



Republic of Moldova

THE GOVERNMENT

DECISION No. 1470 of 30.12.2016

**on approval of the Low Emissions Development Strategy of the Republic of Moldova
until 2030 and of the Action Plan for its implementation**

Published: 24.03.2017 in the Official Gazette no.85-91 art. no: 222

AMENDED

[GD1143 of 21.11.18, OG13-21 / 18.01.19 art.7; in force 18.01.19](#)

To ensure implementation of the provisions of the United Nations Framework Convention on Climate Change, ratified by the Parliament Decision no. 404-XIII of 16 March 1995 (Official Gazette of the Republic of Moldova, 1995, no.23. art.239), of the mechanisms and provisions of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, to which the Republic of Moldova acceded by Law no. 29-XV of 13 February 2003 (Official Gazette of the Republic of Moldova, 2003, no.48. art.193), with subsequent amendments, as well as the Association Agreement between the Republic of Moldova, on the one hand, and the European Union and the European Atomic Energy Community and their Member States, on the other, adopted by Law no. 112 of 2 July 2014 (Official Gazette of the Republic of Moldova, 2014, no.185-199, art.442), the Government has DECIDED:

1. To approve:

- 1) The Low-Emission Development Strategy of the Republic of Moldova until 2030, in conformity with Annex 1;
- 2) The Action Plan for the implementation of the Low Emissions Development Strategy of the Republic of Moldova until 2030, in conformity with Annex 2.

2. Ministries and other central administration authorities shall:

- 1) Ensure implementation of measures provided for in the above Strategy and Action Plan, as per their competences;
- 2) Report to the Ministry of Agriculture, Regional Development and Environment on implementation of the respective measures, annually, by 1 March. *[Item 2 amended by GD1143 of 21.11.18, OG13-21 / 18.01.19 art.7; in force since 18.01.19]*

3. The Ministry of Agriculture, Regional Development and Environment shall:

1) Ensure monitoring and coordination of the Strategy and Action Plan implementation, and shall report to the Government on implementation of the planned actions, annually, by 1 April;

2) Cooperate with international organizations and potential donors to attract investments needed to implement the provisions of the Strategy and Action Plan. *[Item 3 amended by the GD1143 of 21.11.18, OG13-21 / 18.01.19 art.7; in force since 18.01.19]*

4. It is recommended that the local public administration authorities take the necessary action to implement the provisions of the aforesaid Strategy and Action Plan.

5. Control over the execution of this Decision shall be vested upon the Ministry of Agriculture, Regional Development and Environment. *[Item 5 amended by GD1143 of 21.11.18, OG13-21 / 18.01.19 art.7; in force since 18.01.19]*

PRIME-MINISTER

Pavel FILIP

Countersigned by:

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No. 1470. Chisinau, 30 December 2016.

[Annex 1](#)

[Annex no.1 amended by GD1143 of 21.11.18, OG13-21 / 18.01.19 art.7; in force since 18.01.19]

[Annex 2](#) *[Annex no.2 amended by GD1143 of 21.11.18, OG13-21 / 18.01.19 art.7; in force since 18.01.19]*

THE LOW EMISSIONS DEVELOPMENT STRATEGY OF THE REPUBLIC OF MOLDOVA UNTIL 2030

I. INTRODUCTION

The United Nations Framework Convention on Climate Change (hereinafter referred to as the *Framework Convention*) was adopted on 9 May 1992, at the United Nations Conference on Environment and Sustainable Development in Rio de Janeiro as the international community's response to the global climate change phenomenon caused by growing concentrations of greenhouse gases in the atmosphere.

The overall objective of the Framework Convention is aimed at stabilizing greenhouse gas concentrations in the atmosphere to a level that would prevent dangerous anthropogenic interference with the climate system. Currently, 196 countries are parties to it. The Republic of Moldova signed the Framework Convention on 12 June 1992 and ratified it by the Parliament Decision no. 404-XIII of 16 March 1995.

The third conference of the Parties to the Framework Convention, which took place in 1997 in Kyoto (Japan), adopted the Kyoto Protocol, by which the industrialized countries and economies in transition, included in Annex 1 to the Framework Convention, committed to reduce, within 2008-2012 (the first commitment period), the total direct greenhouse gas emissions globally by at least 5% relative to 1990.

The Republic of Moldova ratified the Kyoto Protocol on 13 February 2003. Being a non-Annex 1 country, the Republic of Moldova did not commit to reduce greenhouse gas emissions during the first commitment period (2008-2012) of the Kyoto Protocol.

In the Bali Action Plan, adopted at the 13th Conference of the Parties to the Framework Convention (2007), developing countries agreed to develop and implement nationally appropriate mitigation actions in the context of sustainable development, supported by technology transfer, adequate financing and capacity building actions.

At the 15th Conference of the Parties, which took place in Copenhagen in December 2009, a political statement was approved on supporting the limitation of global warming by less than 2°C relative to the pre-industrial level until 2100. This statement received the name of the Copenhagen Agreement and it reaffirms development issues in the context of climate change, including by implementation of low-emission development strategies.

The 16th Conference of the Parties to the Framework Convention, held in Cancun in December 2010, adopted the Cancun Agreement, which encourages developing countries to prepare low-emission development strategies (LEDS) in the context of sustainable development and to undertake nationally appropriate mitigation actions.

The Cancun Agreement recognizes that stopping climate change requires a shift of paradigm towards building a low-carbon society that provides substantial opportunities and ensures continuous economic growth and sustainable development.

In accordance with its obligations towards the Framework Convention, the Republic of Moldova has prepared and submitted to the 21st Conference of the Parties to the Framework Convention, held in December 2015 in Paris, the document "Intended Nationally Determined Contribution" (INDC) for the new Paris Climate Agreement. According to "Intended Nationally Determined Contribution" document the Republic of Moldova undertakes to achieve, by 2030, the unconditional target of reducing net greenhouse gases emissions by 64% relative to 1990. The

emissions reduction target could be increased to 78% conditionally – in accordance with a global agreement, which would address important issues, such as low cost financial resources, technology transfer and technical cooperation, with access to all to the extent proportionate to the global climate change challenges.

The Association Agreement between the Republic of Moldova, on the one hand, and the European Union and the European Atomic Energy Community and their Member States, on the other, provides for the development and approval by the Republic of Moldova of a low carbon emission development strategy and long-term GHG emissions reduction measures.

The Environmental Strategy for 2014-2023, approved by the Government Decision No. 301 as of 24 April 2014, sets sectoral targets for reducing greenhouse gas emissions against the baseline scenario: by 25% in the Energy sector; by 20% in the Residential and Industrial sectors; by 15% in the Transport and Waste sectors; by 25% sequestration of carbon dioxide within the Land Use, Land-Use Change and Forestry sector.

These targets are set without indicating specific nationally appropriate mitigation actions, identified and quantified, and without further clarification regarding the support needed to achieve these goals. At the same time, it is recognized that significant financial, technological and capacity-building support is needed to achieve these targets, which can be provided through the financial mechanisms established under the Framework Convention.

The LEDES is a strategic document that allows the Republic of Moldova to head towards a low carbon economy and achieve the targets set in the "Intended Nationally Determined Contribution" through green sustainable development, based on the country's socio-economic development priorities.

Also, the LEDES supports the achievement of sustainable development goals, providing for a strategic national context to the mitigation efforts for which the country receives international support. The Strategy contains a set of measures designed to contribute to the greenhouse gas emissions reduction, quantification of emissions reduction for each action, as well as the financial requirements for implementation thereof.

The measures proposed in the Action Plan to the Strategy include nationally appropriate mitigation actions (NAMAs), as provided for the non-Annex I parties to the UNFCCC.

The Strategy provides for the implementation procedure, implementation deadlines, as well as for Monitoring, Reporting and Verification (MRV) procedure for the achieved results.

II. CURRENT SITUATION DESCRIPTION AND PROBLEMS IDENTIFICATION

Section 1.

Overview of GHG emissions trends

1.1. National GHG emissions trends

1. The Republic of Moldova monitors and estimates the GHG emissions by compiling the inventory of the GHG sources and sinks at the national level. In the years 2000, 2009, 2013 and 2015 GHG emissions estimates were made as part of the First (2000), the Second (2009) and the Third National Communications (2013), respectively as part of First Biennial Update Report (2016) of the Republic of Moldova to the UNFCCC, and during 2003-2006 within the Regional Greenhouse Gas Emissions Inventory Capacity Building Program (2005), implemented by the United Nations Development Program.

The National Inventory Report: GHG Emissions Sources and Sinks in the Republic of Moldova 1990-2013 (2016) reveals a decreasing trend in direct GHG emissions. Between 1990 and

2013, GHG emissions reduced nationally by about 70.4 percent: from 43.4188 Mt CO₂ equivalent in 1990 to 12.8363 Mt CO₂ equivalent in 2013 (Figure 2.1, Table 2.1).

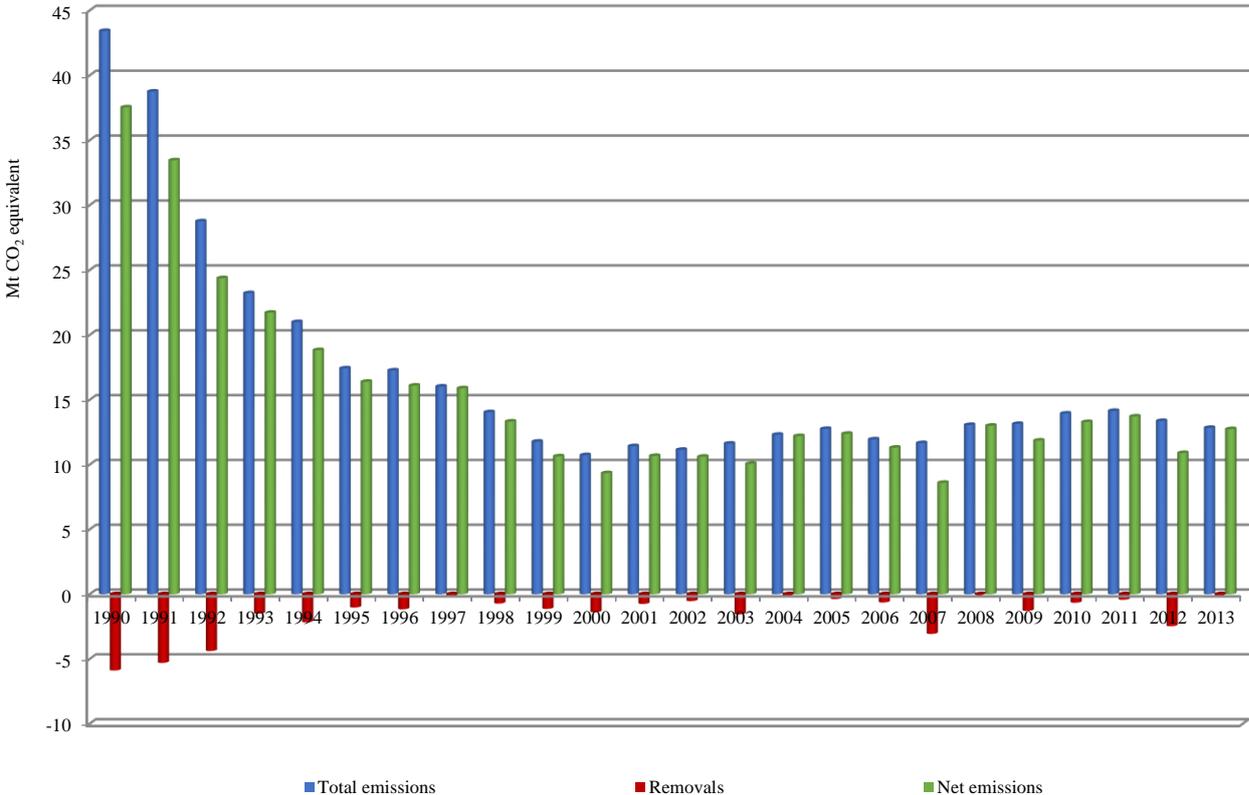


Figure 2.1. Dynamics of greenhouse gas emissions and removals in the Republic of Moldova, 1990-2013

2. In 2000 the GHG emissions dropped to the minimum level, and subsequently, between 2001 and 2013 the GHG emissions in the Republic of Moldova tended to increase by about 19.6%, in particular due to the increase by approximately 117.4% of emissions from mobile fuel sources, by about 5.1% of emissions from fossil fuel combustion for production of electricity and heat and, by about 31.5% of emissions from burning of fossil fuels in residential, institutional and commercial sectors.

The significant reduction of the national GHG emissions is primarily a consequence of the economic crisis that followed after the breakup of the Soviet Union, characteristic of the entire period of transition to a market economy in the Republic of Moldova (1991-2000). The years of transition have also led to changes in the fuel supply and energy consumption structure. Fossil fuel consumption (especially coal and fuel oil) has dropped substantially, while less polluting natural gas has become the main fuel used in power and heat plants, recently reaching a share of about 50% of the primary energy supply.

1.2. Sectoral trends of GHG emissions

3. The energy sector is the most important source of national direct greenhouse gas emissions (without the contribution of the LULUCF sector), its emissions share varying between minimum 62.2% in 2000 and maximum 79.5% in 1990 (in the last ten years the emissions share of this sector tended to increase – with about 65.5% of the national direct GHG emissions in 2013).

Table 2.1

Dynamics of GHG emissions and removals by sectors, in Mt CO₂ equivalent, 1990-2013

Sectors	1990	1991	1992	1993	1994	1995	1996	1997
Energy	34.52	30.22	21.38	16.47	15.02	11.72	11.95	10.79
Industrial Processes	1.84	1.76	1.15	0.74	0.61	0.48	0.43	0.48
Solvents and Other Products Use	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.03
Agriculture	5.06	4.69	4.09	3.93	3.36	3.28	3.04	2.99
Land Use, Land-Use Change and Forestry	-5.89	-5.30	-4.38	-1.50	-2.16	-1.03	-1.17	-0.14
Waste	1.87	1.98	2.06	2.02	1.96	1.90	1.82	1.75
Sectors	1998	1999	2000	2001	2002	2003	2004	2005
Energy	9.27	7.37	6.67	7.27	6.95	7.73	8.18	8.47
Industrial Processes	0.33	0.30	0.27	0.26	0.32	0.37	0.42	0.56
Solvents and Other Products Use	0.02	0.03	0.03	0.04	0.04	0.03	0.04	0.07
Agriculture	2.75	2.52	2.29	2.45	2.51	2.20	2.38	2.36
Land Use, Land-Use Change and Forestry	-0.72	-1.13	-1.39	-0.75	-0.53	-1.55	-0.10	-0.38
Waste	1.67	1.56	1.47	1.39	1.32	1.29	1.28	1.30
Sectors	2006	2007	2008	2009	2010	2011	2012	2013
Energy	7.63	7.75	8.35	9.07	9.65	9.83	9.47	8.40
Industrial Processes	0.66	0.94	1.02	0.51	0.56	0.60	0.62	0.67
Solvents and Other Products Use	0.08	0.10	0.13	0.12	0.06	0.07	0.08	0.07
Agriculture	2.27	1.51	2.10	1.92	2.10	2.09	1.64	2.13
Land Use, Land-Use Change and Forestry	-0.64	-3.07	-0.06	-1.28	-0.66	-0.43	-2.47	-0.10
Waste	1.31	1.36	1.46	1.51	1.57	1.56	1.56	1.57

According to the International Energy Agency, the intensity of greenhouse gas emissions (CO₂ emissions per unit of GDP) and energy intensity (total primary energy supply per unit of GDP) in the Republic of Moldova are among the highest compared to the countries with economies in transition in the Central and Eastern Europe region (Tables 2.2 and 2.3).

Table 2.2.

GHG emissions intensity in countries with economy in transition in Central and Eastern Europe during 1990- 2014, kg CO₂/US dollars in GDP, updated to the level of 2005

	1990	1995	2000	2005	2010	2012	2013	1990-2013, %
Albania	1.01	0.37	0.47	0.46	0.36	0.31	0.32	-68.20%
Armenia	4.88	1.57	1.24	0.84	0.68	0.82	0.76	-84.40%
Azerbaijan	4.48	6.47	3.88	2.19	0.83	1.00	0.96	-78.50%
Belarus	4.21	3.67	2.48	1.82	1.39	1.25	1.25	-70.20%
Bosnia and Herzegovina	5.38	1.30	1.60	1.45	1.61	1.70	1.65	-69.30%
Bulgaria	2.99	2.42	1.86	1.59	1.32	1.29	1.13	-62.40%
Croatia	0.47	0.48	0.46	0.44	0.40	0.36	0.36	-24.10%
Estonia	3.55	2.22	1.46	1.20	1.35	1.05	1.19	-66.30%
Georgia	2.79	2.40	1.03	0.63	0.61	0.70	0.68	-75.50%
Latvia	1.30	1.08	0.63	0.47	0.52	0.41	0.39	-70.20%
The former Yugoslav Republic of Macedonia	1.42	1.74	1.54	1.49	1.17	1.21	1.10	-22.30%
Republic of Moldova	5.12	4.97	3.08	2.58	2.24	2.06	1.66	-67.60%
Romania	1.90	1.48	1.16	0.93	0.66	0.67	0.57	-70.10%
Russian Federation	2.57	2.96	2.60	1.94	1.68	1.58	1.55	39.50%
Ukraine	5.02	6.02	4.96	3.41	2.94	2.87	2.72	-45.80%

This situation is due to the low energy efficiency at the energy supply phase and end use, and due to outdated and inefficient technologies, obsolete infrastructure and the poor energy performance of housing.

Table 2.3.

Energy intensity in countries with economy in transition in Central and Eastern Europe between 2004-2013, tons of oil equivalent to TPES¹/thousand US dollars in GDP, updated to the level of 2005

¹ TPES - total primary energy supply

	1990	1995	2000	2005	2010	2012	2013
Albania	0.48	0.27	0.28	0.26	0.20	0.18	0.20
Armenia	1.88	0.76	0.71	0.51	0.42	0.45	0.42
Azerbaijan	1.91	2.78	1.61	1.02	0.41	0.47	0.45
Belarus	1.92	1.59	1.17	0.89	0.64	0.66	0.59
Bosnia & Herzegovina	1.56	0.60	0.50	0.46	0.51	0.53	0.50
Bulgaria	1-13	1.06	0.82	0.68	0.53	0.53	0.48
Croatia	0.20	0.23	0.21	0.20	0.18	0.17	0.17
Estonia	0.96	0.72	0.47	0.37	0.41	0.35	0.38
Georgia	1.03	1.09	0.64	0.44	0.38	0.39	0.40
Latvia	0.55	0.56	0.35	0.28	29	0.26	0.24
Lithuania	0.65	0.60	0.40	0.34	0.25	0.25	0.22
Former Yugoslav Republic of Macedonia	0.41	0.52	0.49	0.47	0.41	0.41	0.37
Republic of Moldova	1.65	1.96	1.38	1.17	1.00	0.92	0.78
Romania	0.70	0.59	0.48	0.39	0.31	0.30	0.26
Russia	1.04	1.22	1.09	0.85	0.76	0.76	0.74
Ukraine	1.84	2.49	2.25	1.66	1.46	1.28	1.19

4. The medium-term projections made according to the GHG emissions baseline scenario have been prepared within the First Biennial Update Report of the Republic of Moldova submitted to the UNFCCC (2016) which was prepared based on a series of strategic documents, as well as updated data provided by ministries, central public administration authorities and research and development institutions.

Below are the results of projected evolution of GHG emissions by sectors, according to the baseline scenario (contain mitigation measures set forth in mitigation policies approved between 1 January 2000 – 1 January 2010), for the years 2010- 2030 (Table 2.4).

Table 2.4

Historical and projected GHG emissions and removals by sectors, according to the baseline scenario, 1990-2030

sectors	1990	1995	2000	2005	2010	2015	2020	2025	2030
	Historical values					Projected values			
Dynamics of GHG emissions by sectors, Mt CO₂ equivalent									
Energy	34.52	11.72	6.67	8.47	8.87	8.75	9.38	10.53	12.08
Industrial Processes	1.84	0.48	0.27	0.56	0.56	0.75	0.99	1.26	1.55
Solvents and Other Products Use	0.13	0.03	0.03	0.07	0.06	0.06	0.06	0.06	0.06
Agriculture	5.06	3.28	2.29	2.36	2.10	2.57	2.83	3.14	3.52
LULUCF	-5.89	-1.03	-1.39	-0.38	0.04	-0.03	-0.37	-1.80	-2.66
Waste	1.87	1.90	1.47	1.30	1.57	1.57	1.70	1.86	1.99
Total national GHG, including LULUCF	37.53	16.40	9.34	12.38	13.20	13.66	14.60	15.05	16.55
Total national GHG, excluding LULUCF	43.42	17.42	10.73	12.75	13.16	13.70	14.97	16.85	19.21
Changes relative to 1990, %									
Energy	100	-66.0	-80.7	-75.5	-74.3	-74.7	-72.8	-69.5	-65.0
Industrial Processes	100	-73.9	-85.3	-69.6	-69.6	-59.2	-46.2	-31.5	-15.8
Solvents and Other Products Use	100	-76.9	-76.9	-46.2	-53.8	-53.8	-53.8	-53.8	-53.8
Agriculture	100	-35.2	-54.7	-53.4	-58.5	-49.2	-44.1	-37.9	-30.4
LULUCF	100	-82.5	-76.4	-93.5	-100.7	-99.5	-93.7	-69.4	-54.8
Waste	100	1.6	-21.4	-30.5	-16.0	-16.0	-9.1	-0.5	6.4
Total national GHG, including LULUCF	100	-56.3	-75.1	-67.0	-64.8	-63.6	-61.1	-59.9	-55.9
Total national GHG, excluding LULUCF	100	-59.9	-75.3	-70.6	-69.7	-68.4	-65.5	-61.2	-55.8

Under the baseline scenario for direct GHG emissions evolution, the amount of GHG emissions has been steadily decreasing since 1990 until 2000, and further, tends to grow until 2030.

Section 2. Contribution of sectors to low emission development and highlighted issues

2.1. Contribution of the energy sector to low emission development, and problems identified in this sector

5. The energy sector is the main branch of the national economy and it requires high energy security. The energy system of the Republic of Moldova has the following weaknesses:

- 1) Own resources of fossil and hydro fuels are insignificant, with imported energy resources accounting up to 87.1% of the needs;
- 2) In the country's energy balance, about 37-40% of supply is covered by natural gases, which are imported from one supplier ("Gazprom", Russian Federation);
- 3) About 85% of the energy demand of the territory on the right bank of the Dniester River is met by imported resources;
- 4) Almost 70-75% of the energy equipment is obsolete, the lifetime of the electricity sources is expired;
- 5) High energy intensity (about 3 times higher than the EU average);
- 6) Lack of own financial resources for the sector development.

6. Taking into account the low energy security, the Republic of Moldova has committed itself to overcome the existing challenges by approving sectoral policies, such as the Energy Strategy of the Republic of Moldova until 2030, approved by the Government Decision No. 102 of 5 February 2013, the National Development Strategy "Moldova 2020", approved by Law No. of 11 July 2012.

The aforesaid documents set up the following priority objectives:

- 1) Security of energy supply
- 2) Promoting energy efficiency;
- 3) Creating competitive markets and integrating them in the regional and European markets;
- 4) Environmental sustainability and combating climate change.

These policies provide for increasing the share of renewable energy sources in the country's energy balance up to 20% by 2020, and in terms of producing electricity from renewable sources – to achieve a 10% coverage of the demand.

The Strategy provides for using the energy potential of the biomass, of solar energy by converting it into electricity and heat, of wind, hydraulic energy and, in the future, of new energy sources.

In order to achieve the above-mentioned objectives, the existing legislative and regulatory framework provides for the ways to achieve the goals, responsibilities and obligations in this regard, the rules and mechanisms to leverage implementation of the appropriate measures, and identifies the priority areas and activities needed to achieve the targets.

7. The Republic of Moldova has undertaken a series of measures to implement the EU acquis on electricity, including by passing the Law on Electricity no. 107 of 27 May 2016. The electricity transmission and distribution systems activities were legally separated from electricity generation and supply activities. The timelines for the electricity market opening have been transposed into national legislation. In 2010 the country joined the Energy Community, and is currently in the process of implementing its commitments in conformity with the signed treaty.

The Methodology for setting, approving and applying tariffs for electricity distribution and, separately, for electricity transmission provides for an adequate return on capital, what will make it possible to consolidate the respective networks and make new investments. The Methodology was developed in a way to motivate network operators to cut down the losses of electricity in distribution and transmission networks, thus contributing to GHG emissions reduction, as stipulated in the National Energy Efficiency Program 2011-2020, which is another tool aimed to reduce GHG emissions. The Program sets the objectives and priority actions to be implemented by 2020 to respond to the challenges of growing energy prices, dependence on imported energy resources and of the impact of the energy sector on climate change.

Because the importance of human factor on reducing energy consumption is undeniable, the Program provides for the National Communication Strategy on Energy Efficiency, underlining the need to carry out thematic campaigns to raise public awareness, to encourage people to use energy rationally and make informed decisions when procuring utility services, building materials, housing and household appliances, and energy-impact products.

The National Energy Efficiency Program 2011-2020 provides for development and approval of the national energy efficiency action plans, adopted every three years. The Program is updated every three years or depending on the technical progress, as well as amendments operated to the European directives.

All instruments and measures mentioned above contribute to the development of the energy generation sources, electricity transmission and distribution networks in the most efficient way, being correlated with the availability of capital resources and of investors.

A transparent, well developed market laws-based framework for the energy sector will create favorable conditions for investors in the energy sector and will adapt the environmental protection policies based on the market principle.

The Energy Efficiency Agency, the Energy Efficiency Fund and the mechanism for accessing, using and monitoring the funds allocated to achieve energy efficiency, were created during 2010-2012.

Thus, the emphasis was put on the development of a modern and comprehensive legislative and regulatory framework. A predictable and enabling investment environment reduces the risk perceived by investors and attracts capital in the energy sector, which is a precondition for the continuous modernization of the sector and low carbon development.

Highlighted issues:

1. Although attracting investments in the energy sector has been the Government's a priority for a long time, lack of an adequate regulatory framework, the low payment capacity of consumers and the relatively high cost of capital in the Republic of Moldova have made investments difficult or very expensive. Thus, insufficient financing limits the increase of energy efficiency throughout the entire chain of energy production, transport, distribution and consumption. At the same time, most measures aimed at reducing GHG emissions require investments, which determine the price increase for energy resources, which does not assure economy's sustainability.

2. Availability of electricity generation sources (Ukraine and the Moldovan Thermal Power Plant) that produce energy at lower prices than a new plant, limits the investors' interest in construction of new power plants in the country.

3. The legal framework enabling the development of renewable sources is in place, but investors are reserved, because the tariffs for electricity produced from renewable sources are not known *a priori*, i.e. *feed-in* tariffs are not developed. As a result, it becomes problematic to meet the objectives related to promoting renewable energy set out in strategic documents. The high costs of renewable energy technologies and lack of certainty regarding energy provision are major obstacles to the expansion of renewable energy sources in the Republic of Moldova. Use of biomass for heat production in rural areas can be regarded as an exception, with a number of projects launched with the support of development partners.

4. After accession to the European Union, the Republic of Moldova shall be required to comply with the requirements of the EU's emissions trading certificates system. Consequently, As a result, the CO₂ emissions reduction activities will become an important factor in stimulating energy efficiency in the Republic of Moldova. At present, there is no definite solution at the international level regarding the policies governing CO₂ emissions. This was also demonstrated by the Paris Agreement, adopted in December 2015 at COP21 of the UNFCCC. At the same time, it can be understood that mitigation policies will be based on market instruments and price capping. This approach has already been confirmed by the EU's decision to apply the limits and CO₂ emissions

prices. In this regard, the Republic of Moldova is going to start preparing an institutional change and change the activity paradigm of all GHG emissions generating entities, including power plants, since, once implemented, such a system will quickly cover not only emissions from international air transport, but also from other emissions categories and sources.

2.2. Contribution of the transport sector to low emissions development, and problems identified in this sector

8. The GHG emissions reduction objectives for the transport sector are set in the Energy Strategy of the Republic of Moldova until 2030. Thus, according to the aforementioned Strategy, the following types of activities are the short- and medium-term priorities for reducing the impact of the Transport sector on the environment:

- 1) Replacement of traditional fuels with compressed natural gas and liquefied petroleum gas, which are less polluting;
- 2) Development and implementation of the national environmental protection standards and norms in line with EU standards, to reduce the polluting emissions, including from the transport sector;
- 3) Implementing the Directive 93/76/EEC on CO₂ emissions limitation, Directive 94/63/EEC, and Directive 96/59/EEC;
- 4) Raise awareness among the target groups, and general public;
- 5) Designing creative financing schemes.

9. The National Energy Efficiency Program for 2011-2020, the National Development Strategy "Moldova 2020", the Energy Strategy of the Republic of Moldova until 2030, and the Environmental Strategy for 2014-2023 update the GHG emissions mitigation objectives in the Transport sector and provide for an increase in the share of biofuels up to at least 10% of the total fuels used in the transport sector until 2020.

These documents provide for the designated public authority to commit to developing energy saving programs in the transport sector, and developing an action plan to specify the potential use of biofuels expected to be produced from biomass.

Land Transport Infrastructure Strategy for 2008-2017, approved by the Government Decision no. 85 of 1 February 2008, is focused on three priority directions: rehabilitation of the existing infrastructure, development of the new infrastructure, and improvement of the institutional framework. The strategy implementation has a positive impact on the population's safety and health, reducing the number of accidents and level of air pollution, as a result of maintaining the constant speed in traffic on certain sectors of the rehabilitated roads.

In recent years, the car fleet of the Republic of Moldova has grown, including due to import of new, less polluting vehicles. This was promoted by the law prohibiting the import of cars, minibuses, trucks and buses that have been in operation for more than 10 years.

Modernization of the railroad transport is also a basic condition for providing quality and affordable services, to support international long-distance commercial operations and to increase the efficiency of the national economy. The restructuring process of the railroad sector should be supported by the rehabilitation of the existing railroads network, and ensuring adequate financing.

10. The aviation sector, which contributes about 2% of global GHG emissions, is included in the European Union's GHG emissions allowance trading system. This means that all airlines flying to and from the European Union are required to offset in-flight emissions by purchasing emission permits and/or certified emission reductions.

The EU regulations for flights from the Republic of Moldova to the EU and vice versa are also applicable to the Republic of Moldova, so the aviation sector is the first sector in the RM to be

compulsorily included in the EU emissions certificates trading scheme, with an officially established emission ceiling.

Currently, the possibility of including other sectors of the national economy in the EU emissions certificates trading scheme is being negotiated. This can have an impact on the development of the national economy after 2018.

Highlighted issues:

1) Reducing GHG emissions in the transport sector will require profound changes in transportation and infrastructure planning, as well as transition to low carbon fuels. One of the barriers associated with vehicles energy efficiency improvement is the perceived commercial risk of investments in efficient technologies development, which results, in part, from the lack of clear regulatory signals in the form of vehicles efficiency standards. As far as demand is concerned, the pre-operational costs for electric and hybrid vehicles are high. The lack of infrastructure to power electric vehicles is also a barrier.

2) Fuels such as compressed natural gas, liquefied petroleum oil and biofuels (bioethanol, biodiesel) are to be promoted as less carbon-intensive alternatives compared to conventional petroleum fuels. The internal resources of fossil fuels are very limited and the Republic of Moldova is facing problems associated with fuel supply security, and supply of natural gas and oil. Use of biofuels, taking into account the demand for arable land and water resources for irrigation, competes with the more pressing objectives of the internal policy of food security.

3) A major challenge, faced by the public transport infrastructure related projects is associated with very high pre-operations capital costs, unsatisfactory urban planning and inadequate institutional mechanisms for managing transport demand in urban areas.

2.3. Contribution of the buildings sector to the low emissions development and problems identified in this sector

11. The Law No. 128 of 11 July 2014 on the Energy Performance of Buildings promotes the improvement of energy performance in buildings, taking into account the climatic conditions, requirements regarding the indoor climate and the cost-efficiency ratio. It also provides for development and implementation of energy performance certificates for buildings and energy audit standards required for energy auditing of certain buildings.

Development of economic and financial mechanisms in energy efficiency and renewable energy sources is the responsibility of the Energy Efficiency Agency, while the Energy Efficiency Fund shall provide for financing in conformity with the strategies and programs developed by the Government.

Thus, according to the National Energy Efficiency Program for 2011-2020, a program providing for gradual increase of the number of buildings in the public sector with nearly zero energy consumption will be developed. Taking into account the national circumstances, the most relevant instruments for financing and enhancing energy performance of buildings will be developed in the course of transition to buildings with nearly zero energy consumption.

Also, by 2020, the authorized public authorities will develop a rehabilitation program to improve energy performance of old buildings and reduce heat costs.

Highlighted issues:

1) Many energy efficiency projects in the Building sector are too small to attract the attention of investors and financial institutions. The small size of the project and the disproportionately large transaction costs impede some energy efficiency investments. In addition, the low share of energy spending in the disposable incomes of the population and the opportunity costs associated with time needed to identify and implement efficient solutions, severely limit the motivation to increase energy

efficiency in the Buildings sector. Also, information about energy efficiency options is often incomplete, unavailable, expensive, and difficult to obtain or unreliable.

2) Limited availability of capital in construction sector, reduced access to capital markets for low income households and small businesses.

2.4. Contribution of the industry sector to the low emissions development and problems identified in this sector

12. The National Development Strategy “Moldova 2020” and the Energy Strategy of the Republic of Moldova until 2030 provide for by 10% reduction of energy intensity, including in the Industry sector, by 2020.

The National Energy Efficiency Program 2011-2020 provides for stimulating investments in industry, in particular "in energy efficiency by creating favorable tax incentives, as well as support funding for this purpose". The program envisages measures aimed at increasing energy efficiency in the Industry sector, including:

1) Designing voluntary agreements by which the industrial sector undertakes to implement energy efficiency measures to reduce energy demand;

2) Enabling, through the Energy Efficiency Fund, the industrial enterprises to implement energy efficiency projects;

3) Monitoring of energy consumption in the industrial sector by the Agency for Energy Efficiency, by means of mandatory questionnaires, to be filled in by energy companies at the end of each calendar year.

Highlighted issues:

1) Even though a wide range of cost-effective GHG emissions reducing technologies is available, there are a multitude of economic barriers for implementation. In the industrial sector, companies will invest in mitigating GHG emissions to the extent other factors will generate a return on their investments.

2) The machinery and equipment existing in the industrial enterprises of the Republic of Moldova have a high degree of moral and physical wear and tear, and the state has limited opportunities to financially support the process of restructuring and re-tooling industrial enterprises.

3) There is an increasing deficit of qualified engineering and technical personnel and a discrepancy between the vocational training of the technical personnel and the industry needs.

4) The slow pace of capital rotation in many areas is an obstacle to mitigating GHG emissions. The excess capacity of certain industrial branches may further slowdown capital rotation. Policies that encourage capital rotation mitigate GHG emissions. New, relatively expensive technologies often have longer periods of return on investment and pose a higher risk.

5) Instability of the legislation, especially in the field of tax and budgetary policy, the reduced possibilities of the state to financially support the process of industrial enterprises restructuring, the outdated GOST standards which do not allow for product range diversification and contribute to maintaining a high level of emissions.

6) Lack of enabling business environment is also a barrier to technology transfer. The ability of small and medium-sized enterprises to access and absorb information on the best performing technologies is often limited. Even large companies have limited technical resources to interpret and translate the available information.

7) Lack of energy service companies that would take on the role of helping small and medium-sized businesses find and finance efficiency improvements. Creation of energy service companies is

constrained by unavailability of starting capital from financial institutions that are not used to the business model of such organizations.

2.5. Contribution of the agriculture sector to the low emissions development, and problems identified in this sector

13. The general objective of the National Strategy for Agricultural and Rural Development for 2014-2020, approved by the Government Decision no. 409 of 4 June 2014, aimed at ensuring a sustainable growth of the agriculture and food industry sector, as well as subsequently improving the quality of life in rural areas by enhancing sector productivity and competitiveness.

14. Soil Fertility Conservation and Enhancement Program for 2011-2020, approved by the Government Decision no. 626 as of 20 August 2011, provides for restoring the protective green structure of the protection forest belts around agricultural lands and water basins, afforestation and grassing of lands affected by landslides, planting new vineyards and fruit orchards, promoting growing grassy crops between vineyard and orchards rows to prevent soil erosion, which will also have an impact on the level of carbon removal and GHG emissions reduction. The Program provides for measures directly or indirectly contributing to achieving this objective, such as:

1) use of green fertilizer (mixed leguminous and grass crops): incorporating of temporary vegetation carbon into the soil between the cultivation periods of the basic agricultural crops;

2) incorporation of plant residues into soil: increased carbon amount in soil is ensured by incorporation of agricultural residues remaining in the field after the main crop harvesting;

3) optimizing use fertilizers: reducing the use of nitrogenous fertilizers will lead to reduced N₂O emissions;

4) crop rotation: including predominantly frequently sown crops can greatly increase carbon sequestration in the soil;

5) leguminous crops rotation: including leguminous nitrogen-fixing crops such as beans, peas, soybeans, vetch, lucerne, sainfoin contributes to reducing the need for nitrogen fertilizers, respectively, reducing the related emissions of N₂O and CO₂ and increasing the organic carbon in soil. Thus, the optimized choice of agricultural crops plays a significant role in soil carbon conservation.

Also, one factor contributing to reducing soil carbon loss and thus increasing agricultural crop productivity is reducing the area of uncultivated (derelict) land, enhancing and reproducing soil fertility, including on degraded lands, combating soil erosion and enhancing use of poorly productive land, introducing sustainable soil fertilization practices by using manure and incorporating plant residues into soil.

Other components of sustainable agriculture, such as agroforestry practices, integrated crop management practices with use of sideral fertilizers are also effective in mitigating GHG emissions.

Another prerequisite for moving to sustainable agriculture is reducing the number of soil works by implementing conservation "mini-till" and "no-till" tillage systems.

The integrated use of sustainable agricultural practices ensures the restoration and enhancement of soil fertility, higher productivity of the crops sector, respectively a more balanced ratio between the crops and animal husbandry sectors, thus contributing to considerable reduction of GHG emissions from the Agriculture sector.

Implementation of sustainable animal husbandry policies contribute to minimizing GHG emissions from animal manure, as a result of sustainable manure management practices, as well as use of methane emissions recovery technologies (biogas production).

Highlighted issues:

The inception of agriculture sector reform, completed in 2000 by restructuring agricultural holdings and privatizing the main inputs (land, fixed and current assets), can be regarded as a phase of deep structural transformations of the sector.

Besides some positive changes (privatization, the multitude of organizational forms of the production process, creation of a competitive, enterprising, entrepreneurial climate etc.), these structural transformations have also caused obvious cross-sectoral disproportions resulting in loss of jobs, shrinking of investments, high share of subsistence agricultural holdings, prevalent use of outdated agricultural technologies, low labor productivity and high production costs, excessive simplification of crop rotation, poor product range and quality of agricultural products, reduced mineral fertilizer use, and respectively, a deeply negative balance of humus and soil fertility etc.

Fodder crops and some technical crops, including tobacco, partly sugar beet, as well as vegetables, potatoes, aromatic oil crops, medicinal plants and other products with high added value were excluded from agricultural holdings product range. The production of basic livestock products has been significantly reduced due to the small-scale production prevalence in the individual livestock sector with predominantly extensive production technologies. As a consequence, the sector productivity has reduced and environment pollution has increased, because the manure is not managed on the fields as organic fertilizer, but remains stored within the area of rural settlements.

In recent years, the share of foreign direct investments in agriculture accounted for only about 1.5% of the total investments, which indirectly confirms the decreased competitiveness of this sector of the national economy.

The following problems stand out in this sector:

- 1) lack of budget allocations, especially for renovation of the inventory base, and lack of capital investments for assets renovation;
- 2) insufficient funding for subsidizing agricultural producers (in the last years the agricultural subsidies did not exceed 3% of the budget expenditure);
- 3) excessive fragmentation of agricultural land, which is a factor contributing to low agricultural yields, including by failure to observe the soil cultivation technologies;
- 4) insufficient development of conservation agriculture;
- 5) insufficient and disproportionate fertilization of agricultural crops with chemical fertilizers (20-25 kg/ha of active substance, of which 80-90% are chemical nitrogen fertilizers), gradual depletion of phosphorus and potassium reserves in soil, with a negative effect on the amount and quality of agricultural production;
- 6) absolute failure to use organic fertilizers on arable lands leads to decreased efficiency of chemical fertilizers, a deeply negative balance of humus and carbon in soil, increased GHG emissions, destruction, strong compaction of the arable layer and increased risk of pedological drought with serious consequences for the quality and production capacity of agricultural soils;
- 7) lack of investments for the recovery of the animal husbandry sector and for implementing sustainable manure management systems;
- 8) lack of an integrated and comprehensive approach to efficient use of renewable energy resources (agricultural waste, animal waste);
- 9) insignificant development of the value chain segments of high value-added agricultural products;
- 10) inefficiency of statistical accounting system of agricultural crops, livestock and poultry;
- 11) insufficient assurance of agricultural and food products safety.

2.6. Contribution of the forestry sector to the low emissions development, and problems identified in this sector

15. Existing policies regarding the forestry sector include provisions that, directly or indirectly, influence the sector's ability to increase carbon removal capacity. These policies are focused on expanding forest areas, preserving biological diversity, strengthening institutional and human capacity, international cooperation, etc.

Pursuant to art. 78 and 80 of the Forest Code no. 887-XIII of 21 June 1996, it is forbidden to fragment and diminish the forest fund areas and surfaces outside it covered with forest vegetation, except for special cases.

The Law no. 1041-XIV of 15 June 2000 on improvement of degraded lands by afforestation regulates the aspects of allocation and afforestation of degraded lands. The financing of afforestation and planting works (design, planting and care of new forests and protection forest belts until they reach the status of fully stocked wood) should be from the funds intended to improve the state of degraded lands, allocations from the state budget, the national and local ecological fund, external financing, sponsorships etc. The central public authority will provide the owners of these lands with forest reproductive material and will carry out afforestation of degraded lands.

According to the Environmental Strategy for 2014-2023, the forest areas of the Republic of Moldova will be expanded up to 15% of the territory of the country, by planting about 150 thousand ha of forests and forest plantations on degraded lands and in forests comprised in the forest fund and from outside. These efforts will reduce GHG emissions through carbon sequestration.

Highlighted issues:

1) Forest resources in the Republic of Moldova are limited, and illegal logging is considered a major problem of the Forestry sector. Despite the fact that, since the mid-1990s, a series of documents and legislative/regulatory acts in the field of forestry regarding the prevention and combating illegal logging have been approved and passed, recent studies show that the total volume of wood from unidentified sources (mainly from illegal logging) amount to about 400 thousand m³ annually, which is almost equal to the volume of officially harvested wood. It is explained by low purchasing power of the population, which is not able to legally satisfy their needs of wood, especially firewood; low living standards in rural areas and lack of other sources of income; high taxes and duties on legally obtained timber; offers of legally harvested wood products do not meeting the domestic demand, and the latter is not affected by the legality of the wood material; the capacities of local wood processing companies exceed the legally produced quantities; lack of specialized personnel for guarding the lands covered with forest vegetation (mostly owned by local authorities); improper enforcement of forestry legislation; low salaries of forestry personnel and lack of incentives; inadequate monitoring of the wood flow and its origin.

2) Insufficiency of the institutional and management framework for the objects and natural areas protected by the state and lack of funding needed to ensure sustainable management thereof, the insufficient size of the natural areas protected by the state (only 5.5% of the territory), as well as of forests (only 11.1% of the territory of the country), the insufficient assurance and development of sustainable management of forests, green spaces, pastures on wetlands, continuous degradation of rivers and aquatic basins protection forest belts that causes loss of habitats and ecosystems.

2.7. Contribution of the waste sector to the low emissions development, and problems identified in this sector

16. The national waste management policy is focused on the development of the infrastructure and services need for adequate protection of the environment at global, national and local level against the effects associated with management of waste produced by population,

businesses and institutions, in conformity with the provisions of the Waste Management Strategy of the Republic of Moldova for 2013-2027, approved by the Government Decision no. of 10 April 2013.

A legal, institutional and informational framework is being developed for a gradual harmonization of the national waste management practices with the European Union's ones. Partnerships at international, national and local level encourage and attract the investments needed for sustainable development of the sector in line with to the priorities and pace which the society is able to keep with.

According to the Waste Management Strategy, achieving the general objectives will contribute to:

- 1) increasing the coverage of waste collection services for all waste streams;
- 2) reducing the amount of waste deposited on landfills non-conforming with the new requirements, approved by the legal framework approximated to the European Union directives, and cleaning of the historically contaminated lands;
- 3) increasing collection and use of secondary raw materials by promoting recycling and reuse of waste;
- 4) extending the operating life of the solid waste deposit sites and equipping the depots with emission capturing and leache treating systems, thus limiting the impact of GHG emissions, persistent organic pollutants and the leache generated by solid waste deposit sites;
- 5) reducing the amounts of untreated biodegradable household waste, deposited on landfills;
- 6) development of new processing, treatment and waste disposal facilities that meet international standards.

Highlighted issues:

- 1) Lack of legislative, normative and technical regulations in the field of waste management, compliant with the current situation and EU legislation requirements.
- 2) Lack of infrastructure for planning, organizing and implementing an integrated waste management system at all levels.
- 3) Specialized services for waste collection and disposal are available in municipalities and in all district centers. Waste management services are provided on a contract basis. However, this system covers only 60-90% of the total waste generators in the urban area.
- 4) Lack of deposits for final depositing of waste built and operated in conformity with environmental standards.
- 5) Insufficient financing for waste management and water treatment both at the state, and private level.
- 6) Outdated technical capacities of wastewater treatment plants.
- 7) Insufficiency of modern processing plants of sludge formed during wastewater treatment process.
- 8) Poor waste collection, transportation and disposal infrastructure, especially in rural areas.
- 9) Lack of clearly defined responsibilities for each actor involved in waste and wastewater management at the level of state institutions, associations, NGOs, private sector, associated civil society (all having insufficient funding for waste management at the state and private level) prevents the implementation of global measures for waste and wastewater management.
- 10) Lack of capacities for treatment of hazardous waste, including hospital waste, which pose an increased risk for the environment if deposited together with the municipal solid waste, as well as construction and demolition waste, animal waste, road waste, technical oils, tires, etc.

Waste will continue to be an important source of environmental pollution in the Republic of Moldova if no concrete measures are taken to establish proper management based on a legislative, normative and technical framework, in line with the principles of the European Union directives.

III. VISION, GOAL AND OBJECTIVES

17. This Strategy presents a vision of changing the Republic of Moldova's long-term development paradigm towards green economic development, having the assessment of low carbon development constraints as basis. In this respect, it will strengthen and guide the sector development approach.

18. **The vision** of this Strategy starts from treating a development mechanism geared towards reducing GHG emissions and expanding the financial coverage aimed at promoting adequate investment policies and projects to mitigate GHG emissions in all sectors of the national economy.

19. **The goal** of the Strategy is to ensure the economic development of the Republic of Moldova based on low GHG emissions.

20. **The general objective** of this Strategy corresponds to the general objective set forth in the Intended Nationally Determined Contribution and is geared towards unconditional reduction, by 2030, of the total net national GHG emissions by not less than 64% relative to 1990, to support the global effort to maintain the increase of the global average temperature within the limit up to 2°C by 2100. The GHG emissions reduction target could be increased to 78% conditionally - in accordance with a global agreement, which would address important issues, such as low cost financial resources, technology transfer and technical cooperation, with access to all to the extent proportionate to the global climate change challenges

The general objective will be achieved by reducing GHG emissions in seven sectors, according to the specific objectives below, reflected in absolute values in Table 3.1 and Figures 3.1 and 3.2:

Specific objective 1. Unconditional GHG emissions reduction from the energy sector by 74% by 2030, and conditional GHG emissions reduction by up to 82% relative to 1990.

Specific objective 2. Unconditional of GHG emissions reduction from the transport sector by 30% by 2030, and conditional GHG emissions reduction by up to 40% relative to 1990.

Specific objective 3. Unconditional GHG emissions reduction from the buildings sector by 77% by 2030, and conditional GHG emissions reduction by up to 80% relative to 1990.

Specific objective 4. Unconditional GHG emissions reduction from the industry sector by 45% by 2030, and conditional GHG emissions reduction by up to 56% relative to 1990.

Specific objective 5. Unconditional GHG emissions reduction from agriculture by 37% by 2030, and conditional GHG emissions reduction by up to 41% relative to 1990.

Specific objective 6: Conditional increase of carbon dioxide removal capacity in the Land Use, Land-Use Change and Forestry sector up to 62% by 2030, and conditional GHG removal up to 76% relative to 1990.

Specific objective 7: Unconditional GHG emissions reduction from the waste sector by 38% by 2030, and conditional GHG emissions reduction by up to 47% relative to 1990.

Table 3.1

**Aggregate national
direct GHG emission projections, and by sectors
in the Republic of Moldova under the considered scenarios
until 2030, Gg CO₂ equivalent**

Sectors	1990	2020	2025	2030
With Measures Scenario (unconditional)				
Energy (Production of electricity and heat)	22832	5070	5553	5979
Transport	7762	1727	1611	1754
Buildings	3927	1999	2336	2737
Industry	1842	782	894	1005
Agriculture	5064	2613	2876	3189
Land Use, Land Use Change and Forestry	-5887	-712	-2537	-3653
Waste	1865	1437	1015	1153
Total national GHG emissions with LULUCF	37532	12978	11809	12225
Total national GHG emissions without LULUCF	43419	13690	14346	15878
With Additional Measures Scenario (conditional)				
Energy (Production of electricity and heat)	22832	4086	4122	4131
Transport	7762	1634	1439	1533
Buildings	3927	1741	2023	2373
Industry	1842	697	757	815
Agriculture	5064	2534	2776	3003
Land Use, Land Use Change and Forestry	-5887	-1088	-3177	-4491
Waste	1865	1383	916	988
Total national GHG emissions with LULUCF	37532	11048	8917	8411
Total national GHG emissions without LULUCF	43419	12136	12095	12902

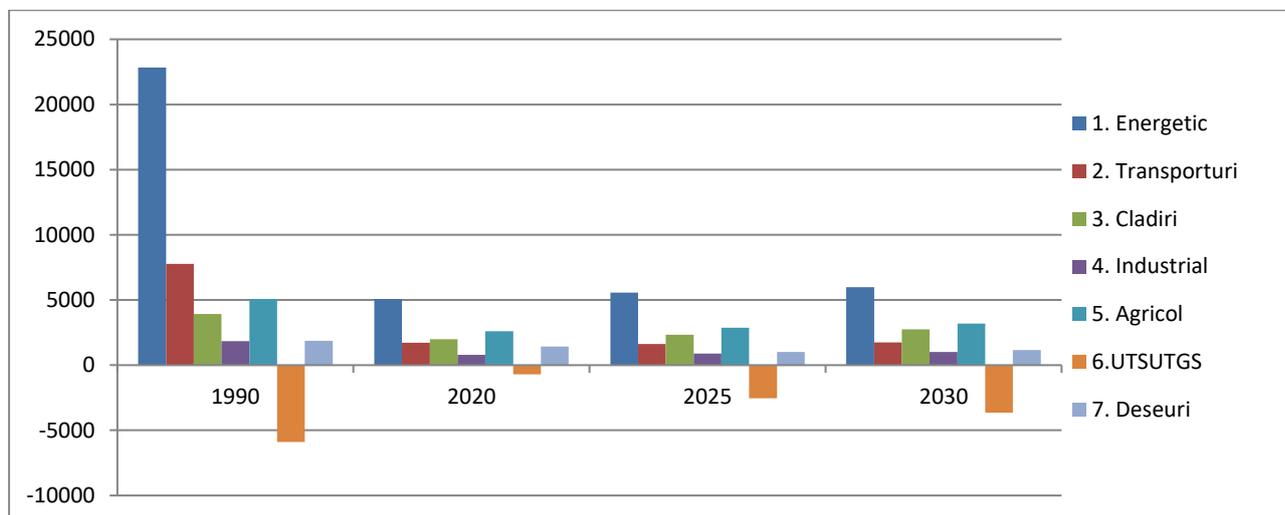


Figure 3.1 Direct GHG emissions by sectors under the With Measures Scenario (unconditional) until 2030, Gg CO₂ equivalent

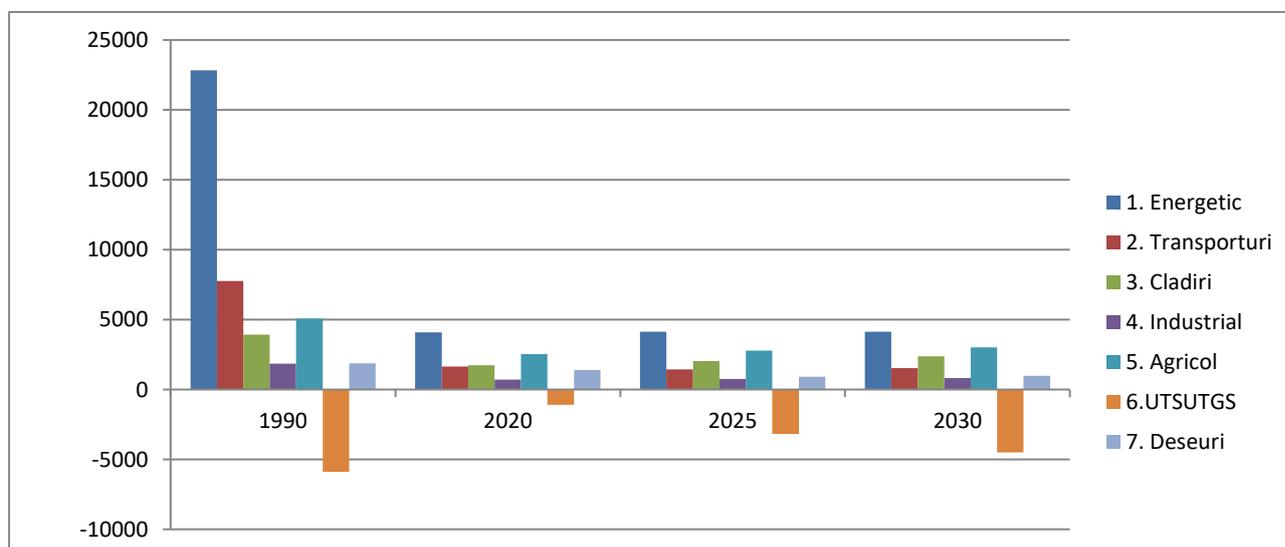


Figure 3.2 Direct GHG emissions by sectors under the With Additional Measures Scenario (conditional) until 2030, Gg CO₂ equivalent

21. Intermediate targets have been set for the years 2020 and 2025 which aim at reducing the total national GHG emissions by not less than 65% (by 2020) and 69% (by 2025), respectively, relative to 1990. These targets can be marked up provided there is more significant financial support through the international mitigation mechanisms planned to be developed and approved within the Framework Convention. The intermediate targets for each sector are presented in Table 3.2.

Table 3.2.

Intermediate targets of the Strategy, by sectors, %

Sectors	Until 2020		Until 2025		Until 2030	
	unconditional	conditional	unconditional	conditional	unconditional	conditional
Energy	78	82	76	82	74	82
Transport	49	56	41	48	30	40
Buildings	78	79	79	81	77	80
Industry	58	62	51	59	45	56
Agriculture	48	50	43	45	37	41
LULUCF	12	18	43	54	62	76
Waste	23	26	46	51	38	47
TOTAL	65	71	69	76	64-67	78

22. In order to reach the targets by 2020 and 2030, activities have already been initiated and will continue to be developed, which are focused on:

- 1) identifying direct GHG emissions mitigation solutions that do not affect the process of economic development and growth;
- 2) highlighting and eliminating barriers to the transition towards low emissions development;
- 3) consolidating and further promoting projects and/or investments focused on low-emission economic development;
- 4) prioritizing identified mitigation actions;
- 5) formulating appropriate mitigation actions at national level and presenting them to development partners and donors for financing;
- 6) regular registration of mitigation actions in the NAMA Register managed by the UNFCCC Secretariat;
- 7) using the relevant potential for implementation of the unilateral Nationally Appropriate Mitigation Actions, etc.

The GHG emissions reduction targets by 2030 set by the Intended Nationally Determined Contribution will be developed in an emission budget, which will cover the period from 1 January 2021 to 31 December 2030.

IV. DIRECTIONS OF ACTIONS

23. The leads of actions aimed at achieving the goal and objectives of the Strategy include different approaches, such as: implementation of policies and activities programs, as well as implementation of projects targeted towards reducing greenhouse gas emissions.

24. This chapter includes mitigation options, by specific objectives, grouped in three types of nationally appropriate mitigation actions.

Nationally appropriate mitigation actions include a wide range of approaches aiming to mitigate the climate change phenomenon, with or without carbon financing components, such as implementation of policies, activity programs and individual projects, aimed at reducing GHG emissions. There are three types of NAMAs within the UNFCCC:

1) *unilateral actions* - mitigation measures undertaken by developing countries on their own account;

2) *supported actions* - mitigation measures in developing countries, implemented with the support of developed countries, included in Annex I to the UNFCCC, which provide financial support for technology transfer and capacity building;

3) *credited actions* - mitigation measures in developing countries, generating carbon emission certificates for the carbon market.

25. In accordance with the Copenhagen Agreement (2010), the non-Annex 1 parties to the UNFCCC will contribute to the process of climate change mitigation by undertaking NAMAs.

26. The unilateral actions are subject to internal monitoring, reporting and verification procedures and shall be reported every four years, through National Communications and every two years through the Biennial Update Reports, in conformity with the guidelines to be adopted by the Conference of the Parties. For international consultations and analyzes, predispositions will be created according to the clearly defined recommendations.

The Republic of Moldova has already put forward a number of successful initiatives to promote low-emission economic development goals, such as: energy efficient technologies, adjusting energy tariffs and supporting the regulatory framework needed to develop renewable energy sources.

Potential unilateral NAMAs are:

1) further development and implementation of green economic development policy documents of the Republic of Moldova;

2) promoting the legislative and regulatory framework to support the implementation of the Strategy;

3) strengthening the institutional framework needed for proper implementation of the Strategy;

4) implementation of priority mitigation actions with financial support from the state budget and available extrabudgetary funds. The Republic of Moldova is eligible to request external support for formulation and implementation of the actions underlying this Strategy.

At the 15th Conference of the Parties (Copenhagen, Denmark) in December 2009, industrialized countries have committed to provide the so-called "fast financing" for developing countries, to support low emission development strategies.

27. In accordance with the conclusions of the ad hoc working group for the long-term cooperation action, at the 16th Conference of the Parties (Cancun, Mexico) in December 2010, it was decided to set up the Green Climate Fund - a specialized fund for financing nationally appropriate mitigation actions in developing countries. The Green Climate Fund will financially support projects, programs, mitigation and adaptation policies, as well as other activities in developing countries, in the form of thematic funding.

The Strategic Climate Fund's Program for promoting renewable energy sources in low-income countries could be of special interest to the Republic of Moldova, focused on enhancing access to energy by producing and using renewable energy. The Republic of Moldova is one of the eligible countries under this program. Moreover, the opportunity to implement such activities at national level is dictated by the existence of a dedicated instrument - the Energy Efficiency Fund.

According to the Durban Consolidated Platform for Actions, adopted in 2011 at the 17th Conference of the Parties, developing countries were invited to communicate the priority mitigation actions to be included in the NAMA Register to the UNFCCC Secretariat, starting 2012.

28. Supported actions will be registered by the UNFCCC Secretariat in the NAMA Register. The Register will also contain information on the appropriate support required for technology

transfer, project financing and capacity building. The supported actions will be subject to international monitoring, reporting and verification procedures, in conformity with the guidelines to be adopted by the Conference of the Parties.

In order to register the nationally appropriate mitigation actions in the NAMA Register and submit a request for financial support for implementation of the respective actions, each eligible party must first approve the LEDS, which should contain a list of NAMAs.

29. Aiming at supporting the GHG emissions mitigation actions, in conformity with the Paris Agreement of the Conference of the Parties in December 2015 (COP 21), "before 2025, the Conference of the Parties, which functions as a meeting of the Parties to the Paris Agreement, will set a new quantified collective goal of financing US\$100 billion per year, taking into account the needs and priorities of developing countries".

Supporting the global objective of stabilizing greenhouse gas concentrations in the atmosphere, in accordance with the effort to limit the extent of the global average temperature increase by not more than 2°C towards 2100, the Republic of Moldova decided to follow the transition towards a low emission development path and, as a first step, to draw up the LEDS.

Approval of this Strategy will allow access to "fast start" financing, and long-term financing, for which the developed countries included in Annex I to the Framework Convention committed to support the non-Annex 1 developing countries, including the Republic of Moldova, in implementing low emission development strategies and nationally appropriate mitigation actions.

30. Support for the implementation of the LEDS and the identified nationally appropriate mitigation priority actions may also take the form of a bilateral agreement between the donor and the host country. This is the most likely path, given the interest of donors in associating rapid financing with certain countries and lack within the UNFCCC of the agreed provisions on multilateral financing of the nationally appropriate mitigation actions.

31. Several donors, such as EU Member States, have already announced funding for the preparation and implementation of nationally appropriate mitigation priority actions in some developing countries. The Republic of Moldova has already started accumulating experience in formulating mitigation actions, so that it can act promptly to capitalize on the financial resources for implementing "the nationally appropriate mitigation actions supported" by donors. In this sense, the Low Emissions Capacity Building project was implemented in the Republic of Moldova in 2014-2016. Within this project, four action proposals (out of 136 developed) were selected for detailed review, development of the respective project documents and their registration in the UNFCCC NAMAs Register. The experience gained will allow to launch more new projects of this kind in the future.

32. The vision regarding the credited mitigation actions and sector trading has not yet been agreed internationally. However, there are assumptions that, in the end, these may become eligible under a separate category of the UNFCCC, called "nationally appropriate credited mitigation actions".

The Cancun Agreement confirms the firm support of the UNFCCC Signatory Parties for the continuation of the Clean Development Mechanism of the Kyoto Protocol.

It is expected that the European Union will be the main actor, representing about three quarters of the projected demand during the first and the second commitment period. In financial terms, the value of the carbon markets between 2013 and 2020 could reach up to 80 billion euro.

Bilateral agreements between potential buyers and sellers will play an important role on carbon markets after 2018, as the European Union sees them as a keystone in its international "payment" markets strategy.

In this regard, the Republic of Moldova is going to evaluate the opportunity of commencing negotiations with the European Union on conclusion of a bilateral agreement that will allow

recognition of the Clean Development Mechanism credits generated in the Republic of Moldova after 2012 under the EU Emissions Trading Scheme.

These two approaches are strongly supported by the European Union and would increase the possibility of receiving bilateral funding from the Member States, as well as from the climate funds managed by the European Union.

In the Republic of Moldova, this approach could be used, in particular, to finance energy efficiency measures dispersed within different sectors of the national economy.

33. Such an approach will ensure the sustainability of external assistance to be accessed through the financial mechanisms available within the UNFCCC and Kyoto Protocol. It is anticipated that the objectives of this Strategy will be fully achieved only if the Republic of Moldova get access to "fast start" financing, as well as to long-term financing, for which the industrially developed countries, parties to the UNFCCC, committed to support the developing countries not included in Annex I to this Convention, including the Republic of Moldova, in implementing LEDS and NAMAs through financial, technological and capacity building support.

34. Aiming at achieving general and specific objectives of the Strategy, nationally appropriate mitigation actions (technologies and/or measures) were identified for each sector (energy, transport, buildings, industrial, agricultural, forestry and waste).

35. Below are the priority mitigation actions, grouped according to the specific objectives of GHG emissions reduction, as well as the anticipated results of their implementation in 2016-2030 (Table 4.1).

36. Specific objective 1. Unconditional GHG emissions reduction from the energy sector by 74% by 2030, and conditional GHG emissions reduction by up to 82% relative to 1990.

1) Unilateral mitigation actions in the Energy sector consist of continuing the process of developing the regulatory framework for enhancing energy efficiency and renewable energy sources, such as:

- a) promoting high efficiency cogeneration;
- b) using the potential of renewable energy sources on the sites;
- c) efficient use of the existing district heating system;
- d) developing and promoting the secondary legislation to support achieving the objectives set forth in the Law no. 10 of 26 February 2016 on promoting use of energy from renewable sources;
- e) boosting private investments in cogeneration or combined cycle cogeneration power plants, development of which is not possible without private sector involvement because of the high investment costs;
- f) creating an attractive investment climate, which would impose clear rules for setting and approving tariffs for electricity and heat to recover the costs and gain profit;
- g) promoting and implementing mechanisms to support investments in green energy technologies.

2) Donors supported mitigation actions in the energy sector will be aimed mainly at increasing the efficiency of energy supply and use, as well as for generation of green electricity:

- a) generation of electricity by promoting cogeneration or combined cycle cogeneration groups;
- b) refurbishment and retrofitting the existing district heating plants, as well as centralized power supply systems, where investment efforts are remarkable;

c) reconstruction of existing thermal power plants to make them operate in cogeneration mode, especially in settlements with district heating systems or at the thermal power plants owned by the industrial enterprises;

d) promoting renewable energy sources (wind turbines, water pumping systems using the wind turbines, photovoltaic systems for irrigation, micro-hydroelectric plants without dams, and small hydroelectric plants, thermal energy from biomass, etc.);

e) reducing energy losses in distribution and transport networks.

3) Implementation of credited mitigation actions in the Energy sector, is now possible through a series of methodologies already approved under the Clean Development Mechanism of the Kyoto Protocol, which facilitates carbon financing for investments in production of electricity, thermal power and fuels from renewable energy sources (for example, from solid biomass: straw bales, pellets and briquettes from wood products; of wind, hydro, solar origin).

Lending can provide the necessary motivation or, in order to make projects economically viable, carbon financing may complement other internal incentives or donors funded schemes.

Progress indicators:

74% of greenhouse gases from the energy sector, reduced unconditionally by 2030 relative to 1990.

82% of greenhouse gases from the Energy sector, reduced conditionally by 2030 relative to 1990.

37. Specific objective 2. Unconditional of GHG emissions reduction from the transport sector by 30% by 2030, and conditional GHG emissions reduction by up to 40% relative to 1990.

1) The legislative and regulatory component of policies in transport sector is evaluated as a unilateral mitigation action.

2) The donors supported mitigation actions in the transport sector will be directed mainly to supporting investments in fuel substitution, vehicle conversion, fuel supply infrastructure and management systems such as:

a) wider use of vehicles fueled by compressed natural gas and liquefied petroleum gas;

b) use of hybrid electric vehicles (combines an internal combustion engine and one or more electric motors) and hybrid electric vehicles with connection to the electric grid;

c) production of biodiesel and bioethanol;

d) implementing the "Rapid Transit Bus" system (high capacity transport system used to change the trend of modal transfers to public transport);

d) implementing the electronic road charging systems;

f) developing the infrastructure for electric transport, etc.

3) The implementation of credited mitigation actions in the transport sector is possible through a series of already approved methodologies of the Kyoto Protocol Clean Development Mechanism, which facilitates carbon financing for investments in biodiesel and bioethanol production.

Until now, globally, few emissions reductions from the transport sector have been stimulated by carbon financing. At present the available methodologies do not fully cover the priority policies of the sector.

Progress indicators:

30% of GHG emissions from the transport sector reduced unconditionally by 2030 relative to 1990.

40% of GHG emissions from the transport sector reduced conditionally by 2030 relative to 1990.

38. Specific objective 3. Unconditional GHG emissions reduction from the buildings sector by 77% by 2030, and conditional GHG emissions reduction by up to 80% relative to 1990.

1) Unilateral mitigation actions in the buildings sector would include:

- a) further development of legislation and regulatory documents;
- b) implementation of energy efficiency standards;
- c) implementation of certification systems;
- d) implementation of other normative means to enhance energy efficiency and use of renewable energy sources.

The institutional framework, represented by the Energy Efficiency Agency, is an achievement in this sector, but because the costs for professional operation, energy audits, certification systems may be too high, such actions remain open for donor assistance as well.

2) The donors supported mitigation actions in the building sector will be aimed mainly at supporting investments for using energy efficient technologies in buildings, such as:

- a) buildings envelope insulation;
- b) installation of thermostatic valves to regulate the indoor temperature, including day/night mode;
- c) installation heat meters in each home;
- d) replacing the incandescent bulbs with energy efficient bulbs;
- e) installation of individual heat points in residential buildings;
- f) implementation of the concept of horizontal distribution of the thermal agent;
- g) implementation of the heat recovery ventilation system.

3) There are several options for implementing credited mitigation actions in the buildings and Energy Efficiency sectors, including by promoting small-scale renewable energy installations, such as:

- a) solar installations for production of domestic hot water;
- b) grid connected photovoltaic installations for production of DC electricity; and/or
- c) small, medium and large capacity heat pumps.

Progress indicators:

77% of GHG emissions from the buildings sector reduced unconditionally by 2030 relative to 1990.

80% of GHG emissions from the buildings sector reduced conditionally by 2030 relative to 1990.

39. Specific objective 4. Unconditional GHG emissions reduction from the industry sector by 45% by 2030, and conditional GHG emissions reduction by up to 56% relative to 1990.

1) The unilateral mitigation actions in the industry sector will include:

- a) implementation of energy efficiency standards;
- b) voluntary agreements between industrial enterprises and the Government, by reducing GHG emissions;
- c) other regulatory tools for increasing energy efficiency and use of renewable energy sources;
- d) harmonizing the national regulatory framework with the European Union's legislation (EC Regulation no. 842/2006 regarding certain fluorinated GHGs), aiming at phasing out some fluorinated GHGs.

2) The donors supported mitigation actions in the industry sector will be directed mainly to support investment for:

a) implementing energy management systems and the National Standard SM ISO 50001: 2012 “Energy management systems. Requirements and user guide” at the industrial enterprises of the country;

b) stimulating deployment of energy efficient technologies and renewable energy-based technologies;

c) development of the electronic data reporting system for import of hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, as well as products and equipment with hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride;

d) strengthening the capacity of the Customs Service of the Republic of Moldova to improve the data reporting system for import of hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, as well as products and equipment with hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride;

e) development of technical criteria adjusted to the EC Regulation no. 305/2008, to train the refrigeration specialists to service the refrigeration, air conditioning and electrical equipment;

f) updating the Code of best practices in the field of refrigeration and air conditioning, compulsory training and certification of technicians in refrigeration and air conditioning sector;

g) staggered reduction of hydrofluorocarbon consumption through retrofitting and reuse of refrigeration and air conditioning equipment with new generation alternative freons.

3) There are several options for implementing credited mitigation actions in the Industry sector, including by promoting small-scale renewable energy production facilities, such as:

a) medium and large capacity heat pumps;

b) 2nd generation biofuels to produce heat;

c) solar installations for the hot water production.

Progress indicators:

45% of greenhouse gases from the Industry sector reduced unconditionally by 2030 relative to 1990.

56% of greenhouse gases from the Industry sector reduced conditionally by 2030 relative to 1990.

40. Specific objective 5. Unconditional GHG emissions reduction from agriculture by 37% by 2030, and conditional GHG emissions reduction by up to 41% relative to 1990.

1) Unilateral mitigation actions in the agriculture sector include the development of institutional capacities to regulate and support sustainable practices, such as:

a) implementation of crop rotations involving only often sown crops (straw grains, legumes grasses, perennial grasses) on slopes with a gradient greater than 5°;

b) replacing harrow plough with heavy discs plough to process the soil up to 20 cm in depth;

c) implementation of a scientifically argued cattle feeding technology implying use of different types of feed separately (hay, silage, green plants, concentrates, etc.);

d) implementation of cattle feeding technology using one type mixtures (bulky, coarse, succulent, concentrated feeds, protein-vitamin-mineral additions mixed evenly with special equipment (mixers), and dispensed to animals as homogeneous mix (mono-ration))

2) The donors supported mitigation actions in the agriculture sector will be directed mainly to support investment for:

a) use on a five fields crop rotation of one field as a field occupied by a legume sidereal crop (two harvested crops of autumn and spring vetch incorporated into the soil as green manure on each field once in five years);

b) conservative “no-till” tillage system with prior restoration of positive features of the post-arable layer and use of vetch as intermediate crop, one year later as green fertilizer;

c) the conservative “mini-till” soil tillage system with introduction of mostly mineral fertilizers;

d) use of feed additives which reduce the formation of methane during the digestive process in cattle;

e) storing manure on platforms;

f) composting the manure;

g) manure processing for biogas.

Use of agricultural residues and manure for energy production offers an important additionality to the agricultural sector which can be achieved by using various energy generating technologies, supported both by carbon credits and by a combination of donor support and carbon financing.

However, for the Republic of Moldova the priority is to create the most favorable carbon balance in the soil and to maintain the long-term soil fertility, so that the secondary production of agricultural crops (straw and other vegetable residues) is incorporated in the soil and not used as soil power source.

3) There are several options for implementing credible mitigation actions in the agricultural sector, in particular mitigation projects focused on animal manure management:

a) manure storage on platforms;

b) composting the manure;

c) manure processing to obtain biogas.

At present, methodologies are being developed to support other mitigation options, such as the use of fertilizers and the use of conservative soil cultivation technologies (no-till, mini-till).

Progress indicators:

37% of GHG emissions from the agriculture sector reduced unconditionally by 2030 relative to 1990.

41% of GHG emissions from the agriculture sector, reduced conditionally by 2030 relative to 1990.

41. Specific objective 6. Conditional increase of carbon dioxide removal capacity in the LULUCF sector up to 62% by 2030, and conditional GHG removal up to 76% relative to 1990.

1) Unilateral mitigation actions in the LULUCF sector will include:

a) implementation and enforcement of policies and regulations, and institutional capacity development;

b) decentralizing the activity of public authorities to further improve forest management practices and providing real support to different forms of ownership of forests and forest vegetation;

c) implementing a series of quantitative and qualitative improvement activities, focused on expanding the areas covered with forest vegetation, increasing the carbon removal capacities and strengthening the eco-protective and bio-productive potential of the existing forests, including afforestation of protection areas and belts of river flows and water basins by creating/rehabilitating the forest belts to protect the rivers and the aquatic basins on 30.4 thousand ha; expanding the

afforested areas on account of degraded land, impracticable for agriculture by 81.0 thousand ha, on the account of publicly and privately owned degraded lands; expansion of areas covered with forest vegetation outside the forest fund by 55.0 thousand ha, including in the context of greater promotion of agroforestry and silvo-pastoral practices: for example, by improving the quality of grasslands; reconstruction of degraded stands and taking active measures to combat forest pests.

2) The donors supported mitigation actions in the LULUCF sector will be directed mainly to support investment for:

- a) reducing emissions from deforestation and degradation of forests (REDD + Program);
- b) reconstruction/rehabilitation of the forest protection belts on agricultural fields on about 2.0 thousand ha (according to the norms, the surface of the forest protection belts must be 4% of the arable land area);
- c) supporting communities for sustainable and integrated forest management, including: improvement of productivity of about 800 ha communal grasslands; reconstruction and/or restoration of about 1.2 thousand ha forests and other types of forest vegetation owned by the LPAs; forest landscaping for about 3.2 thousand ha of forests and other types of forest vegetation owned by the LPAs;
- d) planting of forest energy crops from species with high growth rate, managed at small production cycles (10-15 years) on an area of about 10.0 thousand ha.

3) There are several opportunities for implementing credited mitigation actions in the Land Use, Land Use Change and Forestry sector, in particular, the projects implemented under the REDD + Program umbrella. Currently, two Kyoto Protocol Clean Development Mechanism carbon credits generating projects are being implemented: "Soil Conservation in Moldova" Project, which provides for planting about 20.3 thousand ha forests on degraded lands, and the "Development of the Communal Forestry Sector in Moldova", which provides for planting about 8.5 thousand ha of forests on degraded lands.

It should be noted that, the current level of prices does not offer a substantial economic contribution most of these types of projects. Also, REDD + projects are not eligible for compliance within the EU GHG emissions trading scheme.

Progress indicators:

Carbon dioxide removal capacity within the Land Use, Land Use Change and Forestry sector unconditionally increased by 62% by 2030 relative to 1990.

Carbon dioxide removal capacity within the Land Use, Land Use Change and Forestry sector conditionally increased by 76% by 2030 relative to 1990.

42. Specific objective 7. Unconditional GHG emissions reduction from the waste sector by 38% by 2030, and conditional GHG emissions reduction by up to 47% relative to 1990.

1) Unilateral mitigation actions in the waste sector are associated, first of all, with the modernization of the legal and regulatory framework for waste management, which is the principal investment measure in the new waste management infrastructure. The unilateral mitigation measures in this sector could be:

a) development of an integrated municipal solid waste management systems by harmonizing the legislative, institutional and regulatory framework with the European Union standards, based on the regional approach (geographical location, economic development, availability of access roads, pedological and hydrogeological conditions, population numbers, etc.);

b) increasing the amount of recycled and recovered waste by 20-30% by promoting separate collection of solid municipal waste and creation of energy recovery capacities;

c) reducing the amount of deposited biodegradable waste by creating composting facilities at the waste transfer stations or processing centers, including agribusiness enterprises, depending on the amount of the generated biodegradable waste;

d) re-cultivation of at least 50% of non-compliant solid waste deposit sites.

2) The donors supported activities in the waste sector will be targeted, in particular, to supporting investments aiming at implementation of the following technologies:

a) recovery of biogas from landfills;

b) composting waste;

c) waste incineration;

d) mechanical-biological treatment of waste, with subsequent disposal of residues by depositing; and

e) anaerobic fermentation of waste.

The donors supported mitigation actions in the waste sector are associated with:

a) development of regional waste disposal infrastructure by building seven solid waste deposit sites, 34 transfer stations and two mechanical-biological treatment plants in Chisinau and Balti municipalities;

b) equipping the wastewater treatment technological facilities in Chisinau, Balti municipalities and in Cahul city with anaerobic sludge treatment technologies.

3) Implementation of credited mitigation actions in the Waste sector is possible through projects focused on:

a) recovery of biogas from the managed solid waste deposit sites; and

b) recovery of biogas from wastewater treatment plants (through anaerobic sludge treatment technology).

Progress indicators:

38% of GHG emissions from the waste sector reduced unconditionally by 2030 relative to 1990.

47% of GHG emissions from the waste sector reduced conditionally by 2030 relative to 1990.

COSTS ESTIMATES

43. Achieving the objectives of this Strategy require the following financial support (*billion US dollars*):

Objective	Total for 2016-2030		2016-2020	Total for 2021-2030	
	with import of electricity	without import of electricity		with import of electricity	without import of electricity
Unconditional	3.741	4.627	1.328	2.413	3.299
Conditional	4.901	5.106	2.651	2.250	2.455
TOTAL	8.642	9.733	3.979	4.663	5.754

Achieving the unconditional objective of this Strategy implies a financial effort higher than the one planned under the baseline scenario. The latter corresponds to maintaining the existing GHG

emissions trend. Thus, the financial means needed to achieve the unconditional objective of this Strategy does not include the financing of the baseline scenario activities.

At the same time, the funds needed to achieve the conditional objective of this Strategy depend on its unconditional scenario and the support from international donors and financial bodies.

Since the country is dependent on electricity imports, and its production on the territory of the country has a significant influence on the amount of GHG emissions, the funds needed to reach the targets of this Strategy depend on the quantity of imported electricity. As a result, in order to achieve the unconditional objective of the Strategy, the financial contribution required for 2016-2030 only, is 3.741 billion US dollars, if electricity imports continue and, respectively, 4.627 billion US dollars, if there are no electricity imports.

For the first period of the Strategy implementation (until 2020), the Republic of Moldova will not assume financial obligations for carrying out unconditional actions. By 2020, it will contribute to the implementation of the unconditional actions of the Action Plan within the limits of the budgetary allocations granted for each institution involved in implementation of this Strategy, according to the spending strategies.

VI. RESULTS AND EXPECTED IMPACT

44. The direct impact of this Strategy is changing the long-term development paradigm of the Republic of Moldova towards a green economy.

Overall, the implementation of this Strategy is expected to will have achieved the following results:

1) Opening access to "fast start" financing, as well as long-term financing of supported actions, including preparation of feasibility studies, technical assessments and project documentation for the priority nationally appropriate mitigation actions.

2) The Republic of Moldova will become eligible for financing from international funds aiming at GHG emissions reduction (Green Climate Fund, Strategic Climate Fund, etc.), thus increasing the flow of foreign investment, reducing investment risk, balancing financing from the private sector and significantly reducing the projects costs.

3) The bilateral cooperation relations between the European Union and the Republic of Moldova will scale up. The credits of the Clean Development Mechanism generated in the country after 2018 within the EU GHG emission trading scheme, will be recognized and will increase the possibilities of accessing the funding from the EU Member States through the "fast start" financing mechanism, as well as from EU-managed climate funds.

4) The resources of the Global Environment Fund will become more accessible for projects aimed at mitigating the phenomenon of climate change.

5) Getting support for expansion of renewable energy production by implementing credited mitigation actions, both in Clean Development Mechanism projects format, and in the activity program format.

6) Achieving the objectives of GHG emissions reduction declared by the Republic of Moldova in the Intended Nationally Determined Contribution, reported at the 21st Conference of the Parties to the Framework Convention, in Paris in 2015.

7) Increased international recognition due to reporting tools used under the Framework Convention (national communications, biannual update reports, national inventory reports, technological needs assessments).

The NAMA Register administered by the UNFCCC Secretariat will serve as an effective mechanism to inform potential donors about national priorities for the low emission development.

The LEDS offers additional opportunities for integrating climate change mitigation and adaptation into the Government's priority achievements agenda, including in the light of the EU-RM Association Agreement. It will stimulate the development of long-term investment plans to ensure the green economic development path, respectively, it will offer new possibilities for wider use of emerging technological innovations in the field of climate change mitigation, getting technical and capacity building assistance for implementing mitigation projects, with effect on infrastructure modernization, energy efficiency improvements, construction of renewable energy sources, soil conservation, afforestation of degraded lands, waste processing, etc.

Approval of the Strategy will give a new impetus to the process of strengthening the national greenhouse GHG emissions inventory system, both legislatively and institutionally wise, and to national and regional capacity building process in collecting statistical information regarding the activity data needed to compile national communications, biannual update reports and national GHG emissions inventories, as well as specific performance indicators of mitigation policies and nationally appropriate mitigation actions.

Implementation of mitigation actions is associated with a wide range of other co-benefits, first of all, financial, but also developmental, with impact on new jobs and business opportunities creation, better health and quality of life, increased energy security and, last but not least, better environmental standards and increased ecological security.

The regulatory and business framework for investors will be improved.

Greater involvement of the private sector in climate change mitigation planning and financing.

Increased role of the media in raising awareness of decision-makers and society on the pressing needs for mitigation actions.

45. Once the commitment at national level is assumed and the institutional basis is in place, the Republic of Moldova will request registration of its nationally appropriate mitigation actions in the NAMA Register administered by the UNFCCC Secretariat. At the same time, feasibility studies, technical assessments and preparation of project documentation will be initiated for the NAMAs which the Republic of Moldova has identified as priorities for international financing and support, including through the "fast start" financing mechanism, and the Green Climate Fund.

It is expected that the Strategy will strengthen and guide the sectoral approach of the governance program.

The Strategy will also widen the budgetary coverage meant to promote adequate GHG emissions mitigation policies at sectoral level.

46. The information associated with the responsible institutions, the timelines for the proposed priority nationally appropriate mitigation actions, the estimated implementation costs and sources of funding are presented in Annex 2 to the Action Plan for the implementation of the Strategy.

VII. IMPLEMENTATION STAGES AND MONITORING, REPORTING AND EVALUATION FRAMEWORK

Section 1. Implementation

47. Implementation of the Strategy will be guided by the Action Plan.

Most of the activities proposed in the Action Plan are for a long term (2030), which will be reviewed every five years, as per Paris Agreement requirements. Based on the actions contained in the Action Plan, the nationally appropriate mitigation actions will be developed, as a preliminary actions implementation stage. The NAMAs will be developed by the Ministry of Agriculture, Regional Development and Environment in collaboration with the relevant ministries.

All competent institutions mentioned in the Plan will bear the responsibility for the implementation of the Strategy.

The country's orientation towards low carbon development requires the involvement of the most powerful national institutions, efficient management, as well as adequate international assistance. In order to achieve conditional GHG emissions reduction objectives, donors financial support is also needed.

The goal of the institutional arrangements for this Strategy implementation is to cover three main areas:

1) national planning and streamlining the low emissions development priorities within the national regulatory framework and strategic development priorities;

2) efficient management of public and donor offered finances, of environmentally friendly technologies transferred to support implementation of the LEDS and NAMAs, included in the Action Plan (Annex 2)

3) monitoring and control of implementation of the planned low emissions development actions provided for in this Strategy.

48. Highlighting low emissions development priorities in the national political agenda can be accomplished through a high-level national structure, capable of covering the cross-cutting aspects of the climate change challenges, as response in supporting green economic development.

Such a structure is the National Commission for implementation of the Framework Convention's provisions, as well as mechanisms and provisions of the Kyoto Protocol (hereinafter - *National Commission*), created by the Government Decision no. 1574 of 26 December 2003.

Thus, in order to ensure a higher-level representation of the ministries and key partners, and to extend the duties as to also cover the process of implementing the nationally appropriate mitigation activities, the nominal composition of the National Commission, and the Government Decision will be updated following the approval of this Strategy.

Section 2. Monitoring

49. Monitoring of this Strategy implementation will be carried out by the Ministry of Agriculture, Regional Development and Environment.

Aiming at ensuring the monitoring process, a monitoring group, which will periodically evaluate the achievement of indicators and targets, will be created by the order of the Minister of Agriculture, Regional Development and Environment. Based on the information collected and systematized, it will draft the annual implementation report and submit it to the Government.

With reference to the impact of mitigation measures, the key elements of the national measurement, reporting and verification system are reflected both through the mechanisms established by the UNFCCC on the reporting of actual and projected emissions produced in the country, as well as through numerous activities aiming at energy efficiency and promotion of renewable energy sources, through afforestation and land use change activities, as well as through Kyoto Protocol Clean Development Mechanism projects.

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). These documents are developed on the basis of studies, research, reports made by national consultants, including with international experience in the field, selected to do the calculations and analysis of the retrospective information, and with the

responsibilities to develop short-term, medium and long-term GHG emissions scenarios for each sector, based on the macroeconomic development scenarios of the Republic of Moldova.

Additionally, in order to improve the transparency, consistency, comparability, completeness and accuracy of the national inventory of anthropogenic GHG emissions sources and sinks of carbon dioxide not regulated by the Montreal Protocol, the Republic of Moldova has developed (end of 2015) the Report on the national inventory system of the Republic of Moldova, using the six templates developed by the Environmental Protection Agency of the United States of America as a starting point (institutional arrangements; assessment methodologies and data documentation process; description of quality assurance and quality control procedures; description of the archiving system; analysis of the key categories; and the national inventory improvement plan).

As part of the continuous effort to create a qualitative, transparent and credible inventory, in 2005 the Republic of Moldova developed the National Plan on Quality Assurance and Quality Control, which is periodically updated. The key features of the Plan include detailed specific procedures and standard quality verification and control forms, based on Tier 1 methodological approaches (general procedures) and Tier 2 (specific procedures for individual categories of sources) aimed at standardizing the national inventory quality assurance and quality control implementation process; also, the external technical review (audit) by professionals not directly involved in the process of national inventory preparation and development (both by national consultants, and by international consultants included in the List of experts accredited by the UNFCCC); checking the quality of the activity data, including by comparing the data sets obtained from different sources, planning and coordinating the inventory process at the interinstitutional level, as well as the continuous documentation of the national inventory development process.

Section 3. Reporting and evaluation

50. Annual monitoring reports will be developed within the monitoring process, which will include information on the implementation of the indicators set for each individual action, and every 5 years evaluation and progress reports will be developed to evaluate the impact of the activities carried out during the period under review, and the level of targets implementation. Based on the evaluation and progress reports, the Strategy implementation Action Plan will be reviewed. The monitoring and evaluation reports will be submitted to the Government for review.

Towards the end of this Strategy implementation, a final evaluation report will be prepared, containing information on objectives achievement and the expected impact. The basic evaluation report will be submitted to the Government, and it will be used as basis for deciding on the next stage of strategic planning in the field of low emission development.

Section 4 The legal and administrative framework of the Measurement, Reporting and Verification system

51. The Ministry of Agriculture, Regional Development and the Environment is the public authority responsible for developing and promoting policies and strategies addressing environmental protection, rational use of natural resources and biodiversity conservation. The authority is responsible for implementation of international environmental treaties to which the Republic of Moldova is a party. National inventory reports, biennial update reports and national communications of the Republic of Moldova to the UNFCCC are prepared by the Ministry of Agriculture, Regional Development and Environment through the Climate Change Office. The national inventory team within the Climate Change Office is responsible for evaluating emissions by source categories and

removals by sink categories, analyzing key emission sources, inventory quality control activities, analysis of uncertainties, documenting and archiving the information related to the process of preparing the national inventory of GHG emissions.

In accordance with the Action Plan of the Conference of the Parties to the UNFCCC (2007), the Republic of Moldova has committed to implement the national monitoring, reporting and verification (MRV) system.

52. The initial decisions regarding the general regulatory framework for this Strategy, adopted at the 16th Conference of the Parties (Cancun, 2010), establish three ways of monitoring, reporting and verification:

1) monitoring, reporting and verification of unilateral mitigation actions, as well as the analysis and general assessment of this Strategy implementation;

2) monitoring, reporting and verification for the nationally appropriate mitigation actions developed with donor support;

3) monitoring, reporting and verification for such projects as Clean Development Mechanism - reducing GHG emissions through carbon financing mechanisms.

In order to reduce the costs and time allocated by the personnel involved in monitoring, reporting and verification activities, the nationally appropriate mitigation actions will be monitored using a standard form. In this respect, the regulatory framework will stipulate compulsory filling in of the form with basic information about the proposed or ongoing nationally appropriate mitigation actions. As a first step, the information will be submitted to the Ministry Agriculture, Regional Development and Environment, and subsequently will be processed by the Climate Change Office. However, once the Environmental Agency is established, the technical function of the monitoring, reporting and verification of the unilateral nationally appropriate mitigation actions will be taken over by this entity. The standard form will be used to monitor emission reductions for mitigation activities of all categories. At the same time, the nationally appropriate mitigation actions in categories 2) and 3) will have their own monitoring, reporting and verification, and category 3) will comply with the Framework Convention requirements. The standard form for categories 1) and 2) will also contain the request to present information about the support received for the implementation of the nationally appropriate mitigation actions (financial flows and their impact; technology transfer and its impact; capacity building and the related impact, etc.).

53. Regarding the NAMA type activities approval process, regardless whether these are donor supported, or are of the CDM type, they will be presented to the National Commission in two stages. First, a NAMA concept note will be presented, and then, at the second stage - the NAMA project document itself. Both documents will contain a chapter dedicated to the CDM activities for the GHG emissions mitigation measures. After having evaluated the NAMA concept note, or the NAMA project document, the National Commission will issue a decision approving or rejecting the concept note or the project document.

The entire regulatory framework, as required by the Framework Convention standards regarding development, approval, implementation, monitoring, reporting and verification of NAMA activities and adaptation activities, will be developed by the Ministry of Agriculture, Regional Development and Environment, as a public authority responsible for promoting and implementing these activities, and as an authority chairing the National Commission for the implementation of the Framework Convention's provisions. The Ministry of Agriculture, Regional Development and Environment will submit the developed framework for approval to the Government following the approval of this Strategy. The regulatory framework will also contain the amendments and updates to the Regulation of the National Commission for the implementation of the Framework Convention, which is designated as the national authority responsible for the implementation of the Framework Convention's provisions, as well as the mechanisms and provisions of the Kyoto Protocol.

Table 4.1

**Mitigation potential of the Nationally Appropriate Mitigation Actions for the period 2016-2030,
presented in accordance with the GHG emissions reduction targets**

No. draw.	Name of the Nationally Appropriate Mitigation Action	Brief description of the mitigation action	Mitigation action implementation capacity for:		Estimated GHG emission reductions for the:	
			Unconditional target	Conditional target (additional to unconditional)	Unconditional target	Conditional target (additional to unconditional)
1	2	3	4	5	6	7
General objective. Unconditional reduction, by 2030, of the total net national GHG emissions by not less than 64% relative to 1990, to support the global effort to maintain the increase of the global average temperature within the limit up to 2°C by 2100. The GHG emissions reduction target could be increased to 78% conditionally - in accordance with a global agreement, which would address important issues, such as low-cost financial resources, technology transfer and technical cooperation, with access to all to the extent proportionate to the global climate change challenges						
1	Specific objective 1. Unconditional GHG emissions reduction from the energy sector by 74% by 2030, and conditional GHG emissions reduction by up to 82% relative to 1990					
1.1.	Promotion and installation of condensing gas boilers	The condensing gas boilers use the latent heat of vapour condensation in the flue gas, thus increasing the boiler efficiency by 10-15% compared to conventional natural gas boilers. The capacity of these boilers is up to 100 kW thermal power. Such condensing gas boilers are used to heat homes, offices and other spaces.	Use of these boilers can substitute ≈ 4% of the total primary thermal energy by 2020, which is about 1.72 PJ, and ≈6% by 2030 (about 2.61 PJ)		11 887 tons CO ₂ equivalent /year by 2020, and 19 601 tons CO ₂ equivalent /year by 2030	
1.2.	Construction of electrical interconnections with the ENTSO-E power system	Construction of two interconnections with the power system of Romania, with 2/3 of capacities by 2020, and 1/3 - by 2027. Ukrainian producers and suppliers and CTEM will be able, together with Western European suppliers, to sell electricity on the competitive electricity market in the Republic of Moldova	Electricity import capacity: up to 870 MW and 4.5 billion kWh		Minimum 10% compared to CO ₂ emissions under the BAU scenario, measured at the regional level	
1.3.	Implementation of distributed generation of electricity, by deploying highly efficient natural gas-based heat and power plants	The technology allows to achieve environmental, economic, social benefits, and reduce the dependence on imported fuel. The combined production of electricity and heat at small capacity CHPs becomes advantageous over the separate generation, provided the maximum heat load use exceeds 4500 hours.		40 small combined heat and power plants with a total power of 20 MW		41 456 tons CO ₂
1.4.	Reducing losses in the thermal power transportation and distribution system, as well as in generation	Replacement of existing networks with insulated pipelines, retrofitting heat points, use of heat regime automatic regulation systems,	Reducing heat losses by 21.35 ktoe by 2020	Reducing heat losses by 27.9 ktoe by 2030	24 398 tons CO ₂ equivalent/year by 2020	31 885 tons CO ₂ equivalent/year by 2030

1	2	3	4	5	6	7
		retrofitting the pumping stations of the heat networks				
1.5.	Promotion and construction of grid connected wind farms	In the Republic of Moldova there are areas where the average annual wind speed at the altitude of 100 m above ground is 7.0-7.5 m/sec. Wind turbines designed for wind class III are recommended for such sites, meaning an efficient operation on sites with wind speeds between 5.5 and 8.5 m/sec. Power of one group 1.8-3.0 MW, tower height 80- 120 m. Under wind conditions of the Republic of Moldova these turbines would operate at a nominal capacity of 2.2-2.6 thousand hours per year, or the capacity factor would be 0.25-0.30	Installed power - 400MW	Installed power - 400MW	646 433 tons CO ₂ /year	646 433 tons CO ₂ /year
1.6.	Promotion and construction of grid connected photovoltaic plants	Direct conversion technology excludes intermediate transformations: solar radiation into thermal energy, thermal energy into mechanical energy, mechanical energy into AC electricity. The photovoltaic generator, the so-called photovoltaic cell, unlike the electromechanical generator, produces DC electricity. Exclusion of intermediate transformations from the technological chain, lack of movement, noise, vibration, existence of a modular construction, operating life of over 25 years are the arguments asserting that the future of decentralized energy will belong to photovoltaic technology.	20 MW	200 MW	240 81 tons CO ₂	240 806 tons CO ₂
1.7.	Use of biogas gas generator sets for electricity and heat production	The biogas generator has a combined power generation unit. It consists of an adapted, biogas fuelled diesel engine, and a synchronous generator, which supplies electricity to the grid. In the last five years, primarily sugar refineries, cereal processing companies, etc., which have biomass waste as raw material for biogas production, have been using this technology	5 MW	25 MW	10 750 tons CO ₂	53 750 tons CO ₂
2.	Specific objective 2. Unconditional of GHG emissions reduction from the transport sector by 30% by 2030, and conditional GHG emissions reduction by up to 40% relative to 1990					
2.1.	Promotion of biodiesel use	Biodiesel is used to substitute diesel fuel, being mixed with fossil fuel in various proportions. In Europe, the standards applied to fuels allow for up to 5% blend of biodiesel, depending on the fuel limitations and vehicle	10% of the annual diesel oil consumption in the country		270 000 tons CO ₂ equivalent/year	

1	2	3	4	5	6	7
		specifications. Blends above 20% may require some modest adjustments to the vehicle. Biodiesel can be produced from various vegetal oils, such as rapeseed and soybean seeds, palm oil and animal fats.				
2.2.	Promoting bioethanol production	Bioethanol can be produced from sugar or starch crops. Bioethanol is mixed with gasoline in proportions from 5 to 85%. Smaller proportions of the mixture are applicable to conventional petrol engines. Mixtures containing more than 10% bioethanol may be used only in modified engines. The process of bioethanol production starts from processing the raw material to obtain sugar, in which yeast is added for fermentation. Sugar fermentation should take place in a closed anaerobic conditions, and produce a number of products, including lactic acid, hydrogen, carbon dioxide and ethanol. To produce bioethanol, most commonly, sorghum, sugar beet, and other plants containing sugar, are used.	10% of annual petrol consumption in the country		119 000 tons CO ₂ equivalent/year	
2.3.	Construction of good and very good roads	The transport and logistics strategy for 2013-2022 states the unsatisfactory condition of public roads (74% of the national roads length and 78% of the local roads length). The action plan to the strategy provides for 45% of roads in good condition to be achieved by 2022, and up to 80% by 2030. Achieving this objective will results in 20% fuel savings.	9% of the annual fuel consumption in road transport	5.4% of annual fuel consumption in road transport	324 000 tons CO ₂ equivalent/year	197283 tons CO ₂ equivalent/year
2.4.	Promoting energy efficiency in railroad transport	The transport and logistics strategy for 2013-2022 provides for investments in the renovation of the passengers and cargo rolling stock, maneuvering and mainline locomotive fleet, equipment and machinery for the railroads maintenance and repair, as well as investments in rehabilitation of railroad networks	20% of annual diesel fuel consumption in the railroad transport	12% of annual diesel fuel consumption in the railroad transport	24000 tons CO ₂ equivalent/year	14 600 tons CO ₂ equivalent /year
2.5.	Tire labeling, procurement of energy efficient transport, optimization of transport flows on the main streets in settlements	According to the targets set out in the National Energy Efficiency Program for 2011-2020 in the Transport sector, such targets as increasing the safety and economic and ecological efficiency of the road sector should be achieved by promoting fuel-consumption	20% of annual diesel fuel and gasoline consumption in road transport		638000 tons CO ₂ equivalent/year	

1	2	3	4	5	6	7
		efficient tires. As a result of implementing measures and actions, a cca 20% decrease of fuel consumption is estimated by 2020.				
3.	Specific objective 3. Unconditional GHG emissions reduction from the buildings sector by 77% by 2030, and conditional GHG emissions reduction by up to 80% relative to 1990					
3.1.	Increasing the thermal resistance of the buildings' envelope	Measures to increase the thermal resistance of the buildings' envelope include walls insulation, replacement of old windows with insulated technology, replacement of doors, etc.	Rehabilitation of 30% of buildings by 2030	Rehabilitation of 10% of buildings by 2030	284809 tons CO ₂ equivalent/year by 2030	98491 tons CO ₂ equivalent/year by 2030
3.2.	Installation of thermostatic valves to regulate the indoor temperature	In the centralized heat supply system, the heat temperature is regulated at the source by adjusting the temperature of water in the pipes. Installation of thermostatic valves on each heating body will allow to lower the temperature in rooms to 10- 12°C when not used, which is ≈ 50% of the time	Reducing fuel consumption by 39 492 toe by 2030 (40% of the urban housing stock)		85 749 tons CO ₂ equivalent/year by 2030	
3.3.	Installation of thermostatic valves to regulate the indoor temperature in public buildings, including the day/night mode	In the administrative buildings the work day is about 10 hours, 5 days a week. In the non-working hours, the room temperature can be lowered to 10-12°C, by switching to "night" mode	Reducing fuel consumption by 53.95 thousand toe as a result of equipping 70% of public buildings by 2030		70 810 tons CO ₂ equivalent/year by 2030	
3.4.	Replacement of incandescent bulbs with energy efficient LED bulbs	The currently used incandescent bulbs have a luminous efficiency of 10-12 lm/W, while the energy efficient LED bulbs this indicator is 100 lm/W. If the energy intensity at lighting is 10W/m ² on average, then with the LED bulbs this indicator will be 1W/m ²	Replacing 100% incandescent bulbs with LED bulbs will save 538.26 mln kWh/year by 2030		414 481 tons CO ₂ equivalent by 2030	
3.5.	Installation of heat meters in each apartment	Currently, the heat consumed by individual apartments in a block of flats is measured by one single meter installed in the block. Modification of the current scheme of vertical distribution of heat by a horizontal scheme requires the installation of heat meters in each apartment, what will reduce heat consumption in block by at least 5%.	≈ 30% of the urban housing stock by 2030		13 480 tons CO ₂ equivalent/year by 2030	
3.6.	Use of biomass for energy purposes	Biomass-based heat plants are intended for pre-school, school, cultural facilities etc. Heat plants operated on straw bales and/or wood products (pellets, wood briquettes) are expected to be used in rural areas. The unit thermal power is 12-750 kW	Installed power 250 MW	Installed power 300 MW	116 000 tons CO ₂	139 804 tons CO ₂

1	2	3	4	5	6	7
3.7.	Installation of small, medium and large capacity heat pumps	The heat pumps increase the temperature of low potential heat source to the temperature required by consumer. Low potential heat source can be ambient air, soil, surface water and groundwater, as well as technological sources of heat. Heat pumps use 1 kWh of electricity to produce from 3 to 5 kWh of heat.	≈ 3% of the needed thermal energy by 2030	≈ 4% of the needed thermal energy by 2030	72 855 tons CO ₂	98 016 tons CO ₂
3.8.	Use of solar energy for domestic hot water production in urban and rural areas and at enterprises	Solar panels with vacuum tubes can be successfully used for domestic hot water production. Vacuuming of the tube has the effect of perfect inside insulation, which leads to minimizing heat losses and increasing the radiation absorption efficiency. Vacuum tubes ensure the preheating of the heat carrier within a wide range of temperatures with an increased efficiency (up to 80%). The operational life is about 20 years. This measure is particularly recommended for cases when electricity is used for hot water production.	64 thousand m ² solar collectors	41 thousand m ² solar collectors	203 130 tons CO ₂	130130 tons CO ₂
4.	Specific objective 4. Unconditional GHG emissions reduction from the industry sector by 45% by 2030, and conditional GHG emissions reduction by up to 56% relative to 1990					
4.1.	Implementation of The Energy Management System	Energy Management System introduced by ISO 50001, approved as a national standard in 2012, includes collection, processing and analysis of data on all forms of energy consumption and energy carriers at different points of energy consumption (electricity, heating, cooling, compressed air, natural gas, other fuels, etc.) and informing the top management on the data collected and proposing actions to eliminate wasting energy, implementation of adopted measures, including monitoring of results. Practice of EU enterprises shows that implementation of the Energy Management System may result in reducing energy consumption by about 10-30%.	Implementation in 15% of enterprises and organizations leads to reducing energy consumption by 2% by 2030, equivalent to 0.278 PJ/year		By 2030 emissions will be reduced by 21 201 tons CO ₂ equivalent/year	
4.2.	Use of 2nd generation biofuel for thermal power generation	The process takes place at 450-800 °C, through decomposition of lignocellulose biomass, with ultimately produced bio-fuel gas (syngas), solid bio-fuel (charcoal), liquid bio-fuel (bio-oil). The fast pyrolysis process is controlled and depending on the temperature and the duration of the pyrolysis process, the	7 units with the power of 1 MW	5 units with the power of 1 MW	36 022 tons CO ₂	25 730 tons CO ₂

1	2	3	4	5	6	7
		produced fuel may have different proportions. For the conditions of the Republic of Moldova it is rational to use installations producing 65%-75% liquid bio-fuels, 20% gaseous fuel and 15% -solid fuel.				
4.3	Promoting energy efficiency in the Industry sector	Achieving energy efficiency by: continuous monitoring of energy consumption and technological parameters with performant measurement and control systems, automation of industrial processes, installation of efficient equipment for thermal energy production and technological processes, reducing heat losses, thermal insulation of steam and hot water pipes, installation of heat recuperators in ventilation systems, increasing the thermal resistance of the administrative and industrial buildings envelope.	Energy and fuel consumption will reduce by 260 76 260 toe, by 2030	Energy and fuel consumption will reduce by \approx 37 127 toe by 2030	125 460 tons CO ₂ equivalent/year by 2030	61 079 tons CO ₂ equivalent/year by 2030
4.4.	Replacement of clinker for cement production	The best technologies available on the market can reduce use of clinker by up to 4%. But the best alternative is to replace the clinker with other components. The amount of clinker used in cement can be reduced up to 40%. As substitute materials, coal ash, calcined clay, slag, etc. can be used.	Until 2030, 2.305 thousand tons of clinker will be used. With the proposed measure the quantity could be reduced to 1.383 thousand tons	By 2030, 2.305 thousand tons of clinker will be used. With the proposed measure the quantity could be reduced to 1.137 thousand tons	467,000 tone CO ₂	83,000 tone CO ₂
4.5.	Adjusting the national regulatory framework to the EU (EC Regulation no. 842/2006 regarding certain fluorinated gases with a greenhouse effect) towards the phased suppression of some F- gases with GHG effect	Developing and promoting, by the Government decision, of a national program or policy regulating F-gases with greenhouse effect (hydrofluorocarbons, perfluorocarbons and hexafluoride of sulfur); banning import of certain types of F-gas products and equipment (new and used); stimulating innovation, development and use of new techniques; developing and promoting the draft law for amending and supplementing the Law No. 1540-XIII of 25 February 1998 regarding environmental pollution payments; setting and approving the annual import quotas for F-gases, products and equipment	National level		n/a	
4.6.	Development/improvement of the data reporting system on import and consumption of hydrofluorocarbons, products and equipment with	Designing a system, including the electronic one, for reporting the data about import and consumption of hydrofluorocarbons, products and equipment with hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride.	National level		n/a	

1	2	3	4	5	6	7
	hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride					
4.7.	Training and provision of available tools/instruments for regulation of hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride	Ddeveloping technical criteria, harmonised with the EU Regulations (Regulation no. 305/2008) for training refrigeration specialists to service refrigeration, air conditioning and electrical equipment, where F-gases (perfluorocarbons and sulfur hexafluoride) are used as dielectric; development/ procurement of vocational training materials; updating the Code of best practices in the field of refrigeraion and air conditioning; compulsory training and certification of refrigeration and AC sector technicians; equipping refrigeration specialists with tools and equipment for servicing refrigeration and air conditioning equipment.	National level		n/a	
4.8.	Strengthening the capacity of the Customs Service of the Republic of Moldova	Development/ procurement of vocational training materials; updating the Guide for customs officers; theoretical and practical training of the customs officers/brokers; endowing the Customs Service with freon identifiers	National level		n/a	
4.9.	Staggered reduction of hydrofluorocarbon consumption	Retrofitting and reuse of existing refrigeration and air conditioning equipment that works on hydrofluorocarbons with new generation alternative freons, including natural freon (propane; isobutane; isopentane, H ₂ O, NH ₃ , air, helium, CO ₂)	National level		n/a	
5.	Specific objective 5. Unconditional GHG emissions reduction from agriculture by 37% by 2030, and conditional GHG emissions reduction by up to 41% relative to 1990					
5.1.	Implementation of "no-till" soil conservation tillage system, with 5 fields crop rotation and incorporation into the soil of green fertilizers (autumn vetch) every 5 years	"No-till" is a soil conservation tillage system, with sowing done directly in the stubble. The main working tool is the seed drill. The main element of the no-till seed drill is the coulter. The layer of superficial soil gradually becomes biogenic, well structured, aerated, providing favorable aerohydrous and nourishing conditions to plants, enhancing the drought resistance of plants. CO ₂ emissions will reduce annually by 3.8 t/ha/year.	320 thousand ha/year by 2030	80 thousand ha/year by2030	1216 thousand tons CO ₂ equivalent/year by 2030	304 thousand tons CO ₂ equivalent/year by 2030
5.2.	Implementation of "mini-till" soil conservation tillage system,	This tillage system provides for the restitution of the vegetal waste in the soil, with partial	320 thousand ha/year by 2030	80 thousand ha/year by 2030	1472 thousand tons CO ₂ equivalent/year	368 thousand tons CO ₂ equivalent/year

1	2	3	4	5	6	7
	with incorporation into the soil of green fertilizers grown as intermediate crops and/or of related byproducts.	keeping as mulch on the surface of the soil. It is proposed to improve this system by using the vetch as an intermediate crop for green manure. CO ₂ emissions will be reduced annually by 4.6 t/ha/year			by 2030	by 2030
5.3.	Storing manure on communal platforms or individual deposits	The manure stored on waterproof platforms can be separated. For proper fermentation, it has to be covered with a plastic foil, to prevent the washing of nutrients and to reduce the volatilization of CH ₄ and NH ₃ . This will make it possible to limit the penetration of nitrates and nitrites into the soil and water, reduce greenhouse gas emissions and obtain valuable organic fertilizers.	38% of the total 16.62 million tons of manure	12% of the total 16.62 million tons of manure	259 243 tons CO ₂ equivalent	86 305 tons CO ₂ equivalent
5.4	Implementation of cattle feeding technologies using optimal structure, scientifically argued rations	Traditional for the RM cattle feeding technology is use of separate feed rations consisting of hay, green plants, concentrates, etc. Depending on the physiological status and productivity of animals, rations differ by the amount of feed and proportion of components (structure). If the structure is optimal, then productivity, health status, fodder digestibility and rumen gas formation are at an optimum level.	41.5% of the cattle in the country	It comprises over 8.5% of cattle in the country	79 thousand tons CO ₂ equivalent	19 thousand tons CO ₂ equivalent
5.5.	Implementation of cattle feeding technology using one type feed mixtures (mono-ration), without or with small quantities of green fodder	The technology is widely used in countries with well-developed animal husbandry sector. In Moldova this technology is in process of being implemented, currently covering about 5% of the cattle herd. The main difference of this technology is that the rations are calculated based on physiological needs of animals and consist of bulky, coarse, juicy, concentrated protein-vitamin-mineral supplements which are mixed evenly with special equipment (mixters) and dispensed to animals as homogeneous mix. It positively affects fodder digestibility, animal health, reproductive indices, and ultimately, enhances productivity by up to 20-25% compared to traditional technology.	By 2030, 77 thousand heads of dairy cows and 58 thousand heads of other cattle	By 2030, 43 thousand heads of dairy cows and 32 thousand heads of other cattle	49 thousand tons CO ₂ equivalent	27 thousand tons CO ₂ equivalent
5.6.	Use of feed additives which reduce the formation of	The homogeneous mixes (mono-rations) for cattle are supplemented with special feed additives containing substances (saponins,	By 2030- 34 thousand heads of cows and 41	By 2030-16 thousand head of cows and 19 thousand	39 thousand tons CO ₂ equivalent	17 thousand tons CO ₂ equivalent

1	2	3	4	5	6	7
	methane during the digestive process in cattle	ionophore, etc.) that influence the formation and elimination of methane, lowering this indicator to 30%.	thousand heads of other cattle	heads of other cattle		
5.7.	Promote the use of grape marc in rations of ruminants to reduce GHG emissions	The grape marc contains important amounts of fats and tannins, and these substances can reduce enteric methane formation. Recent research by scientists from Australia and New Zealand has shown that the use of grape marc in both dry and silage form in dairy cows rations reduces rumen methane formation by 18-23%	52 thousand heads of dairy cows and 41 thousand heads of other cattle	37 thousand heads of dairy cows and 29 thousand heads of other cattle	34 thousand tons CO ₂ equivalent	24 thousand tons CO ₂ equivalent
6.	Specific objective 6: Conditional increase of carbon dioxide removal capacity in the LULUCF sector up to 62% by 2030, and conditional GHG removal up to 76% relative to 1990					
6.1.	Afforestation of riverbeds and waterflows protection belts	Planting/rehabilitation of riverbeds and waterflows protection belts are planned on 30.4 thousand ha, according to the Government Decision no.593 of 1 August 2011 "On approval of the National Program for 2011- 2018 on creating the national ecological network"	100%		173.45 tons CO ₂ equivalent. At the age of 15, the respective plantations will have the capacity to remove 1.7 million tons CO ₂ equivalent	
6.2.	Improvement of degraded land through afforestation	The measure provides for expanding the afforested areas on account of degraded lands by 50 700 ha	5.9% of the total area of 860,000 ha of degraded land		293.00 tons CO ₂ equivalent. At the age of 15, the respective plantations will will have the capacity to remove 3.3 million tons CO ₂ equivalent	
6.3.	Expansion of areas covered with forest vegetation	The measure provides for expansion of areas covered with forest vegetation on behalf of degraded lands by 31 300 ha		3.6% of the total area of 860,000 ha degraded land		179.20 tons CO ₂ equivalent. At the age for 15 years, the respective plantations will have the capacity to remove 2.04 million tons CO ₂ equivalent
6.4.	Creation of protection forest belts	The measure provides for planting forest belts to protect agricultural fields		12,000 ha of protection forest curtains		65.70 tons CO ₂ equivalent. At the age of 15, the respective plantations will have the capacity to remove 750 thousand tons CO ₂ equivalent
6.5.	Planting of forest energy crops	Planting fast growing forest species, managed in short production cycles (10-15 years)		10 thousand ha		CO ₂ emissions removed annually - 370 thousand tons CO ₂
7.	Specific objective 7: Unconditional GHG emissions reduction from the Waste sector by 38% by 2030, and conditional GHG emissions reduction by up to 47% relative to 1990					

1	2	3	4	5	6	7
7.1.	Construction of regional municipal solid waste deposit site and transfer stations in Region 1 - Cantemir, Cahul, Taraclia, the autonomous territorial unit of Gagauzia	The measure provides for development of the regional waste disposal infrastructure by means of a regional municipal solid waste deposit site, 6 transfer stations and activation of 19 transport units with a capacity of 16 m ³ for waste transfer	All plastic, metal, glass and paper waste will be collected and recycled at a rate of 25-30% by 2025; biodegradable waste will exceed 40% of the total weight of the stored waste;	The biodegradable waste will not exceed 25% of the total weight of the deposited waste	254 310 tons CO ₂ equivalent/year	32 306 tons CO ₂ equivalent/year
7.2.	Construction of regional municipal solid waste deposit site and transfer stations in Region 2 - Leova, Cimişlia, Basarabeasca	The measure provides for development of the regional waste disposal infrastructure by means of a regional municipal solid waste deposit site, 3 transfer stations and activation of 11 transport units with the capacity of 16 m ³ for waste transfer	All plastic, metal, glass and paper waste will be collected and recycled at a rate of 25-30% by 2025; Biodegradable waste will exceed 40% of the deposited waste	The biodegradable waste will not exceed 25% of the total weight of the deposited waste	151 910 tons CO ₂ equivalent/year	19 298 tons CO ₂ equivalent/year
7.3.	Construction of regional municipal solid waste deposit site and transfer stations in Region 3 - Causeni, Stefan Voda	The measure provides for development of the regional waste disposal infrastructure by means of a regional municipal solid waste storage, 2 transfer stations and provision of 11 transport units with a capacity of 16m ³ for waste transfer	All plastic, metal, glass and paper waste will be able to be collected and recycled at a rate of 25-30% by 2025; biodegradable waste will exceed 40% of the total weight of the deposited waste	The biodegradable waste will not exceed 25% of the total weight of the deposited waste	140 470 tons CO ₂ equivalent/year	17972 tons CO ₂ equivalent/year
7.4.	Construction of regional municipal solid waste deposit site and transfer stations in Region 5 - Ungheni, Nisporeni, Calarasi	The measure provides for development of the regional waste disposal infrastructure by means of a regional municipal solid waste deposit site, 2 transfer stations and provision of 19 transport units with a capacity of 12m ³ for waste transfer	All plastic, metal, glass and paper waste will be collected and recycled at a rate of 25-30% by 2025; biodegradable waste will exceed 40% of the total weight of the deposited waste	The biodegradable waste will not exceed 25% of the total weight of the deposited waste	127 710 tons CO ₂ equivalent/year	16 224 tons CO ₂ equivalent/year
7.5.	Construction of regional municipal solid waste deposit site and transfer stations in Region 6 - Soldanesti, Rezina, Telenesti, Orhei	The measure provides for development of the regional waste disposal infrastructure by means of a regional municipal solid waste deposit site, 4 transfer stations and provision of 19 transport units with a capacity of 13m ³ for waste transfer	All plastic, metal, glass and paper waste will be collected and recycled at a rate of 25-30% by 2025; biodegradable waste will exceed 40% of the total weight of the deposited waste	The biodegradable waste will not exceed 25% of the total weight of the deposited waste	143 780 tons Gg CO ₂ equivalent/year	18 265 tons Gg CO ₂ equivalent/year

1	2	3	4	5	6	7
7.6.	Construction of regional municipal solid waste deposit site and transfer stations in Region 8 - Briceni, Ocnita, Edinet, Donduseni	The measure provides for development of the regional waste disposal infrastructure by means of a regional municipal solid waste deposit site, 4 transfer stations and provision of 11 transport units with a capacity of 16m ³ for waste transfer	All plastic, metal, glass and paper waste will be collected and recycled at the level of 25-30% by 2025; Biodegradable waste will exceed 40% of the total weight of the deposited waste	The biodegradable waste will not exceed 25% of the total weight of the deposited waste	126 300 tons CO ₂ equivalent/year	16 045 tons CO ₂ equivalent/year
7.7.	Construction of the mechanical-biological treatment center in Region 4 - mun. Chisinau, Straseni, Ialoveni, Hincesti, Criuleni, Cocieri, Anenii Noi	The measure provides the development of the regional waste disposal infrastructure in Chisinau municipality by means of construction of mechanical-biological treatment plant, construction of 1-3 regional municipal solid waste deposit sites, of 4 transfer stations, provision of 48 transport units with a capacity of 16m ³ for waste transfer	All plastic, metal, glass and paper waste will be collected and recycled at a rate of 25-30% by 2025; biodegradable waste will exceed 40% of the total weight of the deposited waste		703 620 tons Gg CO ₂ equivalent/year	
7.8.	Construction of the mechanical-biological treatment center in region 7- Balti, Drochia, Riccani, Glodeni, Floresti, Falesti, Sangerei, Soroca	The measure provides the development of the regional waste disposal infrastructure in Balti municipality by means of construction of mechanical-biological treatment plant, construction of 1-2 municipal solid waste deposit sites, of 7 transfer stations, provision of 33 transport units with a capacity of 16m ³ for waste transfer	All plastic, metal, glass and paper waste will be collected and recycled at a rate of 25-30% by 2025; biodegradable waste will exceed 40% of the total weight of the deposited waste		362 780 tons CO ₂ equivalent/year	
7.9	Recovery of biogas from the municipal solid waste deposit site in Tintareni	Providing and commissioning the biogas recovery equipment at the municipal solid waste deposit site in Tintareni	In addition to the existing 325 kW electric power generators, another 825 kW will be built.		47 549 tons CO ₂ equivalent/year	

ACTION PLAN
for the implementation of the Low Emissions Development Strategy of the Republic of Moldova until 2030

No.	Name of the nationally appropriate mitigation action	Implementation timeline	Responsible institution	Progress indicators for:		Estimated costs:		Sources of funding
				Unconditional target	Conditional target (additional to unconditional)	Unconditional target (million lei)	Conditional target (additional to unconditional) (million lei)	
1	2	3	4	5	6	7	8	9
General objective. Unconditional reduction of total net national GHG emissions by no less than 64% by 2030 relative to 1990, to support the global effort to maintain the increase of the global average temperature within the limit up to 2°C by 2100. The GHG emissions reduction target could be increased to 78% conditionally - in accordance with a global agreement, which would address important issues, such as low-cost financial resources, technology transfer and technical cooperation, with access to all to the extent proportionate to the global climate change challenges								
1.	Specific objective 1. Unconditional GHG emissions reduction from the energy sector by 74%, by 2030, and conditional GHG emissions reduction by up to 82% relative to 1990							
1.1.	Promotion and installation of condensing gas boilers	2030	Ministry of Economy and Infrastructure	8100 boilers of 24 kW each installed, 194 MW total installed thermal power		372.00		State budget, external assistance
1.2.	Construction of electrical interconnections with the ENTSO-E power system	2030	Ministry of Economy and Infrastructure Partner: SE "Moldelectrica"	Two interconnections of 400 kV voltage built jointly with Romania Up to 870 MW of electricity import capacity		10,310.00		State budget, external assistance, other sources
1.3.	Implementation of distributed electricity generation in high efficiency heat and power plants that will operate on natural gas	2030	Ministry of Economy and Infrastructure		40 new high-efficiency heat and power plants with total installed electric power of 20 MW, built		462,00	External assistance, other sources
1.4.	Reduction of losses in the heat transmission and distribution system, and in energy production	2030	Ministry of Economy and Infrastructure	Heat losses in networks reduced from 20.1% to 16.7%, by 2020	Heat losses in networks reduced from 20.1% to 12.2%, by 2030	5,670.00	7 410.00	External assistance, other sources
1.5.	Promotion and construction of grid connected wind power plants	2030	Ministry of Economy and Infrastructure,	400 MW total installed capacity of wind farms	400 MW total installed capacity of wind farms	12,000.00	12,000.00	External assistance, other sources

1	2	3	4	5	6	7	8	9
			National Agency for Energy Regulation					
1.6.	Promotion and construction of grid connected photovoltaic power plants	2030	Ministry of Economy and Infrastructure, National Agency for Energy Regulation	20MW total installed capacity of photovoltaic power plants	200 MW total installed capacity of photovoltaic power plants	930.00	9 300.00	External assistance, other sources
1.7.	Use of biogas generator sets for electricity and heat production	2030	Ministry of Economy and Infrastructure, National Agency for Energy Regulation	5 MW total installed capacity of biogas power plants	25 MW total installed capacity of biogas power plants	07:00	616.00	External assistance, other sources
2.	Specific objective 2. Unconditional GHG emissions reduction from the Transport sector by 30% , by2030, and conditional GHG emissions reduction by up to 40% relative to 1990							
2.1.	Promoting use of biomotorine as fuel	2030	The Ministry of Economy and Infrastructure	2686 TJ of biodiesel sold annually		232.00		State budget, other sources
2.2.	Promotion of bioethanol production	2030	Ministry of Economy and Infrastructure	1252 TJ of bioethanol sold annually		245.00		State budget, other sources
2.3.	Construction of good and very good roads	2030	Ministry of Agriculture, Regional Development and Environment	9343 km of improved quality public roads, built	5689 km of improved quality public roads, built	76 400.00	46 500.00	Road Fund, external assistance
2.4.	Promoting energy efficiency in railroad transport	2030	Ministry of Agriculture, Regional Development and Environment	The amount of fuel used by railroad transport reduced by 20% or 315 TJ	The amount of fuel used by rail transport reduced by 12% or 189 TJ	10 500.00	6 400.00	State budget, external assistance, other sources
2.5.	Tire labeling, procurement of energy efficient transport, optimization of transport flows on central streets in settlements	2030	Ministry of Economy and Infrastructure, Ministry of Finance, Public Procurement Agency	Consumption of fuel used in the road transport sector reduced by 20%, or 9596 TJ		1.00		State budget, other sources
3.	Specific objective 3. Unconditional GHG emissions reduction from the buildings sector by 77%, by 2030, and conditional GHG emissions reduction by up to 80% relative to 1990							

1	2	3	4	5	6	7	8	9
3.1	Increasing thermal resistance of the buildings' envelope	2030	Ministry of Regional Development and Construction, Ministry of Economy and Infrastructure	17.4 mil. m ² of useful floor area of the rehabilitated buildings	6 mil. m ² of useful floor area of the rehabilitated buildings	11 160.00	3 850.00	State budget, Energy Efficiency Fund, external assistance, other sources
3.2	Installation of thermostatic valves to regulate the inside temperature	2030	Ministry of Economy and Infrastructure	1 345 thousand thermostatic valves installed thermostats installed in 336 200 apartments		3 170.00		Energy Efficiency Fund, external assistance other sources
3.3	Installation of thermostatic valves for regulation of inside temperature in public buildings, including day/night mode	2030	Ministry of Economy and Infrastructure	720 thousand thermostatic valves installed in public buildings; thermostatic valves installed in 4790 public buildings		1 700.00		Energy Efficiency Fund, external assistance other sources
3.4	Replacement of incandescent bulbs with energy efficient LED bulbs	2030	Ministry of Economy and Infrastructure	6.5 million incandescent bulbs, replaced		782.00		Energy Efficiency Fund, external assistance other sources
3.5	Installation of heat meters in each apartment	2030	Ministry of Economy and Infrastructure	heat meters installed in 240 thousand apartments		2,400.00		Energy Efficiency Fund, external assistance other sources
3.6.	Use of biomass for energy	2030	Ministry of Economy and Infrastructure	250 MW installed power of heat plants	300 MW installed power of heat plants	100.00	120.00	Energy Efficiency Fund, external assistance other sources
3.7.	Installation of small, medium and large capacity heat pumps	2030	Ministry of Economy and Infrastructure	≈ 3% of the heat demand by 2030	≈ 4% of heat demand by 2030	1 940.00	2 610.00	Energy Efficiency Fund, external assistance other sources
3.8.	Use of solar energy for production of domestic hot water in urban and rural areas and at enterprises	2030	Ministry of Economy and Infrastructure	64 thousand m ² solar collectors installed	41 thousand m ² solar collectors installed	1 250.00	800.00	Energy Efficiency Fund, external assistance other sources

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4.	Specific objective 4. Unconditional GHG emissions reduction from the Industry sector by 45%, by 2030, and conditional GHG emissions reduction by up to 56% relative to 1990							
4.1.	Implementation of the Energy Management System	2030	Ministry of Economy and Infrastructure, National Standardization Institute)	39 companies have implemented the Energy Management System and the National Standard SM ISO 50001: 2012		22.00		State budget, external assistance, other sources
4.2.	Use of 2nd generation biofuel for thermal power generation	2030	Ministry of Economy and Infrastructure	7 pyrolysis plants with 1 MW power, implemented	5 pyrolysis plants with 1 MW power, implemented	150.00	5.	Energy Efficiency Fund, external assistance other sources
4.3	Promoting energy efficiency in the Industry sector	2030	Ministry of Economy and Infrastructure	76 260 toe of energy and fuel, reduced	37 480 toe of energy and fuel, reduced	393.4	192.00	Energy Efficiency Fund, external assistance other sources
4.4.	Replacement of clinker in cement production	2030	Ministry of Economy and Infrastructure	0.79 the amount of clinker used relative to the amount of cement produced	0.67 the amount of clinker used relative to the amount of cement produced	529,00	94,00	Energy Efficiency Fund, external assistance other sources
4.5.	Adjusting the national regulatory framework to the EU (EC Regulation no. 842/2006 regarding certain fluorinated gases with a greenhouse effect) towards the phased suppression of some F-gases with GHG effect	2020	Ministry of Agriculture, Regional Development and Environment, Customs Service, Ministry of Education, Culture and Research	Regulation on some fluorinated GHGs approved		It does not require financial coverage		State budget
4.6.	Development/improvement of the data reporting system regarding the import and consumption of hydrofluorocarbons, products and equipment with hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride	2020	Ministry of Agriculture, Regional Development and Environment, Customs Service, Technical University of Moldova	Electronic reporting system on import and consumption of hydrofluorocarbons, products and equipment with hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, in place		365.00		State budget, external assistance

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4.7.	Training and provision of available tools/instruments for regulating hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride	2020	Ministry of Agriculture, Regional Development and Environment, Technical University of Moldova	250 persons trained to service refrigeration and air conditioning equipment		1.5		State budget, external assistance
4.8.	Strengthening the capacity of the Customs Service of the Republic of Moldova	2020	Ministry of Agriculture, Regional Development and Environment, Customs Service	60 people trained to identify freon, 60 freon identifiers available to customs officers		438,00		State budget, external assistance
4.9.	Phased reduction of hydrofluorocarbon consumption	2020	Ministry of Agriculture, Regional Development and Environment	36,500 units of refrigeration and air conditioning equipment with alternative freon of new generation, 4,770 units of refrigeration and air conditioning equipment operating with hydrofluorocarbons, retrofitted and re-used		300		State budget, external assistance
5.	Specific Objective 5. Unconditional GHG emissions reduction from agriculture sector by 37% , by2030, and conditional GHG emissions reduction by up to 41% relative to 1990							
5.1.	Implementation of no-till soil conservation tillage system, with 5 fields crop rotation and incorporation into the soil of green fertilizers (autumn vetch) every 5 years	2030	Ministry of Agriculture, Regional Development and Environment	320 thousand ha/year on which the no-till system is implemented	80 thousand ha/year on which the no-till system is implemented	6 400.00	1 600.00	State budget, external assistance, other sources
5.2.	Implementation of "mini-till" soil conservation tillage system, with incorporation into the soil of green fertilizers grown as intermediate crops and/or of related byproducts.	2030	Ministry of Agriculture, Regional Development and Environment	320 thousand ha/year on which the "mini-till" system is implemented	80 thousand ha/year on which the "mini-till" system is implemented	7 680.00	1 920.00	State budget, external assistance, other sources
5.3.	Storing manure on communal platforms or individual deposits	2030	Ministry of Agriculture, Regional Development and Environment	6 234 thousand tons of manure stored annually on platforms	2075 thousand tons of manure stored annually on platforms	1 580.00	530.00	State budget, external assistance, other sources

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5.4	Promoting cattle feeding technologies using optimal structure, scientifically argued rations	2030	Ministry of Agriculture, Regional Development and Environment	Technology used for 32% of cattle in the country	Technology used for 8% of cattle in the country	194.00	45.6	State budget, external assistance, other sources
5.5.	Implementation of cattle feeding technology using one type feed mixtures (mono-ration), without or with small quantities of green fodder	2030	Ministry of Agriculture, Regional Development and Environment	Technology used for 38% of cattle in the country	Technology used for 22% of cattle in the country	46,00	26.00	State budget, external assistance, other sources
5.6.	Use of feed additives (saponins, ionophores) which reduce the formation of methane during the digestive process in cattle	2030	Ministry of Agriculture, Regional Development and Environment	Technology used for 13% of cattle in the country	Technology used for 7% of the cattle in the country	38.00	22.00	State budget, external assistance, other sources
5.7.	Promote the use of grape marc in rations of ruminants to reduce GHG emissions	2030	Ministry of Agriculture, Regional Development and Environment	Technology used for 17% of cattle in the country	Technology used for 13% of cattle in the country	03:00	40.00	State budget, external assistance, other sources
6.	Specific objective 6: Unconditional increase, of carbon dioxide removal capacity in the LULUCF sector by up to 62%, by 2030, and conditional GHG emissions sequestration by up to 76% relative to 1990							
6.1	Afforestation of riverbeds and waterflows protection belts	2030	Ministry of Agriculture, Regional Development and Environment	38 thousand hectares planted annually		997.00		State budget external assistance, other sources
6.2.	Improvement of degraded land through afforestation	2030	Ministry of Agriculture, Regional Development and Environment	5.9% of the total area (860,000 ha) of degraded lands improved by afforestation		1 600.6		State budget external assistance, ther sources
6.3.	Expansion of areas covered with forest vegetation	2030	Ministry of Agriculture, Regional Development and Environment		3.6% of the total area (860,000 ha) of degraded lands planted with forest vegetation		988.00	External assistance
6.4.	Creation of protection forest belts	2030	Ministry of Agriculture, Regional Development and Environment		12,000 ha of protection forest belts planted		195.4	External assistance

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6.5.	Planting energy forest crops	2030	Ministry of Agriculture, Regional Development and Environment, Ministry of Economy and Infrastructure		10 thousand ha of energy forest crops planted; 370 thousand tons of CO ₂ emissions sequestered annually		438	External assistance
7.	Specific objective 7: Unconditional GHG emissions reduction from the waste sector by 38%, by 2030, and conditional reduction by up to 47% relative to 1990							
7.1	Construction of regional municipal solid waste deposit site and transfer stations in Region 1 - Cantemir, Cahul, Taraclia, the autonomous territorial unit of Gagauzia	2018	Ministry of Agriculture, Regional Development and Environment	1 regional municipal solid waste deposit site built, 6 transfer stations built, 19 transport units with the capacity of 16 m ³ for waste transfer, functional		456.00	03:00	State budget external assistance, Other sources
7.2	Construction of regional municipal solid waste deposit site and transfer stations in Region 2 - Leova, Cimişlia, Basarabeasca	2018	Ministry of Agriculture, Regional Development and Environment	1 regional municipal solid waste deposit site built, 3 transfer stations built, 11 transport units with the capacity of 16 m ³ for waste transfer, functional		394,00	50.00	State budget external assistance, Other sources
7.3	Construction of regional municipal solid waste deposit site and transfer stations in Region 3 - Causeni, Stefan Voda	2019	Ministry of Agriculture, Regional Development and Environment	1 regional municipal solid waste deposit site built, 2 transfer stations built, 11 transport units with the capacity of 16 m ³ for waste transfer, functional		395.00	50.00	State budget external assistance, Other sources
7.4	Construction of regional municipal solid waste deposit site and transfer stations in Region 5 - Ungheni, Nisporeni, Calarasi	2020	Ministry of Agriculture, Regional Development and Environment	1 regional municipal solid waste deposit site built, 2 transfer stations built, 19 transport units with the capacity of 12 m ³ for waste transfer, functional		397.00	50.00	State budget external assistance, Other sources
7.5	Construction of regional municipal solid waste deposit site and transfer stations in Region 6 - Soldanesti, Rezina, Telenesti, Orhei	2020	Ministry of Agriculture, Regional Development and Environment	1 regional municipal solid waste deposit site built, 4 transfer stations built, 19 transport units with the capacity of 13 m ³ for waste transfer, functional		413.00	07:00	State budget external assistance, Other sources

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7.6	Construction of regional municipal solid waste deposit site and transfer stations in Region 8 - Briceni, Ocnita, Edinet, Donduseni	2020	Ministry of Agriculture, Regional Development and Environment	1 regional municipal solid waste deposit site built, 4 transfer stations built, 11 transport units with the capacity of 16 m ³ for waste transfer, functional		408.00	07:00	State budget external assistance, Other sources
7.7	Construction of the mechanical-biological treatment center in Region 4 - mun. Chisinau, Straseni, Ialoveni, Hincesti, Criuleni, Cocieri, Anenii Noi	2020	Ministry of Agriculture, Regional Development and Environment	1 mechanical-biological treatment station built, 1-3 regional municipal solid waste deposit sites, built 4 transfer stations, built 48 transport units with the capacity of 16 m ³ for waste transfer, functional		2 910.00		State budget external assistance, other sources
7.8	Construction of the mechanical-biological treatment center in region 7- Balti, Drochia, Riccani, Glodeni, Floresti, Falesti, Sangerei, Soroca	2020	Ministry of Agriculture, Regional Development and Environment	1 mechanical-biological treatment station built, 1-2 regional municipal solid waste deposit sites, built 7 transfer stations built, 33 transport units with the capacity of 16 m ³ for waste transfer, functional		2 260.00		State budget other sources
7.9	Recovery of biogas from the municipal solid waste deposit site in Tintareni	2020	Ministry of Agriculture, Regional Development and Environment	825 kW generator built		58.5		State budget other sources
7.10.	Sludge treatment at the wastewater treatment plants in Chisinau and Balti municipalities	2020	Ministry of Agriculture, Regional Development and Environment, Ministry of Economy and Infrastructure	The methane tank, the pumping station, the sludge concentrator, the methane storage and combustion systems, the dehydration tank, distribution and communications networks installed at the wastewater treatment plants in Chisinau and Balti.		112.4		State budget other sources

TOTAL unconditional: 67,880 mil MDL; conditional: 96,600 mil MDL