

## REPORT

### Achieved results during implementation of HPMP-Stage I in Moldova

#### 1. Environmental Overview

Moldova has actively taken part in international efforts to protect the environment. It signed the UN Rio Declaration on Environment and Development in 1992 and later, in 2002, participated in the Johannesburg World Summit on Sustainable Development and signed the document adopted in the meeting.

Since 1991 Moldova has developed an extensive environmental framework of laws, concepts, strategies, programmes and plans to cover all major environmental areas. The most urgent current environmental problems are: protection of soil resources, improvement of the quality of drinking water, safe management of obsolete pesticides and toxic waste, biodiversity conservation, minimization of transboundary effects and diminution of the anthropogenic impact, environmental education and awareness.

Until now, Republic of Moldova has joined 18 conventions, 9 protocols and 2 international environment agreements (Box 1). A national focal point has been appointed for coordinating the implementation of the requirements for each international treaty.

#### **Box 1: International Conventions and Additional Protocols to which Republic of Moldova is a Party**

1. Convention on the Conservation of European Wildlife and Natural Habitats (Berne, 1979), ratified by Parliament Decision No.1546-XII of 23 June 1993;
2. Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 25 February 1991), ratified by Parliament Decision No.1546-XII of 23 June 1993;
3. Convention on the Transboundary Effects of Industrial Accidents (Helsinki, 17 March 1992), ratified by Parliament Decision No.1546-XII of 23 June 1993;
  - Protocol on Strategic Environmental Assessment (Kiev, 2003) to the Convention on the Transboundary Effects of Industrial Accidents (Helsinki, 1992), signed by RM on 21 May 2003;
4. Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 17 March 1992), ratified by Parliament Decision No.1546-XII of 23 June 1993;
  - Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 1992), ratified by Law No.207-XVI of 29 July 2005;
5. Convention on Biological Diversity (Rio de Janeiro, 1992), ratified by Parliament Decision No. 1546-XII of 23 June 1993;
  - Cartagena Protocol on Biosecurity to the Convention on Biological Diversity (Rio de Janeiro, 1992), ratified by Moldova by Law No. 1381 – XV of 11 October 2002;
6. Convention on Long-Range Transboundary Air Pollution (Geneva, 13 Nov 1979), ratified by Parliament Decision No. 399-XIII of 16 March 1995;
  - Protocol on the Persistent Organic Pollutants to the Convention on Long-Range Transboundary Air Pollution (Geneva, 1979), ratified by Law No. 1018-XV of 25 April 2002;
  - Protocol on Heavy Metals to the Convention on Long-range Transboundary Air Pollution (Geneva, 1979), ratified by Law No. 1018-XV of 25 April 2002;
  - Protocol on Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to the Convention on Long-Range Transboundary Air Pollution (Geneva, 1979), signed by RM on 23 May 2000;
7. UN Framework Convention on Climate Change (New-York, 9 May 1992), ratified by Parliament Decision No. 404-XIII of 16 March 1995;
  - Kyoto Protocol on the UN Framework Convention on Climate Change, joined by RM by Law No. 29 – XV of 13 February 2003;
8. Convention on Ozone Layer Protection (Vienna, 22 March 1985), ratified by Parliament Decision No. 966-XII of 27 June 1996;
  - Protocol on Substances that Deplete the Ozone Layer (Montreal, 16 Sept 1987) to the Convention on Ozone Layer Protection (Vienna, 1985), ratified by Parliament Decision No. 966-XII of 27 July 1996;
9. Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel, 22 March 1989), ratified by Parliament Decision No.1599-XIII of 10 March 1998;
10. UN Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification (Paris, 17 June 1994), ratified by Parliament Decision No.257-XIV of 24 December 1998;
11. Convention on Cooperation for the Protection and Sustainable Use of the Danube River (Sofia, 29 June 1994), ratified by Parliament Decision No.323-XIV of 17 March 1999;

12. Convention on Access to Information, Public Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus, 1998), ratified by Parliament Decision No. 346-XIV of 7 April 1999;
  - Protocol on Pollutant Release and Transfer Registers (PRTRs) to the Convention on Access to Information, Public Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus, 1998), signed by RM on 21 May 2003;
13. Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar, 2 February 1971), ratified by Parliament Decision No. 504-XIV of 14 July 1999;
14. Convention on Conservation of Migratory Species of Wild Animals (Bonn, 23 July 1979), ratified by Law No. 1244-XIV of 28 September 2000;
  - Agreement on the Conservation of Bats in Europe (London, 4 December 1991), as part of the Convention on Conservation of Migratory Species of Wild Animals (Bonn, 1979), ratified by Law No.1244-XIV of 28 September 2000;
  - Agreement on the Conservation of African-Eurasian Migratory Water Birds (Hague, 16 June 1995), as part of the Convention on Conservation of Migratory Species of Wild Animals (Bonn, 1979), ratified by Law No. 1244 -XIV of 28 September 2000;
15. Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington, 1973), ratified by Law No.1246 -XIV of 28 September 2000;
16. European Landscape Convention (Florence, 2000), ratified by Law No.536-XV of 12 October 2001;
17. Convention on the Persistent Organic Pollutants (Stockholm, 2001), ratified by Law No.40-XV of 19 February 2004;
18. Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam, 10 September 1998), ratified by Law No.40-XV of 19 February 2004.

### 1.1. ODS Policy/Legislative/Regulatory and Institutional Framework

Since 1991 Moldova has developed an extensive environmental framework of laws, concepts, strategies, programmes and, plans, to cover all major environmental areas.

Moldova developed a number of relevant concepts, programmes, action plans and strategies, inter alia the Environmental Policy Concept<sup>1</sup> (2001), the National Program for Ensuring Ecological Safety<sup>2</sup> (2007), the Energy Efficiency National Action Plan<sup>3</sup> (2011), the National Program for Conservation and Enhancing the Soil Fertility for 2011-2020 period<sup>4</sup> (2011), the Energy Strategy of the Republic of Moldova until 2030<sup>5</sup> (2013), the Waste Management Strategy of the Republic of Moldova for 2013-2027<sup>6</sup> (2013), the Environmental Strategy for 2014-2023 and the Action Plan for its implementation<sup>7</sup> (2014), the National Strategy for Agriculture and Rural Development for 2014-2020<sup>8</sup> (2014), the Strategy of Water Supply and Sanitation for 2014-2028 period<sup>9</sup> (2014), Adaptation Strategy to Climate Change of the Republic of Moldova until 2020 and the Action Plan on its implementation<sup>10</sup> (2014), etc.

The environmental legislation did not change substantively since the submission of the HPMP Stage I Report in 2010, as only a few environment-related laws were adopted. However, 25 environmental legislative acts and 35 by-laws were expected to be approved by the end of 2014 according to the 2012 Action Plan for the harmonization of the legislation with European Union (EU) directives. This process was expected to trigger a substantial reform of the entire environmental legal framework towards a more integrated approach to environmental protection.

Current environmental policies include the following:

- Approximation of national legal and regulatory frameworks on environment and natural resources management with EU directives;

<sup>1</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=309341>.

<sup>2</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=322356>.

<sup>3</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=340940>.

<sup>4</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=339882>.

<sup>5</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=346670>.

<sup>6</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=347341>.

<sup>7</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=352740>.

<sup>8</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=353310>.

<sup>9</sup> <http://lex.justice.md/md/352311/>.

<sup>10</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=355945>.

- Prevention and reduction of degradation of natural resources;
- More efficient use of natural resources.
- Maintenance of environmental quality as a factor of health and quality of life;
- Protection of water resources;
- Improvement of the waste management scheme, with a lower impact and load of toxic substances and waste;
- Protection of forests and expansion of the forest fund;
- Conservation of biodiversity;
- Combating the climate change through mitigation and climate change adaptation;
- Development of an efficient monitoring system;
- Prevention of, and damage compensation, for anthropogenic accidents and calamities;
- Raising environmental awareness of the population; facilitating public access to environmental information and public participation in decision-making.

On 27 June 2014, the EU and the Republic of Moldova signed the Association Agreement (AA), which is applied since 1 September 2014. AA must now be ratified by each state party to the treaty. The Parliament of Moldova ratified the AA on 2 July 2014<sup>11</sup>. Article 95 from the Association Agreement specifically refers to the cooperation between the two Parties in the area of *climate change and ozone layer protection*. At present Moldova is working to fulfill its obligations under the Association Agreement and to converge further its legislation towards the *acquis communautaire* in the field of environment protection and climate change.

National Action Plan on the Republic of Moldova-EU Association Agreement for 2014-2016<sup>12</sup> was approved by the Government of the Republic of Moldova 7<sup>th</sup> of October 2014. The Action Plan includes the key cooperation priorities, in order to ensure political association and economic integration into EU, and represents a basic instrument for monitoring the European integration process in the next 3 years. The Action Plan includes activities necessary to be carried out by the competent institutions, according to each article/provision, as well as annexes to the Association Agreement, including the part on the Deep and Comprehensive Free Trade Area, in the set terms and by specifying necessary financial resources in this respect.

Chapter 16 of the National Action Plan on Moldova-EU Association Agreement for 2014-2016 includes actions to be implemented for environment protection. Measures related to ozone depleting substances include elaboration and approving the National Programme for Gradual Phasing out of Hydrochlorofluorocarbons for the years 2014-2040 in the Republic of Moldova.

The National Phase-out Plan for HCFCs for the period 2014-2040 has been elaborated by the NOU and Ministry of Environment and presented to the Government for approval.

Concerning implementation of the Regulation (EC) No 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases the Republic of Moldova must assess the institutional framework, the gaps in national legislation, and developing the legislative/regulatory framework as required.

Legal documentation for the Training & Certification System of the service refrigeration technicians, harmonized with F-gas EU Regulation No. 842/2006 and EU Regulation No. 303/2008 was developed.

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<sup>11</sup> <http://lex.justice.md/md/353829/>.

<sup>12</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=354939>.

### **1.1.1. Status of Ratification of Amendments to the Montreal Protocol**

The Republic of Moldova has ratified the London, Copenhagen, Montreal and Beijing Amendments to Montreal Protocol (Law No.111-XV dated 27.04.2001<sup>13</sup>, Law No. 34-XVI dated April 14, 2005<sup>14</sup> and Low No. 119-XVI dated 18.05.2006<sup>15</sup>).

### **1.1.2. ODS Legislation/Regulations**

The Government of Moldova, through the efforts of the MoE/NOU, has already made headway by putting in place legislative measures to control the import of ODS, including HCFCs and equipment that contain them.

The Regulation on trade regime & regulating the use of halogenated hydrocarbons that are depleting the ozone layer (Law No. 852-XV dated 14.02.2002<sup>16</sup>) is in place and is the fundamental legislative document concerning implementation of the Montreal Protocol in the Republic of Moldova.

The licensing system has been updated and HCFCs (import, export & consumption) are now controlled by the national legislation (Law No. 228 dated 10.10.2013<sup>17</sup>).

Following this:

- ❖ Any import of ODS (according updated Law No. 852-XV, only HCFCs indicated in Annex C group I, as well as alternative refrigerants are permitted for import and consumption in the Republic of Moldova), also ODS containing equipment/products requires a license/authorization. Each and every import of ODSs, including HCFCs and equipment with HCFCs in the country is permitted obligatory on a basis of the Authorization that is issued by the Ministry of Environment, which is issued within the limits of approved contingent (annual quota);
- ❖ Customs is responsible for monitoring and control at the borders and carry out identification and inspection of ODS and products which contain ODS and reports this information to NOU and Ministry of Environment on a quarterly basis;
- ❖ Customs codes have been adjusted to facilitate monitoring of ODS/equipment with ODSs;
- ❖ Information from importing companies on their annual imports of ODS is required;
- ❖ State Ecological Inspection provides information retrieved during ecological inspections.

According to Law No. 852-XV, the import, export, re-export, introduction into market circulation and transit of equipment, components and technologies that contain substances mentioned in Annex A, group I, II, Annex B, group I, Annex C, group II is banned. Due to this the import of non-CFC alternatives (HFCs) and equipment with such substances annually are increasing. Regular monitoring of implementation of the Country Programme for phase-out of ODS shows 100% reduction in ODS import (R-12) since 1998.

The licensing system for importers and users of ODS, equipments and products with ODS was created, as well as certification of technicians in refrigeration maintenance (Governmental Decision on applying provisions of Vienna Convention and Montreal Protocol for the protection of the ozone layer in Moldova No. 300 (18.03.1998); Law on providing licenses for certain types of activities No. 332-XIV (March 26, 1999); Law on amending and completing the Law No.

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<sup>13</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=312911>.

<sup>14</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=313120>.

<sup>15</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=316216>.

<sup>16</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=313251>.

<sup>17</sup> <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=350262>.

451-XV (July 30, 2001) on licensing certain types of activity No. 214-XV (June 24, 2004); Customs duties and quotas for ODS were established and the regime of taxation within the system of customs control was implemented (Law on amending and completing the Law No. 1540-XIII (February 25, 1998) on environment pollution No.1566-XV (20.12.2002).

Legal documentation for the Training & Certification System of the service refrigeration technicians, harmonized with F-gas EU Regulation No. 842/2006 and EU Regulation No. 303/2008 was developed.

Annual quota for quantitative restrictions for HCFCs imports (in order to achieve 10 % reduction of HCFC by 2015), starting from 01.01.2013 based on the base line data was introduced.

According to the standard practice, the importers/exporters of HCFCs have to apply (by the end of January every year) for obtaining of Annual quota for import of HCFCs. MoEN/Focal Point/NOU distribute the annual quota respecting HCFCs reduction schedule.

Based on distributed quotas importers during the year applied to the MoEN for obtaining of the Authorization.

### ***Overview of Existing Policy Instruments***

#### **RESTRICTIONS CONCERNING COMMERCIAL REGIME AND UTILIZATION OF HALOGENATED HYDROCARBONS DEPLETING THE OZONE LAYER**

The ban is applied for the following:

- 1) Import, export, re-export, introduction into market circulation and transit of:
  - a) chemical substances mentioned in Annex 1 (includes Annex A, Annex B, Annex C, Annex D and Annex E of the Montreal Protocol) of the present regulation from, into, through or to the states that are not party of the Montreal Protocol on Substances that Deplete the Ozone Layer (later on – Protocol)
  - b) equipment that contain substances mentioned in Annex A, groups I, II, and technologies that can't operate permanently without a support of chemical substances foreseen in Annex A, groups I, II, Annex B, groups I, II, III, Annex C, group II, as well as products obtained with the help of these substances, indifferently of the case if they contain or not such substances from, into, through or to the states that are not party to the Protocol;
  - c) auto vehicles of any type, including airplanes equipped with units of air-conditioning, new or used, that operate with chemical substances mentioned in Annex A, group I, II, Annex B, group I and Annex C, group II;
  - d) equipment and its component parts (including refrigerators, freezers, ice machines, chillers, air conditioning and heat pump units, etc.) and technologies, destined for production of refrigerant equipment for house, commercial and industrial use, new and use others than those of personal use, that contain substances mentioned in Annex A, group I, II, Annex B, group I, Annex C, group II, or which function on these substances or products that contain or that are obtained with the help of these substances indifferently of the case if they contain or not those substances, with exception of import of spare parts destined for the activity of equipment maintenance, being in medium term of exploitation;
  - e) equipment and its components (refrigerators, freezers, ice machines, chillers, air conditioning and heat pumps units, etc.) and technologies designed for

- production of house, commercial and industrial chillers, new or used, that don't contain chemical substances mentioned in Annex A, group I, II, Annex B, group I, Annex C, group II, but which because of their construction, can't operate permanently without these substances;
- h) chemical substances mentioned in Annex B, group I, Annex C, group II indifferently of the provenience, excepting cases envisaged by Montreal Protocol;
  - i) chemical substances mentioned in Annex A, Annex B, and Annex C (according to actual legislation only import of virgin ODSs (including HCFCs) is permitted in the Republic), proceeding from recovery, recycling or regeneration operations;
- 2) Mounting of any new installations or equipment for cooling, of house, commercial and industrial use, that contain or operate permanently with chemical substances mentioned in Annex A, group I, II, Annex B, group I and Annex C, group II;
- 3) Utilization of:
- chemical substances foreseen in Annex A, groups I, II, Annex B, groups II, III, Annex C group II for producing aerosols, new industrial cooling systems, mobile units of air-conditioning, sterilization products and any new products where substances foreseen in Annex A, groups I, II, Annex B, groups II, III, Annex C, group II weren't used before;
- 4) Elimination of emissions into atmosphere of:
- chemical substances mentioned in Annex A, groups I, II, Annex B, groups I, II, III, Annex C, groups I, II, contained in equipment and installations or in transport containers, in time of maintenance operations, disaffection of installations or of decant.

Recovery, recycling, regeneration, neutralization and destruction of chemical substances foreseen in annexes A group I, II, B groups I, II, II, C groups I, II is undertaken with special equipment for this type of operation, in the framework of some units within the state or foreign states, authorized under law conditions. Mixture of substances is prohibited during the period of recovery activities or further, during the recycling and regeneration operations.

Transport and disposal of chemical substances foreseen in Annex A group I, II, Annex B groups I, II, II, Annex C groups I, II is made in accordance with art. 10 and art.11 of the Law on conditions of harmful products and substances Nr. 1236-XIII dated July 3, 1997 in reusable recipients, properly labeled and in accordance with legislation for liquefied gases under pressure.

Installation of spare parts and also maintenance of equipment and installations of house, commercial and industrial use, that contain chemical substances foreseen in Annex A group I, II, Annex B groups I, II, II, Annex C groups I, II are undertaken only by qualified personnel, certified by law conditions. Instruction and certifying of technical specialized personnel that perform above mentioned activities is organized through courses by state education institutions, qualified in this field, basing on the program proposed by these once three year.

## MANAGEMENT, STOCKTAKING

Production, import, export and re-export of chemical substances foreseen in the Annex 1 (see attached document Annex 1 to Law under *Annexes 5.5*) of the present regulation, excepting chemical substances foreseen in Annex B, group I and Annex C, group II, of equipment and products foreseen in Annex 2 that do not contain chemical substances foreseen in Annex A,

groups I, II, Annex B, groups I, Annex C, group II is undertaken in base of license issued in accordance with legislation currently in force.

Import, export and re-export of each lot of chemical substances foreseen in the Annex 1 of the present regulation, excepting chemical substances foreseen in Annex B, group I and Annex C, group II, of equipment and products foreseen in Annex 2 that do not contain chemical substances foreseen in Annex A, groups I, II, Annex B, groups I, Annex C, group II made with corresponding Authorization.

Authorization for import, export and re-export of mentioned above chemical substances, equipment and products are issued by Ministry of Environment (MoEN) but the Authorization doesn't replace license for this kind of activity.

Authorization is issued to economic agents (natural and juridical persons), holders of license for production, import, export, re-export of ozone depleting substances and of equipment and products that contain such substances during 10 working days from request receipt. Authorization is issued free of charge and is valid 90 days.

#### RESPONSIBILITIES OF NATURAL AND JURIDICAL PERSONS, WHICH PRODUCE, IMPORT, EXPORT, COMMERCIALIZE, AND USE, OZONE DEPLETING SUBSTANCES

Producers, importers and exporters of chemical substances included in Annex 1, are obliged to label the containers where these substances are transported or stocked with clearly visible and durable labels, carrying the following inscription: **“Contain substances depleting the ozone layer”**.

Producers of products and equipment that contain chemical substances included in Annex B group 1, Annex C group I and II or that include isolating materials or component parts containing such substances are obliged to apply for each unit, clearly visible and durable labels carrying the following inscription: **“Contains substances depleting the ozone layer”**.

Importers of chemical substances included in Annex 1 are obliged at the time when they introduce those into the internal market circulation, to write in the accompanying documents of the goods, the number of the license and number of authorization, issued by Ministry of Environment, on the basis of which they were permitted to enter the state.

At the request of the authority enabled by Government or local public administration personnel with control competence in the field, importers, exporters and persons that introduce into market circulation substances included in Annex 1 of the present Regulation and equipment or products that contain substances included in, Annex B, groups II and III and Annex C, group II are obliged to present for inspection license, authorization in the base of which the operation was undertaken and invoice, customs declaration and copy of the contract with exporting state (for importers).

Economic agents (natural and juridical persons) that produce, import, export or commercialize substances depleting ozone layer foreseen in Annex 1 of the present Regulation, equipment and products foreseen in Annex 2 will present statistic report for previous year (1-ozon and 2-ozon forms) (see attached document Statistical report) to statistic territorial authorities, coordinated with ecological territorial agencies until March 31 of current year.

Economic agents (natural and juridical persons) will keep the register concerning production, import, export, commercialize or consume of ODS foreseen in Annex 1 of the present

Regulation and of products and equipment foreseen in Annex 2. The Register will be kept for a period of 5 years. The data according to the register will be presented to the Ministry of Environment on or before 31 of January of the current year for the previous calendar year.

Refrigeration personnel keep the register for registering the used quantities of substances foreseen in Annex 1 (pure, recovered and recycled substances). The register will be kept for a period of 5 years. The data according to the register will be presented to the Ministry of Environment on or before 31 of January of the current year for the previous calendar year (Annex 5).

## THE CONTRAVENTION CODE OF THE REPUBLIC OF MOLDOVA, Article 148

Violations of the regime and procedure for use of chemical substances that destroy the ozone layer:

- (1) Manufacturing or putting into commercial circulation aerosols or portable fire extinguishers containing chemical substances that destroy the ozone layer shall be sanctioned by a fine of 20 to 30 conventional units for individuals and by a fine of 200 to 300 conventional units for legal entities.
- (2) Using chemical substances that destroy the ozone layer in manufacturing aerosols, new industrial cooling systems, mobile air-conditioning units and sterilization products or using them in any other new area in which they were not previously used shall be sanctioned by a fine of 20 to 30 conventional units for individuals and by a fine of 200 to 300 conventional units for legal entities.
- (3) Using chemical substances that destroy the ozone layer in manufacturing wallboard and packaging material made from organic, flexible or semi-rigid plastic foam shall be sanctioned by a fine of 10 to 20 conventional units for individuals and by a fine of 100 to 200 conventional units for legal entities.
- (4) Using or putting into commercial circulation cleaning agents and solvents containing one or more chemical substances that destroy the ozone layer, except for carbon tetrachloride when it is used as a solvent in chlorination processes in closed systems or as a solvent in processes in which for technical reasons it cannot be substituted with another substance that is inoffensive to the ozone layer shall be sanctioned by a fine of 10 to 20 conventional units for individuals and by a fine of 100 to 200 conventional units for legal entities.
- (5) Violations of rules for using methyl bromide in agriculture shall be sanctioned by a fine of 10 to 20 conventional units for individuals and by a fine of 100 to 200 conventional units for legal entities.
- (6) Using, storing or transporting containers with chemical substances that destroy the ozone layer and that are not labeled "Containing Substances Destroying Ozone Layer" shall be sanctioned by a fine of 25 to 35 conventional units.
- (7) The refusal of importers, exporters and persons who commercially distribute substances, products and equipment containing substances that destroy the ozone layer to present to competent authorities the documents provided for by law on the use of such substances shall be sanctioned by a fine of 15 to 25 conventional units for individuals and by a fine of 150 to 250 conventional units for legal entities with or without the deprivation in both cases of the right to carry out certain activities for a period of 3 to 6 months.

### 1.2. Stakeholders

Ministry of Environment is responsible for the implemented yet 15 ODSs Projects as well as of under implementation the HPMP (stage I) assisted by the National Ozone Unit. Experience gained so far shows that direct involvement of end-users, service companies and importers dealing with refrigeration and air-conditioning give the best results. In this context, the assistance



of the Public Association of the Refrigeration Technicians from the Republic of Moldova on the regular basis is given his assistance by its members.

The Association was (according to HPMP, Stage I) responsible for development of new certification system (according EU Directive F-gases). Now the Association, in collaboration with Ministry of Economy (Technical Centre for Industrial Security and Certification) and Training Centre “TEHNOFRIG” is responsible for implementation of new Certification System.

National Ozone Unit (NOU) of the Ministry of Environment will continue close collaboration with Customs Service (CS) under the Ministry of Finance (MF), which is a relevant data provider, by offering relevant statistics on import/export of HCFC and HCFC-based equipment/products. Such collaboration will ensure effective implementation of licensing system and monitoring of import/export of HCFC and HCFC-based equipment/products.

NOU will initiate a closer collaboration with Climate Change Office (CCO) of the Ministry of Environment, which is designated as Lead National Authority for compiling the National Greenhouse Gas Inventories; including the F-gases (HFCs, PFCs and SF<sub>6</sub>) emissions (the last available inventory covers the period since 1990 to 2012, while in case of F-gases, respectively the period since 1995 to 2012). Also, CCO is totally responsible for the activities related to preparation of National Communications; Biennial Update Reports and National Inventory Reports of the Republic of Moldova under the UNFCCC. The institution is responsible also for coordinating and monitoring the activity of the „National Commission for Implementing Provisions of the United Nations Framework Convention on Climate Change and Provisions and Mechanisms of Kyoto Protocol” and execution of its decisions on behalf of the MoEN. In this respect, it is needed also a closer collaboration with respective entity on promoting the establishing through a Governmental Decision of the National Reporting System to the UNFCCC and Kyoto Protocol, which will cover inter alia also the F-gases emissions. It is supposed both NOU and CCO will benefit from the National Reporting System to the UNFCCC, as the same activity data will be collected and used, although apparently in different purposes.

National Ozone Unit will initiate also a closer collaboration with the Agency for Energy Efficiency (AEE). AEE is a public institution under the Ministry of Economy (MEC), being an administrative body for energy efficiency and renewable energy resources and is responsible for implementing state policies specifically focused on creating preconditions for improving energy efficiency; is developing, implementing and monitoring the impact of energy policies in the Republic of Moldova. Is holding and maintaining also an energy statistics database, being responsible for collecting specific energy indicators, not covered currently by the National Bureau of Statistics. It has also an important role in the new established Energy Statistics System. The NOU will be specifically interested to benefit from the information on the energy efficiency of the ODSs and the equipment containing or relying on them.

State Ecological Inspectorate (SEI) which is a public institution under the MoEN that undertakes the state environmental control in compliance with environmental legislative and regulatory framework in place in the Republic of Moldova, will give its support to NOU in monitoring of environmental legislation implementation.

Ministry of Agriculture and Food Industry (MAFI), which is responsible on behalf of the Government for developing and promoting of state policy for sustainable development of the country's agribusiness sector by increasing competitiveness and productivity of the sector, and ensuring the safety and food sufficiency in the country, in order to create the preconditions for growth the welfare of the population on permanent basis, also may add valuable contribution

through their programmes, including assistance delivered by international organizations and different funds.

Media institutions and NGOs also have an important role in public informing and awareness raising about environmental issues, which they promotes through the media products, radio, TV programs, seminars, topical trainings, public debates, flash mobs and environmental campaigns. They will be engaged in specific public awareness activities.

### **1.3. ODS Phase-Out Programme**

Hydrochlorofluorocarbon Phase out Management Plan or HPMP (stage I, period 2011-2015) of the Republic of Moldova, developed in accordance with the guidance issued by the ExCom, as per document UNEP/OzL.Pro/ExCom/54/53<sup>18</sup> and ExCom Decision 54/39<sup>19</sup> has been approved by the Executive Committee at its Sixty-third Meeting, that took place in April 4-8, 2011.

The HPMP covers strategy and activities to meet the HCFCs freeze goal in 2013 at the baseline level of 1.00 ODP tones and subsequent 10% reduction in consumption of HCFCs by 2015.

Moldova's HCFC Phase-out Management Plan (HPMP), stage 1, comprises a combination of interventions such as policies and regulations, technical assistance, training, awareness and communications and management, coordination and monitoring in the Refrigeration/Air Conditioning sector, to be implemented from 2011 to 2015.

Upon successful completion, the plan will result in net sustainable reduction of minimum 1.7 Metric Tons in the national HCFC consumption by 2015, contributing to Moldova's compliance with the 2013 and 2015 control targets for HCFCs (see Annex).

#### *Achieved results:*

1. The Regulation on trade regime & regulating the use of halogenated hydrocarbons that are depleting the ozone layer (Law No. 852-XV dated 14.02.2002) is in place and is the fundamental legislative document concerning implementation of the Montreal Protocol in the Republic of Moldova.
2. The licensing system has been updated and HCFCs (import, export & consumption) are now controlled by the national legislation (Law No. 228 dated 10.10.2013).
3. The National Phase-out plan for HCFCs for the period 2013-2040 has been elaborated by the NOU and Ministry of Environment and presented to the Government for approval through a Governmental Decision.
4. Legal documentation for the Training & Certification System of the service refrigeration technicians, harmonized with F-gas EU Regulation No. 842/2006 and EU Regulation No. 303/2008 was developed.
5. Basic Recovery equipment and servicing tools including:
  - Electronic Leak Detector (20 un.);
  - Manifold (20 un.);
  - Standards and high pressure hoses (20 un.);
  - Refrigerant Recovery Unit (40 un.);

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<sup>18</sup> <http://www.multilateralfund.org/files/54/5453.pdf>

<sup>19</sup> <http://www.multilateralfund.org/files/54/5459.pdf>, Page 43, Annex XIX.

- Vacuum Pump (20 un.) were purchased & distributed to Servicing Companies in order to equip trained and certificated technicians in line with new system.
6. Annual quota for quantitative restrictions for HCFCs imports (in order to achieve 10% reduction of HCFC by 2015), starting from 01.01.2013 based on the base line data was introduced.
  7. Update of the Code of Good Practices in Refrigeration and AC sectors was done.
  8. Consultations meetings (organized together with Public Refrigerant Association of the Republic of Moldova and main importers, as well as with the Technical University of Moldova) were conducted to enable effective implementation of HPMP (Stage I).
  9. There was developed and maintained a web site ([www//frigotehnica.md](http://www//frigotehnica.md)) of the Public Association of Refrigeration Technicians from the Republic of Moldova.
  10. Three advanced portable refrigerant identifier (detect most common CFC, HCFC, HFC, 400&500 series blends and hydrocarbon refrigerants) was purchased and distributed to Custom Service (specifically to its Central Laboratory). A training how to use identifiers was organized by the NOU.
  11. Customs codes have been adjusted to facilitate monitoring of ODS.
  12. Guidance “Regulation of the Import/Export of ODSs, equipment and products with ODSs” was updated.
  13. New training materials was elaboration, as well same of those published before were updated.
  14. Consumption of CFCs is 0 (zero) MT. Recovered HCFCs (60-80%) is recycled with equipment funded in previous projects by the Multilateral Fund.
  15. Consumption Reports was prepared and submitted to the Ozone Secretariat for the years of 2011, 2012 and 2013. For the 2014 year will be submitted by June 2015.
  16. Progress reports of the Country Program was prepared and sent to the Multilateral Fund Secretariat for the years of 2011, 2012 and 2013. For 2014 will be submitted by May 2015.
  17. Participation at the meetings of the Ozone Action Networks for ECA countries in 2012, 2013 & 2014 was ensured.
  18. Participation at the contact group meetings in 2012, 2013 and 2014 was ensured.
  19. Participation at the meetings of the Open-Ended Working Group of the Montreal Protocol was ensured.
  20. Participation at the Meetings of the Parties of the Montreal Protocol was ensured.
  21. The ozone layer issues were promoted in 2014 throughout the national competition organized on environmental protection for children (National Magazine “NOI”);

22. Periodic Radio broadcasting information for end-users, public concerning implementation of HPMP and result achieved by the Country were undertaken.

23. The following activities have been undertaken to celebrate the International Day for the Preservation of the Ozone Layer (16 September), specifically in 2012, 2013 and 2014:

- Radio broadcast (45 min) in the format of “ECO-TERRA”, under the topic “25 years of the Montreal Protocol” have been broadcasted on 17<sup>th</sup> of September, 2012. Short message (5 min) was presented by the Minister of Environment in the beginning of radio broadcasting.
- An Ecological hour (45 min) - “Montreal Protocol – 25 years“ was organized by the professors (biology and geography) in primary and high schools of the country (17<sup>th</sup> of September 2012).
- Round table discussion, organized by NOU and by the Republican Association of Refrigeration technicians on the topic: “Montreal Protocol – the Best World Environmental Protocol”.
- Scientific paper was published in national magazine “Mediul Ambient/Environment”, entitled – Ozone Layer and role of scientific community in its protection”, author PhD in biology Anatol Tarita.
- Press conference with participation of NOU, MoEN, end-users, main importers of ODSs, and ODSs and distributors of refrigeration equipment and mass-media representatives was organized on 16.09.2013.
- Round table discussion with participation of Ozone Office Coordinator and Director of the Public Association of the Refrigeration and AC technicians in the format “ECO-TERRA”, under the topic “HCFC – Phase-out: a unique opportunity” have been broadcasted - 45 min. on 16<sup>th</sup> of September 2013.
- An Ecological hour - “Ozone Layer Protection and Climate Change – two main ecological problems of the contemporaneity” was organized in primary and high schools of the country on 16<sup>th</sup> of September 2013.
- Participation of Vice-Minister of Environment at the TV emission “Buna Dimineata/Good Morning” on 16<sup>th</sup> of September 2014, broadcasting time 7:30.
- Press conference with participation of NOU, Public Association of Refrigeration Technicians, main importers and distributors of refrigeration equipment and mass-media representatives was organized on 12<sup>th</sup> of September 2014.
- Round table discussion with participation of Ozone Office Coordinator in the format “ECO-TERRA”, under the topic “HPMP – Results & Perspectives” have been broadcasted - 60 min. on 16<sup>th</sup> of September 2014.
- Training video for RAC technicians: Introduction of HCFC alternatives was broadcasted on TV on 15<sup>th</sup> of September 2014.
- An Ecological hour - “Ozone Layer Protection: The Mission Goes On” - was organized in a range of gymnasiums within the country on 16<sup>th</sup> of September 2014.

24. CFC consumption has been zero in 2011, 2012, 2013 and 2014. Implementation of the HPMP (Stage I) has been initiated on time and all activities have been executed.

25. The HPMP (Stage II) has been requested on time (ExCom-72) and was approved.

26. The licensing system has been updated and HCFCs (import, export and consumption) are now controlled by the national legislation (Law No. 228 dated 10/10/2013);

27. Annual quota for quantitative restrictions for HCFCs imports (in order to achieve 10% reduction of HCFC by 2015), starting from 01/01/2013 based on the base line data was introduced; annual quota for 2014 has been distributed to 8 importers;

28. New Certification System which clearly defines two certification categories for RAC technicians was introduced. This measure led to reduction of HCFC emissions as was limiting the access to refrigerants of less competent (not trained & certified) technicians;

29. 60 technicians trained in 2013 and 21 in 2014 according to F-gas EU Regulations No. 842/2006/303/2008 and supplied with additional sets of basic recovery equipment and tools have been serviced RAC equipment using “ozone friendly” technologies;

30. 26 Customs officers trained and provided with the skills required for the monitoring and control of imports & exports of ODSs and the equipment containing or relying on them, as well as the skills for detecting and preventing illegal trade and properly use of the refrigerant identifier systems have been prevent any illegal imports in the country;

31. New lecturing manual was produced. The manual besides relevant topics such as basic refrigeration principles covers new topics - influence of refrigerants on the environment, new low GWP and non-HFC technologies in order to implement certification scheme;

32. Code of Good Practices in Refrigeration and Air-Conditioning/Certification of technicians was updated with new information: natural alternatives to HCFCs, international & national standards in domain, new “ozone friendly” technologies. The Code will help the country to meet the 35% reduction in consumption of HCFCs by 2020;

33. Handbook for Customs Officers has been updated with skills required for the monitoring and control of imports & exports of ODSs and the equipment containing or relying on them, as well as the skills for detecting and preventing illegal trade and properly use of the refrigerant identifier systems. The Handbook will help Customs officers to prevent any illegal import of HCFCs & equipment containing HCFCs in the country;

34. Continued monitoring to ensure that recycled refrigerants are available for future operation of equipment since the import of CFCs is prohibited and the import of HCFCs is under annual quotas control.

## 2. CONSUMPTION DATA

### 2.1. HCFC Consumption Data

CFC consumption has been zero in 2011, 2012, 2013 & 2014. Moldova is neither a producer nor an exporter of HCFCs hence its annual consumption is determined by the level of its annual imports of HCFCs. The most commonly encountered HCFCs in Moldova are HCFC-22 and R-22 containing blends such as R406A and R408A.

Annual HCFC-22 consumption 2009-2013 in MT/ODP tonnes (CP data) in the Republic of Moldova is presented in Table below.

**Table 2.1:** Annual HCFC-22 consumption 2009-2013 in MT/ODP tonnes (CP data) in the Republic of Moldova

2009		2010		2011		2012		2013*	
Servicing	Import	Servicing	Import	Servicing	Import	Servicing	Import	Servicing	Import
44.4/2.44	21.1/1.16	23.9/1.31	12.9/0.71	21.9/1.20	23.8/1.31	29.5/1.62	34.2/1.88	28.9/1.59	18.08/1.00

\* data for 2014 will be available in March 2015.

In addition to HCFC and HCFC blends, hydrofluorocarbon blends such as R404A, R407A, R407B, R407C, R410A and R507, are all used in the refrigeration and air-conditioning sector. It

must also be noted that the Republic of Moldova is at present consuming increasing quantities of R-134A and R-600.

## 2.2. Availability of Alternatives to HCFCs and Prices

One of the most effective measures to prevent the growth of consumption and subsequent reduction in R-22 is to promote the use of the alternative refrigerants in the same manner as was done in terminal phase out of CFCs.

An analysis of worldwide trends shows that the refrigeration sector of the Republic of Moldova is likely to adopt similar scenarios in use of alternatives to R-22, leading to its complete phase-out.

Furthermore, during 2007-2013 – last seven years, though the import of non-HCFC has become dominant in last two years 2012 and 2013, the import of unitary & split air-conditioners based on HCFC-22 has resulted in the installed capacity of more than 55,000 units (Customs data) that will require more servicing in future as this equipment ages and creates an HCFC consumption bubble.

**Table 2.2:** Import of unitary & split air-conditioners in the Republic of Moldova (Customs data)

Years	2007	2008	2009	2010	2011	2012	2013
Units	12,995	14,334	9,025	16,806	27,213	24,115	30,989
% of non-HCFCs units	25%	28%	31%	45%	43%	92%	95%
<b>HCFC containing units</b>	<b>9,706</b>	<b>10,330</b>	<b>6,227</b>	<b>9,243</b>	<b>15,511</b>	<b>1,929</b>	<b>1,549</b>

As was approved HPMP Stage I for the country, NOU of the Republic of Moldova has done great effort to respect assumed obligations.

The general strategy for the second stage of the HPMP - from 2015 to 2020 will be phase-out (according to the MP schedule) of R-22 and gradual replacement of R-134a, which will be replaced by new generation HFC-refrigerants and natural refrigerants (blends of hydrocarbons, ammonia blends - with hydrocarbons, oils, etc., and carbon dioxide).

In multitemperature cycles in the production sector, blends of natural refrigerants will be used by RAC Association. In general, the strategy of substitution of R-22 to other refrigerants after 2015 may follow, in the Republic of Moldova, the trend represented below.

**Table 2.3:** Forecast for refrigerant use in RAC sectors (HPMP, Stage I and post 2016)

	Refrigeration & AC sub sectors	Steps	
		Step 1 (2011 – 2015)	Steps 2 (2016 – 2020)
1	Industrial	R717, R404A	R717, R744, a mixture of natural agents
2	Commercial	R404A, R407A, R407B, R507	R407C, R410A, R744
3	Air-conditioning	R407C, R410A	R410A
4	Household	R600a, R600a/ R290	R600a, R600a/ R290
5	Transport	R404A	R744

The shift of most European countries towards ozone-friendly refrigerants has directly influenced the increased consumption of alternative refrigerants in the Republic of Moldova, which is growing continuously. Implementation of new/alternative refrigerants is direct function from their price. Prices of refrigerants on the market in the Republic of Moldova according to data from importers are listed in table below.

**Table 2.4:** Fluctuation of imported refrigerant prices in the Republic of Moldova (production: China)

Refrigerant	Market price USD/kg., excluding taxes				
	2010	2011	2012	2013	2014
HCFC-22*	4.6	4.8	5.4	4.2	5.4

HFC-134a	15.5	16.2	12.7	10.2	10.5
R-404 A	9.0	21.0	15.5	12.7	12.7
R-406 A	5.0	10.5	7.4	6.2	6.2
R-407 C	11.5	19.4	15.7	15.0	15.0
R-408A	-	12.7	11.3	11.3	11.3
R-410 A	11.5	19.4	15.3	14.0	14.0
R-507C	10.0	21.0	15.7	14.6	14.6
R-600A	11.0	10.6	8.3	7.1	8.9

\* Data of the main importer & distributor SC "Ecolux" LTD.

### 3. PHASE OUT STRATEGY (2016-2020)

#### 3.1. Overarching Strategy

The National Ozone Unit (NOU) is the central national body within the Ministry of Environment.

Refrigeration and air-conditioning sector in the Republic of Moldova represents the major HCFC consumption. Imported in the country & recovered/recycled HCFCs at the national level quantities are used exclusively for servicing of RAC equipment (2010-23.9 Mt; 2011-21.9 Mt; 2012-29.5 Mt; 2013-28.9 Mt).

The measures to phase-out HCFCs should be an upgrade of activities implemented under the CFC phase-out process and under HPMP, stage I.

The infrastructure, logistics and distribution-channels with enterprises, service companies and technicians involved in the CFC technology, as well as HPMP, Stage I are almost the same.

Over the years and out of necessity, refrigeration technicians and companies in the field have extended the range of their activities to HCFC and HFC refrigerants. Basically, in relation to CFCs, the ways to reduce emissions of HCFCs and HFCs are the same, including sound system design, improved commissioning and maintenance practices, leak detection, monitoring and recovery, and functional recovery recycling and reclaiming (RRR) process.

All these segments need to be carefully evaluated and upgraded. The global industry faces new regulations with requirements on equipment owners, technicians and companies in the RAC sector (i.e. in Europe the ODS and F-Gas Regulation; EN 378-2 Refrigerating systems and heat pumps; Safety and environmental requirements; Design, construction, testing, marking and documentation). It is important to gradually harmonize the national regulations, standards and codes with those being applied at the international level.

The EU ODS and F-regulation dictated detailed and challenging requirements for the certification of technicians and enterprises establish a clear target for the industry. These structures can also easily be upgraded with competencies to work with hydrocarbons, ammonia and carbon dioxide, the line of natural refrigerants.

With a strategy of harmonization with EU, it was elaborated the new Certification system which clearly defines two certification categories for RAC technicians. This measure led to reduction of HCFC emissions as was limiting the access to refrigerants of less competent (not trained & certified) technicians.

In the Republic of Moldova two levels of certification was introduced:

- ❖ Certification category I - the technician is entitled to perform leakage check, recovery, installation, service and maintenance of refrigeration and AC systems containing more than 6 kg of refrigerant;

- ❖ Certification category II - the technician is entitled to perform leakage check, recovery, installation, service and maintenance of refrigeration and AC systems containing less than 6 kg of refrigerant.

Mandatory logbooks for users of the equipment containing more than 3 kg of charge (6 kg hermetically sealed) were introduced. A web-based electronic reporting and licensing system is under elaboration.

As alternatives to HCFCs in the RAC sector, four groups of refrigerants exist today, HFCs, hydrocarbons, ammonia and carbon dioxide, the three latter often called “natural refrigerants” as they are naturally occurring and have low GWP. With increasing focus on climate change low GWP refrigerants should be the preferred choice whenever possible; however, this will require extensive education of the industry and adaptation of legislation. The low GWP alternatives are all associated with safety, toxicity and/or technical challenges that must be overcome for a wide introduction on the market.

Another important measure to be considered is that of moving the process of training and certification for technicians and companies to a higher level, again in line with international level requirements. Although the efforts to improve the basic skills of technicians in the servicing sector have been made under earlier projects (RMP, RMP update, TPMP, HPMP-Stage I), it has been shown that the servicing sector is still in need of adapting and improving knowledge for the new practices typical for HFCs blends and even more so for natural refrigerants.

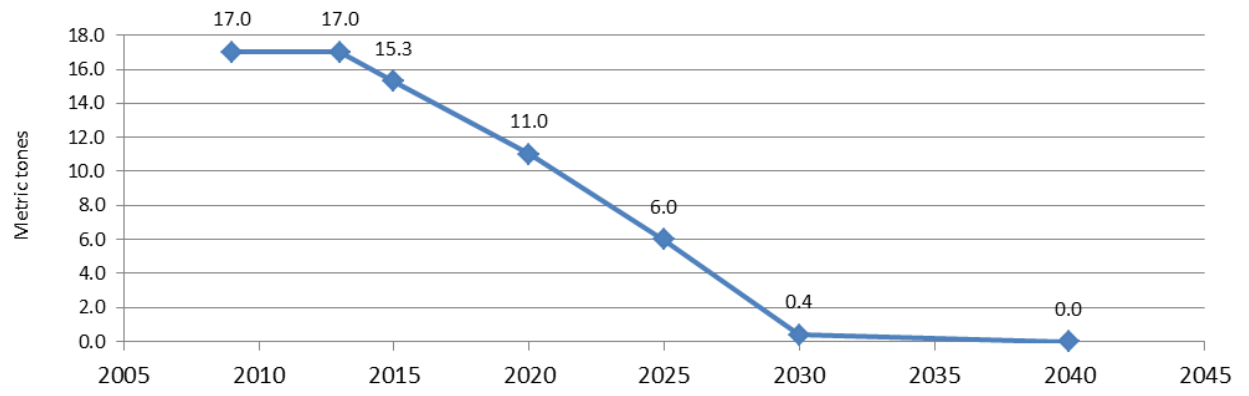
Phase-out schedule:

- Updated licensing system (Law No. 228 dated 10/10/2013) controlled (import, export and consumption of HCFCs and equipment with such substances will be implemented;
- Annual quota for quantitative restrictions for HCFCs imports, introduced starting from 01/01/2013 in order to achieve 35% reduction of HCFC by 2020 will be approved and distributed to main importers every year. Annual quota for 2016 will be distributed at the beginning of 2016;
- National Phase-out plan for HCFCs for the period 2013-2040, elaborated by NOU and Ministry of Environment in 2013 and presented to the Government for approval through a Governmental Decision includes the following schedule for phase-out of HCFCs in the Republic of Moldova (see the table and graph below).

**Table 3.1:** HCFC phase-out schedule for 2013-2040 for the Republic of Moldova (in Mt)

Reduction Step	MP Requirement	Allowable Consumption (Mt tons)	Schedule Timeframe	Needed Reduction
Baseline	Re-evaluated	17.0	2009-10	
Freeze	Equal to baseline	17.0	2013	
Step 1	10% reduction	15.3	2015	1.7
Step 2	35% reduction	11.0	2020	6.0
Step 3	67.5% reduction	5.5	2025	11.5
Step 4	97.5% reduction	0.4	2030	16.6
Step 5	Complete phase-out	0.0	2040	17.0





**Figure 3.1:** HCFC-22 phase-out plan in the Republic of Moldova