



MINISTERUL MEDIULUI  
AL REPUBLICII MOLDOVA



# Environmental Strategy 2024-2030



JUSTIȚIE VERDE



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# Contents

<b>Chapter I</b>	Introduction	6
<b>Chapter I</b>	Situation analysis	9
2.1.	Environmental governance and compliance	9
2.1.1.	Environmental policy and regulatory framework	9
2.1.2.	Environmental Assessment System	11
2.1.3.	Environmental institutional framework	12
2.1.4.	System for ensuring compliance with environmental legislation	14
2.1.5.	Environmental Law Enforcement System	19
2.1.6.	Public information, awareness and environmental education	22
2.2.	Sustainable management of natural resources	22
2.2.1.	Water resources management	23
2.2.2.	Management of soil and useful mineral resources	26
2.2.3.	Managing biological resources	30
2.3.	Atmospheric air quality	34
2.4.	Chemicals Management	37
2.5.	Waste management	40
2.6.	Climate change	43
2.6.1.	Greenhouse gas emissions	44
2.6.2.	Vulnerability of economic sectors to climate change	46
2.6.3.	Natural disasters, extreme weather events and preparedness to respond to them	48
2.7.	Sustainable development and the green economy	50
<b>Chapter III</b>	Vision and objectives	53
3.1.	Strategy vision and strategic objectives	53
3.2.	General objectives and priority directions	53
<b>Chapter IV</b>	Impact	83
<b>Chapter V</b>	Monitoring and evaluation indicators	86
<b>Chapter VI</b>	Implementation risks	105
<b>Chapter VII</b>	Responsible institutions	109
<b>Chapter VIII</b>	Reporting procedures	110

## **ENVIRONMENTAL STRATEGY for the years 2024-2030**

### Chapter I

#### **INTRODUCTION**

The quality and state of the environment are fundamental pillars to the health, economy, and well-being of the country. For these reasons, environmental protection has become of global importance, being placed at the top of the list of priorities directly affecting both the living and health conditions of the population as well as the economic development through the sustainable use of resources. Ensuring a clean environment is an unquestionable prerequisite for the realization of fundamental human rights as foreseen in the Constitution of the Republic of Moldova. National environmental policies and regulatory frameworks are designed to protect natural habitats, maintain clean air and water, ensure proper waste disposal, improve the management of hazardous chemicals, and help the transition to a sustainable economy. It is therefore necessary to ensure the continuity of the measures set out in the Environmental Strategy for the years 2014-2023 approved by Government Decision No. 301/2014 on the creation of an effective environmental management system, which will contribute to increasing the quality of environmental factors and ensuring the population's right to a clean, healthy, and sustainable environment. On the other hand, the evolution of environmental policy priorities both at national and international levels requires their transposition into national policy documents along with implementation. Thus, the Environmental Strategy for the years 2024-2030 (hereinafter - Strategy) is proposed to be a sectoral strategy for environmental protection, climate change, and natural resources, which includes national priorities and objectives until 2030 for the following environmental sub-domains: good environmental governance, prevention of environmental pollution, protection of atmospheric air, sustainable management and protection of water resources, soil resources, mineral resources, biodiversity and natural ecosystems (forests, wetlands, state-protected natural areas, etc.), integrated waste and chemicals management, biosafety, integrated environmental monitoring, climate change mitigation and adaptation, etc.

The Strategy includes the objectives and priority directions that contribute to the implementation of the environmental objectives and targets set out in:

- ▶ *The Global Agenda for Sustainable Development 2030 with its 17 Sustainable Development Goals and National Development Strategy "European Moldova 2030"; including its general objective 10: "Ensuring a healthy and safe environment";*
- ▶ *the Government of Republic of Moldova Activity Program "Prosperous, Safe and European Moldova" in which the following priority policies are included under the "Environment" chapter: accelerating the implementation of European environmental standards, promoting innovations and investments in line with the European Green Deal; integrating the principles of sustainable development and adaptation to climate change into all sectors of the national economy, including in economic, public procurement and*

subsidy policies; creating the integrated water, soil, and air quality management system, reducing emissions of pollutants into the atmosphere and greenhouse gases compared to the reference year 1990, ensuring the application of the “polluter pays” principle, applying extended producer responsibility and liability for causing environmental damage; launching and creating integrated waste management systems through the development of the necessary infrastructure and services to reduce the amount of landfilled waste, increasing the recycling rate, regionalizing services and reducing the consumption of natural resources; developing and implementing national projects on the rehabilitation of water bodies, especially strategic water bodies; restoring and expanding forest areas; rehabilitating and expanding state-protected natural areas, etc.;

► *the multilateral agreements to which the Republic of Moldova is a party:*

*The Association Program between the Republic of Moldova and the European Union 2021-2027 and 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 hand (hereinafter - the Agreement of RM - EU Association), the “Environment” chapter and the “Climate Policies” chapter;*

- *The European Green Deal (2019)*, which focuses on reducing greenhouse gas emissions, decoupling economic growth from the use of natural resources, on inclusive environmental policy, and its initiatives such as the EU Biodiversity Strategy 2030, the new Action Plan for the Circular Economy, the Strategy to promote sustainability in the chemicals sector, and the Zero Pollution Action Plan;
- *The Paris Agreement (2015)* under the UN Framework Convention on Climate Change, aimed at strengthening the global response to the threat of climate change, including by keeping global average temperature increase to less than 2°C above pre-industrial levels and continuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels;

*The 8<sup>th</sup> European Environment Action Program* with six thematic priority objectives covering:

- 1) rapidly reducing net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels and achieving climate neutrality by 2050;
- 2) enhancing adaptive capacity, including based on ecosystem approaches, building resilience and better adapting and reducing the vulnerability of the environment, society, and all sectors of the economy to climate change, improving weather and climate disaster prevention and preparedness;
- 3) accelerating the transition to a climate-neutral, clean, resource-efficient, and restorative economy in a reasonable and inclusive manner;
- 4) pursuing the objective of pollution reduction for an environment including air, water, and soil, free of hazardous substances, and protecting the health and well-being of citizens from environmental risks and related impact;
- 5) protection, conservation, restoration of biodiversity, and improvement of natural capital, air, water, soil, and forest ecosystems;
- 6) promoting environmental sustainability and reducing environmental and climate pressures related to production and consumption, particularly in the areas of energy, industrial development, buildings and infrastructure, mobility, and the food system.

Thus, the aim of the Strategy is to ensure safe conditions for the environment and wellbeing at the national level by applying all necessary instruments that will contribute to the organization of human and economic activity in a such way that it is carried out with maximum responsibility towards the environment and society, complying with all principles of environmental policy. The emissions into the atmospheric air, discharges into surface waters, waste generated by economic and municipal activities, chemicals to be properly managed so that they do not become sources of air, water, and soil pollution affecting the health of the population and the state of biodiversity.

In order to ensure the implementation of the specific objectives and action directions of the sectoral Strategy for Environmental Protection, Climate Change, and Natural Resources, programs and action plans will be developed for each of the environmental fields: air protection, waste management, chemicals management, soil exploitation and conservation, rational use of subsoil, nature and biodiversity conservation, afforestation, water quality management and improvement, adaptation to climate change, etc. It can be mentioned that some programs with action plans have already been developed and approved, such as the National Program for the implementation of Water and Health Protocol in the Republic of Moldova for the period 2016-2025 approved by Government Decision no. 1063/2016, the National Climate Change Adaptation Program until 2030 approved by Government Decision no. 624/2023, the Low Emission Development Program of the Republic of Moldova until 2030 approved by Government Decision no. 659/2023, the Sound Management of Chemicals Program for the years 2023-2030 approved by Government Decision no. 816/2023, the National Program for Waste Management for the years 2023-2027 approved by Government Decision no. 972/2023. The drafts of Program for the Promotion of Green and Circular Economy for 2024-2028, the Program on Biodiversity for 2024-2030, and the Program on Sustainable Use of Mineral Resources are in the process of elaboration.

# Chapter II

## SITUATION ANALYSIS

The objectives of the national environmental policy are based on compliance of the modern principles of integrated environmental management and sustainable development, the principles of European environmental policy, including the European Green Deal, such as the precautionary principle, the principles of prevention and reduction of pollution at source, the polluter pays principle, and the principle of “environmental responsibility and liability,” as well as on the implementation of the objectives and actions required by the harmonization of the regulatory framework and institutional reforms in line with the *acquis communautaire*. Integrating environmental aspects into sectoral policies, including transport, energy, and agriculture, promoting the green and circular economy and ensuring public-private partnerships in the environmental segment are the priorities of societal development aiming to improve the quality of environment and sustainable development.

Republic of Moldova is currently facing several environmental challenges related to climate change, excessive consumption and production, and various forms of pollution.

The analysis of the environmental situation focuses on issues in the field of environmental protection, sustainable management of natural resources, climate change and the causes of its occurrence, including describing the possible consequences and their impact on the main vulnerable groups, such as those subject to poverty, discrimination, with limited or no access to basic services or natural resources, to the benefits of local development, subject to a higher risk of climate change, and highlights the following key dimensions.

### 2.1. Environmental governance and compliance

The environmental governance and compliance system currently applied in the Republic of Moldova is composed of several interconnected elements such as environmental assessment, authorization of pollutant emissions and use of natural resources, monitoring of environmental quality, reporting of emissions to air, water, soil, evidence of waste generation quantities etc., control of compliance with environmental requirements, and last but not least, environmental data for public and authorities and environmental education.

The quality of environmental governance and compliance will only improve when all these elements are fully functional, interlinked, and merged-up in their approach.

#### 2.1.1. Environmental policy and regulatory framework

*Environmental regulatory framework.* By signing the Republic of Moldova-EU Association Agreement, our country has undertaken the responsibility to transpose into national legislation the provisions of EU directives and regulations included in the “Environment” and “Climate Policy” chapters and to ensure their implementation. To date, major progress has been made in implementing the undertaken commitments, in particular, horizontal environmental legislation has been adopted and implemented, including regulations in the field of environmental impact assessment and strategic environmental assessment, ensuring public access to environmental information and ensuring public participation in environmental decision-making<sup>1</sup>. In terms of specific legislation on environmental components, there is tangible progress in transposing EU acts into national legislation

<sup>1</sup> Law no. 86/2014 regarding environmental impact assessment; Law no. 11/2017 regarding the strategic environmental assessment; Regulation on public access to environmental information, approved by Government Decision no. 1467/2016.

on integrated water management, waste, chemicals, atmospheric air quality, nature protection, and biodiversity conservation, management of genetically modified organisms, and industrial emissions, etc.<sup>2</sup> For some of these areas, the secondary regulatory framework implementing the adopted legislation has been developed, while for the areas of waste and chemicals management, the process of their development and approval is ongoing. On the other hand, in some acts approved until the Republic of Moldova-EU Association Agreement, there are several shortcomings, inconsistencies, ambiguous stipulations, disproportionalities, and gaps, outdated provisions, including conflicting rules, which may prevent their clear, consistent, and uniform application, and urgent measures for harmonization and adjustment should be taken. At the same time, the dynamic process of development and amendment of European legislation, the new Association Program between the Republic of Moldova and the European Union 2021-2027 makes it necessary to continue the activities on improving the national environmental regulatory framework and harmonizing it with the new amendments to the EU legislation. Enhanced efforts to ensure full implementation and enforcement of the environmental regulatory framework by all stakeholders is also essential.

With reference to the policy framework, during the implementation of the Environmental Strategy for 2014-2023, several environmental policy documents (strategies, programs, and action plans<sup>3</sup>) which aimed to improve the quality of the environment and the wellbeing of population, along with protection and efficient and sound management of natural resources were approved. Currently, most of these documents have already expired or cannot be realized, and some evaluations, ex-post evaluations, have found a low level of implementation and have revealed several problems and challenges faced by the parties involved in their implementation, including ambitious actions planned, insufficient funding of actions, ineffective coordination and monitoring of the implementation process by central and local authorities, business, academia, and civil society, lack of administrative and institutional capacities in the field, etc.

Therefore, the development of a new environmental policy framework on all environmental components and the updating of policy and planning documents should be a priority on the agenda of the Ministry of Environment.

Ensuring transparency in decision-making and consultations are the basic elements of the decision-making process regulated likewise by Law No. 239/2008 on transparency in decision-making. The environmental authorities provide through their official websites access to draft legislation and policy documents in the process of elaboration, with special compartments dedicated to transparency in decision-making. Civil society, business, and academia are also be permanently involved in environmental decision-making by participating in public consultations, working groups organized for the development and implementation of environmental legislation and policies. Despite these efforts, representatives of the private

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2 Law no. 272/2011 on Water; Law no. 209/2016 on waste; Law no. 277/2018 on chemicals; Law no. 98/2022 regarding atmospheric air quality; Law no. 152/2022 on the regulation and control of genetically modified organisms; Law no. 227/2022 regarding industrial emissions, etc.

3 The low-emissions development strategy of the Republic of Moldova until 2030, approved by Government Decision no. 1470/2016; The strategy of the Republic of Moldova for adapting to climate change until 2020, approved by Government Decision no. 1009/2014; The strategy regarding the biological diversity of the Republic of Moldova for the years 2015-2020, approved by Government Decision no. 274/2015; The waste management strategy in the Republic of Moldova for the years 2013-2027, approved by Government Decision no. 248/2013; The National Program for the implementation of the Protocol on Water and Health in the Republic of Moldova for the years 2016-2025, approved by Government Decision no. 1063/2016; The phased suppression program of halogenated hydrochlorofluorocarbons for the years 2016-2040 and the Action Plan for its implementation in the years 2016-2020, approved by Government Decision no. 856/2016; The management plan of the Danube-Prut and Black Sea hydrographic basin district, approved by Government Decision no. 955/2018; The management plan of the Dniester hydrographic basin district, approved by Government Decision no. 814/2017; Law no. 68/2017 for the approval of the National Strategy on radioactive waste management for the years 2017-2026 and the Action Plan for its implementation, etc.



sector and civil society consider that the draft decisions published on the official websites of the environmental authorities are insufficient and that there should be more transparency in the decision-making process, although the annual reports on transparency in decision-making highlight low interest and insignificant contribution to the decision-making process with very few comments and recommendations on the subjects consulted, except for draft acts of major significance. Ensuring access to environmental information, public participation in environmental decision-making, and access to justice are therefore important and crucial to the success of effective environmental governance and must be backed up by a plan of measures to be implemented in this respect in accordance with the provisions of the Aarhus Convention to which the Republic of Moldova is a party.

### 2.1.2. Environmental Assessment System

Strategic Environmental Assessment (SEA) aims to provide a high level of environmental protection and to help integrate environmental considerations into the preparation of draft policy and planning documents with a view to minimizing their environmental impacts. Strategic environmental assessment ensures that the environmental impacts of decisions are taken into account before they are approved, thereby preventing a negative impact of planned activities in the future as well as providing alternatives in situations where a potentially significant environmental or health impact is identified.

Although the regulatory framework in the field of environmental impact assessment (hereinafter - EIA) has been approved and implemented since 2014 and the number of applications submitted to establish the need for EIA is increasing year by year, few economic activities initiated during the last years with a possible significant impact on the environment have been subject to the EIA procedure. This has been conditioned by the imperfections of Law No. 86/2014 on Environmental Impact Assessment, which set high values for production capacities or installations which led to the majority of economic activities being exempted from the need to carry out EIA, being directed to an outdated procedure applied until now, such as ecological expertise. Another aspect is also the lack of a methodology for calculating the cost of an EIA procedure as well as the lack of human resources that could carry out such a procedure, which can take around a year. This situation explains the large discrepancy between the number of applications for the determination of the need to carry out an EIA and the number of environmental permits issued, which is very small as shown in Table 1.

Table 1

#### Environmental Impact Assessment in the Republic of Moldova (years 2015-2023)

Name of documents issued	2015	2016	2017	2018	2019	2020	2021	2022	2023
Prior assessment requests examined	116	106	100	56	80	191	336	309	603
Decisions on lack of need for EIA	60	57	56	26	63	153	250	250	422
Environmental permits issued	0	4	2	4	1	0	1	2	4 (+25 simplified environmental permits*)

\* As a result of the 2023 amendments to Law 86/2014 on Environmental Impact Assessment.

Source: Environment Agency Annual Activity Reports

There is also a low level of application of the strategic environmental assessment procedure, particularly for policy documents or urban and spatial planning documents. At the same time, policy documents prepared by the central authorities are subject to the strategic environmental assessment procedure as presented in Table 2 (environmental opinion issued for the draft Low Emission Development Program of the Republic of Moldova until 2030).

Table 2

**Strategic Environmental Assessment in the Republic of Moldova (2019-2023)**

Name of issued documents	Ministry of Environment					Environment Agency				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Requests for determining whether a strategic environmental assessment is required for draft plans or programs	2	2	2	1	1	12	20	69	65	139
Scoping					2					
Prior assessment opinions issued	1	2	1	1	1	10	20	51	45	40
Environmental opinion	0	0			1	0	0	0	1	0

**Source:** Ministry of Environment and Environment Agency activity reports

In order to streamline the procedures for environmental impact assessment and strategic environmental assessment, in 2022 amendments were made to Law No. 86/2014 on environmental impact assessment and Law No. 11/2017 on strategic environmental assessment, which aim, among other things, to decrease the values of the parameters of the activities that will be subject to environmental impact assessment, abolish Law No. 851/1996 on ecological expertise, and include biodiversity assessment as an integral part of the assessment procedures. Thus, it is necessary to adjust the entire environmental assessment process to the newly approved normative provisions, including by developing and approving guidelines and instructions to support the application of the new approaches to EIA, by developing and strengthening the capacities of the parties involved in the implementation of these instruments. Moreover, the new amendments to Law No. 86/2014 on EIA and Law No. 11/2017 on SEA provide for the establishment of the quality control mechanism. Thus, specialized technical Commissions will be created which will have the role of assessing the quality of both the procedures and the documentation prepared and will issue an opinion in the form of a recommendation which will be taken into account by the competent authority in the decision-making process.

2.1.3. Environmental institutional framework

The quality of public administration in the field of environmental protection has a significant impact on the results of environmental policy implementation, on the quality of public services provided in this field, which is correlated with the level of public trust in public administration, the favorable business climate, and the level of well-being of society.

The main institutional actors in the environmental field in the Republic of Moldova are: The Ministry of Environment – with the functions of elaboration and coordination of

environmental policies, subordinated administrative authorities, and public institutions founded by it:

- 1) Environment Agency – with the functions of implementation of environmental policies, assessment, and regulation (through authorization) of activities with environmental impact, monitoring the quality of environmental components, and information. The Environment Agency has an Environmental Reference Laboratory (hereafter – ERL) and two territorial subdivisions in the North and South of the country;
- 2) Environmental Protection Inspectorate (hereinafter – EPI) - with controlling functions of the activities with environmental impact, the way in which the provisions of the normative and permissive acts are complied with, and the application of fines. The Inspectorate has subdivisions in each district of the country;
- 3) “Moldsilva” Agency – with the functions of implementing policies in the fields of forestry and hunting, ensuring the protection and guarding of forests and fauna, maintenance and conservation of biodiversity functions carried out with the support of 24 forestry enterprises and public research institution;
- 4) “Apele Moldovei” Agency – with the functions of implementing state policies in the field of water management;
- 5) Agency for Geology and Mineral Resources – with the functions of implementing the state policy in the field of geological research, rational use, and protection of subsoil, ensuring research, record, and regulation of the use of mineral resources;
- 6) National Agency for the Regulation of Nuclear and Radiological Activities – with the functions of implementing the state policy in the field of nuclear and radiological activities, regulating the use of facilities with ionizing radiation sources and ensuring of the control and supervision of radioactive activities;
- 7) State Hydrometeorological Service – with the functions of carrying out observations on hydrometeorological and agrometeorological conditions, meteorological, hydrological, and environmental forecasting, warning of dangerous hydrometeorological occurrences;
- 8) Public Institution “National Office for the Implementation of Environmental Projects” – responsible for implementation of financial, technical, external and internal project assistance functions in the field of environmental protection and natural resources.

The functional analysis of the authorities subordinated to the Ministry of Environment revealed that the institutional arrangement in terms of environmental protection has undergone numerous changes and transfers of powers in recent years, which has conditioned the appearance of normative, functional, institutional, and administrative problems in their activity, identifying improper functions, or functions that duplicate, and functions performed in a fragmented manner, which generate inefficiency and risks of corruption, which ultimately leads to the failure to properly implement environmental policies.

It is therefore necessary to review and update the organizational and functional structure of environmental institutions to ensure:

- 1) Improving the efficiency of environmental institutions by excluding functions which duplicate or are not relevant and up-to-date and do not correspond to the newly approved regulatory framework;
- 2) Reducing potential conflicts of interest by clearly separating the main types of environmental governance functions (policy-making, permitting, monitoring and

reporting, control, natural resource management) among the relevant public authorities and institutions;

- 3) Identifying the functions that are missing but are inherent for the full realization of environmental tasks and commitments, including new functions that need to be carried out in accordance with the new regulatory framework approved as a result of the implementation of the Association Agreement between the Republic of Moldova and the EU.

An equally important problem in this area is the mismatch between the existing environmental institutional framework and the relevant legislative provisions and requirements. For example, Law No. 277/2018 on Chemicals provides for the creation of an Agency to ensure the implementation of policies in the field of chemicals management, and Law No. 209/2016 on Waste provides for the creation of a Center for Hazardous Waste Management, institutions that have not been created so far. Similarly, to date, there is no authority to ensure the management and administration of state-protected natural areas. The functions of environmental monitoring and environmental information management are dispersed within all existing environmental structures, thus being difficult to access environmental data and information, as well as a challenging reporting process under international treaties. The administrative authorities in the environmental system are facing staff shortages, necessary for the implementation of newly adopted environmental legislation<sup>4</sup>, which sets additional responsibilities and tasks for these institutions.

Finally, the environmental legislation provides for a number of duties and responsibilities for local public authorities regarding the planning, management, protection of green spaces and protected natural areas, waste management, and the creation of conditions for separate collection of waste, including hazardous waste, which is not realized at the local level due to the same institutional and infrastructural grounds and issues.

#### 2.1.4. System for ensuring compliance with environmental legislation

A functioning environmental compliance system meaning is the ensuring that industry, public utilities, landowners and other entities fulfill their environmental obligations arising from the specific activities they carry out. Obligations may be in the form of prohibitions laid down in legislation, environmental permits, general binding rules, and other measures put in place to protect the environment.

In practice, the mechanisms for ensuring compliance with environmental legislation involve the use of three broad categories of intervention:

- 1) *Promoting compliance* – is achieved by environmental authorities through means such as information, guidance, “frequently asked questions,” and technical assistance services;
- 2) *Compliance monitoring* – is carried out by environmental monitoring and control authorities through regular reporting, environmental inspections, and other controls to evaluate the level of compliance and detect non-compliance;
- 3) *Enforcing compliance with the provisions of normative acts* – is carried out through administrative, criminal, and civil means to stop, discourage, and sanction non-compliant behavior, as well as to obtain compensation in the event of non-compliance and to encourage compliance.

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<sup>4</sup> Law no. 108/2020 on the control of the dangers of major accidents involving dangerous substances; Law no. 98/2022 regarding atmospheric air quality; Law no. 227/2022 on industrial emissions; Law no. 152/2022 on the regulation and control of genetically modified organisms, etc.

The Republic of Moldova needs to ensure effective implementation of the mentioned above categories of intervention to influence the behavior of individuals and legal persons to comply with environmental legislation and environmental protection obligations in order to reduce the negative impacts on water, air, biodiversity, human health, and the economy as a result of their activities.

*The environmental permitting system* consists of opinions, permits and authorizations issued by the Environment Agency, but also by other authorities in the field, for entrepreneurial activities with impact on different components of the environment such as: air, special water use, wastewater discharge, waste management, use of animal and plant species, mineral resources, etc.

Over the last few years, significant progress has been made in streamlining the permitting system. The institution responsible for issuing environmental permits – the Environment Agency – has been created, the process of applying for and obtaining permits has been digitalized, and the use of single window solutions has been initiated. Progress in the review and issuance of environmental permits is reflected in Table 3.

Table 3

### The number of environmental permits issued by the Environment Agency, 2019-2023

Nr.	Information system used	Type of permissive act	Number of issued acts				
			2019	2020	2021	2022	2023
1.	Automated Information System for the Management and Issuance of Permits (SIA GEAP)	Environmental authorization for special water use	101	142	160	104	241
2.		Authorization to emit pollutants into the air from stationary sources of pollution	647	879	745	996	892
3.		Authorization for the import, export or re-export of ozone depleting substances products and equipment containing such substances	5	4	3	2	3
4.		Authorization for logging in forest fund and forest vegetation outside forests	640	962	939	1957	1904
5.		Authorization to collect wild plants, including natural medicinal plants	28	27	30	40	50
6.		Authorization for the acquisition of animals which are not objects of hunting and fishing (snails, frogs, lizards, snakes)	0	1	0	1	0
7.		CITES permit/certificate (Convention on International Trade in Endangered Species of Wild Fauna and Flora)	107	93	119	89	107
8.		Plant export permit	61	66	95	52	46
9.		Permit to export wild animals	3	3	1	1	0
10.		Wild animals and/or plants import permit	54	47	55	15	1/0
11.		Environmental permit	1	0	1	2	
12.		Opinion of the state ecological expertise	96	122	145	136	
13.		Annual commercial fishing quota allocation certificate	0	0	0	0	0
14.	Automated Information System «Waste Management» (SIA MD)	Notification for transboundary shipment of waste	46	83	227	328	206
15.		Environmental permit for waste management	31	60	52	185	126
16.	„E-pescuit” Information System	Sport, amateur and recreational fishing permit	23707	31832	30744	34456	40640

**Source:** Environment Agency Annual Activity Reports

However, actions need to be taken to optimize and streamline environmental permitting procedures and to eliminate problems arising in the application of single-window solutions and information systems when applying for and issuing permit documents, procedural challenges, and regulatory gaps, and improve the quality of issued documents.

Other issues relate to lack of a differentiated approach to permitting acts according to the pollution potential of enterprises as well as the lack of clear standards and instructions for both the authorities issuing environmental permits and the authority carrying out environmental controls and for economic operators on how to use best available techniques (BAT) and best environmental practices (BEP) to improve the production process and ensure environmental quality. The permitting procedures currently do not take into account the size of the economic entities or their pollution potential, therefore a differentiated approach could be based on the level of environmental risk coming from the economic entities.

*Monitoring of environmental legislation compliance* takes place through several tools and mechanisms such as planned and ad-hoc inspections based on risk assessment analysis, environmental monitoring by the Environment Agency's ERL, self-monitoring by enterprises, as well as public alerts through institutional hotlines and petitions.

The control of compliance with environmental requirements in entrepreneurial activity is carried out by the EPI and its territorial inspections in accordance with the Law no. 131/2012 on State control of entrepreneurial activity, and the Government Decision no. 963/2018 for the approval of the Methodology on State control of entrepreneurial activity based on the risk analysis of the areas of competence of the Inspectorate for Environmental Protection and based on a plan of State controls in the field of environmental protection, approved annually. Only half of the controls carried out annually are planned, the other half are unannounced controls carried out based on requests from individuals or legal persons, public authorities, prosecutor's office, Ministry of Internal Affairs, but also from the Environment Agency in the course of the permitting procedure or from economic entities. Table 4 summarizes the controls carried out.

Table 4

**Summary of controls carried out by the Environmental Protection Inspectorate during 2019-2023**

Nr.	Indicators	2019	2020	2021	2022	2023
1.	Number of controls of entrepreneurial activity carried out, of which:	3274	2081	3516		
	- planned,	1722	64	1701	2076	1692
	- unannounced, including at the request of the Environment Agency as a part the permitting procedure	1552	1417	1815	2388	2268
2.	Other inspections, raids, anti-poaching raids	4295	4388	4848	5735	6162
3.	The number of protocols	6087	5177	6358	6140	6201
4.	Amount of fines calculated (thousand lei)	6616,5	6353,4	7359,1	12536350	16292878
5.	Amount of fines paid (thousand lei)	3111,0	2996,2	3518,7	5658200	7207684

Source: <https://controale.gov.md/rapoarte>, EPI Yearbooks

The EPI should ensure the efficiency and continuous development of the environmental control system, including by reviewing and improving the methodology for risk assessment, planning of inspections based on risk assessment, with a focus on planned rather than unannounced inspections. Some areas of the risk assessment methodology for inspection planning require optimization with the establishment of general risk categories and minimum frequency of inspections. Guidance documents are needed for the planning of risk-based inspections for each individual environmental domain, in particular for the inspection of activities related to the extraction of mineral substances.

Also, other issues within the environmental inspection system need to be eliminated, such as lack of equipment, lack of special means of transportation, lack of technology and technological means, and lack of mobile operational laboratories with express analysis options to help detect violations and establish sanctions.

Currently, environmental quality monitoring is carried out by the ERL of the Environment Agency for environmental components such as surface water, wastewater discharged into the outfall, air, soil, waste, environmental radioactivity, etc., based on monitoring programs approved annually. An automated environmental quality monitoring system is not developed in the Republic of Moldova; therefore the monitoring programs establish the monitoring stations and points from which manual samples are taken, the periodicity of sampling, and the pollutants monitored for each component.

ERL obtained ISO 17025 certification and accreditation only for 14 environmental indicators (parameters), the accreditation process for which is difficult, costly, and complicated. ERL has insufficient staff to carry out monitoring programs, and the lack of automation increases the need to employ more people to carry out manual sampling. The monitoring network is very outdated and the state budget does not allocate the necessary sources for its development and automation. As a result, the ERL monitors less than half of the 45 priority substances included in Directive 2000/60/EC – the EU water policy framework<sup>5</sup>, and monitoring of other environmental aspects, including waste and chemicals, is practically not carried out. Its accredited areas of analysis are expected to expand once there will be in place appropriate equipment, experience, and necessary documentation development.

Thus, the automation of the environmental quality monitoring system is a priority of the environmental compliance system, also dictated by the provisions of the newly approved regulatory framework, for example, Law No. 98/2022 on atmospheric air quality, which establishes the creation of a new air quality monitoring system in accordance with the provisions of the European directives in this field. This process needs to be financially supported from the state budget, a situation which conditions the development of paid public services offered by the ERL of the Environment Agency in order to accumulate the financial resources necessary for development. It is also appropriate to intensify collaboration with similar laboratories in EU countries in order to take over good laboratory practices, but also to contract their services where necessary.

The economic entities of the Republic of Moldova are bound to ensure the process of self-monitoring and keeping records of pollutant emissions to water, air, soil, records of generated and transferred waste, records of used natural resources and to report annually to the Environment Agency data about them.

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5 <https://eur-lex.europa.eu/eli/dir/2000/60/oj>



With the support of its development partners, the Ministry of Environment has managed to take significant steps to streamline and digitalize the process of environmental data reporting by the business community, having developed several informational systems dedicated to this process. The most significant progress has been made in the reporting of waste management data, as shown in Table 5, which has been carried out in the last 4 years in electronic format through the Automated Information System “Waste Management” (SIA MD replacing the paper-based statistical reports.

Table 5

**Summary of reporting within Waste Management  
Automatic Information System years 2020-2022**

Nr.	Indicators	2020	2021	2022
1.	The number of economic agents that reported the data through SIA "MD"	319	520	728
2.	Number of reports in the field of waste management submitted	332	583	805

**Source:** <https://siamd.gov.md>

The data extracted from the SIA MD show that the number of enterprises in the field of industrial and agricultura production and municipal enterprises, or sanitation services, which are reporting is increasing from year to year, which shows progress in achieving the proposed goal of gradually increasing the number of economic agents that use digital solutions in the reporting process, as well as increasing their level of compliance in this regard.

In other reporting areas such as air emissions, wastewater discharges into the environment, special use of water, useful mineral resources, etc., the reporting process continues to be paper-based, although there are digitalized mechanisms in place such as the Automated Information System “Pollutant Release and Transfer Register” (PRTR) [www.retp.gov.md](http://www.retp.gov.md), the Automated Information System “State Water Cadastre” <https://csa.gov.md/>, the Automated Information System “State Geological Register” but they are either not fully functional or not fully exploited. It is necessary to implement these information systems and to develop guidance for economic entities on how to apply them easier.

Although the digitization of services has directly improved the recording and reporting of environmental data, however, the shortage of staff, insufficiently equipped laboratories, and gaps in the functioning of self-monitoring and reporting systems show that the current environmental monitoring regime is still inefficient, which leads to situations where non-compliance with environmental legislation is not detected in time or at all.

2.1.5. Environmental Law Enforcement System

In the Republic of Moldova, various response mechanisms are used in the event of non-compliance with environmental legislation, such as verbal and written warnings, administrative and criminal sanctions, including withdrawal of permits and cessation of activities, fines, and even imprisonment. There is also a system in place for the recovery of environmental damage caused by the activities carried out and from the contraventions and offenses detected, as well as payments for environmental pollution and fees for the use of natural resources in the case of authorized activities.

The EPI is the main authority responsible for acting in response to non-compliance with environmental legislation and imposing sanctions following inspections, raids against poaching, and illegal exploitation of natural resources. The inspectors find and report cases of non-compliance, submit reports, assess environmental damage, apply sanctions, and submit cases to the court together with documents of findings and recommendations for corrective measures. Information on fines imposed by EPI over the last 5 years is presented in Table 6. Also, along the “environmental law enforcement chain,” inspectors cooperate with representatives of the Customs Service, police officers, and prosecutors to collect evidence and conduct prosecution.

Table 6

**Information on fines applied by EPI in the period 2019-2023 (thousand lei)**

Areas where breaches of environmental legislation have been detected	Fines applied					Calculated damage				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Water	1114,0	1274,2	1228,0	1537250	2495800	41174,7	4269,2	13571,1	43461	85524
Air	443,7	301,5	511,4	751900	960253	25,3	10,5	0,0	6382	5833
Waste/chemicals	1684,7	1341,4	1765,0	2948750	4959250	2,2	0,7	2,9	3449	49698
Flora	1918,6	1998,5	2141,1	2366775	5958275	1626,2	3588,9	8680,6	2612037	7090366
Fauna (Hunting resources/ Fisheries)	664,3	724,2	862,1	904400	909950	502,4	252,4	342,1	474848	650944
Soil/Subsoil	791,2	713,6	851,5	1036500	886550	60225,4	13922,0	749027,4	2231983	562937
<b>TOTAL</b>	<b>6616,5</b>	<b>6353,4</b>	<b>7359,1</b>	<b>9545575</b>	<b>16170078</b>	<b>103556,2</b>	<b>22043,7</b>	<b>771624,1</b>	<b>5372150</b>	<b>8445302</b>

**Source:** Information presented by EPI in the Report on the compliance audit of the issuance of permits and the administration of environmental taxes, fines, and payments approved by the Court of Auditors' Decision No. 28/2022

It is important to note that the sanctions regime for non-compliance with environmental legislation contains several weaknesses that need to be addressed for improvement. The imposed penalties for non-compliance with environmental legislation are not sufficiently severe, do not fully reflect and are not proportionate to the environmental damage, do not stimulate the promotion of compliance with the legislation even despite the fact that in recent years amendments have been made to the Criminal Code of the Republic of Moldova No. 985/2002 and the Contravention Code of the Republic of Moldova No. 218/2008 to tighten the system of environmental sanctions. Also, environmental fines are too low and do not induce economic agents and companies to reduce the level of pollution, to comply, and to respect environmental requirements, which entail much higher costs than the fines imposed currently.

*Environmental payments* (charges for a given use of natural resources, payments for polluting within permissible limits and for exceeding permissible limits, fines imposed for breaches of environmental legislation, and penalties for the recovery of environmental damage) continue to be presented in the very low fixed amounts shown in Table 7, which have not been adjusted accordingly the evolution of the consumption prices over long periods of time and have not been indexed to inflation.

Table 7

**Information on environmental payments in 2019-2023 (thousand lei)**

	<b>Types of environmental payments</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Charges for the use of natural resources</b>						
1.	Fees for water	26027,9	27792,0	26731,3		
2.	Fee for extracting minerals	17672,3	17693,8	28339,6		
3.	Fee for wood released per foot	359,2	416,0	200,6		
4.	Fee for carrying out geological explorations	49,5	62,8	0		
5.	Tax for the exploitation of underground constructions for the purposes of entrepreneurial activity other than for mineral extraction	7,3	10,2	0		
6.	Tax for use of subsoil	0	0	4,8		
<b>Pollution payments</b>						
7.	Tax on goods which in the process of use cause environmental pollution	254610,7	296010,9	362936,5		
8.	Environmental pollution payments	1605,4	2362,2	2059,0		
<b>Fines, damages</b>						
9.	Collected fines	3111,0	2996,2	3518,7	5658200	
10.	Recovered damages	1455,7	2996,1	1651,0	2149215	

**Source:** Information presented by EPI in the Report on the compliance audit of the issuance of permits and the administration of environmental taxes, fines, and payments approved by the Court of Auditors' Decision No. 28/2022

The methodologies for calculating environmental payments, the instructions for assessing environmental damage are outdated, no longer correspond to current requirements in the country and do not take into account the impact of emissions on the environment, the extent of damage as a result of the use of natural resources, and the real financial cost of compensating for environmental damage. There is also a differentiated approach by cities and areas on the size of payments for the same types of pollution, which does not encourage the abandonment of polluting technologies, but creates preconditions for the location of environmentally harmful installations in areas with lower levels of pollution payments. The environmental fines are too low to induce companies to reduce pollution, comply, and meet environmental requirements, measures that cost much more than the

amount of the fines. Therefore, changes in the application of environmental payments should be implemented as soon as possible and be aimed at encouraging compliance and enforcement.

#### 2.1.6. Public information, awareness and environmental education

The effectiveness of environmental policies is based on data, indicators, information, and assessments related to the implementation of environmental legislation, as well as the results of scientific research in the field. Considerable progress has been made in strengthening this knowledge base, informing and raising public awareness, and improving the confidence of policymakers and the public in the evidence-based approach to environmental data and information. This has facilitated a better understanding of environmental and societal challenges.

Promoting and understanding the needs for environmental protection and sustainable development is a priority for the Republic of Moldova. Various tools are used to raise environmental awareness and promote compliance with environmental requirements, including official websites of environmental authorities, information campaigns, training activities on environmental regulations, communication platforms, as well as targeted letters. Thus, information on the decision-making process, activity plans and reports, permitting procedures, inspection plans, environmental actions carried out, etc., are published on the official websites of public authorities.

However, good information requires optimizing and redesigning the flow of published environmental information, so that it is easy to find and access from the user's perspective, as well as continuously improving the quantity and quality of information published on the authorities' official websites.

There are also insufficient awareness-raising activities on existing environmental regulations and on the institutions involved in ensuring this process. Digital opportunities should be exploited to better inform the public about the current state of the environment at local and national levels, thus stimulating behavioral changes at the population level.

The independent reports show that important standards such as transparency, public participation, and access to justice regarding environmental matters set out in the Aarhus Convention on Access to Information, Public Participation in Decision-making in Environmental Matters ratified by Parliament Decision No. 346-XIV/1999 have not yet been fully realized in the Republic of Moldova. Further efforts in these areas would benefit citizens, businesses, and public institutions.

## **2.2. Sustainable management of natural resources**

Improper management and overexploitation of natural resources contribute to the scarcity of assets or resources such as arable land, water, flora and fauna, forest resources, minerals, fish and wildlife resources. With increasing population needs over the last decade, water resources face growing pressures and the areas and buffer zones of rivers and water basins have changed significantly over the last centuries as a result of human activity. This has led to environmental and ecosystem changes such as water pollution and eutrophication (or increased nutrient content), loss of biodiversity, landscape degradation, and soil erosion. Most often this is conditioned by cases of non-transparent allocation of resource use rights, due to violation of the requirements of the regulatory and permitting acts issued, insufficient

control mechanisms and modest sanctions provided by the legislative framework. Overall, the regenerative capacity of Republic of Moldova's natural resources lags significantly behind the rate of exploitation and pollution generated by human activity.

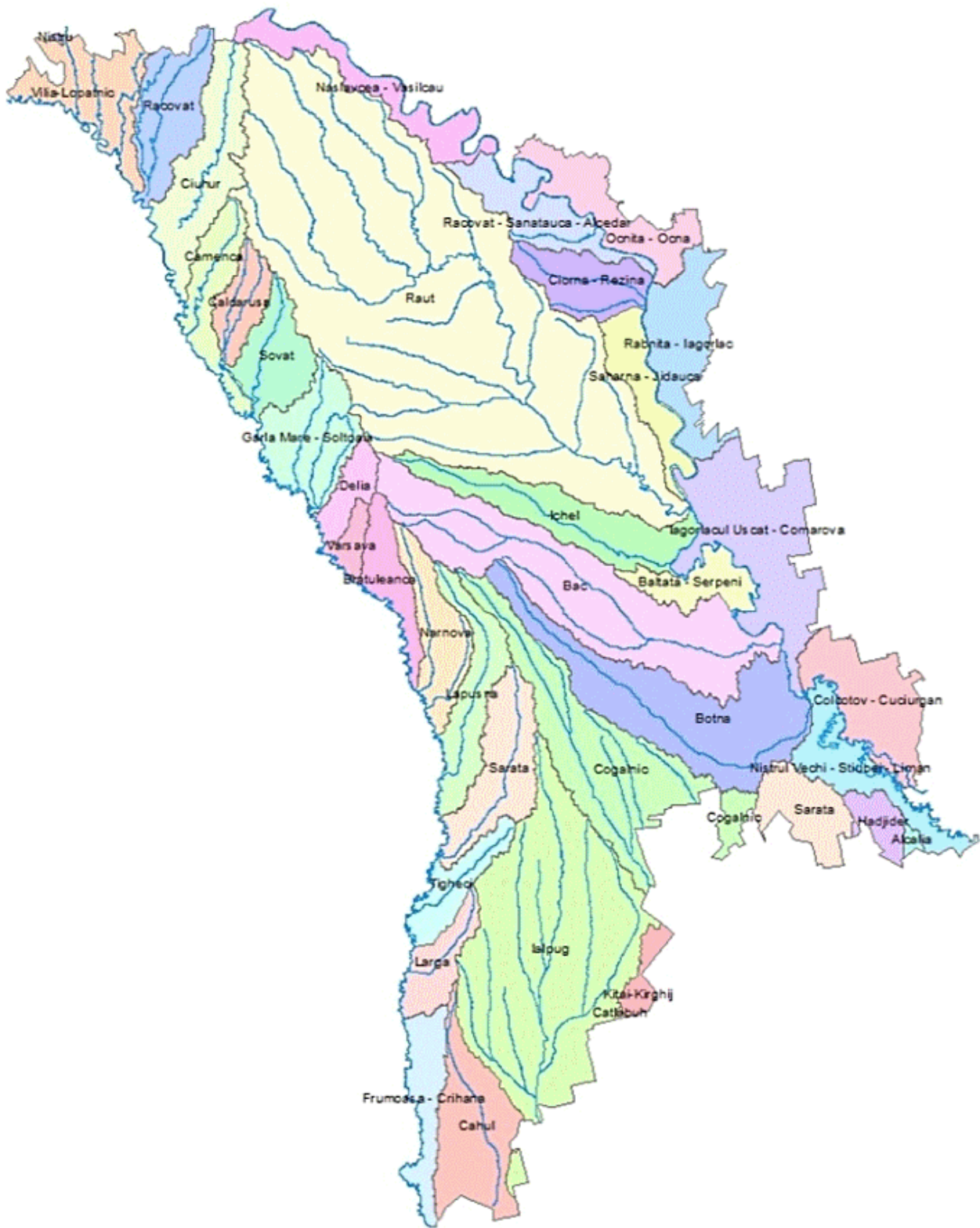
#### 2.2.1. Water resources management

Sustainable management of water resources is becoming an increasingly pressing need, being vital for economic development, environmental protection and social inclusion of the Republic of Moldova, at the same time, playing a key role in increasing social and economic welfare in an equitable manner, without compromising the resilience of ecosystems.

The water resources of the Republic of Moldova are represented by 3,621 rivers and streams with a length of more than 16 thousand km, 4,126 natural lakes and artificial basins with an area of 40,878 ha located and built on their courses and in their riverbeds, groundwater: over 5,002 artesian wells (of which 2,315 unexploited and 2,687 exploited; 1,711 – for drinking water resources, 681 – water resources for domestic needs, 47 – for agricultural needs, 232 – for industrial needs) and about 166,542 wells and springs with groundwater supply.

The most important aquatic arteries are the Dniester and Prut rivers, transboundary rivers with a total length of 660 km and 695 km respectively, and a total surface area of 19 070 km<sup>2</sup>.

The network of watersheds within the two districts shown in Figure 1 provides for the regulation and discharge of surface runoff, drinking and technical water supply, irrigation, navigation, and other uses.



**Figure 1.** Map of river basins in the Republic of Moldova  
 (Source: "Apele Moldovei" Agency)

The Republic of Moldova depends heavily on surface water resources. Most of economic sectors are water-dependent, so where water resources are limited, the problem of water use arises. Thus, in order to cover the national water demand, about 850 hm<sup>3</sup> of water is needed. Respectively, 85% of this volume of water is abstracted from surface waters, mainly from the two major river basins, Dniester (83%) and Prut (1.8%), and only 15% is extracted from groundwater. Of the total volume of extracted water, the largest volume belongs to enterprises in the field of electricity and heat production and supply (more than 65%), followed by enterprises in the field of water supply services (about 20%), followed by agriculture which extracts 10% of the water for irrigation of land. Approximately 7-8% of total water abstraction is lost in transportation due to leakage, water losses from open channels, and outdated infrastructure (32% of the volume of water lost is delivered through the water supply network). This amount is between 57 and 71 million m<sup>3</sup> of water. However, due to the lack of an adequate system of monitoring, record keeping, and control by the responsible authorities (in particular for self-abstraction) of the use of water resources, unauthorized operation of abstraction targets, and non-reporting or misreporting of data on the quantities of water abstracted, these data could have a very high level of uncertainty. Total annual water abstraction, especially from groundwater resources, is assumed to be much higher, which makes it difficult to assess the actual pressure of economic activities on water resources.

A specific and current challenge in the field of water resources is the very low level of water reuse (recycling). In the Republic of Moldova, the volume of reused water is very low, about 14 million m<sup>3</sup> of water mainly in the energy sector (93%), which is practically the only sector that repeatedly uses water, especially for cooling in its technological processes. Given the fact that water resources tend to run out and that their availability affects the quality of life of the population and the country's capacity for economic development, water reuse is becoming a reliable alternative.

As regards surface water quality, according to continuous monitoring data carried out by the Water Quality Laboratory of the Environment Agency in 54 monitoring sections located on 27 rivers, 6 reservoirs, and 2 natural lakes in both river basin districts (Dniester and Prut, Danube and Black Sea), it was found that in 46.3% of the sections, the level of water pollution was determined to be class V (very polluted) according to certain hydrochemical parameters and only in 1.9% of the sections class II (good) as it is shown in Table 8.

Table 8

**Percentage distribution to surface water quality classes  
in the 54 monitoring sections**

Quality levels	%
I	0
II	1,9
III	31,5
IV	20,3
V	46,3

Source: ERL of Environment Agency

The estimation of the results of systematic observations of the water quality of large rivers on the territory of the Republic of Moldova did not undergo essential changes and falls within the quality limits from class I (very good) to class III (moderately polluted) according to the dissolved oxygen content in water and from class II (good) to class IV (polluted) according to the ammonium nitrogen content, the most polluted section being on the Dniester river in the village of Sănătăuca.

Laboratory investigations of the water of small rivers included in the national monitoring network are characterized by a high degree of pollution with biogenic elements (the most polluted rivers are Kirghij-Kitai and Bâc in 2 sections – Gura Bâcului village and Chisinau municipality, downstream), with a high level of biochemical oxygen consumption (BOD5) and mineralization indicators, as well as with a low level of dissolved oxygen content in water (Răut river – Balti municipality, downstream; Ichel river – Goian village; Bâc river – Strășeni city, Chisinau municipality, downstream (Sângera city), Gura Bâcului village), falling within the limits of class II (good) to class V (very polluted).

The water pollution status of artificial and natural water basins, which are part of both river basin districts, confirms that the content of the monitored indicators falls within the quality limits from class I (very good) to class III (moderately polluted), except for the sections of the basins in the Southern region of the country where the water quality of the mineral phosphorus, total phosphorus, and nitrite nitrogen indicators corresponds to class V (very polluted) such as in Congaz and Taraclia lakes.

The situation is also aggravated by the state of wastewater treatment facilities in the Republic of Moldova. According to data reported by EPI in 2021, out of the total number of 270 units, only 126 facilities had technical papers, 101 units (37.1%) complied with the regulations of the Limited Acceptable Discharge, 160 units (59.2%) were operated with insufficient treatment, and 9 systems (3.4%) didn't function.

Assessment of groundwater quality and exploitable reserves carried out by the State Enterprise "Hydro-geological Expedition of Moldova" in 182 monitoring wells (of which 122 are in a deregulated regime and 60 in a weakly deregulated regime) determined the trends of changes in the chemical and physical components of groundwater caused by the influence of natural and technogenic factors. It can be stated that groundwater has a not very good chemical status characterized by an uneven distribution of macro- and microelements and a high tendency to mineralization and depletion.

The multitude of illegally drilled and exploited wells without complying with sanitary and protection requirements, the excessive use of plant protection products in agriculture, inadequate waste management, inadequate treatment of wastewater discharges are increasing the level of pollution of surface and groundwater, therefore measures being needed to ensure their protection and rational use to avoid depletion and pollution.

### 2.2.2. Management of soil and useful mineral resources

The soil resources of the Republic of Moldova in the course of history have been utilized over the limits. The high productive potential of chernozem and the relatively simple process of utilization (grubbing) contributed to the development of agriculture. Currently, 2,260,715 ha of the country's total area of 3,384,938 ha according to the Land Cadastre 2022 <sup>6</sup>, is agricultural land. Arable land constitutes 1,797,181 ha, vineyards and orchards occupy 206,028 ha, and pastures – 181,108 ha.

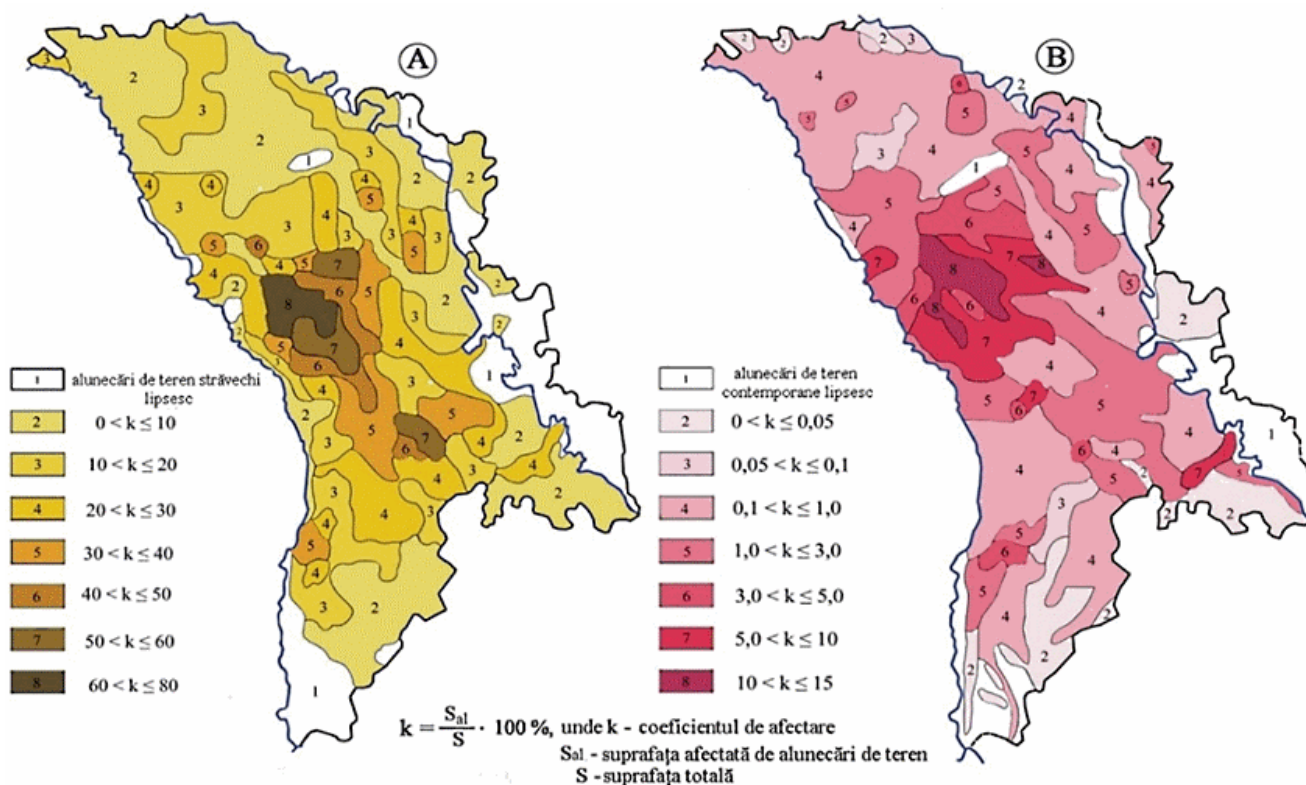
<sup>6</sup> [https://www.legis.md/cautare/getResults?doc\\_id=131752&lang=ro](https://www.legis.md/cautare/getResults?doc_id=131752&lang=ro)



Continued soil degradation is caused by poor, unbalanced, and inadequate management of soil resources, the use of inappropriate farming practices, the overuse of fertilizers and plant protection products in agriculture. Large areas of soil are lost every year due to erosion, destruction of the vegetal layer, desertification caused by excessive agricultural activities, and climate change. At the same time, anthropogenic intervention in agricultural production in recent years has contributed negatively to the natural variability of soil properties. The soils affected by surface erosion, according to the data of scientific institutions (Institute of Pedology, Agrochemistry and Soil Protection "Nicolae Dimo"), occupy about 981,560 ha, including: with a weak degree of erosion – 558,170 ha, moderate – 288,070 ha, and strong – 135,320 ha. The area of eroded land has increased over the last 40 years, and still advancing annually.

Systematic land use and farming contributed to the activation of destructive processes of erosion, deflation, landslides. The Republic of Moldova is in an area with a negative impact due to the intensive development of landslide processes. The total degree of damage of the territory of the Republic of Moldova by ancient landslides is 21.2% (7 312 km<sup>2</sup>). Contemporary landslides affected 2.7% of the country's territory (more than 17 thousand cases of documented landslides).

According to the analysis of the information collected, it was found that more than 47% of the country's localities are at risk of landslides partially or totally. Figure 2 shows the areas at risk.



**Figure 2.** Diagram of the territorial damage of the Republic of Moldova following ancient (A) and contemporary (B) landslides

Still valid remains the issue of local pesticide pollution of soils, including with persistent organic pollutants, especially around former and current agricultural chemical storage sites (mineral fertilizers, pesticides, etc.) and plant protection solution preparation stations.

Soil pollution by petroleum products occurs throughout the country, the main sources being fuel depots and filling stations, car washes and service stations, as well as accidental pollution.

The gradual degradation of soil through erosion, loss of organic matter, salinization, or destruction of soil structure is transmitted to the other components of the ecosystem – water resources, vegetation coverage, soil, fauna, and micro-organisms.

In the state balance of reserves of useful mineral substances as of January 1, 2023, there are 19 types of useful mineral substances deposits, including 17 types of non-metallic useful mineral substances, 1 oil deposit (Văleni), and 1 fuel gas deposit (Victorovca).

There are a total of 431 individual deposits of useful mineral substances in the state balance, of which 48 are complex (with 2 to 5 types of useful mineral substances) making the number of deposits included in the balance by types of useful mineral substances to 490, which are distributed according to the degree of industrial utilization as follows:

- ▶ exploited 193
- ▶ ready for usage 29
- ▶ explored reserve 243
- ▶ not foreseen for use 25

The total volume of useful non-metalliferous minerals extracted in 2022 amounted to 987.5 thousand tonnes and 4231.7 thousand m<sup>3</sup>. The volume of petroleum extracted in 2022 amounted to 4652 thousand tonnes and fuel gas was 0092 million m<sup>3</sup>.

General data on the volumes of useful mineral resources and oil extracted in the year 2022 are presented in Table 9.

## General data on movements in reserves of useful mineral substances in 2022

Nr.	Name of useful mineral substance	Measurement unit	Nr of deposits	Nr of exploited deposits	Quantity of outstanding stocks by category A+B+C1 on 01.01.2023	Extracted volume in 2022
1.	Petroleum	thou t	1	1	611,5	4,652
2.	Fuel Gas	mil. m <sup>3</sup>	1	1	341,8	0,092
3.	Raw material for cement:	thou t	4	1		
	• limestone				205286,2	493,4
	• clay				54605,7	110,2
4.	Gypsum	-//-	2	1	47584,4	270,2
5.	Formation materials:	-//-	4	2		
	• sand				9125,3	113,7
	• clay				5438	-
6.	Raw material for glass production	-//-	3	-	17611,8	-
7.	Siliceous limestone	-//-	1	1	1952,5	-
8.	Bentonite clay	-//-	2	1	5934,5	-
9.	Façade natural stone:	thou m <sup>3</sup>	4	2		
	• sandstone				4884,9	-
	• limestone				2242,9	-
10.	Limestone for sugar industry	thou t	5	2	36425	-
11.	Limestone for block cutting	thou m <sup>3</sup>	55	35	394070,0	14,8
12.	Sand for silicate products	-//-	7	3	51609,2	35,5
13.	Siliceous raw material (tripoli)	-//-	7	3	10429,5	-
14.	Clay aggregate raw material:	-//-	15	4		
	• clay				43006,7	-
	• argillite				17297,5	0,4
15.	Limestone for lime production	thou t	11	3	9328	-
16.	Building stone:	thou m <sup>3</sup>	95	53		
	• limestone				479888,1	1854,9
	• sandstone				7324,8	3,6
	• granite				22019,9	110,3
17.	Rocks of sand and sandstone	-//-	152	67	361215,5	2070,8
18.	Raw material for brick and roof tiles:	-//-	112	12		
	• clay, sandy clay				183989,1	94,6
	• degreasing sand				6511,9	2,6
19.	Raw material for pottery (clay, sandy clay)	-//-	9	1	3685,6	-

Source: Agency for Geology and Mineral Resources (www.agrm.gov.md)

### 2.2.3 Managing biological resources

Biological diversity and the benefits that it brings to people are fundamental to human well-being.

The diversity of flora species is relatively rich and includes 5,568 plant species (of which 2,044 are superior plant species and 3,524 inferior plant species) with several relict tertiary and quaternary species, while some very rare species constitute the subendemic element. There are 1,842 vascular plant species and about 4,600 species of plants and inferior fungi. Depending on their floristic richness, the ecosystems are forest (about 850 species), meadow (about 650 species), steppe (about 600 species), petrophytic (about 250 species), aquatic, and marsh (about 160 species). There are more than 30 species of woody plants which are important sources of livelihood for the rural population, about 200 species of medicinal plants, while about 700 species of wild flora are forage plants which serve as food for wild animals. Natural ecosystems provide conditions for 1,357 species of fungi, including 557 species of macromycetes inhabiting forest ecosystems. Only 70 species of the total number of fungi are edible.

The diversity of wildlife species inhabiting the country is also relatively rich. The vertebrate fauna in Moldova includes 70 species of mammals, 281 species of birds, 14 species of reptiles, 14 species of amphibians, and 70 species of fish. The invertebrate fauna comprises about 15,000 species, including 13,000 insect species. These include 55 relict Ponto-Caspian relict species (10% of which are endemic to the Black Sea Basin) and 219 species from the 3<sup>rd</sup> edition of the Red Book of the Republic of Moldova. Many animal species have disappeared from the Republic of Moldova in recent centuries. Although the highest vertebrate diversity is found in forests (172 species), 153 (89%) of these species are found in forests associated with grasslands. Both human activity (plant harvesting, mushroom collection, forest management activities, pollution, etc.) and the decrease in available food sources (gophers, other small rodents) continue to negatively affect large raptor species such as the great spotted eagle (*Aquila clanga*), lesser spotted eagle (*Aquila pomarina*), sacred eagle (*Falco cherrug*) etc.

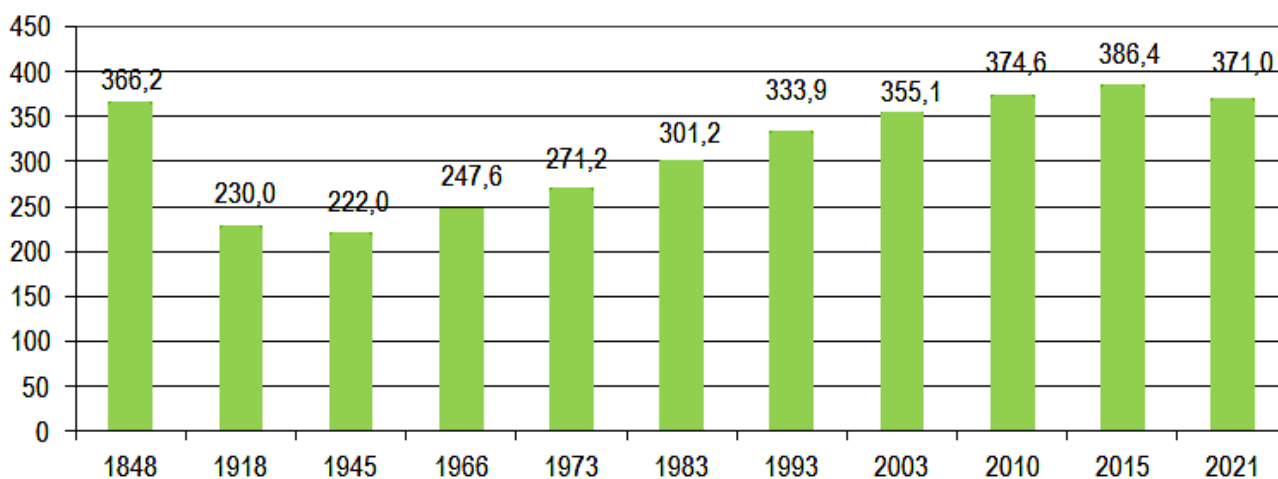
The main natural ecosystems are forest (11.2%), meadows (10%), steppe (1.9%), aquatic (2.85%) and petrophytes.<sup>7</sup> In terms of floristic composition, the richest ecosystems are forest ecosystems (over 850 species), followed by steppe (over 600 species), meadow (about 650 species), petrophytes (about 250 species), aquatic and marsh (about 160 species). The Republic of Moldova is located in the zone of high vulnerability to climate change. Scenarios for the next century predict a shift of the longitudinal gradient to the north, i.e. new species characteristic of southern areas are expected to penetrate. The state of natural ecosystems will worsen, so that the southern part of the country will experience extreme climatic phenomena (high temperatures, low precipitation) and aridization (desertification) processes will increase. Forest ecosystems cover 365 thousand ha (11.4% of the country's territory) and are dominated by broadleaf species (97.8%), while coniferous species are limited (2.2%). The main trees that make up the forests in the northern part of Moldova are the pedunculate oak (*Quercus robur*) and the merry tree (*Cerasus avium*). In the forests of central Moldova, the main trees are beech (*Fagus sylvatica*), evergreen oak (*Quercus petraea*) and pedunculate oak (*Quercus robur*), cherry (*Cerasum avium*) and strawberry tree (*Quercus petraea*). In the southern part of the country there are forest communities composed of downy oak (*Quercus pubescens*) and pedunculate oak (*Quercus robur*). On the

<sup>7</sup> Al Vi-lea Raport național cu privire la diversitatea biologică, 2019, Republica Moldova

country's territory, downy oak is found at the Northern distribution limit. Zonally, in the riverbeds of the Dniester and Prut River basins, in the upper course of some small rivers, there are areas of meadow forest communities (fallow), with white poplar (*Populus alba*) and willow (*Salix alba*). It is important to note that the beech forests on the territory of the Republic of Moldova are found at the eastern limit of their distribution. Central-European mesophilous forests in the north and center of the country are at the southeastern limit of its natural range, and through the interaction of abiotic, biotic and anthropogenic factors they are restricting their natural range.

Approximately 1 140 vascular plant species (more than 50% of all plant species in the Republic of Moldova) are present in forested areas. Forests are populated by 172 species of vertebrates (47.8% of their total number) and many invertebrates, a diversity that is still poorly researched. Most of the faunal diversity is found in the forest ecosystems of the Central Codrii, favored by compact patches of forest, which serve as habitats and shelter.

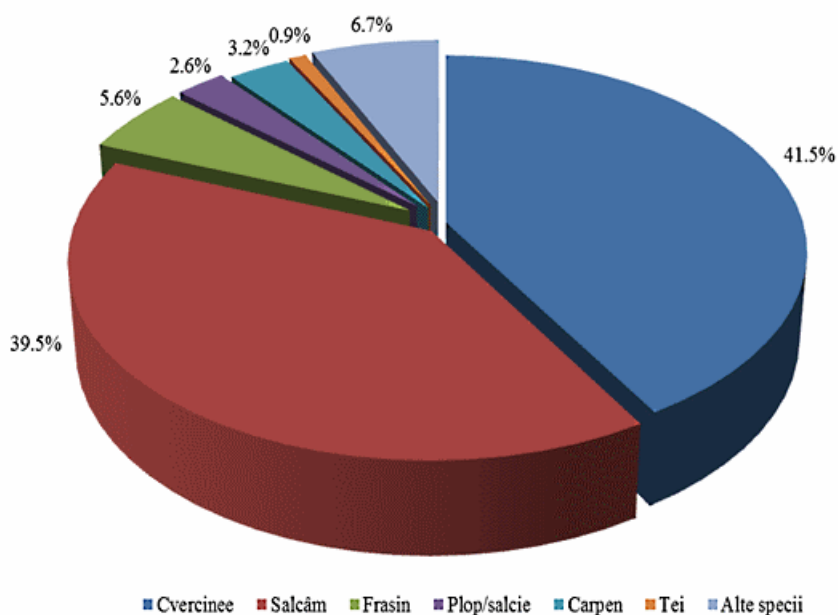
Forests are the richest in terms of biodiversity. Forest ecosystems have increased in recent years by 8 thousand ha, reaching 13.4% of the total area of the country, the national target is to reach 16.3% by 2030, according to the National Development Strategy "European Moldova 2030", approved by Law No. 315/2022. The evolution of forest areas over the period 1848-2021 is shown in Figure 3.



**Figure 3.** Evolution of forest area in the Republic of Moldova (thousand ha)

Source: "Moldsilva" Agency / ICAS

There are 28 types of ecosystems identified within the boundaries of the national forest fund. The forests composition of the Republic of Moldova, reflected in Figure 4, is dominated by broadleaf species (97.8%), including sub-arboretum (39.6%), ash (4.6%), hornbeam (2.6%), acacia (36.1%), poplar (1.6%), etc., with resinous species present in only 2.2%.



**Figure 4.** The share of forest tree species groups in GHG sequestration, GHG Inventory, in %

**Source:** Updated Third Biennial Report of the Republic of Moldova, 2021

Due to the planting of acacia species (over 40% of forests), the original composition of forest ecosystems has changed. About 500 plant species are typical for forest habitats, of which 172 are rare and 103 species are protected by the state. About 40 relict plant species are found in forest ecosystems. There is a total number of 172 terrestrial vertebrate species living in forest ecosystems, i.e. 47.8% of the total number of vertebrate species in the Republic of Moldova.

Forest biomass remains the most preferred energy resource for the population of the Republic of Moldova, and the interest in firewood is not decreasing, being reconfirmed during the energy crisis of the cold season of 2023.

Forest biodiversity is under increasing threat nationwide as a result of deforestation, fragmentation, climate change and other stressors. The biodiversity of Moldova's natural forests is also under major pressure from various human activities. Inadequate forest management over the last century has led to a decline in the forest genetic resources of the country's forests.

In the Republic of Moldova there are 313 protected areas, 158 sites of ancient trees (total 429 trees) and 472 rare species of flora and fauna. The total area of state protected areas is 210 695.87 ha (2106,96 km<sup>2</sup>) or 5.8% (2018) of the total territory of the country and is much smaller than in most European countries.

The relatively small share of state protected natural areas does not ensure effective conservation of biological diversity, as required by international treaties in this field. Thus, as part of the response to the low share of protected natural areas, as well as to address threats to biodiversity, the National Ecological Network was created, covering 11113 km<sup>2</sup>. The National Ecological Network emphasizes the importance of the landscape-level approach as a mechanism to conserve ecological processes and patterns.

According to the National Development Strategy “European Moldova 2030” (hereinafter – NDS), the target for the extension of the protected areas network is set at 8.0% by 2025 and 10.0% of the country’s territory by 2030.

At present, the total area of water basins used for fish farming in the Republic of Moldova is 20 507 ha. The ichthyofauna of the Republic of Moldova is very diverse, including numerous endemic and relict species inhabiting the Dniester and Danube River basins (including the Prut River, a tributary of the Danube). The ichthyofauna of the Prut River is represented by 56 species and subspecies of fish assigned to 14 families. Thus, 56 fish species have been identified in the whole Prut River basin (limits of the Republic of Moldova); the ecosystem of Lake Beleu – 45 species, Manta pools – 39 species, Costești-Stâncă reservoir – 31 fish species. In different years, the ichthyofauna of the aquatic ecosystems of the Republic of Moldova varies between 75 and 130 species.

The share of freshwater fishery resources and products of indigenous origin placed on the market is small (0.3%-1.7%) compared to the total volume of fishery products supplied. The quantity of fish from fish farms in the country has increased 1.7 times in the last ten years and currently accounts for 10 668 tonnes/year. According to EPI annual reports, a significant decrease in fish catches in the Prut River has been reported. In the largest reservoirs, Costești-Stâncă (Prut River) and Dubasari (Dniester River), fish production is below their potential capacities. The degradation of fish stocks in the natural ecosystems of the Republic of Moldova is influenced by several anthropogenic factors that have greatly changed the conditions of reproduction, development and nutrition of fish, among the most important are: the regulation of water flow by building the Dubasari (1956), Novodnestrovsc (1981) dams on the Dniester river and Costești-Stâncă (1976) on the Prut river; the drainage of the basins in the Dniester and Prut riverbeds; the lack of measures to improve fisheries management; hydropower activities prevail over the protection of natural ecosystems; excessive extraction of sand from the Dniester and Prut; irrigation and use of water for industrial and domestic purposes; pollution caused by pesticides, herbicides and other substances used in agriculture; inefficient exploitation of fishery resources, illegal and industrial fishing, etc.

The value of ecosystem services in tourism, forestry, agriculture, fisheries, water supply, climate change adaptation and disaster mitigation are estimated annually and according to experts’ opinion, represents for a share of about 30% of GDP, with the main beneficiaries being the public and private sectors. However, capitalizing on these services requires increased public investment and policy action to capture these potential revenue streams.

Biosecurity is a priority for the Republic of Moldova and improving biosecurity will reduce direct threats to biodiversity. A harmonized approach to the development of the institutional framework for the detection, eradication, control and effective management of genetically modified organisms that could pose a threat to biodiversity is being pursued.

The threats to biodiversity, degradation and fragmentation of natural habitats in the Republic of Moldova are due to abiotic (climate change), biotic (insects, diseases) and anthropogenic (deforestation, hunting, etc.) factors.

The process of continuous degradation of natural ecosystems has a significant influence on the diversity of plant and animal species, causing their populations to decrease. The

reduction of forest areas, illegal logging, poaching, drainage and draining of aquatic habitats, siltation of lakes and aquatic reservoirs, fragmentation and/or degradation of terrestrial habitats, prolonged droughts and other natural disasters linked to climate change, lack of effective management of forest ecosystems and hunting management, lack of appropriate ecosystem-based adaptation measures, all these factors represent a threat to the conservation of biological diversity and sustainable use of natural resources.

A significant indicator in this respect is the number of rare and endangered species included in the Red Book of the Republic of Moldova: first edition (1978) – 55 species; second edition (2002) – 242 species, third edition (2015) – 427 vulnerable, endangered and critically endangered species.

### **2.3. Atmospheric air quality**

The atmosphere is one of the most fragile subsystems of the environment due to its limited capacity to absorb and neutralize substances emitted by human activities, and atmospheric air is one of the most difficult environmental factors to control because once in the atmosphere, pollutants disperse rapidly and cannot be captured.

The state of the atmosphere is highlighted by emissions of various pollutants, the quality of atmospheric precipitation, the atmospheric ozone situation, the dynamics of greenhouse gas emissions and some manifestations of climate change.

Air pollution has adverse effects on human health and the environment. Moreover, air pollutants emitted in one country can easily be transported in the atmosphere over long distances, so air quality in other countries can be seriously affected by emissions from other countries. According to World Health Organization data, about 70% of the urban population breathe polluted air and only about 10% of the world's total population breathe air of acceptable quality.

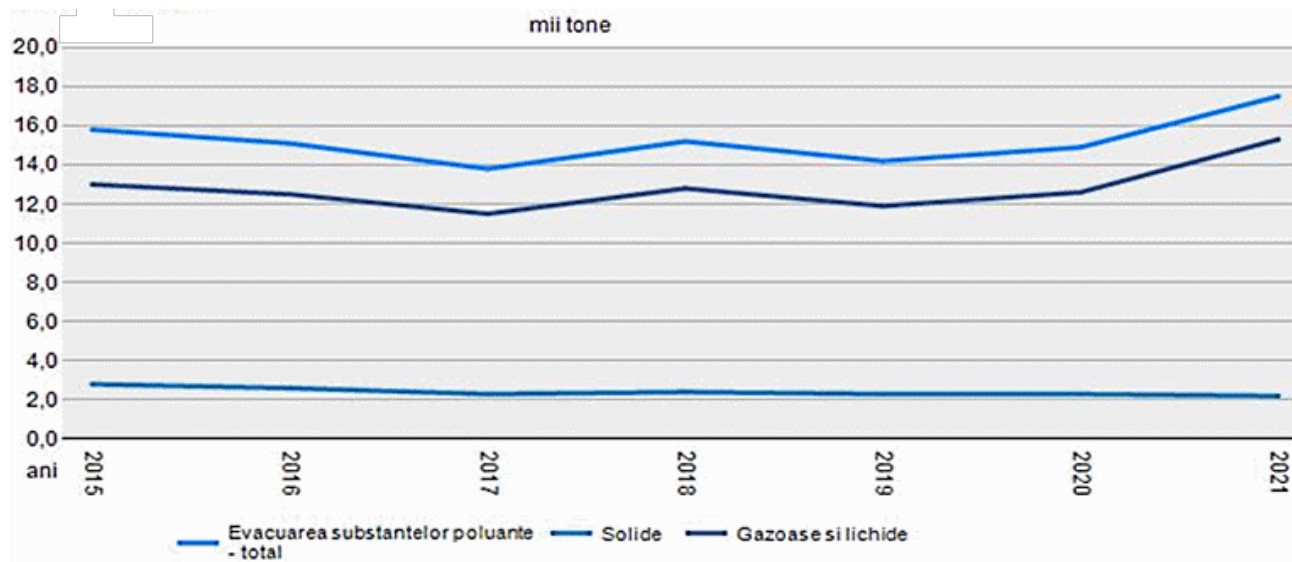
Poor air quality also has a considerable economic impact, leading to increased medical costs, reduced worker productivity and damage to soil, agricultural crops, forests, lakes and rivers. Although air pollution is often associated with pollution peaks and episodes, long-term exposure to lower doses of pollution generates an even greater threat to human health and nature.

In the Republic of Moldova, air quality is monitored daily at 17 monitoring stations. Only the municipalities of Chisinau, Balti, Bender, Tiraspol and Ribnita, as the largest industrialized centers, are covered by the monitoring system. In 2022 with the support of the Government of the Federal Republic of Germany, the first automated traffic monitoring station was installed in Chisinau municipality. Two other automated monitoring stations are located in Rezina (Mateuți) and Leova – the station for monitoring of transboundary pollution, where observations of atmospheric air quality are made according to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe. The air quality monitoring system is outdated, and the data obtained in the monitoring/inventory process do not reflect the real situation in the sector.

However, these data highlight that the main sources of atmospheric air pollution in the Republic of Moldova are as follows: *stationary (fixed) sources*, which include thermal power plants (TPPs) and boiler plants, industrial enterprises in operation (pollutant discharges



are shown in Figure 5); *mobile sources*, which include road, rail, air, inland transportation (discharges and the dynamics of emitted pollutants are shown in Figures 6 and 7), agricultural technology and transboundary transfer of noxious pollutants. The pollutants from these sources are: carbon oxides, formaldehyde, sulphur dioxide, nitrogen dioxide and nitrogen oxides, particulate matter, lead, benzene, carbon monoxide, arsenic, cadmium, nickel and benzo(a)pyrene.

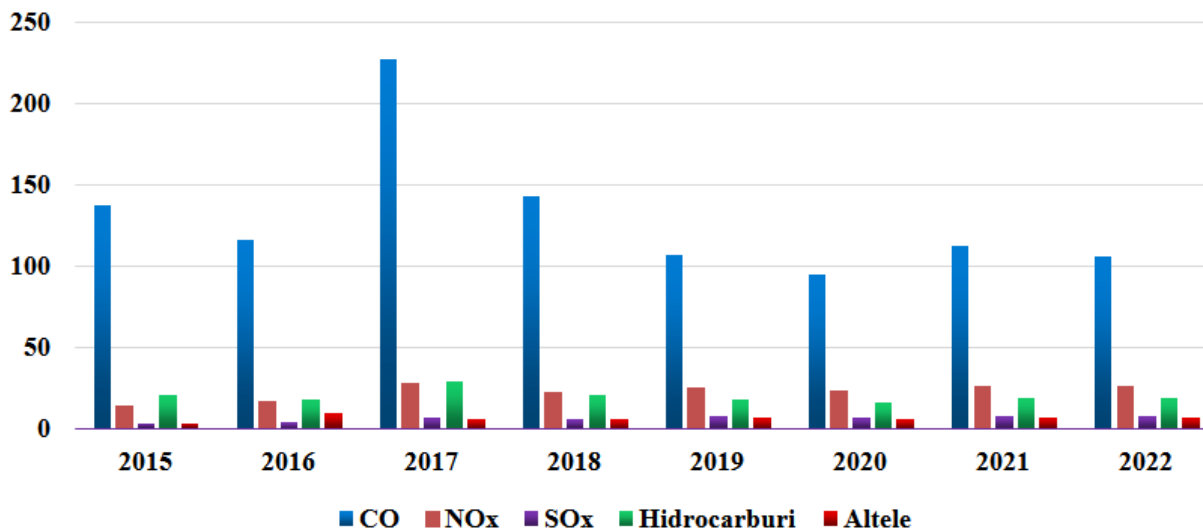


**Figure 5.** Pollutants from stationary sources of economic operators discharged to air, thousand tonnes, 2015-2021

**Source:** National Bureau of Statistics

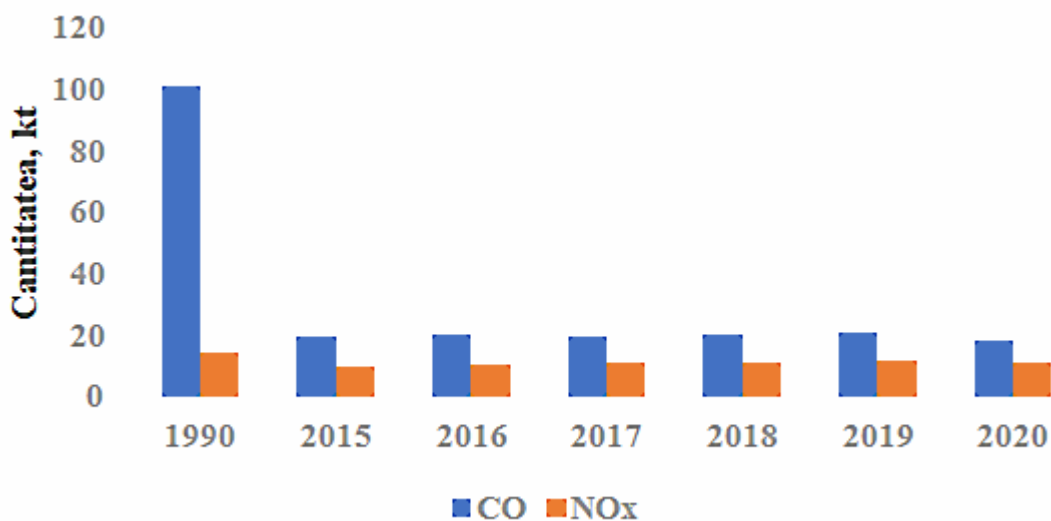
The emission sources of pollutants into the atmosphere are not uniform throughout the country, emissions in urban areas are higher than in rural areas, given the fact that large industries are concentrated in towns and municipalities. The largest sources of pollutant emissions into the atmosphere are: the Dnestrovsk Electric Power Plant with Heating, Electric Power Plant with Heating -2 and Electric Power Plant with Heating -1 Chisinau, Electric Power Plant with Heating Nord Balti, the cement plant “Lafarge” in Rezina and the metallurgical plant in Ribnita, the construction materials factory “Macon” JSC as well as the 3 252 operational boiler plants, which utilize outdated and obsolete equipment.

Emissions from mobile sources (which account 86.2% of the total amount of harmful substances emitted into the air) contain large amounts of hydrocarbons, carbon oxides, nitrogen, sulphur, etc., depending on the fuel quality, technical conditions of the vehicles, number of transport units operated, etc.



**Figure 6.** Air pollutants from road transport, 2015-2022

Source: National Bureau of Statistics, Environment Agency



**Figure 7.** Dynamics of mobile source emissions

Source: Informative inventory report of the Republic of Moldova 1990-2020, submitted to the UNECE Convention on Long-range Transboundary Air Pollution, 2022

Due to the increase of number of vehicles (in 2011 there were 647 thousand transport units, in 2021 – 931 thousand units), including old vehicles, there is a trend of a slight increase in the volume of noxious emissions, which may generate critical levels of air pollution with serious socio-economic and environmental consequences, which require measures to prevent and reduce pollution.

The advanced age and high wear rate of the public transport fleet, in particular buses and minibuses, increase environmental pollution, health and maintenance costs and reduce road safety. Modernizing the bus fleet is a problem for transport operators in the Republic of Moldova, which requires significant financial resources, both private and public. Another way of reducing the pollutants generated by road traffic is to adopt fiscal measures to encourage the replacement of old, high-emission vehicles with new vehicles with low pollutant emissions.

Noise pollution caused by transportation noise (road, rail, air traffic) and neighborhood noise (construction sites, technological equipment located in residential buildings, etc.) are factors that have a direct negative health impact.

The implementation of the strategic objectives in the field of air protection deriving from the European legislation, as well as the obligations resulting from the international conventions and treaties to which the Republic of Moldova is a party, requires institutional and financial efforts.

The new regulatory framework adopted in 2022 (Law No. 98/2022 on atmospheric air quality and Law No. 227/2022 on industrial emissions) aims to improve air quality monitoring and assessment processes, develop the national monitoring network throughout the country, ensure the development of air quality management plans in areas and agglomerations, regulate emissions from industrial facilities, promoting the application of best available techniques and the implementation of alignment plans with measures, which will lead to emission reductions from these facilities. The set of measures includes the introduction of cleaner technologies and the promotion of best available techniques (BAT).

At the international level, Republic of Moldova committed to combat air pollution as being a party to the Convention on long-range transboundary air pollution, to which it acceded by Parliament Decision No. 399/1995. Out of the eight protocols to the present Convention, the Republic of Moldova has signed four, ratified three, including the Protocol on Heavy Metals and the Protocol on Persistent Organic Pollutants, ratified by Law No. 1018/2002, and the Protocol concerning the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), to which the Republic of Moldova acceded by Law No. 215/2015. Currently, our country, along with the other countries of the Eastern Europe, Caucasus and Central Asia region, is negotiating with the Convention Secretariat the conditions for ratification and implementation of the Gothenburg Protocol, which concerns the halting of acidification, eutrophication and tropospheric ozone.

To tackle air pollution problems, an integrated air quality management system needs to be developed by implementing the provisions of the regulatory framework and adopting the regulatory framework for regulating emissions from mobile sources and promoting energy efficiency in all sectors of the economy.

#### **2.4. Chemicals Management**

A wide range of chemicals, currently used in all sectors of the economy, bring benefits on which modern society is completely dependent. The Republic of Moldova produces a narrow spectrum of chemicals oriented towards the domestic market. However, most of the chemicals needed by the country are imported, which is steadily increasing. The main imported chemicals are: pharmaceuticals, refrigerants, fertilizers, pesticides, biocides, detergents, solvents, paints, varnishes, varnishes, automotive refinishing products, construction products and other chemicals and products used in agriculture, manufacturing and other industries.

Significant quantities of chemicals are placed on the market (see Table 10) and are used in the agricultural sector through the application of plant protection products and fertilizers.

Table 10

### Plant protection products placed on the market in 2018-2022 (tonnes)

Types of products	2018	2019	2020	2021	2022
Insecticides and acaricides	614,548	509,499	670,835	394,6969	322,056
Fungicides	2042,928	2,215,801	1951,264	1880,345	2237,134
Herbicides	1424,242	1043,245	1418,6595	1493,4021	1901,233
Defoliant and desiccants	15,615	44,88	0	0	48,854
Rodenticides	0,424	28,558	20,262	14,536	0
Preparations for the treatment of seeds	149,84	71,445	73,52	75,865	83,548
Fumigants	3,7	5,86	1,352	4,52	5,756
Superficial active substances	201,256	166,179	202,49	200,968	103,612
Growth Regulators	38,254	20,018	15,752	13,744	10,939
<b>Total</b>	<b>4490,807</b>	<b>4105,3</b>	<b>4354,135</b>	<b>4078,077</b>	<b>4713,132</b>

Source: National Bureau of Statistics

In the last decade, the volume of chemical fertilizers used in agricultural enterprises and large peasant households has been covered entirely from their import and has increased almost 6 times, from 17.0 thousand tonnes in 2009 to 104.7 thousand tonnes in 2022, which is 96.9 kg per hectare of sown land, and a trend of intensive use is observed, as shown in Table 11.

Table 11

### Fertilizers imported in agriculture 2018-2022 (tonnes)

Years	2018	2019	2020	2021	2022
<b>Total fertilizers, t</b>	319624	335242	350860	399512	216400

Source: National Bureau of Statistics

Another category of chemical substances, specified by Law 277/2018 on Chemicals, are biocidal products. According to the data from the National Register of Biocidal Products, 78 dossiers with new products have been assessed in the period 2020-2022.

The excessive use of biocides has a considerable impact on both the environment and the economy, and the improper use of more aggressive biocides and increased dosages (as a way to overcome resistance phenomena) constitute an additional health risk.

Substances that damage the ozone layer are another important category of industrial substances that are imported in large quantities and used mainly in the refrigeration and air-conditioning servicing sector.

Hydrofluorocarbons (HFCs), which are part of the ozone depleting substances (ODS) category, are covered by the Montreal Protocol and their import quantities are strictly regulated and authorized by the Environment Agency. According to Environment Agency data, the annual demand for HFCs for servicing refrigeration and air-conditioning equipment and machinery is about 150 tonnes, with imports increasing trends, as shown in Table 12.

Table 12

**HFC imports into the Republic of Moldova (tonnes)**

HFC, tonnes	2015	2016	2017	2018	2019	2020	2021	2022
R32	0,0	0,0	0,6	1,5	3,2	8,5	0,0	0,19
R125	1,7	0,0	0,0	0,0	0,0	0,0	0,0	0,0
R134A	36,3	32,0	27,6	125,3	62,4	65,7	9,3296	0,0
R404	29,6	18,5	18,6	44,8	44,2	30,5	0,0	0,0
R407C	3,0	3,7	9,3	20,1	8,8	8,1	2,1357	0,0
R407F	0,1	0,0	1,7	0,0	0,0	0,0	0,0	0,0
R410A	4,5	7,5	7,4	41,8	12,6	11,0	0,0	0,0
R422D	0,0	0,0	4,8	2,4	5,9	1,2	0,0	0,0
R507A	18,6	16,8	37,9	38,5	13,4	20,1	0,0	6,215
R227ea	0,0	1,0	2,0	20,0	22,0	11,0	0,0	0,0
R245fa	0,0	2,7	0,0	0,0	0,0	0,0	0,0	0,0
R290	0,0	0,0	0,0	0,0	0,0	0,0	0,125	0,0
R508B	0,0	0,0	0,0	0,0	0,0	0,0	0,08	0,0
R23	0,0	0,0	0,0	0,0	0,0	0,0	0,09	0,0
R1234YF	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,27
R404A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	5,995
R417A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,113
R600a	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,13
<b>Total</b>	93,8	82,2	109,9	294,4	172,5	156,1	11,7603	12,913

**Source:** Environment Agency

Another type of industrial chemicals are fluorinated gases (F-gases) which are used in stationary air conditioning, commercial refrigeration, industrial refrigeration, mobile air conditioning, transportation refrigeration, foam blowing and aerosols.

The alternative technologies for ozone depleting substances which use natural freons as refrigerants (hydrocarbons: propane; isobutane; cyclo- and isopentanes; H<sub>2</sub>O, air, helium, CO<sub>2</sub> and NH<sub>3</sub>), have become increasingly common on the domestic market.

In addition to the products mentioned above, there are other categories of priority chemicals, mixtures and substances that require further attention and management measures, such as: asbestos-containing products, heavy metals, mercury, persistent organic pollutants, industrial detergents and mixtures, endocrine disrupters, etc.

The management of chemicals at the institutional level remains fragmented, with responsibilities falling to around ten specialized central public administration authorities. The responsibilities assumed by the authorities are often focused on a specific economic sector (agriculture, industry, health) and on a specific group of chemicals (fertilizers and plant protection products, pharmaceuticals, persistent organic pollutants, ozone depleting substances, etc.), or on a specific stage of the chemical's cycle (import, trade, production, use, disposal, etc.). Overcoming this fragmentation is the condition assumed by the Republic of Moldova - EU Association Agreement and consists in the creation of an authority responsible for ensuring the regulation and safe management of chemicals, which will act as the main authority responsible for authorizing the placing on the market of chemicals, according to Art. 23 of Law No. 277/2018 on Chemicals.

The regulatory chapter lacks regulations related to the management of some priority chemicals, such as: Regulation on Persistent Organic Pollutants, the Regulation on the storage and management of mercury waste, asbestos, or the Detergents Regulation, etc.

In the meantime, chemicals management regulations at international level are becoming increasingly ambitious and complex and require greater involvement not only of policymakers, but also of producers, traders and consumers.

Reference laboratories play an important role in the registration, control and monitoring of chemicals, mixtures and products. The implementation of effective monitoring of environmental pollution levels as well as food products with chemicals and their influence on the health status of the population requires the development of a network of laboratories throughout the country for testing in different environments.

Over the last decades, the volume of chemicals produced in the world has increased more than 50-times and there are many new chemicals every day. This increases the overall pressure of chemicals on the environment and on humans, and therefore the risk of harm. Exposure to harmful chemicals, both indoors and outdoors, can have many health effects, including cardiovascular and respiratory diseases, allergies and cancer. Similarly, wildlife and ecosystems are affected by pesticide use and the accumulation of persistent pollutants.

A growing concern is the risks associated with mixtures of substances and how they act together if a new compound arises from the reaction between substances, which is not normally considered in the assessment of chemicals.

In this context, the country's policy is oriented towards the development of an effective system of control and supervision of the placing on the market of chemicals and will have both an economic and social impact by substituting hazardous substances with less hazardous alternatives, while the adoption and implementation of new regulations will contribute to reducing health risks.

## **2.5. Waste management**

Waste management in the Republic of Moldova has been built based on the linear economy model: extract – produce – consume – landfill. This model, implemented over the last decades, has significantly affected the quality of natural resources, waste being considered as one of the main sources of water, soil and air pollution, as observed in the NDS. The issue of waste management in the Republic of Moldova has emerged as a field with the transition to a market economy and, in particular, with the appearance of the broad spectrum of everyday consumer goods, including packaging.

While Moldova's economy is growing and consumption is increasing, a lack of public awareness can also lead to more waste being generated and a lack of consumer willingness to separately collect waste, reuse products and packaging.

The indicators of municipal waste generation, presented in Table 13, denote the level of wellbeing of the population through increased consumption over the last decade, but also the higher rate of urbanization, which has resulted in a capacity to generate a higher amount of waste per capita. The total amount of municipal waste generated in the year 2021 was 1055.9 thousand tonnes, and biodegradable waste, including food waste, constituted about 30% or 316 thousand tonnes. About 5% of biodegradable waste is food waste from retailers, so this sector can generate about 15 thousand tonnes annually.

Table 13

**Activity data on the volume of collected municipal waste, thousands m<sup>3</sup>**

	2017		2018		2019		2020		2021	
	Municipal waste th m <sup>3</sup>	Population coverage th pers.	Municipal waste th m <sup>3</sup>	Population coverage th pers.	Municipal waste th m <sup>3</sup>	Population coverage th pers.	Municipal waste th m <sup>3</sup>	Population coverage th pers.	Municipal waste th m <sup>3</sup>	Population coverage th pers.
Total	3286,1	1092,453	3176,1	1152,590	3445,4	1284,568	3576,1	1441,858	3519,7	1531,924
from urban areas	3030,0	954,545	1172,0	1012,020	3098,7	1043,232,0	3067,4	1057,486	2922,5	1044,413
from rural areas	256,3	137,908	295,1	140,570	348,3	241,336	507	384,457	594,1	492,243

**Source:** National Bureau of Statistics

The structure of municipal waste is constant over the last five years, and of the total municipal waste collected: 61-63% is municipal waste generated by the population, 30-32% is similar waste (generated by public institutions, economic agents) and 3-6% is street waste.

Waste management operators are expanding their services from urban to rural areas and the amount of waste collected is increasing. As a result, the waste generation rate per capita will have a slow upward trend, with an average annual increase of 2.5% for the period 2021-2030 and 1% for the period 2031-2035 for rural and urban localities. According to Environment Agency data, in 2021 a number of 197 specialized waste collection and disposal services were active (54 services in the urban sector and 143 services in the rural sector), and 313 rural settlements had municipal waste collection services.

Separate collection of recyclable waste by 3 fractions (paper/cardboard, plastic/metal and sometimes glass) is only partially realized in some urban localities. The low fee does not cover the necessary expenses for separate collection of recyclable and biodegradable waste, and as a result unsorted collection of waste essentially contributes to the increase of recycling costs, especially for packaging waste, and in many cases makes the process itself impossible. For these reasons, the recycling rate of waste generated remains very low, except for glass (on average 3% is the recycling rate for plastics, 7% for paper and 33% for glass).

Predicted annual municipal waste generation until 2026 shows a continuous increase (from 1,114.26 thousand tonnes in 2023 to 1,154.937 thousand tonnes in 2026).

The failure to develop municipal separate waste collection systems will jeopardize the growth of recycling and recovery of other waste materials (packaging, bio-waste, hazardous waste and other waste) and will obscure the development of the production process of good quality products from waste, as well as the achievement of the set targets for waste management and disposal. Thus, most of the hazardous waste generated in households will be continuously disposed along with municipal waste.

Similar with municipal waste, consumers and institutions generate a wide range of hazardous waste such as: electrical equipment, including those containing chlorofluorocarbons, fluorescent tubes and other mercury-containing waste, oils and fats other than edible oils and fats, packaging contaminated with paints, detergents or other hazardous substances, medicines, batteries and accumulators and others. Along with the development of municipal waste management infrastructure, it will be necessary to develop collection points for specific hazardous waste streams (batteries, tires, electrical and electronic waste, mercury lamps, etc.) in order to treat those waste streams separately.

Article 12 of Law No. 209/2016 on Waste includes provisions associated with extended producer responsibility, in order to promote reuse and waste prevention, recycling and other waste recovery operations. Thus, to promote the principle of extended producer responsibility, the following products are subject to extended producer responsibility as a matter of priority: batteries and accumulators, electrical and electronic equipment, vehicles, oils, packaging, tires.

To reduce environmental pollution from plastic waste, the Ministry of Environment has promoted several regulations in the field of packaging and packaging waste management, in particular by setting targets for recovery and recycling of packaging waste. To this end, all economic operators placing packaged products on the market have been obliged to ensure the recycling of at least 15% of all packaging used, starting in 2023, and this percentage is to increase to 35% by 2027. At the same time, the target of recovering at least 17% by weight of packaging waste by 2023, 32% by 2026 and 50% by 2029 is to be achieved.

The amount of packaging waste generation estimated in Table 14 corresponds to a generation indicator of 60 kg packaging waste/inhabitant/year. The estimation of the amount of packaging waste generated in the period 2023-2030 was based on the generation rate of the different packaging waste fractions per capita and the population projection, respectively.

Table 14

**Projection of amounts of packaging waste, total and by type of material, for 2023-2030, thousands of tonnes**

Type of waste	2023	2024	2025	2026	2027	2028	2029	2030
Packaging waste, total	181.1	177.9	170.3	168.7	167.2	158.5	157.0	155.7
Glass packaging waste	33.2	32.9	32.6	32.3	32.0	31.7	31.4	31.1
Plastic packaging waste	60.4	59.8	56.3	55.7	55.2	51.9	51.4	50.9
Paper packaging waste	69.4	68.8	68.1	67.5	66.9	63.4	62.8	62.3
Wood packaging waste	9.1	7.5	7.4	7.3	7.3	5.8	5.7	5.7
Metal packaging waste	9.1	9.0	8.9	8.9	8.9	8.9	8.9	8.9
% of packaging waste from the total municipal solid waste	16.25	15.78	14.91	14.61	14.31	13.40	13.12	12.84

At the same time, according to the data in Table 15, there is also a steady increase in the generation of specific streams, including hazardous streams per capita, as follows:

Table 15

**Projected quantities of specific waste streams, 2023-2030, in tonnes**

Specific waste stream	2023	2024	2025	2026	2027	2028	2029	2030
Waste batteries and accumulators	7.55	7.48	7.40	7.33	7.27	7.20	7.14	7.08
Waste electrical and electronic equipment	18.11	20.93	20.73	20.54	20.35	23.05	22.84	22.64
Textile waste	12.07	11.96	11.84	11.74	11.63	11.52	11.42	11.32
Food waste	241.48	224.25	222.09	220.05	218.05	201.68	199.88	198.11
Vegetal waste	129.80	128.57	127.33	126.16	125.01	123.89	122.78	121.69
Used oils	4.53	4.49	4.44	4.40	4.36	4.32	4.28	4.25
End of Life vehicles	18,11	17,94	20,73	20,54	20,35	20,17	22,84	22,64
Infectious medical waste	1004,81	995,32	985,73	976,66	967,78	959,06	950,50	942,08



For the purpose of developing integrated municipal waste management systems, the Republic of Moldova was divided into eight waste management regions based on basic criteria for regional planning such as: geographical settlement, economic development, existence of access roads, soil and hydrogeological conditions, population, etc.

The development of a regional infrastructure for municipal waste disposal (ecological landfill with impermeable liner and system for leachate collection, system for biogas recovery and landfill operations with daily waste cover) is to be realized as follows:

- ▶ *in 2023*, the process of construction of integrated waste management systems for regions 1, 4, 5, 8 was launched, so that by 2025 the amount of municipal waste collected and landfilled will increase by 8.5% compared to 2020, on the basis of full coverage of sanitation services in these areas. At the same time, by 2025, the amount of separately collected and recovered waste will increase by 143.7%, composted waste – by 52.8% compared to 2020, which will be deducted from the municipal waste stream by promoting separate collection. In addition, it is planned to close and recultivate non-conforming landfills and the creation of a new regional one, so that the number of landfills will be reduced by 45.7% by 2025 and the landfill area will be reduced by 40.4% by 2025;
- ▶ *starting from 2025*, it is planned to launch the construction of integrated waste management systems for regions 2, 3, 6, 7, so that by 2027 the amount of municipal waste collected and landfilled will increase by 11.2% compared to 2020, on the basis of full coverage of the entire country with sanitation services.
- ▶ *at the same time, by 2027* the amount of separately collected and recovered waste will increase by 239% and composted waste – by 337% compared to 2020, which will be deducted from the municipal waste stream by promoting separate collection. In addition, with the closure and recultivation of all non-compliant landfills and the construction of one new regional landfill, the number of landfills will be reduced by 99.3% by 2027, and the landfill surface will be reduced by 87% by 2027.

The total cost for the modernization of the integrated municipal waste management infrastructure is included in the EIB/EBRD loan financing and the state budget contribution.

As the country's economy grows and consumption increases, insufficient public awareness can lead to the formation of large quantities of waste and a lack of consumer willingness to collect it separately, reuse products and packaging. The public needs to be sufficiently, clearly and accurately informed about the product life cycle and environmental impact at different stages, the significance of waste prevention and product reuse, the organization of waste stream-specific management systems and the obligations of waste holders.

## **2.6. Climate change**

Being a globally recognized phenomena, in recent years, climate change has had a significant impact on the Republic of Moldova as well, particularly has affected multiple socio-economic sectors, the welfare of the population, public health and safety, causing an increase in the occurrence and frequency of disasters, such as droughts and fires, major floods and uneven distribution of precipitation throughout the year. There is now clear evidence that global warming is largely the result of human activities, manifested by the emission of greenhouse gases (GHG) into the atmosphere from the burning of fossil fuels, mainly carbon dioxide, methane, nitrous oxide, etc.

National efforts to respond to climate change focus on three dimensions: reducing greenhouse gas emissions, preventing and adapting to climate change, mitigating and preparing for weather and climate-related disasters.

### 2.6.1. Greenhouse gas emissions

The Republic of Moldova has aligned itself to joint global efforts to combat climate change by acceding to international treaties in the field of climate change, such as the United Nations Framework Convention on Climate Change (ratified by Parliament Decision No. 404/1995) and the Paris Agreement (ratified by Law No. 78/2017). To achieve the objectives of the Agreement, the Parties have committed to report their efforts to reduce greenhouse gas emissions through Nationally Determined Contributions.

The Republic of Moldova intends to achieve more ambitious targets under the Updated Nationally Determined Contribution (UNDC). The new unconditional target aims to reduce greenhouse gas emissions by 70% by 2030 compared to 1990 levels, compared to the range of 64-67% assumed in the original UNDC. The monitoring of the achievement of these indicators is based on the national inventories of emission sources and sequestration, which are prepared periodically as part of the five national communications, as well as regular reporting<sup>8</sup>.

The national commitment to reduce greenhouse gas emissions, undertaken in the framework of the Low Emission Development Strategy of the Republic of Moldova up to 2030, approved by Government Decision No. 1470/2016, is also reflected in the Low Emission Development Program of the Republic of Moldova up to 2030 and in the Action Plan for its implementation, approved by Government Decision No. 659/2023. The Program focuses on key actions for different sectors of the economy to reduce greenhouse gas emissions compared to the level in 1990, the base year. These sectors are energy, transportation, buildings, industrial processes, agriculture, forestry and land use, change of land destination and waste.

The particular attention is paid to green economy measures and principles such as energy efficiency, development of renewable resources, use of advanced technologies in cement and glass production, conservative agricultural practices, afforestation and efficient waste management.

*The energy sector* is the largest source of direct greenhouse gas emissions. Over the last ten years, the share of the energy sector in national emissions has been on an increasing trend, reaching about 67.5% in 2019, being a basic branch of the national economy contributing to the country's energy security. Dependence on imports of energy resources, outdated energy equipment, dependence on foreign energy resources, lack of own financial resources are major problems in the development of the energy sector.

The Energy Strategy of the Republic of Moldova until 2030, approved by Government Decision No. 102/2013, Law No. 10/2016 on the promotion of the use of renewable energy sources, Law No. 139/2018 on energy efficiency, set out the strategic directions for the energy sector until 2030. These include ensuring the security of energy supply, promoting energy efficiency and the use of renewable energy resources, the development of competitive markets and their integration in the regional and European context,

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<sup>8</sup> [www.clima.md](http://www.clima.md)

environmental protection, and adaptation to climate change. In order to achieve the objective in the energy sector, the construction of interconnections with Romania's power system is foreseen, which will allow the parallel operation of east-west power systems in the Republic of Moldova; in 2022 certain steps were taken both at the legislative level by adopting Law no. 120/2022 on the declaration of public utility of national interest of the construction works of the 400 kV overhead power transmission line (OPL) Vulcănești - Chisinau and the Back-to-Back station Vulcănești, as well as the construction of the 400 kV overhead power line Vulcănești - Chisinau.

*The transport sector* is a significant contributor to greenhouse gas emissions and its role in reducing these emissions is crucial for climate change mitigation. The sector's dependence on fossil fuels, in particular oil-based fuels, leads to emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases into the atmosphere. Reducing greenhouse gas emissions from transportation requires changes in transportation and infrastructure planning, as well as the transition to low-carbon fuels. Moldova's Energy Strategy to 2030 sets targets for reducing greenhouse gas emissions in the transport sector. Reducing greenhouse gas emissions in the transport sector requires profound changes in transport planning and infrastructure, as well as the transition to low-carbon fuels.

By implementing energy-efficient measures and using renewable energy resources, the residential sector can contribute to the reduction of GHG emissions. Existing gaps in the regulatory framework as well as insufficient funding for increasing the thermal resistance of the building envelope (including wall insulation, replacement of old windows with double glazing, replacement of doors, etc.) hold back the promotion of energy-efficient buildings. Financial allocations to the public sector are insufficient and funds attracted through preferential loans from development partners are not accessible to all local public authorities. The involvement of the population in energy efficiency measures in buildings is also insignificant due to low incomes and insufficient information on the benefits associated with these measures.

Another important sector that contributes significantly to greenhouse gas emissions through different activities and production processes is the *industrial sector*. Reducing greenhouse gas emissions can be achieved by promoting energy efficiency, the application of best environmental practices and best available techniques, efficient equipment and technologies, appropriate use of raw materials, including recycling of waste, and reducing the use of fluorinated gases. Reducing greenhouse gas emissions depends not only on the availability of cost-effective technologies to reduce greenhouse gas emissions, but also by overcoming existing economic barriers. In the industrial sector, companies will only invest in reducing greenhouse gas emissions to the extent that these investments will bring a return, considering other factors.

*The agriculture sector* has a significant impact on global warming through its anthropogenic emissions, especially through the release of methane and nitrous oxide. Reducing agricultural emissions plays an important role in adapting to climate change. Levels of greenhouse gas emissions from agricultural activities can vary depending on factors such as farming practices, land management, livestock farming, use of technologies and practices to reduce emissions. The agricultural sector is facing a lack of financial resources to modernize equipment and apply new technologies, including organic farming, which is not yet widespread and needs further efforts to be promoted. The livestock sector also faces a lack of funding for the implementation of modern low greenhouse gas emitting

agricultural technologies. The implementation of sustainable animal farming policies, which include subsidization in animal farming according to Government Decision No. 836/2020, contributes to the reduction of GHG emissions from animal compost by applying sustainable manure management practices and using methane recovery technologies through biogas production.

*The forest sector* contributes to reducing carbon emissions through carbon sequestration by vegetation and the use of wood biomass as a substitute for fossil fuels. Existing forestry policies include provisions, which directly or indirectly influence the sector's ability to increase carbon sequestration. The focus is on forest area expansion, biodiversity conservation, institutional and human capacity building and international cooperation. It is crucial to reduce the areas of degraded land, which is reflected in Law No. 1041/2000 for the improvement of degraded land through afforestation and in the National Program for the Expansion and Rehabilitation of Forests for the period 2023-2032, approved by Government Decision No. 55/2023. Forest resources in the Republic of Moldova are scattered, fragmented and unevenly distributed across the country. Illegal logging is a major problem in the forest sector. This problem is caused by low living standards in rural areas and the lack of other sources of income, high taxes and fees for legally obtained timber, lack of specialized forest surveillance personnel and inadequate forest law enforcement. Other problems in the sector include the insufficient institutional and management framework for the objects and complexes of state protected natural areas, as well as the lack of financial resources necessary to ensure their sustainable management. There are also widespread grassland management practices in combination with other degradation factors such as erosion, weed and bush invasion, which have a significant impact on the quality and productivity of grasslands.

Direct greenhouse gas emissions from waste management represent a relatively small share at European level (3%) in the context of climate change, but significant at national level (11%), thus greenhouse gas emissions from the waste sector account for about 50.6% of total methane emissions at national level. These statistics exclude a number of activities and sources, including waste collection and transportation, electricity consumption for waste treatment and processing, and emissions resulting from the land application of compost. The proposed activities include the promotion of measures to reduce waste generation and the use of recyclable materials and energy resources, thereby reducing the use of natural and other resources and the disposal of waste in landfills.

#### 2.6.2. Vulnerability of economic sectors to climate change

The Republic of Moldova is mainly exposed to three types of climate impacts: temperature increases, changes in precipitation patterns and increased climatic aridity, which are associated with increased frequency and intensity of extreme weather events, such as heat waves and frosts, severe droughts, floods, thunderstorms with heavy rain and hailstorm. These conclusions are based on projected climate change scenarios, accompanied by a number of impact, risk and vulnerability assessments carried out in the process of preparing the National Communications, together with other assessments carried out at project level with national and regional coverage. This work is the starting point for setting medium- and long-term priorities for adaptation planning, action and investment, along with monitoring the effectiveness of adaptation measures planned and implemented in the Republic of Moldova. We are already seeing the effects of global warming, manifested in the intensification of extreme natural disasters and increasingly frequent heat waves.

The climate change adaptation approach at national level needs to be systemic, cross-sectoral, mainstreamed into relevant sectoral policies, and based on up-to-date knowledge and risk assessments for vulnerable sectors.

Since 2013, the Republic of Moldova has embarked on a national adaptation planning process, which aims to establish a favorable environment for a coherent and effective adaptation action by integrating climate risks into investment decision-making and business planning.

Currently, in the context of the latest developments, our country has embarked on the second cycle of climate change adaptation planning, having approved the National Program for Adaptation to Climate Change until 2030 and the Action Plan for its implementation, approved by Government Decision No. 624/2023. Climate change adaptation planning is designed by key sectors of industry, each of which has its own particularities.

*The agricultural sector*, which accounts for 59% of the country's land, is extremely vulnerable to climate change, especially to the impacts of climatic factors such as droughts, frosts, floods, hailstorms, sudden temperature fluctuations in winter, erosion, thus posing significant challenges to food security and rural livelihoods. Key vulnerabilities include water scarcity and irrigation challenges, reduced crop production and yields, risks to livestock health and productivity, soil degradation and erosion, and increased pest and disease outbreaks. According to the Food and Agriculture Organization of the United Nations (FAO) database<sup>9</sup>, there is a steady reduction in both the areas under irrigation and the areas actually irrigated. Addressing these vulnerabilities requires the implementation of comprehensive adaptation measures, such as: better management of water resources, use of resilient plant varieties, application of sustainable land tillage practices, increased disease surveillance and diversification of agricultural activities. Strengthening farmers' knowledge and promoting supportive policies are key to building resilience in Moldova's agriculture sector.

The vulnerability of the energy sector to climate change is a significant problem with serious consequences for energy security and the environment. As the energy sector relies on fossil fuels, these energy sources are the main drivers of greenhouse gas emissions that lead to climate change. Climate change has led to an increase in the frequency and intensity of extreme weather events, which can severely affect energy infrastructure, leading to power outages and significant economic disruption. Climate change can affect transportation routes, energy distribution infrastructure and energy supply disruptions.

*The transport sector*, which includes road, rail, sea and air transport, is vulnerable to increased frequency and intensity of storms (wind, rain, snowfall), which challenges the resilience of the respective infrastructure and implies higher costs for the construction, maintenance and operation of such infrastructure. Taking into consideration that the Republic of Moldova is a small country with no direct access to the sea, roads are the basic infrastructure of the transport sector, playing a key role in the national economy.

The country's total renewable surface water resources are estimated at 970 million m<sup>3</sup>/year<sup>10</sup>. The identified risks considered of high priority are: increased risk of drought and water scarcity leading to increased irrigation requirements; increased frequency and

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9 <https://www.fao.org/aquastat/en/countries-and-basins/country-profiles/country/MDA>, FAO, AQUASTAT database, Republic of Moldova

10 Chapter 3. Natural resource base (gov.md)

intensity of floods; changes in river flows – both increasing and decreasing; high level of pollution of water resources with pesticides and fertilizers due to increased runoff; and water quality indices (mineralization, hardness, dissolved oxygen, etc.) affected by climatic and non-climatic factors, which will amplify each other's effect.

The impact of climate change on public health is manifested both through direct effects of extreme events (physiological effects due to the impact of heat or cold) and indirect effects over time, such as: urbanization and population migration, changes in human behavior (forced migration), changing patterns of infectious diseases or the emergence of new diseases, increased transmissibility of foodborne and vector-borne diseases or other effects of climate change.

*The forestry sector* is one of the sectors most affected by climate change, with forests on the edge of their natural range and those in the South of the country increasingly exposed to the impacts of arid climates. The new climate reality is a major challenge characterized by unpredictability. Climate change also has a significant impact on the range and quality of ecosystem services provided by the forest sector. The vulnerability of forests to climate change is confirmed by their current phytosanitary status. Due to droughts in recent years (2007, 2011, 2012, 2015, 2019, 2020, 2022) forest ecosystems have degraded, trees have become more sensitive to negative factors. In the last decade, the area of forests affected by drying amounted to 119.1 thousand ha, which is about 32% of the existing forests<sup>11</sup>.

### 2.6.3. Natural disasters, extreme weather events and preparedness to respond to them

The Republic of Moldova is periodically affected by a large number of extreme climatic events such as droughts, strong winds (snowstorms, dry and hot summer winds, dust storms and fertile soil storms), frosts with lack of snow cover, late frosts and floods. Historically, our country experiences droughts once every 3-10 years, depending on geographical location. The frequency of droughts is 1-2 events in the north, 2-3 events in the center and 5-6 events in 10 years in the south. In 2007, the country suffered the worst drought in its recent history, affecting 80% of the country's territory and about 135 000 people, causing almost 1 billion dollars of damage.<sup>12</sup>

The 2020 drought caused a reduction of over 26% in agricultural production and had a significant socioeconomic impact, with about 20% of jobs loss in the agricultural sector, thus reducing household income and consumption, contributing to the overall recession and implying additional burdens on the budget (WBG/GFDRR, 2020 ).<sup>13</sup>

Moldova is at risk of flooding. In the last 70 years there have been ten major floods along the Dniester and Prut rivers, three of which occurred in 2006, 2008 and 2010. The socio-economic costs caused by natural disasters related to climate change are significant, with the greatest impacts coming after droughts and floods (World Bank, 2016).<sup>14</sup>

According to the FAO Special Report<sup>15</sup>, dry conditions in the fall-winter 2021-2022 affected about 95% of the country's territory, winter frosts in the North, lack of precipitation and high temperature regime in May-July 2022 negatively affected the production of agricultural crops across the country. Spring drought has been categorized as "very severe" and summer as "severe to very severe," according to the State Hydrometeorological Service's classification. Small farmers and

11 National Program for the Expansion and Rehabilitation of Forests 2023-2032 and the Action Plan for its implementation 2023-2027

12 [https://cancelaria.gov.md/sites/default/files/document/attachments/nu-242-mm-2023\\_0.pdf](https://cancelaria.gov.md/sites/default/files/document/attachments/nu-242-mm-2023_0.pdf)

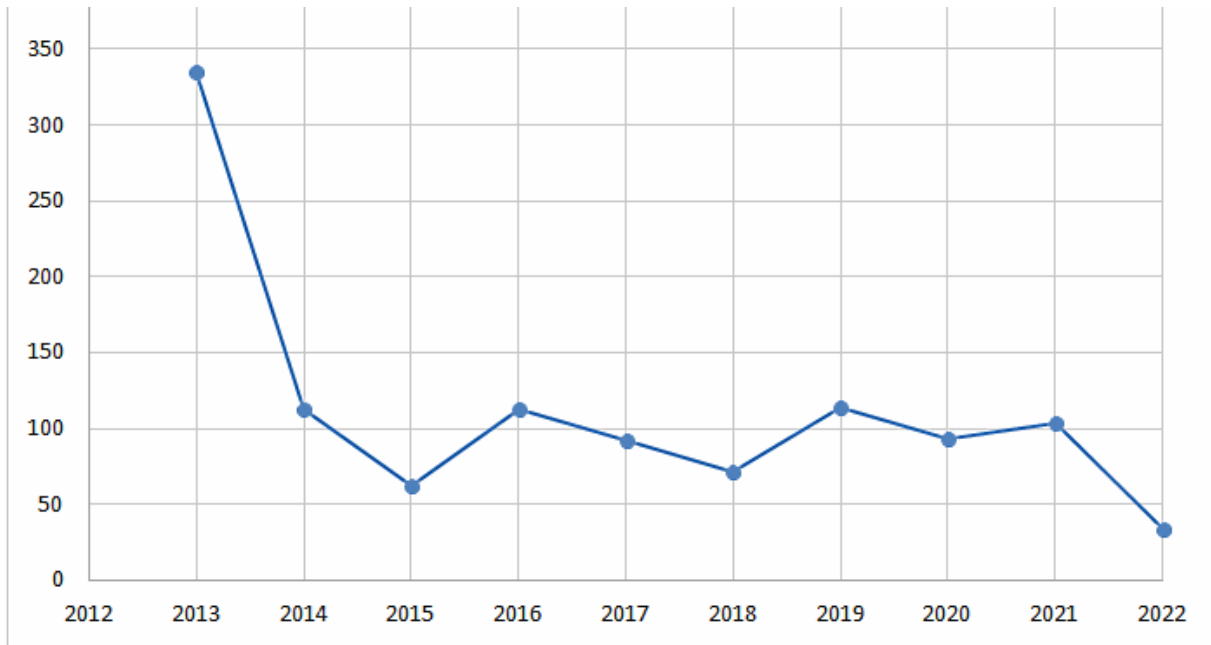
13 Strengthening Moldova's Disaster Risk Management and Climate Resilience (WBG/GFDRR, June 2020)

14 World Bank Annual Report, 2016

15 FAO Crop and Food Supply Assessment Mission to the Republic of Moldova, November 22, 2022

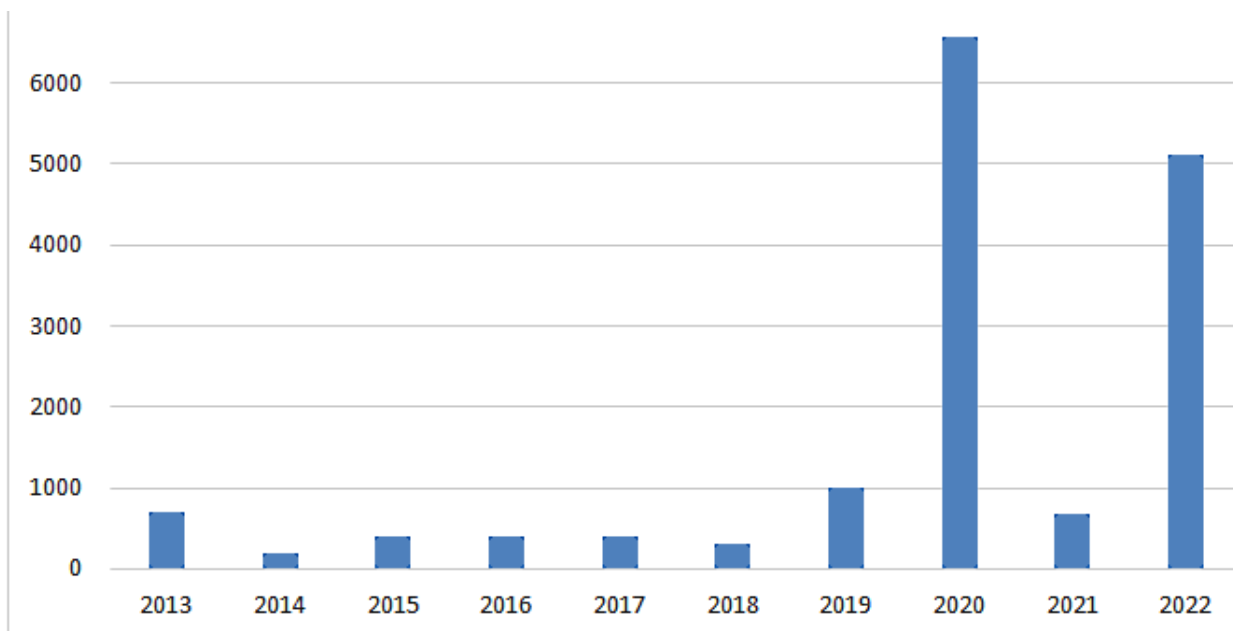
backyard producers have been hit the hardest, and economic factors such as outdated tillage equipment, lack of skilled labor and low irrigation exacerbate the drought's impact.

Among the natural exceptional situations presented in Figure 8, which occurred in the Republic of Moldova in the period 2013-2022, were dangerous meteorological, hydrological and agrometeorological phenomena, such as: rime, drought, heavy rains with hail, frosts and severe blizzards. The material damage resulting from exceptional events is shown in Figure 9.



**Figure 8.** Number of exceptional natural situations (comparison by year)

**Source:** Analysis of statistical indicators General Inspectorate for Emergency Situations of Ministry of Internal Affairs<sup>16</sup>



**Figure 9.** Distribution of material damage following calamities/disasters natural, million lei

**Source:** Analysis of statistical indicators General Inspectorate for Emergency Situations of Ministry of Internal Affairs<sup>17</sup>

<sup>16</sup> Analysis of statistical indicators, IGSU, 2022

<sup>17</sup> Analysis of statistical indicators, IGSU, 2022

## 2.7. Sustainable development and the green economy

Sustainable development is the way in which human society develops to meet the needs of the present generation without affecting the standard of living and quality of life of future generations. Thus, each generation must aim to meet its own needs without leaving to future generations: financial debts – large, external and internal, long-term loans; social debts – neglect of investments in the human factor; demographic debts – through the uncontrolled growth of the population or ecological debts – depletion of natural resources or soil, water and air pollution.

Economic development in the Republic of Moldova has been based on the linear economy model, a type of economy based on the “produce-use-dispose”. This type of economy in which the natural resources and energy incorporated in raw materials and finished products are sooner or later disposed of, thus causing an increasing environmental degradation.

Our country has been focused on exploiting subsidized fossil energy resources imported to produce electricity, inefficient and irrational use of natural assets, especially water resources, and neglect of environmental externalities. Therefore, the country’s biggest challenge is to integrate environmental sustainability in the context of economic growth.

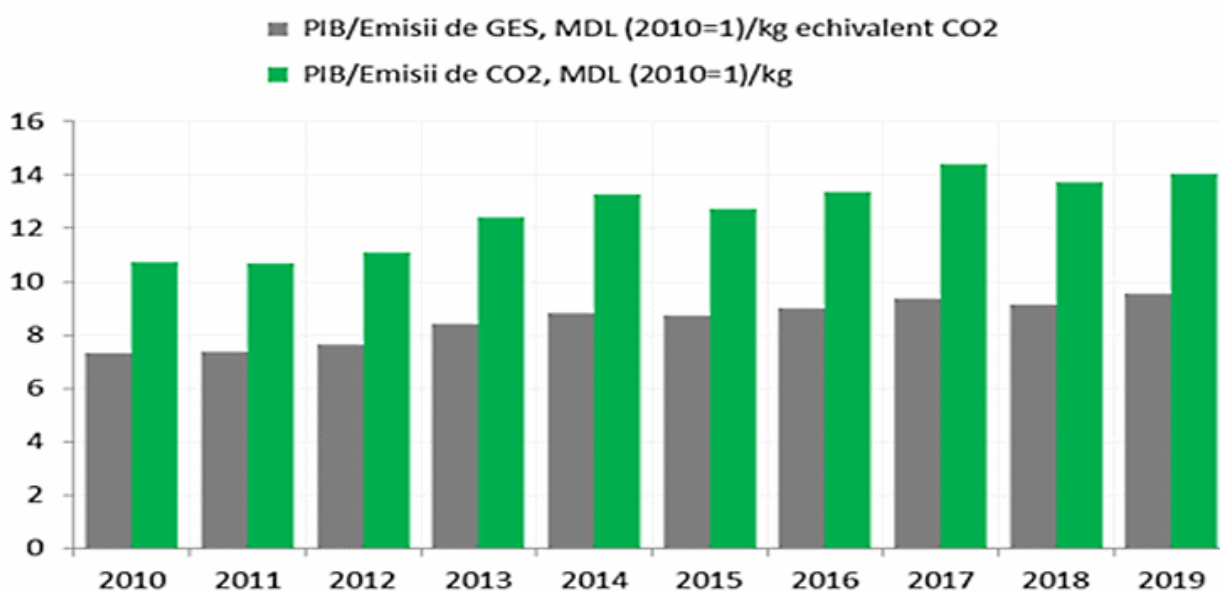
The concept of the *green economy* is not a substitute for sustainable development, but there is growing recognition of the interconnection between sustainability and the green economy. This implies low carbon emissions, efficient use of natural resources and social inclusion. In this context, income growth and employment are influenced by public-private investments, which reduce carbon emissions and environmental pollution and, respectively, increase energy efficiency and the rational use of natural resources, prevent biodiversity loss and degradation of ecosystem services.

As a result of the commitments undertaken by our country, significant steps have been taken over the past few years to promote sustainable development and establish the national institutional framework for coordinating the transition to green economy. The level of implementation of these policies has been assessed through a set of green growth indicators and included in the national reports on Moldova’s green transition (2017, 2021).

Existing economic development policies provide little space for integrating green economy principles and addressing possible environmental problems associated with increasing the “greening” potential of enterprises. Similarly, other sectorial policies do not prioritize and mainstream environmental protection and sustainable development principles, do not include provisions on the green economy, and there are no short-term actions with clearly established monitoring indicators and planned financial sources.

One of the main green economy indicators is CO<sub>2</sub> productivity, which reflects the correlation between CO<sub>2</sub> emissions and economic dynamics. In the Republic of Moldova, after 2010, the relatively steady development of greenhouse gas emissions, including CO<sub>2</sub>, has been accompanied by a rise in GDP. Consequently, CO<sub>2</sub> productivity increased and economic growth decoupled from CO<sub>2</sub> emissions, as shown in Figure 10. Despite this progress, the level of CO<sub>2</sub> productivity in the Republic of Moldova remains rather low compared to other European countries.

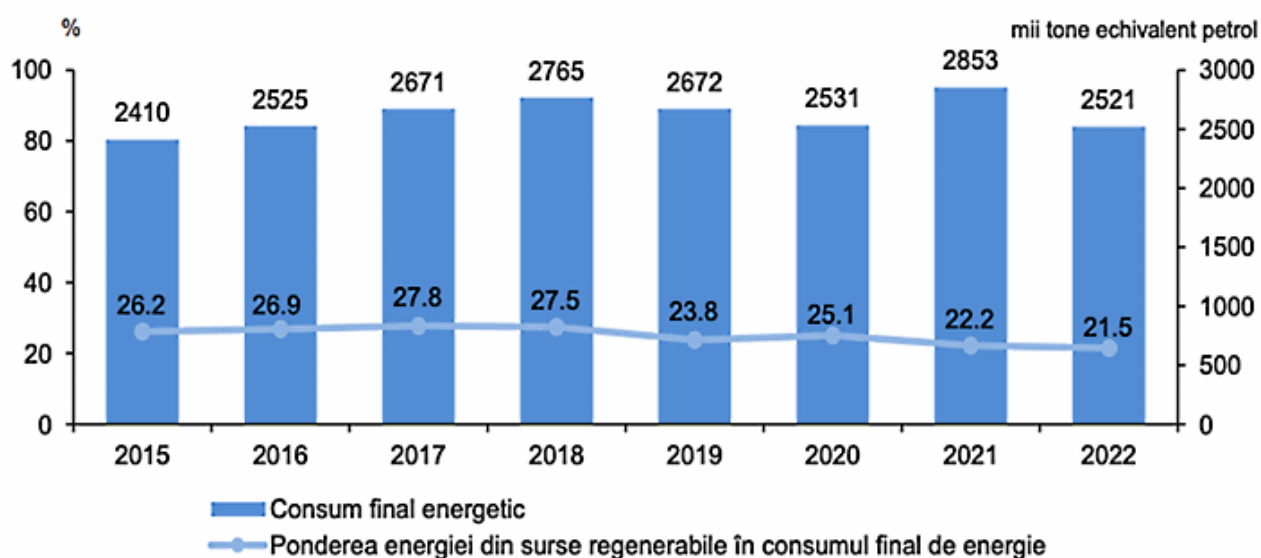




**Figure 10.** GHG and CO<sub>2</sub> productivity in the Republic of Moldova

**Source:** National report on Moldova's green transition

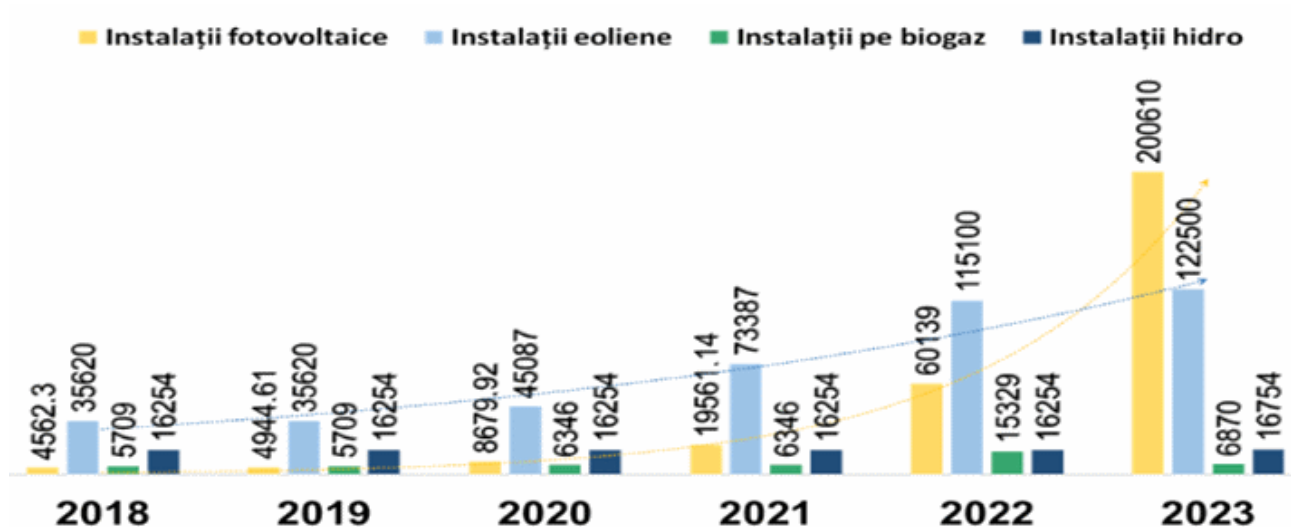
Another important indicator of the green economy is the share of renewable energy in final energy consumption. In 2022, the share of renewable energy in final energy consumption amounted to 21.5%, with biomass used for heating in rural areas being the predominant source. An evolution of the share since 2015 is shown in Figure 11. It should be noted that as a result of the 2<sup>nd</sup> survey on energy consumption in households carried out by the National Bureau of Statistics, the shares of renewable energy in final energy consumption have been revised for the years 2019-2021. At the same time, in recent years there has been an increase in installed capacity for electricity generation from renewable sources, at the end of 2023, the total installed capacity constituted 346.76 MW compared to 61.6 MW at the end of 2018, as shown in Figure 12.



**Figure 11.** Share of renewable energy in final energy consumption

**Source:** Energy Balance of the Republic of Moldova, edition 2023<sup>18</sup>

<sup>18</sup> [https://statistica.gov.md/files/files/publicatii\\_electronice/balanta\\_energetica/Balanta\\_energetica\\_editia\\_2023\\_rom.pdf](https://statistica.gov.md/files/files/publicatii_electronice/balanta_energetica/Balanta_energetica_editia_2023_rom.pdf)



**Figure 12.** Evolution of installed RES capacities in the Republic of Moldova, kW

**Source:** National Center for Sustainable Energy<sup>19</sup>

In terms of promoting and raising awareness of the principles of sustainable development and the green economy, insufficient measures are being implemented among the public. Only a small share of the population, business and civil society are aware of the principles of the green and circular economy, how sustainable consumption of natural resources should be organized, and the economic, social and environmental benefits resulting from the implementation of these principles.

<sup>19</sup> <https://cned.gov.md/ro/content/capacitati-instalate>

# Chapter III

## VISION AND OBJECTIVES

### 3.1. Strategy vision and strategic objectives

The vision of the Strategy focuses on improving the quality of the environment and rationalizing the use of natural resources. Thus, by 2030, the dimensions of environmental quality in the Republic of Moldova will be tangibly and sustainably improved, in line with the European aspirations set out in the Republic of Moldova - EU Association Agreement. At the same time, one of the general objectives of the cooperation between the EU and the Republic of Moldova, as stated in the provisions of the Republic of Moldova - European Union Association Agenda, is the commitment to fulfill the global policy objectives, including the Paris Agreement on climate change and the implementation of the 2030 Agenda for Sustainable Development with its 17 Sustainable Development Goals.

Increased environmental quality will be based on several key elements such as: transparent, inclusive and effective environmental governance, minimized environmental impacts and efficient and responsible use of natural resources. These desiderates will ensure that pollution of environmental components is reduced, vulnerabilities to climate change threats are diminished, environmental security is enhanced so that citizens, irrespective of age, gender, ethnicity or religion, feel protected and confident that the air is clean, water is safe to use, food is safe to eat, natural resources are used wisely and pollution is kept under strict control.

### 3.2. General objectives and priority directions

The overall objectives of this Strategy are reflected in such a way as to cover the most important areas of the environmental protection and natural resource use sector such as: environmental governance; quality, protection and management of water resources; air quality and protection; quality and protection of soil and subsoil; conservation of biodiversity and natural ecosystems; waste and chemicals management; climate change mitigation and adaptation; promotion of the green economy and responsible consumption of natural resources. Each individual objective sets out priority directions of action in order to ensure the achievement of the overall objective, which will then be developed into specific programs and action plans.

The general objectives of the Strategy are formulated in line with the specific general objectives of the NDS that are related to the field of environmental protection and climate change, such as:

**General Objective 7.** Ensure effective, inclusive and transparent governance with specific objectives:

7.1. Building a public administration with integrity, accountable, efficient, transparent and open for citizens' participation in decision-making processes;

7.2. Focusing public services on people's needs;

7.3. Integrating science, technology and data in governance process;

7.4 Ensuring civil and political rights and freedoms, including freedom of expression, assembly and association, the right to information and the right to elect and be elected.

**General Objective 10.** Ensure a healthy and safe environment with specific objectives:

- 10.1. Improving water, air and soil quality;
- 10.2. Sustainable increase of forests and protected areas;
- 10.3. Ensuring responsible consumption of natural resources;
- 10.4. Active transition to the green and circular economy.

The priority directions set out in these goals are intended to contribute to achieving fully or partially by 2030, seven of the 17 Sustainable Development Goals (SDGs) through their strategic targets:

### **SDG 1: Eradicate poverty in all its forms and in all contexts**

**Target 1.5.** Build the resilience of the poor and vulnerable and reduce their exposure and vulnerability to climate-related extreme events, including drought and floods.

### **SDG 6: Ensure availability and sustainable management of water and sanitation for all**

**Target 6.3.** Improve water quality by reducing pollution, eliminating waste discharges and minimizing the disposal of chemicals and hazardous materials, reducing the proportion of untreated wastewater, and substantially increasing the degree of recycling and safe reuse;

**Target 6.4.** Substantially increase water use efficiency in all sectors and ensure sustainable abstraction and delivery of drinking water;

**Target 6.5.** Implement integrated water resources management at all levels;

**Target 6.6.** Protect and restore water-related ecosystems, including forests, wetlands, rivers, aquifers and lakes;

**Target 6.a.** Strengthen the capacities of the country, with the help of international cooperation and external support, to implement water and sanitation related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

### **SDG 12: Ensure sustainable consumption and production patterns**

**Target 12.2.** Achieve sustainable management and efficient use of natural resources;

**Target 12.4.** Establish integrated waste and chemicals management systems that contribute to a 30% reduction in landfilled waste and a 20% increase in recycling rates;

**Target 12.5.** Significant reduction of waste generation through prevention, reduction, recycling and reuse, especially at municipal level.

### **SDG 13: Take urgent action to combat climate change and its impacts**

**Target 13.1.** Strengthen resilience and adaptive capacity to climate-related risks and natural disasters;

**Target 13.2.** Integrate climate change measures into national policies, strategies and plans;

**Target 13.3.** Strengthen the institutional framework in the field of adaptation to climate change, ensuring awareness of all actors involved, including the population, of climate change risks and adaptation measures.

## **SDG 14: Conserve and sustainably use of oceans, seas and marine resources for sustainable development**

**Target 14.1.** To prevent and significantly reduce pollution of surface waters, especially from land-based activities.

## **SDG 15: Protecting, restoring and promoting the sustainable use of terrestrial ecosystems, sustainable forest management, combating desertification, stopping and reversing land degradation and mitigating biodiversity loss**

**Target 15.1.** Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests and wetlands;

**Target 15.2.** Promote the implementation of sustainable management of all types of forests, mitigate deforestation, restore degraded forests and significantly increase afforestation and reforestation;

**Target 15.3.** Combat desertification, restore degraded lands by implementing the Land Degradation Neutrality (LND) mechanism to achieve a land degradation neutral world;

**Target 15.5.** Take urgent and significant action to reduce the degradation of natural habitats, combat biodiversity loss, protect and prevent the extinction of threatened species;

**Target 15.9.** Integrate biodiversity and ecosystem values into national and local planning, development processes, strategies, poverty reduction plans and land-use plans.

## **SDG 16: Promote peaceful and inclusive societies for sustainable development, access to justice for all and effective, accountable and inclusive institutions at all levels**

**Target 16.6.** Develop the efficiency, accountability and transparency of institutions at all levels;

**Target 16.7.** Ensure responsive, inclusive, participatory and representative decision-making at all levels.

The Strategy aims to accelerate the green transition in an equitable and inclusive way by pursuing **eight overarching objectives**, accompanied by priority directions as follows:

### ***General Objective 1. Developing a transparent, effective, inclusive and sustainable environmental governance system that ensures compliance with environmental protection requirements***

Good environmental governance starts with the application of the rule of law, in which environmental authorities, business, civil society fully respect the legal framework, and decisions and regulations are approved in strict accordance with the procedures established by law and are implemented impartially. Thus, environmental administrative reform is a precondition for the promotion of quality environmental protection policies and reforms envisaged in the NDS and for the implementation of the commitments undertaken in national and international strategic documents.

The development of the environmental governance system aims to create a modern, professional public administration, oriented towards the provision of quality public services, in line with the needs and expectations of the people and business. To this end, the administrative authorities and public institutions in the field will be made accountable

for an efficient management of public resources; the decision-making process will be transparent, ensuring its coherence, efficiency and predictability; the quality and efficiency of environmental public services will be improved in line with the needs and requirements of the beneficiaries, through digitalization, improved environmental compliance and environmental policy implementation.

This can be achieved by implementing the following priority directions:

**Priority direction 1.1.** *Developing and strengthening institutional capacities in the field of environmental protection, continuity of institutional reform*

The quality of the environmental governance system is a key catalyst for the implementation of environmental legislation. Although needs differ from one system to another, improvements cannot be made without ensuring the necessary institutional capacity, human and financial resources and capacity of the relevant authorities. Therefore, it is necessary to undertake actions to finalize the institutional reforms in the field of environment, initiated in 2018, aimed at increasing the environmental compliance potential of the institutions (Environment Agency, Environmental Protection Inspectorate (EPI), reorganizing and reforming the authorities managing natural resources (in particular the state forest fund – Agency “Moldsilva”), water fund – Agency “Apele Moldovei”, useful mineral resources – Agency for Geology and Mineral Resources, increasing and developing the potential of Public Institution National Office for the Implementation of Environmental Projects by attracting investments and quality implementation of environmental projects, both from external sources and from the National Environmental Fund. It is imperative to institutionalize aspects of policy implementation in the field of chemicals, in the field of management of state protected natural areas and waste, including hazardous waste.

Thus, the environmental institutional reform will aim at respecting the principle of clear delineation of the functions of policymakers, policy implementation, implementation control, natural resource management/ administration and environmental monitoring and information, in order to avoid duplication of functions and reduce potential conflicts of interest. This will consist of:

- 1) Founding the *Public Institution “State Protected Natural Areas” Administration*, which will ensure the management of the nature reserves “Codrii”, “Pădurea Domnească”, “Plaiul Fagului”, “Lower Prut” Biosphere Reserve, Orhei National Park, as well as other state protected natural areas;
- 2) Reorganization of Agency “Apele Moldovei”, with water resources and hydro-technical constructions management functions, into the *Public Institution “Apele Moldovei” Administration*;
- 3) Reorganization of Agency “Moldsilva” into the *Public Institution “Forests of Moldova” Administration*, with the integration of forestry enterprises into it: Chişinău, Bălţi, Călăraşi, Comrat, Edineţ, Glodeni, Hînceşti-Silva, Nisporeni-Silva, Silva-Sud Cahul; Silva-Center Ungheni, Iargara, Orhei, Teleneşti, Soroca, Şoldăneşti, Tighina and the forestry and hunting enterprises Cimişlia, Taraclia, Străşeni, Silva-Răzeni, with forest and hunting management functions;

- 4) Reorganization of *the State Hydrometeorological Service* into the *Public Institution "Authority for Meteorology and Environmental Monitoring"*, by concentrating within it all environmental monitoring and environmental information management functions held by the Agency "Apele Moldovei", Agency "Moldsilva", Agency for Geology and Mineral Resources, Environmental Agency, "Hydro-geological Expedition of Moldova";
- 5) reorganization of the *Environment Agency* by absorbing the Agency for Geology and Mineral Resources and by assigning to the responsibility of the reorganized Agency the functions of implementation of policies in the field of chemicals. Also, in the process of reorganization, the functions of coordinating the implementation of water protection policies of Agency "Apele Moldovei", forest and hunting protection of Agency "Moldsilva", the functions of field verification of the documentation related to the process of issuing permits, performed by the EPI, will be transferred to the Environment Agency.
- 6) The implementation of institutional reforms will take into account the capacities of the environmental institutions that correspond to the assigned responsibilities, in particular in terms of human resources, technical equipment and financial resources. These capacities will also be kept under constant review as new legal provisions are approved, continuous professional development and career development opportunities will be made available.

**Priority direction 1.2.** *Continuous development and improvement of the normative and policy framework in the field of environmental protection and climate change in line with the commitments undertaken in the framework of the Republic of Moldova-EU Association Agreement and measures aimed at preparing the country for EU accession*

The dynamic process of development and amendment of the European legislation, the recent update of the Association Program between the Republic of Moldova and the European Union 2021-2027 impose the need to continue the activities of development of the national environmental regulatory framework and its harmonization with the new directives and regulations included in the Agenda and with the amendments of the EU legislation. Therefore, the activity of development and improvement of the environmental regulatory framework will continue and will focus on several main aspects, namely:

- ▶ new draft normative acts will be elaborated and approved for areas where regulations are lacking or outdated, such as: climate action, forest fund management, management of state protected natural areas, regulation of fluorinated greenhouse gases, environmental liability, hydrometeorological activity, radiological safety, public waste management service, waste disposal, etc.;
- ▶ the existing environmental regulatory framework will be reviewed with a view to modifying it in line with new European requirements, eliminating divergences, overlaps and including missing provisions;
- ▶ implementation mechanisms for the newly approved regulatory framework on atmospheric air quality, regulation of genetically modified organisms, industrial emissions, environmental impact assessment (regulations, methodologies, instructions and guidelines), etc, will be developed.

In parallel with the environmental regulatory framework, the development of a new strategic and policy framework for the environment will be initiated. Therefore, the implementation of the specific objectives and priority action of this Strategy will require the development of programs and action plans for each of the environmental fields: air protection, waste management, chemicals management, soil use and conservation, nature and biodiversity conservation, afforestation, water quality management and improvement, climate change, etc. Furthermore, environmental concerns will be promoted in the processes of developing and implementing policy documents, such as those in the fields of energy, transport and agriculture. Finally, stepping up efforts to ensure full implementation and enforcement of the environmental policy and regulatory framework by all relevant actors and adequate financial provision are essential.

### **Priority direction 1.3.** *Developing the environmental assessment system*

An effective Strategic Environmental Assessment and Environmental Impact Assessment system would directly contribute to the country's sustainable development by integrating environmental protection requirements into economic development and mainstreaming green economy objectives into decision-making. The amendments included at the end of 2022 in the regulatory framework on environmental impact assessment (hereinafter – *EIA*) and strategic environmental assessment (hereinafter – *SEA*), as well as the repeal of the system of ecological expertise, are the first results of the process of streamlining the environmental assessment system and bringing it in line with the provisions of *Directive 2014/52/EU of April 16, 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment*. Thus, the implementation of these provisions, the adjustment of the regulatory framework to the approved amendments, the development and approval of guides and instructions in support of the implementation of EIA and SEA, capacity building of the factors involved in the implementation of the assessment processes are imperative actions in this direction. The proposed goal of developing and streamlining the environmental assessment system concerns the effectiveness of administrative procedures and aims to be achieved through the following actions:

- 1) clarifying the prior assessment procedure by modifying the applicable criteria and specifying the content and justification of the decisions taken by the Environment Agency following the screening stage. These clarifications should ensure that EIA procedures are carried out only for projects that would have significant environmental effects, avoiding unnecessary administrative burden for small-scale projects;
- 2) Clarifying the information required to be submitted in the environmental impact assessment process, simplifying its form and content and ensuring the quality of the data provided/collected in the assessment reports;
- 3) Clear regulation of the procedures for public consultation and participation in the environmental assessment process, ensuring public access to the environmental assessment process, starting from the earliest stage of assessment (EIA/SEA).

At the same time, new elements of European environmental assessment systems will be implemented, such as:

- 1) Application of biodiversity assessment/appropriate assessment in EIA and SEA procedures to assess the significant adverse effects of planned activities, project plans and programs on biological diversity within the Emerald Network;



- 2) Elaboration of a methodology for the calculation of the fee to be paid by the initiator of the activities for the issuance of the Environmental Permit;
- 3) creation and operation of Technical Expert Commissions in order to ensure the quality of the EIA/SEA report and the final decision taken by the competent environmental authority.

**Priority direction 1.4.** *Streamlining the environmental permitting system*

In parallel with the environmental assessment system, the environmental permitting system will also be streamlined by continuing the process initiated in 2018, when the Environment Agency was created and empowered with the function of issuing environmental permits and the EPI was reformed. Bearing in mind that the process of concentrating all permitting functions within the newly created authority has not been completed, efforts in this direction will be intensified so that a new, qualitative model of public administration in the process of applying for and issuing environmental permitting acts will be developed, which will place the enforcement of applicants' legal rights and interests above the interests of the issuing authority.

In order to achieve this goal, the Environment Agency will continue the activities to improve the implementation of single window solutions in order to exclude the practice of direct interaction of specialists with applicants for environmental permits. This single window will be supported by digitalized processes, accessible and functional information systems, so as to ensure the elimination of institutional barriers, the reduction of unnecessary administrative burdens and the minimization of costs for both the beneficiaries and the Environment Agency. Also, new tools for interaction and cooperation between the authorities involved in the regulatory process will be developed in order to efficiently organize and deliver permitting services to citizens and businesses, including remotely option.

The permitting process is to be guided by appropriate informational tools for all aspects of environmental regulation, which will be made available to applicants or will be targeted to focus groups. Therefore, procedures and processes described for all types of environmental permit documents will be updated, if necessary, elaborated, whereby all stages, conditions of application, issuance, refusal of issuance, suspension and resumption of validity, review, extension of validity, withdrawal, cancellation of permit documents, all application forms, lists of required documents, as well as other relevant information, as provided for by Law no. 234/2021 on public services, will be exhaustively set out.

The revision and elaboration of the regulatory framework, which controls the permitting processes, will be carried out in order to eliminate divergences and overlaps, simplify the list of documents required for submitting applications, optimize the permitting process, provide incentives to the business environment to encourage compliance. The content of the permit documents will also include obligations for self-monitoring by their holders of the emitted pollutants, the generated waste and the monitoring of environmental impact. Particular attention will be paid to the reporting of monitored data to the Environment Agency and the establishment of costs for permit documents on the basis of approved methodologies, etc.

Another important aspect for improving the efficiency of the authorization system is the implementation of the differentiated permitting regime based on the pollution potential or environmental impact, under the conditions of Law no. 227/2022 on industrial emissions: *integrated environmental permits* – for activities or installations with significant pollution, and the *environmental permits* – for activities with medium or low pollution and *general mandatory rules* – for activities with insignificant pollution. For all these cases, it will be necessary to develop clear instructions, guidelines, formats and content of the acts to be issued, standards and instructions on how to use Best Available Techniques and Technologies (BAT).

**Priority direction 1.5.** *Developing the system of monitoring (control) of compliance with environmental legislation, quality of environmental factors and self-monitoring*

Environmental Authorities responsible for environmental compliance are about to undertake several actions to develop compliance monitoring tools to collect information on compliance levels and provide appropriate evidence for compliance. There are two basic approaches to such tools: one is related to the analysis of authorized activities through means such as inspections, anti-poaching raids, and the other involves tracking the state of the environment and the pressures on it.

*Making environmental inspections more efficient.* There are two main directions for making the environmental inspection system more efficient, one directed towards the development of specific regulations in the field of environmental inspections and the other towards the development of EPI's capacities to effectively implement these regulations.

With reference to the first direction, environmental authorities need to develop and approve technical rules on the organization and conduct of environmental control and inspection activities, setting out the types of environmental inspections, the planning processes based on risk criteria, the frequency and stages of inspections, the general criteria for environmental inspections, as set out in the Recommendation of the European Parliament and of the Council 2001/331/EC providing for minimum criteria for environmental inspections in the Member States. A continuous optimization of the inspection planning is necessary with a better application of the risk assessment methodology, for this purpose emphasis will be put on the establishment of Registers of controlled objects, developed separately for each specific control area, constantly updated, with the risk class resulting from the risk assessment for these objects. The necessary amendments will also be made to the relevant regulatory framework in order to regulate the types of environmental inspections and controls, specifying those that fall under Law no. 131/2011 on State control of entrepreneurial activity and those that are exempted of it.

For this purpose, it must be ensured that the types of inspections listed below are not carried out on the basis of Law nr. 131/2011, but are regulated by special environmental acts. These acts must also establish a procedure for keeping records of inspection reports/ recording of findings by setting up special registers, as well as annual reporting on the inspection activity carried out and ensuring public access to this data. Types of inspections that shall be carried out according to described procedure are as follows:

- ▶ inspections to verify the way of compliance with the conditions imposed in the permitting acts, inspections as a result of the EPI's self-reporting in order to verify and stop detected non-compliances and to apply the contravention sanctions;

- ▶ inspections to resolve complaints/petitions, to verify reported issues and to impose measures to stop actions that have led to non-compliance with legal requirements;
- ▶ inspections to investigate incidents or accidents, which have had a significant impact on the environment (in the case of occurrence of breakdowns, incidents, accidental pollution or major accidents);
- ▶ inspections of new sites which are not yet registered, and which involve inspection of compliance with environmental protection legislation and incorporation in the Register of Controlled Sites;
- ▶ inspections to control the implementation of the measures imposed (prescriptions) during previous controls, as well as for compliance with the suspension/cancellation of the permit documents;
- ▶ joint inspections carried out at the request of other authorities, etc.,

In terms of institutional capacities, in order to ensure quality and efficient inspections, it is necessary to equip the EPI and its territorial subdivisions with the appropriate tools and equipment, to strengthen human and professional capacities, to provide training in the field of inspections, to ensure the integrity and anti-corruption measures through inspectors rotation in order to avoid constant controls at the same objectives, to ensure the EPI's 24/7 response capacity to alerts and environmental incidents.

Particular attention will also be paid to developing the civil society monitoring system. Citizens, the voluntary environmental inspectors provide valuable information on actions with an impact on the environment, which can help environmental authorities to perform their functions better. There is a need for action to regulate the work of *voluntary environmental inspectors*, to strengthen their role and active participation in the process of environmental compliance, to develop a mechanism to ensure that the responsible authorities take urgent action to deal with environmental problems alerted by them, by citizens and civil society, and to monitor the status of environmental alerts and complaints and the remedial measures taken. This mechanism should contain guidance on how authorities can best respond to citizens' complaints, be documented and publicly supported by an electronic system for sending, registering, reporting and responding to environmental complaints. Furthermore, establishing of a mechanism for collaboration between EPI, the Environment Agency and other authorities, such as the police and emergency services, would facilitate the urgent involvement of their representatives in identifying non-compliances and implementing mechanisms to respond to non-compliances. This mechanism would provide incentives for the individuals who report violations to increase their activism and involvement in the fight against poaching.

#### *Development of the system for monitoring the state and quality of the environment.*

The system for monitoring the state and quality of the environment needs to be continuously modernized and developed by targeting significant investments in this direction. In order to evaluate the investment needs in this regard, an assessment of the functionality of the existing environmental monitoring system will be carried out and the development

directions will be identified. Based on this assessment study, a *Program for the Development of the Integrated Environmental Monitoring System* will be elaborated, which will establish:

- 1) environmental monitoring indicators correlated with indicators monitored by the European Environment Agency, green growth indicators, nationally targeted SDG indicators, etc.;
- 2) mechanisms for monitoring pollutant emissions to air, water, soil, waste transfer;
- 3) systems for recording and monitoring natural resources (plants, animals, state protected natural areas, green spaces, habitats, etc.);
- 4) applicable quality standards for the Republic of Moldova;
- 5) the needs for development, automation and improvement of the environmental quality monitoring networks for each environmental component;
- 6) the costs required to develop and maintain monitoring systems.

The development needs, which must necessarily be reflected in the program, will be oriented towards:

- 1) development of the water quality monitoring network, in particular for transboundary waters (mobile laboratories, automatic water quality monitoring stations on the Dniester, Prut and other rivers and lakes in their catchment basins, information systems for automated data collection and processing, etc.);
- 2) creation and development of the atmospheric air quality monitoring network (purchase and installation in areas and agglomerations of automatic air quality monitoring stations with the installation of outdoor electronic panels for informing the public about air quality in real time, as stipulated by Law no. 98/2022 on atmospheric air quality);
- 3) developing Environmental Reference Laboratory (ERL) capacities to automate environmental quality monitoring processes, including:
  - a) technical and material resources (reagents and equipment) in order to ensure the extension of the scope of accreditation;
  - b) construction and commissioning of the Waste Laboratory within the ERL to ensure waste streams monitoring;
  - c) purchase of mobile laboratories for carrying out operational laboratory investigations on the pollution level of environmental components, including in case of major accidents.

Particular attention will be directed for the improvement of the pollutant emission self-monitoring systems implemented by economic entities, with a focus on compliance with obligations to install automated emission monitoring equipment or to contract accredited laboratories to provide periodic monitoring services. Self-monitoring and record-keeping of environmental data by economic entities with environmental reporting obligations has benefits for both, economic entities and responsible environmental authorities, thus being possible to make an important contribution to compliance. Therefore, dedicated actions are needed to strengthen these processes, in particular by including/revising or adjusting the self-monitoring, record-keeping and reporting obligations in all legal acts

regulating environmental fields, as well as in the permitting acts issued by the Environment Agency. Instructions and guidelines are also to be drawn up for the documentation of these processes, including digital solutions for record-keeping and reporting to the Environment Agency.

**Priority direction 1.6.** *Capacity building in the field of environmental reporting and environmental data production and management*

Environmental reporting is carried out at two levels: reporting by economic entities to the Environment Agency and reporting by the Environment Agency to central public authorities, international organizations and civil society. Concerning the reporting of economic operators, both the Environment Agency and the EPI will promote more intensively among them the need to apply the tools developed to facilitate reporting, in particular in the field of waste management through the Automated Information System “Waste Management” ([www.retp.gov.md](http://www.retp.gov.md)) and of pollutant emissions from the activity carried out through the Automated Information System “Pollutant Release and Transfer Register”. To facilitate this process, the systems will be continuously updated, improved and developed; and specific guidebooks and counselling will be developed and made available. It is also necessary to digitalize the reporting processes in other environmental areas such as: placing on the market and use of chemical substances and products, water use, extraction of useful mineral resources, soil use, by developing electronic solutions or ensuring the functionality and full use of those already developed such as: the Automated Information System “Register of Chemical Products Placed on the Market of the Republic of Moldova”, Automated Information System “State Water Cadastre”, Automated Information System “State Geological Register”, etc.

Therefore, the further development of mechanisms for collecting environmental data and information, with an emphasis on digitalization of processes (inventories, questionnaires, record systems, cadastre, registers), including for the areas of management of animal and plant species, must be included in the list of priorities set in the field of environmental protection.

Finally, there is a need to implement tools for quality check and validation of data submitted by data providers, quality assurance and quality control of reported data.

Therefore, the further development of environmental reporting and data management processes will greatly contribute to improving the process of assessing progress in achieving environmental policies and objectives, producing and sharing open data and environmental information, producing and developing indicators relevant to the environmental sector and, last but not least, to improvement of environmental reporting in line with national and international obligations.

All these actions will be successful under the conditions of developing collaboration between different national actors for the implementation of open data for the collection, production, distribution, exchange, use, re-use and publication of environmental information, as well as of increasing cooperation at international level, with international environmental agencies, the European Environment Agency, EUROSTAT, the European Environment Information and Observation Network (EIONET), the European Union Earth Observation Program (Copernicus), the INSPIRE portal, etc. The actual actions in this respect will be carried out

in line with the Roadmap on Open Environmental Data Maturity<sup>20</sup>, developed with the support of the European Environment Agency.

**Priority direction 1.7.** *Developing mechanisms to respond to non-compliances detected through monitoring*

The Republic of Moldova needs to establish an efficient and effective mechanism for responding to environmental non-conformities that will contribute to:

- 1) stopping a non-compliance as soon as possible;
- 2) preventing, limiting and/or remedying damage to the environment or human health;
- 3) deterring and preventing future non-compliance;
- 4) applying the “polluter pays” principle and ensuring that non-compliance does not give an economic advantage to those responsible;
- 5) proper use of public funds.

To this end, the provisions of Directive 2004/35/EC of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage are to be transposed at national level to regulate the types of response to non-compliance, such as: administrative responses (verbal and written warnings, cease and improvement notices), financial penalties (fines), criminal sanctions, etc., as well as the situations in which they can be applied.

Preventive measures will also be taken to strengthen sanctions and penalties for environmental non-compliance by amending the Criminal Code and the Code of Contraventions to reflect values according to the real environmental damage and to eliminate the economic benefits of non-compliance. On the other hand, ways to streamline the procedures for appealing against sanctions for non-compliance with environmental legislation will also be identified.

The methodologies for assessing the damage caused to different environmental components by economic activities will be updated and adjusted to reflect the actual payments and costs required to compensate for this damage, in proportion to the impact caused. Tracking the degree of implementation of measures to repair/recover environmental damage is as important as tracking the degree of financial compensation for environmental damage.

The system of payments for environmental pollution will be fully reformed, the formulas for calculating pollution payments will be adjusted to take into account the real impact of pollution on the environment and consumer prices; a single rate for environmental pollution payments will be established for all localities in the country. Improvements will also be proposed in the use of the environmental payments collected by streamlining the procedures for managing the National Environmental Fund, by directing it to finance environmental programs according to priority and by increasing transparency in the formation and use of this Fund.

**Priority direction 1.8.** *Promote environmental compliance, environmental education, training and research. Ensure access to environmental information*

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<sup>20</sup> [https://data.europa.eu/sites/default/files/odm2023\\_report.pdf](https://data.europa.eu/sites/default/files/odm2023_report.pdf)

The implementation of environmental policies intersects with and depends on the active involvement of a wide range of public and private stakeholders, from decision-makers to citizens, business and industry, scientific and research authorities. Such a wide range of stakeholders can only be mobilized if relevant information on environmental projects, environmental requirements and obligations is effectively promoted and made available to them and if effective collaboration on environmental implementation is ensured. Without transparency, adequate information and promotion, trust is lost, and stakeholder mobilization is not achieved. Increasing transparency will improve knowledge, accountability, public involvement and scientific support.

*Information and promotion.* The environmental authorities intend to intensify its actions to inform the business community and civil society about national, regional and local environmental issues, environmental protection obligations and requirements to be complied with, measures taken and planned to be taken in this field, as well as to better exploit digital opportunities to improve transparency and promote compliance with environmental legislation.

There is a need to establish a permanent dialog between environmental authorities, civil society, the private sector and academia through:

- 1) opening green hot-lines and personalized advice;
- 2) the creation and application of tools for disseminating information to target groups, including the creation of a web portal or platforms for concentrating all available environmental information and the creation of an electronic Public Environmental Information Register;
- 3) delivering messages through different media channels, including the commercial press;
- 4) organization of information campaigns using modern technologies for communication and information regarding the authorization, monitoring, reporting and environmental protection measures obligations;
- 5) developing training programs for business and organizing more frequent training activities, meetings and working groups, thematic debates at all levels of management on the implementation of environmental legislation and regulations, conferences, workshops and meetings, which ensure the dissemination of information in the group and allow responsible entities to discuss with colleagues in the field, which carry out the same activities and understand their reactions.

*Environmental education and training* play a key role in helping citizens move from environmental awareness to individual and collective action to protect the environment. It is therefore essential to develop a lifelong learning and training approach to environmental education and to encourage collaboration between the education and training sectors. This will be achieved by supporting the formal education process with curricular and extra-curricular educational programs, by integrating environmental education themes or modules into all relevant subjects, curricula and courses, and by promoting ecology

and environmental protection subjects for compulsory or at least optional study in all educational institutions. Teachers and trainers will benefit from appropriate initial and further training, as well as opportunities to share their experience with other colleagues. This will build knowledge of the use of different educational methods (discussions, planning, scenarios, modeling, case studies, surveys, field trips and nature education). The capacities of educational institutions and further training and research centers in the field of environmental education need to be strengthened. In the process of environmental education and training, emphasis will be placed on practical examples, on moving from information to practical-informative activities such as: concrete activities of sanitation, nest-making, planting, care, protection, monitoring of natural processes in the garden, locality, region, etc.

Environmental awareness and sensitization are as important as environmental education. Environmental authorities and civil society need to do more to raise environmental awareness: planting, sanitation, competitions to attract as many people of all ages as possible.

*Access to environmental information.* Public authorities will ensure that environmental information is actively and systematically disseminated to the public, in particular through the use of electronic communication and/or information technology. Environmental authorities, however, have the most important role to play in this process and must progressively ensure the storage of environmental information in electronic databases, easily accessible to the public through digital solutions, and setting up the Electronic Register of Public Environmental Information. Equally important in this respect is the creation of a user-friendly web-based platform or access point for all available environmental information, representing the single shared environmental information system, interoperable with other national systems, including geospatial, statistical, health, etc. The official websites of environmental authorities will be developed and improved aiming to boost the accessibility and usability of available environmental data and information, by upgrading their multilingual appearance and by transforming published data into machine-readable formats.

*Scientific support.* In the development of a healthy society, in harmony with the environment, oriented towards education, knowledge and ability to respond to environmental challenges, an important contribution is also provided by the scientific support offered by fundamental and applied research in the field of environmental protection and climate change. Thus, the best solutions to environmental problems can only be found through research and innovation work that identifies and proposes the implementation of new non-polluting technologies, efficient processes and methods for recycling, reusing and reducing waste, solutions for the protection, improvement and sustainable use of natural resources, and adaptation to climate change.

The development of a complex and constantly updated scientific-methodological basis, innovations and technology transfer will contribute to increasing the synergy between research areas and the accelerated environmental changes caused by pollution and climate change, to the development of complex studies aimed at supporting projects, policy development, the acquisition of new knowledge and hypotheses, the development of new competitive products, technologies and services.



## ***General objective 2. Improving the quality of surface and groundwater, protection and sustainable management of water resources***

Water has been and remains to be a natural resource that determines the security and level of socio-economic development of any community, which is why governments develop policies and establish agencies, institutions with monitoring, management and control functions over water resources.

The national policy in this field is oriented towards ensuring the rational use of water, its protection against pollution, implementation of measures to prevent pollution, ensuring access to all users to safe water sources, strengthening transboundary cooperation for sustainable water management.

Water quality is greatly influenced by human activity. The problem of water pollution as a result of approval for the development of economic activities, which do not have pre-treatment plants, which do not meet environmental requirements and which do not yet foresee at the planning stage the necessary measures to be taken to ensure the protection of water resources – all these result in irreversible damage to the environment and human health.

On the basis of the commitments undertaken under the Republic of Moldova-EU Association Agreement, it is proposed to give special emphasis to measures to protect water resources (ensuring treatment according to established standards), prevention and management of drought, floods, nitrate pollution (from agricultural sources) and nutrients (from wastewater discharge), etc., by incorporating these issues into the management programs of river basin districts.

In order to achieve the specific objective, the document proposes two priority directions of action:

**Priority direction 2.1.** *To improve water quality by reducing pollution, eliminating waste discharge and minimizing the disposal of chemicals and hazardous materials, reducing the proportion of untreated wastewater by implementing measures to prevent, mitigate and control pollution of water resources as well as:*

- ▶ reducing the pollution of water resources through the construction/rehabilitation of wastewater treatment plants, including pre-treatment facilities by economic operators;
- ▶ identifying unauthorized waste landfills and eliminating them;
- ▶ identifying and eliminating of pollution sources in agricultural households (pesticide and fertilizer stocks, sources of nitrates, nitrites, etc.);
- ▶ minimizing the discharge of chemicals and hazardous materials and untreated wastewater into the environment;
- ▶ increasing the proportion of treated wastewater and substantially increasing the safe reuse of treated wastewater;
- ▶ building sewerage systems and treatment facilities and ensuring access to sanitation;
- ▶ reducing microplastics released into the environment;

- ▶ ensuring compliance with the sanitary protection zones of water intakes in accordance with the provisions of the regulation on sanitary protection zones of water intakes;
- ▶ constructing of decentralized sanitation systems with the application of wastewater collection and treatment solutions in rural settlements.

**Priority direction 2.2. Sustainable use of water resources**

On the basis of the commitments undertaken in the framework of the Republic of Moldova-EU Association Agreement, as well as the provisions of Directive 2000/60/EC on establishing a framework for Community action in the field of water policy, which are partially transposed into the legislation of the Republic of Moldova, it is proposed to pay particular attention to measures for the protection of water resources (ensuring treatment according to recognized standards), prevention and management of drought, floods, nitrates pollution (from agricultural sources) and nutrients (from wastewater discharge), etc., by incorporating these issues into the river basin district management programs (the Dniester River Basin District Management Plan, approved by Government Decision no. 814/2017, the Danube - Prut and Black Sea River Basin District Management Program, cycle II (2023-2028), approved by Government Decision no. 444/2022), as well as some management programs of the small river sub-basin (such as: r. Lapusna, r. Frumoasă-Crihana).

The key proposed measures include the following:

- ▶ monitoring the implementation of the river basin and sub-basin management programs based on the indicators of the approved programs;
- ▶ improving bilateral cooperation and increasing capacities for joint monitoring of the Dniester and Prut rivers;
- ▶ data record and management on water resources according to European standards through the functioning of the Automated Information System "State Water Cadastre", approved by Government Decision no. 491/2019;
- ▶ improving the process of monitoring the quality of water bodies and properly assessing the impacts of human activities on the resource;
- ▶ carrying out rehabilitation and development works on small and medium-size rivers;
- ▶ protection and continuous monitoring of the identified protected areas to ensure prevention of water quality deterioration, maintenance and conservation of the species living in these areas, reduction of pollution levels, improvement of water quality and minimization of anthropogenic impacts in these areas;
- ▶ performing quantitative and chemical groundwater monitoring, which will provide information on the content and input of pollutants, the volumes of water abstracted and groundwater recharge, the status of protection zones of artesian wells and boreholes.

**General Objective 3. Improving air quality and air protection**

The need to protect atmospheric air requires the development of necessary measures to reduce emissions of pollutants at source, the directions of action being oriented towards preventing and reducing the impact of air pollution on the components of the environment and human health, as well as for the fulfillment of the commitments undertaken by the Republic of Moldova following the ratification of international treaties. In order to limit atmospheric air pollution, it is necessary to implement a number of protective measures.

To achieve this objective, the document proposes two directions of action:

**Priority direction 3.1.** *Creation of the air quality assurance system (according to the Law no. 98/2022 on atmospheric air quality)*

The following measures are proposed:

- ▶ creation and operation of the national integrated air quality monitoring and management system for the following pollutants: sulphury dioxide, nitrogen dioxide, NH<sub>3</sub>, nitrogen oxides, suspended particles PM10 and PM2.5, lead, benzene, carbon monoxide, arsenic, cadmium, nickel, benzo(a)pyrene, according to the management regimes established for each zone or agglomeration in the country;
- ▶ developing and implementing air quality plans and plans for maintaining air quality in zones and agglomerations;
- ▶ developing and implementing new ambient air quality standards;
- ▶ implementation of the commitments under the Geneva Convention on Long-Range Transboundary Air Pollution (including its protocols to which the Republic of Moldova has acceded);
- ▶ implementation of the Protocol on Pollutant Release and Transfer Registers to the Convention on Access to Information, Access to Justice and Public Participation in Environmental Decision-making, ratified by the Republic of Moldova by Law No 99/2013;
- ▶ implementing the commitment under the Paris Agreement to reduce greenhouse gas emissions, and the United Nations Framework Convention on Climate Change.

**Priority direction 3.2.** *Reducing the level of air pollution and its effects on human health and the environment*

Through its updated Nationally Determined Contributions (NDCs) for 2020, the Republic of Moldova has committed to reducing its greenhouse gas emissions by 70% below 1990 levels by 2030. To achieve this goal, according to the Low Emission Development Program of the Republic of Moldova until 2030, approved by Government Decision No 659/2023, several actions need to be implemented across all sectors:

- ▶ the development and implementation of an air pollution control program with measures to prevent air pollution and protect atmospheric air (measures for impact assessment and emissions permitting, measures to prohibit the operation of means of transport exceeding limit values for air pollutants, promoting non-polluting transport, promoting infrastructure for non-polluting road transport vehicles: bicycle lanes, charging stations for electric and hybrid vehicles);
- ▶ developing a greenhouse gas emission reduction program, reducing greenhouse gas emissions by 70% below 1990 levels by 2030, and by 88% with technical, financial and technological support; reducing greenhouse gas emissions in the energy sector by 74% below 1990 levels unconditionally and up to 82% below 1990 levels conditionally;
- ▶ unconditional reduction of greenhouse gas emissions from the industrial sector by 27% by 2030 and a conditional reduction of up to 31% compared to 1990;
- ▶ reducing greenhouse gas emissions from the energy sector by 74% unconditionally and 82% conditionally;

- ▶ reducing greenhouse gas emissions in the transport sector – by 52%, in the buildings management sector – by 74%, in the agricultural sector – by 44%, and in the waste sector – by 14%;
- ▶ gradual reduction of HFCs consumption, starting from 2029, to achieve an 80% reduction by 2045 (from the baseline level), in line with the Montreal Protocol phase-out schedule for HFCs in circulation;
- ▶ reviewing fuel quality standards;
- ▶ applying the pollution tax based on the emissions generated by economic activities and by means of transport;
- ▶ promoting Best Available Techniques (BAT) and Best Environmental Practices (BEP);
- ▶ developing emission inventories for persistent organic pollutants (POPs) and heavy metals;
- ▶ elaboration of the national normative framework for regulating the environmental noise level and noise pollution maps for localities with the status of municipality with the recommendation of measures to reduce noise pollution;
- ▶ reducing transport emissions through technical improvements, behavioral changes, and demand management, by promoting cleaner types of transport, through urban planning or “co-riding” options, meaning travel by individuals’ private transport or investment in infrastructure (for alternative fuels or public transport);
- ▶ reducing emissions of air pollutants resulting from the generation of electricity and heat, by increased use of non-combustion renewable energy sources (solar, wind or hydro), cogeneration of thermal and electrical energy, distributed energy generation (use of photovoltaic panels), replacement of older and less efficient boilers in households, district heating or cooling systems or, in some cases, banning solid fuels, thermal insulation of buildings, etc.;
- ▶ reducing emissions from industry by implementing “Best Available Techniques” (BAT) and “Best Environmental Practices” (BEP) that will reduce emissions of sulphury dioxide and nitrogen dioxide, etc.;
- ▶ reducing emissions from the agricultural sector by decreasing the need for nitrogen-based fertilizers, measures targeting livestock (confinement of animal manure or its use for biogas), better application of natural organic and urea-based fertilizers;
- ▶ monitoring the process of adaptation to climate change by reducing greenhouse gas emissions;
- ▶ reducing anthropogenic emissions of SO<sub>2</sub>, NO<sub>x</sub>, VOC<sub>nm</sub>, NH<sub>3</sub> and PM 2.5;
- ▶ developing public awareness programs on air protection.

**General objective 4.** *Improving soil quality, protection and sustainable use of soil and useful mineral resources*

The protection of soil resources is a major environmental issue. Moldova’s soils are the natural resource upon which the majority of the population depends. Currently, the quality of agricultural soil is decreasing. Natural soil qualities can serve as a basis for the development of highly productive agriculture and an export-oriented food industry. However the accelerated process of degradation of land resources considerably reduces

the development opportunities for the agro-industrial sector and the national economy as a whole.

The natural resources of the Republic of Moldova are limited in variety and modest in volume, which limits the role of the extractive industry in the country's economy. The most widespread useful mineral resources found in the country are limestone, clay, sand and sandstone rocks, gypsum, etc., which are mainly used for the development of the building materials, glass and chemical industries. The territorial distribution of the deposits is uneven, with higher concentrations of deposits in the area of Chisinau municipality, the Dniester river area in the Central-Northern part, and the Prut river basin in the northern part of the country.

Through its policies, the state should promote the rational and efficient use of the country's soil and mineral resources, also contributing to the improvement of the quality of life in communities from which these resources are extracted. To achieve this objective, the document proposes two directions of action:

**Priority direction 4.1.** *Combating soil degradation, protection and sustainable use of soil resources*, by promoting good agricultural practices to prevent and combat soil degradation and nutrient losses; implementation of measures for sustainable management of soil resources, reduction of salinization or acidification of soil as a result of inappropriate use of irrigation facilities, restoration / rehabilitation of degraded land and soils through the implementation of afforestation programs, restoration of land affected by desertification, drought and floods, promotion of organic farming, being necessary:

- ▶ implementation of the Land Improvement Program for ensuring sustainable management of soil resources for the years 2021-2025 (elaboration of the Action Plan for the years 2024-2025), approved by Government Decision No 864/2020;
- ▶ elaboration of the Program on combating desertification, restoration of degraded land and soils, including land affected by desertification, drought and floods/measures to combat land degradation and desertification, in accordance with the provisions of the United Nations Convention to Combat Desertification.

**Priority direction 4.2.** *Protection and sustainable use of useful mineral resources*

In order to realize the direction of protection and sustainable utilization of useful mineral resources, it is necessary to conduct scientific research of the subsoil for the discovery of new deposits and continuous development of the raw material base. The results of geological and hydrogeological studies will continue to be the basis for the development of the mineral resource potential of the Republic of Moldova, highlighting regional peculiarities, forecasting the negative consequences of geological processes.

The elaboration of the Program on sustainable use of mineral resources will allow the elucidation of the problems and needs of the sector, as well as identify the directions of activity, estimate the financial resources needed to expand the base of mineral raw materials in order to meet the needs of the country.

Another important aspect is the improvement of the Subsoil Code no. 3/2009, as well as the elaboration of the normative framework for its implementation, focused on the staggered research of deposits, classification and homologation of reserves of useful

mineral substances, the way of use, the regime of evidence/registration of mining activities, annual reporting of economic agents' beneficiaries of subsoil.

Currently, there is no policy document that would describe the issues in detail and identify the directions of activity, determine the need and estimate the financial resources required to expand the mineral raw material base to meet the country's necessities. The development of the Program on Sustainable Use of Mineral Resources will serve as a basis for undertaking several measures as follows:

- ▶ elaboration and implementation of the project of inventory of deposits of useful mineral substances;
- ▶ elaboration of the State Program of subsoil geological research;
- ▶ development of the Program on Sustainable Use of Mineral Resources.

**General Objective 5.** *Protecting, restoring and promoting the sustainable use of biodiversity and natural ecosystems*

Biodiversity and the benefits it provides are fundamental to human well-being and a healthy planet. Despite continued efforts, biodiversity is declining globally, and this decline is expected to continue or worsen. This target responds to the post-2020 Global Biodiversity Framework, which sets out an ambitious plan to implement broad actions to transform society's relationship with biodiversity and ensure that by 2050 the shared vision of living in harmony with nature is realized.

The objective will be achieved through the implementation of measures targeted in three priority directions:

**Priority direction 5.1.** *Stopping biodiversity loss, protecting and conserving biodiversity and natural ecosystems*

In this direction the following measures will be undertaken:

- ▶ developing the new Biodiversity Program by 2030, based on the four objectives and 23 targets of the Global Biodiversity Framework post-2020;
- ▶ mainstreaming biodiversity values into sectorial policies (agriculture, research and development, human health, water management, forestry, energy, regional development, etc.);
- ▶ improving the environmental impact assessment framework with provisions for biodiversity conservation;
- ▶ ensuring the protection and conservation of rare species of flora and fauna, included in the Red Book of the Republic of Moldova, in special protection lists, at national, international level and those included in the environmental treaties to which the Republic of Moldova is a party;
- ▶ development of the National Ecological Network, reducing the fragmentation of natural ecosystems and creating ecological connection corridors to ensure biodiversity protection and conservation;
- ▶ evaluating ecosystem services and ensuring their sustainable and equitable use;
- ▶ ensuring the sustainable management of urban and rural green spaces, their surfaces and boundaries clear delimitation;

- ▶ creating mechanisms to make the beneficiaries of natural resources responsible for their protection and sustainable use;
- ▶ ensuring the restoration of terrestrial freshwater ecosystems, integrated wetland management, etc.;
- ▶ implementing ecosystem-based climate change adaptation solutions;
- ▶ performing complex assessment and adoption of nature-based solutions in urban green spaces/urban green infrastructure for sustainable use of biodiversity and human well-being.
- ▶ restoration and sustainable management of riparian ecosystems that are important for adaptation to climate change (flood protection, erosion control, chemical and sediment pollution prevention);
- ▶ long-term planning of fisheries and aquaculture development, elaboration and implementation of regulations for sustainable management of fishery resources;
- ▶ ensuring biosafety by implementing liability and redress procedures for the use of genetically modified organisms (GMOs), providing a science-based risk assessment system to support monitoring and decision-making on the use of GMOs, and strengthening national capacity to identify and detect GMOs and control their transboundary movements;
- ▶ capacity building for monitoring and control of invasive species in accordance with the requirements of the International Union for Conservation of Nature (IUCN) for creating conditions for reducing the impact of invasive species on biological diversity; development of the program of measures to control the American maple (*Acer negundo*).

**Priority direction 5.2.** *Expansion of forest areas, protection and sustainable management of forest ecosystems*, through the implementation of the National Program for the Expansion and Rehabilitation of Forests for the period 2023-2032 and the Action Plan for its implementation for the period 2023-2027 (approved by Government Decision no. 55/2023), which will include measures on:

- ▶ expansion of land covered with forest vegetation up to 16.3% of the country's surface area by 2030 by ensuring afforestation and reforestation of land from the forest fund and those degraded or subject to desertification, and, carrying out the programmed planting of forest curtains to protect agricultural crops and protective strips of water basins, etc.;
- ▶ elaboration of a study to assess the vulnerability of forest ecosystems to environmental changes, including climate change, in order to ensure sustainable forest management;
- ▶ sustainable forest management and protection of the forest fund, including by meeting sustainability requirements and reducing greenhouse gas emissions;
- ▶ capacity building to combat illegal logging, deforestation and clear-cutting;
- ▶ ensuring the transparency in the timber harvesting process by developing an integrated information system for monitoring the harvesting and transportation (traceability) of timber, including at border crossings;
- ▶ identifying High Conservation Value Forests (HCVF) to help improve forest management;

- ▶ developing a system of incentives and benefits that promote the creation and sustainable use of private forests.

**Priority direction 5.3.** *Extending the surface of state protected natural areas and ensure their sustainable management*

In this direction, measures will be taken on:

- ▶ expanding the surface of state protected natural areas up to 10.0% of the national territory and increasing the administrative and management capacities of the state protected natural areas administration;
- ▶ elaboration of sustainable management plans for state protected natural areas, including for the National Park “Orhei”, the “Lower Prut” Biosphere Reserve, the National Park “Lower Dniester”;
- ▶ ensuring sustainable management of state protected natural areas and green spaces at local level;
- ▶ developing sustainable management plans for state protected natural areas and core areas of National Ecological Network;
- ▶ ensuring appropriate management of protected areas based on the Ecosystem adaptation approach;
- ▶ expanding protected areas and Emerald Network sites;
- ▶ developing the cadastre of state protected natural areas according to legislative requirements;
- ▶ advancing the establishment of the Emerald Network and management of existing sites.

**General Objective 6.** *Ensuring the development of the integrated waste and chemicals management system*

The adoption of new principles for active transition to a circular economy is a priority in increasing resource and energy efficiency, whilst the implementation of the measure on waste prevention and the implementation of the Extended Producer Responsibility (EPR) scheme for certain types of products (according to Art. 12 of the Law No. 209/2016 on Waste) will lead to decoupling economic growth from the use of natural resources, promoting the greening of the economy by increasing its competitiveness. All this will help the country to achieve the objectives of sustainable development according to the NDS, as well as to respond to the commitments undertaken within the Strategic Approach to International Chemicals Management (SAICM), prioritizing the decisions adopted at the International Conference on Chemicals Management (ICCM-5).

Implementing economic measures (a fee for waste disposed of in landfills), developing selective waste collection systems and establishing waste recycling and recovery infrastructure will enable the creation of an efficient waste management system based on the hierarchy of waste prevention and management priorities.

Improved record keeping of waste falling under EPR product streams will facilitate effective planning and control of waste management at all levels. This data will be used for waste management planning, assessing the effectiveness of waste management and achieving waste management targets.



Most of chemicals and chemical products used in the Republic of Moldova are imported. Significant quantities of chemical substances and products are used in all sectors of the national economy and scientific institutions, including the population, mainly in the industrial, medical, agricultural, by applying plant protection and fertilizers sectors. There is a steady increase in imports of chemicals for all sectors of the national economy. Reducing the risks associated with the use of chemicals throughout their entire life cycle requires the introduction of rigorous control of the placing on the market of such products, as well as the effective functioning of the authorization, classification, labeling, restriction, including their management, in line with EU standards.

To achieve this objective, the document proposes to develop and implement national programs for sustainable chemicals and waste management, including the following five priority directions:

**Priority direction 6.1.** *Development of regional infrastructure for the treatment of municipal waste, including hazardous waste, and reduction of the number of existing landfills and the area of land allocated for landfills*

The integrated waste management system provides for the development of regional waste management infrastructure (in the 8 waste management regions); increasing the coverage of professional services for waste collection, treatment, recovery or disposal in urban and rural areas; creating the infrastructure for hazardous waste management by developing the Hazardous Waste Management Center, etc.;

Development of regional municipal waste disposal infrastructure (landfill with impermeable liner and leachate collection system, biogas recovery system and landfilling operations with daily waste cover) so that:

- 1) in the short term, in the period 2023-2025, the construction of one landfill will be initiated for 3 waste management areas together with the gradual closure/rehabilitation of existing landfills in waste management region (WMR)1, WMR5, WMR8.
- 2) in the medium term, in the period 2025-2027, the construction of one landfill will be initiated for the waste management region WMR2, WMR 3, WMR 4 WMR 6, WMR 7 along with the gradual closure/rehabilitation of existing landfills.

**Priority direction 6.2.** *Increasing preparedness for waste separation and recycling, recovery of recyclables from households and commercial/institutional/industrial sector, adoption of new principles for the transition to a circular economy in priority sectors such as: recyclables industry (glass, plastics, paper, etc.), construction and demolition materials industry and biodegradable waste.*

In order to ensure a positive momentum in reducing the quantities of waste disposed through landfilling, the following actions are needed:

- ▶ developing separate collection infrastructure attractive to citizens to prohibit landfilling of sorted waste streams;
- ▶ increasing separate collection of bio-waste, thereby reducing the amount of municipal biodegradable landfills by 15% by 2027;
- ▶ promoting waste recycling, developing material recovery capacities, creating secondary materials market, promoting circular economy;

- ▶ implementing measures to encourage economic actors to market the recycling of packaging production;
- ▶ promoting waste prevention, reuse activities;
- ▶ organizing awareness-raising campaigns;
- ▶ implementing pilot projects to demonstrate the most effective organic waste management measures, such as home composting;
- ▶ organizing separate collection points for hazardous waste from households, etc.

**Priority direction 6.3.** *Implementing extended producer responsibility*

Capturing recyclable materials can be achieved by developing collection and treatment systems for specific waste streams, including hazardous waste (such as electrical waste and electronic equipment (WEEE), end-of-life vehicles, waste batteries and accumulators, waste oils, packaging waste, etc.);

The effective management of the extended producer responsibility scheme will enable the development of collection and recovery of resources at regional level, so that in the medium term, the period 2023-2027, will be secured:

- a) recycling 25% of packaging waste generated in rural areas and 35% of packaging waste generated in urban areas;
- b) ensuring a minimum separate collection rate of 35% for WEEE;
- c) ensuring a separate collection rate of 25% by 2023 and 45% by 2025 for waste batteries and accumulators (WBA);
- d) ensuring a level of recycling and recovery of 65% of the average weight of lead-acid BAs, 75% of the average weight of nickel-cadmium BAs, recycling and recovery of 50% of the average weight of other WBAs;
- e) improving the functioning of the extended producer responsibility scheme by ensuring a level of separate collection and treatment of at least 25% of waste oils;
- f) improving the functioning of the extended producer responsibility scheme by ensuring a minimum collection and dismantling rate of 25% for end-of-life vehicles.

**Priority direction 6.4.** *Ensuring the sound management of chemicals in products and articles throughout their life-cycle, from import or production to storage, transportation, use and disposal or recovery of the substance, by implementing the following measures:*

- ▶ developing the necessary regulatory framework to ensure a strengthened institutional mechanism for chemicals management at national level;
- ▶ regulating and controlling the production, registration, import, export, transportation, storage, use and disposal of chemicals that may pose a risk to human and animal health and the integrity of the environment;
- ▶ ensuring the exchange of knowledge and practices on the sound management of chemicals by increasing the mutual acceptance of approaches in assessing chemical hazards and ensuring the functioning of an integrated chemicals information system ([www.repc.gov.md](http://www.repc.gov.md));
- ▶ developing research, evidence and monitoring capacities in the field of chemicals management, consisting of or containing hazardous substances or mixtures, including mercury, lead or cadmium and their compounds.

**Priority direction 6.5.** *Ensuring the management of chemicals containing persistent organic pollutants (POPs) by reducing the impact of POPs on the environment and human health in order to fulfill the country's obligations resulting from the ratification of the Stockholm Convention on Persistent Organic Pollutants (Stockholm, May 23, 2001).*

The following actions are needed to ensure that the impact of POPs on the environment and human health is reduced:

- ▶ developing the regulatory framework for the sound management of chemicals containing persistent organic pollutants;
- ▶ regulating the treatment, recovery and disposal of chemicals containing persistent organic pollutants;
- ▶ developing capacities for the recovery of POPs waste.

**Overall objective 7.** *Reducing greenhouse gas emissions by 2030 by 70% compared to 1990 under the unconditional scenario (or by 88% under the conditional scenario) ensuring Moldova's contribution to achieving climate neutrality by 2050 at the European level and increasing the resilience of economic sectors to climate change*

In the context of the climate change phenomenon, the Republic of Moldova has committed, along with other countries of the world, to contribute to the realization of the priorities and objectives of the Paris Agreement and those of the European Green Deal on reducing greenhouse gas emissions (GHG) and limiting global warming, to undertake mitigation and adaptation measures to climate change. To this end, measures will be implemented on:

**Priority direction 7.1.** *Achieving the greenhouse gas (GHG) emission reduction target in line with nationally determined contributions in the seven sectors: transport, energy, industry, buildings, agriculture, land use, waste*

The emission reduction targets for each of these seven sectors are set in line with the EU's aspirations for 2030, 2050 and the NDCs and are reflected in the draft Low Emission Development Program of the Republic of Moldova to 2030 and the Action Plan for its implementation, as well as in the draft National Integrated Energy and Climate Plan. They are to be achieved through the implementation of the principles of the green economy, which contribute to the efficient use of resources and energy, the promotion of renewable energy use, the application of cleaner technologies in the economic sector, with reduced carbon emissions and pollution and the minimization of environmental risks.

To achieve the country's overall objective, each sector should contribute. The specific targets for each sector are presented in Table 16.

### Targets to reduce greenhouse gas emissions by 2030

Sectors	Target - reducing GHG emissions by 2030		Proposed measures/actions
	unconditional	conditional	
Energy sector	81%	87%	Construction of interconnections with Romania's power system; Combined heat and power generation at low-capacity Electric Power Plant with Heating.
Transport sector	52%	55%	Producing biodiesel and bioethanol and promoting their use as fuel; Encouraging the use of pure green means of transport and promoting public transport and zero-emission types (cycling, walking).
Buildings sector	52%	55%	Improving the existing regulatory and institutional framework; Application of energy efficient technologies; Promoting small-scale renewable energy sources.
Industry	27%	31%	Implementation of energy management systems and SM EN ISO 50001:2019 «Energy management systems. Requirements and guide for use»
Agricultural sector	44%	47%	Implementation of sustainable agricultural land management practices within the conventional cultivation system; Implementation of sustainable agricultural land management practices in the framework of the conservative mini-till system; Manure separation.
Land use, land use change and forestry sector	10%	391%	Regeneration and afforestation works in the forest; Planting forest crops; The creation of protective hedgerows on agricultural fields.
Waste sector	14%	18%	Construction of regional landfills for household solid waste, transfer stations, composting plants; procurement of modern transportation units for waste transfer.

#### **Priority direction 7.2.** *Increasing Republic of Moldova's capacity to prepare and adapt to climate change*

Climate change adaptation processes are needed in the context of uncertainty about how fast and how much the climate will change and what the impacts will be on natural systems and people. Forecasts and possible measures are analyzed and integrated into climate change adaptation programs that address the following sectors: agriculture, energy, transport, health, water resources and forestry.

### Climate change adaptation measures by sector

Sectors	Adaptation measures
Agricultural sector	Systemic crop improvement, development of drought and heat-tolerant varieties of soil and hybrids; changing crop composition in line with the process of climatic aridization; development of the agricultural risk insurance system; application of low-water irrigation technologies; planting of forest strips with species adapted to local climatic conditions
Energy sector	Updating the sectorial regulatory framework in terms of design, construction, operation and maintenance of energy infrastructure, according to the forecasted climatic parameters; improving the efficiency of the electricity transmission and distribution infrastructure; increasing decentralized electricity generation; reducing dependence on traditional energy sources (hydropower or Electric Power Plant with Heating) by increasing local energy production capacity and harnessing local renewable energy sources; promoting energy efficient products, encouraging households to reduce energy consumption and use energy efficient equipment, and implementing energy efficiency projects in public buildings
Transportation sector	Improving the current management system of the public road construction and maintenance system, applying resilient engineering criteria; resilient paving, upgrading road drainage systems and storm water collection and drainage; reviewing and improving the ship and rail transport sector
Water resources sector	Implementation of integrated water resources management, based on river basin management; adjustment and adequate equipping of the hydrological observation network, through modernization of the hydrological monitoring network on the main tributaries of the Dniester and Prut rivers; collection and processing of the relevant data flow, as well as their continuous integration into the automated information system «State Water Cadastre»; revitalization of natural wetlands, restoration of natural shorelines of small rivers and riparian ecosystems; implementation of flood and drought risk management plans at river basin district level; rehabilitation/construction of flood/river control infrastructure
Health sector	Revise and improve standards for the functioning, maintenance and renovation of the engineering networks of health facilities in light of current climate change, and prioritize investment decisions according to the presence of climate change adaptation aspects in sector projects; increasing allocations from the National Health Insurance Company's (NHIC) prophylaxis fund for climate change adaptation, adjusting existing clinical protocols or developing new protocols for the prophylaxis and treatment of climate change-related diseases, and improving territorial and institutional plans for preparedness and response to public health emergencies; intensifying information campaigns and raising awareness of the impacts of climate change and extreme weather events on public health

Sectors	Adaptation measures
Forestry	Improving forest management and forest conservation and increasing afforestation of the country's territory by planting climate-resilient forest crops, strengthening forest cover systems to protect agricultural fields and roads, reconstruction of green spaces in urban and rural settlements, as well as rehabilitation of silvo-pastoral and agro-forestry systems; reducing the spread of invasive plant species; ecological reconstruction of climate vulnerable trees reducerea răspândirii speciilor de plante invazive; reconstrucția ecologică a arboretelor vulnerabile la schimbările climatice

**Priority direction 7.3.** *Disaster risk reduction from meteorological, hydrological and climatic factors*

Disaster risk management practices should be based on knowledge of disaster risks in the context of all dimensions of vulnerability, response capacities and the level of exposure of people and assets, as well as based on hazard-specific characteristics. This knowledge is to be used for early risk assessment, disaster prevention and mitigation, as well as for the development and implementation of effective disaster preparedness and response measures.

Measures and activities proposed to improve prevention and preparedness practices include:

- ▶ collecting, analyzing, managing and using data at national level on meteorological, hydrological and climatic factors, in line with international best practices;
- ▶ developing national disaster risk zone maps;
- ▶ implementing disaster risk reduction measures at local and national level in key sectors of the national economy;
- ▶ implementing an early warning system for disasters.

**General Objective 8.** *Promoting the green economy, resource efficiency and developing the circular economy*

The strategy focuses specially on a phased shift to a new development model, ensuring the transition from the current economic model based on production and consumption to the green and circular economy.

The prospects offered by the green and circular economy reinforce the broader approach of sustainable development as a whole, with environmental protection, increased competitiveness and higher productivity of available resources within the national economy as common denominators. Action in this respect will focus on two priority directions:

**Priority direction 8.1.** *Driving the transition to a green economy*

The strategy aims to continue the transition towards an inclusive green economy. The thematic areas include: investing in innovation (promoting environmentally friendly technological innovations and supporting the development of green business); eco-labeling of products and services, stimulating sustainable consumer behavior.

*Programs to promote the green economy* developed and implemented to this end in a cross-sectoral approach will aim at improving green and circular governance processes, raising education and awareness, supporting innovation and attracting investment, and will include actions and measures on:

- ▶ promoting cross-sectorial collaboration and institutional capacity building at all levels of government to promote the green and circular economy;
- ▶ raising public awareness on the implementation of a “green” approach in national policies and changing the behavior of producers and consumers, developing financial mechanisms to support the transition period;
- ▶ developing educational programs for various stakeholders (public institutions, educational institutions, population, etc.);
- ▶ promoting tools that lead to an improved environmental performance of businesses, through information and awareness-raising campaigns on the benefits of obtaining the Ecolabel for products and services, as well as of obtaining quality standards (EMAS) by public or private organizations;
- ▶ implementing sustainable green public procurement practices in line with national priorities and European policies.

The main sectors ensuring the transition to the green and circular economy are:

- ▶ *the public procurement sector*, by promoting sustainable procurement that aims to reduce the environmental impact of purchased goods, services and works throughout their life cycle, while promoting the development of a market for green goods, services and works and increasing the competitiveness of green industries and sectors of the local economy. To implement sustainable public procurement practice, it is necessary to develop sustainability criteria and to extend the list of priority goods, services and works to which the public procurement procedure applies.
- ▶ *Manufacturing and services sector*, through SMEs greening programmes and the introduction of resource efficiency and cleaner production principles, the promotion of eco-industrial parks and eco-free economic zones.

Greening SMEs will provide several opportunities for Republic of Moldova to fully benefit from the Deep and Comprehensive Free Trade Agreement (DCFTA) and namely:

- ▶ to increase productivity by streamlining production processes and efficient use of energy resources, raw materials, while creating space for innovation and added value and allocating resources according to production needs;
- ▶ to increase investor confidence through the Government’s commitment to implement public policies to reduce the impact of economic activity on the environment;
- ▶ to expand access to new markets due to increased demand for green products and services;
- ▶ to ensure economic growth through efficient use of available resources and reducing negative environmental and health impacts.

In order to ensure, by 2030, the greening of about 50% of small and medium sized enterprises through adequate support in the implementation of the green economy principles, the following actions will be pursued:

- 1) updating and implementing the National Programme on Greening Small and Medium-sized Enterprises to adapt them to the transition to a green economy through promotion, exchange of best practices and mobilization of funds for eco-innovations, resource efficiency and cleaner production;

- 2) encouraging green businesses/enterprises or green technologies by providing various incentives, including access to finance;
- 3) creating green jobs within SMEs.

*Transport sector* with the following actions:

- ▶ promoting the gradual removal of old and diesel cars by developing and implementing a state program in cooperation with private companies;
- ▶ developing the necessary national infrastructure for electric cars;
- ▶ introducing the restrictions on the circulation of vehicles (all types, including public and industrial/commercial) older than 15 years;
- ▶ modernizing old public transport by replacing it with environmentally friendly (electric) means of transport;
- ▶ regulating the entry of cars into towns and city centers (to reduce congestion and air pollution);
- ▶ elaborating regulations on promoting the use of public transport, priority development of urban public transport and significant reduction (by 50-70%) of the number of minibuses, rerouting urban routes and reducing traffic on central arteries, creation of bypass routes around urban centers;
- ▶ organizing and promoting European Mobility Week which encourages public authorities in urban areas to introduce and promote alternative transport;
- ▶ integrating environmental provisions in transport policies to encourage the use of alternative fuels and new technologies in all types of transport.

**Priority direction 8.2.** *Resource efficiency and promoting the circular economy*

The circular economy is part of sustainable development, bringing to the forefront the need to optimize resource consumption to promote recycling and reuse. Preventing waste generation, reducing the consumption of primary sources in the production process by recycling and reusing products are some of the actions that will be taken in this direction.



# Chapter IV

## IMPACT

The present Strategy, as a long-term policy document, aims to implement the basic principles of environmental protection such as: precautionary principle, pollution prevention and remediation at source, “polluter pays” principle and aims to achieve multiple benefits and impact categories, linked to the sustainable development of the country and the protection of natural heritage.

The implementation of the Strategy will provide an equitable, efficient and timely framework for the development of the whole system of environmental protection in the Republic of Moldova. The sectoral programs and action plans elaborated and implemented in order to implement the overall objectives of the Strategy will propose solutions and measures necessary to address the biggest challenges in the field of air protection, waste management, chemicals management, soil exploitation and conservation, soil use and conservation, nature and biodiversity conservation, afforestation of degraded lands, water quality management and improvement, reduction of greenhouse gas emissions and adaptation to climate change, etc.

The Strategy also provides additional opportunities for the fulfillment of joint commitments to limit global warming and achieve EU climate neutrality, also included in the Government’s agenda of priorities, including in the Association Agreement between the Republic of Moldova and the EU. The directions of actions set within the general objectives will stimulate as a matter of priority: the development of long-term investment plans for ensuring the green economic development pathway, provide new opportunities for larger scale utilization of emerging technological innovations; obtaining technical and capacity assistance for implementation of climate change mitigation and adaptation projects, with positive effect on modernization of infrastructure targets, increase of energy efficiency, development of renewable energy sources, soil conservation, afforestation of degraded lands, waste sorting and processing, etc.

The implementation of new legislation in the field of environmental protection, harmonized with the EU environmental acquis, will allow the promotion of European environmental principles, values and standards at national level.

Reform in the environmental sector will ensure conditions for good environmental governance, effective national and local law enforcement and environmental compliance. The impact of the institutional reform will have beneficial effects on the whole environmental system, transforming it into a high-performing system that will hold administrative authorities and public institutions at all levels accountable for environmental decision-making, improve environmental compliance and environmental policy implementation, provide quality environmental public services in line with people’s needs and expectations. The modernization of the system of monitoring and control of environmental factors will allow a better knowledge of the state of environmental components in the country and will contribute to the approval of targeted policies on critical environmental problems. Increasing the quality of environmental data will ensure a streamlined, high quality, comparable and relevant presentation of environmental information and data, including at European level.

As a result of the implementation of the general objectives and priority directions set out in the Strategy, the following beneficial results on the environmental system and on the social and economic situation in the country are expected:

- ▶ the public administration in the field of environmental protection becomes efficient, accountable, inclusive, transparent and open for citizens' participation in decision-making processes;
- ▶ the environmental protection requirements are integrated into the planning and approval process of all economic development projects;
- ▶ the economic activities with an environmental impact benefit from a coherent and transparent permitting system and are monitored more effectively to avoid environmental non-compliance;
- ▶ the surface water quality raised by at least one quality class; the emissions of air pollutants from stationary and mobile sources are reduced, negative impacts on air quality in cities diminished;
- ▶ the biodiversity loss halted, natural ecosystems conserved;
- ▶ the forest area expanded by up to 15%;
- ▶ the regional waste management infrastructure established and functional;
- ▶ the measures for sound management of chemicals and remediation of contaminated sites implemented at national level;
- ▶ the greenhouse gas reduction targeted up to 70% achieved;
- ▶ the measures to increase resilience and adapt to climate change are being implemented in 6 priority sectors – agriculture, water resources, health, forestry, energy and transport;
- ▶ the efficiency of consumption and use of natural resources is increasing;
- ▶ the transition to a green and circular economy is secured.

The Strategy also seeks to ensure the promotion of sustainable production and consumption patterns to internalize the positive aspects of environmental impacts, using to this end a combination of environmental economic instruments as well as fiscal measures such as: developing extended producer responsibility schemes for certain types of products; promoting green public procurement and eco-labeling; creating and promoting greening and specific environmental assistance programs for large, small and medium-sized enterprises; stimulating product innovation and the widespread application of Eco-Management and Audit Schemes (EMAS) and initiatives to increase the transparency of the production sector concerning environmental and sustainability performance reporting.

The principles of the Aarhus Convention will be implemented through mechanisms to ensure access to information, public participation and access to justice, improve collaboration and develop partnerships with the voluntary and research sectors. Finally, information on the state and trends of the environment in relation to economic, social and public health trends, on general and specific aspects of environmental protection at regional, national and local level, environmental research, information, training and environmental education programs will be accessible to all interested citizens.

In the field of digitalization and data infrastructure, the creation of the integrated environmental information system will ensure the interconnection and functioning of cadastre and registers with environmental data, will substantially improve the process of examination and issuance of environmental permitting acts, will ensure traceability and interaction between different participants and data users of information systems. The time needed to request and process the specific environmental data underlying the procedure for issuing permits as well as the assessment of environmental reports will be reduced.

Overall, this Strategy proposes a coherent set of specific objectives and priority directions that also cover the interlinking aspects of climate, environment, energy, transport, industry, agriculture and economic sustainability. The text of the Strategy is aligned with the European Green Deal and aims to improve the well-being and health of citizens today and tomorrow.

# Chapter V

## MONITORING AND EVALUATION INDICATORS

Overall progress towards the Strategy's objectives will be assessed on the basis of the following indicators:

Specific objective/ Priority directions	Impact indicators	Source	Refer- ence value year 2022	Target to be reached in 2026	Target to be reached by 2030	Public policy outcome indicators	Reference value year 2022	Target to be reached in 2026
1	2	3	4	5	6	7	8	9
<p><b>General Objective 1.</b> <i>Developing a transparent, effective, inclusive and sustainable environmental governance system, ensuring compliance with environmental protection requirements</i></p> <p><b>Strategic objectives:</b></p> <p>1) SDG 16: <i>Promote peaceful and inclusive societies for sustainable development, access to justice for all and effective, accountable and inclusive institutions at all levels</i></p> <p>2) NDS General Objective 7: <i>Ensure effective, inclusive and transparent governance</i></p> <p>3) NDS General Objective 10: <i>Ensure a healthy and safe environment</i></p> <p><b>Strategic targets:</b></p> <p>1) developing the efficiency, accountability and transparency of institutions at all levels (SDG 16.6);</p> <p>2) ensuring responsive, inclusive, participatory and representative decision-making at all levels (SDG 16.7);</p> <p>3) ensuring equal access to information for all citizens (SDG 16.10)</p>								
<p><b>Priority direction 1.1.</b> Developing and strengthening institutional capacities in the field of environmental protection, further reform of <b>environmental</b> authorities <i>(contributes to the achievement of the Specific Objective of the NDS:</i> <i>7.1. Building a public administration with integrity, accountable, efficient, transparent and open for citizens' participation in decision-making processes)</i></p>	Efficient, accountable, inclusive, transparent and open environmental public administration for citizens' participation in decision-making processes	Ministry of the Environment jointly with subordinate authorities, founded public institutions	30 %	70 %	100 %	Environmental institutional reform achieved (authorities reorganized and new structures created)	30%	100%
						Regulatory framework for institutional reform adjusted and functional	30%	100%
						Strengthened environmental institutions potential (human resources, technical equipment and financial resources, continuous professional development)	30%	100%

1	2	3	4	5	6	7	8	9
<b>Priority direction 1.2.</b> Continuous development and improvement of the normative and policy framework in the field of environmental protection and climate change in line with the commitments undertaken in the framework of the Moldova-EU Association Agreement and measures aimed at preparing the country for EU accession <i>(Building a public administration with integrity, accountable, efficient, effective, transparent and open for citizens' participation in decision-making processes)</i>	Environmental regulatory and policy framework developed in all areas of the environmental sector and implemented in an effective, participatory manner, with adequate financial support	Ministry of the Environment jointly with subordinate authorities and founded public institutions	30 %	70 %	100 %	Degree of realization of the commitments of the Republic of Moldova-EU Association Agreement on the transposition of EU legislation into national one in the field of environment and climate change and ensuring its implementation	40%	80%
						Degree of coverage of environmental sector areas with planned policies/ actions in environmental plans and programs	20%	60%
						Share of financial resources (external and internal) allocated to the environment sector for the implementation of approved policies	1%	5%
						Degree of achievement of environmental objectives in approved policy documents	15%	50%
						Percentage of population who consider that the decision-making process is inclusive and participatory (16.7.2.)	35%	60%
<b>Priority direction 1.3.</b> Developing the environmental assessment system	Environmental protection requirements integrated into the planning and approval process for all business development projects	Ministry of Environment, Environment Agency	15%	70%	100%	Secondary regulatory framework supporting the implementation of EIA/SEA procedures approved and implemented	40%	80%
						Share of national and local plans and programs developed/approved based on environmental opinions issued following the application of strategic environmental assessment procedures	5%	40%
						Share of decisions to develop economic activities approved based on environmental agreements issued following environmental impact assessment procedures	20%	55%

1	2	3	4	5	6	7	8	9
<b>Priority direction 1.4.</b> Streamlining the environmental permitting system <i>(contributes to the achievement of the specific objective of the NDS: 7.2. Focus public services on people's needs)</i>	Degree of applicants' satisfaction for permits with regulatory services provided by environmental authorities	Ministry of Environment, Environment Agency, National Agency for the Regulation of Nuclear and Radiological Activities	28%	65%	90%	The secondary regulatory framework supporting the implementation of the regulatory process provided by the approved environmental authorities	35%	80%
						Level of digitalization of the application and issuing of environmental permits	60%	100%
						Share of population having accessed public services electronically out of total beneficiaries (16.6.2.1.)	45%	70%
						Share of environmental permits issued on time	65%	90%
						Level of compliance of the business environment with the requirements of the new integrated environmental permitting system established by Law No. 227/2022 on industrial emissions	0%	50%
						Share of population satisfied with the quality of the accessed public services (16.6.2.)	50%	70%
<b>Priority direction 1.5.</b> Development of the system of monitoring (control) of compliance with environmental legislation, quality of environmental factors and self-monitoring	Economic activities with environmental impacts are monitored more effectively to avoid environmental non-compliance	Ministry of Environment, EPI	40%	60%	80%	Regulatory framework on environmental inspections developed	35%	70%
						Percentage of enterprises fully complying with the environmental requirements of the environmental permit acts out of all monitored enterprises	28%	60%
						Share of environmental inspections planned on the basis of the completed risk assessment out of the total number of inspections carried out annually	48%	70%
						Percentage of economic operators complying with self-monitoring and emission reporting requirements	38%	70%
	Environmental components are effectively monitored, cases of excessive environmental pollution are identified in time and appropriate measures are taken	Ministry of Environment jointly with subordinated authorities	20%	50%	75%	Regulatory framework on environmental monitoring procedures, self-monitoring developed	35%	70%
						Level of coverage of capacity needs for environmental quality monitoring	20%	50%
						Degree of automation of environmental quality monitoring systems (air, water, soil quality)	5%	20%

1	2	3	4	5	6	7	8	9
<b>Priority direction 1.6.</b> Capacity building in environmental reporting and in environmental data production and management <i>(contributes to the achievement of the Specific Objective of the NDS:  7.3. Integrating science, technology and data in governance)</i>	Environmental quality and environmental impacts are assessed and evaluated based on qualitative and reliable data collected in the monitoring and reporting process and produced by environmental authorities	Ministry of Environment jointly with subordinated authorities, National Bureau of Statistics	35%	60%	80%	Regulatory framework on environmental data recording, reporting and management (including guidelines, methodologies, instructions) developed	10%	40%
						Degree of digitalization of environmental reporting/data collection processes	15%	60%
						Percentage of economic operators complying with reporting obligations out of all those authorized	20%	60%
						Number of environmental indicators produced as a result of data availability	36%	50 %
						Number of environmental datasets published on the open data portal - data.gov.md	48 %	70 %
<b>Priority direction 1.7.</b> Developing mechanisms to respond to non-compliances detected through monitoring	The level of tightening of response activities for environmental non-compliance encourages compliance with environmental requirements	Ministry of Environment, Environmental Protection Inspectorate		50%	70%	Regulatory framework on environmental enforcement mechanisms, sanctions for environmental non-compliance, recovery of environmental damage from economic activities developed and implemented	20%	80%
						Percentage of infringements paid out of total infringements applied	48%	70%
						Level of recovery of environmental damage	13,6%	45%
						Revised and reformed system of payments for environmental pollution	0%	100%
						Improved/modified mechanisms for selection and allocation of financial means from the national environmental fund	0%	100%

1	2	3	4	5	6	7	8	9
<p><b>Priority direction 1.8.</b> Promote environmental compliance, environmental education, training and research. Ensure access to environmental information (contribute to the achievement of the Specific Objectives of the NDS: 7.3. Integrating science, technology and data into governance; and 7.4 Ensuring civil and political rights and freedoms, including freedom of expression, assembly and association, the right to information and the right to vote and to be elected)</p>	<p>All environmental information is set out in the Electronic Register of Public Environmental Information that is integrated and accessible on a single platform developed and functional for this purpose</p>	<p>Ministry of Environment jointly with subordinated authorities, Ministry of Education and Research, E-governance Agency</p>	<p>0%</p>	<p>50%</p>	<p>100%</p>	<p>Single web-based platform (shared environmental information system) for environmental information, interoperable with other systems, established and operational</p>	<p>0%</p>	<p>1%</p>
						<p>Information and promotion mechanisms on environmental requirements and obligations developed, implemented</p>	<p>1%</p>	<p>3%</p>
						<p>Environmental education and training programs developed, implemented</p>	<p>3%</p>	<p>6%</p>
						<p>Basic and applied environmental and climate change research programs developed, implemented</p>	<p>0%</p>	<p>5%</p>
						<p>Environmental education and awareness raising actions are carried out</p>	<p>10%</p>	<p>25%</p>
						<p>Existence and degree of implementation of the regulatory framework on access to environmental information (16.10.2.1.)</p>	<p>25%</p>	<p>60%</p>

**General Objective 2.** Improving the quality of surface and groundwater, protection and sustainable management of water resources

**Strategic objectives:**

- 1) SDG 6: Ensure availability and sustainable management of water and sanitation for all
- 2) NDS General Objective 10: Ensure a healthy and safe environment (10.1. Improve water, air and soil quality)

**Strategic targets:**

- 1) by 2025, prevent and significantly reduce pollution of surface waters, especially from land-based activities (SDG 14.1.)
- 2) by 2030, improve water quality by reducing pollution, eliminating waste dumping and minimizing the disposal of chemicals and hazardous materials, reducing the proportion of untreated wastewater, and substantially increasing the rate of recycling and safe reuse (SDG 6.3.)
- 3) by 2030, substantially increase water use efficiency in all sectors and ensure a sustainable process for the abstraction and supply of drinking water (SDG 6.4.)
- 4) by 2030, implement integrated water resources management at all levels (SDG 6.5.)



1	2	3	4	5	6	7	8	9
<p><b>Priority direction 2.1.</b> Improving water quality by reducing pollution, eliminating waste discharge and minimizing the disposal of chemicals and hazardous materials, reducing the proportion of untreated wastewater <i>(contributes to the achievement of the Specific Objective of the NDS: 10.1. Improving water, air and soil quality)</i></p>	<p>Integrated water resources management system implemented at all levels (basin and sub-basin)</p>	<p>Ministry of Environment jointly with subordinated authorities,</p>	<p>10%</p>	<p>40%</p>	<p>80%</p>	<p>Approved and implemented river basin and sub-basin management plans/ programs</p>	<p>12%</p>	<p>25%</p>
						<p>Degree of implementation of integrated water resources management system (river basin management programs - from 0 to 100) (6.5.1.)</p>	<p>10%</p>	<p>40%</p>
						<p>Share of surface area of transboundary river (hydrographical) water basins, part of international agreements (6.5.2)</p>	<p>100%</p>	<p>100%</p>
						<p>Level of development/extension of surface and groundwater monitoring network, %</p>	<p>5</p>	<p>25</p>
						<p>Area of riparian buffer strips planted, ha</p>	<p>887</p>	<p>6000</p>
	<p>Surface water quality class is increased at least one position higher following the implementation of actions to prevent and reduce surface water pollution:</p> <ul style="list-style-type: none"> <li>in the Dniester and Prut river basins;</li> <li>in sub-watersheds</li> </ul>	<p>Ministry of Environment jointly with subordinated authorities, Ministry of Agriculture and Food Industry, National Agency for Food Safety, Ministry of Infrastructure and Regional Development</p>	<p>III IV/V</p>	<p>II, III/IV</p>	<p>Share of waste water sufficiently treated (according to standards) in total waste water discharged, non-residential sector, % (6.3.1.)</p>	<p>14,11</p>	<p>40</p>	
					<p>Proportion of surface water bodies having achieved 'good quality class II' (according to hydro-chemical parameters), % (6.3.2.a.)</p>	<p>50</p>	<p>90</p>	
					<p>Proportion of groundwater bodies that have achieved "good quality" class II according to analytical chemical parameters, dissolved metals, pesticides (6.3.2.b.)</p>	<p>18,9%</p>	<p>30%</p>	
					<p>Surface water eutrophication chemical indicators (14.1.1.1.):</p> <ul style="list-style-type: none"> <li>biochemical oxygen consumption in rivers (C10)</li> <li>ammonium levels in rivers (C10)</li> <li>Freshwater nutrients (C11)</li> </ul>			
					<p>Nitrate Vulnerable Zones identified, delineated and recorded, %</p>	<p>50 % (Danube-Prut and Black Sea basins)</p>	<p>100 %</p>	
					<p>Wastewater treatment facilities constructed and put into operation (C15)</p>	<p>5</p>	<p>9</p>	
					<p>Installations/pre-treatment facilities constructed and put into operation</p>	<p>Lack of data</p>	<p>Lack of data</p>	
					<p>The population connected to centralized sewerage systems in</p>		<p>65% (according to Water Supply and Sanitation Strategy Gov.Dec nr. 199/2014)</p>	

1	2	3	4	5	6	7	8	9	
<b>Priority direction 2.2.</b> Sustainable use of water resources <i>(contribute to the achievement of the Specific Objectives of the NDS: 10.1. Improving water, air and soil quality; and 10.3. Ensuring responsible consumption of natural resources)</i>	Evolution of water use efficiency over time demonstrated (6.4.1.), % or Water productivity, USD PPC (2017=1/m <sup>3</sup> )	Ministry of Environment jointly with subordinated authorities, National Agency for Energy Regulation, Ministry of Infrastructure and Regional Development, Ministry of Agriculture and Food Industry	44,5	55	70	C2 - Freshwater abstraction (total volume of water abstracted from surface and groundwater sources), million m <sup>3</sup> /year	184	200	
						C3 - Total water use (fresh water consumption for production and drinking needs 6.4.1.1), million m <sup>3</sup> /year	142	160	
						C4 - Domestic water use per capita, m <sup>3</sup> /year	30		
						C5- Total volume of water supplied to users by water supply systems, million m <sup>3</sup> /year	89		
						C5 - Share of population with access to safely managed water supply services, %	77,8%	85%	
						C7 - Transport water losses, million m <sup>3</sup>	42		
						C8 - Volume of water recycled/reused, million m <sup>3</sup>	14		
	The Water Resource Exploitation Index (WREI) (water stress index) is within forecast limits			0.12	< 0.2	< 0.2	Share of abstracted water in total available water resources (Water Stress Index) (6.4.2.)	7	8
							Water stress level (share of freshwater abstraction in total available freshwater resources), %	12,5 (2020)	7
	Groundwater status is systematically monitored		Ministry of Environment, responsible subordinated authorities				Study on groundwater reserves at national level elaborated	0	1
Share of inventoried groundwater boreholes, %							51,35%	65%	
Volume of groundwater abstracted, m <sup>3</sup>							3471,66	3472,2	

**General Objective 3. Improving air quality and air protection**

**Strategic objectives:**

SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable

NDS General Objective 10: Ensure a healthy and safe environment (10.1. Improve water, air and soil quality)

**Strategic targets:**

by 2030, substantially reduce the number of deaths and illnesses caused by hazardous chemicals and air, water and soil pollution and contamination (SDG 3.9.)

by 2030, reduce per capita negative environmental impacts in cities, including by paying particular attention to air quality and municipal and other waste management (SDG 11.6.)

1	2	3	4	5	6	7	8	9
<b>Priority direction 3.1.</b> Establishing the air quality assurance system <i>(contributes to the achievement of the Specific Objective of the NDS:            10.1. Improving water, air and soil quality)</i>	The national integrated air quality monitoring and management system operates according to the Law 98/2022 on atmospheric air quality	Ministry of Environment, Environment Agency	5	25%	70%	Level of development of atmospheric air quality monitoring network, % (18 automatic monitoring stations (100%))	10	50
						Level of establishment and regulation of assessment and management regimes for areas in zones and agglomerations, %	0	50
						Air pollution control program developed and implemented	0	35
						Share of local public authorities having developed air quality plans and plans for maintaining air quality in zones and agglomerations, %	0	20
						Institutional framework for inventorying, reporting and managing air quality data and information developed, %	5	50
<b>Priority direction 3.2.</b> Reducing the level of air pollution and its effects on human health and the environment <i>(contributes to the achievement of the Specific Objective of the NDS:            10.1. Improving water, air and soil quality)</i>	Emissions of air pollutants from stationary and mobile sources reduced, negative impact on air quality in cities reduced, %	Ministry of Environment, Environment Agency, National Bureau of Statistics	20	30	40	A1 - Volume of emissions of pollutants into the air from stationary sources, thousand tonnes	9,4	8,46
						Level of reduction of emissions of air pollutants from stationary sources of pollution, %	0	10
						A1 – Volume of emissions of air pollutants to air from mobile sources (by sources), thousand tonnes, reported per person (11.6.2.1.)	198,1	178,29
						Level of reduction of air pollutant emissions from mobile sources, %	0	10
						Annual average urban PM10 concentration (11.6.2.)*	-	-
						Fleet modernization level (share of electric and hybrid vehicles in total vehicles), %	3	10
						Level of fuel savings, %	10% of annual diesel and gasoline consumption in the country (unconditional)	
						Level of reduction in consumption of ozone-depleting substances, %	0	10 (from base level consumption <sup>1</sup> (import))

1	2	3	4	5	6	7	8	9
<p>Notes: (1) - estimated baseline (production/consumption of HFCs) as average of 2020, 2021, 2022 + 65% of baseline (production/consumption) of HCFCs  * At the 42<sup>nd</sup> session of the Executive Body of the Convention on Long-range Transboundary Air Pollution (CLRTAP), which took place from 12 to 16 December 2022, the Republic of Moldova announced that it is withdrawing from the group promoting the ratification and implementation of the Gothenburg Protocol in the Eastern Europe, Caucasus and Central Asia region (EECCA) thus renouncing itself of responsibility for the emission ceilings stipulated in this Protocol</p>								
<p><b>General Objective 4. Improving soil quality, protection and sustainable use of soil and useful mineral resources</b>  <b>Strategic objectives:</b>  SDG 15: <i>Protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, stop and reverse land degradation and combat biodiversity loss</i>  NDS General Objective 10: <i>Ensure a healthy and safe environment (10.1. Improve water, air and soil quality)</i>  <b>Strategic targets:</b>  1) by 2030, substantially reduce the number of deaths and illnesses caused by hazardous chemicals and air, water and soil pollution and contamination (SDG 3.9.)  2) by 2030, combating desertification, restoring degraded lands by implementing the Land Degradation Neutrality (LND) mechanism to achieve a land degradation neutral world (SDG 15.3.)</p>								
<p><b>Priority direction 4.1.</b>  Combating degradation, protection and sustainable use of soil resources  <i>(contributes to the achievement of the NDS Specific Objectives: 10.1. Improving water, air and soil quality; and 10.3. Ensuring responsible consumption of natural resources)</i></p>	Land improvement projects on at least 10 000 ha	Ministry of Agriculture and Food Industry, National Land Improvement Agency		1 000 ha	10 000 ha			1 000 ha
	Extensive forest strips covering 3 000 ha			1 035 ha	3 000 ha			1 035 ha
<p><b>Priority direction 4.2</b>  Protection and sustainable use of useful mineral resources  <i>(contributes to the achievement of the Specific Objective of the NDS: 10.3. Ensuring responsible consumption of natural resources)</i></p>	Strengthening the structures and unifying the policy in the field of geology (geological prospecting, technical geology, cadastre of geological explorations, monitoring of dangerous geological processes, design of excavations of natural deposits), improving the administrative and economic mechanisms for their management	Ministry of Environment jointly with the responsible subordinated authorities	30	50	100	Structural reorganization of mineral resource management institutions to create an effective and transparent monitoring system	0	1
						The regulatory framework for the developed subsoil	30%	50%
						Gradually exploration of deposits carried out	12	40
						Improved record-keeping/registration and annual reporting regime for mining activities (number of reports)	170	180

1	2	3	4	5	6	7	8	9
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**General Objective 5.** *Protect, restore and promote the sustainable use of biodiversity and natural ecosystems*

**Strategic objectives:**

- 1) SDG 15: *Protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, stop and reverse land degradation and combat biodiversity loss*
- 2) General objective 10 of the NDS: *Ensure the fundamental right to a healthy and safe environment (10.2. Sustainable increase in the area of forests and protected areas)*

**Strategic targets:**

- 1) by 2030, ensuring the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests and wetlands (SDG 15.1.);
- 2) by 2030, to promote the implementation of sustainable management of all types of forests, undertake silvicultural works, restore degraded forests and significantly increase afforestation and reforestation (SDG 15.2.);
- 3) Take urgent and significant action to reduce the degradation of natural habitats, combat biodiversity loss and, by 2030, protect and prevent the extinction of endangered species (SDG 15.5.);
- 4) Promote the fair and equitable sharing of the benefits arising out of the utilization of genetic resources and promote appropriate access to these resources, as internationally agreed (SDG 15.6.);
- 5) Take urgent action to stop poaching and trafficking of protected species of flora and fauna, and to address the problems posed by the demand and supply of illegal wildlife products (SDG 15.7.);
- 6) Adopt and implement measures to prevent the introduction and significantly reduce the impact of invasive species on terrestrial and aquatic ecosystems and to control and eradicate priority species (SDG 15.8.);
- 7) Integration and monitoring of biodiversity and ecosystem values in national and local planning, development processes, strategies, poverty reduction plans and land-use plans (SDG 5.9.);
- 8) Mobilize and substantially increase financial resources from all sources for the conservation and sustainable use of biodiversity and ecosystems (SDG 15.a);
- 9) by 2030, protect and restore water-related ecosystems, including forests, wetlands, rivers, aquifers and lakes (SDG 6.6.);
- 10) by 2030, sustainably manage and protect ecosystems to avoid significant adverse impacts, including by enhancing their resilience, and take measures to restore them (SDG 14.2.);
- 11) by 2030, eliminate illegal, unreported and unregulated fishing (SDG 14.4.);
- 12) by 2030, increasing the economic benefits from the sustainable use of aquatic resources, including through sustainable management of fisheries, aquaculture and tourism (14.7.)

<b>Priority direction 5.1</b> Combating biodiversity loss, protecting and conserving biodiversity and natural ecosystems <i>(contribute to the achievement of the Specific Objectives of the NDS: 10.2. Sustainable increase in the area of forests and protected areas; and 10.3.)</i>	Biodiversity loss and degradation is reduced by 27.5% (it is proposed to calculate the difference between the current protected area coverage of 5.8% and the target of 8% in 2030)	Ministry of Environment jointly with subordinated authorities, founded public institutions	0%	15%	27,5%	Degree of implementation of the biodiversity conservation program updated to post-2020 CGB targets	20%	100%
						Extent to which biodiversity values are integrated into sectorial policies in environment, agriculture, research and education, public health, etc. (15.9.1.1.)	20%	50%
						Index of the list of species in the Red Book of the Republic of Moldova (15.5.1.) RLI for Moldova is 0.969 in 2020 <a href="https://bipdashboard.natureserve.org/bip/map.html?ind=RedListIndex&amp;iso=MDA">https://bipdashboard.natureserve.org/bip/map.html?ind=RedListIndex&amp;iso=MDA</a>	0,969	0,02%

1	2	3	4	5	6	7	8	9
						Total number of species included in the Red Book of the Republic of Moldova (15.5.1.1.)	209 plant species; 219 animal species	reduced by 10%
						Proportion of illegal trade in wild animals (including by-products, parts thereof) that have been poached or smuggled (15.7.1.)	0%	reduced by 30%
						Existence of regulations and measures to prevent and reduce the occurrence of invasive species to control and eradicate priority species (15.8.1.1.)	0	1 (drafting the law on invasive species)
						Value of external financial and technical development assistance for the conservation and sustainable use of biodiversity and ecosystems (15.a.1.)	500,000 USD	2,0 mil.
	Illegal fishing prevented, economic benefits from sustainable use of aquatic resources, %	Ministry of Environment jointly with subordinated authorities	50%	70%	100%	Degree of implementation of the regulatory, strategic and policy framework on fish stocks, fisheries and fish farming (14.b.1.)	70%	100%
						Number of recorded infringements related to illegal fishing (14.4.1.1.)	1 349	700
						Share of fisheries in GDP (14.7.1.1.)		
	Degree of restoration of ecosystems and natural habitats extended	Ministry of Environment jointly with subordinated authorities, founded public institutions	10%	20%	30%	Proportion of national exclusive economic zones managed using ecosystem approaches (14.2.1.)	0	30%
						Surface change dynamics of water-related ecosystems (indicators on spatial extent of water-related ecosystems, quality of water-related ecosystems, groundwater quantity in aquifers) (6.6.1.)	Wetlands 57 km <sup>2</sup>	65 km <sup>2</sup>

1	2	3	4	5	6	7	8	9
<b>Priority direction 5.2.</b> Expansion of forest areas, protection and sustainable management of forest ecosystems ( <i>contributes to the achievement of the Specific Objective of the NDS: 10.2. Sustainable increase in the area of forests and protected areas</i> )	The national forest expansion and rehabilitation program for the period 2023-2032 almost fully implemented	Ministry of Environment jointly with subordinated authorities, founded public institutions	10%	70%	90%	Forest area as percentage of total land area, ha (15.1.1.)	13,4% (2020)	14,5%
						Area of extensive forests, ha (15.2.1.3.)	-	34 000
						Share of forests with degraded, reconstructed/rehabilitated or consolidated elements out of the total forests in need of rehabilitation	10%	139 00 ha
						Extent of the financial resources (external and internal) allocated to the forestry sector, thousand lei	135300,92	1557300,0
						Wood stocks in forests, mil. m <sup>3</sup>	43,3	46,8
						Proportion of forest area legally integrated in protected areas	19,8%	21,8%
						Proportion of forest area managed according to long-term sustainable forest management plans (forest management plans), %	81%	84%
<b>Priority direction 5.3.</b> Expanding the areas of state protected natural areas and ensuring their sustainable management ( <i>contributes to the achievement of the Specific Objective of the NDS: 10.2. Sustainable increase in the area of forests and protected areas</i> )	Surface of protected areas is extended to 8% of the country's surface area	Ministry of Environment jointly with subordinated authorities, founded public institutions	5,8%	8%	8%	Proportion of terrestrial and freshwater protected terrestrial and freshwater biodiversity hotspots by ecosystem types (15.1.2.), %	0	+10%
						Emerald Network sites established, delimited, integrated into protected areas	20%	100%
						Regulatory framework and institutional capacities on protected area management developed	10%	30%
						Digitalized and accessible protected areas information system	10%	50%
						Management plans for protected areas and Emerald sites developed and approved	10%	30%

**General Objective 6. Ensuring the development of the integrated waste and chemicals management system**

**Strategic objectives:**

SDG 12: *Ensure sustainable consumption and production patterns*

General objective 10 of the NDS: *Ensure the fundamental right to a healthy and safe environment (10.3. Ensure responsible consumption of natural resources and 10.4.)*

**Strategic targets:**

by 2030, substantially reduce the number of deaths and illnesses caused by hazardous chemicals and air, water and soil pollution and contamination (SDG 3.9.);

by 2030, improve water quality by reducing pollution, eliminating waste discharge and minimizing the disposal of chemicals and hazardous materials, reducing the proportion of untreated wastewater, and substantially increasing the rate of recycling and safe reuse (SDG 6.3);

by 2030, to reduce per capita negative environmental impacts in cities, including by paying particular attention to air quality and municipal and other waste management (SDG 11.6.);

Establish integrated waste and chemicals management systems that contribute to a 30% reduction in landfilled waste and a 20% increase in the recycling rate by 2027 (SDG 12.4.);

by 2030, significantly reduce the generation of waste, through prevention, reduction, recycling and reuse, in particular at municipal level (SDG 12.5.)

1	2	3	4	5	6	7	8	9
<p><b>Priority direction 6.1.</b> Developing regional infrastructure for the treatment of municipal waste, including hazardous waste, and reducing the number of existing landfills and the amount of land allocated for landfills <i>(contributes to the achievement of the Specific Objective of the NDS: 10.3. Ensuring responsible consumption of natural resources)</i></p>	<p>New infrastructure regional municipal waste disposal in the 8 developed and functional Waste Management Regions (WMR)</p>	<p>Ministry of Environment, Ministry of Infrastructure and Regional Development, local public authorities, administrators of regional waste systems</p>	10%	45%	75%	Level of development of integrated waste management systems in the 8 WMRs, %	<b>10%</b>	<b>45%</b>
						Number of localities with access to sanitation services	519	800
						Population connection rate to sanitation services, %	58,9 (2021)	65
						Proportion of municipal solid waste regularly collected with proper disposal and final disposal in total municipal waste generated (11.6.1.)	%	%
						Volume of waste (production and consumption) formed (12.5.1.1.), thousand t	2255,62	%
						Volume of hazardous waste formed (12.4.2.a.), t	4 142 t (BNS 2019)	%
						Creating the waste management center	0	1
		<p>Non-compliant landfilling of waste totally liquidated</p>	<p>local public authorities, Ministry of Environment</p>	0	50%	100%	Number of non-compliant waste landfills closed, recultivated	0
Surface of non-compliant landfills reduced, ha							0	185 ha (15% of 1 224 ha)
<p><b>Priority direction 6.2.</b> <i>Increasing preparedness for waste separation and recycling, recovery of recyclables from households and commercial/institutional/industrial sector, adoption of new principles for the transition to a circular economy in priority sectors such as: recyclables industry (glass, plastics, paper, etc.), construction and demolition materials industry and biodegradable waste (contribute to the achievement of the Specific Objectives of the NDS: 10.3. Ensuring responsible consumption of natural resources; and 10.4.)</i></p>	<p>Waste recycling and reuse rate increased by 30%</p>	<p>Ministry of Environment, Ministry of Infrastructure and Regional Development, local public authorities</p>	0%	10%	20%	Number of localities with separate collection infrastructure in place for the main waste streams: paper, glass, plastic, metal, etc.	592	700
						Share of recycled waste (production and consumption) in total waste (12.5.1.)	10%	20%
						Proportion of hazardous waste recycled, disposed of or landfilled out of the total hazardous waste generated (12.4.2.b.)	%	%
						Packaging waste collection and recycling target	15%	30%



1	2	3	4	5	6	7	8	9
<b>Priority direction 6.3.</b> Implementing extended producer responsibility <i>(contribute to the achievement of the Specific Objectives of the NDS: 10.3. Ensuring responsible consumption of natural resources; and 10.4.)</i>	The level of business compliance with the requirements to implement the Extended Producer Responsibility Mechanism is increasing	Ministry of Environment, Environment Agency	20%	50%	100%	Number of economic operators registered in the EPR list	311	80%
						Percentage of schemes (individual/collective) having achieved their annual collection and recycling target, %	50%	100%
						Waste electrical and electronic equipment collection and recycling target	20%	35%
						Waste batteries and accumulators' collection target	10%	45 %
						Waste oils collection target	3%	30 %
						Used tires collection target	20%	60 %
						End of life vehicles collection target	0%	80%
<b>Priority direction 6.4.</b> Ensuring the sound management of chemicals in products and articles throughout the life-cycle from import or production to storage, transportation, use and disposal or recovery of the substance	Institutional and regulatory framework for ensuring the sound management of chemicals at national level established and functional	Ministry of Environment jointly with subordinated institutions, Ministry of Health, National Agency for Food Safety	0	50%	100%	Competent Authority for Integrated Chemicals Management established and operational	0	100%
						Chemicals regulatory framework approved and implemented	10%	40%
						Degree of compliance with reporting obligations on hazardous chemicals and waste under international agreements / commitments signed by Republic of Moldova	20%	60%
						Automated Chemicals Registry Information System <a href="http://www.repc.gov.md">www.repc.gov.md</a> piloted and commissioned	0	30%
	Measures for the safe management of POP chemicals and remediation implemented at national level	Ministry of Environment jointly with subordinated institutions, Ministry of Health, National Agency for Food Safety, local public authorities	20%	50%	80%	Degree of compliance of existing installations with new regulatory provisions on pollution prevention and control, including industrial emissions (in the context of ensuring emission limits, BAT and BEP practices)	10%	60%
Area of land contaminated with chemicals remediated in an environmentally sound manner, ha	0					30		

1	2	3	4	5	6	7	8	9
<b>Priority direction 6.5.</b> Ensuring the management of chemicals containing persistent organic pollutants (POPs) <i>(contributes to the achievement of the Specific Objective of the NDS: 10.3. Ensuring responsible consumption of natural resources)</i>	Measures for sound management of POP chemicals and remediation implemented at national level	Ministry of Environment jointly with subordinated institutions, Ministry of Health, Reintegration Policy Office, National Agency for Food Safety, local public authorities	20%	50%	70%	Area of POPs contaminated land remediated in an environmentally sound manner, ha	0	10
						The quantity of PCB-contaminated oil and PCB-contaminated equipment, including on the left bank of Dniester, safely disposed of, t	0	106 t
						The amount of POP waste collected, transported and disposed of in an environmentally sound manner in accordance with the requirements of the Stockholm and Basel Conventions, t	0	100 t
<b>Overall objective 7.</b> Reducing greenhouse gas emissions by 2030 by 70% compared to 1990 under the unconditional scenario (or by 88% under the conditional scenario) ensuring Moldova's contribution to achieving climate neutrality by 2050 at the European level and increasing the resilience of economic sectors to climate change <b>Strategic objectives:</b> SDG 13. Take urgent action to combat climate change and its impacts NDS General Objective 10: Ensure a healthy and safe environment <b>Strategic targets:</b> by 2030, the implementation of agricultural practices that increase productivity, help maintain ecosystems and build resilience to climate change, extreme weather events such as droughts, floods and other exceptional situations (SDG 2.4.); by 2030, substantially increase the number of cities and towns that have adopted and are implementing integrated policies and plans for inclusion, resource efficiency, climate change mitigation and adaptation, and resilience to climate change extremes in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 (SDG 11.b.); by 2030, ensure climate resilience by reducing climate change risks by 50% and facilitating adaptation in 6 priority sectors - agriculture, water resources, health, forestry, energy and transport (SDG 13.1.); mainstream climate change measures into national policies, strategies and plans (SDG 13.2.); strengthening the institutional framework for adaptation to climate change, ensuring that all stakeholders, including the general public, are aware of the risks of climate change and adaptation measures (SDG 13.3.)								
<b>Priority direction 7.1.</b> Achieving the greenhouse gas emission reduction target in line with nationally determined contributions in the seven sectors: transport, energy, industry, buildings, agriculture, land use, waste <i>(contributes to the achievement of the Specific Objective of the NDS: 10.3. Ensuring responsible consumption of natural resources)</i>	GHG emission reduction target compared to base year 1990 achieved	Ministry of Environment, Environment Agency			70 % (necon- diționat) 88 % (condi- ționat)	Level of greenhouse gas emission reductions from the energy sector	n/a	unconditional -83% conditional -87 %
						Level of greenhouse gas emission reductions from the transport sector	n/a	unconditional -56% conditional -58 %
						Level of greenhouse gas emission reductions from the buildings sector	n/a	unconditional -76% conditional -78 %

1	2	3	4	5	6	7	8	9
						Level of greenhouse gas emission reductions from industry	n/a	unconditional 34% conditional 37 %
						Level of greenhouse gas emission reductions from agriculture	n/a	unconditional -48% conditional - 50
						Level of greenhouse gas emission reductions from the waste sector	n/a	unconditional - 16% conditioning - 19
						Level of carbon sequestration enhancement in the land use, land use change and forestry sector	n/a	unconditional - 33% conditional - 195 %
<b>Priority direction 7.2.</b> Increasing the Republic of Moldova's capacity to prepare and adapt to climate change (contributes to the achievement of the Specific Objective of the NDS: 10.3. Ensuring responsible consumption of natural resources)	Climate resilience developed	Ministry of Environment	10%	30%	70%	Number of sectorial policy documents integrating climate change adaptation aspects	0	2
						Climate change knowledge management platform up and running/ number of users	0	100% 20 000
						Annual Climate Budget Tagging Reports developed (from 2025)	0	2
						Actions on integrating topics on the effects of climate change (mitigation, adaptation, impact reduction and early warning) into primary, secondary and tertiary curricula (13.3.1.1.)	2	10
						Degree of implementation of the national strategic framework on climate change (13.3.1.2.)	30%	60%
						Amount of investment in climate change adaptation, lei	0	139025923

1	2	3	4	5	6	7	8	9
<b>Priority direction 7.3.</b> Disaster risk reduction from meteorological, hydrological and climatic factors <i>(contributes to the achievement of the Specific Objective NDS 10.3. Ensuring responsible consumption of natural resources)</i>	Prevention and preparedness capacities for response to climate-related natural disasters developed	General Inspectorate for Emergency Situations/ Ministry of Internal Affairs	50%	80%	100%	Climate-related exceptional weather warning system set up	-	100%
						National Strategic Framework on Disaster Risk Reduction, aligned with the adopted Sendai Framework for Disaster Risk Reduction 2015-2030 (1.5.3.1.)	0	100%
						Degree of implementation of the National Strategic Framework for Disaster Risk Reduction, aligned with the Sendai Framework for Disaster Risk Reduction 2015-2030 (1.5.3.2.)	0	10%
						Public awareness of risks and response to natural disasters	64% (2021)	67%
						Proportion of local public authorities adopting and implementing local strategies for reducing the risks of exceptional situations in line with national strategies for reducing the risks of exceptional situations (1.5.4.)	0	30%
						Proportion of land irrigated for drought mitigation out of total irrigable land area (13.1.3.1.)	%	%

**General Objective 8.** *Promoting the green economy, resource efficiency and development of the circular economy*

**Strategic objectives:**

SDG 12: *Ensure sustainable consumption and production patterns*

General objective 1 of the NDS: *Increasing income from sustainable sources and alleviating inequalities (1.2. Developing opportunities for innovation and entrepreneurship)*

General objective 10 of the NDS: *Ensure a healthy and safe environment (10.4. Active transition to green and circular economy)*

**Strategic targets:**

- 1) promote green jobs as an effective way to combine social and environmental development and improve skills and business practices for sustainable and inclusive growth (SDG 8.4);
- 2) boost productivity growth through diversification, technological modernization and innovation (SDG 8.2);
- 3) by 2030, modernizing infrastructure and rehabilitating industries to become sustainable, more resource-efficient and increase the uptake of clean and green industrial technologies and processes, with measures being taken in accordance with respective capabilities (SDG 9.4.);
- 4) integration of sustainable production and consumption into national policies and their implementation (SDG 12.1.);
- 5) by 2030, achieve sustainable management and efficient use of natural resources (SDG 12.2.);
- 6) by 2030, reduce food losses along production and supply chains, including post-harvest losses (SDG 12.3.);
- 7) encourage companies, especially large and transnational companies, to adopt sustainable practices and integrate sustainability information into the reporting cycle (SDG 12.6.);
- 8) promote sustainable procurement practices in line with national policies and priorities (SDG 12.7.);
- 9) by 2030, both urban and rural people should have relevant information and awareness about sustainable development and a lifestyle in harmony with nature (SDG 12.8.);
- 10) strengthening scientific and technological capacities to move towards more sustainable patterns of consumption and production (12.a.);
- 11) identification of priority sectors for foreign and domestic investments, stimulation of innovative and environmentally friendly investment projects (O1.1, O2.4, O9.2, O9.3, O10.1, O10.3)

1	2	3	4	5	6	7	8	9
<b>Priority direction 8.1.</b> Driving the transition to a green economy <i>(contribute to the achievement of the Specific Objectives of the NDS: 10.3. Ensuring responsible consumption of natural resources; and 10.4.)</i>	The rate of large companies and SMEs adopting and implementing sustainable, green economy transition practices is steadily increasing	Ministry of Environment, Ministry of Economic Development and Digitalization, National Bureau of Statistics, Environment Agency, Public Procurement Agency, National Accreditation Center of the Republic of Moldova (MOLDAC),, Entrepreneurship Development Organization, State University of Moldova, Institute of Public Administration	10%	30%	70%	Number of national policies integrating aspects of the green economy, sustainable production and consumption (SCP) (12.1.1.1.1.)	3	10
						Number of green jobs in priority sectors of social and economic development (number of people employed in the field of environment and green economy)	1000	1500
						Eco-certification mechanism in place (number of products and services bearing the Ecolabel)	0	50
						Actions on ensuring green public procurement (12.7.1.1.)	3	6
						Rate of sustainable/green public procurement applying eco criteria (of total public procurement)	0	15%
						Number of companies and organizations implementing environmental management standards (ISO 14001 and EMAS schemes)	10	30
						Number of green SMEs (including those receiving ODA grants)	84	150
						Number of people trained on green economy and SEA	50	200
						Existence in the school curriculum of the curricular modules/contents: i) sustainable development, ii) climate change education and their multidisciplinary approach in order to form the profile of the graduate (12.8.1.)	1	3

1	2	3	4	5	6	7	8	9
<b>Priority direction 8.2.</b> Resource efficiency and promoting the circular economy (contribute to the achievement of the Specific Objectives of the NDS: 10.3. Ensuring responsible consumption of natural resources; and 10.4.)	The level of promotion and implementation of circular economy principles is increasing	Environment Agency, National Bureau of Statistics Ministry of Agriculture and Food Industry, Agency for Innovation and Technology Transfer	44%	50%	56%	Percentage of recycled waste out of total waste formed (with possible disaggregation by waste categories (plastic, glass, paper/cardboard, paper/cardboard, metal, WEEE, etc.))	44%	50%
						Food wastage index (12.3.1.a.)		
						Food waste index (12.3.1.b.)		
						Rate of environmental innovations/ technologies applied in practice by economic operators in %		
	Economic growth is gradually decoupled from CO <sub>2</sub>	Environment Agency, Ministry of Economic Development and Digitization, Ministry of Energy	4	5	7	Total CO <sub>2</sub> emissions reported per unit of GDP (9.4.1.b.)	4	5
						Total CO <sub>2</sub> emissions from fuel combustion (9.4.1.a.)		
						CO <sub>2</sub> emissions from industry as a share of gross value added in industry (9.4.1.c.)		
						Total CO <sub>2</sub> emissions by sector, thousand tonnes CO <sub>2</sub> equivalent (9.4.1.1)		
						Capacity of renewable electricity generation installations, Watt/capita (12.a.1.)		
	Efficiency of consumption and use of natural resources is increasing	Ministry of Environment and subordinated institutions	2%	5%	10%	Number of companies publishing reports on resource efficiency (12.6.1.)	0	10
						Volume of natural resources extracted per person (12.2.1.a.)	4,9 (2019)	
						Volume of extracted natural resources compared to GDP (12.2.1.b)		
						Consumption of natural resources per person (12.2.2.a.)	8,9 (2019)	
						Consumption of natural resources relative to GDP (12.2.2.b.)		

## Chapter VI

### IMPLEMENTATION RISKS

Being a long-term planning document, the Strategy will focus on promoting ambitious environmental policies, correlated with the strategic development of the country, paying special attention to the capacity to implement the commitments undertaken in the framework of global environmental agreements and the Association Program between the Republic of Moldova and the European Union 2021-2027. In the process of implementation of the Strategy and elaboration of sectoral programs, several risks will be assessed and monitored, which could affect both the processes of implementation of the proposed interventions and the achievement of the objectives and expected results, with the application of appropriate mitigation measures. The following types of risks are the most imminent:

Type of risk	Impact/	Mitigation measures
Institutional risks		
Staff shortages and turnover in the environmental protection sector	High	The attractiveness of the environmental sector is reduced due to the low salaries for the staff employed, especially in institutions subordinated to the Ministry of Environment. This creates a major turnover of staff that is in constant need of capacity building and training. The strategy addresses this risk through instruments to incentivize the staff employed, increase the level of salaries and increase the attractiveness of the field. The review and updating of the organizational and functional structure of the environmental institutions, planned as part of the institutional reform, will ensure that the efficiency of the environmental institutions is improved. Emphasis will be placed on cooperation with educational and research institutions for the integration of new courses and technical equipment of study and research facilities, as well as increasing the number of state funded places for environmental protection and engineering specialties in university education.

<p>Political instability and changing priorities under the influence of external factors</p>	<p>Medium</p>	<p>The specific objectives included in the Strategy are linked to the development of all sectors of the economy and to the environmental priorities set at global and EU levels. Ensuring a healthy environment is one of the policy priorities included in the 2030 Development Agenda as well as in the Republic of Moldova-EU Association Agreement. Political uncertainty often leads to frequent changes in decision making and systemic reforms of public authorities and institutions. This may cause stagnation in the implementation of the document. Reducing the effects of the risk of political instability can be achieved by continuing Moldova's political vector towards European integration, and all state institutions, including environmental institutions, will strengthen their efforts to achieve this path.</p>
<p>Administrative and financial risks</p>		
<p>Low financial and technical capacity</p>	<p>High</p>	<p>Financial means for the implementation of strategic documents are the main obstacle in achieving the expected results and impact. The implementation of the measures included in the Strategy requires financial and technical resources, including investment projects in areas such as waste management, wastewater treatment, natural resources management, increasing the potential of the green and circular economy, investments for environmental compliance for large and medium-sized enterprises. Part of this expenditure is to be provided for in the budget framework, while, through donors and international financial institutions, part of the necessary sums will be attracted in the form of grants or preferential loans from development partners.</p>



<p>Environmental economic instruments not fully developed</p>	<p>High</p>	<p>The new environmental economic and fiscal instruments - payments, environmental taxes, subsidies, environmental insurance, financial guarantees, extended producer responsibility mechanisms, payments for ecosystem services, etc., are to be developed and applied in accordance with the provisions of the Republic of Moldova - EU Association Agreement and will allow to increase the compliance of economic agents with the new environmental standards, but also to accumulate financial resources for the implementation of environmental policies.</p>
<p>Insufficient cooperation between central and local public authorities</p>	<p>Medium</p>	<p>The objectives set by the Strategy also need to be taken on board by key actors at local level and integrated into local action plans that pursue national goals and objectives. The implementation of the provisions of the Strategy will be successful only if there is effective collaboration between central and local public authorities in realizing the planned action directions. As risks mitigation measures may arise in this respect, platforms for discussions with LPAs can be created, such as: sectoral working groups for decentralization, local, regional and national coordination instruments, financial, material, methodological and informational support, training and workshops, public consultations on different environmental projects, which will aim to promote the implementation of environmental legislation at local level, to guide different actions for the improvement of environmental components and to direct the financial resources necessary for the development of environmental infrastructure at local level.</p>

<p>Lack of interest of the central public authorities responsible for certain sectors to integrate environmental and climate change priorities into the sectorial policies promoted</p>	<p>Medium</p>	<p>Implementation of some of the objectives set in the Strategy needs to be owned by key actors at national level and translated into sectorial policies. Taking on the responsibility of expanding the national vision for environmental protection and adaptation to climate change at the sectoral level is one of the keys to the successful implementation of this document. To mitigate the risks that may arise from the authorities responsible for the sectors of the national economy, there is a need for methodological and informational support measure and national coordination for the responsible institutions. This aim to increase the capacity and attractiveness of implementing the national environmental vision and integrating it into sectorial policies, as well as into green investment documents across national economic sectors (industry, agriculture, energy, transport, construction, trade, services, etc.). Increased application of the Strategic Environmental Assessment tool for policy and planning documents will stimulate this process.</p>
<p>External risks</p>		
<p>The unfavorable geopolitical situation may condition the ineffectiveness of the implemented measures</p>	<p>High</p>	<p>The war in Ukraine and the energy crisis directly affects the Republic of Moldova's environment. In addition to the transboundary effect of air pollution, surface water pollution and the energy crisis, it has caused clear-cutting of wood mass, thus reducing forest area. This situation may pose major risks to the effectiveness of achieving the environmental objectives set out in the document to reduce the level of environmental pollution or to expand forest areas. The creation of a technical assistance fund on the part of development partners dedicated to the support needs of the Republic of Moldova, including for the recovery of environmental problems caused by the consequences of the war, would be a solution to mitigate this risk.</p>

# Chapter VII

## RESPONSIBLE INSTITUTIONS

The strategy will be approved by the Government, which will monitor and evaluate its implementation through the Ministry of Environment.

The following institutions will participate in the implementation of the Strategy according to their institutional competences:

- ▶ Ministry of Environment, with its internal structural subdivisions and subordinated institutions;
- ▶ Ministry of Agriculture and Food Industry;
- ▶ Ministry of Economic Development and Digitization;
- ▶ Ministry of Energy;
- ▶ Ministry of Infrastructure and Regional Development;
- ▶ Ministry of Health;
- ▶ Ministry of Education and Research, with subordinated institutions (Institute of Zoology, Institute of Ecology and Geography, National Botanical Garden (Institute) "Alexandru Ciubotaru");
- ▶ Ministry of Internal Affairs with subordinated institutions;
- ▶ National Agency for Food Safety;
- ▶ National Public Health Agency;
- ▶ National Land Improvement Agency.

The implementation of the Strategy will be ensured through a number of sectoral programs that are in the process of implementation or to be elaborated and approved. The programs will take into account the specific objectives of the Strategy as well as the Government's strategic and budgetary planning cycle.

The Ministry of Environment will create and ensure the functionality of platforms for communication, collaboration and intersectoral cooperation between all actors involved in the realization of the Strategy, will create and develop partnerships with the following institutions:

- ▶ Congress of Local Public Authorities;
- ▶ Business representatives;
- ▶ Civil society representatives in the environmental field;
- ▶ Representatives of development partners.

The local public administration will integrate the objectives and action directions of the Strategy into local programs and action plans promoted on different environmental components: waste management, air quality, water management, etc.

# Chapter VIII

## REPORTING PROCEDURES

The monitoring process of the Strategy implies the creation of a tool for the collection and analysis of generalized data on the current situation of the environment in the country, which will allow to assess the results of the interventions carried out against the expected results.

Monitoring the implementation of the objectives and actions included in the Strategy implies the collection and centralization of information from the responsible authorities and institutions with reference to the result indicators established for each measure related to the objectives of the Strategy. It also includes the information obtained through the reporting process of the sectoral programs resulting from the document.

The monitoring and reporting on the implementation of the Strategy will be ensured by the Ministry of Environment through the following reporting tools:

The annual report on the implementation of the Strategy will be prepared annually, in the first semester, starting from 2025 and will have an analytical character of the progress in achieving the Strategy's monitoring indicators;

*The interim report*, to be prepared in the first semester of 2027, will follow an interim evaluation of the Strategy's implementation process. This report will contain an analysis of the interim impact of the activities carried out and the interim targets, and will include proposals for adjusting the final objectives and indicators depending on the level of achievement of targets, the country's socio-economic conditions and the manifestation of the assessed implementation risks;

*The final report*, which will be prepared in the first semester of 2031, upon the end of the Strategy's implementation period, will present the final results, the degree of achievement of indicators and factors that hindered the achievement of all objectives. It will also assess the impact of the strategic document's implementation, as well as its contribution to the achievement of the NDS objectives. The results of the final report will be taken into account in the development of a new environmental policy document;

Annual monitoring, as well as interim and final evaluation reports, will be prepared by the Ministry of the Environment. These reports will be publicly consulted and placed on the Ministry's official website.



