5% | 6.6% | 7.7% | 8.9% | 20.9% | 38.3% | 48.0% | 55.6% |
| **Overall RES share (%)** | 26.6% | 26.4% | 24.2% | 24.2% | 24.3% | 25.3% | 25.2% | 26.3% | 27.2% | 28.3% | 29.3% | 30.2% | 31.4% | 37.3% | 41.7% | 44.8% | 47.5% |

***Dimension Energy Efficiency***

Considering existing energy efficiency policies, measures and programs for primary and final energy consumption, and taking into account existing data over the 2010 – 2020 period, projections have been modelled until 2050. Disaggregated data for final energy consumption include forecasts by type fuel (all sectors), as presented in Figure 3 below:

Figure 3. Forecast of final energy consumption until 2050 by fuel, in ktoe

Thus, it is **predicted** that by 2030 the consumption of gas/diesel oil will decrease from 616.84 ktoe to 596.60 ktoe and will amount to 23% of the total final consumption, the consumption of biomass will decrease from 611.83 ktoe to 577.85 ktoe (share of 23%). The share of natural gas will not change, and its consumption will increase from 402.79 ktoe to 408.56 ktoe. The share of electricity will increase to 15%, and its consumption will increase from 342.38 ktoe to 453.29 ktoe.

Projections of primary energy consumption and of final energy consumption by sector (industry, transport, services, residential and agriculture/forestry) up to the year 2050 are presented in Table 5 below:

**Table 5. Projections considering existing energy efficiency policies, measures and programs as described in point 1.2. for primary and final energy consumption for each sector until 2050, in ktoe**

| **Indicator** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** | **2035** | **2040** | **2045** | **2050** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Primary energy consumption | 2,863 | 2,903 | 2,879 | 2,916 | 2,953 | 2,898 | 2,896 | 2,916 | 2,917 | 2,919 | 2,868 | 2,740 | 2,573 | 2,568 | 2,561 |
| Final energy consumption,  including: | 2,550 | 2,593 | 2,616 | 2,639 | 2,660 | 2,624 | 2,626 | 2,634 | 2,636 | 2,638 | 2,580 | 2,427 | 2,206 | 2,113 | 2,093 |
| Industry | 207 | 210 | 213 | 215 | 217 | 209 | 211 | 217 | 219 | 221 | 209 | 209 | 220 | 229 | 241 |
| Transport | 755 | 780 | 789 | 800 | 807 | 812 | 820 | 827 | 833 | 839 | 803 | 710 | 576 | 609 | 646 |
| Services | 275 | 279 | 280 | 281 | 281 | 280 | 277 | 277 | 276 | 275 | 274 | 270 | 269 | 269 | 273 |
| Residential | 1,242 | 1,249 | 1,256 | 1,262 | 1,270 | 1,234 | 1,226 | 1,221 | 1,212 | 1,206 | 1,195 | 1,134 | 1,029 | 886 | 805 |
| Agriculture / Forestry | 81 | 85 | 86 | 87 | 89 | 90 | 92 | 93 | 95 | 97 | 98 | 105 | 112 | 120 | 128 |

***Dimension Energy Security***

In 2020 the Republic of Moldova provided its own needs of energy resources by only 22%. This level decreased over the period from 2016 to 2020 by 2 percentage points. The share of imported energy increased due to the growth of imports resulting from an increase in consumption, but is also due to a reduction in the production of local resources.

In this section, current data on the energy import dependency as well as on the energy production mix, primary consumption mix (by types of energy sources and by destination of primary energy consumed), and transformation energy mix are presented. Projections until the year 2050 have been calculated for such indicators, as energy import dependency, primary production (by types of energy sources), imports, exports, and transformation input for the electricity sector.

Energy dependence increased between 2016 and 2020, but it is expected to start to decline and reach a minimum in 2035 – 2040. The reduction is achieved by reducing imports while stabilizing consumption. The growth of energy dependence values in subsequent years (2040 – 2050) is associated with the growth of consumption at a higher rate than the growth of own production. These evolutions are presented in Figure 4 below:

Figure 4. Projections of energy import dependency in the period 2016 – 2050

Evolutions of energy dependency by types of energy sources for the period 2016 – 2050 are shown on Figure 5 below:

Figure 5. Projections of energy dependency, by types of energy sources, for the period 2020 – 2050

The reduction in dependence on imports of electrical energy is associated with the growth of internal production capacities, the rate of which is expected to exceed the growth in consumption. At the same time, to a large extent, the growth in production is associated with an increase in the use of renewable energy sources.

***Dimension Internal Energy Market***

This chapter contains projections related to the expansion of interconnections and adjacent requirements up to 2030 that will be needed in order to meet the needs of electricity interconnectivity. Thus, the installed renewable generation capacity (hydro, wind and PV) is supposed to increase from 44 MW in 2016 to 579 MW in 2050 (WEM Scenario) and up to 3’659 MW (WPM Scenario).

Similarly, projections of network expansion requirements until at least 2040 are intended to fulfill the future needs of the energy transmission infrastructure.

Following a brief analysis of the current situation of the electricity and gas markets (including energy prices), projections of development with existing policies and measures until at least 2040 are presented. These include forecasts of energy sector indicators, such as: electricity and heat consumption per inhabitant (WEM scenario), share of renewable energy in total electricity production and supply (WEM scenario), average electricity generation costs, installed capacity per technology, and electricity network losses (in WEM and WPM scenarios).

The average price of electricity produced by various technologies that are expected in the year 2050 (WEM Scenario) are:

* Biomass/biogas CHP: 0.10–0.21 EUR/kWh
* Natural Gas CHP: 0.01 EUR/kWh
* Natural Gas power plants: 0.07 EUR/kWh
* Photovoltaic systems: 0.052 – 0.065 EUR/kWh;
* Wind: 0.04 – 0.06 EUR/kWh.

The average price of imported electricity was at the level of 0.05 (2016, 2020) and is planned to attain the level of 0.08 – 0.09 EUR/kWh for both scenarios by 2050. The average electricity price will increase from 0.04 (2016), 0.05 (2020) to 0.08-0.09 EUR/kWh.

***Dimension Research, Innovation and Competitiveness***

Currently, in Moldova there are limited activities regarding R&D in the energy sector and limited number of producers of low-carbon technologies. Key priorities of energy research in Moldova are energy efficiency and renewable energy, smart grids control devices, as well as energy storage, but still, most of the companies in the energy sector are service-orientated, mainly in RES and EE. Therefore, there is a significant potential for scaling up low-carbon and energy-efficient solutions, starting from the demonstration and pivotal stage up to the market of renewable energy technologies and achieving more significant energy savings.

1. **Impact Assessment of Planned Policies and Measures**

In this section, projected evolutions of a number of indicators over the period 2020 – 2050 is shown in both WEM and WPM scenarios, and the impact of these evolutions is discussed.

Total greenhouse gas emissions in the energy sector remain unchanged under the scenario with existing measures. If the WPM scenario is implemented, in 2050 on the Right bank of the Dniester, the emissions will be reduced by about 1.3 Mt CO2 eq, or 27% less emissions compared to the WEM scenario.

The share of renewable energy in the Gross Final Energy Consumption (GFEC) has a steady growing trend in both WEM and WPM scenarios. Until 2025, the indicators of both scenarios are very similar: there is a increase in the share of RES from 24.2% in 2020 to 24.7% in WEM Scenario and to 26.3% in WPM Scenario. In 2050, the difference between the scenarios reaches 22.2 percentage points, and the share of RES in GFEC becomes 25.3% in WEM scenario and 47.5% in WPM scenario, as shown on Figure 6 below.

Figure 6. Share of RES in GFEC, in %

Projections of installed renewable energy capacities per technology, of renewable energy consumption by sector, as well as of the final energy consumption (by sector, by energy source and by type of fuel) are also presented in the NECP, for the WEM and WPM scenarios.

The final energy intensity indicator in both scenarios shows a significant decrease - from 0.255 toe/1,000 Euro in 2020 to 0.176 toe/1,000 Euro (31% decrease) in WEM Scenario and to 0.166 toe/1,000 Euro (35% decrease) in WPM Scenario in 2030. In 2050, the decrease in the indicator is even more significant: down to 0.077 toe/1,000 Euro (69% decrease compared to 2020) in WEM Scenario and down to 0.061 toe/1,000 Euro (74% decrease compared to 2020) in WPM scenario.

Energy imports are nearly constant over the period 2020 – 2050 in WEM Scenario, with less than 3% fluctuations: from 2,244.73 ktoe in 2020 to 2,290.97 ktoe in 2030 and to 2,311.02 ktoe in 2050. The implementation of the measures provided for in WPM Scenario leads to a significant reduction in imports to the level of 2,024.02 ktoe (12% less than in 2020) in 2030 and 1,414.97 ktoe (39% less than in 2020) in 2050. Such a decrease in imports in WPM Scenario is provided, first of all, by a reduction in oil products imports by 51% in 2050.

Macroeconomic, environmental, skills and social impacts of the planned policies and measures are presented in this section. An overview of investment needs lists the impact areas of energy and climate-related projects portfolio of International Organizations and IFI’s in the Republic of Moldova. Required financing and benefits expected from key measures of the NECP are also presented in this section.

Impacts of planned policies and measures on other Contracting Parties (or Member States) and on regional cooperation are evaluated in the context of recent geo-political evolutions at regional level.

1. **Implementation Stages and Monitoring, Reporting and Evaluation Framework**

Implementation of measures and policies detailed in the five dimensions of the NECP requires the involvement of the most powerful national institutions, efficient management, as well as adequate international assistance. In order to achieve the targets set in the document, donors’ financial support is also needed.

Monitoring of this NECP implementation will be carried out jointly by the Ministry of Energy and the Ministry of Environment. Aiming at ensuring the monitoring process, a monitoring group, which will periodically evaluate the implementation of policies and measures and the achievement targets, will be created by the order of the Minister of Energy. Based on the information collected and systematized, it will draft the annual implementation report and submit it to the Government.

National GHG emissions and evolution trends are periodically reported in the national communications of the Republic of Moldova to the UNFCCC (since 2000), respectively in the national inventory reports (since 2010).

Annual monitoring reports will be developed within the monitoring process, which will include information on the implementation measures and policies, and on the progress towards the achievement of each individual target mentioned in this NECP.

In coordination with the Energy Community Secretariat, the document will be revised and updated every 2 years starting in 2025. After each iteration, the updated version of the document will undergo a complete monitoring, reporting and evaluation process and will be approved by the Government of Moldova.

1. NECP includes data on GHG emissions for the entire country, presented separately for the administratively controlled territory and separately for ATULBD [↑](#footnote-ref-1)
2. <https://www.eeas.europa.eu/eeas/global-strategy-european-unions-foreign-and-security-policy_en> [↑](#footnote-ref-2)
3. An unconditional target is a commitment to reach the target without any additional support. [↑](#footnote-ref-3)
4. <https://unfccc.int/sites/default/files/resource/Moldova_NIR_1990-2020_EN_web.pdf>. [↑](#footnote-ref-4)
5. A conditional target is a commitment that is conditional upon the availability of additional technology, know-how and financial sources. [↑](#footnote-ref-5)
6. http://clima.md/lib.php?l=en&idc=81 [↑](#footnote-ref-6)
7. <https://www.legis.md/cautare/getResults?doc_id=98936&lang=ro> [↑](#footnote-ref-7)
8. <https://www.legis.md/cautare/getResults?doc_id=128987&lang=ro> [↑](#footnote-ref-8)
9. Draft Energy Strategy 2050. Available at <https://particip.gov.md/ro/document/stages/ministerul-infrastructurii-si-dezvoltarii-regionale-anunta-despre-initierea-elaborarii-documentului-de-politici-publice-strategia-energetica-a-republicii-moldova-pana-in-anul-2050/9942> [↑](#footnote-ref-9)
10. https://www.entsoe.eu/news/2022/03/16/continental-europe-successful-synchronisation-with-ukraine-and-moldova-power-systems/ [↑](#footnote-ref-10)
11. Energy strategy 2030. Available at <https://www.legis.md/cautare/getResults?doc_id=68103&lang=ro> [↑](#footnote-ref-11)
12. <https://monitorul.gov.md/ro/monitorul/view/pdf/2579/part/1#page=1> [↑](#footnote-ref-12)