

Evidence-based environmental governance and sustainable environmental policies in support of the 2030 Agenda in South-East Europe

2018-2021

North Macedonia

REPORT

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The document is prepared to serve defining policy packages or action plan.



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1. Background and scope

1.1. Country context and the UNDA project

Two major processes that define the country's political agenda in the last two decades are the National Programme for Adoption of the Acquis Communautaire (NPAA) and the UN Agenda for Sustainable Development, both of which have been challenging to implement.

The 2018 Communication on EU Enlargement Policy concluded that the country has achieved some progress in further aligning policies and legislations with the acquis, in water, nature protection and waste sectors in particular. However, significant efforts are needed in regard to implementation and enforcement.

In 2010, the Government adopted the national strategy on sustainable development (NSSD) for the period 2010-2030, but there was no action plan on its implementation. This very first planning initiative in the country was anchored to the EU SD Strategy and created an enabling environment for dialogue among a range of stakeholders in the articulation of development policies, plans and projects. The Cabinet of the Deputy Prime Minister in charge of Economic Affairs took the responsibility for sustainable development policies and for the coordination of implementation and monitoring of the SDGs. This office assigned the role of the political-level body mandated to guide implementation of the SDGs to the National Council on Sustainable Development. The Council has last convened in 2015. An implementation report for the 2010 NSSD was prepared in 2015. One of the key conclusions was that harmonization of the legislation with the EU acquis has supported moving towards sustainable development, although the sectoral approach prevailed over the integrated approach inherent for sustainable development.

In 2015, the former Yugoslav Republic of Macedonia, along with 192 other United Nations (UN) Member States, committed to the implementation of 'Transforming Our World' - The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals. Following the adoption of the UN 2030 Agenda, the Cabinet of the Deputy Prime Minister in charge of Economic Affairs requested assistance of the United Nations Country Team to update the 2010 NSSD by mainstreaming the SDGs. A Rapid Gap Assessment was prepared in 2016 through a multi-stakeholder consultation process. Reportedly, the assessment included a mapping of the national policy documents against the SDGs and was accompanied by recommendations on actions to be taken for each SDG. The document was not adopted due to political crises in the country. It is not available to the public, ministries and stakeholders. The 2010 NSSD still lacks an action plan for its implementation; as of the fall of 2018, the SDGs are not mentioned in any adopted strategic document at national level and no dedicated effort was made to mainstream them into sectoral policy documents. The Government has not conducted any assessment of costs of implementation of SDGs. Awareness of the SDGs in the Ministry of Environment and Physical Planning and the sectoral ministries is insufficient. The ownership of the goals is low. Awareness of the SDGs among local government authorities is low. It is much better among civil society organizations.

It is important that the Government and in particular the Ministry responsible for environmental issues i.e. the Ministry of Environment and Physical Planning, are assisted in the process of nationalization of the SDGs to ensure formulation of ambitious yet realistic targets in environment-related domains and their integration into sector-specific policies. It is also important that this process aligns with the EU accession, to ensure efficient use of the limited national capacities and resources.

To this end, the UNDA Project 1819AE "Evidence-based environmental governance and sustainable environmental policies in support of the 2030 Agenda in South-East Europe" (2018-2021) aims at supporting North Macedonia together with four countries of South-Eastern Europe (Albania, Bosnia and Herzegovina, Montenegro, and Serbia) in strengthening environmental governance and development of sustainable environmental policies – both essential in the achievement of many SDGs and overall implementation of the 2030 Agenda at all levels. The project aims at building the national capacities to assess priority needs in environmental governance and formulating actions on the

basis of their Environmental Performance Reviews (EPRs). Key outcomes of the project are national action plans/policy packages for implementing SDG-related recommendations coming from the EPRs.

The project is set to contribute to the following goals and targets:

Goal: Title	Target	Title
3: Healthy lives for all	3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
4: Inclusive and equitable education for all	4.7	By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
6: Ensure availability and sustainable management of water and sanitation for all	6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all
	6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
	6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
	6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
	6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
	6.6	By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
	6.a	By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
	6.b	Support and strengthen the participation of local communities in improving water and sanitation management
11: Make cities and human settlements inclusive, safe, resilient and sustainable	11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
	11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage
	11.6	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
	11.b	By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels
12: Sustainable consumption and production patterns	12.1	Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
	12.4	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
	12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
	12.6	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
	12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature
13: Urgent action to combat climate change & its impacts	13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
	13.2	Integrate climate change measures into national policies, strategies and planning
	13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat	15.1	By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements
	15.2	By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
	15.3	By 2030, combat desertification, restore degraded land and soil, including land affected by

desertification, and halt and reverse land degradation and halt biodiversity loss		desertification, drought and floods, and strive to achieve a land degradation-neutral world
	15.4	By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development
	15.5	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species
	15.6	Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed
	15.7	Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products
	15.8	By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species
	15.9	By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts
	15.a	Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems
	15.b	Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation
	15.c	Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities
17 Strengthen the means of implementation & revitalize global partnership for SD	17.14	Enhance policy coherence for sustainable development

The project consists of two tasks: a needs assessment i.e. determining the gaps between current conditions and the desired ones in the context of relevant SDGs; and, based on it, development, in cooperation with national stakeholders, of national action plans/ policy packages (1-3 concrete legal/ policy documents) for implementing recommendations from the EPR in line with the relevant SDGs.

The present report concerns mostly the needs assessment phase.

1.2. EPRs and the UN 2030 Agenda for Sustainable Development

Within the 3rd cycle of the implementation of the UNECE Environmental Performance Reviews (EPRs), the reviews build off of three main blocks. The first one looks at the status of the environmental governance and financing in the context of the green economy. The second called “domestic-international interface” focuses on the implementation of multilateral environmental agreements and commitments as well as on policies and measures for climate change adaptation and mitigation. The third part covers environmental issues, including green technology issues, in selected socioeconomic sectors such as industry, energy, transport, agriculture, forestry, health and housing, but also in water resources management, air protection, waste management, and biodiversity and nature protection. In the case of North Macedonia, the third part centres on environmental issues related to water resources, air quality, waste and chemicals, and biodiversity and nature protection.

An important feature of the 3rd cycle EPRs is the integration of the 2030 Agenda for Sustainable Development thereby supporting countries in adapting the SDGs to national context, review the progress and challenges, and set recommendations, as well as to identify systemic problems related to their achievement.

The EPRs provide a general review of the implementation of the 2030 Agenda and its Sustainable Development Goals in terms of the legal and policy framework in support, the institutional framework, especially coordination mechanisms and stakeholder participation, the information and data and the availability of resources and other means for implementation. Furthermore, the reviews of relevant Goals and/or targets in the EPR chapters focus initially on the existence of an enabling framework for achieving the Goal and/or target. With advancing the global indicators there is a shift to assessment of the progress towards achievement of the Goal and/or target and provision

of recommendations on how to foster progress. The global indicators also enable flagging priority data and information gaps in the country.

The 3rd EPR of North Macedonia was implemented in the period of one year starting from September 2018 in parallel with the UNDA project. It integrates all of the SDGs and targets that fall in the scope of the project with the exception of the SDG Target 11.2 in the provisions of safe, affordable, accessible and sustainable transport systems for all by 2030 as the transport sector is not included in the EPR.

1.3. Methods and process

As already mentioned the EPR integrates an assessment of the situation and progress in the framework of the relevant SDG targets using, in most cases, the global SDG indicators and the underlying UN Statistical Database (<https://unstats.un.org/sdgs/indicators/database/>); the lack of country data being flagged. When the global indicator methodology is under development, relevant national and international reporting and official publications were identified and information was extracted to assess the situation and progress vis-à-vis the target.

The EPR also contains a general review of the situation of implementation of the 2030 Agenda. It addresses the overall framework in the country in support of the implementation of the SDGs and targets. In particular, the existence of a dedicated national strategy, the prevailing policy and legal framework and the institutional including the necessary coordination mechanisms and those ensuring effective participation, and the availability of resources and other implementation means are addressed.

A map of the assessments per the SDG targets and indicators within the abovementioned scope, by EPR chapter is summarized in the Annex.

Review and assessments of the EPR concludes with country-specific recommendations for targeted measures. Those address the competent national institution(s) that are mandated to undertake the measures, enlist specific activities at the core of it, pinpoint urgent priorities and propose modalities for implementation. The recommendations conclude each EPR chapter and following a discussion process agreed with the country.

As already mentioned, the needs assessment is to determine the gaps between the current conditions and the desired ones with the aim to pinpoint priority aspects in need of actions for reducing the gaps and achieving progress. Assessments of the situation and progress towards relevant SDGs and targets of the EPRs for the essential environmental issues (air, water, waste, biodiversity) and those of the domestic-international interface such as climate change use majority of the indicators. They constitute a solid base for the needs assessment and the integration is straightforward and an abridged version of those assessments following the scope of the UNDA project has been used in the present report.

Concerning the needs assessment of the environmental governance and financing in a green economy context, it was felt that an additional systematic approach should usefully complement the general review of implementation of the 2030 Agenda. The approach would enable addressing aspects related to the use of evidence, information and monitoring, accountability mechanisms, integrated strategic and participatory work, etc. - all of them important for institutional strengthening and organizational development of the environmental sector. The five-domain governance framework put forward by WHO/Europe¹ TAPIC (Transparency, Accountability, Participation, Integrity and Capacity) was slightly modified and used to structure the needs assessment.

Throughout the entire policy life-cycle (from development & planning, through implementation/ enforcement, monitoring and reporting, evaluation to update/ new development):

¹ <http://www.euro.who.int/en/about-us/partners/observatory/publications/policy-briefs-and-summaries/its-the-governance,-stupid!>;
http://www.euro.who.int/_data/assets/pdf_file/0012/416100/PolicyBrief_PB33_TAPIC.pdf?ua=1

- Transparency is seen as evidence-based policy-making, i.e. making clear decisions, their grounds and the decision-makers;
- Accountability means that anybody who acts must give an account of his actions with consequences for inadequate action or justification and also the mechanisms ensuring it;
- Participation is defined as opportunity for all stakeholders and affected parties have to provide input to relevant deliberations;
- Integration (modification of the original domain) refers to integration of environmental and health concerns into sectoral policies & programmes and coordinated work across various sectors & institutions at central and local level;
- Capacity refers to the technical, professional, institutional and organisational capacity to deliver a policy that is aligned with resources in pursuit of goals.

The needs assessment was conducted for the following themes:

- Environmental governance and financing in a green economy context;
- Policies and measures for adaptation to and mitigation of climate change;
- Environmental issues:
 - Air quality;
 - Waters;
 - Waste and chemicals;
 - Biodiversity and protected areas.

Further to the needs assessment, in order to facilitate the ministries responsible for environmental issues with the development of national action plans/ policy packages, a “focused” list (a “portfolio”) of specific measures was developed from screening the EPR recommendations and selection against a few considerations. First, only measures that concern primary the Ministry of Environmental Protection and Physical Planning were included. Next, measures that rely on existing data monitoring or data collection systems (including some in need of rehabilitation & maintenance of the infrastructure) were considered. Third, measures that enable strengthening the existing legal and policy framework (including amendments to advance implementation and enforcement) and some urgent developments for which expertise is already in place were given preference. Finally, measures that address priority environmental issues for the country yielding tangible outcomes and greater environmental & societal benefits were selected.

The specific measures selected were grouped using a standard policy measure typology in the following categories:

- 1) Legal/ regulatory: all recommended measures on primary, subsidiary and transposing regulations and stemming from it reporting & other obligations as well as evaluation of their effects and effectiveness;
- 2) Strategies/ policy programmes: measures on development and adoption of action plans and policy programmes in national and international policy frameworks and associated reporting;
- 3) Integrated approaches to environmental sustainability: approaches & tools which enable effective integration of environmental concerns in policies and programmes mostly the Strategic Environmental Assessment (SEA) and Integrated Water Resources Management (IWRM);
- 4) Information, strategic monitoring and evaluation: measures to make a better use of existing information such as strengthening policy relevance of indicator-based reporting and policy accountability of the integrated assessments as well as systematic monitoring of policy programmes implementation;
- 5) Education and awareness raising;
- 6) Transfer of knowledge and expertise: implementation modalities such as twinning arrangements, multi- and inter- national support on good practice enabling effective transfer of knowledge and expertise & its use in implementation within the country;
- 7) Inter-sectorial cooperation: measures on operational coordination for environmental sustainability;
- 8) Staffing and capacity: measures focusing on allocating human resources vis-à-vis their tasks, responsibilities and work-flow and their capacity.

Economic measures such as prices, subsidies, tariffs, taxes were dealt with in the regulatory and legal category. The categories' distinction is not strict and some measures e.g. evaluation of the effectiveness of a current legal act may imply both legal and information measures.

Measures on intersectorial cooperation were given a separate category as cross-cutting and integrated strategic work is inherent for sustainable development. The country has also put in place several mechanisms mostly in the form of councils involving different sectors and stakeholders but their operation faces significant challenges. Similarly, staffing and capacity issues were assigned a separate category as insufficient staffing and capacity building needs are emphasized throughout the entire EPR. Major organizational measures that consider establishment of new bodies and re-organizational ones that involve other sectors were left beyond the scope.

As for the process, the work started with the preparation of the assessments of situation and progress vis-à-vis the relevant SDGs and targets or each topic throughout the EPR. Next, a draft policy paper containing an initial selection of specific measures and a preliminary analysis of the gaps between the current conditions and the desired achievements for some environmental issues was prepared to facilitate discussion with the experts of the Ministry of Environmental Protection and Physical Planning and feedback. The aim was to develop the concept and framework for the needs assessment as the project unfolds, to shape the outcomes most useful in formulating national action plans/ policy packages, etc. Informal discussions were carried out in the Ministry of Environmental Protection and Physical Planning in Skopje in June 2019 most of general nature. The draft paper was accepted and no feedback was provided due to various reasons. In December 2019, the national counterparts initiated the development of policy packages.

2. Need assessment Part 1: Environmental governance and financing in a green economy context



Box 1: Target 17.14 of the 2030 Agenda for Sustainable Development

Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Target 17.14: Enhance policy coherence for sustainable development

This target covers one of the systemic issues for the achievement of the Sustainable Development Goals. It addresses how the country works across policy sectors and coordinates the sectors to achieve joint objectives of sustainable development. It also addresses the extent to which policies in various sectors are coherent and aligned with sustainable development.

In respect of indicator 17.14.1 (Number of countries with mechanisms in place to enhance policy coherence of sustainable development), North Macedonia has established several mechanisms for horizontal coordination on environmental and sustainable development issues at the national level, including intersectoral consultations on draft documents and the work of various intergovernmental coordination bodies. Examples are: the National Council for Sustainable Development, established in 2010 as an advisory body of the Government, but has not convened since the fall of 2015; the Working Group for chapter 27 of the NPAA ((National Programme for the Adoption of the Acquis) with the Association of the Local Units of Self-Government being a member; a Sector Working Group for Environment and Climate Action with the Deputy Prime Minister in charge of European Affairs as its Chairperson to discuss programme documents for the IPA and policy documents; the National Climate Change Committee; two coordination bodies on chemical issues serviced by the Ministry of Health and by the Ministry of Environmental Protection and Physical Planning; etc. Some of the interministerial councils and committees incorporate other stakeholders (NGOs, business, academia) along with governmental officials; however, the membership of those stakeholders is usually less numerous and not equal to that of governmental officials. There are also issues with the regularity of meetings and efficiency of work of such bodies. Some interministerial bodies, prescribed by the legislation, have never been established (e.g., the National Council on Forests envisaged by the Law on Forests).

With respect to policy framework on the environment and sustainable development the issues are not about coherency. Policy documents are adopted with significant delays, or never adopted, despite significant efforts having been undertaken to develop them. There is little evidence that the policy documents are used and followed since regular reporting about their implementation is not practised. The SEA instrument, which is a tool to ensure stronger and coherent integration of environmental and green

economy aspects into sectoral policies, does not yet function smoothly, as there are cases when sectoral documents escape SEA.

Awareness of sustainable development goals among governmental authorities is insufficient.

In order to strengthen policy coherence for sustainable development, the Government should ensure:

- (a) strengthening the planning system through:
 - (i) improving efficiency of efforts placed on the development and adoption of strategic documents;
 - (ii) improving the use of the SEA as an instrument to advance integration of SDGs into planning documents;
- and,
- (b) strengthening the horizontal coordination mechanisms through:
 - (i) improving efficiency of existing interministerial committees and councils, enhancing transparency & stakeholder participation;
 - (ii) revitalizing the National Council for Sustainable Development as a major coordination mechanism towards the SDGs;
 - (iii) raising awareness of the Sustainable Development Goals among devolved administrations at central and local levels.

The Government should further enhance the process of nationalization of the 2030 Agenda SDGs and targets and establishing the mechanisms for strategic monitoring and reporting on the progress towards their achievement.

Environmental governance in the context of greening the economy is characterised by transparent decision-making; clear and operational accountability mechanisms at central and local level, strong participatory approach, cross-cutting and integrated strategic work, and adequate institutional capacity and organisation throughout the entire policy cycle.

The use of broad regulatory impact assessment (RIA) and strategic environmental assessment (SEA) has enabled advancing **evidence-based policy-making** in the country. The RIA is mostly used for new laws and amendments to laws, which considers, among other aspects, the impact of these laws on the environment. Methodology for RIA is in place but is not for tools for costing of the strategic documents (i.e. identifying how much their implementation would cost and where the costs would come from) or for comparing policy options. The country applies the SEA to strategies, programmes and plans (hereafter, planning documents). However, it does not apply to policies and legislation. Furthermore, some national planning documents are prepared by sectoral ministries and adopted without an SEA procedure, despite the legal requirement to conduct one. The criteria for screening are defined in subsidiary legislation but are not used in practice. The quality of SEA reports also remains an issue as there are problems with the proper evaluation of the SEA reports. SEA in transboundary context presents a challenge as country's practical experience in transboundary consultations is very limited.

The EIA seems like an overregulated process bringing excessive administrative burden which could be limiting to the decision-making value of the procedure. Similar to the SEA, conducting the EIA sometimes start when the planned activity is at an advanced stage of planning or the construction stage has started.

Monitoring and follow-up of the effects of implementation of planning documents are not done in practice despite the Law on Environment provisions. Sectoral ministries and municipal authorities are not aware of such a requirement and the Ministry of Environmental Protection and Physical Planning has no capacity to proactively solicit monitoring and follow-up. This impedes revisiting the planning documents in order to take corrective actions.

The development of strategic documents on the environment and sustainable development is often financed through donations and international projects. Many strategic documents remain drafts for years and some never make it to adoption despite a considerable effort placed on their development. On the other hand, there is a persistent lack of reporting on the implementation. Within the Ministry of Environmental Protection and Physical Planning, there is no department that deals with evaluation of the implemented strategic documents and keeping track on the developed.

The country has made substantial progress in indicator-based environmental monitoring and reporting. Nonetheless, in their present form, the use of the three main reports produced by the Ministry of Environmental Protection and

Physical Planning in support of relevant policymaking is rather limited. They do not include foresight and projections of possible future negative trends and their implications vis-à-vis national goals and policies and hence do not support quantitative target setting. They do not provide for integrated assessments such as transport and environment, or cross-cutting issues e.g. air quality and health to promote multiple benefits of concerted policy action.

Establishment of clear **accountability mechanisms** throughout the environmental policy cycle has seen some progress with the separation of the State Environmental Inspectorate (SEI) from the Ministry, which has enabled only partial separation of policy-making from the policy implementation. The Administration for Environment, which is involved in the implementation remained part of the Ministry of Environmental Protection and Physical Planning albeit as a separate entity but in practice without a clear distinction of its functions. As all inspectorates in the country are separate from each other, the SEI – the authority responsible for enforcement of the environmental legislation cannot benefit from a common infrastructure, equipment and legal support.

The SEI does not send inspection reports to the Ministry in return, the Ministry does not send the annual self-monitoring reports received from the operators to the SEI. The reports of the inspections are not publicly available or are outdated.

The local authorized environmental inspectors, appointed by the mayors are not licensed as their SEI counterparts. The latter have no say in such appointments and exercises neither expert nor administrative supervision. A draft law on environmental inspection was prepared in 2016 under a twinning project and still aims before adoption at better coordination of the inspections at the central and local levels on the environment and nature protection, including better quality of planning and reporting on inspections. One of the changes envisaged by the draft law is to make local inspectors subject to expert supervision by the SEI.

The SEI and the local environmental inspection authorities have little influence on the decision-making process.

No cases have been identified with liability issues concerning environmental damage from an ongoing activity or a direct threat of environmental damage as a result of a planned activity. There is no publicly available list of operators within the scope of the requirements for liability.

Overall, setting clear accountability mechanisms in the field of the environment is subject to important challenges related to the complicated institutional infrastructure, overlapping responsibilities, but also to the lack of systematic monitoring and reporting on implementation within the SEA and EIA as well as to the lack of registration & reporting system, allowing tracking back statutory activities.

Public participation in decision-making in environmental matters is limited by the established procedures; for most of the activities are not covered by EIA, SEA and integrated environmental permitting. However, in all cases, the public concerned has the right to challenge a decision before the State Commission for Decision-Making in Administrative Procedures and Labour Relations Procedures in Second Instance.

Public participation in developing legal and policy documents is enabled by allowing the public to make comments on the draft documents posted on the website and during public hearings organized to discuss the draft documents. Challenges exist with effective public participation in public hearings.

There are legal provisions for public participation in SEA and EIA. In practice effective public participation in the country is facing some issues related to: delayed public announcement of the planned activity subject to EIA, SEA; difficulties in finding the documents on the web; imprecise record of the public consultation and public debate; etc. Most important, despite the mandatory requirement of the finalization procedure, there is no mechanism in place to disclose the extent to which the Ministry of Environmental Protection and Physical Planning has considered the opinions, suggestions, or comments made at the public hearings or the reasons for their rejection in the final decision.

Specific procedures for public participation in decision-making processes regarding GMOs, chemicals and waste are not established.

The **integration of environmental requirements into sectoral** legislation has seen some progress but remains insufficient in the energy, industry, agriculture, transport and health sectors. It is limited in the spatial planning, mining and tourism sectors. The mechanism for intersectoral consultations preceding the adoption of laws, amendments to laws and subsidiary legislation is in place. However, it is not clear to what extent the Ministry of Environmental Protection and Physical Planning uses this mechanism to advance the environmental agenda of the economic sectors.

Integration of environmental requirements into sectoral policies has started but has not yet reached an adequate level. The 2004 Spatial Plan and the 2010 Energy Development Strategy until 2030 face criticism for poorly reflecting environmental considerations. While existing documents in the forestry, transport, agriculture and health sectors do include environmental considerations, the level of implementation of their environment-related objectives has been insufficient. There are national planning documents prepared by sectoral ministries and adopted without a SEA procedure. As already mentioned, the country continues to struggle with the proper implementation of SEA.

Sectoral assessments, or cross-cutting issues assessments, conducted mostly as part of international donor-supported projects and communicated in a way that does not reach beyond professional audience impede integration of environmental concerns in sectoral policies.

An important instrument for horizontal coordination, including on the environment and sustainable development issues, is intersectoral consultation. Intersectoral consultation with concerned institutions, bodies and organizations is obligatory prior to submitting the various documents for adoption to the Government. Such consultation is required for all documents (laws and subsidiary legislation); for laws and amendments to laws, it comes after the RIA procedure. While clear rules for intersectoral consultation procedure are in place, the rules for interministerial consultation are only partially followed. Furthermore, ministries are not required to present an overview of the comments received during interministerial consultations or to explain how the comments were acted upon.

The interministerial working groups established often for drafting a specific document, i.e. prior to intersectoral consultations represent another instrument for horizontal coordination. For example, in 2018, a working group was convened under the Ministry of Economy with representatives of ministries and donors, and representatives of the Energy Community to draft the law on energy efficiency.

The Government established a number of intergovernmental bodies to enhance horizontal coordination on the environment and sustainable development. Some interministerial councils and committees incorporate other stakeholders (CSOs, business, academia) along with governmental officials.

Mechanisms for coordination among the various actors involved in the development of water supply, sewerage networks and wastewater treatment infrastructure i.e. the Ministry of Environment and Physical Planning, Ministry of Transport and Communications and Ministry of Local Self-Government are in place through ministries participation of each other's project steering committees. However, there is no evidence that the parallel efforts of each Ministry are part of an overall single strategic vision.

Daily coordination among various authorities relies on relations between individual staff and in many cases functions well. For example, there is no coordination body on environmental health, but cooperation takes place through formal and informal contacts.

Coordination between the Ministry of Environment and Physical Planning and the Ministry of Local Self-Government in assisting the LSGUs to implement their environment-related competences is insufficient.

With respect to **institutional capacity**, some staffing issues in particular for staff of the Ministry of Environmental Protection and Physical Planning, are found often dealing with tasks other than their posts envisage and having to combine tasks to cope with the growing obligations within the country and at international scale are of serious concern.

An annual training programme approved by the Ministry of Information Society and Administration is prepared with input from the Ministry of Environment and Physical Planning. The programme outlines the needs for general training courses, as well as, specialized ones (those on environmental issues). However, the programme is poorly financed and no resources for specialized training are provided.

A system for regular training of staff of the Ministry of Environment and Physical Planning is in place but it does not function properly. An annual training programme outlines the needs for general and specialized training. However, the programme is poorly financed and no resources for specialized training courses are provided. Specialized training courses on environmental issues are entirely project based. There is no system of training and professional development on environmental issues for staff in sectoral ministries; such training takes place only as part of project activities. For example, an ongoing Regional Implementation of the Paris Agreement Project focuses on training staff in the Ministry of Environment and Physical Planning and other ministries on climate change issues.

There is no regular training and capacity-building at national and local levels on SEA – a key instrument to enhance policy coherence for sustainable development.

Although the decentralization process started in 2002, municipalities face significant difficulties with implementation of their environment-related competences. The process of decentralization has not been accompanied by proper training and capacity enhancement at the local level. Municipalities interact with the Ministry of Environment and Physical Planning but the provision of guidance and assistance is insufficient.

The SEI has taken part in several institutional strengthening projects. The twinning project “Strengthening administrative capacities at the central and local level for the implementation of the environmental legislation” (2015–2016) helped improve planning and reporting on inspectors’ work.

The draft law on environmental inspection, which was developed under the twinning project, has not yet been adopted.

There is a need to undertake actions:

For the Government to ensure:

- (a) That all documents subject to strategic environmental assessment (SEA) undergo an SEA;
- (b) That authorities proposing planning documents observe all stages and requirements of the SEA process, including monitoring, follow-up and public participation;
- (c) Improvement of screening procedures by raising awareness and encouraging the use of the criteria to determine which planning documents are subject to SEA;
- (d) Improvement of the quality of SEA reports, in particular through securing sufficient expertise for the assessment of environmental effects;
- (e) Training and capacity-building on SEA.

For the Ministry of Environment and Physical Planning to:

- (a) Solicit the support of international organizations and donors in organizing a pilot transboundary SEA;
- (b) Establish bilateral practical cooperation with neighbouring counties on SEA issues, such as establishing working groups.
- (c) Streamline the environmental impact assessment (EIA) process and increase its efficiency

For the Ministry of Environment and Physical Planning, to:

- (a) Advance the national integrated environmental information system for monitoring, processing, reporting and dissemination of information on priority environmental topics, to support informed decision-making and enable e-reporting to international organizations;
- (b) Ensure sufficient and stable resources to ensure effective operation of the national integrated environmental information system, once established;
- (c) Use the new system to combine environmental information with data sources from other sectors, in order to support integrated, cross-sectoral policymaking and decision-making, including for achievement of the Sustainable Development Goals;

For the Ministry of Environment and Physical Planning to:

- (a) Produce regularly reports on the state of the environment, including the biennial Environmental Indicators Report and the quadrennial State of the Environment Report, supported by reliable data and timely information in alignment with Shared Environmental Information System principles of open access to environmental data, and include in those a summary in the format to reach policymakers;
- (b) Strengthen the reports' policy relevance and usefulness by moving towards multisectoral integrated environmental assessments, including: (i) cross-cutting issues; (ii) assessment of progress towards environmental goals and targets and the potential effects and effectiveness of the implementation of environmental protection measures under legal obligations and strategic action plans; and (iii) outlooks and projections of possible future negative trends and their implications vis-à-vis national goals and policies.

For the Ministry of Environment and Physical Planning to:

- (a) Propose to the Government the reorganization of the Administration for the Environment and the Macedonian Environmental Information Centre into an executive environmental agency, which should focus on the implementation of environmental legislation, ensure environmental data collection, monitoring, assessment and reporting, address nature conservation and provide expert support to the Government.

For the Ministry of Environment and Physical Planning to:

- (a) Ensure effective public participation procedures;
- (b) Develop capacity and expertise to ensure effective public participation, including by conducting training for public officials responsible for public participation procedures;
- (c) Enable public participation in decision-making on chemicals, for instance by initiating dialogue with the involvement of authorities and relevant stakeholders, including producers, researchers, civil society organizations and health and environmental specialists.

For the Ministry of Environment and Physical Planning to:

- (a) Intensify efforts in providing support and guidance to Local Self-Government Units t;
- (b) Providing training to municipalities on environmental issues.

For the Government to:

- (a) Ensure training of staff of the Ministry of Environmental Protection and Physical Planning, in particular by allocation of adequate resources to enable specialized training in line with the needs;
- (b) Establish training schemes on environmental issues for civil servants in sectoral ministries.

For the State Environmental Inspectorate to:

- (a) Start the implementation of the outcomes of the EU-funded twinning project, for which it was the main beneficiary, and organize training and methodological support for the authorized inspectors for environment at local level;
- (b) Promote the adoption of the draft law on environmental inspection.

Efforts to Greening the Economy



Box 2: Targets 12.1 and 12.6 of the 2030 Agenda for Sustainable Development

Goal 12: Ensure sustainable consumption and production patterns

Target 12.1: Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

There is no single strategy or action plan in North Macedonia focused on SCP, nor is there a policy document for circular economy. Most related policy priorities for target 12.1 are identified in the NSSD for the period 2010–2030. Related policy priorities are also included in the third National Energy Efficiency Action Plan. No system is in place for collecting data and information on resource efficiency and material flows to cover the main policies and sustainable activities in forest management, agriculture, waste management, industry and energy.

The Government should:

- (a) Introduce the concept of circular economy and material resource efficiency and set the necessary institutional mechanisms;
- (b) Introduce standards and incentives on the efficient use of materials to stimulate businesses and promote circular economies;
- (c) Ensure development and implementation of policies that enhance material efficiency;
- (d) Provide incentives for SCP patterns and enhance customer awareness for such products;
- (e) Ensure the development and implementation of a national action plan on SCP

Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

The Ministry of Environment and Physical Planning encourages companies to be certified by ISO 14000 series, including through incentives.

The Ministry of Environment and Physical Planning is the responsible body for promoting the Environmental Management System under ISO 14001 and its alternative, EMAS. The Ministry has been preparing national requirements for companies' applications for eco-labelling, but the activities were put on hold and no eco-label has yet been awarded. There is no evidence of voluntary environmental reporting by companies in the country.

There is no information about companies publishing sustainability reports. No work has been done on defining minimum requirements for companies' sustainability reports.

The Government should launch a collection of statistics in consultation with the business sector in order to stimulate companies especially large and transnational ones to adopt sustainable practices and integrate sustainability information in their reporting.

The polluter pays principle is enshrined in many environmental laws, but in practice it is not implemented. Against this background, the tax burden and associated revenues related to environmental taxes has remained relatively low. This is one of the reasons for the low share of public-private partnerships (PPP) in the municipal utility services together with the lack of the necessary administrative capacity for planning and evaluation of PPP projects. The main instrument to address air and water pollution is regulation (command and control) combined with prescription of best available technologies (BAT). The flat charge rates per type of polluting substance integrated into permit

fees do not create any incentives for enterprises to adopt cleaner technologies. Effective financial incentives in the form of environmental taxes are lacking.

There is a need for the Government to complement the existing regulatory framework for integrated pollution prevention and control permitting procedures for air and water pollution with effective financial incentives to stimulate pollution abatement.

Expenditures on environmental protection are financed by a number of different funding sources depending also on the particular environmental topic. The main funding sources are the state budget and loans and grants from donor countries and international financial institutions. There is no national environmental fund with a variety of earmarked revenues.

The country has developed a range of strategic documents but, as already mentioned, the costs and the financial source and investments are not addressed.

Government procurement is a major economic force in the country. However, the use of public procurement to support environmental protection has been quite limited, given the focus on the lowest price bid.

The Ministry of Environmental Protection and Physical Planning does not have a policy to lead environmental protection efforts by its own example. No efforts are applied to reduce the use of paper and the generation of waste in the Ministry's building or towards achieving energy and water efficiency and carbon neutrality. Green procurement is not practised for the purchase of goods and services in the framework of projects whose implementation is coordinated by the Ministry.

There is a need for the Government – taking stock of the international experience -- to integrate environmental considerations into public tenders, including by setting credible standards for green products and services, eco-labels and to introduce sustainability criteria in public procurement policy through functional specification of products.

Consequently, there is a need for the Ministry of Environmental Protection and Physical Planning to develop and implement policies for greening the activities of the Ministry, in particular with regard to water and energy efficiency, waste management and carbon neutrality; introduce green criteria for public procurement for projects under its umbrella, and to promote the greening of activities of governmental institutions.

3. Needs assessment part II: Domestic-international interface: adaptation to and mitigation of climate change



Box 3: Targets 1.5, 11.b, 13.1, 13.2, 13.3 of the 2030 Agenda for Sustainable Development

Goal 1. End poverty in all its forms everywhere

Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Target 11.b: By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels

Goal 13. Take urgent action to combat climate change and its impacts

Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

Target 13.2: Integrate climate change measures into national policies, strategies and planning

Currently, North Macedonia does not have a national strategy on climate change adaptation and mitigation. Climate change concerns are at least nominally included in several important national policies and plans.

According to the current legislative provisions pertinent to social housing, housing can be provided to members of vulnerable groups in need. The definition of vulnerable groups includes, among others, internally displaced people.

According to the WHO Global Health Observatory (World Health Statistics 2017) the average death rate due to natural disasters per 100,000 population during the period 2011–2015 was zero. In 2016, due to a devastating flash flood, the country was among the top 10 in the world most affected by both disaster mortality and damage, with 1.06 deaths per 100,000 population and US\$550 million in damage, and the country with the highest percentage of GDP loss (greater than 5 per cent of GDP).

The country has participated in the Hyogo Framework for Action 2005–2015 and has submitted two national progress reports on implementation, for the periods 2013–2015 and 2011–2013, yet the experience has not been used to further advance strategic developments. However, the country does not have a national disaster risk strategy in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, despite having significant vulnerability to disasters.

Concerning the share of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies, eight municipalities and the City of Skopje and its municipalities have developed and adopted climate change strategies with the assistance and support of international and foreign donors, with the aim to reduce local disaster risk and strengthen resilience to climate-related hazards and natural disasters.

In the absence of a national policy framework, it is difficult to ensure coherence among the different activities and learn from good examples to progress towards holistic disaster risk management at all levels in the country (target 11.b).

The Government should:

- (a) Adopt a comprehensive strategy on climate change adaptation and mitigation that would allow municipalities to develop local strategies on climate change adaptation and mitigation;
- (b) Adopt a disaster risk strategy in line with the Sendai Framework for Disaster Risk Reduction 2015–2030.
- (c) Ensure climate change concerns are integrated into sectoral strategic and policy documents.

Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Climate change is not integrated into primary, secondary and tertiary education curricula, although some ad hoc cases are reported. In the wake of the Strategy for Health Sector Adaptation to Climate Change, climate change issues have been included in courses in the Faculty of Medicine of the University “Ss Cyril and Methodius” in Skopje. These, however, are not the consequence of organic interventions but of personal initiatives of lecturers involved. The Ministry of Environment and Physical Planning and local governments, as well as international organizations and CSOs present in the country, have all been active in initiatives and campaigns to raise awareness and advance citizens’ education on climate change and responsible choices in everyday life.

The institutional, systemic and individual capacities to tackle climate change are still relatively limited in the country.

Legislation in the area of climate change is limited to several articles in the Law on Environment. Those cover planning documents on climate change, the GHG inventory preparation system and the development of projects for funding through the Clean Development Mechanism. The 2018 EU progress report points out the need for the country to transpose and start implementation of the EU climate acquis, particularly on emissions monitoring and reporting, the EU Emissions Trading System and effort sharing.

The work on a climate change law started in 2018. The three main objectives of the legislation on climate action currently under development are the full transposition and implementation of the EU climate acquis, achieving low-carbon economy and achieving a more climate “resilient” society. The new law is expected to align to the long-term low-carbon EU strategy until 2050.

There is a need for the Ministry of Environmental Protection and Physical Planning to advance the development of Law on Climate change -- a long-term regulatory framework on climate change as a matter of priority.

The country lacks a dedicated strategy for climate change adaptation and mitigation. The 2018 Strategy on Environment and Climate Change for the period 2014–2020 adopted only in January 2018 includes an action plan with measures, outcomes and indicators but not the responsible authorities and financial resources. The Strategy is structured upon the thematic issues of Chapter 27; for each issue it describes the existing problems and objectives to be attained but is poorly known in sectoral ministries.

Within the national plans on climate change (also known as National Communications under the UNFCCC), vulnerability and adaptation assessments have been prepared for sectors of agriculture, forestry, water, health, biodiversity, crisis management, tourism and cultural heritage protection. Those national plans can serve as strategic documents for adaptation to climate change on a sectoral basis but for an effective response to climate change a national adaptation plan has to be developed through an integrated cross-sectorial approach, setting specific measures.

As regards to climate change mitigation, in March 2019 a planning meeting was held on the project "Preparation of a National Integrated Energy and Climate Plan (NECP)" for the period 2020-2030 implemented by GIZ in cooperation with the MoE and the Ministry of Environmental Protection and Physical Planning. An integrated National Energy and Climate Plan will allow the country to plan its climate and energy goals, policies and measures and to align energy policies with EU policies. The plan is expected to be ready by October 2020.

The country is very vulnerable to climate change, especially to extreme weather events such as heat-waves and floods but lacks clear strategic priorities to be able to adapt to climate change and reduce disaster risks.

In order to enable the health sector to adapt to climate change, the country, in collaboration with WHO has developed in 2011 the 'Climate Change Health Adaptation Strategy and Action Plan'. The overarching objectives of the strategy are to raise awareness about climate change and its effect on population health, identify and monitor climate-change-related health risks, and to improve the health system's preparedness, prevention and timely response to those risks.

A Heat – Health Action Plan has been developed in 2011 with the support of WHO which clearly links climate change with an expected increase in the incidence of heatwaves in the country. One of the key solutions was the implementation of an alert system for timely announcement of heat waves. The plan also included specific temperature thresholds for action, communication of the alert via the media and specific activities to inform citizens and health and social sectors about measures to be taken during heatwaves.

Knowledge and information on climate change-health adaptation have improved in the last 10 years and there is a need for an update of the actions that were laid down in the 2011 Climate Change Health Adaptation Strategy and Action Plan. Strengthening the inter-sectorial involvement and coordination with local authorities will benefit their implementation.

In the long term, a national disaster risk reduction strategy in line with the Sendai Framework for Disaster Risk Reduction should be developed using population-centred approach.

With respect to climate change action at local level, the experience gained through the implementation of the 2015 Municipal Climate Change Strategies Project, funded by the United States Agency for International Development (USAID), in eight municipalities should be used and further reinforced. There is a need for the Government to:

- (a) Encourage municipalities to use the experience gained in particular concerning the participatory process which enabled involving local population in policymaking and at the same time familiarizing them with climate-change-related issues and to prepare their local climate change strategies;
- (b) Support implementation of measures to reduce GHG emissions which are part of the 2011 Skopje Sustainable Energy Action Plan at local level.

Climate Change Communication Strategy has been developed along with an Action Plan as part of the process on the Third National Communication to UNFCCC. The Strategy provides a set of specific measures based on cost effectiveness and targeting each of the three groups: local governments, business community and the general public.

Awareness on climate change related issues has grown, also due to the fact that those are often linked to phenomena such as air pollution or heat waves that are acutely perceived in the country, but overall awareness is still insufficient. Most awareness raising measures are implemented through donor-financed projects.


Climate change is not integrated in primary, secondary or tertiary curricula, although some ad hoc cases are reported. In the wake of the Health Strategy, climate change issues have been included in the Faculty of Medicine of the University of Ss Cyril and Methodius in Skopje.

The institutional, systemic and individual capacities to tackle climate change in the country remain limited. To this end, there is a need for the Government to:


- (a) Strengthen human capacities of the key institutions, especially those participating in the National Climate Change Committee, by establishing in all participating ministries climate change units or climate focal points with a clear mandate for mainstreaming climate change in their sectors;
- (b) Provide a stronger institutional framework to the national greenhouse gas (GHG) inventory preparation process, currently implemented through international projects.

4. Needs assessment Part III: Environmental issues

4.1. Air Quality

3 GOOD HEALTH AND WELL-BEING


Box 4: Targets 3.9 and 11.6 of the 2030 Agenda for Sustainable Development

11 SUSTAINABLE CITIES AND COMMUNITIES


Goal 3: Ensure healthy lives and promote well-being for all at all ages
Target 3.9: By 2030 substantially reduce the number of deaths and illnesses from hazardous chemicals and from air, water and soil pollution and contamination.

The achievement of target 3.9 is measured by the mortality rate attributed to household and ambient air pollution. One component of the twinning project “Further strengthening the capacities for effective implementation of the acquis in the field of air quality” was dedicated to strengthening the capacities for health impact assessment of air pollution. Activities included analysis of the current capacities of the Institute of Public Health and other central-level institutions to conduct health impact assessment and a draft plan on health impact assessment improvement in the country, including the needs for human and technical resources and information. Training and support on the basic health impact assessment methodologies were provided and a plan for establishing biomonitoring related to air pollution was developed.

The age-standardized mortality (rate per 100,000 population) attributed to ambient air pollution in the country is estimated at 46 in the WHO Global Health Observatory data repository. These data are in the United Nations Global Indicators Database and the country should use them as a baseline to monitor progress.

In 2017, the Institute of Public Health demonstrated the potential health benefits of reducing PM_{2.5} levels in the main cities of the country (Bitola, Kavadarci, Kicevo, Kocani, Skopje and Tetovo) to EU limit and WHO guideline values. The current levels of population exposure to PM_{2.5} are responsible for 1,794 deaths annually in the cities: deaths can be avoided through active interventions to improve air quality. Reduction of PM_{2.5} levels to the EU limit value will save approximately 874 lives; reduction to the WHO guideline will bring greater health gains – up to 1,464 lives.

Household air pollution has not received due attention in the legal agenda even though people spend about 75 per cent of their life indoors. The draft strategy on health and environment recognizes the need for indoor air quality monitoring, especially in schools and day-care centres, but it has not yet been adopted. According to the 2007 WHO analysis of the environmental

burden of disease by country, exposure to indoor air pollution from solid fuel use (30 per cent of households) in North Macedonia is responsible for fewer than 100 deaths per year.

The joint effects of ambient and household air pollution in terms of attributable age-standardized mortality is estimated at 82.2 – more than twice the corresponding European Regional average of 36.3 – indicating the rather high burden of ill health from air pollution in North Macedonia, a burden largely preventable and avoidable.

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

Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

The annual mean levels of fine PM in cities (population weighted) are used globally to monitor progress towards achievement of target 11.6. Data for reporting on this indicator are available, the indicator is published, but the achievement of this target already presents a challenge for the country.

Since there is exceedance of the annual limit value recorded at all measurement stations throughout the country during the whole observed period, on the basis of EEA methodology it is considered that the whole population is exposed to PM₁₀ concentrations exceeding the annual limit value of 40 µg/m³. 13 of the 17 PM₁₀ monitoring stations in the country fall in the share of the stations in 41 European countries reporting very high concentrations above the PM₁₀ annual limit value. Similarly, the annual average PM_{2.5} concentration for Skopje during the five-year period 2012–2016 is triple the WHO guideline value (10 µg/m³) and higher than the EU limit (25 µg/m³).

The WHO Global Health Observatory provides estimates of exposure in the country in terms of the population-weighted average of the mean annual PM_{2.5} concentrations for 2016. For North Macedonia, the PM_{2.5} exposure is 33.0 µg/m³ for urban areas and 28.3 µg/m³ for the entire country. The corresponding averages for the European Region were 14.2 µg/m³ and 14.0 µg/m³ respectively.

As regards household air pollution, the WHO Global Health Observatory provides country exposure data in terms of the proportion of the population using solid fuels (estimates) and of the population with primary reliance on clean fuels and technologies. In 2013, 33 per cent of the population in North Macedonia (56 per cent in rural areas and 15 per cent in urban areas) used solid fuels for heating and cooking. The proportion of the population with primary reliance on clean fuels and technologies has increased from 44 per cent in 2000 to 66 per cent in 2016.

The Government should:

- (a) Strengthen coordination between the central and local level institutions to actively work on air quality improvement;
- (b) Continue to implement measures related to improvement of the energy efficiency of households, e.g., efficient windows and heaters;
- (c) Further develop the gas supply network with the planned establishment of district heating with gas in Bitola;
- (d) Strengthen measures related to mitigation of emissions from industry, including energy production;
- (e) Advise the City of Skopje to undertake a study on measures to enhance its public transport infrastructure and its increased use by the public.

Systematic monitoring of air quality and its determining factors is in place and so is the reporting for it. The Law on Ambient Air Quality gives the competence to the state administration body responsible for the affairs of health to carry out the assessment of health risks associated with the ambient air quality. However, assessments which provide information about impacts of air pollution on population health are conducted mostly in the framework of technical cooperation through projects funded by different national and international donors. The country has built core capacity at the Institute of Public Health, but the assessments are conducted only within the projects, and in majority of cases their results do not reach beyond expert groups.

The Ministry of Health must empower the Institute of Public Health setting the necessary institutional mechanisms (including personnel and financial resources) for the assessment of mortality attributed to ambient air pollution across the country on periodic basis. For the purpose, the competent authority for air quality monitoring - the Macedonian Environmental Information Centre (MEIC) under the Ministry of Environmental Protection and Physical Planning - has to be strengthened with the necessary human, technical & financial resources, and capacity for assessments of population exposure to air pollution. Reliable air quality modelling with good spatial resolution supported by reliable emission inventory and calibrated with air quality monitoring data is necessary. Activities would be facilitated through the project on the development of environmental monitoring and information system (to be launched in the beginning of 2019) on the establishment of national environmental databases including introduction of environmental spatial data.

Information on population exposure to PM₁₀ and PM_{2.5} usefully complements the traditional air quality reports. It can be conducted every 2-3 years and together with the periodic estimation of mortality would provide evidence-

base for taking action on pollution abatement and for evaluating whether those actions have brought both air quality improvements and even more importantly, health benefits. Furthermore, assessments of population exposure and of attributed mortality provide the information on two indicators to monitor the progress towards the SDG targets 11.6 and 3.9.

There is a need for specific measures to advance the adequate dissemination of the information on population exposure and its health effects also in the context of the policy actions taken. It is advisable that the ministries (through their intersectoral mechanisms) and in cooperation with the local authorities put in place a communication strategy and action plan for communication on air quality and health on a regular basis and not ad hoc in high pollution episodes so as to reach public and policymakers, build a trustworthy dialogue raise and awareness and promote healthy life choices.

Authorities both at central and city level have put in place a range of measures to combat the pollution including local air quality action plans in the big cities. The overall situation has improved in the last ten years but still all monitoring stations across the country show PM levels exceeding the annual limit values. The strategic framework on air protection was put in place in 2012, since then no report on the implementation of the key policy documents or assessment of the effects of the policy measures has been prepared. Sustainable improvement of air quality can be achieved only on the basis of monitoring the progress of implementation of the policy documents and evaluating their effects. This is also in line with the EU Air Quality Directive 2008/50/EC, which sets reporting obligations on the measures put in place in areas where air quality limit and target values are exceeded and their effects.

The Ministry of Environmental Protection and Physical Planning has to put in place a system for monitoring the implementation of policy action plans and other measures and evaluation of their effects and effectiveness and set up a dedicated unit mandated with the task. Air quality monitoring and reliable inventory of sector-/ source-specific emissions are essential for the system. Introducing air quality modelling in combination with population density will upgrade the system with population exposure assessment, which in turn enables evaluation of effectiveness in terms of population health benefits.

Targeted measures are needed to enforce the polluter pays principle in practice and introducing financial incentives for effective pollution abatement as well as amendment of the Law on industrial emissions and integrated permitting and its adoption.

The Programme for Reduction of Air Pollution adopted in the fall of 2018 contains a set of measures aiming to achieve reduction of air pollution by 50 per cent in Skopje and 30–50 per cent in other urban centres and its implementation is planned for the period 2019–2020. Measures include an improvement of air quality monitoring, increase of capacities of environmental inspection, rise of the public awareness and reduction of emissions into air coming from domestic heating, waste management, transport, industry and construction. The Programme recognizes limited capacities of the environmental inspectorate and the need to improve its performance through an increase in the number of staff, an increase on the number of regular inspections, a revision of the legal acts which will affect institutional set-up and contribute to more a efficient system of inspections. Also, amendments to the Law on industrial emissions and publishing of lists of companies with valid integrated environmental permits are foreseen herein.

The Programme foresees establishment of mechanism to monitor its implementation -- an ideal opportunity for putting in place an implementation and evaluation monitoring mechanism on a systematic basis. It can be used for assessment of a “baseline” versus which to monitor the progress during implementation; furthermore, and to facilitate assessment (ex-ante and/or ex-post) of the effects of the different policy measures (and their effectiveness).

The Programme does not contain financial estimation, deadlines or authorities in charge to implement those measures. An action plan on its implementation is yet to be seen.

4.2. Waters



Box 5: Target 3.9 and Goal 6 of the 2030 Agenda for Sustainable Development



Goal 3: Ensure healthy lives and promote well-being for all at all ages

Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

The burden of disease in North Macedonia associated with unsafe water and sanitation and lack of hygiene as measured by the mortality rate attributed to unsafe Water, Sanitation and Hygiene for All (WASH) services (indicator 3.9.2) is low. WHO estimates the mortality rate attributed to exposure to unsafe WASH services (per 100,000 population) in 2016 at less than 0.1. The European Regional average was 0.3.

Goal 6: Ensure availability and sustainable management of water and sanitation for all

Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all

According to WHO/UNICEF Joint Monitoring Programme (JMP) estimates in 2015, about 84 per cent of the total population in the country have access to safe drinking water (90 per cent of the urban population and 74 per cent of the rural population), thus drawing attention to some urban–rural disparities. Access for the total population increased from 91 per cent in 2000 to 93.5 per cent in 2015. Estimates of access for the rural population show an increase from 80.9 per cent in 2000 to 98.1 per cent in 2015. However, estimates of access for the urban population show a decrease from 98.1 per cent in 2000 to 90.1 per cent in 2015. The decrease in urban population access is primarily due to deterioration of the water network and lack of funds for its maintenance and rehabilitation.

With the negative time trend, the country is not on track to achieve the Agenda 2030 target on universal and equitable access to safe drinking water.

The Government should:

- (a) Seek funding mechanisms to invest in water network rehabilitation and metering to reduce losses, to reduce the impact on the environment and ultimately on public health;
- (b) Ensure that public buildings such as schools, kindergartens and day-care centres are connected to safe drinking water supply and sewerage systems as a matter of priority.

Target 6.2: By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

The WHO/UNICEF JMP estimates of the proportion of the population with access to improved sanitation facilities in 2015 are 94 per cent of the country's total population, 100 per cent of the urban population and 87 per cent of the rural population. Of those population groups, connections to a sewer are available for 71 per cent, 97 per cent and 36 per cent respectively. There are no data available on handwashing facilities. All hospitals and educational facilities in the larger cities, as well as in the villages with larger schools, have special toilets designated for men and women. Smaller regional schools have common toilets. Gender-related challenges with access to water and sanitation remain.

Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

As at November 2018, it can be estimated that up to 24.5 per cent of wastewater is potentially treated. Most of the wastewater plants only have secondary treatment. Due to the lack of maintenance and other reasons, the WWTPs sometimes need to discontinue operation. By providing a clear structure and concentrating responsibilities on singular central bodies, municipalities' access to technical assistance and capital funding in the wastewater sector could be facilitated.

As for the proportion of bodies of water with good ambient water quality (indicator 6.3.2), country data reported in the framework of global monitoring and initial data collection in 2017 show that 8.7 per cent of all assessed water bodies are estimated to be of

good ambient water quality, i.e. they meet at least 80 per cent compliance with the core parameters of country-defined target values based on the available monitoring data. None of the groundwater bodies or the open water bodies assessed during that time were of good ambient water quality. Only 12.5 per cent of the rivers assessed are of good ambient water quality. Because of the lack of wastewater treatment in many parts of the country and other adverse impacts on water, poor ambient water quality bodies can be found near settlements or in the lower courses of waters. With about 73-75 per cent of the total municipal waste collected being dumped near human settlements and the majority of the non-compliant landfills and dumpsites place pressure on the environment and human health. Furthermore, the prevailing method of hazardous waste management, i.e. its removal by the generating business entities themselves, poses considerable risk to the environment and human health.

Target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

No reliable data are available on the changes in water-use efficiency over time (indicator 6.4.1). Currently, water consumption varies considerably both between and within sectors, as do freshwater resources for the sectors across the years. It is expected that water losses will continue to increase in the future, due the outdated water supply infrastructure and the lack of investment, unless urgent countermeasures are put in place.

In 2014, the overall pressure by all sectors on the country's renewable water resources (fresh water withdrawal as a proportion of available freshwater resources) is estimated at up to 13.78 per cent. Taking into account the lack of systematic quantitative information about groundwater, the high impacts on surface water related to water usage, and many human and other activities, as well as the effects of climate change, it can be concluded that the volume of freshwater available will be depleted and water shortage will increase considerably, together with conflicts between demand and supply.

Target 6.5: By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

According to a 2016 UNEP survey, the current degree of integrated water resources management implementation (indicator 6.5.1) is 22, which is classified as low. The country's target for 2030 is 65.

The Government should strengthen the country's water-management-related capacity and introduce effective managerial instruments to make rational and informed decisions between alternative actions and secure funding.

The country is active in transboundary water cooperation, especially on shared transboundary lakes. The effectiveness of existing agreements is also an important issue, as, for example, there is no evidence of regular meetings of the Greek-Macedonian permanent commission on transboundary freshwater issues. Bilateral agreements exist with Bulgaria on the Strumica River Basin and with Greece in respect of the Vardar River Basin, but cooperation has not functioned recently and has to be re-established.

According to the information provided by the country in 2017 as part of the reporting under the Water Convention and for Sustainable Development Goal the total surface area of transboundary basins of rivers and lakes within the territory of North Macedonia is 27,766 km², whereas the total surface area of transboundary basins/sub-basins of rivers and lakes covered by operational arrangements within the territory of the country is 3,771 km². Thus, only 13.6 per cent of all transboundary river and lake basins have an operational arrangement for water cooperation in place. There is no information about transboundary groundwater covered by operational agreements on water management, as the available data in the country are not sufficient to delineate the area of transboundary aquifers.

The Government should:

- (a) Advance cooperation on transboundary water management through strengthening formal communication of the Greek-Macedonian permanent commission on transboundary freshwater issues;
- (b) Re-establish the agreements with Bulgaria on the Strumica River Basin and with Greece on the Vardar River Basin by updating the coordinated water management plans, setting up regular data and information exchange between the competent authorities and securing regular cooperation mechanisms for monitoring and evaluation of the plans' implementation;
- (c) Make existing cooperation arrangements operational by developing and regularizing activities or expanding the coverage of cooperation arrangements, seeking to optimize and use effectively available human, technical and financial resources, if the country target of 80 per cent of transboundary basin area by the year 2030 is to be reached.

Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

Available data are not sufficient to estimate the changes in the extent of water-related ecosystems over time (indicator 6.5.1). However, negative trends in the extent of the lake and wetland ecosystems have been observed, due to global climate changes and the ongoing land uptake, threatening the remains of the marsh ecosystems in the lowland regions of the country. As at 2018, a national wetlands policy or a programme for wetlands conservation has neither been adopted nor implemented.

There is a need for enhance priority setting for protection and restoration of water-related ecosystems with a greater primary focus on surface-water-related ecosystems. Currently, these ecosystems account for about 2 per cent of the total land area and

there is no trend of an increase in their area from 2005 to 2015. The nationally derived proportion of water bodies with good water quality in 2016 was below 9 per cent; that of rivers was up to 12.5 per cent. The Government should raise public awareness about the water-related ecosystems and improve public knowledge about the possible and necessary extent of the water-related ecosystems.

Target 6.b: Support and strengthen the participation of local communities in improving water and sanitation management

In the process of decentralization responsibilities for water supply and sanitation are assigned to the municipalities. Legal mechanisms allowing public participation in decision-making related to water resources management are in place and anticipated to have better effect with the uptake of the RBMPs in compliance with the national legislation. The availability of financial means to perform these tasks is an important aspect of meeting the target. The RBMCs and the National Water Council are the institutions that can develop targeted communication channels to specifically address the stakeholders involved in water management, such as the Ministry of Agriculture, Forestry and Water Economy and the farmers in areas subject to high erosion. In addition to the general information related to water management, RBMCs are not established, leading to a lack of priorities for the respective catchment areas. Although established, the National Water Council is not in operation. The Government should ensure the establishment of RBMCs and the operation of the National Water Council.

With the 2008 Law on Waters, the country has set ambitious goals of achieving “good status” for all waters through expanding the scope of water protection to all waters, including surface water and groundwater, through water management based on river basins and close public participation in accordance with the EU Water Framework Directive. However, the law, practical implementation and enforcement face considerable challenges.

Monitoring of water quality and quantity, either surface or ground waters is insufficient to provide information on the status of water resources – an essential prerequisite for their sustainable management. Preparation of a resilient and effective River Basin Management Plan (RBMP) and subsequent tracking of the effects of implementation of policy measures and programmes relies on reliable water monitoring data. Besides monitoring deficiencies, the lack of reference conditions for the water bodies hampers the development of RBMP.

There is a need for the Government to allocate an adequate regular budget for remediation and maintenance of the water monitoring network to enable the systematic monitoring and assessment of the status of surface water and groundwater bodies in line with international and EU practices.

The main source of water pollution is poorly treated wastewater from different sectors. Industrial wastewater is discharged without prior treatment or pre-treatment is carried out in poorly-maintained and inefficient facilities. Landfills close to rivers or lakes are a further source of pollution by infiltration or run-off into surface water and groundwater.

There is a need for the Government to ensure the construction of wastewater treatment plants and sewerage collection systems for cities having over a 100,000 population equivalent as a first priority, and for municipalities having over a 10,000 population equivalent as a secondary priority. Also, it is necessary to allocate funds for the maintenance and operation of existing sewerage collection systems and for rehabilitation of the irrigation systems.

At the same time, actions need to be taken to upgrade and enforce the legal framework with respect to the polluter pays principle, an adequate tariff system for water-users, integrated permitting procedures, sanitary protection of drinking water supply sources as well as on the adoption of the draft Law of industrial emissions in line with the EU Industrial Emissions Directive.

Implementation of sustainable water management, particularly the river basin management, for which the Ministry of Environmental Protection and Physical Planning has the leading role faces significant difficulties. The Administration for the Environment under the Ministry has to ensure the fulfilment of expert activities and undertake measures and activities related to water resources management for each river basin, such as collection, processing and storage of data from water monitoring, baseline assessment of the characteristics of each river basin and the preparation of a programme of measures. The RBM plans for Lake Prespa and Bregalnica River are

developed, for Strumica and Vardar River basins – plans are drafted, but none of them has been adopted by the Government and for none of them the SEA has been conducted.

River Basin Management Councils - the key mechanisms ensuring participation of local communities in water management have to be established for each river basin with the purpose of preparation, implementation and monitoring of the river basin management plans, and for proposing measures for improving water management. No river basin management council (RBMC) is established.

The establishment of RBMCs is new in the country and many aspects of their functioning, such as development of detailed criteria for representation of various groups of stakeholders, methodological guidance and funding issues, are not yet defined and tested and may well require adjustment after a certain period of their work.

There is a need for the Ministry of Environmental Protection and Physical Planning to prepare: (i) a proposal for a pilot project with the aim to work out the modalities for an effective launch and functioning of the new institution in a river basin for which the RBM plan is in final drafting stage; (ii) a plan for transfer the tested working arrangements for setting RBMCs to other designated river basins.

Cooperation arrangements to benefit from other countries' IWRM practical experience and countries well advanced in the implementation of the Water Framework Directive have to be sought.

Due of its geomorphology and climate, the country is prone to floods. Floods account for 44 per cent of all disaster events in the country and in 2015 about 170,000 people were directly affected by devastating flash floods and nearly half of the total population - indirectly. In 2016 because of the major flash floods the country was among the top 10 most affected countries in the world in both disaster mortality and damages.

The Floods Directive 2007/60/EC is not transposed into the national legislation. The Law on Waters requires that a programme for protection against harmful effects of water is prepared within the respective river basin, as an integral part of RBMPs under regular (6-year cycle) review of the programme and thus fulfils some essential points of the Directive. The basis of the flood risk management plans are on flood hazard and flood risk maps, both have not yet been prepared. The partly existing maps of flood plain are not equivalent to the flood hazard maps and, therefore, it is not possible to conduct assessment and management of flood risks according to the Directive. Due to the large deficiencies in surface water monitoring, forecasting and estimating flood events is difficult. Currently, a flood modelling based on the Directive 2007/60/EC has been conducted for the city of Skopje. Overall, it can be speculated that the preparation of a specific programme for protection against harmful effects of water in a given river basin in compliance with the Law on Waters as an integral part of the RBMP is not justifiable against the importance of the Directive.

Some specific measures on flood management are put forward in the EPR to counteract the high pressure for new buildings, construction and land use on flood plains. Those include: (i) ensuring that flood plains are left open without further building, construction and land use involving water-polluting substances; (ii) ensuring maintenance of existing flood protection systems and considering building of flood protection systems based on reliable flood predictions and hydrological forecasts; (iii) preparation of a handbook of flood-adaption planning and building in flood areas if unavoidable; (iv) raising public awareness of floods through reconnaissance and preparation for flood events, supported by flood preparedness and response exercises for those involved in flood management.

It is equally important to consider how best to strengthen the section of the Law on the harmful effects of waters to come close to the Directive. There is a need for the Ministry of Environmental Protection and Physical Planning to prepare a proposal for specific activities on critical review of the Law on Waters in particular the provisions on harmful effects of water vis-à-vis the Directive. Again, cooperation arrangements such as twinning projects to benefit from the experience of other countries well advanced in the implementation of the Flood Directive and the Water Framework Directive have to be sought.

The 2012 National Water Strategy sets the policy agenda on sustainable water development by meeting the demands of all users for a longer-term period of 30 years but remains general: there are no milestones set on the implementation, neither concrete action plans for shorter-term developments. There is no prioritization of the various areas such as water supply, monitoring, flood protection as well as no prioritization of the respective measures.

There is a need for preparation of an evaluation report on the implementation of the Strategy led by the Ministry of Environmental Protection and Physical Planning in order to guide the next developments.

The Water Resources Management Basis (WRMB) has to be prepared to support integrated planning and implementation of programmes and measures for development of waters in accordance with the national sustainable development objectives. This must be done along with the harmonization of the economic development, social progress and environmental protection as well as the implementation of the Strategy. The WRMB has a time horizon of 20 years and the Ministry of Environmental Protection and Physical Planning is responsible for preparation and submission to the government and after review – to the National Assembly.

The WRMB sets a “baseline framework” for the current status of the waters, present and future water demands; water balance, technical and economic solutions for rational use of waters, for sustainable protection of waters against pollution and for protection against harmful effects of waters; long-term environmental objectives and measures for their achievement. A systematic review of the various projects and studies on a range of water management issues can be considered with the aim to usefully complement the WRMB. Currently there is no WRMB or plans for its preparation.

The rather fragmented institutional framework of the water protection and water resources management presents an important challenge for coordinated actions. The National Council for Waters is a consultative body consisting of members nominated by the following institutions: Ministry of Environment and Physical Planning, Ministry of Health, Ministry of Transport and Communication, Ministry of Economy, Ministry of Agriculture, Forestry and Water Economy, ZELS, Academy for Science and Art, non-governmental sector and the river basin management councils (RBCs). It is currently not in operation and measures are necessary for its re-vitalization.

4.3. Waste and chemicals



Box 6: Targets 3.9, 6.3, 11.6, 12.4 and 12.5 of the 2030 Agenda for Sustainable Development

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Unintentional poisonings could be potentially associated with contamination from non-compliant municipal landfills and dumpsites, due to a lack of safe chemicals management, attributed mortality being just the tip of the health-effects pyramid with relatively very low levels of incidence. WHO estimates the burden of disease from unintentional poisonings for North Macedonia in terms of attributable mortality at 0.4 per 100,000 population in 2016, with the low levels remaining almost unchanged since 2000.

Goal 6: Ensure availability and sustainable management of water and sanitation for all

Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

With the exception of the Drisla landfill serving Skopje, which complies with the basic requirements for safe waste disposal, all other municipal waste collected (about 73–75 per cent of the total) is still dumped near human settlements, with the majority of the non-compliant landfills and dumpsites placing pressure on the environment and human health. Furthermore, the prevailing method of hazardous waste management, i.e. its removal by the generating business entities themselves, poses considerable risk to the environment and human health. The lack of sewerage connections and wastewater treatment facilities further aggravates the situation. With the slow progress in building regional landfills, the existing non-compliant landfills will continue to operate.

The SEI conducts a minimum of two inspections annually of each non-compliant landfill and four inspections of Drisla landfill. For the non-compliant landfills, it checks only limited parameters. The SEI should undertake relevant measures to stop environmentally harmful activities at non-compliant landfills.

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

Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

The MSW collection rate was in the range of 70–81 per cent in the period 2011–2017 without any increasing trend, indicating that a significant part of the population, predominantly in rural areas, still does not have access to waste collection services.

Most of the municipal waste collected is disposed of at non-compliant landfills, with the exception of Skopje, which means that, overall, around 50 per cent of the total MSW generated is adequately discharged. Progress in the implementation of regional waste management plans and construction of more sophisticated regional landfills is rather slow.

The Government should advance the establishment of regional waste management systems and the construction of regional landfills following clear prioritization based on risk assessment, with the aim to minimize and prevent risks to the environment and human health, with appropriate investments.

Goal 12: Ensure sustainable consumption and production patterns

Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

Indicator 12.4.1 refers to the Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement.

North Macedonia is party to the Rotterdam, Basel and Stockholm Conventions and the Montreal Protocol on Substances that Deplete the Ozone Layer to the Vienna Convention for the Protection of the Ozone Layer. It has fulfilled the requirements for ratification of the Minamata Convention on Mercury, thus enabling it to benefit from international experience and cooperation on environmentally sound management of chemicals and waste materials.

Based on the information collected by each of the Conventions' Secretariats for the first baseline reporting cycle in 2017 (covering the period 2010–2014), the country has been in full compliance with the Montreal Protocol (100 per cent), close-to-full compliance with the Rotterdam Convention (over 92 per cent), and moderate compliance (50 per cent) with the Stockholm Convention. However, fulfilment of the country's obligations in transmitting information to the Basel Convention is only at 16.7 per cent.

The country should strengthen its efforts to report regularly on the control of transboundary movements of hazardous wastes and their disposal.

Indicator 12.4.2 refers to Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment.

Both the SSO and Ministry of Environment and Physical Planning collect and publish statistics on the amount of hazardous waste managed, though with differences in methodology and data collection. The SSO collects data on a two-year cycle on hazardous waste generated, treated and disposed of, covering the manufacturing sector only and expressed in kg per capita. In 2014 and 2016, data were much lower than in 2012 because of a new method of data collection and also a lower response rate. There is a legally binding requirement for all commercial entities that generate hazardous waste to submit annual reports on hazardous waste to the Ministry of Environment and Physical Planning. A national indicator is produced on the hazardous waste generated, imported and exported, temporarily stored, and treated, and expressed in tons, m³ or percentage. The indicator methodology is based on the definitions and conditions set in the Law on Waste Management and uses the national classification of economic activities harmonized with the relevant international ones. A decrease in 2016 for the hazardous waste generated is again explained by the response rate, with the lack of annual reporting by REK Bitola, which is responsible for generation of about 90 per cent of the hazardous waste in the country.

Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Indicator 12.5.1 refers to National recycling rate, tons of material recycled.

Despite the introduction and operation of EPR schemes, separate collection and recycling, the overall recycling rate of non-hazardous MSW in 2017, based on reports of only eight municipalities (Skopje included), remained very low – only 0.9 per cent.

Separate collection and recycling under the EPR schemes for specific waste streams, such as packaging waste, WEEE and WBA have made some progress.

The Strategy for Waste Management and National Waste Management Plan, and also the relevant legislation, define and focus on targets for separate collection and waste recovery, and on recycling, but currently do not provide adequate measures to enable growth of the domestic recycling industry. The recycling rate could hardly be increased in the absence of a strong recycling industry in the country. Therefore, the Ministry of Environment and Physical Planning should take a range of measures to encourage sustainable waste management. These could include a dedicated national policy on waste reduction, reuse and recycling with an action plan and realistic targets and milestones.

The Ministry of Environment and Physical Planning, in cooperation with the Ministry of Economy and Ministry of Finance, should encourage recycling and reuse of waste by providing competitive advantage and incentives to waste collectors for the separate collection of different types of waste upon its generation and to domestic manufacturers to use waste as raw materials.

The Government should be conducting and favouring procurement for the use of recycled materials by the public administration and promotions for customers purchasing consumer goods made of recycled materials.

Most part of the collected municipal waste is disposed at non-compliant municipal dumpsites, with the exception of Skopje, where Drisla landfill fulfils the basic requirements for landfilling and primary sorting of waste to wet and dry fractions is in place. The non-compliant landfills are not even controlled by the inspectorate, even though their envisaged to operate until the completion of regional landfills i.e. at least for another few years. Illegal landfills further aggravate the situation.

Due to the lack of monitoring activities and installations on the existing municipal non-compliant landfills, the only evidence-based evaluation of the pressures and risks of non-compliant landfills on the environment were made in 2011 and still sets the base for prioritization of the closure of non-compliant landfills.

Regional waste management plans and technical documentation for establishing waste management centres have been developed for seven regions. The progress in the implementation of the regional waste management plans and regional landfills construction has been slow. While putting in operation integrated waste management system should become a priority at high Government level, it is necessary to ensure that the State Environmental Inspectorate takes adequate measures to stop environmentally harmful activities at non-compliant landfills.

Upgrading and modernization of the waste management sector is further hampered by the lack of cost-reflective waste tariffs for collection of the waste and its disposal in landfills.

It is necessary that the Government together with the local authorities and other stakeholders review existing regulations while taking into account the needs to protect poor and vulnerable population groups but also to advance the regionalization of waste services reach an agreement on measures that are effectively raising bill collection rate for waste service fees.

Data on most waste types are prone to under-reporting and feature discrepancies in data collection methods and statistics between the two main actors: the Ministry of Environmental Protection and Physical Planning and the State Statistical Office. Datasets of the two institutions are not comparable. This being the case for most of the datasets including hazardous waste, hence making difficult their use for assessment of situation and progression to guide policy-making. The legally-binding data reported by all parties to the Ministry of Environmental Protection and Physical Planning is burdensome; reports are still submitted on paper. The Waste Management Information System, which was intended to facilitate it, is not operational since it is not fully compliant with the current legislation.

Actions are therefore necessary to be undertaken by the Ministry of Environmental Protection and Physical Planning in cooperation with SSO on:

- Amendment to the waste legislation, in particular, delineating the roles and responsibilities of the Ministry of Environmental Protection and Physical Planning and State Statistical Office (SSO) as data collection bodies and streamlining the legally-binding reporting obligations by all parties;
- Development and adoption of a set of waste-related indicators including data collection methodology, underlying statistics and reporting methods;

- Putting in operation the National Waste Management Information System.

The legal framework on waste management in the country has been considerably advanced with the introduction of the Extended Producer Responsibility (EPR) for packaging waste, electric and electronic equipment waste (WEEE) and Waste Batteries and Accumulators. Accordingly, three laws were adopted, all of them stipulating collective waste handler companies (collective scheme) cannot perform any waste management activity by themselves, but need to cooperate and contract a communal company (almost exclusively public entities) entitled to collect and treat waste and to contract legal entities with waste management permit in the context of the Law on Waste Management. This separation of the activities prescribed by the law to the handler of waste on one hand and to actual waste manager but on the other hand, it hinders the provision and development of separate collection and recycling services. Also, it discourages the waste handlers for improved performance towards the national targets for separate collection and recycling predefined by the law, because there is no stimulation for attaining higher recycling rates neither opportunity for revenue from the collected waste.

Despite the new regulation and the mid-term targets for packaging waste and WEEE, no assessment on the fulfilment of targets and operation of the legal arrangements have been carried, even though the collective waste handlers are obliged to send reports about their performance and progress in fulfilment of their targets.

Therefore, it is necessary for the EPR to conduct an assessment on the impacts and effectiveness of the EPR legislation (e.g. through the regulatory impact assessment), and based on it, to upgrade it and further proceed with introducing the scheme to other waste streams i.e. waste textiles, waste oils, used tyres and end-of-life vehicles.

The overall recycling rate in the country remains very low despite the introduction and operation of the extended producer responsibility (EPR) schemes, separate collection and recycling.

The national waste management plan ended in 2015, but lacks evaluation. The draft national waste management plan for the period 2018–2024 (for consultation) is about to define more realistic objectives based on the slow progress in the establishment of regional waste management system and the construction of landfills. It is also expected that the new national waste management plan for the period 2018–2024 will integrate measures on waste packaging, waste from electrical and electronic equipment and waste batteries and accumulators. In parallel with the national waste management plan, the draft national waste prevention plan has been prepared and is pending adoption.

It is necessary for the Ministry of Environment and Physical Planning to adopt, as a matter of priority, the draft national waste prevention plan to serve national policy framework on waste reduction, reuse and recycling. The Ministry of Environmental Protection and Physical Planning in cooperation with collective waste handlers, awareness-raising and information is to organise campaigns for manufacturers and consumers on reduction, reuse and recycling of urban waste.

Hazardous waste is mostly generated by three economic sectors: mining and quarrying, manufacturing and electricity, gas, steam and air conditioning supply.

Former industrial and mining sites where a large amount of hazardous waste is still present and stored in an inadequate way represent an actual or potential threat to the environment. In North Macedonia, the only comprehensive assessment of the situation related to environmental hotspots was conducted in 2005. In 2011, the Ministry of Environment and Physical Planning prepared a Plan for Closing of Non-Compliant Landfills, identifying 54 priority-action non-compliant landfills but due to lack of funding for their closure the plan was on hold. Progress has been made only in the case of OHIS site in Skopje which was ranked in the 2005 assessment as one of the three hotspots with “high environmental risk”.

The 2012 Law on Mineral Resources regulates the exploitation of mineral resources, including the remediation and re-cultivation. Although the Law introduced financial guarantee for remediation, it is not defined as an obligation and the provision is not implemented. As of the fall of 2018, due to the gap in the regulation, none of the concessions issued included payment guarantee for remediation.

It is necessary that the Ministry of Economy in cooperation with the Ministry of Environmental Protection and Physical Planning to amend the Law on Mineral Resources by developing subsidiary legislation on financial guarantees to cover the costs of rehabilitation and remediation. Equally, a policy paper is to be prepared on the environmental impacts of mining and industrial pollution and good practices for clean-up of mining and identifying industrial pollution hot-spots to serve development of a coherent policy framework in the country. Support from other countries and international organizations should be sought.

Advancing the preparation of the draft Law on Soil Protection and promoting its adoption is to be considered as well.

As regarding chemicals progress is being made to transpose the REACH legislation and that on chemicals, classification, labelling and packaging of substances and mixtures. Further effort is needed to enhance the country regulatory framework (esp. the subsidiary regulations) and to strengthen administrative capacities in order to advance the implementation.

The 2005 Law on Environment has a chapter on Prevention and control of major accidents involving hazardous substances describing the obligations of the operators handling the hazardous chemicals. Each operator has to prepare their internal emergency plan for prevention which reflects the Seveso Directive and the Convention on Transboundary Effects of Industrial Accidents. The regulatory framework on the control of major accident hazards involving dangerous substances (Seveso) has evolved and a new European Directive known as Seveso III was launched in 2012, which was amended and subsequently repealed the Seveso II Directive as of June 2015. This calls for transposition and implementation into national legislation of the EU Directive 2012/18/EU (Seveso III), ensuring synchronization with the under the scope of the Convention on Transboundary Effects of Industrial Accidents.

The country did not identify hazardous activities falling under the scope of the Convention on the Transboundary Effects of Industrial Accidents and subsequently did not notify potentially affected countries. Since 2012, the country has not submitted an updated national self-assessment and action plan under the Convention's strategic approach, and related project proposals addressing needs and challenges identified through the self-assessment and in the national action plan.

Therefore, Ministry of Environmental Protection and Physical Planning has to undertake the necessary in order to adhere to the commitments pursuant to the Convention on the Transboundary Effects of Industrial Accidents, its scope and strategic approach;

4.4. Biodiversity and protected areas



Box 7: Targets under Goal 15 of the 2030 Agenda for Sustainable Development

Target 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

The forest area has increased with time from 38.2 per cent of the total land area in 2011 to 39.0 per cent in 2017 (indicator 15.1.1).

In 2018, some 86 per cent of the freshwater key biodiversity areas in the country were covered by protected areas, but the coverage of the terrestrial ones was much lower -- only 21 per cent. These values remain almost unchanged since 2000, therefore indicating that more effort is necessary to achieve the target.

Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

The implementation of the 2006 Strategy for Sustainable Development of Forestry is ongoing; however, there is no single evaluation report. It is difficult to assess the progress towards sustainable forest management (indicator 15.2.1) due to general lack of data on forest resources, since the national forest inventory has not yet been undertaken and the national forest monitoring system is not operational. In 2018, the national forest certification system was, for the first time, endorsed within the Programme for the Endorsement of Forest Certification (PEFC).

Even though afforestation and reforestation work slowed down in recent years, the area of forests is still increasing. There is a progress and the country reports that around 92 per cent of the forest area is covered by a long-term management plan, as about 90 per cent of the forest area is state property managed by public enterprise. However, even if most of the protected areas are covered by forests, systematic reporting on the proportion of forest area within legally established protection areas is missing due to the lack of a forest inventory but also to the use of a rather general forest classification system (for economic and social purposes). More effort is required to advance the conservation of forest biodiversity.

Target 15.3: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

In 2018, the proportion of degraded land over total land area (indicator 15.3.1) calculated only for the land covered by forests, show that degraded forests account for over 4 per cent of the total forest area.

Target 15.4: By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development

Coverage by protected areas of Mountain Key Biodiversity Areas (one component of the indicator 15.4.1) accounts for some 23 per cent and has remained unchanged since 2006.

The Mountain Green Cover Index (indicator 15.4.2) was 96.5 per cent in 2017.

Target 15.5: Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity, and, by 2020, protect and prevent the extinction of threatened species

The IUCN Red List Index (indicator 15.5.1), aggregating change in extinction risk across groups of species, cannot be calculated for North Macedonia as it would require the production of at least two editions of national red lists with the use of IUCN criteria, while no national red lists have been adopted to date.

Target 15.6: Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed

North Macedonia is not yet a party to the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity nor to the International Treaty on Plant Genetic Resources for Food and Agriculture.

The Government should consider acceding to both these instruments.

Target 15.7: Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products

There are no data and adequate monitoring in place to assess the proportion of wildlife that was poached or illicitly trafficked, as reliable data on the game species populations are not available. The country has been party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 2000, although it has never been represented in the meetings of the Convention.

Target 15.8: By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive species on land and water ecosystems and control or eradicate the priority species

The 2004 Law on Nature Protection sets provisions for preventing the introduction of allochthonous species, control of their populations or their eradication. Furthermore, the 2018 National Biodiversity Strategy and Action Plan (NBSAP) for the period 2018–2023 includes a target on the development and implementation of adequate policy for recording, control and protection of non-native and invasive species and specifies the actions to be undertaken. First steps in implementation is the identification of alien species, in particular invasive ones, and assessment of possible threats; these are due to be completed by 2021, followed by the preparation and adoption of a national list of invasive species, which is planned for 2021–2022. In 2018, there is not much data available on invasive alien species, monitoring system is in place and no measures have been implemented.

The Government should ensure implementation of national monitoring and research programmes on these species as an indispensable next step for progress towards the target.

Target 15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts

One of the targets of the 2018 NBSAP for the period 2018–2023 concerns the gradual integration of biodiversity values into economic development policies (e.g. poverty reduction, environmental accounting, national and local development plans) at national and local levels. As of 2018, no case examples of such integration of biodiversity values can be cited.

The country should advance the implementation of the 2018 NBSAP in order to facilitate the progress towards the target.

The 2004 Law on Nature Protection sets the legal framework for protection of natural, biological and landscape diversity inside and outside protected areas also as “natural rarities”. However, its implementation has faced considerable challenges and several deadlines have not been kept and important provisions – have not been put in place. The reason lies in the fact that the Law has been developed a long time ago under different background and expectations, and there were not clearly formulated provisions and even some misleading ones. Another challenge has been related to the need of the adoption and implementation of by-laws, while only about one-third of them have been prepared and adopted. The Law has been amended several times (no less than 17 times since 2011), including also to provide for its approximation with the EU legislation on nature (in particular the Habitats and Birds Directives).

A draft law concerning the protection of nature, which is expected to ensure the transposition of the EU nature-related acquis is currently under preparation.

As a result,, no national red list of threatened species has been adopted, and no corresponding red book has been published to date. Preparation of the list of alien invasive species is planned for the near future, albeit the control or eradication of already present invasive species may already be impossible in practice. Furthermore, other tasks remain pending, despite the fact that the Law on Nature Protection stipulated their accomplishment within the first three to six years of its entry into force. For example, the process of revalorization and proclamation of existing protected areas has not yet been completed, which impeded the preparation and adoption of all required management plans for protected areas.

The 2004 Law set provisions for establishment of a national council for nature protection as an advisory body to the Minister of Environment and Physical Planning with large competences. Those include the review and issuance of opinions on the implementation and further development of the 2004 Law, proclamation of protected areas, adoption of the list of endangered species (red list) and protective measures to be implemented for improving the status of endangered species populations (prescribed in the red book), and the adoption of strategic documents related to nature protection and the establishment of the national ecological network.

As of 2018, a national council for nature protection has not been established.

In 2018, the country adopted the National Strategy for Nature Protection and Action Plan for the period 2017–2027 and the NBSAP for the period 2018–2023. The two documents are ambitious, but they are not fully harmonized, as timelines set for the same activities sometimes differ between the documents.

Despite the numerous activities implemented in the framework of various programmes and projects with the support of donors and international organizations conducted in the last 15 years, there is no biodiversity monitoring and information system in the country. Under the IPA Twinning Project “Strengthening the capacities for effective implementation of the acquis in the field of nature protection” (2017–2019) implemented by Ministry of Environment and Physical Planning, a draft national biodiversity monitoring programme in line with the EU Habitats and Birds Directives is expected to be prepared, including monitoring protocols for 20 habitats, 20 species and 20 of birds, nature inventories in two pilot sites, draft studies for nature valorisation and draft management plans for two potential Natura 2000 sites. The project also supports the establishment of a national information system for natural heritage, including biodiversity monitoring. Nonetheless, establishment of a systematic countrywide biodiversity monitoring needs defining from the onset a clear focus, such as e.g. on rare and threatened flora, fungi and fauna species, plant communities and ecosystems, and invasive alien species. It is a long-term undertaking which requires a careful planning and ability to set up iterative business processes with an incremental scope in order to advance the system development and its sustainable operation.

The above review sets the needs for action on multiple strands.

It is necessary for the Ministry of Environmental Protection and Physical Planning to develop and implement a national biodiversity monitoring programme following an iterative process with incremental scope with a special focus on rare and threatened flora, fungi and fauna species, plant communities and ecosystems, and invasive alien species and mobilize adequate financial resources for its sustainable operation.

Consequently, the Ministry of Environmental Protection and Physical Planning is to complete the inventory and assessment of the status of threatened species, in cooperation with relevant academic institutions and civil society organizations and to adopt the Red List and corresponding Red Book(s), paying due account to the globally applied IUCN methodology and criteria, and update the 2011 lists of strictly protected and protected species accordingly.

Next, the Ministry of Environmental Protection and Physical Planning needs to ensure: (i) the completion of the reevaluation and proclamation of existing protected areas and to proceed with the identification and valorization of areas with high potential for their future designation as Natura 2000 sites, and areas of key importance for the spatial coherence of the future national ecological network; (ii) designation of new protected areas, and, where necessary, extension of the territories of existing ones, with a focus on an adequate coverage of all main ecosystem types representative for the country, as well as a sufficient inclusion of habitats of all rare and threatened wildlife species.

The biodiversity loss continues, and populations of several rare species continue to decline in size. A national policy or programme on wetlands protection is still lacking, even though its development and implementation is mandatory. Similarly, only a few rare and potentially threatened species are currently covered by the existing species conservation plans, as the threats to species have not yet been adequately researched and assessed. A national wetlands policy, which is mandatory for the parties to the Ramsar Convention, or a programme for wetlands conservation, has not yet been developed, and no measures for the protection and sustainable use of wetland areas have so far been included in the national spatial plans.

The Ministry of Environmental Protection and Physical Planning is necessary to ensure development of a national policy or a programme for wetlands conservation and of relevant action plans/programmes for ecosystems and species conservation and to mobilize adequate resources for its implementation.

The country has not yet prepared the national inventory of forest resources, which is required by the 2009 Law on Forests. The 2006 Strategy for Sustainable Development of Forestry, valid until 2026, includes numerous objectives and measures, the implementation of which could strengthen the conservation of biodiversity, e.g., increase the forest land cover, improve the health status and other qualities of forests, and protect the natural forest genetic resources. No reports on the progress of implementation of the 2006 Strategy to date are available. However, since 2011, the intensity of afforestation activities has decreased significantly, no national forest inventory has been carried out, and the forest monitoring practices can hardly be perceived as an operational and effective “system”.

It is for the Ministry of Agriculture, Forestry and Water Economy, in cooperation with the Ministry of Environment and Physical Planning to ensure research activities on forest ecosystems and habitats and conducting of a national inventory of forest resources, including scientific studies on the status of game species populations.

Insufficient intersectoral coordination and cooperation, as well as overlapping responsibilities, weak communication, lack of capacities at the national and local levels and lack of financial resources have been identified as the main obstacles for implementation of the Convention on Biological Diversity at the national level. Often, the benefits acquired from biodiversity and ecosystem services are overlooked and undervalued by decision-makers, which not only leads to loss of biological diversity but has also adversely affected human health.

The Ministry of Environment and Physical Planning, in collaboration with the Ministry of Agriculture, Forestry and Water Economy and other relevant stakeholders is to establish effective coordination mechanisms with the involvement of all relevant actors for the coherent development and implementation of policies on biodiversity conservation and nature protection as well as for issues related to payment for ecosystem services. Setting up and securing the operation of a national council for nature protection is equally important.

Weak capacity has been among the major reasons for the challenges in the implementation of the policy and legal framework on biodiversity and nature protection.

SEA is implemented for all planning documents governing the management of protected areas, declared as protected areas by law, or that are likely to have effects on those areas. The human resources of the responsible unit in the Ministry of Environmental Protection and Physical Planning are insufficient, taking into account the number of SEA dossiers reviewed by the Ministry. The systemic problems with implementation of SEA have been at the root of the cases involving North Macedonia in the Standing Committee of the Bern Convention with regard to the Mavrovo National Park and the World Heritage Committee with regard to the Natural and Cultural Heritage of the Ohrid Region.

In the latter case, the World Heritage Committee requested North Macedonia to undertake a SEA that would comprehensively assess the cumulative impacts of all infrastructure and development plans and other major projects on the World Heritage property (2017 Decision: 41 COM 7B.34).

In the former case, in 2015 the Standing Committee recommended the country urgently to suspend the implementation of the hydropower plants foreseen and related infrastructure until a SEA will be completed putting a special emphasis on cumulative effects of all planned development activities, taking also into account the social aspect. The assessment needs to consider the regional long-term effects on the water regimes of the Drin and Vardar rivers and to address the specific conservation needs of those species of fauna and flora for the conservation of which the Mavrovo National Park bears special responsibility.

It is necessary that the Ministry of Environment and Physical Planning ensure adequate expertise for SEA, especially for the assessment of the environmental effects but also for administrative and technical capacity. Equally, regular training is needed to build capacity in biodiversity conservation and nature protection activities of devolved administrations.

5. Specific policy measures and actions by categories

Below specific policy actions which fall under the primary responsibility of the Ministry of Environment and Physical Planning or its leading role according to the following types.

5.1. Legal/ Regulatory:

To ensure:

- Revision and streamlining of the EIA legislation in compliance with the EU EIA Directives and the legislation on elaborates for environmental protection;
- Adoption of the draft Law on Industrial emissions including revision in order to avoid duplication with the water and waste management sectorial permit requirements and align with the EU Industrial Emissions Directive;
- Adoption of the draft Law on Environmental Inspection;
- Transposing into national legislation of the EU Directive 2012/18/EU (Seveso III) undertaking the necessary for its implementation and synchronising with the commitments of the Convention on Transboundary Effects of Industrial Accidents (see also Strategies/ Policy programmes category);
- Development of a Law on Climate change as a long-term regulatory framework;
- Conducting necessary activities on the reference conditions for water bodies to enable their classification;

- Strengthening the section on the Law on harmful effects of waters to come close to the EU Flood Directive through a.o. a critical review of the provisions of the Law on Waters vis-à-vis the Directive in cooperation with countries well advanced in implementation of the EU Flood and the Water Framework Directives (see also Transfer of knowledge/ expertise category).
- Assessment (through regulatory impact assessment) of the impact and effectiveness of the existing legislation on Extended Producer Responsibility (EPP) and necessary upgrading and introducing the scheme to other waste streams i.e. waste textiles, waste oils, used tyres and end-of-life vehicles;
- The State Environmental Inspectorate to take the necessary measures to stop environmentally harmful activities at non-compliant landfills;
- Amendment to the waste legislation in particular for delineating the roles and responsibilities of the Ministry of Environmental Protection and Physical Planning and State Statistical Office (SSO) as data collection bodies and streamlining the legally-binding reporting obligations by all parties;
- Preparation of a Law on Soil Protection and its adoption;
- Adoption of the Red Lists and corresponding Red Book(s), in accordance to the globally applied International IUCN methodology and criteria, and updating the 2011 lists of strictly protected and protected species;
- Completion of the re-evaluation and re-proclamation of all existing protected areas and advancing the identification and valorisation of areas with high potential for their future designation as Natura 2000 sites (see also Information, strategic monitoring and evaluation);
- Revision of all legal and strategic documents that regulate and foresee hydropower construction to ensure that the site selection criteria applied to hydropower plants are based on international best practice, which excludes hydropower construction in protected areas and areas with high hydro-morphological and biodiversity status.

5.2. Strategies/ policy programmes:

To ensure:

- Adherence to the commitments pursuant to the Convention on the Transboundary Effects of Industrial Accidents, its scope and strategic approach;
- Development of a national adaptation plan in response to climate change, including specific measures through an integrated cross-sectorial approach;
- Updating and implementation of the actions in the framework of the 2011 Climate Change Health Adaptation Strategy and Action Plan based on improved information on climate change-health adaptation with the relevant inter-sectorial involvement and in coordination with local governments;
- Adoption of the prepared national waste prevention plan as a national policy on waste reduction, reuse and recycling;
- Development and implementation of policies for greening the activities of the Ministry, in particular concerning water and energy efficiency, waste management and carbon neutrality;
- Development of a national programme for wetland conservation and of action plans for ecosystems and species conservation.

5.3. Integrated approaches to environmental sustainability:

To ensure:

- Preparation of proposal for: (i) a pilot project to work out the modalities for an effective launch and functioning of the River Basin Management Council (RBMC) in a river basin for which the RBM plan is in final drafting stage; and (ii) a plan for transfer the tested working arrangements on RBMCs to other designated river basins.
- Preparation of proposal for SEA to strengthen the expertise in comprehensive assessment of the cumulative and combined impacts on the environment of planned small hydropower plants and associated new infrastructure construction, taking into account seismic and climate change effects, possibly also in a transboundary context;
- Application of international best practice in conducting SEAs of energy sector plans and programmes under development and providing greater transparency and public involvement;

5.4. Information, strategic monitoring and evaluation

To ensure:

- Expansion of indicator reporting towards: (i) cross-cutting issues; (ii) monitoring and evaluation of progress of environmental regulations and strategic action plans/ programmes including towards Environmental Quality objectives; (iii) outlooks and projections using modelling and scenarios;
- Introducing integrated assessments by integrating data on state-of-the-environment with information from other sectors to support cross-sectoral policy- and decision-making and SDG targets;
- Establishment of mechanism for evaluation and reporting on the implementation of policy programmes, strategies and major projects;
- Complementing (upgrading) the traditional air quality reports with periodic assessment of population exposure to ambient air particulate matter PM10 and PM2.5; through further periodic estimation of mortality (Public Health Institute) attributed to the exposure thus introducing integrated air quality and health assessments in practice and related to them SDG indicators;
- Establishment of systematic monitoring of the implementation of policy programmes (on air protection and air pollution abatement) in compliance with the EU Air Quality Directive, which sets reporting obligations on the actions put in place in areas where air quality limit and target values are exceeded including assessment of the effects of those actions.
- Development and adoption of a set of waste-related indicators including data collection methodology, underlying statistics and reporting methods (in cooperation with the State Statistical Office);
- Putting in operation the National Waste Management Information System;
- Establishment of systematic national biodiversity monitoring, with a focus on rare and threatened flora, fungi and fauna species, plant communities and ecosystems, and invasive alien species;
- Identification and valorisation of areas with high potential for their designation as Natura 2000 sites, and areas of key importance for the spatial coherence of the future national ecological network (see also Legal/Regulatory category).

5.5. Education and awareness-raising:

The importance of conducting campaigns for raising awareness on various issues targeting different public groups is emphasized throughout the entire EPR review. Examples include the 2030 Agenda and the SDGs among central and local administrations, climate change issues and biodiversity of ecosystem services in protected areas, effects of air pollution, good wood burning practices at home and ways of smart mobility and living better, water-saving methods among general population, reduction, re-use and recycling of urban waste among manufacturers and consumers, etc.

It is advisable to consider the development of operation guidance on the scope and basic content of the awareness-raising per environmental issue depending on the target audience and more importantly, of evaluation reports of the effects of the campaigns applying uniform methodology.

5.6. Transfer of knowledge/ expertise

Two major modalities are considered: twinning arrangements and technical cooperation (bilateral, multi-lateral also with the relevant International Organisations). Both sustainability of the outcomes of the cooperative activities after their completion and possibility for effective transfer of the knowledge/ expertise to further implementation within the country have to be considered when selecting the modality. The measures enlisted under this category are extracted from all others and are as follows:

- Revision of all legal and strategic documents that regulate and foresee hydropower construction to ensure that the site selection criteria applied to hydropower plants are based on international best practice, which excludes hydropower construction in protected areas and areas with high hydro-morphological and biodiversity status;

- Conducting SEA to strengthen the expertise in comprehensive assessment of the cumulative and combined impacts on the environment of planned small hydropower plants and associated new infrastructure construction, taking into account seismic and climate change effects, possibly also in a transboundary context;
- A pilot project to work out the modalities for an effective launch and functioning of the River Basin Management Council (RBMC) in a river basin for which the RBM plan is in final drafting stage and subsequent transfer of the tested working arrangements on RBMCs to other designated river basins;
- Conducting a critical review of the Law on Waters' provisions on the harmful effects of waters vis-à-vis the EU Flood Directive in cooperation with countries well advanced in implementation of the EU Flood and Water Framework Directives.

5.7. Intersectoral coordination/ cooperation

Establishment of effective coordination mechanisms among relevant sectors and stakeholders is essential for a coherent development and implementation of sustainable environmental policies. Coordination mechanisms in the form of national councils on environmental issues (e.g. water, nature protection) but also in the form of national committees (e.g. climate change, SAICM implementation) and the national council on Sustainable Development have been established but none of them are operational as of the fall of 2018.

Throughout the EPR review recommendations were made on measures needed to revitalise the National Council on Sustainable Development, the national water council, etc. as well as on strengthening the cooperation and coordination between Ministry of Environmental Protection and Physical Planning and the Ministry of the local Self-Government Units.

It is difficult to give specific measures on sustainable coordination mechanisms. Some considerations from the Environment and Health for Europe process and the survey on intersectoral coordination for the Fifth Ministerial Conference on Environment and Health (Parma, 2010) are given below. They concern the following aspects:

- Institutional setting: when departments within the ministries (as such) are members of the coordination council it is likely that the latter has a greater credit but is rarely feasible; existence of a dedicated sub-unit within the ministry-(ies) with responsibilities for coordination mechanisms seemed useful;
- Clearly defined mandate and responsibilities/ Terms of Reference (including the outcomes and their use) specified (and endorsed);
- Defined work plan incl. outcomes (bi-annual);
- Allocation of (some) budget.

5.8. Staffing and capacity

As it became clear during the review, the Ministry of Environmental Protection and Physical Planning is understaffed because of budgetary restrictions. However, a more serious concern is that the ministry staff often deals with other tasks than their posts envisage and have to combine tasks to cope with the growing obligations within the country and at international scale.

Throughout the EPR recommendations have been made on strengthening the relevant main departments, the Department for European Union, and the Macedonian Environmental Information Centre (MEIC) ensuring sufficient personnel and financial resources. Some specific recommendations are made on re-organizations for example within the Department for Coordination of Work of the Local Self-Government Units and Supervision Work and the Department of Waste, the river basin units, etc.

Staffing issue would require careful planning and allocation of tasks. Currently the process of approximation to the EU acquis may present opportunities for some partial solutions. In-depth analysis of the administrative technical capacity and financial needs of the Department for Sustainable Development and Investments, and Department for Coordination of Work of the Local Self-Government Units and Supervision Work, the Departments under the Administration of the Environment, and the MEIC vis-à-vis their tasks, obligations (national legal and policy and

MEAs) and workload can serve a basis for an action plan and eventually for a gradual improvement in a longer-term horizon.

As for the capacity building, adequate resources have to be planned and allocated to enable specialized training of staff in line with needs as well as through projects in the framework of multinational collaborative activities and twinning arrangements.

6. Conclusions and next steps

The needs assessments per topic area should guide identification of the policy packages to implement the selected EPR recommendations and definition of their scope. The policy packages should be defined depending on the country priorities, feasibility to achieve tangible results vis-a-vis the project time-horizon, available human resources and funding. The specific policy actions and measures under the remit of the Ministry on Environment and Physical Planning can be combined and feed into the defined packages.

The next steps would entail the decision on the form i.e. a national action plan or 1-3 policy packages addressing an environmental issue at stake. Proposals for those should be prepared accordingly, using the present report. A participatory process should be set with the involvement of all national stakeholders and partners (e.g. State Environmental Inspectorate, Ministry of Economy, Ministry of LSGU, Ministry of Health, ZELS, CSO, etc.) and a national workshop would be convened to review the proposals, agree on the form (action plan or policy packages), select the environmental issue(s) to be addressed, and define follow-up actions.

Currently, work is ongoing on the preparation of proposals for policy packages.

7. References

Environmental Performance Review (EPR) North Macedonia, 2019 <http://www.unece.org/environmental-policy/environmental-performance-reviews/enveprpublications/environmental-performance-reviews/2019/3rd-environmental-performance-review-of-north-macedonia/docs.html>

8. Annexes

Nr.	2030 Agenda SDG, Target, Indicator	Chapters ²										
		1	2	3	4	5	6	7	8	9	10	11
3 3.9	Healthy lives for all: Reduce deaths and diseases from hazardous chemicals, air, water and soil pollution; <i>Indicators</i> 3.9.1 Mortality rate attributed to household and ambient air pollution 3.9.2 Mortality rate attributed to unsafe water, sanitation and lack of hygiene 3.9.3 Mortality rate attributed to unintentional poisoning								X	X	X	
4 4.7	Ensure inclusive and equitable quality education and promote lifelong learning opportunities By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of culture of peace and non-violence, global citizenship and appreciation of cultural diversity; <i>Indicator:</i> 4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment					X						

²² Chapter 1: Legal, policy and institutional framework; Chapter 2: Regulatory and compliance assurance mechanisms; Chapter 3: Greening the economy; Chapter 4: Environmental monitoring and information; Chapter 5: Access to information, public participation, access to justice and education for sustainable development; Chapter 6: Implementation of international agreements and commitments; Chapter 7: Climate change; Chapter 8: Air protection; Chapter 9: Water management; Chapter 10: Waste and chemicals management; Chapter 11: Biodiversity and protected areas

